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Technical report accompanying the analysis of options to move beyond 20% GHG emission reduction in the EU by 2020: Member State results

Report to DG Climate Action, European Commission

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1 Introduction

In January 2008, the European Commission presented the impact assessment[1] for its proposal on a Climate and Energy Policy Package, which has used results of modelling analysis based on PRIMES[2] energy system model and on GAINS[3] model.

The model-based projections were based on a Baseline scenario published in 2007. Since then the economy has evolved differently than expected in 2008 and the anticipations about future world energy prices have also changed. The Climate and Energy Package has been adopted and policies are underway in all Member-States to meet the targets set for 2020. Additional legislative initiatives were undertaken at the EU level for energy efficiency, car regulation and fuel quality.

To capture these changes, further model-based projections were performed which led to an updated publication[4] of two scenarios, namely the Baseline and the Reference. Both scenarios project CO_2 and non-CO_2 GHG from 2005 to 2030 at EU and the Member State level, based on the PRIMES energy system model for CO_2 emissions and the GAINS model for non CO_2 emissions, supported by agricultural projections with the CAPRI model.

The additional model-based analysis which is presented in this report concerns the quantification of scenarios about moving beyond 20% GHG emission reduction in the EU by 2020. Such scenarios differ from the Reference scenario. The latter simulates meeting the 20% emission reduction target following the implementation of the Climate and Energy Policy Package and additional legislation as of mid-2009. The Baseline scenario is not supposed to deliver the 20% emission reduction by 2020, as it does not assume that the national renewables target and the national non-ETS targets would be necessarily met.

[1] SEC(2008) 85/3
[2] http://www.e3mlab.ntua.gr/e3mlab/PRIMES%20Manual/The_PRIMES_MODEL_2010.pdf
[3] http://gains.iiasa.ac.at/index.php/documentation-of-model-methodology/supporting-documentation-europe
[4] Energy Trends to 2030 – Update 2009, http://ec.europa.eu/energy/observatory/trends_2030/

The scenarios have assumed the same macroeconomic and world energy price assumptions as the Baseline and Reference scenarios of 2009. The modelling work was performed in spring 2010 and was used for a Communication[5] from the Commission on 26 May 2010.

The main scenario analysed corresponds to 30% emission reduction commitment by 2020, which actually corresponds to 25% emission reduction domestically in the EU.

The quantification of the scenario is available in the form of projections by Member-State until 2030. After a more detailed scenario definition (section 2), this report explains in detail the methodology applied in modelling and emission and cost calculations (section 3) and presents main EU level results for the energy system (section 4). Main results per Member State in terms of primary energy requirements, energy demand by sector, electricity generation, steam and heat production, biomass supply, imports and domestic production, investment in demand and in supply sectors, emissions and costs are presented in the appendix for baseline, reference and the main reduction scenario in similar form as in the 2009 update of the EU energy trends.

As the quantification of the scenario was finalised in May 2010 several aspects of the scenario assumptions reflect the state of the art and knowledge of the time:

- The scenario, as also the Reference scenario, includes the entire Energy and Climate package and the country targets for renewable energy; the scenario does not include the National Renewable Energy Action Plans (NREAPs) as these were not available at the time of scenario construction. Consequently the NREAPs and other measures adopted by the national governments in 2010 and in 2011 have not been included as such in the Reference scenario.
- Further the assumptions for nuclear energy development reflect the legal situation as of mid 2009, i.e. including a phase-out of nuclear energy in Germany.[6] They do not include the possibly higher risk premiums and social acceptability problems which may be a result of the Fukushima accident in March 2011.
- The technology assumptions also reflect the knowledge at that point in time. For example they do not include the difficulties in licensing which the CCS power plants and storage facilities have encountered over the last recent years, and they did not incorporate recent progress in renewables such as strong solar cost reductions and enhanced offshore wind potentials.

[5] COM(2010) 265 final

[6] For Germany and Belgium a nuclear phase-out is assumed; Italy and Poland develop nuclear according to announced plans in 2009; Austria, Cyprus, Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta and Portugal do not develop nuclear. Details about assumed plants under construction can be found in EC, 2009- Energy Trends to 2030 – Update 2009.

2 Scenario definitions

The Baseline scenario reflects implemented policies as of spring 2009, including the amended Directive on the EU Emissions Trading System, the CO_2 and cars regulation as well as eco-design and labelling directives (as implemented at that time). Therefore, the Baseline scenario does not include the entire Climate and Energy package.

On the contrary, the Reference scenario assumes full implementation of the Climate and Energy package, including the EU-wide achievement of the non-ETS target and the national renewable energy targets. It also includes additional policies for energy efficiency, as for example the recast of the building directive (as agreed in 2009) and additional eco-design implementing measures.

The Reference scenario was constructed following a bottom up methodology[7] in the sense of adding up all the legislative measures and policies mentioned above, as known by the end of 2009. The inclusion of these measures and the prevailing economic conditions[8] were found to lead to achievement of a 20% emission reduction domestically in the EU. This contrasts the previous 2007-8 model-based analysis carried out for the Climate and Energy Package where the domestic emission reductions were found to be of the order of 15%. This implies that, in the context of the 2009 Reference scenario, the ETS with its inter-temporal flexibility combined with the measures applied to the non-ETS sectors together with the RES and other polices were found sufficient to reach the -20% target domestically. It is reminded also that the 2009 baseline projection based on implemented policies was found to achieve 14% emissions reduction in 2020.

Both the Reference and the Baseline were found to achieve around 25% emission reduction in 2030 as a result of the continuing dynamics of implemented policies, e.g. the further reduction of ETS allowances, which according to the amended ETS directive continues beyond 2020, and energy efficiency policies as well as, in the Reference, the projected continuation of RES and non-ETS policies at the level of stringency necessary to reach 2020 targets.

The question posed for the present model based analysis was of normative character: what would it mean for the energy system to move to emission reductions in 2020 above the 20% found in the Reference scenario?

This report presents in detail the main beyond 20% scenario quantified and compares it with the baseline and reference 2009. This scenario (D25) achieves the 30% target in 2020 with 25% domestic emission reductions and the remaining 5% through access

[7] Both the Baseline and Reference scenarios were constructed as what-if scenarios (implications of legislation) contrasting the 2007-8 scenarios supporting the package which were normative scenarios (what is the best way to achieve the 20% target).

[8] The effects of the economic crisis experienced since mid 2008 were found to be among the main causes of changes in the emission projections.

to carbon credits from third countries. In line with a trajectory consistent with reaching the goal of staying under a 2°C temperature increase globally, the dynamics of emission reduction are assumed to continue up to 2030 and deliver a 40% emission reduction by 2030, domestically in the EU, compared to 1990 levels (all GHGs). As the model performs dynamic simulations, the anticipation of stringent emission reductions in 2030 affects choices that influence the 2020 results.

No specific bottom-up policies are assumed additional to the Reference scenario and the additional emission reductions are obtained by increasing the level of the carbon values which were assumed to apply uniformly to the entire EU economy in order to approximate the most cost efficient solution. Although the bottom-up policies and obligations for RES and energy efficiency were assumed identical to the Reference scenario, the increase in carbon values acts as an additional driver favouring further development of RES and energy efficiency.

The carbon value in ETS sectors is assumed to act as the ETS carbon prices, with auction payments translating into changing electricity prices. It also follows that implicitly the allowance cap is therefore reduced in the scenario achieving lower emissions than the Reference. The carbon values in non-ETS sectors do not imply direct payments by consumers (only indirectly implied costs) and is a proxy for of the shadow value of non-identified measures (additional to the Reference) which bring the emission reductions. The level of the carbon values varies in the modelling until the model-based projection gets to the desired emission reduction.

3 Methodological remarks

3.1 Introduction

The scenario quantified D25 considers the target of achieving stronger GHG reduction than the Reference and need to at least maintain the RES share as projected in the Reference. An emission constraint is imposed at the EU wide level and this influences the energy markets equilibrium. The energy system of the EU has to comply with the constraint, thus all individual decisions of the agents (demanders and suppliers of energy) are influenced and so are the energy market prices. The countries have different costs and potentials by sector to act towards emission reduction and so the model determines a least-cost distribution of effort among the countries and the sectors. For the purpose of this scenario as the stronger reduction in GHGs implies an additional incentive for RES deployment, the RES supporting policies were maintained unchanged from the Reference scenario; consequently the RES targets are overachieved.

In terms of implementation in the model, the changes are driven by the dual variable[9] (shadow price) associated with the emission constraint, termed as a carbon value. It feeds into the decision making modules, increasing the perceived costs of consumers (for GHG) associated with the use of the different energy forms and increasing the cost of purchasing allowances in ETS sectors (especially in power generation). The power utilities adjust their mix to higher carbon costs and pass additional costs on to consumer prices further influencing the choices of consumers. By varying the level of the carbon prices and values, the model iterates until exactly meeting the emission constraints. Impact assessment conclusions are drawn by comparing the results to the reference scenario.

3.2 How GHG emissions are calculated

CO_2 emissions from energy are computed by multiplying quantities of fossil fuel combusted (measures in energy terms) by emission factors which are specific to fuels and countries. Abatement of energy-related CO_2 emissions is an endogenous result of the PRIMES model and depends on fuel mix, technology and process mix within the energy system. The model projects a configuration of the energy system to the future and computes energy-related CO_2 emissions. The model does not include any explicit marginal abatement cost curve (MAC) for energy-related CO_2 emissions. Abatement and its relation with costs result from energy system simulation. MACs can be quantified using the results of the model for a variety of imposed abatement levels.

CO_2 from process emissions are computed through simple relationships which involve physical production of the relevant industrial commodities (e.g. cement). Simple techniques that may reduce such emissions are represented through marginal abatement cost curves. Higher emission reductions are represented by assuming Carbon Capture and Storage techniques, which apply on the processing of industrial commodities. The representation includes capital and variable costs of CCS, as well as electricity consumption associated with capture, which adds up to total demand for electricity.

The PRIMES model uses Eurostat data and it includes aviation fuels sold in Europe, which can be approximated to outgoing flights. As a consequence, the CO_2 emissions reported in PRIMES are not necessarily identical with CO_2 emissions reported by Member States to the UNFCCC.

[9] The PRIMES model solves a market equilibrium model involving optimisation problems of individual agents and market clearing conditions. Such a problem may be transformed in a system of complementarity Kuhn-Tucker conditions concatenated with equilibrium conditions. Adding an overall emission constraint (which is an inequality) implies that all complementarity systems of the agents will additionally consider the marginal cost of their choices, expressed through the carbon price which is the dual variable associated to the emission constraint; as also the emission constraint is a complementarity condition, the dual variable (the carbon price) is strictly positive when at equilibrium the emission inequality verifies as an equality, otherwise the dual variable is zero and the emission constraint verifies as an inequality.

Emissions of non CO_2 Greenhouse Gases are included in the PRIMES model output based on calculations using marginal abatement cost curves and projections quantified by the GAINS model of IIASA[10].

A split between ETS and non-ETS emissions is performed by estimating ETS emissions based on the results of both models. In order to ensure comparability over time, the split between ETS and non-ETS emissions assumes for all time periods the scope of the ETS from 2013 onwards, i.e. including the current ETS scope, aviation, additional industrial process emissions and non-CO_2 process emissions.

When in a scenario GHG emission constraints apply, the PRIMES model computes allocation of reduction efforts to the various emission components (energy CO_2, process CO_2 and the various non CO_2 GHGs) by considering equalisation of carbon values (i.e. equal marginal abatement costs).

3.3 How the (non-ETS) carbon values act

While sectors covered by the EU ETS work under a true carbon price reflecting the EU ETS allocation rules, the model equivalent in non-ETS sectors are so-called "carbon values". The carbon values increase the perceived cost of using fossil fuels proportionally to their carbon intensity. They differ from energy taxation because they do not imply money transfer from energy consumers or producers to the government. Nevertheless, the carbon values change the relative unit costs of energy forms, thus carbon intensive fuels become more expensive. Consequently, substitutions take place favouring the less (or zero) carbon intensive energy forms. Since such substitutions cannot be perfect, a positive cost associated with energy use arises. Hence, substitutions in favour of non energy goods and services are induced, including investment for energy efficiency (in buildings and in new equipment) enabling energy savings.

Also the dynamics of capital replacement changes with preferences shifting towards less energy consuming equipment and possible premature replacement of equipment or premature undertaking of renovation in buildings. Thus, energy efficiency gains are achieved both in the short and the long term, but at higher investment costs than in the case without carbon values.

Producers of secondary energy, such as electricity and heat/steam, are affected by carbon prices and tend to undertake substitutions among energy forms used as inputs in their production, as they operate in a competitive market. They decrease the use of carbon intensive fuels and the shift capacity expansion choices to technologies with lower emissions. The dynamics of change depend on the comparison of short term costs which are higher because of the carbon prices and long term costs which include the additional capital costs associated with lower carbon emitting technologies. Sub-

[10] For a detailed presentation see Lena Höglund-Isaksson et al. (2010): Potentials and costs for mitigation of non-CO2 greenhouse gas emissions in the European Union until 2030. Results, http://ec.europa.eu/clima/policies/package/docs/non_co2emissions_may2010_en.pdf

stitutions being imperfect, positive costs arise, both in the short and the long term, which are passed through to consumer prices. Further energy efficiency gains at the level of the end consumer are thus motivated.

Electricity and heat/steam are used by consumers as energy carriers and do not emit carbon dioxide at their end-use. However, their prices reflect the degree of carbon intensity of their production. Substitutions between energy carriers and fuels are also driven by relative prices. If emission reduction is relatively less expensive in the production of energy carriers, a final consumer would benefit from increasing demand for these carriers. He would be obliged to undertake more emission reduction by himself if emission reduction in the production of energy carriers is relatively more expensive.

The increase in electricity prices due to emission costs reduces the attractiveness of electricity in substituting for fossil fuels at the end-user level, unless the marginal effects of direct carbon values at final demand level are higher. In the latter case, replacement of fossil fuels at the end-use level by electricity would be beneficial for the final consumer. Such replacement hinges upon the capability of power generation to develop substantial emission reduction at an affordable cost, so as to overcome the effect of carbon prices on electricity prices. This might be challenging until 2020, given the long lead times that the power generation needs to develop carbon free resources such as nuclear, CCS and large scale RES. Moreover, it would require considerable investments in grids and would entail significant costs arising from stranded investments[11]. In the longer term, however, the power system inertia is lower and if carbon prices are anticipated investment can adjust to deliver decarbonisation more affordably. Then, electricity would be likely to substitute for fossil fuels in direct final energy demand uses.

Distributed heat and steam may also have difficulties in delivering affordable and low carbon intensive services in the short run. Cogeneration depends on power generation and is also subject to carbon payments through the ETS unless it uses biomass or waste energy. Biomass is also the only essential possibility for distributed heat industry to deliver low carbon intensive services. But development on a large scale of biomass and waste energy needs long lead times in developing the feedstock supply and it is difficult to make large inroads in the short term.

Under these circumstances, substitution possibilities to induce large emission reduction are rather limited in the medium term (2020), contrary to the long term (2030). In the medium term, action is thus likely to focus on energy savings, as a result of behavioural changes, more insulation in buildings and an acceleration of penetration of more efficiency equipment. In the long term however, towards 2030, the power sector will have more possibilities to develop carbon free options at costs that would render electricity and distributed heat (and CHP) more attractive to final consumers, who

[11] Sunk costs of old power plants which become uneconomic in the new circumstances.

then may shift their consumption in favour of electricity and thus further reduce emissions.

The above mechanisms are confirmed in the model results. Energy saving dominates substitution in favour of electricity in the short and medium term, so electricity demand decreases. The power sector also uses more renewables since it has access to a larger cost-effective potential than other sectors. Therefore, emission reduction in absolute terms in a long term perspective takes place more in the ETS sector, rather than in the non ETS. In the longer term, decarbonisation in the energy supply side is more cost-effective.

3.4 How energy efficiency progress is modelled

Engineering-oriented analysis points to the existence of energy saving potentials that may be achieved without extra cost to the energy system, or even at negative costs. However, there is evidence from statistics that consumers do not act as expected by engineering-oriented analysis.

The PRIMES model takes the view that in reality "hidden" costs explain why consumers do not exploit as much as expected this so-called no-cost energy saving potential. They have to be motivated by some price signal or by command-and-control policies. Factors such as lack of information, risk associated with the adoption of new technologies (such as possible lack of maintenance or lower technical reliability), market barriers (associated with the effort of equipment sellers to keep selling the old inefficient equipment), disutility (less comfort) and lack of appropriate standards bring about true costs for the consumer and explain the observed behaviour.

Any energy efficiency investment involves higher expenditure for investment cost (purchase of more efficient equipments and appliances or works for insulating buildings and houses) and lower expenditure for operation because of fuel savings. The pay-back period depends on the discount rate. Engineering-oriented analyses adopt rather low discount rates. However, statistical studies have shown that the discount rates used by consumers are much higher, reflecting lack of disposable income or high preference for holding savings in cash form. These high rates are often called subjective discount rates as opposed to business discount rates[12].

The PRIMES model represents the hidden costs associated with the choice of new equipments as perceived costs that differ from engineering costs. In addition, the model uses subjective discount rates, which vary between 12 and 17% depending on

[12] Social discount rates are even lower than business discount rates, as the former do not include risk premium and assume lower return on equity. For simulation of agent behaviour, as PRIMES is performing, one should use business and subjective discount rates. For cost-benefit analysis from a society perspective, e.g. comparing two decarbonisation scenarios with different time profiles, one should use social discount rates to aggregate system results over time, although these results come from simulation of private agent behaviour which use subjective and business discount rates.

the size of the consumer, contrasting for example to 8 to 9% rates that are used for utilities.

Another explanation of positive costs of energy efficiency is the so-called rebound effect. A rebound effect, i.e. more consumption of energy than expected by engineering analysis of energy savings, occurs when energy efficiency improves. If energy efficiency improvement saves money for the consumer, he or she may increase consumption, including energy. The net effect cancels part of the energy savings. The associated additional cost is sometimes neglected in engineering analyses. The PRIMES model formulates a structural microeconomic decision for each consumer-type (as a detailed budget allocation problem), thus it simulates the rebound effect.

The model takes the view that energy efficiency investments which are included in the Baseline scenario are driven by market forces. Consequently, for scenarios that include emission or similar constraints which drive energy efficiency investments further, the model evaluates positive (and not zero or negative) additional costs corresponding to annual costs for capital[13].

Within the context of a scenario involving emission reduction effort, which drives energy efficiency improvement, public policy measures aim at removing part of the factors that entail hidden costs associated with energy efficiency investment and are thus fostering access to energy efficiency potential. For example, public authorities undertake information campaigns, impose stricter standards, and facilitate funding of energy savings, while suppliers promote new, more advanced, equipment and improve the maintenance services. Consequently, the perceived costs of energy efficiency actions decrease, compared to baseline, and the related investments become more attractive. This occurs through the enhancement of energy efficiency policy in the Reference scenario, whereas in the D25 scenario the assumptions do not change compared to the Reference under this aspect.

3.5 How costs are calculated

The PRIMES model follows a sector-specific calculation of costs and prices. The cost structure is built bottom-up and associates capital costs to investment and variable costs to operation of equipment with varying energy efficiencies. As the model performs dynamic simulations, keeping track of technology vintages, operation costs

[13] In standard cost accounting, as practiced in business, a weighted average cost of capital (WACC) is used to determine the cost of capital investment in annual term (annuity costs). This differs from accounting for income declaration purposes which usually uses fixed amortisation factors. The PRIMES model follows the WACC approach for capital annuity calculations also for individual households or persons; in these cases the WACC is equal to the subjective discount rates. The true payment of investment, in annual instalments, may differ from annual capital costs calculation of PRIMES; the true payment depends on the actual possibilities of borrowing capital, which is not studied with PRIMES; annual payments for equity capital (both for business sectors and for individuals) is of course notional and largely unknown in reality. Therefore, it would be more uncertain, from a policy analysis perspective, to report on true payments and so the PRIMES modelling approach prefers reporting on annual costs of capital calculated as explained above. Such an approach is common practice in modelling.

relate to the technical characteristics of the equipment when built. For annual accounting of costs, but also for capital-budgeting decisions, the model transforms investment costs in annual expenditures for capital by involving a discount rate which is sector-specific, reflecting prevailing economic conditions in the sector. In case economics suggest low or no use of equipment built in a previous time period, annuity payments for capital still apply. The model also represents investment for energy saving purposes, such as building insulation, renovation, energy control systems. The cost accounting includes annuity payments for capital also for such investments. Taxes (excise tax on fuels, VAT) and subsidies are explicitly represented as exogenous parameters and enter the calculations of costs and prices. The treatment of auction payments for ETS allowances for cost calculations is described below.

The PRIMES model simulates well functioning energy markets: prices of energy commodities are determined endogenously so as to recover all types of costs, including capital, possible stranded costs from old investments, operation costs and tax payments, and also recovery of cost of eventual subsidies, as in the case of RES subsidies where applicable. For electricity production the model formulates long run marginal cost principles for capacity expansion and short run marginal costing for dispatching and plant commitment. For price setting the model formulates Ramsey-Boiteux pricing model, consisting in determining total revenue requirement as reflecting total costs which are taken into account in differentiating electricity prices by sector depending on marginal costs associated to load profiles and price-elasticity of demand by sector. Mark-up factors on costs reflecting market power are exogenous and reflect assumptions about the prevailing market competition regime. They are assumed to gradually vanish over time. Prices are generally higher than marginal costs as capital and fixed costs have to be recovered plus normal profit.

A cost recovering pricing also applies to energy networks (electricity, gas, heat, CCS both for transportation and storage) which exhibit increasing return to scale and are represented as regulated natural monopolies. The network tariffs are calculated so as to recover investment costs from a long term perspective assuming fully anticipated future use of the network infrastructure. Therefore the weighted average cost of capital is lower for natural monopolies than for entities exposed to market competition.

The consumers of energy are supposed to be price takers in the purchasing of energy commodities. They also bear the costs from investment in their own premises for energy using equipment, appliances and energy saving investments. The energy using equipments often serve to non energy service purposes, such as entertainment, mobility, industrial production. Where possible, the cost accounting distinguishes between the specific energy-related part of the equipment and the non-energy part.

The different cost categories are derived as follows:

Capital costs: The agent's investment behaviour, the purchasing of durable goods and the energy saving expenditures involve capital investment, which enter the eco-

nomic calculations as annuity payments for capital. The related capital-budgeting decisions depend on annuity payments for capital which depend on a interest rate assumed to be specific to each agent (sector). The determination of this rate is based on the concept of WACC (weighted average cost of capital), which involve a basic risk-free interest rate applied on equity capital, a bank lending interest rate applied on the part of capital borrowed and a risk premium. In both cases, the rate used to discount future costs and revenues involves a risk premium which reflects business practices, various risk factors or even the perceived cost of lending. The discount rate for individuals also reflects an element of risk averseness. The discount factors vary across sectors and differ substantially from social discount rates (such as 4-5%) which are used in social long-term planning. For the scenarios, the discount factors assumed range from 8% (in real terms) applicable to large utilities up to 17.5% applicable to individuals. Additional risk premium rates are applied for some new technologies at their early stages of development. More specifically, for large power and steam generation companies the cost of capital increases from 8.2% in 2005 to 9.0% for 2015-2030. For small companies the cost of capital is 9.5% in 2005 and 10.5% in 2015 – 2030. In industry, services and agriculture the discount rate amounts to 12% for the whole projection period. Households have an even higher discount rate of 17.5%. For transport, the discount rate depends on the type of operator. Private passenger transport investments (e.g. for cars) are based on a discount rate of 17.5%, while for trucks and inland navigation the rate is 12%. Public transport energy investment is simulated with an assumed discount rate of 8% reflecting the acceptance of longer pay-back periods than those required in industry or private households. All these rates are in real terms, i.e. after deducting inflation.

Future evolution of electric interconnection capacities linking different countries is handled in an exogenous way in the model, but electricity exchanges are driven endogenously using a dedicated EU-wide power sector model[14]. Investment costs for new interconnectors are included in cost accounting. Reinforcements and grid expansion within each country's electric system are not represented explicitly but only in terms of costs and investment through an aggregate function which depends on electricity demand, the penetration of intermittent renewables and the development of smart metering and smart grids.

Investment expenditure (purchase of new vehicles, aircrafts, trains and vessels) is fully endogenous in the model. Unit costs depend on technology choice. As it is difficult to separate investment component which corresponds to energy from total investments for purchasing transport means, the model assumes that all investment costs which correspond to energy efficiency improvement or enable emission reduction are energy-related investments[15]. Such improvement arises both for conventional and new

[14] In the present model exercise electricity exchanges among countries are kept unchanged as estimated for the Reference scenario.

[15] These additional capital costs for transport means are reported separately and are not included in total energy system costs as shown in the numerical tables in Appendix.

technology vehicles, including additional investment costs for electric and hybrid cars, which are expensive in capital terms compared to conventional ones. This should be considered as an upper bound of additional energy related investments.

Fuel and electricity costs: International oil, gas and coal prices are based on projections using the stochastic PROMETHEUS world energy market model[16] and are comparable with the assumptions of the IEA World Energy Outlook 2009. Table 1 presents current and projected values.

Table 1: Assumptions on international fuel prices for the scenarios used

	2005	2020	2030
Crude oil import prices	59.4 $\$_{08}$/barrel	88.4 $\$_{08}$/barrel	105.9 $\$_{08}$/barrel
Coal EU import prices	14.0 $\$_{08}$/boe	25.8 $\$_{08}$/boe	29.4 $\$_{08}$/boe
Gas EU import prices	39.7 $\$_{08}$/boe	62.1 $\$_{08}$/boe	76.6 $\$_{08}$/boe

The PRIMES model uses the above prices as inputs and performs projections of end consumer prices for all sectors and energy products. The calculation takes into account transport costs, processing costs (e.g. refinery), sales costs and margins, as well as excise taxes and value added taxes as applicable per country. For the taxes, the scenarios assume implementation of the latest version of the tax directives (as available in May 2010) which aim at harmonising the minimum excise taxes across the Member-States.

In PRIMES auctioned ETS allowances are a true cost element in power generation and so electricity prices are affected directly. Power producers will mostly pass through to consumers true emission abatement costs induced by the scarcity of emission allowances. But this increased cost is not included in the overall energy system cost presented in this analysis, given that auctioning revenues are recycled back into the economy by the state. Hence, from a macroeconomic perspective, auctioning costs do not represent a net direct additional cost to society.

In case production from intermittent renewable sources increases in a scenario as a share of total power generation, the PRIMES model considers additional costs and investment for balancing purposes, for supplying adequate ancillary services and for grid expansion. In case very small scale renewables develop in a scenario, the model also includes additional costs incurring at the distribution grid level which correspond to smart grid costs and other grid reinforcements needed to support the renewables. In scenarios with very high shares of renewables in power generation, further costs are included which correspond to storage techniques.

Direct RES subsidies are explicitly accounted for in end-user costs and prices and may vary by scenario. The model considers subsidies as discounts on capital costs.

[16] Also the POLES world energy system model is used for the same purpose.

For this purpose the various forms of RES subsidies are transformed into equivalent capital cost discounts. Feed-in tariffs are transformed into equivalent capital cost discounts by considering the difference between the level of the feed-in tariff and the wholesale electricity price (as determined by the model). The model determines endogenous recovery of RES subsidies through consumer prices.

Other policies favouring RES such as Green certificates, Guarantees of Origin, RES obligations or generally RES-specific objectives are handled by the model by introducing a RES shadow value (in power generation and/or in other sectors) which is modelled as providing a price signal to decision makers for getting benefits from RES. Higher RES values also mirror more intensive RES promoting policies, such as policies that facilitate RES penetration through easier licensing, higher accessibility to sites, grid expansion, higher availability of resources (e.g. biomass and waste), etc. Such policies are also reflected in the cost-potential curves for renewable resources. The RES shadow prices (RES values) may imply additional costs only in an indirect way and are not handled as subsidies.

The calculation of cost of thermal integrity improvement (through renovation) is complex because of the great variety of houses and buildings and also the variety of building environments. The modelling approach is based on marginal cost curves for renovation which relate the marginal cost (cost of renovating one additional unit) with the total volume of house stock renovated. Such marginal cost curves are estimated separately by country and have been compared to engineering data and information from bottom-up studies. The marginal cost curves are "seen" by the deciding agents in their optimal capital-budgeting decisions. The model integrates the marginal cost curves to calculate total investment costs for building renovation.

Disutility costs: According to microeconomic theory, when a consumer seeks utility maximization under budget constraint, any increase in commodity prices induces a reduction in utility. The loss of utility may be compensated by giving additional income to the consumer. The remaining changes in consumption are due to pure substitution effects. According to microeconomic theory, the reduction of activity corresponds to lower utility; hence the money needed as income compensating utility losses is not zero. These costs are estimated as follows.

To estimate income compensating disutility in an approximate way, it is assumed that disutility is priced at the marginal cost of the energy service as provided to consumers, including carbon values (if it was lower consumers would prefer taking one additional unit of energy services). Total disutility costs are then the result of multiplying the volume of useful energy reduced by the marginal cost including carbon value.

The estimation of such costs always requires a “business as usual – no policy” scenario in which evolution of tastes-habits (utility) is determined without impacts from higher prices or costs due to policies; useful energy services as projected in policy scenarios are compared to projections in “business as usual – no policy” case and dis-

utility correspond to differences valued at marginal costs projected in policy scenarios.

All the additional costs incurred by consumers, in the form of capital costs (including direct efficiency costs) or disutility, etc., are considered to be energy related and are therefore generally included in total energy system costs.

For the residential and the tertiary sectors the disutility cost is estimated on the basis of the change of useful energy requirements (per category). The measurement of useful energy is based on specific units and definitions, as for example, the temperatures reached for space heating and cooling, the luminosity in lighting, the volume of appliances with standard rate of use, etc. The marginal costs, inclusive of capital payments of any kind, are used to monetise the income equivalent compensation of loss of utility.

For the transport sector the represented disutility relates to changes in transport activity in terms of passenger-km or ton-km valued on the basis of the marginal costs, inclusive of capital payments of any kind, are used to monetise the income equivalent compensation of loss of utility.

From a macroeconomic perspective, total energy system cost is the cost incurred for the rest of the economic system for getting the required energy services (i.e. useful energy, such as heating, mobility, industrial production, etc.). Consequently, the total energy system cost is accounted for at the level of the final energy consumers, including households, services, agriculture and industry. Obviously, the cost of power generation and the cost of other energy supplies are indirectly reflected in total energy system costs via the consumer energy commodity prices as these prices are determined so as to recover all types of costs incurring in supply.

Total costs for the entire energy system include hence capital costs (for energy using equipment, appliances and vehicles), fuel, distributed heat and electricity purchasing costs, and direct energy efficiency investment costs (house insulation, control systems, energy management, etc), the latter being also expenditures of capital nature, and, finally, disutility costs. Total energy system costs exclude ETS auction payments (as they are considered as transfer payments).

Costs of abating non energy related greenhouse gas emissions are also included in the total costs reported in appendix and are determined in two parts. For process-related CO_2 emissions, abatement costs are calculated explicitly, as for energy, based on the measures simulated to be deployed for reaching emission reduction, including annual capital costs, variable costs, electricity purchasing costs (e.g. for CCS applied for industrial processes, where applicable), etc. For non CO_2 greenhouse gases, abatement costs are calculated in an indirect way as the integral below the marginal abatement cost curves provided by the model GAINS of IIASA. So for these gasses there is no distinction between capital and variable abatement costs.

While the cost accounting described and reported is based on the annualisation of costs, the PRIMES model also calculates investment expenditures. Investment expenditures (CAPEX) and expenditures for operation (OPEX) represent the actual cash flow payments by consumers.

4 Energy System Implications

4.1 Summary of results[17]

The D25 scenario was built on the Reference scenario (published in 2009), from which it inherited the policy and other assumptions. The requested emission reductions projected for the D25 scenario was achieved by iterating the carbon value (equal for the ETS and non-ETS sectors) until the envisioned target were achieved. For the D25 scenario this implied an increase in carbon values until the 25% domestic emission reduction target was obtained in 2020 and 40% in 2030, relative to 1990 levels for all greenhouse gases. The model results showed (see Table 2 and Table 3) that a carbon value of 30.2€/tCO_2 in 2020 and 48.2 €/tCO_2 in 2030 were necessary for reaching the targets assumed under D25.

These carbon values are significantly higher than the levels obtained in the context of the Reference scenario, which were below 20 €/tCO_2 both for 2020 and 2030 for the ETS. The implementation of the renewable and additional efficiency policies assumed in the Reference scenario induces a significant reduction of ETS carbon prices compared to the Baseline scenario. The Reference scenario projection also found that a low carbon value in the non ETS sector (5.3€/t/CO_2) was sufficient to cost-effectively meet the expected EU level effects of the effort sharing agreement obligations of the Member-States, which allow for significant flexibility. As the present study seeks reaching a least cost distribution of the additional emission reduction effort, it has applied an equal carbon value in ETS and non ETS. Moving beyond 20% GHG emission reduction thus implies significantly higher carbon values both for ETS and non-ETS, relative to the Reference levels.

The incentives for RES were assumed to remain constant in the D25 scenario, as specified for the Reference scenario, but the resulting shares in gross final energy demand are found increased, due to the increased carbon values and the reduction of final energy consumption. The results show that the D25 scenario implies between 0.7 and 1.7 additional percentage points in terms of the RES indicator (RES as percentage of gross final energy demand).

The increase in the emission reduction target implies further reductions in total energy demand from Reference levels. The reductions are based on the results of the model,

[17] All monetary values are expressed in constant Euros of 2008.

as they are among the means for reaching the targets. The energy demand reductions are significant and this brings the EU energy system closer to the indicative energy efficiency target for 2020, although not yet achieving it. The tables below show changes of primary energy demand from baseline scenario of 2007, which has been used as basis for the indicative efficiency target. The D25 scenario adds 3 percentage points above Reference scenario levels in 2020 and 7 percentage points in 2030.

Table 2: Summary of RES and emission indicators and values – EU27 - 2020

Scenarios	BL	REF	D25
Carbon Price EU-ETS €/tCO2	25.0	16.5	30.2
Carbon Value non-ETS €/tCO2	0	5.3	30.2
GHG compared to 1990 in %	-14	-20	-25
Reduction in energy-related CO_2 from 1990 (%)	-8.4	-15.6	-20.9
Reductions in ETS GHG emissions from 2005 (%)	-11.1	-19.2	-25.8
Reductions in non-ETS GHG emissions from 2005 (%)	-3.6	-9.4	-12.9
RES Share in Gross Final Energy (%)	14.8	20.0	20.7
Primary energy consumption (Mtoe)(*)	1705	1664	1606
% change from PRIMES Baseline of 2007	*-7%*	*-10%*	*-13%*

(*) excluding non energy uses

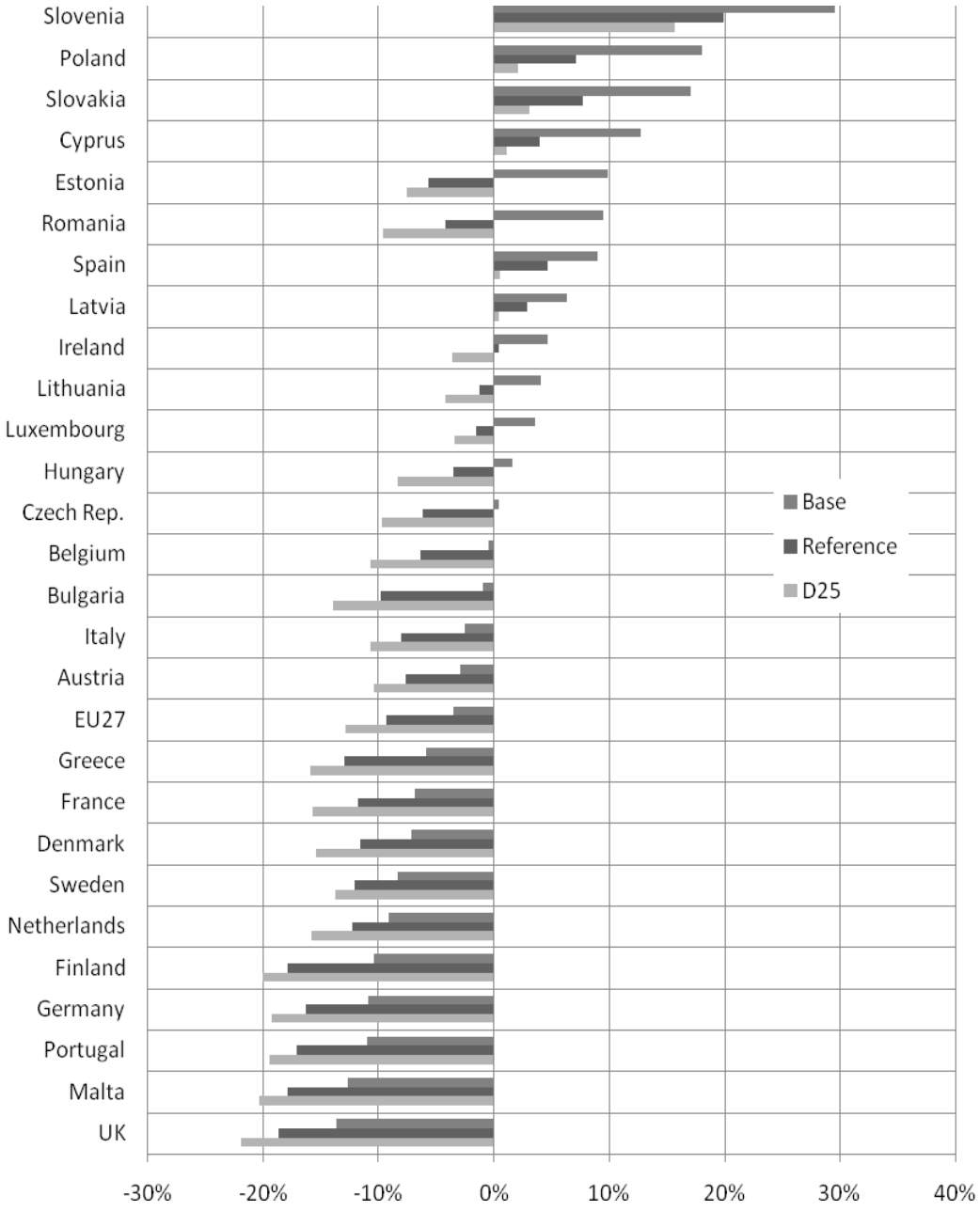
Table 3: Summary of RES and emission indicators and values – EU27 - 2030

Scenarios	BL	REF	D25
Carbon Price EU-ETS €/tCO2	32.0	17.6	48.2
Carbon Value non-ETS €/tCO2	0	5.3	48.2
GHG compared to 1990 in %	-24	-24	-40
Reduction in energy-related CO_2 from 1990 (%)	-21.8	-20.8	-39.8
Reductions in ETS GHG emissions from 2005 (%)	-27.0	-20.3	-49.7
Reductions in non-ETS GHG emissions from 2005 (%)	-9.2	-15.7	-22.0
RES Share in Gross Final Energy (%)	18.4	22.2	23.9
Primary energy consumption (Mtoe)(*)	1688	1635	1561
% change from PRIMES Baseline of 2007	*-10%*	*-13%*	*-17%*

(*) excluding non energy uses

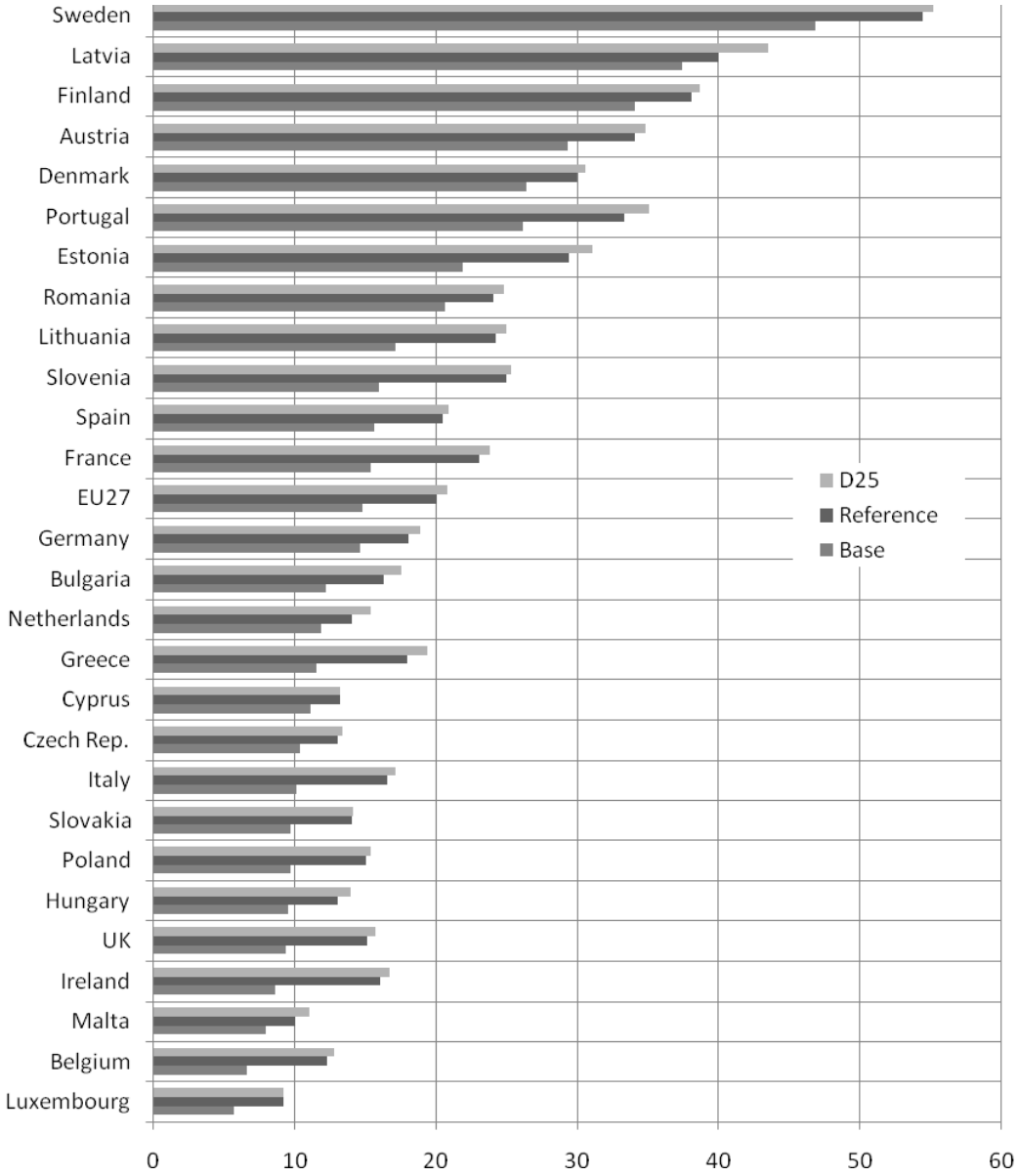
As shown in Figure 1 the emission changes in the non ETS sectors, compared to Baseline projections, differ by country, as also found for the simulation of the Energy and Climate package implementation through the Reference scenario. The emission reductions in non ETS sectors further increase in the D25 scenario, compared to the Reference, driven by the increased carbon value. The results by country compared to 2005 levels show that countries that would emit in 2020 more than in 2005 in the Reference scenario are likely to reduce emissions in D25 but still be in 2020 above 2005 levels, except in few cases. Countries with projections in 2020 below 2005 levels in the Reference are shown to further decrease emissions.

Figure 1: Non-ETS emissions compared to 2005 in 2020 by Member State



The higher carbon values are the only additional driver for RES in the D25 scenario; the share of RES in gross final demand increases due to higher carbon values and to the reduction in final energy demand. The RES share increases in all countries in 2020 with the highest increases in D25 compared to the Reference in Latvia, Portugal and Denmark. The ordering of the Member-States based on the RES indicator remains roughly unvaried in the three scenarios (Figure 2).

Figure 2: Share of RES in gross final energy demand in 2020 by Member-State



4.2 Decomposition of Emission Reduction

To be able to obtain more insight into the kind of restructuring induced by the higher carbon values to achieve the targets, the amount of emission reduction from the reference scenario is decomposed by type of change. This decomposition is an ex-post calculation based on the PRIMES model results and is carried out here for the total entire energy system of the EU.

The decomposition method is illustrated by the following formula:

$$CO_2 = \left(\frac{Energy}{GDP}\right) \times \left(\frac{Fossil\ Fuels}{Energy}\right) \times \left(\frac{CO_2}{Fossil\ Fuels}\right) \times GDP$$

The ratios in parentheses correspond to energy intensity, share of fossil fuels (one minus the share of carbon free sources) and average emission factor for fossils, respectively.

To compare two scenarios the terms of the above shown equation are transformed into a linear expression involving rates of change.

The four components appearing in the above decomposition formula are interpreted as follows:

a) A reduction of the ratio of energy over activity corresponds to energy savings enabled by behavioural changes (lower useful energy[18]), more insulation of buildings and the use of more energy efficient equipments; this is termed "energy efficiency" effect.

b) A reduction of the ratio of fossil fuels over energy corresponds to higher use of carbon free energy resources, such as RES or nuclear; this is termed "use of carbon free energy" effect.

c) A reduction of the rate CO_2 over fossil fuels corresponds to substitutions within the mix of fossil fuels, for example natural gas substituting for coal; this is termed "fossil fuel mix" effect; the reduction of emissions in the fossil fuel mix also includes the effects of the use of CCS for power generation.

d) A change in GDP would also lead to changes in energy use patterns and therefore in emissions, but as no GDP sensitivities are analysed in this exercise, this factor is zero.

The Reference scenario already projects a high increase of RES and energy efficiency due to the policies and measures included which lead to the achievement of the 20% RES target and also the 20% GHG emission reduction target. By applying the decomposition method for the Reference scenario compared to the Baseline and for the D25 scenario compared to the Reference, we provide evidence (see Table 4) that the main option to reduce emissions in 2020 in the context of the Reference is the switch to carbon free energy – due to the RES target-, whereas the main option for further emission reduction in 2020 beyond the climate and energy package is energy efficiency, accounting for roughly 50% of the emission reduction. The use of carbon free energy and the change in the fuel mix contribute, respectively, 26 and 23% to the reduction in emissions in the D25 scenario. The changes to the energy system that already take place in the Reference scenario seem to exhaust a large amount of the opportunities available for changes to the energy supply in the horizon of 2020.

[18] Lower level of a thermostat in heating, lower mobility, etc.

Table 4: Decomposition in % of Reduction of CO_2 Emissions at primary energy, EU27 – 2020 and 2030,

	Reference relative to Baseline	D25 relative to Reference	
	2020	2020	2030
Energy efficiency	27.9	51.1	15.8
Use of carbon free energy	64.6	23.2	15.4
Change in fossil fuel mix	7.4	25.7	68.8
Sum	100	100	100

For 2030 the situation changes considerably: the changes in fossil fuel mix explain two thirds of emission in D25 compared to the Reference; this is mainly due to development of CCS. The model projections find that the higher carbon prices under D25 favour economic development of CCS which was not possible in the Reference scenario because of low carbon prices. The absence of additional RES targets beyond 2020 and the limitations regarding high development of nuclear explain the lower contribution of the use of carbon free energy.

Table 5: Decomposition in % of Reduction of CO_2 Emissions at final energy demand, EU27 – 2020 and 2030

	Reference relative to Baseline	D25 relative to Reference	
	2020	2020	2030
Energy efficiency	23.8	91.2	82.1
Use of carbon free energy	82.5	10.6	12.6
Change in fossil fuel mix	-6.4	-1.8	5.3
Sum	100	100	100

Table 6: Decomposition in % of Reduction of CO_2 Emissions from power generation, EU27 – 2020 and 2030, relative to Baseline

	Reference relative to Baseline	D25 relative to Reference	
	2020	2020	2030
Electricity savings and energy efficiency in power generation	21.7	30.9	3.4
Use of carbon free energy	76.7	40.4	12.4
Change in fossil fuel mix	1.6	28.7	84.2
SUM	100	100	100

The decomposition at the level of final energy consumption (where energy carriers such as electricity and distributed heat have zero emissions), see Table 5, shows again the switch to carbon free energy as the dominating factor in the Reference scenario compared to the Baseline in 2020 and the improvement in energy efficiency as by far

the dominating factor in the D25 scenario, compared to the Reference, both for 2020 and for 2030. The changes in the fossil fuel mix concern further use of natural gas in the scenario, which is relatively difficult given the high market shares of gas in final demand. The use of carbon free energy includes direct use of RES in end-use applications, which seems to have fewer possibilities to increase further from the high levels achieved in the Reference case. It is noted that electrification in road transportation was not included as an option in the model application, as performed for this study. Mobility electrification would enable significant further gains both in efficiency and in the use of carbon free energy (as accounted for at final demand level).

A similar decomposition was calculated for the power generation sector (Table 6). This includes the changes in the volume of total generation as an additional factor explaining emission reduction (electricity savings). In the Reference scenario the main factor contributing to emission reductions in 2020 relative to the Baseline is again the shift towards use of carbon free energy. In the D25, the results show that in the horizon of 2020 emission reduction is roughly equally distributed between electricity savings and energy efficiency, changes in the fossil fuel mix (more use of natural gas) and the use of carbon free energy sources. Due to the drastic increase of RES in the Reference scenario and the further increase of RES in 2020 in the D25 scenario, the further contribution of carbon free sources is limited in 2030; on the contrary the changes in the fossil fuel mix are large due to the increased use of CCS in the D25 scenario by 2030. The contribution from electricity savings and energy efficiency is small, as the emission reduction possibilities in power generation are more cost-effective in 2030, than in 2020, allowing electricity to penetrate the final demand markets with the amount of electricity supplied remaining roughly unchanged from Reference levels in 2030.

4.3 Energy savings

As explained above, energy savings by energy efficiency improvement and behavioural decrease in demand for energy, in addition to the achievements under the Reference scenario assumptions, are found to be a major driver of further emission reductions. With the increase of the emission reduction objective and the resulting higher carbon values increasing from 16.5€/tCO_2 in the Reference in 2020 to 30€/tCO_2 in the D25, the model results confirm that significant reduction of energy inputs per unit of activity or income takes place in all final energy demand sectors.

Final energy consumption is lower in D25 scenario, compared to the Reference, by 2.8% in 2020 and 5.2% in 2030; the Reference scenario is found to be 1.1% and 2.2% lower than the Baseline scenario in 2020 and 2030 respectively. Consequently, primary energy requirements of the EU (termed Gross Inland Consumption by EUROSTAT) are found lower than the Baseline: in the Reference scenario 2.2% in 2020 and 3% in 2030; in D25 the reduction is 5.4% in 2020 and 7.1% in 2030 relative to the Baseline scenario projection.

The energy intensity of GDP, which is projected to decrease by 2.3% per year on average between 2005 and 2030 in the Reference scenario, decreases by 2.6% per year in the D25 scenario.

The model results (see Table 7) show that reduction of energy consumption is largest in the tertiary sector (between 3 and 18% from Baseline during 2020-2030), followed by the residential sector where the decrease is between 1 and 13%. Energy savings in industry are not as large and range between 0.5% and 4.6% in energy intensive industries between 2020 and 2030. In the Reference scenario already a part of the energy efficiency potential is taken due to the bottom-up energy efficiency measures; for industry many measures are taken as these are assumed to be economic already in the Reference scenario context, therefore the higher carbon values do not lead to as strong energy savings as in other sectors. In D25, in the residential and tertiary sectors the substantially higher non-ETS carbon values lead to energy savings significantly above Reference scenario levels.

Table 7: Energy Consumption in reference and the D25 scenario, EU27

	Reference				Scenario D25			
	% Change of Consumption from Baseline		% Diff. of shares from Baseline		% Change of Consumption from Baseline		% Diff. of shares from Baseline	
	2020	2030	2020	2030	2020	2030	2020	2030
Gross Inland Consumption	**-2.2**	**-3.0**			**-5.4**	**-7.1**		
Solids	-9.1	-2.6	-7.0	0.3	-22.2	-19.0	-17.7	-12.9
Oil	-3.6	-3.3	-1.4	-0.3	-5.3	-5.7	0.2	1.5
Natural gas	-11.1	-10.4	-9.0	-7.7	-13.7	-20.1	-8.7	-14.0
Nuclear	-4.7	-9.0	-2.5	-6.2	-5.6	-5.4	-0.1	1.8
RES	33.5	16.1	36.6	19.6	35.5	21.8	43.3	31.1
Final Energy Consumption	**-1.1**	**-2.2**			**-3.8**	**-7.3**		
Energy Intensive Industries	-0.4	-1.2	0.7	1.0	-1.6	-4.6	2.3	2.9
Other Industries	-1.2	-3.4	-0.2	-1.2	-1.7	-4.1	2.2	3.5
Residential	-0.9	-4.1	0.2	-1.9	-5.8	-12.9	-2.1	-6.1
Tertiary	-3.0	-5.8	-1.9	-3.6	-9.8	-18.1	-6.2	-11.6
Transport	-0.6	0.9	0.5	3.2	-1.3	-0.2	2.7	7.7

The substitution effects between fuels are mainly to the detriment of solids and fossil fuels in general. The inflexibility of the transport sector in replacing oil and in decreasing energy demand, explain that the reduction in demand for oil is smaller than for other fossil fuels. The substitution possibilities in transport could have been differ-

ent, if the scenario assumed possibility of electrification in road transportation, which was excluded by assumption. Distributed steam and mainly RES increase their share considerably in the time period 2020-2030 compared to the Baseline scenario.

The overall energy intensity of the economy (calculated as total primary energy consumption per unit of GDP) decreases considerably in the Reference scenario compared to 2005 levels and further decreases both in 2020 and in 2030, compared to the Reference. The energy intensity indicators by sector show that the main sectors improving in terms of energy efficiency are the residential and tertiary sectors, whereas industry and transport contribute limitedly.

Table 8: Energy Intensity indicators, EU27

Index (2000=100)	2020			% change from Baseline	
	Baseline	Reference	D25	Reference	D25
Total Primary Energy Demand over GDP	75.5	73.8	71.4	-2.2%	-5.4%
Industry (Energy on Value added)	79.0	78.4	77.7	-0.7%	-1.6%
Residential (Energy on Private Income)	80.0	79.3	75.3	-0.9%	-5.8%
Tertiary (Energy on Value added)	79.4	77.0	71.6	-3.0%	-9.8%
Transport (Energy on GDP)	83.0	82.6	82.0	-0.6%	-1.3%
Index (2000=100)	2030			% change from Baseline	
	Baseline	Reference	D25	Reference	D25
Total Primary Energy Demand over GDP	63.0	61.1	58.5	-3.0%	-7.1%
Industry (Energy on Value added)	69.8	68.3	66.7	-2.1%	-4.4%
Residential (Energy on Private Income)	66.8	64.1	58.1	-4.1%	-12.9%
Tertiary (Energy on Value added)	66.1	62.3	54.2	-5.8%	-18.1%
Transport (Energy on GDP)	67.1	67.7	67.0	0.9%	-0.2%

Transport is the most inflexible sector; this is due to the nature of the driver (a carbon value) which induces a small change in fuel costs in percentage terms as high excise taxes prevail in this sector; bottom-up restructuring policies are often cited as more cost-effective for improving efficiency in transportation, however such measures were not considered in this study. Another reason of inflexibility is the scenario construction which includes expected efficiency improvements induced by the CO_2 and cars regulation in the baseline and does not consider possible electrification of transport.

This implies that the only additional means transport has to further reduce emissions is through reduction of activity and modal shifts. The inflexibility both for total demand and substitutions in favour of alternative fuels explain the lower decrease of oil consumption compared to other fuels and the increase of oil share in final total energy demand in the emission reduction scenario.

Residential and tertiary on the contrary increase energy efficiency considerably in the beyond 20% scenario. The energy efficiency indicator for the residential sector shows a reduction of energy consumption (on private income) by almost 25% in the D25 scenario in 2020 compared to 2000 levels; the reference scenario only reduces by 20% compared to 2000 levels. Also in 2030 the scenario achieves considerable improvements compared to the Reference scenario. Energy efficiency improvements in the tertiary sector improve by 5 percentage points in D25 in 2020.

The stronger target for 2020 and the limited opportunities available to change the system in the short time period to 2020, imply that the system will reduce energy consumption to comply with the targets, only limitedly substituting it with other energy forms. This is exemplified by the high investment in building renovation in the residential and tertiary sectors, as shown in a next section. Average household consumption in thermal[19] uses per square meter of dwelling already decreases considerably in the Reference scenario compared to 2005 levels (Table 9). The D25 scenario reduces average consumption by an additional 4 percentage points in 2020 compared to the Reference scenario and 6 percentage points in 2030. The D25 scenario assumes only non-ETS carbon values as drivers of further building renovation in addition to the measures included in the Reference scenario; other bottom-up measures may induce higher renovation rates if succeeding to remove market and non market barriers.

Table 9: Energy Consumption for thermal uses per square meter of dwellings, EU27

	2005	2020		2030	
	kWh/sqm	kWh/sqm	diff. to 2005	kWh/sqm	diff. to 2005
Baseline	176	132	-25%	111	-37%
Reference		131	-25%	107	-39%
D25		125	-29%	97	-45%

The decrease in final energy demand is mainly driven by savings of useful energy – e.g. better insulation, lower room temperatures, lower activity in transport, and by purchasing of more energy efficient appliances. Table 10 shows that the bulk of efficiency improvement of appliances is performed in the Baseline and Reference scenarios. The additional improvements in the D25 scenario are positive but small.

[19] Thermal uses include energy for heating, cooling, water heating, cooking.

Table 10: Specific energy consumption of electric appliances and lighting, EU27

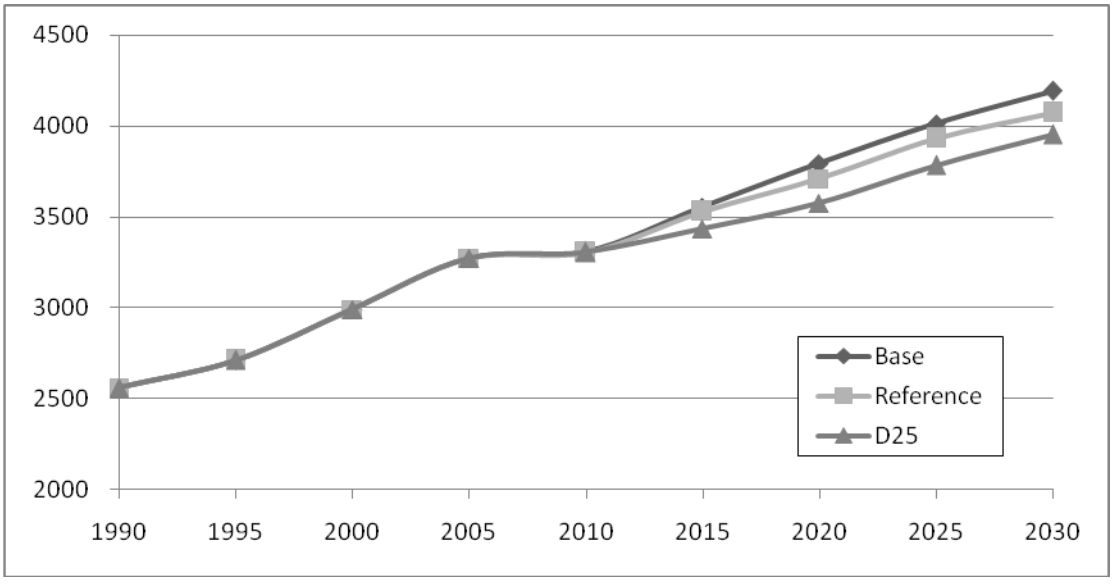
	2005	2020		2030	
	Index 2000=100	Index 2000=100	diff. to 2005	Index 2000=100	diff. to 2005
Baseline	94.7	64.4	-32.0%	63.3	-33.2%
Reference		63.4	-33.1%	60.8	-35.8%
D25		62.8	-33.7%	60.2	-36.5%

The overall amount of final energy demand decreases, therefore reducing the consumption of all energy sources; nonetheless in terms of market share, some energy forms gain, such as RES, electricity and distributed heat/steam.

Table 11: Share of electricity in stationary energy uses, EU27

	2020	2030	2020	2030
	Share in stationary uses		Diff. from 2005	
Baseline	32.3%	35.1%	3.8%	6.7%
			Diff. from Baseline	
Reference	32.0%	35.9%	-0.3%	0.8%
D25	32.1%	36.4%	-0.2%	1.3%

Figure 3: Gross Electricity Generation (TWh)-EU27



Although total electricity demand decreases in D25 from Reference levels, as a result of energy efficiency improvement, the market share of electricity in stationary uses (all final demand uses except transportation) increases, compared to Reference (Table 11). Further electrification of stationary uses has been found as a dominant trend already in the Reference scenario, because electricity is from the perspective of final uses a carrier enabling energy efficiency and emission reduction, as electricity genera-

tion progressively decarbonises. A similar result is found when comparing D25 to the Reference case: moving beyond the 20% emission reduction favours further penetration of electricity in stationary uses, albeit at a small extent. Such a penetration is more limited in 2020 when the power sector is more inflexible in delivering further emission reduction from Reference levels, contrasting the situation in 2030, when the higher flexibility of the power sector allows for further penetration of electricity in stationary uses.

The electricity demand changes imply similar changes in electricity generation, as shown in Figure 3. The reduced demand for electricity owes to the significant improvement in overall energy efficiency in demand sectors, which is found to dominate over the substitution effect (using more electricity to replace fossil fuels).

4.4 Development of Renewables

The RES supporting policies used to achieve the 20% RES target in the Reference scenario are kept constant in the D25, but the carbon values also add to driving more RES.

Through the carbon value applied also on the non-ETS sectors the share of RES in gross final energy demand increases by 1 to 2 percentage points in the D25 scenario (Table 12).

In 2020 the share of RES in gross final consumption increases also because of the reduction in total final consumption, which is lower due to the additional energy efficiency measures induced by the carbon values. Despite the reduction in total energy demand, the total amount of RES increases by 0.6% in D25, in 2020, relative to the Reference scenario (Table 13); hence, the share of RES in all sub-sectors increases from Reference scenario levels.

One exception is heating and cooling in 2020 in the D25 scenario: the results show a slight reduction of gross final consumption and a slight decrease in the amount of RES, compared to the Reference. The RES amount in heating and cooling nevertheless increases in 2030 and is above Reference levels. For all sectors and both for 2020 and for 2030 the ratio expressed as consumption of RES in gross final consumption increases.

In terms of total amount of RES consumed, the Reference scenario projects a remarkable progress in 2020 relative to 2010 levels. This is due to the strong policies included in the Energy and Climate Package. Moving beyond the 20% emission reduction target induces further development of RES, which represents between 1 and 2% above Reference in 2020 and between 2 and 3% in 2030.

The use of RES in power generation is the highest, followed by heating and cooling. RES in transportation represent only a small share of the total.

For transport the use of biofuels represents the only possibility of penetration of RES as the indirect use of RES through electrification is not possible as electromobility was not assumed to develop. The D25 scenario exceeds the RES target for the transport sector by 0.1 percentage point in 2020 and the quantity of biofuels slowly increases thereafter.

Table 12: Share of RES in gross final consumption - EU27

%	2020			2030		
	Baseline	Reference	D25	Baseline	Reference	D25
RES in total	14.8	20.0	20.7	18.4	22.2	23.9
RES in heating and cooling	14.3	20.8	21.6	16.8	21.5	23.9
RES in electricity	25.8	32.5	34.4	31.9	35.9	38.4
RES in transport	7.4	10.0	10.1	9.3	12.5	12.6

As stated above, the largest deployment of RES is in power generation. The Reference scenario projects a doubling of RES electricity in 2020 from 2010 levels.

Table 13: RES measured at Gross Final Energy Consumption in scenario - EU27

Scenario Reference	Gross final consumption of RES (Mtoe)		% Change from Baseline	
	2020	2030	2020	2030
RES in total	251	273	33.7%	17.4%
RES in heating and cooling	118	112	43.9%	21.5%
RES in electricity	103	125	23.3%	9.5%
RES in transport	32	39	34.0%	35.4%
Gross final energy demand	1260	1237	-1.1%	-2.6%
Scenario D25	Gross final consumption of RES (Mtoe)		% Change from Baseline	
	2020	2030	2020	2030
RES in total	252	280	34.5%	20.7%
RES in heating and cooling	117	115	43.4%	24.5%
RES in electricity	105	130	25.7%	13.7%
RES in transport	32	39	34.5%	36.1%
Gross final energy demand	1224	1182	-4.0%	-6.9%

The D25 scenario (Table 12) projects an increase in RES electricity of 2 percentage points in 2020 and 3.8 percentage points in 2030, above Reference levels. Wind, biomass (and waste) and solar all contribute to this increase in 2020, the highest being the share of wind energy. In 2030 the further increase is carried out mainly by further

developments of biomass and waste, although wind and solar also still make considerable contributions.

The share of electricity from RES increases in the D25 scenario although overall electricity production decreases in this scenario due to lower electricity demand. The share of electricity generated using intermittent resources is around 18% in 2020 and above 21% in 2030 in the D25scenario; the increase of this share compared to the Reference scenario is rather small.

4.5 Power Sector Restructuring

Compared to present situation, substantial restructuring of power generation is projected to take place in the Reference scenario. The changes are driven by the obligation to increase RES as % of gross final demand to 20% by 2020, which implies very significant use of RES in power generation as a result of a least cost distribution of the RES target among the sectors. The ETS carbon prices is another driver of changes, equally important, but the carbon prices projected in the Reference scenario are rather small (below 20€/tCO_2), as the scenario assumes full implementation of RES obligations and implementation of some further energy efficiency measures. The ETS carbon prices favour low carbon sources of generation but are not sufficient to drive CCS investment in the Reference scenario. Both the RES and the carbon prices reduce the use of solids and oil in power generation, and at a lesser degree reduce the use of gas, although gas increases in share among the fossil fuels.

Moving beyond the 20% emission reduction target leads to substantial increases in ETS carbon prices, which induce significant changes of power generation structure in scenario D25 compared to the Reference. As already mentioned, the ETS carbon prices are projected in D25 to range between 30€/tCO_2 in 2020 and 48€/tCO_2 in 2030.

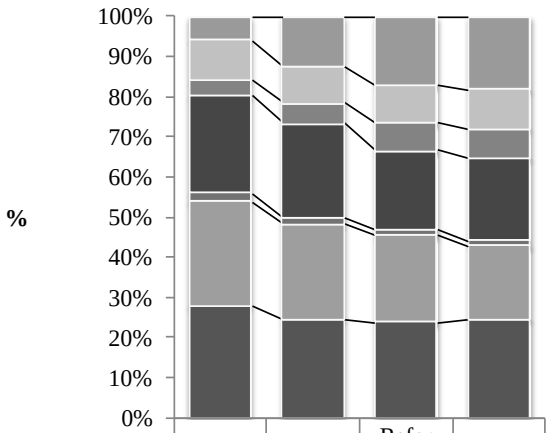
The CCS option is not considered commercially mature by 2020 and the capacities operating in 2020 are only pilot CCS plants. The carbon prices prevailing in D25 after 2020 are sufficient to pull CCS in the market, provided that the storage and transportation infrastructure is in place, as assumed in D25 scenario. This CCS projection contrasts Reference scenario projections which do not show CCS development beyond the pilot CCS plants, as carbon prices are not sufficiently high. Despite the emergence of CCS, the D25 scenario projects significantly lower generation from solid fuels than the Reference scenario. This is for two reasons: the volume of total generation is lower in D25 than in Reference, as energy efficiency improvement is larger; the higher carbon prices in this scenario induces further shifts away from solid fuels and in favour of RES and nuclear (at lesser degree).

In addition, the carbon prices change to some degree the merit order of unit commitment[20]: highly efficient gas plants displace the less efficient solid fuel plants in the

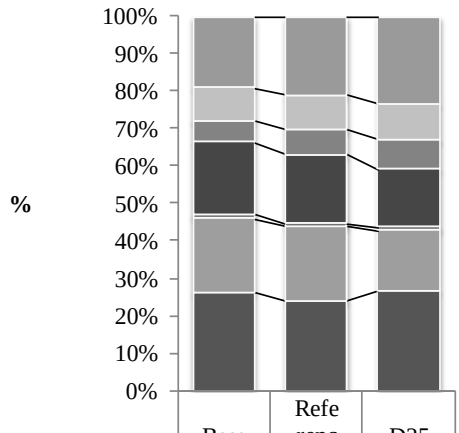
[20] The electricity sub-model of PRIMES includes a very detailed representation of power plant technologies, keeps track of power plant vintages and simulates least cost unit commitment and perfect fore-

merit order. However, the cost-effective substitutions among the fossil fuel plants are rather limited when imposing also RES targets because these targets induce high penetration of RES generation to the detriment of other means for CO_2 reduction. The main effect comes from the additional RES power units which reduce both coal and gas power generation and investment. Nevertheless gas-fired power is less reduced than coal-fired, because of the carbon prices but also because the intermittent RES power requires extensive support by flexible reserve power for balancing and backup, which is supplied mainly by gas units.

Figure 4: Structure of power generation by source (shares in %) – EU27



	2010	Base 2020	Reference 2020	D25 2020
Variable RES	5.9	12.6	17.2	18.2
Hydro	10.1	9.2	9.5	9.8
Biomass	3.8	4.9	6.8	7.3
Gas	24.3	23.2	19.8	20.5
Oil	2.0	1.9	1.3	1.3
Solids	26.0	23.7	21.6	18.4
Nuclear	28.0	24.5	23.9	24.5



	Base 2030	Reference 2030	D25 2030
Variable RES	19.0	21.2	23.3
Hydro	8.8	9.0	9.6
Biomass	5.6	6.8	7.9
Gas	19.3	18.1	15.3
Oil	1.2	1.0	1.0
Solids	19.8	19.8	16.2
Nuclear	26.2	24.1	26.6

The changes in nuclear energy are only marginal in the scenario D25 compared to the Reference because the basic policies for nuclear energy (the nuclear phase out policies in some Member-States, the non consideration of the nuclear option in other Member-States and the difficulty of licensing new greenfield sites for new nuclear plants) are assumed not to change between the scenarios. The modest increases in nuclear capacity in the D25 scenario occur after 2020, as the long lead times for nuclear are taken into consideration in the modelling.

Figure 4 shows the structure of gross power generation by type of energy form in three scenarios. Total power generation decreases slightly in the Reference and D25 scenarios, due to the reduction in final electricity demand. In the D25 scenario, the higher carbon prices lead to a larger use of carbon free power plants. This can be seen

sight power expansion subject to fuel supply cost curves and a DC-linear operation of the EU interconnecting grid.

by the increased deployment of RES and nuclear, which increase both in terms of share and in terms of production.

Table 14: Net Power Generation by type of energy form - EU27 (in TWh)

Baseline	2010	2020	2030	% change from 2010	
				2020	2030
Nuclear	882	886	1031	0.5%	17.0%
Solids w/o CCS	821	819	518	-0.2%	-36.9%
Solids with CCS	0	37	263		
Oil	64	67	48	5.1%	-24.8%
Gas w/o CCS	765	840	762	9.7%	-0.5%
Gas with CCS	0	0	0		
Biomass	118	177	222	50.1%	88.1%
Hydro	317	333	348	4.8%	9.7%
Variable RES	185	455	747	146.6%	304.9%
Total Net Generation	3152	3614	3940	14.7%	25.0%
Reference	2010	2020	2030	% change from Baseline	
				2020	2030
Nuclear	881	844	935	-4.7%	-9.3%
Solids w/o CCS	840	727	730	-11.2%	40.9%
Solids with CCS	0	35	39	-5.2%	-85.2%
Oil	70	46	39	-31.2%	-18.7%
Gas w/o CCS	740	701	701	-16.5%	-8.0%
Gas with CCS	0	0	3		846.2%
Biomass	112	241	264	35.8%	18.6%
Hydro	317	335	351	0.7%	0.7%
Variable RES	186	607	825	33.3%	10.4%
Total Net Generation	3145	3537	3886	-2.1%	-1.4%
D25	2010	2020	2030	% change from Baseline	
				2020	2030
Nuclear	882	837	974	-5.6%	-5.5%
Solids w/o CCS	840	586	121	-28.4%	-76.6%
Solids with CCS	0	40	470	8.0%	78.7%
Oil	69	46	37	-31.8%	-23.3%
Gas w/o CCS	742	698	527	-16.8%	-30.8%
Gas with CCS	0	0	34		12614.5%
Biomass	111	250	291	40.6%	30.6%
Hydro	317	335	351	0.7%	0.8%
Variable RES	186	621	851	36.3%	13.8%
Total Net Generation	3146	3412	3656	-5.6%	-7.2%

Substantial increases of RES can be observed in the Reference compared to both the Baseline and 2010; this change is induced by the RES target. The share of solids, nuclear and gas in power generation decreases. In the D25 scenario, in 2020, there is a slightly higher share of nuclear generation, a higher share of generation from RES and a higher share of generation of gas compared to the Reference. The use of solids decreases considerably. In a context of higher carbon prices and limited possibilities to change the structure of the power generation system (due to the limited time availability and the limited availability of additional potential for RES) the system tries to optimise the use of the existing power plants in order to minimise costs, leading to a strong reduction of solid generation which is compensated by all other energy forms.

In 2030 the picture changes considerably: in this time frame new constructions (see below) are possible and therefore a different configuration of the system occurs. RES increase beyond Reference scenario levels and also their share increases. The share of nuclear increases slightly as this is also a carbon free energy form and is therefore not subject to ETS payments. The share of solids decreases in D25 compared to 2020 and also decreases from Reference levels. The share of gas decreases in 2030 compared to 2020 and compared to Reference in the D25 scenario: this is due to the increase of RES and nuclear shares and at a lesser degree to the fact that CCS power plants develop considerably under the conditions of the D25 scenario. In 2030 17.7% of electricity generation in the D25 scenario is produced through CCS, whereas only1.4% is produced from CCS in the Reference; in D25 most CCS power plants are based on solids. The main reason for the reduction of gas generation is the increasing contribution by RES and nuclear.

The year 2020 therefore represents the optimal solution under the constraint that limited amount of new investments can occur in the time period up to 2020 beyond the already planned ones, due to the long lead times. The year 2030 on the contrary represents a new balance of the system under the forecast of higher ETS carbon prices driven by the higher targets.

Total installed power capacity in 2020 decreases in the D25 scenario, as the lower electricity demand leads to lower investment capacity needs. In 2030 on the contrary, the capacity in the D25 scenario increases compared to the Reference scenario. The increased power generation is the consequence of higher RES deployment which are generally characterised by smaller capacity factors than thermal units.

The structure of capacity for power generation changes considerably in the Reference scenario from both 2010 and the Baseline scenario. The considerable change is due to the introduction of the RES target which leads to a strong increase in RES and a reduction of investments in nuclear and solid fired power plants.

Table 15: Power Generation Investment - EU27 (in GW net)

Baseline	2011-2020	2021-2030	2011-2020	2021-2030
	Total investment		GW diff. from 2001-2010	
Nuclear	14.6	71.3	8.2	64.9
Coal w/o CCS	40.4	24.3	28.2	12.1
Coal with CCS	5.4	29.8	5.4	29.8
Oil	13.3	9.6	10.7	7.0
Gas w/o CCS	56.6	29.4	-36.8	-64.0
Gas with CCS	0.0	0.0	0.0	0.0
Small Oil and Gas	10.5	17.0	2.8	9.2
Biomass	13.6	16.6	0.7	3.7
Hydro	6.0	3.0	-2.6	-5.6
Wind onshore	48.0	61.5	-19.0	-5.4
Wind offshore	40.2	39.7	35.9	35.4
Solar and other RES	25.5	41.6	-90.4	-74.2
Total	274.0	343.8	43.7	113.4
Reference	2011-2020	2021-2030	2011-2020	2021-2030
	Total investment		GW diff. from Baseline	
Nuclear	14.3	60.9	-0.3	-10.4
Coal w/o CCS	36.2	34.0	-4.2	9.7
Coal with CCS	5.4	0.1	0.0	-29.7
Oil	8.0	8.6	-5.2	-1.0
Gas w/o CCS	44.1	36.4	-12.4	7.0
Gas with CCS	0.0	0.5	0.0	0.4
Small Oil and Gas	12.4	18.2	1.8	1.2
Biomass	32.4	15.6	18.9	-1.0
Hydro	6.8	3.6	0.8	0.7
Wind onshore	84.4	38.4	36.4	-23.1
Wind offshore	51.3	32.0	11.1	-7.7
Solar and other RES	37.7	42.8	12.3	1.2
Total	333.1	291.1	59.1	-52.7
D25	2011-2020	2021-2030	2011-2020	2021-2030
	Total investment		GW diff. from Baseline	
Nuclear	14.7	66.6	0.1	-4.7
Coal w/o CCS	31.8	5.7	-8.6	-18.6
Coal with CCS	5.4	57.5	0.0	27.7
Oil	7.7	4.1	-5.6	-5.5
Gas w/o CCS	43.8	23.8	-12.7	-5.6
Gas with CCS	0.0	5.2	0.0	5.1
Small Oil and Gas	5.7	3.0	-4.9	-14.0
Biomass	34.0	16.4	20.5	-0.2
Hydro	6.9	3.8	0.8	0.9
Wind onshore	88.3	39.9	40.3	-21.7
Wind offshore	51.1	32.6	10.9	-7.2
Solar and other RES	42.7	44.0	17.3	2.4
Total	332.2	302.4	58.2	-41.3

Table 16: Plant retrofitting and decommissioning - EU27 (in GW net)

Baseline	2011-2020	2021-2030	2011-2020	2021-2030
	Retrofitting (*)		Decommissioning	
Nuclear	2.5	53.4	18.1	60.6
Coal w/o CCS	13.8	11.7	63.5	54.8
Coal with CCS	0.0	27.6	0.0	0.0
Oil	4.1	3.6	23.0	13.6
Gas w/o CCS	14.2	11.4	30.6	23.7
Gas with CCS	0.0	0.0	0.0	0.0
Small Oil and Gas	2.0	0.9	8.2	5.8
Biomass	1.4	3.0	1.8	4.0
Hydro	1.2	1.6	0.0	0.0
Wind onshore	0.0	12.7	0.0	12.8
Wind offshore	0.0	0.0	0.0	0.0
Solar and other RES	0.0	14.9	0.4	14.9
Total	39.2	140.9	140.9	190.1
Reference	2011-2020	2021-2030	2011-2020	2021-2030
	Retrofitting (*)		Decommissioning	
Nuclear	2.3	47.1	18.1	60.6
Coal w/o CCS	9.6	22.2	63.5	52.7
Coal with CCS	0.0	0.1	0.0	0.0
Oil	3.2	2.4	23.0	12.3
Gas w/o CCS	7.7	24.3	30.5	20.7
Gas with CCS	0.0	0.5	0.0	0.0
Small Oil and Gas	2.2	2.1	8.2	5.4
Biomass	2.6	2.8	1.9	4.1
Hydro	1.7	1.4	0.0	0.0
Wind onshore	0.0	12.8	0.0	12.8
Wind offshore	0.0	0.0	0.0	0.0
Solar and other RES	0.0	13.2	0.4	14.9
Total	29.4	129.0	145.6	183.5
D25	2011-2020	2021-2030	2011-2020	2021-2030
	Retrofitting (*)		Decommissioning	
Nuclear	2.6	49.1	18.1	60.6
Coal w/o CCS	5.6	3.4	63.5	53.3
Coal with CCS	0.0	51.8	0.0	0.0
Oil	3.4	1.4	23.0	12.5
Gas w/o CCS	7.7	7.6	30.6	21.7
Gas with CCS	0.0	4.9	0.0	0.0
Small Oil and Gas	2.3	0.6	8.2	6.3
Biomass	2.6	3.6	1.9	4.1
Hydro	1.8	1.4	0.0	0.0
Wind onshore	0.0	12.8	0.0	12.8
Wind offshore	0.0	0.0	0.0	0.0
Solar and other RES	0.0	13.2	0.4	14.9
Total	26.0	149.8	145.7	186.2

(*) Retrofitting is included in total investment shown in other tables

In the D25 on the contrary, in 2020 the changes in capacity compared to the Reference scenario are very limited; the main changes relate to a further increase in RES capacity, a decrease in solids capacity and a slight decrease in gas capacity. Changes in nuclear are very limited due to the long lead times: the majority of constructions to 2020 refer to already planned power plants, the changes concern repowering projects.

The situation changes in 2030 as there is a sufficient time gap to allow for new investments.

Total installed capacity of solid fired power plants increases in 2030 in the D25 scenario as the carbon prices, which are substantially higher than in the Reference scenario, give enough financial inventive for the construction of power plants with CCS. Approx. 90% of the investments in the decade 2021-2030 in solid power plants are for power plants equipped with CCS and take place in existing coal plant sites. Investment in new gas power plants, on the contrary decrease in the D25 scenario compared to the Reference scenario. Under the Reference scenario context with lower carbon prices, gas fired power plants represented a way to reduce emissions with low investment costs; on the contrary in the context of higher carbon prices as in the D25 scenario the conditions are such that further RES and nuclear investment take place, while CCS economics allows for building new coal plants.

Investment in new nuclear plants is between 6 GW in the D25 scenario relative to the Reference scenario, but it is still lower than in the Baseline scenario. The bulk of nuclear investment takes place for retrofitting old nuclear plants for extending their lifetime, for repowering and at a lesser extent for building additional units in the same nuclear plant site. No new nuclear sites that are unknown today are shown to develop, according to the model projections.

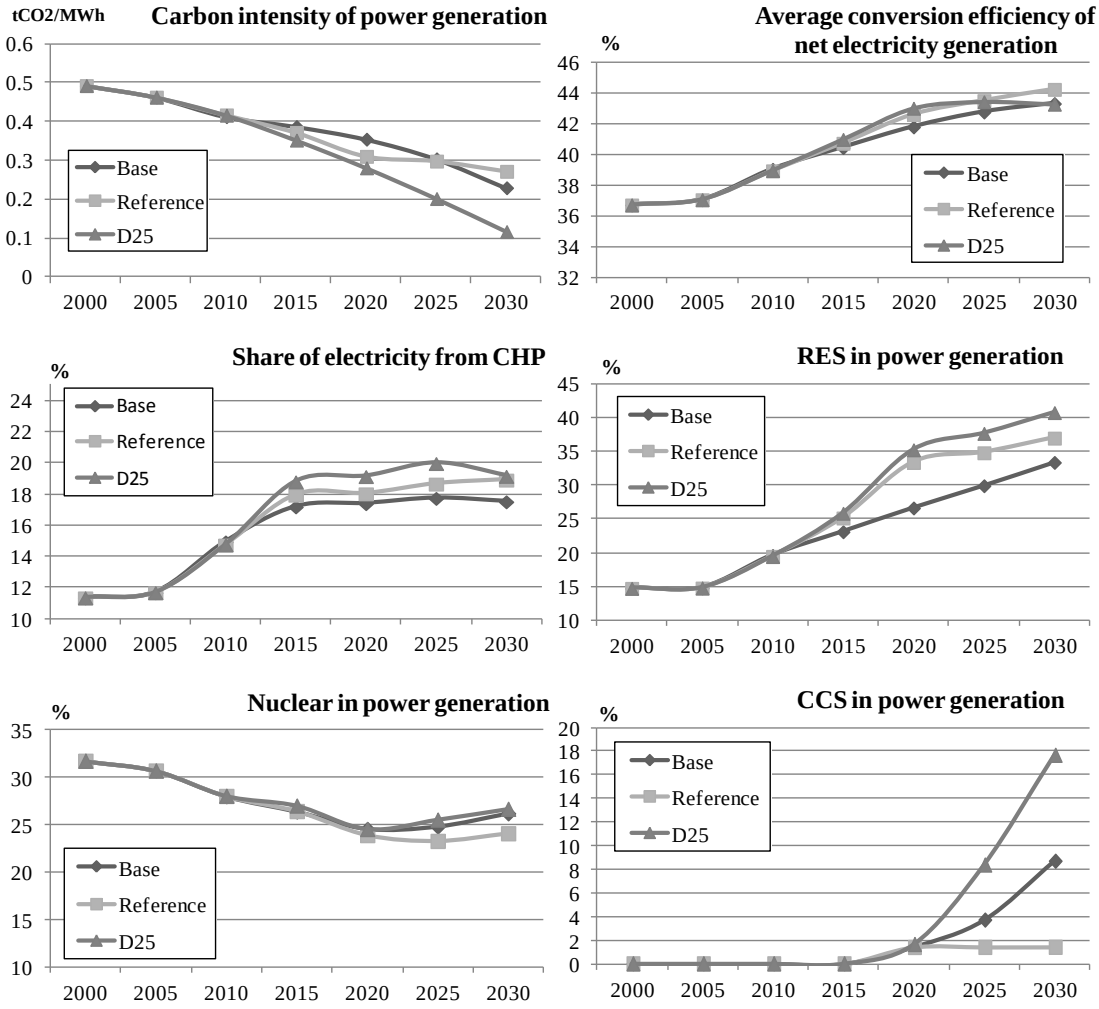
The additional capacities of RES in the D25 scenario, relative to the Reference scenario, are in descending order of magnitude wind, solar and biomass. The increase in RES capacities relative to the Reference is more pronounced in 2020 than in 2030 due to more possibilities of developing nuclear and CCS in 2030.

All indicators (Figure 5) from the perspective of energy efficiency and climate change mitigation improve to 2020, already in the Reference scenario and they improve even more substantially in the D25 scenario. All indicators also increase to 2030, although some indicators remain at slightly lower levels than the Reference scenario in 2030.

Carbon intensity of power generation decreases substantially in the D25 scenario. The indicator decreases almost proportionally with the emission reduction target imposed: the D25 scenario achieves a reduction of 6% compared to the Reference scenario in 2020. In 2030 the carbon intensity reaches a value of approx. 0.12 tCO_2/MWh, almost 55% lower than the Reference scenario. The Reference scenario sees a strong reduction of carbon intensity compared to the Baseline in 2020, but as no additional policies are introduced beyond that point the carbon intensity remains almost stable and is

slightly higher than the baseline scenario in 2030 due to the higher carbon prices in the Baseline compared to the Reference.

Figure 5: Indicators for Power Generation, EU27



The average conversion efficiency of net electricity production slightly increases in 2020 from Reference levels due to the higher use of RES, whereas it achieves a slightly lower level than the Reference scenario in 2030 due to the penetration of CCS in scenario D25.

The share of electricity from CHP increases in both the Reference and the D25 scenarios compared to the Baseline. In 2020 the additional share of electricity from CHP is mainly due to the overall decrease in electricity demand which leads the relative share of CHP to increase. In the Reference scenario the higher CHP share compared to the Baseline is due to the lower development of CCS due to the lower carbon prices. The combination of CCS and CHP in the same plant is found not to be economical by the model due to the high electric efficiency losses that result from the combination of these two technologies.

The share of RES in power generation and of CCS in power generation increases in the D25 scenario in 2020 and 2030 above Reference scenario levels. Whereas the increases in RES power generation is limited to around 3 percentage points, the increase in CCS is very high and is due to the higher ETS carbon prices which allow for such investments. CCS in power generation in 2030 in the D25 scenario also increases compared to the Baseline scenario which has higher levels of CCS than the Reference due to the higher carbon values; the same applies for nuclear.

4.6 Costs and Prices of Energy

The additional emission reduction targets lead to additional costs for the energy system[21]. Moving from the Reference projection for 2020 to the D25 projection was estimated to imply an additional energy system cost of €'08 Bn. 25.1, which is 60% less than the additional cost for moving from the Baseline to the Reference projection in 2020 (€'08 Bn. 41.8). The cumulative additional costs for the period 2011-2020 are of the order of 0.1% of cumulative GDP for the two cases and for the period 2011-2030 they are of the order of 0.2% of cumulative GDP. Moving from Reference to D25 implies higher additional costs than moving from Baseline to the Reference in the period 2020 to 2030 because by definition the D25 involves a 40% emission reduction target for 2030, whereas such a target was not included in the Reference scenario.

Table 17: Additional total energy system costs, EU27

	Annual		Cumulatively		Cumulatively	
	2020	% of GDP	2011-2020	% of GDP	2011-2030	% of GDP
	€'08 Bn.		€'08 Bn.		€'08 Bn.	
From Baseline to Reference	41.8	0.28%	188.3	0.14%	575.0	0.19%
From Reference to D25	25.1	0.17%	159.2	0.12%	618.1	0.21%

The power generation sector as it is mostly subject to the ETS faces lower costs in the Reference scenario as the ETS prices are lower than in the Baseline and higher costs in the D25 scenario because of higher auction payments as the carbon prices increase compared both to Reference and Baseline.

In the Reference scenario average electricity prices remain roughly constant or decrease in the projection period compared to the Reference: the higher capital and fixed O&M costs due to the higher share of RES in power generation are compensated by the savings in fuel costs and taxes as well as auction payments. The higher share of RES also leads to significantly grid costs (see Table 18).

[21] As explained in a previous section, total energy system costs refer to all costs incurring for energy and emission reduction purposes (incl. for abating non energy related GHG emissions) excluding ETS auction payments.

Table 18: Impacts on electricity prices and costs - EU27

Baseline	2020	2030			€ diff. from 2010	
					2020	2030
Avg. pre-tax price €'08/MWh	124.3	128.6			28.9	33.1
Capital and fixed costs	51.3	52.8			5.7	7.1
Variable and fuel costs	40.9	42.2			10.4	11.8
Fuel taxes and ETS	10.1	10.0			9.6	9.4
Grid and Sales costs	22.0	23.6			3.2	4.8
Reference	2020	2030	% change from Baseline		€ diff. from 2010	
			2020	2030	2020	2030
Avg. pre-tax price €'08/MWh	125.2	124.7	1%	-3%	0.9	-3.9
Capital and fixed costs	56.8	53.5	11%	1%	5.5	0.7
Variable and fuel costs	38.2	40.2	-7%	-5%	-2.7	-2.0
Fuel taxes and ETS	5.9	5.8	-42%	-42%	-4.3	-4.2
Grid and Sales costs	24.3	25.2	11%	7%	2.3	1.7
D25	2020	2030	% change from Baseline		€ diff. from 2010	
			2020	2030	2020	2030
Avg. pre-tax price €'08/MWh	131.8	134.9	6%	5%	7.5	6.4
Capital and fixed costs	59.2	59.9	15%	14%	7.9	7.2
Variable and fuel costs	38.0	40.4	-7%	-4%	-2.9	-1.8
Fuel taxes and ETS	9.5	8.3	-6%	-17%	-0.6	-1.7
Grid and Sales costs	25.1	26.3	14%	12%	3.1	2.7

As was described in the previous chapter in the D25 scenario, in 2020, the power generation sector further increases the RES capacity but also shifts its generation patterns in favour of less emitting technologies. Towards 2030 the power sector in D25 undergoes significant restructuring based on investments in lower emitting technologies such as RES and CCS equipped power plants. Since prices are determined to recover all costs including auction payments consumer prices of electricity increase in D25 relative to the Reference and Baseline scenarios.

Steam and heat production costs also increase in the scenario compared to the Reference; in 2020 the restructuring of the power system in favour of co-generation leads to higher costs, in 2030 the restructuring and the higher use of RES, particularly biomass also lead to higher costs. Costs for transport fuels increase due to the higher costs of refineries driven by the ETS and other costs associated with carbon emission reductions; the share of biofuels does not increase significantly therefore this does not lead to additional costs. The prices of primary energy sources and primary energy produc-

tion for coal, gas and oil, are assumed to remain unchanged from Reference scenario levels. All these changes lead to cost increases for final consumers in the purchasing of fuels due to higher prices determined at the energy supply side.

Nevertheless, as energy consumption decreases in D25, relative to the Reference, because of higher energy efficiency improvement, the total bill incurred by consumers in purchasing energy commodities does not necessarily increase. In fact, the results show that the energy purchasing bill for final consumers, including the effect of auctioning payments, are 1% lower in the D25 scenario than in the Reference scenario.

Although energy expenditures are lower in the D25 scenario, the higher energy efficiency implies higher expenditures or investments in new (more efficient) energy equipment, building renovations, etc. In annual payment terms, the capital costs incurred by final energy consumers for investment in their own premises increases in D25 by 9% in 2020 and by 16% above Reference levels.

The reduction of energy consumption also entails disutility costs, in some energy uses. Disutility costs are a monetary estimation of lower utility from useful energy services (mobility, heating, lighting, etc), as a cause of rational behaviour of consumers (e.g. switching off lights, less travelling) due to the higher costs of the useful energy services.

The energy system costs in the following (and as shown in Table 19) are from the perspective of the final demand side users, including all costs incurred for getting useful energy services, therefore all costs related to investment expenditures in the supply side (e.g. power plants) are indirectly included in the energy expenditures as the end user prices for energy commodities (e.g. electricity) are calculated so as to fully recuperate costs.

The additional policies and targets introduced in the Reference scenario lead to an increase in capital costs due to the higher penetration of RES and the purchase of more energy efficient equipment. The additional expenditures for fuel are mainly due to the achievement of the biofuel target, which requires the use of more biofuels in the transport sector which are more expensive than traditional fuels. Due to the slightly higher average electricity prices and the higher electricity of fuels for the transport sector the system also incurs in disutility and therefore disutility costs.

The higher carbon values in the D25 scenario lead to even higher investments in energy efficient appliances and more intensive building renovations compared to the Reference scenario. These lead to lower energy demand and therefore lower expenditures in purchasing energy. If the energy expenditures are cleared of the component relating to auction payments (indirect auction payments in the power generation sector), the decrease in energy expenditures (expenditure for energy carriers) thus calculated for the D25 is larger.

The additional cost for process CO_2 abatement and non-CO_2 emission reductions, calculated compared to baseline, increases in the D25 scenario compared to the Reference as it is assumed that under the higher carbon values it is economical to abate more of these emissions. Total energy system costs excluding disutility and auction payments in the D25 scenario is higher both in 2020 and in 2030, as the higher capital costs are not compensated by the additional energy savings.

Table 19: Total energy system costs by category - EU27

	2020			2030		
	Base-line	Refer-ence	D25	Base-line	Refer-ence	D25
	bln €'08	Differences to Baseline (bln €'08)		bln €'08	Differences to Baseline (bln €'08)	
Capital costs	366.0	33.7	67.0	442.8	67.3	139.3
Energy expenditures (excl auction payments)	1418.4	4.8	-19.0	1603.4	-29.4	-66.0
Additional cost for process CO2 abatement and non-CO2	0.0	0.2	0.5	0.0	0.1	2.0
Total energy system costs excl. disutility and auction payments	1784.5	38.7	48.5	2046.3	38.0	75.3
Disutility costs	0.0	3.1	18.4	0.0	-4.8	26.5
Total energy system costs excl. auction payments	1784.5	41.8	66.9	2046.3	33.3	101.8

4.7 Consequences for Dependence on Energy Imports

The indigenous production of fossil fuels in the EU is projected to decrease; therefore in import dependency is likely to increase unless energy consumption decreases sufficiently or imported fuels are substituted. In the Reference scenario, although energy efficiency and RES deployment increase compared to 2005 levels, these factors are not sufficient to compensate for the reduction in domestic production therefore leading to an increase in import dependence to 57% in 2020 and 57.4% in 2030 from 52.5% in 2005. These values although being higher than 2005 levels are nonetheless lower than Baseline scenario levels.

In the D25 scenario, the higher GHG emission reduction targets lead to lower primary energy consumption, and this in turn leads to lower energy imports than the Reference scenario. In this scenario import dependence increases compared to 2005 levels, but the additional energy savings and RES induced by the higher emission reduction targets, lead to lower import dependence than the Reference scenario. Import dependence peaks between 2015 and 2020 and decreases beyond 2020 as the emission reduction targets become tighter. Import dependence is 1.4% lower in the D25 scenario in 2020; in 2030 import dependence further decreases compared to the Reference scenario by 4.8% in the D25 scenario.

Table 20: Total import dependence - EU27

	Import dependence (%)			% Difference to Baseline	
	2005	2020	2030	2020	2030
Baseline	52.5	60.5	59.1		
Reference		57.0	57.4	-5.7%	-2.8%
D25		56.2	54.7	-7.0%	-7.5%

In the Reference scenario the net imports of solids remain similar to 2005 levels decreasing by 4% in 2020 and increasing by 1% in 2030. Net imports for solids decrease through the decreased use of solids. The D25 scenario sees a stronger decrease of solid fuel consumption due to the more stringent emission reduction target. The imports for solid fuels decrease by 25% compared to 2005 levels in 2020 in the D25 scenario and a 26% reduction in 2030.

Table 21: Percentage change for net imports of fossil fuels – EU27

% change from 2005	2020			2030		
	Baseline	Reference	D25	Baseline	Reference	D25
Solids	14%	-4%	-25%	2%	1%	-26%
Oil	5%	1%	0%	-1%	-4%	-6%
Natural gas	36%	17%	12%	41%	24%	7%

Oil is mainly used in the transport sector, with limited amounts being used in other sectors. The reduction in oil consumption induced by the energy efficiency measures for transport lead to an increase of oil imports of only 1% in the Reference compared to 5% in the baseline scenario. In 2030 there is a reduction as the effect of the CO_2 emission regulation for cars increases. In the D25 scenario the reduction in net imports for oil is limited compared to the Reference scenario as the majority of oil is used in transport which is an inflexible sector as has been described previously The additional reduction in 2030 for the D25 scenario compared to the Reference is around 2 percentage points, in terms of net imports.

The reduction of primary energy consumption of gas in the Reference scenario in 2020 (-8%) compared to 2005 levels is not sufficient to compensate for the reduction in domestic production leading to an increase of natural gas imports of 17% compared to 2005 levels; this trend continues in 2030 and leads to an increase in net imports of 24% compared to 2005 levels. Although primary energy consumption of gas further decreases in the D25 scenario, it is insufficient to revert the trend and net imports of gas increase nonetheless. The differences between the Reference scenario and the scenario with higher emission reduction targets are limited in 2020; towards 2030, where more numerous options for CO_2 abatement are available, gas imports decrease by 13 percentage points compared to Reference scenario levels remaining at 7 to 8% above 2005 levels.

The fuel bill for imported fuels increases considerably compared to 2005 levels due to the increase in international fuels prices which are assumed to be equal among the scenarios analysed in this study. The fuel bill is lower than the Baseline scenario in both the Reference and the D25 scenario. The D25 scenarios has a further lower fuel bill compared to the Reference scenario as a decrease of net imports is observed in this scenario. The overall savings in the fuel bill in 2020 are 3% in the D25 scenario; in 2030 the D25 scenario results in a decrease of 6% compared to the Reference scenario.

Table 22: Percentage change of the fuel bill for imported fuels

	2020					2030				
	% change from 2005			% change from Baseline		% change from 2005			% change from Baseline	
	Base-line	Refer-ence	D25	Refer ence	D25	Base-line	Refer-ence	D25	Refer-ence	D25
Solids	123%	87%	47%	-16%	-34%	135%	134%	70%	0%	-28%
Oil	65%	60%	57%	-4%	-5%	95%	89%	85%	-3%	-5%
Gas	126%	93%	86%	-14%	-18%	200%	163%	128%	-12%	-24%
Total fuel bill	81%	68%	63%	-7%	-10%	119%	107%	93%	-6%	-12%

The additional policies and targets of the Reference scenario and the further targets of the D25 scenario lead to an overall decrease in net imports of fuels, reducing import dependence in the EU27 compared to Baseline scenario levels; this also results in economic savings as it reduces the fuel bill for imported fuels.

5 Concluding Remarks

This report presents the methodology as well as some details related to the energy system impacts of moving from the Baseline scenario to the Reference scenario and further to a scenario with a 25% reduction of GHG emissions below 1990 levels in 2020, domestically in the EU. The focus of the report was on the impacts of moving beyond the Reference scenario as details about the Baseline and Reference scenarios are available in the update 2009 of the EU energy trends publication.[22] The scenarios were mainly quantified with the PRIMES energy system model.

The Reference scenario includes numerous policies and measures in place and therefore does not only represent an extrapolation of current market trends. It represents an update of the scenario created for the Energy and Climate package as the macro-

[22] EU energy trends to 2030 – Update 2009, http://ec.europa.eu/energy/observatory/trends_2030/

economic scenario (including international energy price assumptions) was modified to include the changes after 2007. Due to these changes the 20% GHG emission reduction target for 2020 is achieved domestically, according to the Reference scenario projections, as on top of the policies and measures (RES, ETS, non-ETS and energy efficiency), the changes in the macro-economic scenario lead to a reduction of final energy demand. In the Reference scenario there is an imbalance between the ETS and non-ETS sectors regarding the level of the carbon values; whereas the ETS sectors deliver their objectives through the ETS scheme and RES policies, the demand side sectors achieve the objectives through bottom-up measures in energy efficiency and RES heating and transport policies and necessitate a small additional carbon value applicable on non-ETS sectors to reach the EU non-ETS target.

The D25 scenario is a variant of the Reference scenario with a 25% domestic emission reduction target for 2020; unlike the Reference scenario the D25 scenario also has a 40% emission reduction target for 2030 compared to 1990 levels to reflect a decreasing emission pathway consistent with the long term climate objectives. To achieve these more stringent targets the ETS carbon price and an equal non-ETS carbon value is applied on top of the already existing measures of the Reference scenario; consequently significantly higher ETS carbon values are found in this scenario and equally high carbon values are applied on non-ETS sectors. The carbon values of the scenario are found to be two times as high as the relatively low ETS carbon values in the Reference scenario and reach similar levels as projected in 2007 for achieving -20% emission reductions. The carbon values, as they are applied also to the non-ETS sectors represent a very strong signal in the demand side and incentivise increased energy efficiency and changes in the fuel mix. Energy savings are therefore substantially higher than in the Reference scenario and also more substantial changes in the fuel mix occur.

A decomposition of emission reductions at the level of primary energy consumption shows that in the Reference scenario the main factor for the additional emission reduction compared to baseline is the shift towards carbon free energy carriers, particularly renewables. As a great part of the potential for RES is used in the Reference scenario, in the D25 scenario to obtain further emission reductions in the short term (2020) energy efficiency seems to be the driving factor; in the longer term (2030) shifts towards carbon free energy carriers and mainly towards the use of CCS have a more significant role.

A decomposition of the emission reduction in the power generation sector shows that in the horizon of 2020 emission reduction is roughly equally distributed between electricity savings, changes in the fossil fuel mix (more use of natural gas) and the use of carbon free energy sources. Looking at the horizon of 2030, the decomposition results clearly show a domination of the change in fossil fuel mix (primarily due to the introduction of CCS) as means of emission reduction in power generation. The contribution from further electricity savings is small, as there are more cost-effective emission reduction possibilities in power generation in 2030 than in 2020.

The carbon intensity of the power generation sector decreases almost linearly beyond 2020 in the D25 scenario due to the restructuring of the fuel mix; and on the contrary to the Reference due to the use of banked ETS allowances and lower reduction needs for 2030, carbon intensity was found not to improve significantly beyond 2020 levels. In the D25, the lower demand for electricity implies that the additional investments compared to the Reference scenario are few; the increases in the average cost of electricity are found to be around 5% compared to the Baseline, as well as compared to the Reference scenario in 2020, and are to a significant extent due to the higher ETS carbon prices. Up to 2020, the power sector changes in the Reference scenario compared to the Baseline are considerable larger due mainly to the introduction of the RES target which promotes the uptake of RES in power generation.

Whereas in the Reference scenario the effort is undertaken both on the demand and the supply side in 2020, in the D25 scenario the significant changes are projected to take place mainly in the final demand sectors: consumers are projected to undertake significantly more investments than in the Reference to renovate buildings and buy more efficient appliances. Thus final consumers bear higher capital costs for energy investments, but have lower energy bills despite the increase in electricity prices due to the higher energy efficiency. The net effect on total energy system costs excluding auction payments as share of GDP is between 0.2% and 0.4% in the Reference and D25 scenario (relative to the Baseline), throughout the projection period.

The largest energy system changes from the current situation and trends occur in the Reference scenario; the model-based analysis shows that moving beyond 20% in 2020 and including a whole economy target for 2030 has relatively small short term impacts but brings significant energy system effects towards 2030:

- It sets the energy system on a steady decarbonisation pathway. In 2030 the carbon intensity of the power sector is around 50% lower than in the Reference scenario. In the latter, further carbon intensity improvements fade out due to the continuing low ETS carbon prices which are also the result of the changed macroeconomic context and the resulting surplus allowances in the ETS.
- The setting of targets beyond 20% in 2020 and an additional whole economy target for 2030 leads to a higher certainty for the ETS sectors because it re-establishes a level of ETS carbon prices as anticipated when conceiving the Energy and Climate package, which allows for more security of undertaking low or free carbon investments in the power generation sector.
- The setting of higher targets for 2020 and for 2030 allows for the achievement of higher energy efficiency improvements in 2020 without leading to a fall in ETS carbon prices, which jeopardise investments in low carbon technologies in the power generation sector. The demand sectors under the new target circumstances can perform so as getting closer to the (non mandatory) energy efficiency target of the Energy and Climate package.

When considering this analysis, it must be taken into account that the scenario quantification was undertaken in May 2010 and was therefore based on information and data available in 2009. This implies that neither more recent policy developments nor the latest technology developments for nuclear - increase of cost of capital and risk following the Fukushima accident-, CCS - difficulty in completion of the licensing of storage -, photovoltaics – strong decreases in costs which have occurred over the past year- and wind off-shore development-allowing for use of remote off-shore areas-, were taken into account.

6 Appendix with detailed results by scenario and Member-State

The following result tables follow the structure of the result tables published as "EU energy trends to 2030 - UPDATE 2009". The tables for the Baseline and Reference scenarios have already been published as appendix 2a and 2b of that publication. The data given under "main energy system indicators" has been converted from €2005 to €2008 to be fully consistent with the analysis provided. The data reported on total cost reflects definition of system costs described in section 3.5.

System costs in this analysis exclude costs for buying auctioned ETS allowances. Costs incurred by operators to buy allowances may be passed through to end-consumers, but at the same time auctioning revenues are recycled back into the economy by the government. Hence, from a macroeconomic perspective, auctioning costs do not represent a net direct additional cost to society.

It was updated to include costs related to achieving non-CO2 emission reductions. The key demographic and economic assumptions underlying the results are described in detail in the "EU energy trends to 2030 - UPDATE 2009", with appendix 1 of that publication also providing corresponding data per Member State.

A few explanatory endnotes on atypical Member State cost results both for the Reference and the D25 scenario are added at the end of the tables.

EU27: Baseline 2009

Summary report
Primes Ver. 4 Energy Model

E3M Lab
National Technical University of Athens
05/05/2011

EU27: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**936047**	**950181**	**941860**	**900326**	**821984**	**773570**	**741237**	**740892**	**761416**	**0.1**	**-1.4**	**-1.0**	**0.3**
Solids	366477	277810	213423	196277	167556	155202	142314	135565	130849	-5.3	-2.4	-1.6	-0.8
Oil	129551	171052	173006	134290	102864	74348	49906	40875	37276	2.9	-5.1	-7.0	-2.9
Natural gas	162447	188965	207559	188677	164144	129067	111437	91972	75504	2.5	-2.3	-3.8	-3.8
Nuclear	202589	223028	243761	257360	238990	241310	237685	247463	268042	1.9	-0.2	-0.1	1.2
Renew able energy sources	74984	89326	104111	123722	148430	173644	199895	225016	249745	3.3	3.6	3.0	2.3
Hydro	25101	28054	30374	26395	27808	28531	29145	30041	30533	1.9	-0.9	0.5	0.5
Biomass & Waste	46473	57201	67982	85129	97599	109508	120092	128067	132313	3.9	3.7	2.1	1.0
Wind	67	350	1913	6061	13862	23145	34332	44744	55375	39.8	21.9	9.5	4.9
Solar and others	153	274	421	807	3259	6238	9054	11542	13804	10.7	22.7	10.8	4.3
Geothermal	3190	3447	3421	5331	5903	6222	7271	10622	17719	0.7	5.6	2.1	9.3
Net Imports	**756079**	**738600**	**826299**	**986048**	**992525**	**1083607**	**1133524**	**1130475**	**1100858**	**0.9**	**1.8**	**1.3**	**-0.3**
Solids	81846	79338	98645	126639	117225	133831	144964	139939	129086	1.9	1.7	2.1	-1.2
Oil	535645	512185	533039	599851	578981	616263	629909	619167	596780	0.0	0.8	0.8	-0.5
- Crude oil and Feedstocks	508460	494000	513725	581995	577908	617339	635745	628717	611939	0.1	1.2	1.0	-0.4
- Oil products	27185	18185	19314	17856	1073	-1076	-5836	-9550	-15159	-3.4	-25.1		
Natural gas	135121	145288	192531	257366	292826	328239	351219	361418	363709	3.6	4.3	1.8	0.4
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Gross Inland Consumption	**1660159**	**1662517**	**1723099**	**1825989**	**1764458**	**1805285**	**1822126**	**1817638**	**1807194**	**0.4**	**0.2**	**0.3**	**-0.1**
Solids	452940	364248	321007	319922	284781	289033	287278	275504	259935	-3.4	-1.2	0.1	-1.0
Oil	631058	650858	658727	676859	631793	638720	627180	606313	578976	0.4	-0.4	-0.1	-0.8
Natural gas	294905	333268	393417	445998	456970	457306	462656	453390	439213	2.9	1.5	0.1	-0.5
Nuclear	202589	223028	243761	257360	238990	241310	237685	247463	268042	1.9	-0.2	-0.1	1.2
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Renew able energy forms	75343	89606	104501	124880	151825	179530	209011	236749	262896	3.3	3.8	3.2	2.3
as % in Gross Inland Consumption													
Solids	27.3	21.9	18.6	17.5	16.1	16.0	15.8	15.2	14.4				
Oil	38.0	39.1	38.2	37.1	35.8	35.4	34.4	33.4	32.0				
Natural gas	17.8	20.0	22.8	24.4	25.9	25.3	25.4	24.9	24.3				
Nuclear	12.2	13.4	14.1	14.1	13.5	13.4	13.0	13.6	14.8				
Renew able energy forms	4.5	5.4	6.1	6.8	8.6	9.9	11.5	13.0	14.5				
Gross Electricity Generation in GWh_e	**2562823**	**2712209**	**2991720**	**3274121**	**3311797**	**3553832**	**3795425**	**4012917**	**4191941**	**1.6**	**1.0**	**1.4**	**1.0**
Self consumption and grid losses	358053	383048	408040	429777	397688	423813	459082	508456	559012	1.3	-0.3	1.4	2.0
Fuel Inputs for Thermal Power Generation	**383492**	**362334**	**382613**	**424208**	**412202**	**424846**	**438317**	**436371**	**421050**	**0.0**	**0.7**	**0.6**	**-0.4**
Solids	263837	230040	223012	229245	215200	220489	217961	207758	195041	-1.7	-0.4	0.1	-1.1
Oil (including refinery gas)	54404	51463	39294	29780	14439	15668	15338	14881	11627	-3.2	-9.5	0.6	-2.7
Gas	56754	67806	102408	134637	143087	142250	151161	149621	137481	6.1	3.4	0.6	-0.9
Biomass & Waste	5724	10033	14960	25901	34378	41212	47833	54980	60675	10.1	8.7	3.4	2.4
Geothermal heat	2774	2992	2939	4645	5098	5227	6024	9131	16226	0.6	5.7	1.7	10.4
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**839073**	**814654**	**827098**	**842975**	**792471**	**806709**	**803440**	**785005**	**761655**	**-0.1**	**-0.4**	**0.1**	**-0.5**
Refineries	679426	705954	735244	758152	715356	727057	719440	701980	680140	0.8	-0.3	0.1	-0.6
Biofuels and hydrogen production	2	202	610	3129	11794	17429	21983	24324	25854	79.6	34.5	6.4	1.6
District heating	32960	23240	19323	16212	17469	16126	16308	15050	14118	-5.2	-1.0	-0.7	-1.4
Others	126685	85258	71921	65482	47853	46097	45710	43651	41543	-5.5	-4.0	-0.5	-1.0
Energy Branch Consumption	**82379**	**88696**	**88176**	**96033**	**92143**	**90907**	**90850**	**90911**	**90395**	**0.7**	**0.4**	**-0.1**	**-0.1**
Non-Energy Uses	**97931**	**110541**	**112495**	**117477**	**111394**	**114997**	**117035**	**117712**	**118706**	**1.4**	**-0.1**	**0.5**	**0.1**
Final Energy Demand	**1068710**	**1069989**	**1112989**	**1173676**	**1168588**	**1210934**	**1229094**	**1226560**	**1216372**	**0.4**	**0.5**	**0.5**	**-0.1**
by sector													
Industry	365650	328513	326949	326308	312835	322764	332858	338776	344251	-1.1	-0.4	0.6	0.3
- energy intensive industries	234722	214526	213112	210991	193474	196112	199186	198981	199197	-1.0	-1.0	0.3	0.0
- other industrial sectors	130928	113987	113837	115317	119361	126652	133672	139796	145053	-1.4	0.5	1.1	0.8
Residential	264307	280418	286784	308104	309162	317167	316393	312180	308327	0.8	0.8	0.2	-0.3
Tertiary	158484	160442	159866	176859	176247	182813	184951	185570	184652	0.1	1.0	0.5	0.0
Transport	280269	300617	339389	362405	370345	388190	394892	390035	379143	1.9	0.9	0.6	-0.4
by fuel													
Solids	125031	84977	61454	54486	43786	43604	44549	43790	41747	-6.9	-3.3	0.2	-0.6
Oil	444429	456959	478880	495857	475706	482351	474707	459585	440902	0.7	-0.1	0.0	-0.7
Gas	227902	245996	265552	283524	284203	285314	279405	269861	264868	1.5	0.7	-0.2	-0.5
Electricity	184145	193367	216403	237537	241167	260056	276708	291201	302437	1.6	1.1	1.4	0.9
Heat (from CHP and District Heating) [A]	48610	44616	40061	44441	59596	66270	71982	75208	77637	-1.9	4.1	1.9	0.8
Renew able energy forms	38592	44073	50639	57830	64103	73290	81679	86850	88719	2.8	2.4	2.5	0.8
Other	0	0	0	0	27	48	64	65	64			9.2	-0.1
RES in Gross Final Energy Consumption [B]			**87370**	**104626**	**132323**	**159824**	**187428**	**212238**	**232245**		**4.2**	**3.5**	**2.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5532.3**		**5063.6**	**5129.6**	**4823.4**	**4833.1**	**4764.0**	**4563.1**	**4225.4**	**-0.9**	**-0.5**	**-0.1**	**-1.2**
of w hich ETS sectors GHGs emissions				2438.2	2166.5	2176.8	2168.5	2038.9	1780.5			0.0	-2.0
CO_2 Emissions (energy related)	**4030.6**	**3800.1**	**3810.6**	**3946.6**	**3728.4**	**3759.1**	**3692.0**	**3486.2**	**3151.8**	**-0.6**	**-0.2**	**-0.1**	**-1.6**
Pow er generation/District heating	1484.3	1321.2	1320.8	1381.1	1292.7	1311.8	1285.1	1159.9	911.3	-1.2	-0.2	-0.1	-3.4
Energy Branch	152.2	171.0	170.2	181.6	158.2	148.5	141.5	132.7	123.4	1.1	-0.7	-1.1	-1.4
Industry	781.4	678.1	623.0	581.9	492.4	488.0	488.2	475.9	468.0	-2.2	-2.3	-0.1	-0.4
Residential	499.4	481.6	466.2	486.7	481.0	476.7	450.9	425.6	406.1	-0.7	0.3	-0.6	-1.0
Tertiary	300.5	275.3	242.0	262.2	253.4	246.8	233.5	221.8	212.2	-2.1	0.5	-0.8	-1.0
Transport	812.7	872.9	988.5	1053.1	1050.6	1087.2	1092.8	1070.4	1030.8	2.0	0.6	0.4	-0.6
CO_2 Emissions (non energy related)	**329.5**	**306.8**	**299.3**	**304.5**	**279.6**	**291.1**	**306.0**	**314.6**	**318.2**	**-1.0**	**-0.7**	**0.9**	**0.4**
Non-CO_2 GHGs Emissions	**1172.1**		**953.7**	**878.5**	**815.4**	**782.9**	**766.1**	**762.2**	**755.4**	**-2.0**	**-1.6**	**-0.6**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**91.5**	**92.7**	**87.2**	**87.4**	**86.1**	**82.5**	**76.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										EU27: Baseline 2009			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	470.388	477.010	481.072	489.211	499.389	507.727	513.838	517.811	519.942	0.2	0.4	0.3	0.1
GDP (in 000 M€08)	8602.0	9242.0	10677.4	11687.2	12027.9	13469.6	14963.1	16378.4	17773.9	2.2	1.2	2.2	1.7
Gross Inl. Cons./GDP (toe/M€08)	193.0	179.9	161.4	156.2	146.7	134.0	121.8	111.0	101.7	-1.8	-0.9	-1.8	-1.8
Carbon intensity (t of CO_2/toe of GIC)	2.43	2.29	2.21	2.16	2.11	2.08	2.03	1.92	1.74	-0.9	-0.5	-0.4	-1.5
Import Dependency %	44.6	43.5	46.8	52.5	54.7	58.3	60.5	60.4	59.1				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1051.0	1226.4	1282.5	1490.7	1784.5	1979.4	2046.3		2.3	4.3	2.7
as % of GDP			9.8	10.5	11.0	12.1	13.4	14.5	14.8				
Energy intensity indicators													
Industry (Energy on Value added)	130.3	115.2	100.0	95.1	90.4	84.5	79.0	73.9	69.8	-2.6	-1.0	-1.3	-1.2
Residential (Energy on Private Income)	114.4	113.2	100.0	97.5	97.2	88.6	80.0	72.9	66.8	-1.3	-0.3	-1.9	-1.8
Tertiary (Energy on Value added)	126.5	117.0	100.0	99.4	95.3	87.5	79.4	72.4	66.1	-2.3	-0.5	-1.8	-1.8
Passenger transport (toe/Mpkm)	39.6	39.5	40.3	39.5	38.0	35.4	33.6	31.1	28.4	0.2	-0.6	-1.2	-1.7
Freight transport (toe/Mtkm)	47.1	46.8	46.3	46.5	46.1	45.8	44.3	42.6	40.3	-0.2	-0.1	-0.4	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.46	0.40	0.37	0.35	0.31	0.29	0.27	0.23	0.17	-2.1	-1.9	-1.5	-4.2
Final energy demand (t of CO_2/toe)	2.24	2.16	2.08	2.03	1.95	1.90	1.84	1.79	1.74	-0.7	-0.7	-0.6	-0.6
Industry	2.14	2.06	1.91	1.78	1.57	1.51	1.47	1.40	1.36	-1.1	-1.9	-0.7	-0.8
Residential	1.89	1.72	1.63	1.58	1.56	1.50	1.43	1.36	1.32	-1.5	-0.4	-0.9	-0.8
Tertiary	1.90	1.72	1.51	1.48	1.44	1.35	1.26	1.20	1.15	-2.2	-0.5	-1.3	-0.9
Transport	2.90	2.90	2.91	2.91	2.84	2.80	2.77	2.74	2.72	0.0	-0.3	-0.2	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.6	8.6	11.0	12.8	14.8	16.8	18.4				
RES in transport (%)			0.5	1.4	4.2	5.9	7.4	8.4	9.3				
Gross Electricity generation by fuel type (in GWh)			**2991720**	**3274121**	**3311797**	**3553832**	**3795425**	**4012917**	**4191941**		**1.0**	**1.4**	**1.0**
Nuclear energy			944823	997519	926827	937076	928666	988723	1083694		-0.2	0.0	1.6
Coal and lignite			944939	980774	890887	935613	946907	935050	931460		-0.6	0.6	-0.2
Petroleum products			169709	133406	67162	72349	69690	63637	49457		-8.9	0.4	-3.4
Gas (including derived gases)			507154	693902	791522	804857	864690	862066	783674		4.6	0.9	-1.0
Biomass & waste			44772	84256	127487	163885	191352	217775	241293		11.0	4.1	2.3
Hydro			353183	306916	323347	331760	338900	349313	355032		-0.9	0.5	0.5
Wind			22246	70473	161188	269127	399210	520277	643895		21.9	9.5	4.9
Solar, tidal etc.			116	1447	16933	31941	45802	59649	75070		64.6	10.5	5.1
Geothermal and other renewables			4778	5427	6445	7225	10209	16427	28365		3.0	4.7	10.8
Net Generation Capacity in MW_e			**654125**	**715734**	**816095**	**901048**	**944473**	**1011270**	**1098178**		**2.2**	**1.5**	**1.5**
Nuclear energy			133923	134409	127038	126752	123566	122895	134278		-0.5	-0.3	0.8
Renewable energy			112878	147262	206951	265009	326186	384504	443051		6.2	4.7	3.1
Hydro (pumping excluded)			99714	104505	107334	110498	113356	114943	116323		0.7	0.5	0.3
Wind			12793	40584	84096	126192	172303	216847	260783		20.7	7.4	4.2
Solar			371	2172	15272	27744	38885	49721	61073		45.0	9.8	4.6
Other renewables (tidal etc.)			0	1	249	575	1642	2993	4873			20.8	11.5
Thermal power			407324	434063	482106	509286	494720	503870	520849		1.7	0.3	0.5
of which cogeneration units			77070	84892	100061	110539	114967	122882	125821		2.6	1.4	0.9
of which CCS units			0	0	0	0	5394	13967	35253				20.6
Solids fired			194165	186620	183740	182938	165993	154522	165236		-0.6	-1.0	0.0
Gas fired			129444	167173	217761	249765	250328	266936	269382		5.3	1.4	0.7
Oil fired			71058	62082	55837	45963	41813	38933	35750		-2.4	-2.9	-1.6
Biomass-waste fired			12051	17502	24041	29882	35767	42262	48322		7.1	4.1	3.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			605	686	727	738	820	1216	2158		1.9	1.2	10.2
Load factor for net electric capacities (%)			49.1	49.1	44.1	42.9	43.7	42.9	41.0				
Efficiency for thermal electricity production (%)			37.6	38.5	39.3	40.1	40.8	41.2	41.4				
CHP indicator (% of electricity from CHP)			11.4	11.7	15.1	17.4	17.6	17.9	17.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.4	3.7	8.7				
Non fossil fuels in electricity generation (%)			45.8	44.8	47.2	49.0	50.4	53.6	57.9				
- nuclear			31.6	30.5	28.0	26.4	24.5	24.6	25.9				
- renewable energy forms and industrial waste			14.2	14.3	19.2	22.6	26.0	29.0	32.1				
Transport sector													
Passenger transport activity (Gpkm)	**4880.7**	**5307.7**	**5892.2**	**6240.3**	**6511.3**	**7136.1**	**7598.9**	**8018.2**	**8424.4**	**1.9**	**1.0**	**1.6**	**1.0**
Public road transport	544.0	504.0	517.6	526.0	545.0	574.9	602.2	624.6	643.0	-0.5	0.5	1.0	0.7
Private cars and motorcycles	3501.1	3986.3	4428.1	4686.5	4866.1	5300.8	5576.3	5809.6	6041.2	2.4	0.9	1.4	0.8
Rail	472.5	421.7	447.9	461.0	482.5	522.5	563.9	603.9	641.7	-0.5	0.7	1.6	1.3
Aviation	317.3	351.3	456.9	527.3	576.9	695.6	812.7	935.0	1052.1	3.7	2.4	3.5	2.6
Inland navigation	45.8	44.4	41.7	39.5	40.8	42.4	43.8	45.1	46.3	-0.9	-0.2	0.7	0.6
Freight transport activity (Gtkm)	**1848.4**	**1942.4**	**2195.7**	**2494.6**	**2662.6**	**2965.0**	**3149.5**	**3311.4**	**3460.1**	**1.7**	**1.9**	**1.7**	**0.9**
Trucks	1060.4	1288.7	1518.7	1800.3	1940.3	2178.6	2308.6	2426.1	2538.2	3.7	2.5	1.8	1.0
Rail	526.3	386.1	403.7	414.1	440.5	487.9	525.2	554.6	579.0	-2.6	0.9	1.8	1.0
Inland navigation	261.6	267.6	273.3	280.2	281.9	298.6	315.7	330.7	342.9	0.4	0.3	1.1	0.8
Energy demand in transport (ktoe)	**280269**	**300617**	**339389**	**362405**	**370345**	**388190**	**394892**	**390035**	**379143**	**1.9**	**0.9**	**0.6**	**-0.4**
Public road transport	5197	4732	4914	5039	5179	5318	5306	5215	5086	-0.6	0.5	0.2	-0.4
Private cars and motorcycles	154395	166321	182974	187736	186470	185222	182702	174691	164762	1.7	0.2	-0.2	-1.0
Trucks	74969	79037	90951	105104	111593	123875	127520	129191	128901	2.0	2.1	1.3	0.1
Rail	9560	9452	9600	9436	9653	10185	10056	9698	8523	0.0	0.1	0.4	-1.6
Aviation	29038	34112	45395	49703	51984	57901	63353	65037	65485	4.6	1.4	2.0	0.3
Inland navigation	7110	6963	5555	5386	5466	5688	5954	6203	6385	-2.4	-0.2	0.9	0.7

Source: PRIMES

Austria: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**8207**	**8711**	**9820**	**9653**	**10295**	**10438**	**10312**	**10297**	**10711**	**1.8**	**0.5**	**0.0**	**0.4**
Solids	644	305	293	0	0	0	0	0	0	-7.6			
Oil	1295	1108	1116	986	957	850	620	280	230	-1.5	-1.5	-4.2	-9.4
Natural gas	1097	1261	1533	1403	1480	1270	740	670	600	3.4	-0.4	-6.7	-2.1
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	5172	6037	6879	7263	7858	8318	8952	9347	9881	2.9	1.3	1.3	1.0
Hydro	2709	3187	3598	3085	3238	3425	3572	3676	3873	2.9	-1.0	1.0	0.8
Biomass & Waste	2445	2809	3189	3937	4225	4328	4733	4928	5040	2.7	2.9	1.1	0.6
Wind	0	0	6	114	218	302	328	381	568		43.8	4.2	5.7
Solar and others	15	36	64	92	164	250	303	345	382	15.7	9.9	6.3	2.3
Geothermal	4	5	23	35	13	13	16	17	19	20.3	-5.8	2.2	1.9
Net Imports	**17306**	**18028**	**19106**	**24658**	**23655**	**24066**	**24439**	**24462**	**23756**	**1.0**	**2.2**	**0.3**	**-0.3**
Solids	3112	2550	3019	3959	3506	3250	3190	3117	3209	-0.3	1.5	-0.9	0.1
Oil	9741	10264	11001	13322	12747	12906	12572	12371	11707	1.2	1.5	-0.1	-0.7
- Crude oil and Feedstocks	8043	8309	7975	8225	8215	8355	8394	8547	8344	-0.1	0.3	0.2	-0.1
- Oil products	1699	1955	3026	5098	4532	4551	4177	3824	3362	5.9	4.1	-0.8	-2.1
Natural gas	4443	5404	5253	7203	7145	7807	8559	8735	8539	1.7	3.1	1.8	0.0
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Gross Inland Consumption	**25258**	**27054**	**29046**	**34105**	**33950**	**34504**	**34751**	**34760**	**34468**	**1.4**	**1.6**	**0.2**	**-0.1**
Solids	4042	3344	3592	4039	3506	3250	3190	3117	3209	-1.2	-0.2	-0.9	0.1
Oil	10863	11485	12223	14455	13704	13756	13192	12651	11937	1.2	1.1	-0.4	-1.0
Natural gas	5184	6374	6519	8178	8625	9077	9299	9405	9139	2.3	2.8	0.8	-0.2
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Renew able energy forms	5208	6063	6829	7204	7837	8383	9084	9607	10187	2.7	1.4	1.5	1.2
as % in Gross Inland Consumption													
Solids	16.0	12.4	12.4	11.8	10.3	9.4	9.2	9.0	9.3				
Oil	43.0	42.5	42.1	42.4	40.4	39.9	38.0	36.4	34.6				
Natural gas	20.5	23.6	22.4	24.0	25.4	26.3	26.8	27.1	26.5				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	20.6	22.4	23.5	21.1	23.1	24.3	26.1	27.6	29.6				
Gross Electricity Generation in GWh_e	**49287**	**55170**	**59854**	**62963**	**63544**	**71325**	**76615**	**79890**	**82910**	**2.0**	**0.6**	**1.9**	**0.8**
Self consumption and grid losses	5257	5042	5269	7556	7675	8494	9107	9325	10077	0.0	3.8	1.7	1.0
Fuel Inputs for Thermal Power Generation	**4007**	**4309**	**3901**	**5473**	**4976**	**5464**	**6072**	**6635**	**6493**	**-0.3**	**2.5**	**2.0**	**0.7**
Solids	1510	1055	1239	1510	1379	1160	1173	1140	1104	-2.0	1.1	-1.6	-0.6
Oil (including refinery gas)	488	489	279	270	155	157	108	111	203	-5.4	-5.7	-3.6	6.5
Gas	1776	2321	1961	2901	2556	2942	3280	3720	3430	1.0	2.7	2.5	0.4
Biomass & Waste	233	444	421	790	879	1198	1504	1658	1749	6.1	7.6	5.5	1.5
Geothermal heat	0	0	0	2	7	7	7	7	8			0.0	1.3
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11637**	**11680**	**11550**	**12088**	**11909**	**12000**	**11876**	**11508**	**11222**	**-0.1**	**0.3**	**0.0**	**-0.6**
Refineries	9317	9445	9077	9374	9173	9206	9015	8828	8574	-0.3	0.1	-0.2	-0.5
Biofuels and hydrogen production	2	5	9	42	245	369	510	594	684	17.5	39.6	7.6	3.0
District heating	347	439	554	663	769	769	769	564	380	4.8	3.3	0.0	-6.8
Others	1971	1790	1910	2009	1723	1656	1583	1522	1584	-0.3	-1.0	-0.8	0.0
Energy Branch Consumption	**1774**	**1883**	**1924**	**2375**	**2218**	**2161**	**2112**	**2037**	**1995**	**0.8**	**1.4**	**-0.5**	**-0.6**
Non-Energy Uses	**1554**	**1318**	**1576**	**1591**	**1527**	**1581**	**1612**	**1629**	**1648**	**0.1**	**-0.3**	**0.5**	**0.2**
Final Energy Demand	**19124**	**21062**	**23122**	**27107**	**27533**	**28394**	**28652**	**28577**	**28494**	**1.9**	**1.8**	**0.4**	**-0.1**
by sector													
Industry	6366	6684	7757	8601	8649	8593	8730	8896	9072	2.0	1.1	0.1	0.4
- energy intensive industries	4194	4189	5033	5447	5126	4992	5028	5072	5130	1.8	0.2	-0.2	0.2
- other industrial sectors	2172	2495	2723	3154	3523	3601	3701	3824	3942	2.3	2.6	0.5	0.6
Residential	5801	6244	5995	6657	6907	7236	7199	7094	6968	0.3	1.4	0.4	-0.3
Tertiary	2412	2934	3290	3814	3849	4162	4300	4367	4465	3.2	1.6	1.1	0.4
Transport	4545	5200	6081	8034	8128	8403	8423	8220	7989	3.0	2.9	0.4	-0.5
by fuel													
Solids	1785	1582	1399	1497	1216	1229	1179	1139	1082	-2.4	-1.4	-0.3	-0.9
Oil	7929	8779	9465	11829	11367	11575	11160	10694	10204	1.8	1.8	-0.2	-0.9
Gas	2968	3607	4265	4788	5498	5459	5373	5058	5087	3.7	2.6	-0.2	-0.5
Electricity	3629	3952	4417	4831	4931	5285	5638	5897	6109	2.0	1.1	1.3	0.8
Heat (from CHP and District Heating) [A]	612	848	1025	1324	1459	1837	2083	2206	2238	5.3	3.6	3.6	0.7
Renew able energy forms	2201	2294	2552	2838	3061	3008	3217	3581	3773	1.5	1.8	0.5	1.6
Other	0	0	0	0	1	1	1	2	2			8.9	0.2
RES in Gross Final Energy Consumption [B]			**6012**	**6593**	**7023**	**8058**	**8674**	**9066**	**9558**		**1.6**	**2.1**	**1.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**80.7**		**84.6**	**97.2**	**92.8**	**93.0**	**92.0**	**90.6**	**85.9**	**0.5**	**0.9**	**-0.1**	**-0.7**
of w hich ETS sectors GHGs emissions				37.0	32.8	32.7	33.6	34.4	31.4			0.2	-0.7
CO_2 Emissions (energy related)	**55.7**	**58.9**	**61.3**	**74.1**	**70.8**	**70.8**	**69.3**	**67.6**	**62.8**	**1.0**	**1.4**	**-0.2**	**-1.0**
Pow er generation/District heating	12.8	12.3	11.5	15.0	13.2	13.3	14.0	14.8	11.6	-1.1	1.4	0.6	-1.9
Energy Branch	4.0	4.4	4.5	5.0	4.4	3.9	3.5	3.3	3.1	1.1	-0.1	-2.4	-1.2
Industry	13.1	13.9	15.6	17.4	16.7	16.4	16.1	15.5	15.6	1.8	0.7	-0.3	-0.4
Residential	9.9	9.7	8.5	9.1	9.4	9.7	8.9	8.3	8.0	-1.4	1.0	-0.5	-1.1
Tertiary	3.3	4.0	3.9	4.4	4.2	4.3	4.0	3.8	3.7	1.6	0.8	-0.5	-0.6
Transport	12.7	14.6	17.3	23.2	22.8	23.2	22.8	21.9	20.9	3.1	2.8	0.0	-0.9
CO_2 Emissions (non energy related)	**8.0**	**7.7**	**8.1**	**9.1**	**8.5**	**8.8**	**9.3**	**9.7**	**9.9**	**0.2**	**0.4**	**0.9**	**0.6**
Non-CO_2 GHGs Emissions	**17.0**		**15.2**	**14.0**	**13.5**	**13.3**	**13.4**	**13.4**	**13.2**	**-1.1**	**-1.1**	**-0.1**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.8**	**120.5**	**115.0**	**115.2**	**114.0**	**112.3**	**106.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Austria: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	7.645	7.943	8.002	8.207	8.405	8.570	8.723	8.866	8.988	0.5	0.5	0.4	0.3
GDP (in 000 M€08)	184.3	205.2	237.7	258.2	268.8	297.8	327.9	356.8	384.0	2.6	1.2	2.0	1.6
Gross Inl. Cons./GDP (toe/M€08)	137.0	131.9	122.2	132.1	126.3	115.8	106.0	97.4	89.8	-1.1	0.3	-1.7	-1.6
Carbon intensity (t of CO_2/toe of GIC)	2.21	2.18	2.11	2.17	2.08	2.05	1.99	1.94	1.82	-0.4	-0.1	-0.4	-0.9
Import Dependency %	68.5	66.6	65.8	72.3	69.7	69.7	70.3	70.4	68.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			20.3	26.2	28.6	33.7	39.4	42.9	44.5		3.7	4.0	2.1
as % of GDP			8.5	10.1	10.9	12.2	13.3	13.9	13.9				
Energy intensity indicators													
Industry (Energy on Value added)	102.4	102.2	100.0	100.8	96.5	86.2	79.8	74.5	70.5	-0.2	-0.4	-1.9	-1.2
Residential (Energy on Private Income)	118.1	114.6	100.0	102.5	103.3	97.8	88.8	81.1	74.5	-1.7	0.3	-1.5	-1.7
Tertiary (Energy on Value added)	96.4	103.2	100.0	106.0	102.7	99.6	93.1	86.7	82.3	0.4	0.3	-1.0	-1.2
Passenger transport (toe/Mpkm)	37.1	36.2	37.9	45.8	44.3	40.7	38.0	34.7	32.2	0.2	1.6	-1.5	-1.7
Freight transport (toe/Mtkm)	44.2	46.3	45.4	59.0	57.1	56.4	53.7	51.0	48.0	0.3	2.3	-0.6	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.22	0.19	0.16	0.19	0.16	0.14	0.13	0.13	0.10	-3.5	0.2	-1.8	-2.6
Final energy demand (t of CO_2/toe)	2.04	2.01	1.96	2.00	1.93	1.89	1.81	1.73	1.69	-0.4	-0.2	-0.6	-0.7
Industry	2.06	2.08	2.02	2.02	1.93	1.91	1.85	1.74	1.72	-0.2	-0.4	-0.4	-0.7
Residential	1.70	1.55	1.42	1.36	1.37	1.34	1.24	1.17	1.14	-1.8	-0.4	-0.9	-0.8
Tertiary	1.36	1.37	1.17	1.16	1.09	1.03	0.93	0.87	0.84	-1.5	-0.8	-1.6	-1.0
Transport	2.80	2.81	2.85	2.89	2.80	2.76	2.71	2.67	2.62	0.2	-0.2	-0.3	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			25.4	23.7	24.8	27.5	29.3	30.7	32.4				
RES in transport (%)			3.7	2.9	6.0	8.0	10.0	11.6	13.6				
Gross Electricity generation by fuel type (in GWh)			**59854**	**62963**	**63544**	**71325**	**76615**	**79890**	**82910**		**0.6**	**1.9**	**0.8**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			5924	6964	5899	4988	5371	5347	4659		0.0	-0.9	-1.4
Petroleum products			1096	1130	805	822	563	198	842		-3.0	-3.5	4.1
Gas (including derived gases)			9407	15163	13534	16438	18423	20059	18139		3.7	3.1	-0.2
Biomass & waste			1524	2494	3056	5570	6600	6635	6948		7.2	8.0	0.5
Hydro			41832	35868	37651	39820	41538	42746	45033		-1.0	1.0	0.8
Wind			67	1328	2538	3508	3812	4429	6608		43.8	4.2	5.7
Solar, tidal etc.			3	14	49	169	296	464	668		32.3	19.6	8.5
Geothermal and other renewables			0	3	11	11	11	11	12			0.0	1.0
Net Generation Capacity in MW_e			**14171**	**15139**	**16864**	**19311**	**19459**	**19204**	**20883**		**1.8**	**1.4**	**0.7**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			7951	8568	9814	11570	12365	12932	14312		2.1	2.3	1.5
Hydro (pumping excluded)			7892	7719	8360	9724	10257	10400	10778		0.6	2.1	0.5
Wind			54	827	1388	1703	1861	2146	2977		38.4	3.0	4.8
Solar			5	22	66	143	247	386	557		29.4	14.2	8.5
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6220	6571	7051	7741	7095	6272	6571		1.3	0.1	-0.8
of which cogeneration units			2284	2668	2229	2875	3028	3655	3650		-0.2	3.1	1.9
of which CCS units			0	0	0	0	0	0	306				
Solids fired			1865	1708	1618	1604	1596	730	668		-1.4	-0.1	-8.3
Gas fired			3102	3441	4131	4598	3992	4049	4522		2.9	-0.3	1.3
Oil fired			951	950	885	629	349	250	173		-0.7	-8.9	-6.7
Biomass-waste fired			301	471	416	910	1156	1243	1206		3.3	10.8	0.4
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			1	1	1	1	1	1	1		0.0	0.0	1.0
Load factor for net electric capacities (%)			46.8	44.8	40.6	39.8	42.4	44.8	42.6				
Efficiency for thermal electricity production (%)			39.6	40.5	40.3	43.8	43.9	41.8	40.5				
CHP indicator (% of electricity from CHP)			11.3	17.0	15.4	20.2	23.9	23.6	21.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	3.8				
Non fossil fuels in electricity generation (%)			72.6	63.1	68.1	68.8	68.2	68.0	71.5				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			72.6	63.1	68.1	68.8	68.2	68.0	71.5				
Transport sector													
Passenger transport activity (Gpkm)	**80.3**	**90.3**	**95.6**	**101.1**	**104.9**	**113.6**	**120.1**	**126.4**	**132.4**	**1.8**	**0.9**	**1.4**	**1.0**
Public road transport	7.9	8.7	9.2	9.3	9.9	10.6	11.2	11.7	12.1	1.5	0.6	1.3	0.8
Private cars and motorcycles	56.4	63.0	67.8	71.9	73.5	78.5	81.2	83.8	86.6	1.9	0.8	1.0	0.6
Rail	11.7	13.4	12.3	12.8	13.4	14.5	15.6	16.5	17.3	0.5	0.8	1.5	1.0
Aviation	4.2	5.0	6.1	7.0	8.1	10.0	12.1	14.4	16.4	3.9	2.8	4.1	3.1
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.5	0.9	0.6
Freight transport activity (Gtkm)	**35.4**	**41.7**	**54.2**	**57.8**	**61.0**	**67.2**	**71.8**	**75.0**	**77.7**	**4.4**	**1.2**	**1.7**	**0.8**
Trucks	21.6	26.5	35.1	37.0	37.7	41.5	44.0	45.6	47.2	5.0	0.7	1.6	0.7
Rail	12.2	13.2	16.6	19.0	21.5	23.7	25.7	27.2	28.1	3.2	2.6	1.8	0.9
Inland navigation	1.7	2.0	2.4	1.8	1.8	2.0	2.2	2.3	2.4	3.9	-3.0	1.8	1.2
Energy demand in transport (ktoe)	**4545**	**5200**	**6081**	**8034**	**8128**	**8403**	**8423**	**8220**	**7989**	**3.0**	**2.9**	**0.4**	**-0.5**
Public road transport	74	79	82	82	85	89	90	89	87	1.0	0.4	0.5	-0.4
Private cars and motorcycles	2570	2699	2922	3839	3762	3607	3450	3182	2968	1.3	2.6	-0.9	-1.5
Trucks	1301	1646	2152	3118	3160	3441	3506	3480	3412	5.2	3.9	1.0	-0.3
Rail	283	309	333	311	342	363	369	365	336	1.6	0.3	0.8	-0.9
Aviation	310	461	586	675	769	893	998	1092	1174	6.6	2.8	2.6	1.6
Inland navigation	7	6	6	9	9	10	11	11	12	-1.5	4.4	1.5	1.0

Source: PRIMES

Belgium: Baseline 2009									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**13112**	**12734**	**15509**	**15450**	**15749**	**16237**	**16506**	**9787**	**4651**	**1.7**	**0.2**	**0.5**	**-11.9**
Solids	1085	269	191	57	13	12	13	15	14	-16.0	-23.5	0.0	0.9
Oil	0	0	0	6	0	0	0	0	0				
Natural gas	10	0	2	0	0	0	0	0	0	-14.3			
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Renew able energy sources	1310	2125	2894	3110	3353	3694	4087	4382	4637	8.2	1.5	2.0	1.3
Hydro	23	29	39	25	31	33	35	37	38	5.6	-2.2	1.1	0.9
Biomass & Waste	1285	2093	2848	3061	3090	3248	3413	3480	3484	8.3	0.8	1.0	0.2
Wind	1	1	1	20	213	380	599	816	1062	7.9	66.7	10.9	5.9
Solar and others	1	1	1	3	17	30	36	44	47	2.1	32.5	7.8	2.6
Geothermal	1	1	4	1	2	2	3	4	5	14.0	-7.6	6.7	3.4
Net Imports	**39625**	**46863**	**50812**	**53775**	**48989**	**51039**	**51659**	**54610**	**57059**	**2.5**	**-0.4**	**0.5**	**1.0**
Solids	9493	9343	7566	5511	4278	4654	4956	6572	8321	-2.2	-5.5	1.5	5.3
Oil	22236	26667	29491	32623	29695	30207	29465	28548	27662	2.9	0.1	-0.1	-0.6
- Crude oil and Feedstocks	26896	26573	34067	32206	31702	32218	31574	30788	30013	2.4	-0.7	0.0	-0.5
- Oil products	-4660	94	-4576	417	-2006	-2010	-2110	-2241	-2351				
Natural gas	8217	10418	13278	14817	14110	15110	15810	17838	19473	4.9	0.6	1.1	2.1
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Gross Inland Consumption	**48607**	**54940**	**61461**	**61147**	**57354**	**59693**	**60476**	**56516**	**53572**	**2.4**	**-0.7**	**0.5**	**-1.2**
Solids	10244	8551	8200	5450	4292	4666	4969	6586	8336	-2.2	-6.3	1.5	5.3
Oil	18497	22877	24100	24747	22312	22625	21776	20667	19524	2.7	-0.8	-0.2	-1.1
Natural gas	8169	10611	13369	14740	14110	15110	15810	17838	19473	5.0	0.5	1.1	2.1
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Renew able energy forms	1310	2210	2998	3391	3586	3977	4519	4856	5067	8.6	1.8	2.3	1.2
as % in Gross Inland Consumption													
Solids	21.1	15.6	13.3	8.9	7.5	7.8	8.2	11.7	15.6				
Oil	38.1	41.6	39.2	40.5	38.9	37.9	36.0	36.6	36.4				
Natural gas	16.8	19.3	21.8	24.1	24.6	25.3	26.1	31.6	36.3				
Nuclear	22.0	18.8	20.2	20.1	21.6	21.0	20.5	9.5	0.0				
Renew able energy forms	2.7	4.0	4.9	5.5	6.3	6.7	7.5	8.6	9.5				
Gross Electricity Generation in GWh_e	**70202**	**73524**	**82639**	**85695**	**84965**	**90265**	**95166**	**98165**	**101016**	**1.6**	**0.3**	**1.1**	**0.6**
Self consumption and grid losses	7382	7800	7825	8266	8134	8607	9221	9685	10414	0.6	0.4	1.3	1.2
Fuel Inputs for Thermal Power Generation	**6544**	**7182**	**7493**	**7733**	**6640**	**7142**	**7861**	**12044**	**14919**	**1.4**	**-1.2**	**1.7**	**6.6**
Solids	3875	3764	3025	1889	1624	1862	2160	3919	5708	-2.4	-6.0	2.9	10.2
Oil (including refinery gas)	318	232	186	411	167	272	581	591	565	-5.2	-1.1	13.3	-0.3
Gas	1983	2721	3790	4612	3919	4069	3769	5763	6718	6.7	0.3	-0.4	6.0
Biomass & Waste	368	465	492	821	931	938	1352	1771	1928	2.9	6.6	3.8	3.6
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**35940**	**33857**	**42146**	**40638**	**37805**	**38731**	**37936**	**36483**	**35295**	**1.6**	**-1.1**	**0.0**	**-0.7**
Refineries	29821	29532	38492	37438	35112	35665	34714	33386	32176	2.6	-0.9	-0.1	-0.8
Biofuels and hydrogen production	0	0	0	0	174	381	567	636	678			12.5	1.8
District heating	10	5	41	27	4	4	4	0	0	15.3	-21.4	0.0	
Others	6109	4320	3612	3173	2515	2682	2651	2460	2441	-5.1	-3.6	0.5	-0.8
Energy Branch Consumption	**2307**	**2270**	**2367**	**2125**	**1880**	**1917**	**1880**	**1802**	**1779**	**0.3**	**-2.3**	**0.0**	**-0.5**
Non-Energy Uses	**2749**	**5513**	**6865**	**7495**	**6296**	**6767**	**7124**	**7107**	**7329**	**9.6**	**-0.9**	**1.2**	**0.3**
Final Energy Demand	**32071**	**36073**	**39131**	**38443**	**37073**	**38867**	**39269**	**38396**	**37781**	**2.0**	**-0.5**	**0.6**	**-0.4**
by sector													
Industry	12591	13612	15762	13563	12077	13209	13692	13338	13421	2.3	-2.6	1.3	-0.2
- energy intensive industries	9987	10689	12028	10578	8829	9459	9641	9304	9218	1.9	-3.0	0.9	-0.4
- other industrial sectors	2604	2923	3734	2986	3248	3750	4051	4034	4204	3.7	-1.4	2.2	0.4
Residential	8360	9320	9491	9938	10011	10256	10203	10062	9866	1.3	0.5	0.2	-0.3
Tertiary	3390	4631	4167	5017	5146	5438	5518	5521	5495	2.1	2.1	0.7	0.0
Transport	7730	8511	9710	9926	9839	9964	9856	9475	8999	2.3	0.1	0.0	-0.9
by fuel													
Solids	3787	3306	3378	2080	1678	1722	1748	1713	1669	-1.1	-6.8	0.4	-0.5
Oil	14927	16434	16130	16529	15749	15820	15115	14289	13405	0.8	-0.2	-0.4	-1.2
Gas	7249	8517	10010	10009	9736	10331	10573	10331	10635	3.3	-0.3	0.8	0.1
Electricity	4986	5885	6667	6894	6999	7523	8107	8516	8703	2.9	0.5	1.5	0.7
Heat (from CHP and District Heating) [A]	213	220	490	427	510	861	1210	1332	1350	8.7	0.4	9.0	1.1
Renew able energy forms	909	1710	2454	2503	2400	2608	2514	2213	2018	10.4	-0.2	0.5	-2.2
Other	0	0	0	0	1	1	2	2	2			8.7	-0.3
RES in Gross Final Energy Consumption [B]			**535**	**910**	**1319**	**2084**	**2647**	**3270**	**3707**		**9.4**	**7.2**	**3.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**139.9**		**146.5**	**135.8**	**125.8**	**128.6**	**129.0**	**137.3**	**144.0**	**0.5**	**-1.5**	**0.3**	**1.1**
of w hich ETS sectors GHGs emissions				61.4	50.7	52.7	55.0	65.7	74.6			0.8	3.1
CO_2 Emissions (energy related)	**106.4**	**112.6**	**115.0**	**107.7**	**97.9**	**101.4**	**100.9**	**109.0**	**115.0**	**0.8**	**-1.6**	**0.3**	**1.3**
Pow er generation/District heating	21.8	23.0	22.6	20.6	17.0	18.6	19.9	31.5	39.9	0.3	-2.8	1.6	7.2
Energy Branch	5.3	5.1	5.3	4.1	2.9	2.8	2.6	2.4	2.3	0.0	-5.9	-1.1	-1.3
Industry	30.3	28.8	30.1	22.7	18.6	20.1	20.6	20.0	20.7	-0.1	-4.7	1.0	0.0
Residential	18.7	20.1	20.1	20.4	20.1	20.2	19.2	18.1	17.1	0.7	0.0	-0.4	-1.2
Tertiary	7.6	10.5	8.2	10.5	10.7	11.2	11.0	10.8	10.5	0.8	2.7	0.3	-0.5
Transport	22.7	25.0	28.8	29.5	28.7	28.5	27.5	26.2	24.6	2.4	0.0	-0.4	-1.1
CO_2 Emissions (non energy related)	**9.0**	**10.0**	**10.2**	**9.8**	**9.1**	**10.3**	**11.0**	**11.2**	**11.7**	**1.2**	**-1.2**	**2.0**	**0.6**
Non-CO_2 GHGs Emissions	**24.4**		**21.3**	**18.3**	**18.8**	**17.0**	**17.1**	**17.1**	**17.3**	**-1.4**	**-1.3**	**-0.9**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.7**	**97.1**	**89.9**	**91.9**	**92.2**	**98.2**	**102.9**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Belgium: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.948	10.131	10.239	10.446	10.784	11.070	11.322	11.547	11.745	0.3	0.5	0.5	0.4
GDP (in 000 M€08)	233.7	257.7	294.5	319.2	328.9	371.3	411.5	447.1	484.4	2.3	1.1	2.3	1.6
Gross Inl. Cons./GDP (toe/M€08)	208.0	213.2	208.7	191.6	174.4	160.8	147.0	126.4	110.6	0.0	-1.8	-1.7	-2.8
Carbon intensity (t of CO_2/toe of GIC)	2.19	2.05	1.87	1.76	1.71	1.70	1.67	1.93	2.15	-1.6	-0.9	-0.2	2.6
Import Dependency %	75.2	79.6	76.1	78.2	75.7	75.9	75.8	84.8	92.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.4	36.9	36.9	42.2	51.2	56.9	58.6		1.2	4.0	2.7
as % of GDP			11.3	11.6	11.5	12.1	13.6	14.9	15.0				
Energy intensity indicators													
Industry (Energy on Value added)	91.3	100.2	100.0	85.7	77.7	72.0	66.4	61.3	56.8	0.9	-2.5	-1.6	-1.5
Residential (Energy on Private Income)	109.5	110.3	100.0	99.3	99.3	93.5	86.1	79.0	72.6	-0.9	-0.1	-1.4	-1.7
Tertiary (Energy on Value added)	98.1	124.2	100.0	108.9	109.6	101.2	92.6	84.4	77.4	0.2	0.9	-1.7	-1.8
Passenger transport (toe/Mpkm)	45.4	44.2	46.5	46.4	44.4	40.6	38.0	34.3	30.3	0.3	-0.5	-1.5	-2.2
Freight transport (toe/Mtkm)	50.6	49.1	50.5	52.4	51.8	51.4	49.5	47.6	45.2	0.0	0.3	-0.5	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.30	0.30	0.25	0.22	0.18	0.18	0.18	0.27	0.33	-1.6	-3.3	-0.2	6.5
Final energy demand (t of CO_2/toe)	2.47	2.34	2.23	2.16	2.11	2.06	2.00	1.96	1.93	-1.0	-0.6	-0.5	-0.3
Industry	2.41	2.11	1.91	1.67	1.54	1.52	1.51	1.50	1.54	-2.3	-2.1	-0.2	0.2
Residential	2.24	2.16	2.11	2.05	2.01	1.97	1.89	1.80	1.73	-0.6	-0.5	-0.6	-0.8
Tertiary	2.23	2.26	1.96	2.09	2.07	2.06	2.00	1.95	1.91	-1.3	0.6	-0.4	-0.4
Transport	2.94	2.94	2.96	2.97	2.92	2.86	2.79	2.76	2.73	0.1	-0.1	-0.4	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			1.3	2.3	3.5	5.3	6.6	8.3	9.6				
RES in transport (%)			0.0	0.0	2.2	4.7	7.1	8.4	9.5				
Gross Electricity generation by fuel type (in GWh)			**82639**	**85695**	**84965**	**90265**	**95166**	**98165**	**101016**		**0.3**	**1.1**	**0.6**
Nuclear energy			48148	47586	48002	48578	48092	20899	0		0.0	0.0	
Coal and lignite			13089	7774	6127	7595	8895	19723	32353		-7.3	3.8	13.8
Petroleum products			586	1734	894	1275	2888	2934	2819		4.3	12.4	-0.2
Gas (including derived gases)			19024	25013	22613	23470	21777	36244	43896		1.7	-0.4	7.3
Biomass & waste			1317	3071	4363	4365	5946	8235	8923		12.7	3.1	4.1
Hydro			459	288	366	388	408	428	447		-2.2	1.1	0.9
Wind			15	227	2481	4422	6967	9492	12354		66.7	10.9	5.9
Solar, tidal etc.			0	1	118	172	192	210	225			5.0	1.6
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13941**	**14716**	**17347**	**18476**	**20617**	**21966**	**23444**		**2.2**	**1.7**	**1.3**
Nuclear energy			5801	5817	5941	5941	5941	2516	0		0.2	0.0	
Renewable energy			117	285	1308	1989	2825	3869	4986		27.4	8.0	5.8
Hydro (pumping excluded)			103	116	116	125	138	148	150		1.2	1.8	0.8
Wind			14	167	1039	1686	2487	3503	4603		53.8	9.1	6.3
Solar			0	2	153	178	200	218	233			2.7	1.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			8024	8615	10098	10546	11851	15580	18458		2.3	1.6	4.5
of which cogeneration units			1394	1680	2191	2716	2695	2933	2811		4.6	2.1	0.4
of which CCS units			0	0	0	0	0	0	133				
Solids fired			1964	1709	1476	1076	1153	2484	4670		-2.8	-2.4	15.0
Gas fired			4891	5710	7166	7473	7338	9899	10838		3.9	0.2	4.0
Oil fired			632	639	653	849	1844	1480	1473		0.3	10.9	-2.2
Biomass-waste fired			537	556	803	1147	1515	1717	1478		4.1	6.5	-0.2
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			64.6	63.6	53.7	53.6	50.6	49.0	47.1				
Efficiency for thermal electricity production (%)			39.0	41.8	44.0	44.2	43.2	47.9	50.7				
CHP indicator (% of electricity from CHP)			6.8	8.8	12.6	16.0	17.8	19.8	19.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	1.3				
Non fossil fuels in electricity generation (%)			60.4	59.7	65.1	64.2	64.7	40.0	21.7				
- nuclear			58.3	55.5	56.5	53.8	50.5	21.3	0.0				
- renewable energy forms and industrial waste			2.2	4.2	8.6	10.4	14.2	18.7	21.7				
Transport sector													
Passenger transport activity (Gpkm)	**116.4**	**127.3**	**137.1**	**145.6**	**152.3**	**165.3**	**172.6**	**178.7**	**185.5**	**1.6**	**1.1**	**1.3**	**0.7**
Public road transport	11.4	13.1	13.3	17.5	18.9	20.1	20.8	21.3	21.6	1.6	3.6	1.0	0.4
Private cars and motorcycles	90.5	99.1	106.5	110.1	113.6	122.8	126.4	129.9	134.2	1.6	0.6	1.1	0.6
Rail	7.3	7.6	8.6	10.1	11.1	12.5	13.5	14.2	14.8	1.7	2.6	2.0	0.9
Aviation	6.6	7.0	8.4	7.6	8.3	9.7	11.5	13.1	14.7	2.4	-0.1	3.3	2.5
Inland navigation	0.7	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-7.4	-0.1	0.5	0.2
Freight transport activity (Gtkm)	**48.3**	**58.6**	**65.9**	**60.5**	**59.3**	**63.2**	**66.6**	**70.4**	**74.6**	**3.2**	**-1.1**	**1.2**	**1.1**
Trucks	34.6	45.6	51.0	43.8	42.4	45.4	47.9	51.1	54.8	4.0	-1.8	1.2	1.4
Rail	8.4	7.3	7.7	8.1	8.3	9.0	9.6	9.8	10.0	-0.9	0.8	1.4	0.5
Inland navigation	5.4	5.7	7.2	8.6	8.6	8.8	9.1	9.5	9.8	3.0	1.8	0.6	0.7
Energy demand in transport (ktoe)	**7730**	**8511**	**9710**	**9926**	**9839**	**9964**	**9856**	**9475**	**8999**	**2.3**	**0.1**	**0.0**	**-0.9**
Public road transport	104	118	118	153	164	169	166	161	154	1.3	3.3	0.1	-0.7
Private cars and motorcycles	4157	4474	4677	5260	5209	5067	4820	4402	3954	1.2	1.1	-0.8	-2.0
Trucks	2210	2523	3065	2827	2726	2889	2929	2986	3020	3.3	-1.2	0.7	0.3
Rail	178	202	184	186	187	196	192	185	165	0.3	0.2	0.3	-1.5
Aviation	952	945	1530	1281	1334	1420	1519	1504	1464	4.9	-1.4	1.3	-0.4
Inland navigation	130	248	136	218	220	223	230	236	242	0.5	4.9	0.4	0.5

Source: PRIMES

Bulgaria: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9136**	**10191**	**9846**	**10612**	**9707**	**9829**	**11792**	**12240**	**12632**	**0.8**	**-0.1**	**2.0**	**0.7**
Solids	5121	5287	4310	4178	4376	4374	4362	2849	3070	-1.7	0.2	0.0	-3.5
Oil	60	43	43	30	26	25	24	23	22	-3.4	-4.8	-0.8	-0.9
Natural gas	11	40	12	384	237	200	169	143	122	1.3	34.4	-3.3	-3.2
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Renew able energy sources	161	369	792	1207	1277	1439	1613	1820	2013	17.2	4.9	2.4	2.2
Hydro	161	151	230	373	350	354	359	365	375	3.6	4.3	0.3	0.4
Biomass & Waste	0	219	562	801	848	921	1018	1140	1249		4.2	1.8	2.1
Wind	0	0	0	0	35	91	132	169	205			14.2	4.5
Solar and others	0	0	0	0	3	15	33	48	64			26.5	6.9
Geothermal	0	0	0	33	41	58	71	97	121			5.7	5.4
Net Imports	**17836**	**13484**	**8718**	**9516**	**9526**	**10451**	**9945**	**9931**	**9645**	**-6.9**	**0.9**	**0.4**	**-0.3**
Solids	3527	2424	2258	2550	2713	3418	2990	2885	2767	-4.4	1.9	1.0	-0.8
Oil	8553	6519	4118	5186	4689	5029	5081	5065	4896	-7.0	1.3	0.8	-0.4
- Crude oil and Feedstocks	8264	8021	5389	6423	6289	6730	6803	6793	6606	-4.2	1.6	0.8	-0.3
- Oil products	289	-1502	-1271	-1237	-1599	-1702	-1722	-1728	-1709				
Natural gas	5430	4563	2742	2458	2524	2601	2840	3144	3172	-6.6	-0.8	1.2	1.1
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Gross Inland Consumption	**27981**	**23312**	**18647**	**19984**	**19121**	**20156**	**21609**	**22038**	**22139**	**-4.0**	**0.3**	**1.2**	**0.2**
Solids	8706	7673	6417	6892	7089	7792	7352	5734	5837	-3.0	1.0	0.4	-2.3
Oil	9609	6253	4218	4947	4603	4930	4976	4955	4780	-7.9	0.9	0.8	-0.4
Natural gas	5395	4584	2932	2804	2761	2800	3009	3287	3294	-5.9	-0.6	0.9	0.9
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Renew able energy forms	161	363	788	1182	1236	1378	1535	1743	1943	17.2	4.6	2.2	2.4
as % in Gross Inland Consumption													
Solids	31.1	32.9	34.4	34.5	37.1	38.7	34.0	26.0	26.4				
Oil	34.3	26.8	22.6	24.8	24.1	24.5	23.0	22.5	21.6				
Natural gas	19.3	19.7	15.7	14.0	14.4	13.9	13.9	14.9	14.9				
Nuclear	13.5	19.1	25.1	24.1	19.8	18.8	26.0	33.6	33.4				
Renew able energy forms	0.6	1.6	4.2	5.9	6.5	6.8	7.1	7.9	8.8				
Gross Electricity Generation in GWh_e	**42133**	**41219**	**40639**	**43964**	**39691**	**43278**	**49667**	**56005**	**58098**	**-0.4**	**-0.2**	**2.3**	**1.6**
Self consumption and grid losses	9435	11161	10721	9679	8123	7823	7828	9754	9935	1.3	-2.7	-0.4	2.4
Fuel Inputs for Thermal Power Generation	**10103**	**9160**	**6281**	**6520**	**6261**	**7038**	**6561**	**5081**	**5250**	**-4.6**	**0.0**	**0.5**	**-2.2**
Solids	6800	6734	5245	5670	5592	6276	5851	4340	4516	-2.6	0.6	0.5	-2.6
Oil (including refinery gas)	951	612	170	172	44	31	28	42	52	-15.8	-12.6	-4.4	6.4
Gas	2352	1813	863	676	582	628	578	538	461	-9.5	-3.9	-0.1	-2.2
Biomass & Waste	0	0	3	2	42	103	97	130	167		29.1	8.6	5.5
Geothermal heat	0	0	0	0	0	0	8	30	53				21.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**13098**	**11654**	**7655**	**8936**	**7764**	**8083**	**8056**	**7961**	**7658**	**-5.2**	**0.1**	**0.4**	**-0.5**
Refineries	8358	8040	5449	6683	6467	6906	6954	6930	6728	-4.2	1.7	0.7	-0.3
Biofuels and hydrogen production	0	0	0	0	23	43	57	100	166			9.4	11.3
District heating	2781	1544	324	370	374	224	168	141	33	-19.3	1.4	-7.7	-15.0
Others	1960	2069	1882	1883	900	910	877	790	732	-0.4	-7.1	-0.3	-1.8
Energy Branch Consumption	**1357**	**1457**	**1145**	**1278**	**1317**	**1325**	**1339**	**1524**	**1518**	**-1.7**	**1.4**	**0.2**	**1.3**
Non-Energy Uses	**1427**	**1236**	**1264**	**1067**	**928**	**1007**	**1099**	**1168**	**1198**	**-1.2**	**-3.0**	**1.7**	**0.9**
Final Energy Demand	**16102**	**11409**	**8602**	**9595**	**9802**	**10539**	**11136**	**11539**	**11721**	**-6.1**	**1.3**	**1.3**	**0.5**
by sector													
Industry	8969	6034	3652	3720	3848	4221	4556	4701	4774	-8.6	0.5	1.7	0.5
- energy intensive industries	5579	4891	2829	2851	2825	2943	3034	3018	2966	-6.6	0.0	0.7	-0.2
- other industrial sectors	3390	1143	824	870	1023	1278	1523	1684	1808	-13.2	2.2	4.1	1.7
Residential	2228	2257	2165	2145	2132	2141	2160	2192	2145	-0.3	-0.2	0.1	-0.1
Tertiary	2382	1139	962	1130	1174	1220	1248	1283	1309	-8.7	2.0	0.6	0.5
Transport	2523	1980	1823	2599	2648	2957	3172	3364	3494	-3.2	3.8	1.8	1.0
by fuel													
Solids	1477	1280	860	951	1128	1155	1156	1080	1026	-5.3	2.8	0.2	-1.2
Oil	4983	2900	3004	3672	3649	3977	4099	4126	4033	-4.9	2.0	1.2	-0.2
Gas	2066	1787	1231	1025	1120	1245	1433	1681	1827	-5.0	-0.9	2.5	2.5
Electricity	3033	2467	2075	2208	2265	2418	2616	2797	2930	-3.7	0.9	1.4	1.1
Heat (from CHP and District Heating) [A]	4543	2798	877	939	830	915	898	816	776	-15.2	-0.5	0.8	-1.5
Renew able energy forms	0	178	555	800	809	828	933	1039	1129		3.8	1.4	1.9
Other	0	0	0	0	0	0	1	1	1			12.0	1.4
RES in Gross Final Energy Consumption [B]			**737**	**958**	**1117**	**1245**	**1457**	**1637**	**1826**		**4.2**	**2.7**	**2.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**111.5**		**65.4**	**67.0**	**66.5**	**69.0**	**67.9**	**54.9**	**53.0**	**-5.2**	**0.2**	**0.2**	**-2.5**
of w hich ETS sectors GHGs emissions				41.2	40.9	43.5	42.3	29.2	27.1			0.3	-4.4
CO_2 Emissions (energy related)	**72.5**	**58.0**	**42.1**	**45.1**	**45.2**	**48.9**	**47.8**	**34.8**	**32.6**	**-5.3**	**0.7**	**0.6**	**-3.8**
Pow er generation/District heating	44.9	38.1	24.9	26.1	25.4	27.9	25.9	12.6	10.6	-5.7	0.2	0.2	-8.5
Energy Branch	1.6	1.4	1.3	1.6	1.6	1.6	1.6	1.6	1.5	-2.1	2.5	-0.2	-0.6
Industry	11.2	9.4	8.3	7.5	8.1	8.5	8.9	9.0	8.7	-3.0	-0.2	0.9	-0.2
Residential	3.0	2.2	1.2	1.2	1.2	1.3	1.2	1.1	1.1	-8.9	0.2	0.0	-1.0
Tertiary	4.8	1.4	1.2	1.1	1.1	1.2	1.1	1.0	1.0	-13.0	-0.4	-0.2	-1.3
Transport	7.1	5.6	5.2	7.6	7.6	8.5	9.0	9.5	9.7	-3.0	3.8	1.8	0.7
CO_2 Emissions (non energy related)	**7.6**	**7.0**	**4.6**	**5.1**	**5.6**	**6.1**	**6.6**	**6.8**	**6.9**	**-4.9**	**2.0**	**1.6**	**0.5**
Non-CO_2 GHGs Emissions	**31.4**		**18.7**	**16.8**	**15.8**	**13.9**	**13.5**	**13.3**	**13.4**	**-5.0**	**-1.7**	**-1.5**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**58.7**	**60.1**	**59.7**	**61.9**	**60.9**	**49.2**	**47.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Bulgaria: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.767	8.427	8.191	7.761	7.564	7.382	7.188	6.974	6.753	-0.7	-0.8	-0.5	-0.6
GDP (in 000 M€08)	21.3	18.6	17.9	23.1	27.2	32.2	36.6	40.6	44.6	-1.7	4.3	3.0	2.0
Gross Inl. Cons./GDP (toe/M€08)	1316.3	1251.7	1043.7	864.5	702.9	626.6	590.3	542.6	496.8	-2.3	-3.9	-1.7	-1.7
Carbon intensity (t of CO_2/toe of GIC)	2.59	2.49	2.26	2.26	2.36	2.43	2.21	1.58	1.47	-1.4	0.5	-0.7	-4.0
Import Dependency %	63.6	57.2	46.6	47.4	49.5	51.5	45.8	44.8	43.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			5.5	7.0	7.5	9.4	11.7	14.1	15.2		3.6	6.1	3.1
as % of GDP			30.9	30.1	28.9	34.0	38.9	42.4	43.3				
Energy intensity indicators													
Industry (Energy on Value added)	140.7	112.0	100.0	72.1	61.9	52.0	45.8	41.1	37.4	-3.4	-4.7	-3.0	-2.0
Residential (Energy on Private Income)	92.4	105.2	100.0	74.2	63.2	56.9	55.5	54.9	53.9	0.8	-4.5	-1.3	-0.3
Tertiary (Energy on Value added)	201.6	112.3	100.0	93.9	84.9	73.1	67.2	63.0	58.7	-6.8	-1.6	-2.3	-1.3
Passenger transport (toe/Mpkm)	35.8	32.3	28.0	31.2	29.3	28.3	27.8	27.5	26.7	-2.4	0.4	-0.5	-0.4
Freight transport (toe/Mtkm)	34.2	44.4	50.3	55.0	50.1	49.3	48.7	48.0	47.0	3.9	0.0	-0.3	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.45	0.49	0.46	0.44	0.46	0.46	0.39	0.17	0.14	0.2	0.1	-1.7	-9.5
Final energy demand (t of CO_2/toe)	1.62	1.62	1.85	1.81	1.85	1.85	1.82	1.79	1.75	1.3	0.0	-0.1	-0.4
Industry	1.25	1.55	2.27	2.02	2.12	2.02	1.95	1.91	1.83	6.2	-0.7	-0.8	-0.7
Residential	1.35	0.97	0.55	0.56	0.57	0.59	0.56	0.52	0.51	-8.7	0.4	-0.1	-0.9
Tertiary	2.00	1.22	1.23	0.96	0.97	1.01	0.90	0.80	0.75	-4.7	-2.4	-0.8	-1.8
Transport	2.81	2.84	2.87	2.91	2.87	2.86	2.85	2.82	2.76	0.2	0.0	-0.1	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.6	9.1	10.5	10.9	12.2	13.1	14.4				
RES in transport (%)			0.2	0.1	1.4	2.2	2.8	4.4	6.8				
Gross Electricity generation by fuel type (in GWh)			**40639**	**43964**	**39691**	**43278**	**49667**	**56005**	**58098**		**-0.2**	**2.3**	**1.6**
Nuclear energy			18175	18650	14700	14700	22350	30000	30000		-2.1	4.3	3.0
Coal and lignite			16820	18056	17264	19639	18259	16390	17848		0.3	0.6	-0.2
Petroleum products			590	600	153	90	80	103	138		-12.6	-6.3	5.6
Gas (including derived gases)			2374	2312	2919	3228	2795	2622	2486		2.1	-0.4	-1.2
Biomass & waste			8	5	180	426	412	538	660		36.7	8.6	4.8
Hydro			2673	4336	4065	4116	4169	4242	4357		4.3	0.3	0.4
Wind			0	5	406	1056	1535	1970	2381			14.2	4.5
Solar, tidal etc.			0	0	3	24	58	105	164			33.4	10.9
Geothermal and other renewables			0	0	0	0	9	35	62				21.6
Net Generation Capacity in MW_e			**10934**	**10174**	**9634**	**10314**	**10331**	**12290**	**12889**		**-1.3**	**0.7**	**2.2**
Nuclear energy			3473	2678	1885	1910	2870	3817	3817		-5.9	4.3	2.9
Renewable energy			1908	1975	2489	3076	3521	3986	4521		2.7	3.5	2.5
Hydro (pumping excluded)			1908	1967	2097	2122	2136	2191	2340		0.9	0.2	0.9
Wind			0	8	389	929	1324	1686	2011			13.0	4.3
Solar			0	0	3	25	61	109	170			33.4	10.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			5554	5521	5260	5327	3940	4487	4551		-0.5	-2.8	1.5
of which cogeneration units			972	1108	1198	1325	1377	1329	1342		2.1	1.4	-0.3
of which CCS units			0	0	0	0	0	745	1015				
Solids fired			4430	4376	4179	4362	3086	3750	3890		-0.6	-3.0	2.3
Gas fired			812	834	794	671	560	447	417		-0.2	-3.4	-2.9
Oil fired			271	271	276	279	253	213	144		0.2	-0.9	-5.5
Biomass-waste fired			40	40	11	15	41	72	93		-12.2	14.2	8.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	1	4	7				21.6
Load factor for net electric capacities (%)			38.0	44.1	43.2	44.5	51.5	47.3	46.7				
Efficiency for thermal electricity production (%)			27.1	27.7	28.2	28.6	28.3	33.3	34.7				
CHP indicator (% of electricity from CHP)			8.5	6.8	14.8	17.6	15.1	13.2	13.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	15.4	19.4				
Non fossil fuels in electricity generation (%)			51.3	52.3	48.8	47.0	57.4	65.9	64.8				
- nuclear			44.7	42.4	37.0	34.0	45.0	53.6	51.6				
- renewable energy forms and industrial waste			6.6	9.9	11.7	13.0	12.4	12.3	13.1				
Transport sector													
Passenger transport activity (Gpkm)	**51.9**	**41.6**	**43.0**	**47.5**	**54.5**	**61.7**	**66.4**	**70.6**	**74.6**	**-1.9**	**2.4**	**2.0**	**1.2**
Public road transport	25.9	15.7	13.9	11.4	11.4	11.9	12.1	12.3	12.3	-6.0	-1.9	0.6	0.1
Private cars and motorcycles	14.8	18.6	23.6	29.7	35.6	40.3	42.7	44.4	46.4	4.8	4.2	1.8	0.8
Rail	8.1	5.0	3.9	2.8	3.0	3.1	3.4	3.7	3.9	-7.1	-2.7	1.4	1.5
Aviation	2.8	2.1	1.7	3.6	4.5	6.4	8.2	10.3	12.0	-5.3	10.5	6.2	3.8
Inland navigation	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-22.7	-1.7	0.6	0.3
Freight transport activity (Gtkm)	**19.3**	**14.3**	**12.3**	**20.3**	**21.0**	**24.6**	**27.2**	**29.6**	**32.0**	**-4.5**	**5.5**	**2.6**	**1.6**
Trucks	3.6	5.2	6.4	14.4	14.8	17.7	19.5	21.1	22.8	5.9	8.8	2.8	1.6
Rail	14.1	8.6	5.5	5.2	5.3	6.0	6.7	7.4	8.0	-8.9	-0.4	2.4	1.8
Inland navigation	1.6	0.5	0.3	0.8	0.8	0.9	1.0	1.1	1.2	-15.1	9.8	2.1	1.7
Energy demand in transport (ktoe)	**2523**	**1980**	**1823**	**2599**	**2648**	**2957**	**3172**	**3364**	**3494**	**-3.2**	**3.8**	**1.8**	**1.0**
Public road transport	293	127	108	87	85	87	85	82	78	-9.5	-2.4	0.0	-0.9
Private cars and motorcycles	1266	923	982	1186	1259	1314	1350	1389	1398	-2.5	2.5	0.7	0.3
Trucks	452	504	551	1058	993	1147	1255	1346	1437	2.0	6.1	2.4	1.4
Rail	217	144	78	65	65	70	75	78	69	-9.8	-1.8	1.5	-0.9
Aviation	276	276	101	200	243	335	403	464	507	-9.6	9.2	5.2	2.3
Inland navigation	18	6	3	4	4	4	4	5	5	-16.9	2.6	1.7	1.4

Source: PRIMES

Cyprus: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**6**	**42**	**45**	**49**	**86**	**174**	**257**	**325**	**387**	**23.2**	**6.6**	**11.6**	**4.2**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	6	42	45	49	86	174	257	325	387	23.2	6.6	11.6	4.2
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	6	11	10	7	18	37	54	73	84	5.8	6.0	12.0	4.4
Wind	0	0	0	0	0	26	60	82	95				4.8
Solar and others	0	31	35	41	68	111	143	170	208		6.7	7.7	3.9
Geothermal	0	0	0	0	0	0	0	0	1			15.2	23.2
Net Imports	**1638**	**2024**	**2547**	**2816**	**3088**	**3068**	**3188**	**3273**	**3233**	**4.5**	**1.9**	**0.3**	**0.1**
Solids	68	17	36	43	37	42	49	48	52	-6.3	0.4	2.9	0.5
Oil	1570	2007	2511	2773	3050	2660	2713	2761	2664	4.8	2.0	-1.2	-0.2
- Crude oil and Feedstocks	631	797	1153	0	0	0	0	0	0	6.2	-60.7	-0.5	0.0
- Oil products	939	1210	1358	2773	3050	2660	2713	2761	2664	3.8	8.4	-1.2	-0.2
Natural gas	0	0	0	0	0	365	423	458	506			157.4	1.8
Electricity	0	0	0	0	0	0	0	0	0				
Gross Inland Consumption	**1519**	**1976**	**2390**	**2466**	**2856**	**2910**	**3105**	**3247**	**3259**	**4.6**	**1.8**	**0.8**	**0.5**
Solids	60	13	35	36	37	42	49	48	52	-5.3	0.6	2.9	0.5
Oil	1453	1920	2310	2382	2733	2327	2373	2411	2303	4.7	1.7	-1.4	-0.3
Natural gas	0	0	0	0	0	365	423	458	506			157.4	1.8
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	0	0	0				
Renew able energy forms	6	42	45	49	86	176	260	330	399	23.2	6.6	11.7	4.4
as % in Gross Inland Consumption													
Solids	4.0	0.7	1.5	1.4	1.3	1.4	1.6	1.5	1.6				
Oil	95.7	97.2	96.6	96.6	95.7	80.0	76.4	74.2	70.7				
Natural gas	0.0	0.0	0.0	0.0	0.0	12.5	13.6	14.1	15.5				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	0.4	2.1	1.9	2.0	3.0	6.0	8.4	10.2	12.2				
Gross Electricity Generation in GWh_e	**1974**	**2473**	**3369**	**4377**	**4709**	**5398**	**6224**	**6902**	**7414**	**5.5**	**3.4**	**2.8**	**1.8**
Self consumption and grid losses	207	236	353	417	421	410	462	505	509	5.5	1.8	0.9	1.0
Fuel Inputs for Thermal Power Generation	**516**	**641**	**884**	**1077**	**1093**	**942**	**999**	**1052**	**997**	**5.5**	**2.1**	**-0.9**	**0.0**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	516	641	884	1077	1085	557	545	548	437	5.5	2.1	-6.7	-2.2
Gas	0	0	0	0	0	365	423	458	505				1.8
Biomass & Waste	0	0	0	0	7	21	31	46	55			16.0	5.7
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**643**	**828**	**1171**	**0**	**4**	**11**	**18**	**25**	**33**	**6.2**	**-44.0**	**17.5**	**6.5**
Refineries	643	828	1171	0	0	0	0	0	0	6.2	-60.7	-0.5	0.0
Biofuels and hydrogen production	0	0	0	0	3	10	18	24	33			17.8	6.5
District heating	0	0	0	0	0	0	0	0	0				
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**41**	**43**	**54**	**22**	**21**	**17**	**18**	**19**	**16**	**2.7**	**-9.1**	**-1.5**	**-1.0**
Non-Energy Uses	**31**	**62**	**84**	**71**	**61**	**60**	**61**	**63**	**67**	**10.6**	**-3.1**	**-0.1**	**1.0**
Final Energy Demand	**1099**	**1414**	**1640**	**1809**	**2072**	**2311**	**2477**	**2589**	**2661**	**4.1**	**2.4**	**1.8**	**0.7**
by sector													
Industry	277	391	442	316	326	350	370	389	399	4.8	-3.0	1.3	0.8
- energy intensive industries	127	220	225	196	205	223	236	249	257	5.9	-0.9	1.4	0.9
- other industrial sectors	150	171	217	120	120	127	134	140	143	3.7	-5.7	1.1	0.6
Residential	110	179	215	319	363	404	450	469	489	6.9	5.4	2.2	0.8
Tertiary	82	91	129	203	314	399	454	505	537	4.6	9.3	3.8	1.7
Transport	629	752	854	972	1070	1157	1203	1226	1236	3.1	2.3	1.2	0.3
by fuel													
Solids	76	13	35	36	37	42	49	48	52	-7.5	0.6	2.9	0.5
Oil	867	1167	1302	1385	1586	1710	1767	1800	1799	4.2	2.0	1.1	0.2
Gas	0	0	0	0	0	0	0	0	0			5.4	-0.8
Electricity	151	191	258	340	369	429	496	550	594	5.5	3.7	3.0	1.8
Heat (from CHP and District Heating) [A]	0	0	0	0	2	3	4	5	4			9.1	0.4
Renew able energy forms	6	42	45	49	78	127	160	186	212	23.2	5.6	7.5	2.9
Other	0	0	0	0	0	0	0	0	0			10.1	0.3
RES in Gross Final Energy Consumption [B]			**44**	**48**	**82**	**167**	**243**	**307**	**370**		**6.4**	**11.4**	**4.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5.5**		**9.5**	**9.4**	**9.9**	**9.5**	**9.8**	**10.2**	**10.0**	**5.7**	**0.4**	**-0.1**	**0.2**
of w hich ETS sectors GHGs emissions				4.9	5.1	4.4	4.7	4.9	4.8			-0.8	0.2
CO_2 Emissions (energy related)	**4.6**	**5.7**	**7.0**	**7.7**	**8.3**	**7.9**	**8.2**	**8.4**	**8.1**	**4.2**	**1.8**	**-0.2**	**0.0**
Pow er generation/District heating	1.7	2.1	2.8	3.5	3.5	2.6	2.7	2.8	2.6	5.5	2.1	-2.4	-0.6
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8			
Industry	0.8	1.1	1.3	0.9	0.9	0.9	1.0	1.0	1.0	4.3	-3.7	1.2	0.5
Residential	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.4	0.4	2.4	7.9	0.2	-1.4
Tertiary	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.5			3.0	1.5
Transport	1.9	2.2	2.5	2.9	3.2	3.4	3.5	3.6	3.6	3.1	2.2	1.1	0.2
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.8**		**2.5**	**1.7**	**1.6**	**1.7**	**1.6**	**1.8**	**1.9**	**11.7**	**-4.5**	**0.3**	**1.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**174.1**	**173.2**	**181.8**	**175.2**	**180.1**	**186.6**	**184.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Cyprus: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.573	0.645	0.690	0.749	0.821	0.888	0.955	1.017	1.072	1.9	1.7	1.5	1.2
GDP (in 000 M€08)	7.9	10.2	12.3	14.4	16.4	19.7	23.8	28.2	32.7	4.6	2.9	3.8	3.2
Gross Inl. Cons./GDP (toe/M€08)	192.7	193.5	194.1	170.9	173.8	147.4	130.5	115.0	99.7	0.1	-1.1	-2.8	-2.7
Carbon intensity (t of CO_2/toe of GIC)	3.04	2.88	2.92	3.13	2.92	2.71	2.64	2.58	2.50	-0.4	0.0	-1.0	-0.5
Import Dependency %	103.9	99.1	98.7	100.8	97.3	94.6	92.5	91.0	89.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.3	2.7	3.5	4.2	4.5		6.4	5.2	3.1
as % of GDP			10.4	13.2	14.4	15.1	16.6	17.1	16.5				
Energy intensity indicators													
Industry (Energy on Value added)	71.9	89.2	100.0	68.2	63.4	58.4	52.7	48.1	44.0	3.4	-4.4	-1.8	-1.8
Residential (Energy on Private Income)	92.3	102.4	100.0	124.2	126.1	115.8	106.3	93.3	83.9	0.8	2.3	-1.7	-2.3
Tertiary (Energy on Value added)	113.7	89.3	100.0	134.4	181.9	191.5	179.6	167.5	153.1	-1.3	6.2	-0.1	-1.6
Passenger transport (toe/Mpkm)	50.5	48.7	46.1	47.4	46.7	44.0	40.6	36.8	33.5	-0.9	0.1	-1.4	-1.9
Freight transport (toe/Mtkm)	216.8	219.8	225.2	226.3	226.1	224.5	216.5	206.6	195.4	0.4	0.0	-0.4	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.84	0.83	0.84	0.79	0.74	0.49	0.44	0.41	0.35	0.0	-1.3	-5.1	-2.3
Final energy demand (t of CO_2/toe)	2.62	2.51	2.46	2.36	2.34	2.27	2.20	2.14	2.09	-0.6	-0.5	-0.6	-0.5
Industry	3.00	2.86	2.87	2.71	2.67	2.65	2.63	2.60	2.57	-0.4	-0.7	-0.1	-0.3
Residential	1.60	1.11	1.05	1.42	1.33	1.21	1.10	0.95	0.87	-4.2	2.4	-1.9	-2.3
Tertiary	0.00	0.00	0.00	0.42	1.10	1.08	1.02	1.04	1.01			-0.7	-0.2
Transport	2.97	2.97	2.98	2.96	2.95	2.94	2.92	2.91	2.89	0.0	-0.1	-0.1	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			3.1	3.0	4.5	8.2	11.1	13.5	16.0				
RES in transport (%)			0.0	0.0	0.5	1.4	2.3	3.3	4.6				
Gross Electricity generation by fuel type (in GWh)			**3369**	**4377**	**4709**	**5398**	**6224**	**6902**	**7414**		**3.4**	**2.8**	**1.8**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			3369	4376	4670	2652	2606	2614	2089		3.3	-5.7	-2.2
Gas (including derived gases)			0	0	0	2323	2693	2928	3532				2.7
Biomass & waste			0	0	28	88	136	218	262			17.0	6.8
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	300	693	949	1104				4.8
Solar, tidal etc.			0	1	11	34	97	192	428			23.9	16.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**940**	**1105**	**1473**	**1816**	**1978**	**2079**	**2624**		**4.6**	**3.0**	**2.9**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	1	7	179	390	564	766			48.6	7.0
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	158	330	445	510				4.4
Solar			0	1	7	21	60	119	256			23.2	15.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			940	1103	1466	1637	1588	1515	1858		4.5	0.8	1.6
of which cogeneration units			0	0	2	5	6	7	9			12.4	4.2
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	566	566	600	1054				6.4
Oil fired			940	1103	1462	1059	1004	889	775		4.5	-3.7	-2.5
Biomass-waste fired			0	0	4	12	19	25	29			17.2	4.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			38.9	42.6	34.6	32.7	34.7	36.7	31.4				
Efficiency for thermal electricity production (%)			32.8	35.0	37.0	46.2	46.8	47.1	50.7				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.3	0.5	0.6	0.6	0.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.8	7.8	14.9	19.7	24.2				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.8	7.8	14.9	19.7	24.2				
Transport sector													
Passenger transport activity (Gpkm)	**8.6**	**10.0**	**12.1**	**13.9**	**16.4**	**18.7**	**21.1**	**23.6**	**26.1**	**3.5**	**3.1**	**2.5**	**2.2**
Public road transport	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.6	1.7	2.8	1.8	1.4	1.1
Private cars and motorcycles	3.1	3.6	4.1	4.9	6.1	6.6	6.9	7.2	7.5	2.8	4.2	1.2	0.9
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	4.7	5.4	6.9	7.7	8.9	10.7	12.7	14.8	16.8	4.0	2.5	3.6	2.9
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.9**	**1.2**	**1.3**	**1.4**	**1.3**	**1.5**	**1.6**	**1.7**	**1.9**	**3.9**	**0.3**	**1.8**	**1.5**
Trucks	0.9	1.2	1.3	1.4	1.3	1.5	1.6	1.7	1.9	3.9	0.3	1.8	1.5
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**629**	**752**	**854**	**972**	**1070**	**1157**	**1203**	**1226**	**1236**	**3.1**	**2.3**	**1.2**	**0.3**
Public road transport	18	21	24	26	28	29	30	30	30	2.6	1.6	0.7	0.0
Private cars and motorcycles	175	200	246	331	393	398	391	370	342	3.5	4.8	0.0	-1.3
Trucks	194	264	295	315	305	335	347	358	362	4.3	0.3	1.3	0.4
Rail	0	0	0	0	0	0	0	0	0				
Aviation	242	267	290	299	344	395	434	468	501	1.8	1.7	2.4	1.4
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Czech Republic: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**40090**	**32221**	**29911**	**32845**	**30291**	**30750**	**31895**	**33277**	**34050**	**-2.9**	**0.1**	**0.5**	**0.7**
Solids	36321	27946	25049	23570	20250	19512	19034	17796	17504	-3.6	-2.1	-0.6	-0.8
Oil	223	296	461	600	200	200	200	200	198	7.5	-8.0	0.0	-0.1
Natural gas	201	198	169	154	162	166	163	156	153	-1.7	-0.4	0.1	-0.6
Nuclear	3246	3155	3506	6379	6834	7675	8841	11040	11988	0.8	6.9	2.6	3.1
Renew able energy sources	100	626	727	2142	2844	3197	3656	4085	4208	22.0	14.6	2.5	1.4
Hydro	100	172	151	205	195	198	203	206	209	4.2	2.6	0.4	0.3
Biomass & Waste	0	454	576	1933	2583	2850	3232	3614	3683		16.2	2.3	1.3
Wind	0	0	0	2	30	61	93	108	122			12.0	2.8
Solar and others	0	0	0	2	36	88	128	157	193			13.5	4.2
Geothermal	0	0	0	0	0	0	0	0	0			2.1	0.1
Net Imports	**7684**	**8716**	**9448**	**12896**	**14056**	**14801**	**14933**	**14435**	**13730**	**2.1**	**4.1**	**0.6**	**-0.8**
Solids	-5690	-5762	-4765	-3179	-3077	-3403	-3497	-3577	-3733				
Oil	8648	8019	7593	9813	10202	11180	11415	11504	11213	-1.3	3.0	1.1	-0.2
- Crude oil and Feedstocks	7440	7071	5655	7857	8251	9000	9179	9247	9127	-2.7	3.8	1.1	-0.1
- Oil products	1209	948	1937	1956	1951	2180	2236	2258	2086	4.8	0.1	1.4	-0.7
Natural gas	4786	6424	7482	7535	7940	8136	8007	7665	7510	4.6	0.6	0.1	-0.6
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Gross Inland Consumption	**48992**	**41605**	**40506**	**45319**	**44347**	**45551**	**46828**	**47711**	**47780**	**-1.9**	**0.9**	**0.5**	**0.2**
Solids	31433	23062	21598	20300	17174	16109	15538	14219	13771	-3.7	-2.3	-1.0	-1.2
Oil	9025	8174	8036	10068	10402	11380	11615	11704	11410	-1.2	2.6	1.1	-0.2
Natural gas	5248	6552	7500	7703	8102	8302	8171	7822	7663	3.6	0.8	0.1	-0.6
Nuclear	3246	3155	3506	6379	6834	7675	8841	11040	11988	0.8	6.9	2.6	3.1
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Renew able energy forms	100	626	727	1955	2653	3031	3502	3946	4100	22.0	13.8	2.8	1.6
as % in Gross Inland Consumption													
Solids	64.2	55.4	53.3	44.8	38.7	35.4	33.2	29.8	28.8				
Oil	18.4	19.6	19.8	22.2	23.5	25.0	24.8	24.5	23.9				
Natural gas	10.7	15.7	18.5	17.0	18.3	18.2	17.4	16.4	16.0				
Nuclear	6.6	7.6	8.7	14.1	15.4	16.8	18.9	23.1	25.1				
Renew able energy forms	0.2	1.5	1.8	4.3	6.0	6.7	7.5	8.3	8.6				
Gross Electricity Generation in GWh_e	**62260**	**60564**	**72898**	**81916**	**80425**	**89581**	**94634**	**103594**	**109713**	**1.6**	**1.0**	**1.6**	**1.5**
Self consumption and grid losses	8840	9047	10756	11776	11085	12310	13085	15363	16769	2.0	0.3	1.7	2.5
Fuel Inputs for Thermal Power Generation	**15255**	**11006**	**15753**	**15729**	**15049**	**14238**	**14066**	**13080**	**12928**	**0.3**	**-0.5**	**-0.7**	**-0.8**
Solids	14213	10002	13911	14061	13393	12258	12040	10877	10584	-0.2	-0.4	-1.1	-1.3
Oil (including refinery gas)	741	311	203	152	41	51	39	35	30	-12.2	-14.7	-0.5	-2.7
Gas	300	573	1270	1292	1205	1350	1240	1233	1221	15.5	-0.5	0.3	-0.2
Biomass & Waste	0	119	369	224	410	578	748	935	1093		1.0	6.2	3.9
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**18077**	**14555**	**11640**	**13441**	**12154**	**12669**	**12759**	**12794**	**12576**	**-4.3**	**0.4**	**0.5**	**-0.1**
Refineries	8005	7299	6218	8278	8519	9291	9480	9551	9432	-2.5	3.2	1.1	-0.1
Biofuels and hydrogen production	0	11	0	3	238	349	463	517	554			6.9	1.8
District heating	1830	1361	966	922	798	688	675	708	635	-6.2	-1.9	-1.7	-0.6
Others	8242	5885	4456	4239	2599	2341	2140	2018	1955	-6.0	-5.2	-1.9	-0.9
Energy Branch Consumption	**2116**	**1673**	**1919**	**1944**	**2040**	**2139**	**2151**	**2279**	**2353**	**-1.0**	**0.6**	**0.5**	**0.9**
Non-Energy Uses	**1713**	**2379**	**2090**	**2939**	**2856**	**3203**	**3341**	**3509**	**3564**	**2.0**	**3.2**	**1.6**	**0.6**
Final Energy Demand	**32224**	**25067**	**23562**	**25846**	**26638**	**28471**	**29199**	**29482**	**29247**	**-3.1**	**1.2**	**0.9**	**0.0**
by sector													
Industry	16258	12339	9723	9593	9311	10042	10137	10153	10108	-5.0	-0.4	0.9	0.0
- energy intensive industries	6961	5795	5990	6654	6058	6376	6295	6240	6150	-1.5	0.1	0.4	-0.2
- other industrial sectors	9297	6544	3733	2939	3252	3666	3841	3913	3959	-8.7	-1.4	1.7	0.3
Residential	7848	5433	5301	6019	6265	6452	6637	6637	6546	-3.8	1.7	0.6	-0.1
Tertiary	5306	4438	4161	4070	4181	4332	4501	4717	4827	-2.4	0.0	0.7	0.7
Transport	2812	2857	4377	6164	6881	7645	7924	7976	7766	4.5	4.6	1.4	-0.2
by fuel													
Solids	13719	5797	4778	3636	2505	2706	2484	2356	2212	-10.0	-6.3	-0.1	-1.2
Oil	6257	5048	5397	6940	7313	7939	8024	7976	7677	-1.5	3.1	0.9	-0.4
Gas	5146	6119	6419	6581	6805	6856	6784	6366	6205	2.2	0.6	0.0	-0.9
Electricity	4142	4129	4243	4750	4957	5512	5987	6379	6652	0.2	1.6	1.9	1.1
Heat (from CHP and District Heating) [A]	2959	3664	2624	2478	3124	3367	3579	3803	3897	-1.2	1.8	1.4	0.9
Renew able energy forms	0	308	102	1461	1934	2091	2339	2600	2602		34.2	1.9	1.1
Other	0	0	0	0	1	1	1	2	2			10.8	0.5
RES in Gross Final Energy Consumption [B]			**454**	**1663**	**2370**	**2731**	**3210**	**3657**	**3810**		**18.0**	**3.1**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**207.5**		**150.8**	**149.5**	**140.1**	**137.7**	**135.1**	**125.0**	**117.9**	**-3.1**	**-0.7**	**-0.4**	**-1.4**
of w hich ETS sectors GHGs emissions				86.5	77.7	73.1	71.9	63.4	58.1			-0.8	-2.1
CO_2 Emissions (energy related)	**158.4**	**104.2**	**117.9**	**118.5**	**110.9**	**109.0**	**106.7**	**96.5**	**89.4**	**-2.9**	**-0.6**	**-0.4**	**-1.8**
Pow er generation/District heating	67.0	48.0	64.0	64.2	60.4	55.7	54.5	46.0	40.8	-0.4	-0.6	-1.0	-2.9
Energy Branch	2.3	1.6	2.2	2.4	1.9	1.9	1.8	1.7	1.7	-0.4	-1.3	-0.8	-0.4
Industry	46.9	27.6	24.5	21.6	16.9	17.9	16.8	15.8	15.0	-6.3	-3.6	-0.1	-1.2
Residential	21.6	9.9	8.1	6.9	6.9	7.0	6.9	6.4	6.3	-9.3	-1.6	0.0	-0.9
Tertiary	13.2	9.3	6.7	5.6	5.5	5.3	5.1	4.9	4.8	-6.5	-1.9	-0.8	-0.6
Transport	7.5	7.8	12.4	17.8	19.3	21.2	21.7	21.7	20.9	5.1	4.5	1.2	-0.4
CO_2 Emissions (non energy related)	**18.3**	**13.5**	**12.4**	**11.3**	**10.2**	**11.0**	**11.5**	**11.9**	**12.0**	**-3.8**	**-1.9**	**1.2**	**0.5**
Non-CO_2 GHGs Emissions	**30.8**		**20.5**	**19.7**	**19.0**	**17.7**	**16.9**	**16.6**	**16.5**	**-4.0**	**-0.8**	**-1.2**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**72.7**	**72.0**	**67.5**	**66.4**	**65.1**	**60.2**	**56.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)												Czech Republic: Baseline 2009	
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.362	10.333	10.278	10.221	10.394	10.497	10.543	10.516	10.420	-0.1	0.1	0.1	-0.1
GDP (in 000 M€08)	85.9	81.8	88.1	105.8	120.7	142.4	162.9	178.9	192.8	0.3	3.2	3.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	570.4	508.4	459.8	428.2	367.3	319.9	287.5	266.7	247.8	-2.1	-2.2	-2.4	-1.5
Carbon intensity (t of CO_2/toe of GIC)	3.23	2.50	2.91	2.62	2.50	2.39	2.28	2.02	1.87	-1.0	-1.5	-0.9	-2.0
Import Dependency %	15.7	21.0	23.3	28.5	31.7	32.5	31.9	30.3	28.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.2	19.1	21.0	26.2	32.5	36.7	38.2		2.9	5.5	2.5
as % of GDP			18.4	18.1	17.9	20.2	22.6	24.0	24.5				
Energy intensity indicators													
Industry (Energy on Value added)	196.2	170.1	100.0	73.8	61.5	56.2	50.7	46.9	43.9	-6.5	-4.7	-1.9	-1.4
Residential (Energy on Private Income)	163.9	117.2	100.0	97.2	90.2	79.3	71.4	65.2	60.0	-4.8	-1.0	-2.3	-1.7
Tertiary (Energy on Value added)	194.0	113.2	100.0	80.7	73.4	63.3	56.6	53.4	50.3	-6.4	-3.0	-2.6	-1.2
Passenger transport (toe/Mpkm)	19.6	19.5	25.5	31.2	30.7	28.6	26.9	25.4	23.4	2.6	1.9	-1.3	-1.4
Freight transport (toe/Mtkm)	18.9	18.1	31.8	45.8	46.1	45.9	44.1	42.1	39.7	5.4	3.8	-0.4	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.44	0.57	0.53	0.46	0.38	0.35	0.28	0.24	-1.0	-2.2	-2.5	-3.9
Final energy demand (t of CO_2/toe)	2.77	2.18	2.19	2.01	1.82	1.80	1.73	1.66	1.60	-2.3	-1.8	-0.5	-0.7
Industry	2.88	2.24	2.52	2.25	1.82	1.78	1.66	1.56	1.48	-1.3	-3.2	-0.9	-1.1
Residential	2.75	1.83	1.53	1.15	1.10	1.08	1.04	0.96	0.96	-5.7	-3.3	-0.6	-0.8
Tertiary	2.48	2.09	1.61	1.37	1.32	1.22	1.13	1.05	0.99	-4.2	-2.0	-1.5	-1.3
Transport	2.68	2.71	2.83	2.89	2.80	2.77	2.74	2.72	2.69	0.6	-0.1	-0.2	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			1.8	6.1	8.4	9.0	10.3	11.6	12.1				
RES in transport (%)			0.2	0.2	3.9	5.1	6.6	7.4	8.2				
Gross Electricity generation by fuel type (in GWh)			**72898**	**81916**	**80425**	**89581**	**94634**	**103594**	**109713**		**1.0**	**1.6**	**1.5**
Nuclear energy			13588	24724	26495	29753	34627	44076	48207		6.9	2.7	3.4
Coal and lignite			52069	48848	43057	46004	46070	44677	46059		-1.9	0.7	0.0
Petroleum products			421	416	203	264	205	184	157		-7.0	0.1	-2.6
Gas (including derived gases)			3893	4714	6384	7679	6957	6900	6529		5.1	0.9	-0.6
Biomass & waste			1170	814	1606	2690	3109	3848	4638		3.2	6.8	4.1
Hydro			1758	2380	2263	2306	2361	2390	2433		2.6	0.4	0.3
Wind			0	21	348	713	1077	1256	1418			12.0	2.8
Solar, tidal etc.			0	0	70	172	228	261	273			12.6	1.8
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13222**	**15228**	**14760**	**17262**	**18014**	**19298**	**20304**		**1.1**	**2.0**	**1.2**
Nuclear energy			1706	3621	3636	3651	4259	5406	5908		7.9	1.6	3.3
Renewable energy			948	1045	1508	1966	2421	2664	2854		4.7	4.8	1.7
Hydro (pumping excluded)			947	1016	1045	1053	1065	1083	1088		1.0	0.2	0.2
Wind			1	29	364	734	1119	1310	1483		80.3	11.9	2.9
Solar			0	0	99	179	236	271	283			9.1	1.8
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10568	10563	9616	11645	11334	11227	11542		-0.9	1.7	0.2
of which cogeneration units			3510	3621	4092	5306	5661	6008	6273		1.5	3.3	1.0
of which CCS units			0	0	0	0	0	439	933				
Solids fired			9090	8987	7985	9858	9502	9298	9522		-1.3	1.8	0.0
Gas fired			1207	1300	1333	1324	1326	1324	1342		1.0	-0.1	0.1
Oil fired			129	133	136	271	200	173	154		0.6	3.9	-2.6
Biomass-waste fired			143	143	162	191	307	431	524		1.3	6.6	5.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	56.5	57.8	55.1	55.9	56.4	56.4				
Efficiency for thermal electricity production (%)			31.4	30.0	29.3	34.2	34.4	36.6	38.2				
CHP indicator (% of electricity from CHP)			19.4	18.1	26.5	39.6	39.4	39.0	39.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	4.6	8.7				
Non fossil fuels in electricity generation (%)			22.7	34.1	38.3	39.8	43.7	50.0	51.9				
- nuclear			18.6	30.2	32.9	33.2	36.6	42.5	43.9				
- renewable energy forms and industrial waste			4.0	3.9	5.3	6.6	7.2	7.5	8.0				
Transport sector													
Passenger transport activity (Gpkm)	**85.3**	**96.3**	**103.4**	**111.9**	**122.0**	**139.2**	**151.6**	**160.8**	**168.7**	**1.9**	**1.7**	**2.2**	**1.1**
Public road transport	14.1	18.6	16.2	15.6	16.3	17.2	17.9	18.4	18.8	1.4	0.1	1.0	0.5
Private cars and motorcycles	45.7	58.1	66.8	71.8	79.8	91.9	98.7	101.9	105.7	3.9	1.8	2.2	0.7
Rail	20.9	15.7	15.4	14.6	14.7	15.3	16.0	16.7	17.2	-3.0	-0.4	0.8	0.7
Aviation	4.6	3.9	5.0	9.9	11.3	14.8	19.0	23.8	27.1	0.7	8.6	5.3	3.6
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**60.3**	**54.2**	**54.9**	**58.4**	**68.1**	**79.7**	**87.3**	**92.6**	**96.3**	**-0.9**	**2.2**	**2.5**	**1.0**
Trucks	18.6	31.3	37.3	43.4	51.3	60.6	66.4	70.4	73.4	7.2	3.2	2.6	1.0
Rail	38.0	22.6	17.5	14.9	16.7	19.0	20.9	22.1	22.8	-7.5	-0.4	2.2	0.9
Inland navigation	3.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-31.8	-1.0	1.8	0.5
Energy demand in transport (ktoe)	**2812**	**2857**	**4377**	**6164**	**6881**	**7645**	**7924**	**7976**	**7766**	**4.5**	**4.6**	**1.4**	**-0.2**
Public road transport	100	131	112	107	110	114	113	111	107	1.1	-0.1	0.3	-0.6
Private cars and motorcycles	1351	1518	2249	2961	3172	3312	3315	3239	3058	5.2	3.5	0.4	-0.8
Trucks	768	783	1509	2476	2915	3412	3604	3655	3620	7.0	6.8	2.1	0.0
Rail	272	200	304	272	290	312	305	295	259	1.1	-0.5	0.5	-1.6
Aviation	174	185	197	344	388	488	579	669	715	1.3	7.0	4.1	2.1
Inland navigation	147	40	5	5	6	6	7	7	7	-28.6	1.2	1.7	0.4

Source: PRIMES

Denmark: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**10062**	**15593**	**27665**	**31280**	**25952**	**22971**	**19361**	**17572**	**15448**	**10.6**	**-0.6**	**-2.9**	**-2.2**
Solids	0	0	0	0	0	0	0	0	0				
Oil	6093	9357	18189	18942	14670	12500	9500	8500	7500	11.6	-2.1	-4.3	-2.3
Natural gas	2770	4702	7412	9383	8100	6980	6040	4800	3500	10.3	0.9	-2.9	-5.3
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1199	1534	2065	2955	3182	3491	3821	4272	4448	5.6	4.4	1.8	1.5
Hydro	2	3	3	2	2	2	2	2	2	1.1	-3.5	2.4	-0.1
Biomass & Waste	1140	1423	1687	2371	2460	2526	2662	2799	2895	4.0	3.8	0.8	0.8
Wind	52	101	365	569	686	888	1034	1280	1322	21.4	6.5	4.2	2.5
Solar and others	2	5	8	10	33	75	122	190	229	12.9	15.3	13.9	6.5
Geothermal	2	2	3	3	0	0	0	0	0	1.9	-36.1	1.0	0.4
Net Imports	**8621**	**7544**	**-7259**	**-10433**	**-6143**	**-3306**	**501**	**2151**	**3993**				**23.1**
Solids	6216	7664	3784	3540	3311	2906	2712	2536	2435	-4.8	-1.3	-2.0	-1.1
Oil	2727	1439	-8277	-9388	-6466	-4421	-1530	-678	-77				
- Crude oil and Feedstocks	2036	804	-9803	-11214	-7199	-5096	-2156	-1233	-431				
- Oil products	691	635	1526	1826	733	675	625	555	354	8.3	-7.1	-1.6	-5.5
Natural gas	-928	-1496	-2882	-5010	-3584	-2671	-1746	-934	352				
Electricity	606	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Gross Inland Consumption	**17893**	**20283**	**19522**	**19702**	**19049**	**18879**	**19061**	**18903**	**18600**	**0.9**	**-0.2**	**0.0**	**-0.2**
Solids	6088	6498	3987	3751	3311	2906	2712	2536	2435	-4.1	-1.8	-2.0	-1.1
Oil	8181	9143	8905	8171	7444	7294	7169	7002	6581	0.9	-1.8	-0.4	-0.9
Natural gas	1818	3170	4449	4399	4516	4309	4294	3866	3852	9.4	0.1	-0.5	-1.1
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	608	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Renew able energy forms	1199	1540	2124	3262	3685	4251	4750	5315	5547	5.9	5.7	2.6	1.6
as % in Gross Inland Consumption													
Solids	34.0	32.0	20.4	19.0	17.4	15.4	14.2	13.4	13.1				
Oil	45.7	45.1	45.6	41.5	39.1	38.6	37.6	37.0	35.4				
Natural gas	10.2	15.6	22.8	22.3	23.7	22.8	22.5	20.5	20.7				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	6.7	7.6	10.9	16.6	19.3	22.5	24.9	28.1	29.8				
Gross Electricity Generation in GWh_e	**25733**	**36648**	**36043**	**36348**	**36656**	**37969**	**39018**	**40545**	**41859**	**3.4**	**0.2**	**0.6**	**0.7**
Self consumption and grid losses	3289	4389	3708	3457	3323	3243	3318	3807	3938	1.2	-1.1	0.0	1.7
Fuel Inputs for Thermal Power Generation	**6016**	**8423**	**7821**	**7165**	**6364**	**6344**	**6319**	**6247**	**6359**	**2.7**	**-2.0**	**-0.1**	**0.1**
Solids	5541	6061	3667	3444	3102	2709	2520	2347	2237	-4.0	-1.7	-2.1	-1.2
Oil (including refinery gas)	237	1008	1344	344	69	62	58	75	33	19.0	-25.7	-1.7	-5.5
Gas	174	975	2112	2003	1757	1813	1887	1607	1567	28.4	-1.8	0.7	-1.8
Biomass & Waste	65	378	699	1374	1436	1759	1854	2219	2522	26.9	7.5	2.6	3.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9099**	**10781**	**9008**	**8362**	**8395**	**8228**	**8340**	**8256**	**8035**	**-0.1**	**-0.7**	**-0.1**	**-0.4**
Refineries	8048	9985	8472	7841	7471	7404	7344	7267	7069	0.5	-1.2	-0.2	-0.4
Biofuels and hydrogen production	0	0	0	0	134	220	315	343	369			8.9	1.6
District heating	1009	766	519	508	790	604	681	647	596	-6.4	4.3	-1.5	-1.3
Others	42	31	17	13	0	0	0	0	0	-8.4			
Energy Branch Consumption	**733**	**1010**	**1157**	**1264**	**1246**	**1167**	**1135**	**1078**	**1031**	**4.7**	**0.7**	**-0.9**	**-1.0**
Non-Energy Uses	**299**	**298**	**298**	**285**	**263**	**277**	**287**	**301**	**317**	**0.0**	**-1.2**	**0.9**	**1.0**
Final Energy Demand	**13522**	**14750**	**14638**	**15457**	**15064**	**15304**	**15469**	**15447**	**15214**	**0.8**	**0.3**	**0.3**	**-0.2**
by sector													
Industry	2715	3031	2941	2866	2612	2503	2527	2575	2621	0.8	-1.2	-0.3	0.4
- energy intensive industries	1078	1125	1149	1117	979	932	936	949	961	0.6	-1.6	-0.4	0.3
- other industrial sectors	1637	1906	1792	1749	1633	1572	1590	1626	1660	0.9	-0.9	-0.3	0.4
Residential	3954	4474	4158	4462	4520	4721	4781	4786	4779	0.5	0.8	0.6	0.0
Tertiary	2829	2786	2807	2861	2832	2870	2924	2990	3013	-0.1	0.1	0.3	0.3
Transport	4024	4460	4732	5269	5100	5210	5238	5096	4802	1.6	0.8	0.3	-0.9
by fuel													
Solids	396	405	290	253	207	196	191	187	198	-3.1	-3.3	-0.8	0.4
Oil	7127	7162	6979	7234	6613	6498	6365	6196	5849	-0.2	-0.5	-0.4	-0.8
Gas	1159	1691	1667	1702	1785	1752	1637	1553	1493	3.7	0.7	-0.9	-0.9
Electricity	2517	2655	2791	2877	2895	3042	3143	3282	3385	1.0	0.4	0.8	0.7
Heat (from CHP and District Heating) [A]	1758	2242	2255	2444	2449	2665	2726	2821	2841	2.5	0.8	1.1	0.4
Renew able energy forms	566	595	657	947	1114	1151	1407	1407	1447	1.5	5.4	2.4	0.3
Other	0	0	0	0	0	1	1	1	1			8.3	0.5
RES in Gross Final Energy Consumption [B]			**1812**	**2774**	**3131**	**3790**	**4282**	**4828**	**5068**		**5.6**	**3.2**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**69.5**		**69.4**	**64.5**	**59.8**	**57.1**	**56.0**	**53.8**	**52.0**	**0.0**	**-1.5**	**-0.7**	**-0.7**
of w hich ETS sectors GHGs emissions				29.2	25.1	23.3	23.3	22.1	21.3			-0.8	-0.9
CO_2 Emissions (energy related)	**51.7**	**59.3**	**52.3**	**48.9**	**44.6**	**42.1**	**41.0**	**38.8**	**37.0**	**0.1**	**-1.6**	**-0.9**	**-1.0**
Pow er generation/District heating	24.5	30.2	24.0	19.7	17.4	15.5	15.1	13.9	13.3	-0.2	-3.2	-1.4	-1.3
Energy Branch	1.5	2.0	2.4	2.5	2.4	2.3	2.2	2.0	1.9	4.9	0.3	-1.0	-1.6
Industry	5.4	5.9	5.2	4.9	4.1	3.6	3.5	3.5	3.4	-0.3	-2.4	-1.5	-0.2
Residential	4.9	4.9	3.9	3.5	3.6	3.6	3.2	2.9	2.8	-2.3	-0.7	-1.3	-1.2
Tertiary	3.6	3.1	2.9	2.7	2.4	2.4	2.4	2.4	2.5	-2.0	-1.9	-0.1	0.4
Transport	11.9	13.2	13.9	15.6	14.7	14.8	14.6	14.1	13.1	1.6	0.5	-0.1	-1.1
CO_2 Emissions (non energy related)	**1.5**	**1.9**	**2.4**	**2.2**	**2.1**	**2.2**	**2.2**	**2.3**	**2.3**	**4.8**	**-1.3**	**0.4**	**0.4**
Non-CO_2 GHGs Emissions	**16.3**		**14.7**	**13.4**	**13.1**	**12.8**	**12.8**	**12.7**	**12.7**	**-1.0**	**-1.2**	**-0.2**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.9**	**92.7**	**86.0**	**82.1**	**80.5**	**77.3**	**74.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Denmark: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.135	5.216	5.330	5.411	5.512	5.591	5.661	5.736	5.808	0.4	0.3	0.3	0.3
GDP (in 000 M€08)	159.3	178.8	205.8	219.1	220.8	239.7	259.7	283.4	305.9	2.6	0.7	1.6	1.7
Gross Inl. Cons./GDP (toe/M€08)	112.3	113.4	94.8	89.9	86.3	78.7	73.4	66.7	60.8	-1.7	-0.9	-1.6	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.89	2.92	2.68	2.48	2.34	2.23	2.15	2.05	1.99	-0.7	-1.3	-0.9	-0.8
Import Dependency %	45.7	34.5	-34.8	-50.8	-31.0	-16.8	2.5	10.9	20.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			17.8	19.3	19.7	22.3	25.9	28.4	29.4		1.2	3.4	2.3
as % of GDP			8.7	8.8	9.1	9.8	10.8	11.4	11.5				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	105.9	100.0	91.7	84.4	75.8	71.6	66.9	63.6	-0.5	-1.7	-1.6	-1.2
Residential (Energy on Private Income)	114.7	115.7	100.0	96.2	100.0	97.2	91.3	84.2	77.4	-1.4	0.0	-0.9	-1.6
Tertiary (Energy on Value added)	127.4	113.7	100.0	97.5	94.1	86.7	81.3	76.1	70.9	-2.4	-0.6	-1.5	-1.4
Passenger transport (toe/Mpkm)	36.5	37.6	38.1	41.0	39.7	36.8	35.5	32.4	28.7	0.4	0.4	-1.1	-2.1
Freight transport (toe/Mtkm)	69.2	66.4	66.6	74.5	74.0	73.5	70.4	66.9	61.9	-0.4	1.1	-0.5	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.48	0.43	0.35	0.27	0.24	0.20	0.19	0.17	0.16	-3.1	-3.7	-2.2	-1.7
Final energy demand (t of CO_2/toe)	1.91	1.84	1.77	1.73	1.65	1.59	1.53	1.49	1.43	-0.7	-0.7	-0.7	-0.6
Industry	1.98	1.95	1.77	1.70	1.57	1.43	1.39	1.37	1.31	-1.1	-1.2	-1.2	-0.5
Residential	1.24	1.09	0.94	0.79	0.80	0.76	0.67	0.61	0.59	-2.8	-1.6	-1.8	-1.2
Tertiary	1.27	1.12	1.04	0.94	0.85	0.82	0.82	0.81	0.83	-1.9	-2.0	-0.4	0.1
Transport	2.96	2.95	2.95	2.96	2.88	2.84	2.78	2.76	2.72	0.0	-0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			11.7	16.9	19.6	23.4	26.3	29.8	31.5				
RES in transport (%)			0.1	0.2	3.5	5.7	8.3	9.5	11.1				
Gross Electricity generation by fuel type (in GWh)			**36043**	**36348**	**36656**	**37969**	**39018**	**40545**	**41859**		**0.2**	**0.6**	**0.7**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15757	15052	13764	12061	11159	9839	9636		-1.3	-2.1	-1.5
Petroleum products			4920	1371	317	252	232	284	133		-24.0	-3.1	-5.4
Gas (including derived gases)			9246	9308	9327	8954	9182	7690	7523		0.1	-0.2	-2.0
Biomass & waste			1849	3982	5239	6318	6334	7740	9063		11.0	1.9	3.6
Hydro			30	23	21	27	27	25	26		-3.5	2.4	-0.1
Wind			4240	6613	7981	10321	12027	14887	15374		6.5	4.2	2.5
Solar, tidal etc.			0	0	6	36	57	78	104			24.5	6.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**12431**	**13128**	**13199**	**12853**	**12092**	**12987**	**13456**		**0.6**	**-0.9**	**1.1**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2403	3143	3746	4251	4811	5783	5983		4.5	2.5	2.2
Hydro (pumping excluded)			10	11	11	11	11	11	11		1.0	0.0	0.0
Wind			2392	3129	3719	4202	4741	5690	5864		4.5	2.5	2.1
Solar			1	3	16	38	60	81	109		32.0	14.0	6.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10028	9985	9452	8603	7281	7204	7473		-0.6	-2.6	0.3
of which cogeneration units			4488	4691	4692	5044	4955	5063	5354		0.4	0.5	0.8
of which CCS units			0	0	0	0	0	0	41				
Solids fired			6232	5752	5269	4451	3503	3466	3459		-1.7	-4.0	-0.1
Gas fired			2092	2257	2227	2232	2376	2371	2552		0.6	0.6	0.7
Oil fired			1124	1099	1022	982	387	228	117		-0.9	-9.2	-11.3
Biomass-waste fired			581	877	934	937	1015	1138	1345		4.9	0.8	2.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			31.6	30.0	30.3	32.4	35.5	34.0	33.9				
Efficiency for thermal electricity production (%)			34.9	35.7	38.7	37.4	36.6	35.2	35.6				
CHP indicator (% of electricity from CHP)			55.4	59.0	65.9	66.4	62.0	57.4	57.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.8				
Non fossil fuels in electricity generation (%)			17.0	29.2	36.1	44.0	47.3	56.1	58.7				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			17.0	29.2	36.1	44.0	47.3	56.1	58.7				
Transport sector													
Passenger transport activity (Gpkm)	**68.9**	**71.6**	**76.1**	**79.5**	**82.8**	**88.9**	**92.6**	**96.8**	**100.5**	**1.0**	**0.8**	**1.1**	**0.8**
Public road transport	6.4	7.3	7.4	7.3	7.4	7.8	8.0	8.3	8.5	1.4	0.0	0.8	0.6
Private cars and motorcycles	48.0	49.1	51.9	53.7	56.1	59.6	60.4	61.4	62.1	0.8	0.8	0.7	0.3
Rail	5.1	4.9	5.5	6.1	6.4	6.8	7.3	7.8	8.3	0.9	1.4	1.4	1.2
Aviation	5.2	6.5	7.9	9.3	9.8	11.5	13.5	15.7	17.9	4.3	2.2	3.2	2.9
Inland navigation	4.2	3.8	3.3	3.0	3.1	3.2	3.4	3.6	3.7	-2.5	-0.6	0.9	0.9
Freight transport activity (Gtkm)	**21.7**	**26.7**	**27.5**	**27.0**	**24.5**	**26.3**	**27.6**	**29.3**	**30.9**	**2.4**	**-1.1**	**1.2**	**1.1**
Trucks	18.1	22.4	24.0	23.3	21.0	22.6	23.8	25.2	26.6	2.9	-1.3	1.2	1.1
Rail	1.7	2.0	2.0	2.0	1.8	1.9	2.0	2.1	2.3	1.6	-1.2	1.1	1.4
Inland navigation	1.9	2.3	1.5	1.7	1.7	1.8	1.9	2.0	2.0	-2.4	1.5	0.8	0.7
Energy demand in transport (ktoe)	**4024**	**4460**	**4732**	**5269**	**5100**	**5210**	**5238**	**5096**	**4802**	**1.6**	**0.8**	**0.3**	**-0.9**
Public road transport	59	74	76	75	75	77	76	74	71	2.6	-0.1	0.1	-0.6
Private cars and motorcycles	1627	1776	1882	2100	2098	1994	1857	1657	1484	1.5	1.1	-1.2	-2.2
Trucks	1383	1636	1735	1908	1719	1836	1852	1868	1858	2.3	-0.1	0.7	0.0
Rail	114	118	103	107	97	100	95	90	55	-1.0	-0.6	-0.3	-5.3
Aviation	690	675	820	943	971	1057	1207	1250	1171	1.7	1.7	2.2	-0.3
Inland navigation	150	182	116	136	139	145	151	158	163	-2.6	1.9	0.8	0.7

Source: PRIMES

Estonia: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5500**	**3354**	**3186**	**4210**	**3307**	**3838**	**4108**	**4124**	**4179**	**-5.3**	**0.4**	**2.2**	**0.2**
Solids	5050	2868	2672	3176	2438	2763	2797	2752	2761	-6.2	-0.9	1.4	-0.1
Oil	0	0	2	354	120	90	74	60	38		51.3	-4.7	-6.4
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	450	487	512	680	749	985	1237	1312	1379	1.3	3.9	5.2	1.1
Hydro	0	0	0	2	1	1	2	2	2		13.2	1.7	1.0
Biomass & Waste	450	486	512	674	728	919	1119	1172	1178	1.3	3.6	4.4	0.5
Wind	0	0	0	5	18	62	112	133	193		70.7	20.0	5.5
Solar and others	0	0	0	0	1	3	4	5	6			11.4	4.6
Geothermal	0	0	0	0	0	0	0	0	0			1.9	1.6
Net Imports	**4470**	**1995**	**1593**	**1471**	**1693**	**1713**	**1565**	**1619**	**1645**	**-9.8**	**0.6**	**-0.8**	**0.5**
Solids	697	293	272	30	87	84	82	76	75	-9.0	-10.7	-0.6	-0.9
Oil	3153	1185	744	873	1088	1259	1287	1324	1298	-13.4	3.9	1.7	0.1
- Crude oil and Feedstocks	0	0	0	0	1	1	1	1	1			1.1	0.0
- Oil products	3153	1185	744	873	1087	1258	1286	1322	1297	-13.4	3.9	1.7	0.1
Natural gas	1222	583	662	800	813	847	889	909	938	-5.9	2.1	0.9	0.5
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Gross Inland Consumption	**9919**	**5347**	**4696**	**5559**	**4873**	**5415**	**5531**	**5592**	**5665**	**-7.2**	**0.4**	**1.3**	**0.2**
Solids	5967	3310	2974	3191	2526	2847	2879	2829	2836	-6.7	-1.6	1.3	-0.2
Oil	2872	1039	627	1118	1082	1211	1218	1233	1178	-14.1	5.6	1.2	-0.3
Natural gas	1222	583	662	800	813	847	889	909	938	-5.9	2.1	0.9	0.5
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Renew able energy forms	460	481	513	589	603	732	840	921	1014	1.1	1.6	3.4	1.9
as % in Gross Inland Consumption													
Solids	60.2	61.9	63.3	57.4	51.8	52.6	52.1	50.6	50.1				
Oil	28.9	19.4	13.4	20.1	22.2	22.4	22.0	22.1	20.8				
Natural gas	12.3	10.9	14.1	14.4	16.7	15.6	16.1	16.3	16.6				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	4.6	9.0	10.9	10.6	12.4	13.5	15.2	16.5	17.9				
Gross Electricity Generation in GWh_e	**17178**	**8691**	**8511**	**10203**	**10687**	**12759**	**14281**	**14871**	**15578**	**-6.8**	**2.3**	**2.9**	**0.9**
Self consumption and grid losses	2879	2858	2162	2194	2252	2456	2528	2503	2449	-2.8	0.4	1.2	-0.3
Fuel Inputs for Thermal Power Generation	**5654**	**2673**	**2439**	**2539**	**2560**	**2907**	**2935**	**2903**	**2910**	**-8.1**	**0.5**	**1.4**	**-0.1**
Solids	5085	2491	2200	2294	2367	2661	2657	2597	2600	-8.0	0.7	1.2	-0.2
Oil (including refinery gas)	210	80	12	10	0	2	3	2	2	-25.2			-2.9
Gas	357	100	226	227	167	168	146	139	116	-4.5	-2.9	-1.4	-2.3
Biomass & Waste	2	2	2	8	25	77	128	164	192	-0.3	28.5	17.6	4.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1906**	**788**	**662**	**725**	**473**	**501**	**500**	**497**	**490**	**-10.0**	**-3.3**	**0.6**	**-0.2**
Refineries	1	1	1	1	1	1	1	1	1	0.0	-0.1	1.1	0.0
Biofuels and hydrogen production	0	0	0	0	18	26	34	41	49			6.4	3.6
District heating	1607	501	456	495	448	470	462	453	439	-11.8	-0.2	0.3	-0.5
Others	299	287	206	229	6	3	2	2	1	-3.7	-30.2	-8.8	-4.2
Energy Branch Consumption	**295**	**148**	**172**	**196**	**186**	**201**	**208**	**207**	**203**	**-5.3**	**0.8**	**1.1**	**-0.2**
Non-Energy Uses	**170**	**230**	**220**	**231**	**210**	**263**	**301**	**330**	**336**	**2.6**	**-0.4**	**3.6**	**1.1**
Final Energy Demand	**6018**	**2496**	**2365**	**2783**	**2807**	**3098**	**3262**	**3391**	**3483**	**-8.9**	**1.7**	**1.5**	**0.7**
by sector													
Industry	2735	787	529	645	695	844	927	995	1068	-15.2	2.8	2.9	1.4
- energy intensive industries	666	429	200	192	189	220	237	245	252	-11.3	-0.5	2.2	0.6
- other industrial sectors	2069	358	328	453	505	624	691	750	816	-16.8	4.4	3.2	1.7
Residential	1277	966	928	889	880	913	935	944	939	-3.1	-0.5	0.6	0.0
Tertiary	1166	252	329	479	443	496	518	537	545	-11.9	3.0	1.6	0.5
Transport	841	492	579	769	789	845	882	914	931	-3.7	3.1	1.1	0.5
by fuel													
Solids	703	193	117	98	101	132	166	179	177	-16.4	-1.5	5.1	0.7
Oil	1808	858	750	965	977	1062	1069	1085	1052	-8.4	2.7	0.9	-0.2
Gas	439	202	134	207	230	254	291	298	322	-11.2	5.5	2.4	1.0
Electricity	585	386	427	518	546	636	688	738	803	-3.1	2.5	2.3	1.6
Heat (from CHP and District Heating) [A]	2086	593	511	547	518	574	602	622	631	-13.1	0.1	1.5	0.5
Renew able energy forms	397	265	425	447	436	440	445	468	496	0.7	0.3	0.2	1.1
Other	0	0	0	0	0	0	0	0	0			11.0	3.0
RES in Gross Final Energy Consumption [B]			**426**	**548**	**577**	**696**	**781**	**860**	**951**		**3.1**	**3.1**	**2.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**43.7**		**17.6**	**18.4**	**18.2**	**20.0**	**20.4**	**20.3**	**20.3**	**-8.7**	**0.4**	**1.1**	**0.0**
of w hich ETS sectors GHGs emissions				12.5	12.3	13.8	13.9	13.7	13.8			1.2	-0.1
CO_2 Emissions (energy related)	**37.1**	**16.0**	**13.9**	**15.0**	**15.1**	**16.8**	**17.0**	**16.8**	**16.7**	**-9.4**	**0.9**	**1.2**	**-0.2**
Pow er generation/District heating	27.3	12.1	10.7	11.1	11.1	12.3	12.3	12.0	11.9	-8.9	0.3	1.0	-0.3
Energy Branch	0.4	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	-11.7	0.9	0.4	-1.2
Industry	4.6	1.7	0.8	0.8	1.0	1.3	1.4	1.5	1.5	-16.1	2.1	4.0	0.1
Residential	1.2	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-13.5	-3.1	-1.1	-0.6
Tertiary	1.2	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.5	-14.1	4.8	0.6	0.6
Transport	2.4	1.4	1.7	2.3	2.3	2.4	2.5	2.6	2.5	-3.6	3.0	1.0	0.1
CO_2 Emissions (non energy related)	**0.9**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**	**-4.7**	**-0.3**	**3.7**	**1.9**
Non-CO_2 GHGs Emissions	**5.6**		**3.1**	**2.8**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**-5.7**	**-2.0**	**0.1**	**0.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**40.2**	**42.2**	**41.7**	**45.8**	**46.6**	**46.4**	**46.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Estonia: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.571	1.448	1.372	1.348	1.333	1.323	1.311	1.292	1.267	-1.3	-0.3	-0.2	-0.3
GDP (in 000 M€08)	8.8	6.0	8.0	11.7	11.8	14.2	16.3	18.3	20.5	-0.9	3.9	3.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	1132.1	893.0	585.0	474.5	412.2	381.0	339.2	305.1	276.6	-6.4	-3.4	-1.9	-2.0
Carbon intensity (t of CO_2/toe of GIC)	3.74	2.99	2.96	2.70	3.10	3.11	3.07	3.00	2.95	-2.3	0.5	-0.1	-0.4
Import Dependency %	44.3	36.7	33.2	25.9	33.9	30.9	27.6	28.2	28.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.1	2.6	3.2	3.7	3.9		5.0	5.3	2.7
as % of GDP			16.7	16.2	18.3	20.1	22.3	23.5	23.1				
Energy intensity indicators													
Industry (Energy on Value added)	319.4	219.8	100.0	69.4	62.6	59.1	56.2	53.1	50.4	-11.0	-4.6	-1.1	-1.1
Residential (Energy on Private Income)	136.3	146.4	100.0	60.7	69.8	63.0	58.4	54.4	49.5	-3.1	-3.5	-1.8	-1.6
Tertiary (Energy on Value added)	402.7	106.6	100.0	104.0	106.8	95.0	86.6	79.6	71.9	-13.0	0.7	-2.1	-1.8
Passenger transport (toe/Mpkm)	37.6	42.8	33.8	32.2	31.5	29.4	28.5	27.4	25.8	-1.1	-0.7	-1.0	-1.0
Freight transport (toe/Mtkm)	40.4	26.9	19.1	19.0	22.4	22.2	22.1	22.1	21.7	-7.2	1.6	-0.1	-0.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.70	0.67	0.62	0.62	0.59	0.54	0.51	0.50	0.5	-0.9	-1.3	-0.9
Final energy demand (t of CO_2/toe)	1.56	1.55	1.28	1.36	1.38	1.40	1.41	1.39	1.34	-2.0	0.8	0.2	-0.5
Industry	1.66	2.18	1.50	1.27	1.40	1.52	1.55	1.48	1.37	-1.1	-0.7	1.1	-1.3
Residential	0.93	0.48	0.30	0.25	0.23	0.19	0.20	0.18	0.18	-10.6	-2.6	-1.7	-0.7
Tertiary	1.05	1.00	0.82	0.98	0.96	0.90	0.88	0.90	0.89	-2.5	1.7	-0.9	0.1
Transport	2.89	2.90	2.92	2.95	2.89	2.87	2.84	2.82	2.73	0.1	-0.1	-0.2	-0.4
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			16.0	17.9	18.7	20.4	21.9	23.3	25.2				
RES in transport (%)			0.0	0.0	2.5	3.4	4.4	5.3	7.0				
Gross Electricity generation by fuel type (in GWh)			**8511**	**10203**	**10687**	**12759**	**14281**	**14871**	**15578**		**2.3**	**2.9**	**0.9**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			7604	9261	9764	10811	11544	11744	11755		2.5	1.7	0.2
Petroleum products			37	32	0	7	13	11	10				-2.9
Gas (including derived gases)			859	809	576	890	840	813	697		-3.9	3.8	-1.9
Biomass & waste			6	25	118	314	554	735	847		34.7	16.7	4.3
Hydro			5	22	17	17	20	22	22		13.2	1.7	1.0
Wind			1	54	210	717	1307	1543	2242		70.7	20.0	5.5
Solar, tidal etc.			0	0	1	2	2	3	5			11.1	8.6
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2575**	**2293**	**2428**	**2777**	**3107**	**3361**	**3690**		**-0.6**	**2.5**	**1.7**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3	36	115	400	643	756	1001		45.2	18.8	4.5
Hydro (pumping excluded)			2	5	5	5	6	6	6		9.6	1.3	0.0
Wind			1	31	108	393	635	747	990		64.2	19.4	4.5
Solar			0	0	2	2	2	3	6			2.1	8.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2572	2257	2313	2378	2464	2605	2689		-1.1	0.6	0.9
of which cogeneration units			486	345	394	357	434	476	497		-2.1	1.0	1.4
of which CCS units			0	0	0	0	0	0	0				
Solids fired			2348	2023	2056	1926	2105	2092	2092		-1.3	0.2	-0.1
Gas fired			205	205	206	390	287	429	491		0.0	3.4	5.5
Oil fired			12	12	13	13	3	3	2		0.1	-14.4	-3.5
Biomass-waste fired			7	16	39	49	69	81	104		19.5	5.7	4.2
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			33.7	45.4	44.8	47.1	47.3	45.7	43.8				
Efficiency for thermal electricity production (%)			30.0	34.3	35.1	35.6	38.0	39.4	39.3				
CHP indicator (% of electricity from CHP)			11.7	11.0	16.4	15.7	19.8	20.6	21.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.1	1.0	3.2	8.2	13.2	15.5	20.0				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.1	1.0	3.2	8.2	13.2	15.5	20.0				
Transport sector													
Passenger transport activity (Gpkm)	**10.0**	**8.1**	**10.3**	**14.2**	**14.4**	**15.5**	**16.1**	**16.8**	**17.4**	**0.3**	**3.4**	**1.2**	**0.8**
Public road transport	4.5	2.0	2.6	2.7	2.7	2.7	2.8	2.8	2.9	-5.1	0.1	0.3	0.4
Private cars and motorcycles	3.1	5.2	6.8	10.0	10.1	11.0	11.1	11.1	11.2	8.0	4.1	0.9	0.1
Rail	1.6	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	-13.8	-0.2	1.0	0.4
Aviation	0.4	0.1	0.2	0.7	0.8	1.1	1.5	2.0	2.5	-6.7	16.8	6.0	5.3
Inland navigation	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.6	-0.3	0.6	0.4
Freight transport activity (Gtkm)	**11.5**	**5.4**	**12.0**	**16.5**	**15.1**	**17.4**	**19.1**	**20.6**	**22.2**	**0.5**	**2.3**	**2.4**	**1.5**
Trucks	4.5	1.5	3.9	5.8	6.6	7.6	8.4	9.2	10.2	-1.4	5.2	2.5	2.0
Rail	7.0	3.8	8.1	10.6	8.5	9.8	10.7	11.4	12.0	1.5	0.5	2.3	1.2
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**841**	**492**	**579**	**769**	**789**	**845**	**882**	**914**	**931**	**-3.7**	**3.1**	**1.1**	**0.5**
Public road transport	59	13	15	16	16	16	15	15	14	-12.5	0.2	-0.3	-0.6
Private cars and motorcycles	267	308	305	385	375	368	356	340	310	1.4	2.1	-0.5	-1.4
Trucks	407	104	180	266	299	345	378	409	440	-7.8	5.2	2.4	1.5
Rail	66	45	52	49	39	44	45	46	43	-2.4	-2.8	1.5	-0.5
Aviation	36	18	20	42	49	61	76	93	112	-5.9	9.6	4.5	3.9
Inland navigation	7	4	7	11	11	12	12	12	12	0.0	4.9	0.6	0.2

Source: PRIMES

Finland: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**11860**	**13166**	**14991**	**16468**	**16007**	**19233**	**20368**	**21268**	**21385**	**2.4**	**0.7**	**2.4**	**0.5**
Solids	1581	2061	1207	2129	1759	1519	1490	1342	1274	-2.7	3.8	-1.7	-1.5
Oil	0	15	37	205	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	5006	4957	5799	6003	5997	9131	9842	10694	10694	1.5	0.3	5.1	0.8
Renew able energy sources	5273	6133	7949	8131	8251	8583	9036	9232	9417	4.2	0.4	0.9	0.4
Hydro	934	1111	1261	1185	1136	1129	1134	1160	1179	3.0	-1.0	0.0	0.4
Biomass & Waste	4338	5021	6681	6930	7062	7350	7649	7674	7814	4.4	0.6	0.8	0.2
Wind	0	1	7	15	45	84	218	343	370		21.0	17.0	5.4
Solar and others	0	0	1	1	8	21	35	54	53	3.8	30.6	16.1	4.1
Geothermal	0	0	0	0	0	0	0	0	0			2.3	-0.2
Net Imports	**18124**	**15650**	**18587**	**19306**	**18762**	**18197**	**17603**	**17290**	**16619**	**0.3**	**0.1**	**-0.6**	**-0.6**
Solids	4378	3774	3533	3338	4052	3325	3464	3321	3210	-2.1	1.4	-1.6	-0.8
Oil	10570	8314	10610	10985	9370	9612	8919	8586	8155	0.0	-1.2	-0.5	-0.9
- Crude oil and Feedstocks	8930	8579	12164	11068	10453	10710	10052	9733	9319	3.1	-1.5	-0.4	-0.8
- Oil products	1639	-265	-1553	-84	-1083	-1098	-1133	-1147	-1163				
Natural gas	2261	2839	3422	3598	4177	4076	3982	4008	3889	4.2	2.0	-0.5	-0.2
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Gross Inland Consumption	**29046**	**29070**	**32544**	**34666**	**34297**	**36951**	**37488**	**38068**	**37500**	**1.1**	**0.5**	**0.9**	**0.0**
Solids	5327	5950	5087	4925	5811	4844	4953	4663	4484	-0.5	1.3	-1.6	-1.0
Oil	10029	8455	9266	10625	8898	9132	8437	8095	7652	-0.8	-0.4	-0.5	-1.0
Natural gas	2261	2839	3422	3598	4177	4076	3982	4008	3889	4.2	2.0	-0.5	-0.2
Nuclear	5006	4957	5799	6003	5997	9131	9842	10694	10694	1.5	0.3	5.1	0.8
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Renew able energy forms	5508	6146	7949	8053	8326	8907	9612	10049	10242	3.7	0.5	1.4	0.6
as % in Gross Inland Consumption													
Solids	18.3	20.5	15.6	14.2	16.9	13.1	13.2	12.2	12.0				
Oil	34.5	29.1	28.5	30.7	25.9	24.7	22.5	21.3	20.4				
Natural gas	7.8	9.8	10.5	10.4	12.2	11.0	10.6	10.5	10.4				
Nuclear	17.2	17.1	17.8	17.3	17.5	24.7	26.3	28.1	28.5				
Renew able energy forms	19.0	21.1	24.4	23.2	24.3	24.1	25.6	26.4	27.3				
Gross Electricity Generation in GWh_e	**54367**	**64052**	**69976**	**70540**	**79419**	**89020**	**93924**	**99027**	**99538**	**2.6**	**1.3**	**1.7**	**0.6**
Self consumption and grid losses	5546	6510	5543	5756	6331	7300	7565	9045	9665	0.0	1.3	1.8	2.5
Fuel Inputs for Thermal Power Generation	**5451**	**6714**	**6923**	**7538**	**10548**	**8676**	**8785**	**8320**	**8134**	**2.4**	**4.3**	**-1.8**	**-0.8**
Solids	3216	3882	3168	2974	4461	3449	3564	3088	2661	-0.1	3.5	-2.2	-2.9
Oil (including refinery gas)	294	256	131	107	221	162	123	114	91	-7.8	5.4	-5.7	-3.0
Gas	1015	1581	2106	2384	2949	2003	1834	1834	1845	7.6	3.4	-4.6	0.1
Biomass & Waste	926	996	1518	2073	2917	3062	3264	3284	3537	5.1	6.8	1.1	0.8
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**12101**	**14065**	**15357**	**15526**	**13043**	**13928**	**13450**	**13190**	**12672**	**2.4**	**-1.6**	**0.3**	**-0.6**
Refineries	10735	12067	13249	13248	10855	11140	10481	10160	9739	2.1	-2.0	-0.4	-0.7
Biofuels and hydrogen production	0	0	0	0	70	164	220	257	286			12.2	2.6
District heating	573	548	803	954	1134	1676	1794	1849	1733	3.4	3.5	4.7	-0.3
Others	793	1451	1306	1325	984	948	955	923	914	5.1	-2.8	-0.3	-0.4
Energy Branch Consumption	**776**	**959**	**1281**	**1263**	**1221**	**1261**	**1226**	**1296**	**1311**	**5.1**	**-0.5**	**0.0**	**0.7**
Non-Energy Uses	**1492**	**1203**	**946**	**1149**	**1092**	**1156**	**1161**	**1157**	**1170**	**-4.4**	**1.4**	**0.6**	**0.1**
Final Energy Demand	**21758**	**22069**	**24176**	**25157**	**24640**	**25582**	**25614**	**25507**	**25126**	**1.1**	**0.2**	**0.4**	**-0.2**
by sector													
Industry	9620	9989	12046	11999	11283	11781	11929	11994	12001	2.3	-0.7	0.6	0.1
- energy intensive industries	7353	7629	9446	9070	8204	8256	8271	8207	8143	2.5	-1.4	0.1	-0.2
- other industrial sectors	2268	2360	2599	2929	3079	3525	3658	3787	3858	1.4	1.7	1.7	0.5
Residential	5333	5430	4541	4849	5069	5180	5167	5091	5021	-1.6	1.1	0.2	-0.3
Tertiary	2483	2487	3132	3478	3566	3861	3838	3880	3777	2.3	1.3	0.7	-0.2
Transport	4321	4162	4457	4831	4721	4760	4680	4543	4326	0.3	0.6	-0.1	-0.8
by fuel													
Solids	1621	1277	1099	966	734	787	791	998	1263	-3.8	-4.0	0.8	4.8
Oil	8131	7591	7535	7920	6724	6916	6327	6022	5704	-0.8	-1.1	-0.6	-1.0
Gas	1501	1523	1328	1156	879	1354	1357	1387	1244	-1.2	-4.0	4.4	-0.9
Electricity	5068	5608	6487	6959	7300	7813	8017	8227	8201	2.5	1.2	0.9	0.2
Heat (from CHP and District Heating) [A]	1915	2126	2780	3597	5101	4458	4547	4053	3971	3.8	6.3	-1.1	-1.3
Renew able energy forms	3522	3944	4946	4559	3902	4254	4575	4820	4742	3.5	-2.3	1.6	0.4
Other	0	0	0	0	0	1	1	1	1			7.9	-0.3
RES in Gross Final Energy Consumption [B]			**7256**	**7401**	**7822**	**8370**	**9039**	**9360**	**9571**		**0.8**	**1.5**	**0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**72.2**		**70.1**	**70.3**	**71.6**	**66.8**	**64.9**	**61.8**	**56.8**	**-0.3**	**0.2**	**-1.0**	**-1.3**
of w hich ETS sectors GHGs emissions				37.5	40.7	35.8	35.5	33.0	28.7			-1.4	-2.1
CO_2 Emissions (energy related)	**54.4**	**55.6**	**53.7**	**54.1**	**55.9**	**52.4**	**50.5**	**47.6**	**42.7**	**-0.1**	**0.4**	**-1.0**	**-1.6**
Pow er generation/District heating	17.8	21.8	20.2	20.5	28.2	22.9	23.0	20.4	15.8	1.3	3.4	-2.0	-3.7
Energy Branch	1.4	1.6	2.6	2.5	2.1	1.9	1.7	1.5	1.5	6.6	-2.3	-1.7	-1.6
Industry	14.0	12.3	12.5	11.8	7.2	9.0	8.1	8.6	9.3	-1.2	-5.4	1.3	1.4
Residential	6.5	5.9	2.4	2.1	2.1	2.4	2.2	2.1	2.1	-9.6	-1.2	0.3	-0.3
Tertiary	2.1	1.8	3.0	3.0	2.7	2.7	2.4	2.4	2.2	3.8	-1.2	-1.3	-0.5
Transport	12.7	12.2	13.1	14.2	13.7	13.5	13.1	12.6	11.9	0.3	0.4	-0.4	-1.0
CO_2 Emissions (non energy related)	**3.7**	**3.3**	**3.8**	**3.9**	**3.6**	**3.8**	**3.8**	**3.9**	**3.9**	**0.4**	**-0.6**	**0.7**	**0.2**
Non-CO_2 GHGs Emissions	**14.2**		**12.6**	**12.3**	**12.1**	**10.7**	**10.6**	**10.3**	**10.2**	**-1.2**	**-0.4**	**-1.4**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**97.1**	**97.4**	**99.2**	**92.5**	**89.8**	**85.6**	**78.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Finland: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	4.974	5.099	5.171	5.237	5.337	5.429	5.501	5.549	5.569	0.4	0.3	0.3	0.1
GDP (in 000 M€08)	120.4	115.9	146.6	165.9	174.9	194.3	212.8	229.6	246.6	2.0	1.8	2.0	1.5
Gross Inl. Cons./GDP (toe/M€08)	241.3	250.9	222.0	208.9	196.1	190.2	176.2	165.8	152.1	-0.8	-1.2	-1.1	-1.5
Carbon intensity (t of CO_2/toe of GIC)	1.87	1.91	1.65	1.56	1.63	1.42	1.35	1.25	1.14	-1.3	-0.1	-1.9	-1.7
Import Dependency %	61.2	53.2	56.0	54.9	54.0	48.6	46.4	44.8	43.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.0	18.9	20.4	23.4	27.3	29.5	30.5		2.7	3.6	2.2
as % of GDP			10.9	11.4	11.9	12.8	14.0	14.8	15.0				
Energy intensity indicators													
Industry (Energy on Value added)	134.0	126.6	100.0	82.1	73.6	67.9	63.2	59.7	56.8	-2.9	-3.0	-1.5	-1.1
Residential (Energy on Private Income)	132.1	141.3	100.0	91.2	93.9	87.8	80.8	74.2	67.7	-2.7	-0.6	-1.5	-1.8
Tertiary (Energy on Value added)	94.6	96.3	100.0	101.6	99.0	95.7	86.5	80.5	72.4	0.6	-0.1	-1.3	-1.8
Passenger transport (toe/Mpkm)	35.9	35.5	35.5	37.8	36.6	33.8	31.6	29.3	26.6	-0.1	0.3	-1.5	-1.7
Freight transport (toe/Mtkm)	46.0	45.8	38.2	36.9	35.8	35.5	34.0	32.5	30.5	-1.8	-0.7	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.23	0.24	0.19	0.18	0.20	0.16	0.15	0.13	0.10	-1.6	0.2	-2.6	-3.6
Final energy demand (t of CO_2/toe)	1.62	1.46	1.28	1.24	1.04	1.08	1.00	1.01	1.02	-2.3	-2.1	-0.3	0.1
Industry	1.46	1.24	1.03	0.98	0.63	0.76	0.68	0.72	0.78	-3.4	-4.8	0.7	1.3
Residential	1.21	1.09	0.52	0.43	0.41	0.46	0.42	0.42	0.42	-8.1	-2.2	0.1	0.0
Tertiary	0.84	0.70	0.97	0.87	0.75	0.69	0.61	0.61	0.59	1.4	-2.5	-2.0	-0.3
Transport	2.94	2.93	2.94	2.94	2.90	2.84	2.80	2.77	2.74	0.0	-0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			29.2	28.5	30.7	31.6	34.0	35.2	36.5				
RES in transport (%)			0.3	0.4	2.1	4.4	6.0	7.3	8.8				
Gross Electricity generation by fuel type (in GWh)			**69976**	**70540**	**79419**	**89020**	**93924**	**99027**	**99538**		**1.3**	**1.7**	**0.6**
Nuclear energy			22475	23267	23248	36244	39213	42874	42874		0.3	5.4	0.9
Coal and lignite			14241	11925	14594	12603	13089	12210	11591		0.2	-1.1	-1.2
Petroleum products			554	431	910	849	602	433	325		5.1	-4.0	-6.0
Gas (including derived gases)			10676	11917	13988	10753	10142	10447	10074		2.7	-3.2	-0.1
Biomass & waste			7292	9047	12941	14431	15088	15479	16529		5.9	1.5	0.9
Hydro			14657	13782	13206	13124	13185	13493	13715		-1.0	0.0	0.4
Wind			78	170	525	972	2530	3986	4299		21.0	17.0	5.4
Solar, tidal etc.			2	3	7	44	75	104	131		13.8	26.2	5.8
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**16630**	**17045**	**17583**	**20254**	**20856**	**20935**	**22066**		**0.6**	**1.7**	**0.6**
Nuclear energy			2687	2690	2691	4207	4550	4973	4973		0.0	5.4	0.9
Renewable energy			2882	3080	3291	3526	4163	4760	4943		1.3	2.4	1.7
Hydro (pumping excluded)			2841	2994	2994	3014	3050	3091	3106		0.5	0.2	0.2
Wind			38	82	289	466	1036	1561	1701		22.5	13.6	5.1
Solar			3	4	8	46	78	108	136		10.5	25.3	5.8
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			11060	11275	11601	12520	12143	11202	12150		0.5	0.5	0.0
of which cogeneration units			5965	6033	6818	6287	6199	5974	5610		1.3	-0.9	-1.0
of which CCS units			0	0	0	0	0	85	443				
Solids fired			5562	5607	5626	5386	5104	3361	3223		0.1	-1.0	-4.5
Gas fired			3042	3007	3074	4201	4172	4769	4505		0.1	3.1	0.8
Oil fired			898	897	899	494	436	399	176		0.0	-7.0	-8.7
Biomass-waste fired			1558	1763	2002	2440	2431	2673	4247		2.5	2.0	5.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			46.1	45.4	49.5	48.0	49.3	51.1	48.4				
Efficiency for thermal electricity production (%)			40.7	38.0	34.6	38.3	38.1	39.9	40.7				
CHP indicator (% of electricity from CHP)			38.3	41.0	40.4	36.0	33.9	31.5	31.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.9	4.6				
Non fossil fuels in electricity generation (%)			63.6	65.6	62.9	72.8	74.6	76.7	77.9				
- nuclear			32.1	33.0	29.3	40.7	41.7	43.3	43.1				
- renewable energy forms and industrial waste			31.5	32.6	33.6	32.1	32.9	33.4	34.8				
Transport sector													
Passenger transport activity (Gpkm)	**74.6**	**72.8**	**80.0**	**87.0**	**89.5**	**96.3**	**100.8**	**104.2**	**107.1**	**0.7**	**1.1**	**1.2**	**0.6**
Public road transport	8.5	8.0	7.7	7.5	7.6	7.7	7.9	8.1	8.3	-1.0	-0.2	0.4	0.4
Private cars and motorcycles	52.0	50.9	56.6	62.8	64.5	69.0	71.0	72.0	72.3	0.9	1.3	1.0	0.2
Rail	3.7	3.6	3.9	4.0	4.3	4.7	5.0	5.3	5.5	0.6	1.0	1.5	0.9
Aviation	6.1	5.8	7.7	8.8	9.1	10.9	12.7	14.7	16.9	2.4	1.8	3.4	2.9
Inland navigation	4.3	4.5	4.2	3.8	3.9	4.0	4.1	4.1	4.2	-0.4	-0.6	0.4	0.1
Freight transport activity (Gtkm)	**35.8**	**34.5**	**42.4**	**41.8**	**40.4**	**42.4**	**44.0**	**46.0**	**48.3**	**1.7**	**-0.5**	**0.9**	**0.9**
Trucks	26.3	24.5	32.0	31.9	29.7	31.2	32.3	34.1	36.2	2.0	-0.7	0.8	1.1
Rail	8.4	9.6	10.1	9.7	10.4	11.0	11.4	11.7	11.9	1.9	0.3	0.9	0.4
Inland navigation	1.1	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-12.2	-4.3	1.3	0.9
Energy demand in transport (ktoe)	**4321**	**4162**	**4457**	**4831**	**4721**	**4760**	**4680**	**4543**	**4326**	**0.3**	**0.6**	**-0.1**	**-0.8**
Public road transport	78	72	69	66	66	65	64	62	59	-1.3	-0.4	-0.3	-0.7
Private cars and motorcycles	2023	1967	2089	2459	2427	2326	2208	2025	1785	0.3	1.5	-0.9	-2.1
Trucks	1546	1479	1529	1448	1349	1405	1399	1405	1412	-0.1	-1.2	0.4	0.1
Rail	100	102	94	97	101	105	99	92	66	-0.6	0.7	-0.2	-3.9
Aviation	459	408	505	565	577	653	701	751	795	1.0	1.3	2.0	1.3
Inland navigation	116	134	170	196	202	207	209	209	209	3.9	1.7	0.4	0.0

Source: PRIMES

France: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**111013**	**127609**	**131920**	**136736**	**135007**	**140027**	**148122**	**152420**	**156164**	**1.7**	**0.2**	**0.9**	**0.5**
Solids	7625	5359	2267	383	340	216	17	17	11	-11.4	-17.3	-25.8	-4.3
Oil	3514	3509	2897	1479	0	0	0	0	0	-1.9			
Natural gas	2516	2793	1505	909	0	0	0	0	0	-5.0			
Nuclear	81018	97308	107093	116474	114683	117571	121548	122404	122823	2.8	0.7	0.6	0.1
Renew able energy sources	16339	18641	18160	17492	19985	22241	26557	29998	33330	1.1	1.0	2.9	2.3
Hydro	4635	6322	5822	4496	4900	4921	4932	5129	5202	2.3	-1.7	0.1	0.5
Biomass & Waste	11575	12171	12181	12761	13728	14930	16664	17931	18082	0.5	1.2	2.0	0.8
Wind	0	0	7	83	977	1708	3858	5407	6302		64.8	14.7	5.0
Solar and others	19	15	26	22	223	524	917	1328	1746	2.8	24.1	15.2	6.7
Geothermal	110	132	124	130	157	159	185	201	1999	1.2	2.4	1.7	26.8
Net Imports	**120596**	**116805**	**134196**	**144346**	**138157**	**136729**	**130084**	**123040**	**118191**	**1.1**	**0.3**	**-0.6**	**-1.0**
Solids	13004	9010	13201	13504	11257	11758	9201	7405	6749	0.2	-1.6	-2.0	-3.1
Oil	87127	86307	91185	95364	90001	87082	83257	79492	75281	0.5	-0.1	-0.8	-1.0
- Crude oil and Feedstocks	76561	79689	85250	85529	84073	82744	80974	79144	77026	1.1	-0.1	-0.4	-0.5
- Oil products	10566	6619	5936	9835	5929	4338	2283	348	-1745	-5.6	0.0	-9.1	
Natural gas	24371	27493	35778	40720	42075	43457	43196	40420	39707	3.9	1.6	0.3	-0.8
Electricity	-3907	-6005	-5974	-5187	-5040	-5296	-5323	-4064	-3421				
Gross Inland Consumption	**227754**	**241418**	**259828**	**277086**	**270383**	**273848**	**275262**	**272452**	**271255**	**1.3**	**0.4**	**0.2**	**-0.1**
Solids	19955	15287	15240	14296	11597	11974	9218	7423	6760	-2.7	-2.7	-2.3	-3.1
Oil	88316	86611	89539	92991	87220	84173	80314	76484	72182	0.1	-0.3	-0.8	-1.1
Natural gas	26032	29577	35766	41077	42075	43457	43196	40420	39707	3.2	1.6	0.3	-0.8
Nuclear	81018	97308	107093	116474	114683	117571	121548	122404	122823	2.8	0.7	0.6	0.1
Electricity	-3907	-6005	-5975	-5188	-5040	-5296	-5323	-4064	-3421				
Renew able energy forms	16339	18641	18165	17436	19849	21969	26311	29785	33204	1.1	0.9	2.9	2.4
as % in Gross Inland Consumption													
Solids	8.8	6.3	5.9	5.2	4.3	4.4	3.3	2.7	2.5				
Oil	38.8	35.9	34.5	33.6	32.3	30.7	29.2	28.1	26.6				
Natural gas	11.4	12.3	13.8	14.8	15.6	15.9	15.7	14.8	14.6				
Nuclear	35.6	40.3	41.2	42.0	42.4	42.9	44.2	44.9	45.3				
Renew able energy forms	7.2	7.7	7.0	6.3	7.3	8.0	9.6	10.9	12.2				
Gross Electricity Generation in GWh_e	**416667**	**490848**	**535963**	**571367**	**567236**	**604841**	**637952**	**657224**	**678309**	**2.5**	**0.6**	**1.2**	**0.6**
Self consumption and grid losses	61718	69726	72429	80428	59121	64442	67739	73903	78750	1.6	-2.0	1.4	1.5
Fuel Inputs for Thermal Power Generation	**10983**	**8553**	**13122**	**16669**	**14124**	**16455**	**14337**	**12390**	**14326**	**1.8**	**0.7**	**0.1**	**0.0**
Solids	7334	5441	6231	6404	5206	5820	3133	1416	1414	-1.6	-1.8	-5.0	-7.6
Oil (including refinery gas)	1920	605	1284	1952	166	289	169	690	686	-3.9	-18.5	0.2	15.0
Gas	1423	1216	4062	6288	6179	7080	6894	5900	5796	11.1	4.3	1.1	-1.7
Biomass & Waste	306	1290	1545	2024	2563	3255	4129	4373	4611	17.6	5.2	4.9	1.1
Geothermal heat	0	0	0	0	9	11	11	11	1819			2.3	66.2
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**90122**	**91635**	**98266**	**95011**	**91831**	**91260**	**89848**	**88214**	**86003**	**0.9**	**-0.7**	**-0.2**	**-0.4**
Refineries	80205	83811	90956	88526	85607	84177	82258	80367	78216	1.3	-0.6	-0.4	-0.5
Biofuels and hydrogen production	0	155	328	408	1696	2448	3010	3380	3524		17.9	5.9	1.6
District heating	1019	588	312	239	180	265	266	215	264	-11.1	-5.4	4.0	-0.1
Others	8898	7081	6669	5838	4348	4371	4314	4252	3999	-2.8	-4.2	-0.1	-0.8
Energy Branch Consumption	**9413**	**10501**	**10829**	**10252**	**10269**	**9225**	**9120**	**9115**	**8976**	**1.4**	**-0.5**	**-1.2**	**-0.2**
Non-Energy Uses	**13454**	**16838**	**15903**	**16133**	**15056**	**14786**	**14520**	**14305**	**14256**	**1.7**	**-0.5**	**-0.4**	**-0.2**
Final Energy Demand	**137226**	**142756**	**152708**	**157515**	**156469**	**158685**	**159637**	**158626**	**156219**	**1.1**	**0.2**	**0.2**	**-0.2**
by sector													
Industry	36439	37119	36887	34001	33351	33868	34344	34838	35618	0.1	-1.0	0.3	0.4
- energy intensive industries	23706	21472	22331	20150	18715	18382	18120	17878	17727	-0.6	-1.8	-0.3	-0.2
- other industrial sectors	12733	15647	14556	13850	14635	15486	16224	16959	17891	1.3	0.1	1.0	1.0
Residential	37053	37201	42587	45295	45204	45865	46002	45863	45487	1.4	0.6	0.2	-0.1
Tertiary	21698	24144	21648	28279	28584	29540	30039	30105	30160	0.0	2.8	0.5	0.0
Transport	42037	44292	51586	49941	49329	49412	49252	47820	44954	2.1	-0.4	0.0	-0.9
by fuel													
Solids	9017	6905	5775	5148	4346	4063	4036	3994	3430	-4.4	-2.8	-0.7	-1.6
Oil	67695	68410	72242	71510	68725	66564	64077	60695	56898	0.7	-0.5	-0.7	-1.2
Gas	23400	27098	30880	33744	34726	34674	33867	31651	30867	2.8	1.2	-0.3	-0.9
Electricity	25960	29456	33096	36337	36269	39910	42456	44853	46928	2.5	0.9	1.6	1.0
Heat (from CHP and District Heating) [A]	774	447	237	182	1282	1797	2408	3389	4021	-11.1	18.4	6.5	5.3
Renew able energy forms	10380	10439	10478	10594	11118	11671	12786	14036	14068	0.1	0.6	1.4	1.0
Other	0	0	0	0	3	6	8	8	7			8.3	-0.5
RES in Gross Final Energy Consumption [B]			**16831**	**17055**	**19499**	**21403**	**25357**	**28789**	**30637**		**1.5**	**2.7**	**1.9**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**554.8**		**553.9**	**541.3**	**511.0**	**501.9**	**476.9**	**453.4**	**431.2**	**0.0**	**-0.8**	**-0.7**	**-1.0**
of w hich ETS sectors GHGs emissions				158.7	130.4	132.2	120.3	110.2	101.4			-0.8	-1.7
CO_2 Emissions (energy related)	**352.9**	**344.8**	**372.9**	**379.9**	**356.6**	**353.4**	**331.7**	**307.6**	**285.5**	**0.6**	**-0.4**	**-0.7**	**-1.5**
Pow er generation/District heating	40.1	27.6	39.7	47.4	36.6	41.9	30.7	23.1	17.7	-0.1	-0.8	-1.7	-5.3
Energy Branch	16.8	18.7	19.1	16.1	13.5	12.8	12.0	11.2	10.2	1.3	-3.4	-1.2	-1.6
Industry	78.7	75.7	69.7	60.7	54.8	53.8	52.3	48.1	46.5	-1.2	-2.4	-0.5	-1.2
Residential	55.4	52.4	61.7	65.2	66.5	64.0	60.2	56.9	53.7	1.1	0.8	-1.0	-1.1
Tertiary	39.4	41.0	32.2	44.7	45.0	42.9	40.9	38.3	36.7	-2.0	3.4	-1.0	-1.1
Transport	122.5	129.5	150.6	145.8	140.1	138.0	135.7	130.0	120.6	2.1	-0.7	-0.3	-1.2
CO_2 Emissions (non energy related)	**32.4**	**28.5**	**26.7**	**26.7**	**25.2**	**25.3**	**25.4**	**25.6**	**25.5**	**-1.9**	**-0.6**	**0.1**	**0.0**
Non-CO_2 GHGs Emissions	**169.5**		**154.3**	**134.7**	**129.3**	**123.2**	**119.7**	**120.3**	**120.2**	**-0.9**	**-1.8**	**-0.8**	**0.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.8**	**97.6**	**92.1**	**90.5**	**86.0**	**81.7**	**77.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													France: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.577	57.753	58.850	60.825	62.583	64.203	65.607	66.846	67.982	0.4	0.6	0.5	0.4
GDP (in 000 M€08)	1376.2	1462.8	1679.4	1823.4	1858.3	2055.4	2265.4	2474.1	2694.0	2.0	1.0	2.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	165.5	165.0	154.7	152.0	145.5	133.2	121.5	110.1	100.7	-0.7	-0.6	-1.8	-1.9
Carbon intensity (t of CO_2/toe of GIC)	1.55	1.43	1.44	1.37	1.32	1.29	1.21	1.13	1.05	-0.8	-0.8	-0.9	-1.3
Import Dependency %	52.4	47.9	51.1	51.6	50.6	49.4	46.8	44.7	43.1				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			152.8	169.1	174.7	197.4	233.8	257.5	263.7		1.7	3.9	3.0
as % of GDP			9.1	9.3	9.7	10.5	11.7	12.8	13.2				
Energy intensity indicators													
Industry (Energy on Value added)	128.3	120.9	100.0	86.6	85.1	79.8	74.0	68.8	64.8	-2.5	-1.6	-1.4	-1.3
Residential (Energy on Private Income)	103.2	99.3	100.0	94.4	94.9	87.5	80.8	75.0	69.1	-0.3	-0.5	-1.6	-1.6
Tertiary (Energy on Value added)	124.1	128.9	100.0	120.2	117.8	109.5	100.8	92.3	84.8	-2.1	1.7	-1.5	-1.7
Passenger transport (toe/Mpkm)	40.1	40.6	45.2	42.7	40.9	37.1	34.8	31.2	26.7	1.2	-1.0	-1.6	-2.6
Freight transport (toe/Mtkm)	51.9	47.3	38.9	39.0	38.9	38.6	37.9	37.4	35.9	-2.9	0.0	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.09	0.06	0.07	0.08	0.06	0.07	0.05	0.03	0.02	-2.4	-1.8	-3.1	-6.1
Final energy demand (t of CO_2/toe)	2.16	2.09	2.06	2.01	1.96	1.88	1.81	1.72	1.65	-0.5	-0.5	-0.8	-0.9
Industry	2.16	2.04	1.89	1.78	1.64	1.59	1.52	1.38	1.31	-1.3	-1.4	-0.8	-1.5
Residential	1.50	1.41	1.45	1.44	1.47	1.40	1.31	1.24	1.18	-0.3	0.2	-1.2	-1.0
Tertiary	1.82	1.70	1.49	1.58	1.58	1.45	1.36	1.27	1.22	-2.0	0.6	-1.4	-1.1
Transport	2.91	2.92	2.92	2.92	2.84	2.79	2.76	2.72	2.68	0.0	-0.3	-0.3	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			10.7	10.4	12.1	13.0	15.3	17.4	18.8				
RES in transport (%)			1.1	1.3	4.4	6.2	7.8	9.1	10.2				
Gross Electricity generation by fuel type (in GWh)			**535963**	**571367**	**567236**	**604841**	**637952**	**657224**	**678309**		**0.6**	**1.2**	**0.6**
Nuclear energy			415087	451448	444587	455783	472075	482429	484259		0.7	0.6	0.3
Coal and lignite			27802	28623	21926	24563	13377	6102	7601		-2.3	-4.8	-5.5
Petroleum products			5664	7913	850	1065	502	2414	1914		-17.3	-5.1	14.3
Gas (including derived gases)			16069	25269	24120	34126	32224	24421	24074		4.1	2.9	-2.9
Biomass & waste			3561	4865	6274	9245	11855	10287	11369		5.8	6.6	-0.4
Hydro			67698	52277	56979	57217	57354	59645	60485		-1.7	0.1	0.5
Wind			77	963	11361	19859	44865	62877	73275		64.8	14.7	5.0
Solar, tidal etc.			5	10	666	2509	4934	7668	11173		63.1	22.2	8.5
Geothermal and other renewables			0	0	473	476	765	1380	4159			4.9	18.5
Net Generation Capacity in MW_e			**107892**	**111422**	**117671**	**129416**	**139245**	**148669**	**160344**		**0.9**	**1.7**	**1.4**
Nuclear energy			60309	63242	63242	64757	66272	60068	60313		0.5	0.5	-0.9
Renewable energy			20632	21290	27667	33188	44153	53457	60891		3.0	4.8	3.3
Hydro (pumping excluded)			20568	20551	20652	20706	20770	21092	21322		0.0	0.1	0.3
Wind			57	723	6022	10125	18836	25064	28794		59.4	12.1	4.3
Solar			7	16	753	2117	4157	6591	9715		59.7	18.6	8.9
Other renewables (tidal etc.)			0	0	240	240	390	709	1060			5.0	10.5
Thermal power			26951	26891	26762	31471	28820	35143	39140		-0.1	0.7	3.1
of which cogeneration units			4599	5371	4275	6268	5455	5974	6340		-0.7	2.5	1.5
of which CCS units			0	0	0	0	0	0	739				
Solids fired			9942	8576	7177	5963	3936	2714	1754		-3.2	-5.8	-7.8
Gas fired			4574	5523	6789	12678	13749	21679	26640		4.0	7.3	6.8
Oil fired			11028	11219	10920	10560	8425	7997	7669		-0.1	-2.6	-0.9
Biomass-waste fired			1407	1572	1874	2269	2709	2752	2835		2.9	3.8	0.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	2	2	2	2	242			0.0	66.2
Load factor for net electric capacities (%)			52.5	53.8	52.6	51.1	50.2	48.4	46.3				
Efficiency for thermal electricity production (%)			34.8	34.4	32.4	36.1	34.8	30.0	28.3				
CHP indicator (% of electricity from CHP)			3.2	3.4	3.3	4.5	4.3	4.0	4.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	1.1				
Non fossil fuels in electricity generation (%)			90.8	89.2	91.7	90.1	92.8	95.0	95.0				
- nuclear			77.4	79.0	78.4	75.4	74.0	73.4	71.4				
- renewable energy forms and industrial waste			13.3	10.2	13.4	14.8	18.8	21.6	23.7				
Transport sector													
Passenger transport activity (Gpkm)	**772.5**	**819.1**	**908.2**	**937.7**	**952.1**	**1024.9**	**1075.3**	**1133.1**	**1199.6**	**1.6**	**0.5**	**1.2**	**1.1**
Public road transport	41.3	41.6	43.0	43.9	47.5	51.1	54.4	57.9	61.4	0.4	1.0	1.4	1.2
Private cars and motorcycles	599.8	652.5	711.9	740.3	740.3	789.2	816.6	850.2	893.3	1.7	0.4	1.0	0.9
Rail	73.9	64.5	80.7	88.9	94.0	103.6	112.1	122.3	132.3	0.9	1.5	1.8	1.7
Aviation	53.5	56.4	69.1	61.5	66.9	77.6	88.7	99.0	108.8	2.6	-0.3	2.9	2.1
Inland navigation	3.9	4.1	3.5	3.1	3.2	3.4	3.5	3.7	3.9	-1.3	-0.7	0.8	0.9
Freight transport activity (Gtkm)	**213.6**	**233.1**	**270.8**	**254.9**	**268.2**	**295.1**	**313.5**	**334.9**	**358.2**	**2.4**	**-0.1**	**1.6**	**1.3**
Trucks	153.7	178.2	204.0	205.3	216.5	239.2	253.4	270.2	288.9	2.9	0.6	1.6	1.3
Rail	52.2	48.3	57.7	40.7	42.7	46.4	50.2	54.2	58.3	1.0	-3.0	1.6	1.5
Inland navigation	7.6	6.6	9.1	8.9	9.0	9.5	10.0	10.5	10.9	1.9	-0.1	1.0	0.9
Energy demand in transport (ktoe)	**42037**	**44292**	**51586**	**49941**	**49329**	**49412**	**49252**	**47820**	**44954**	**2.1**	**-0.4**	**0.0**	**-0.9**
Public road transport	440	438	446	446	480	503	510	512	511	0.1	0.7	0.6	0.0
Private cars and motorcycles	25694	27178	32862	32693	31237	29815	28537	26542	23851	2.5	-0.5	-0.9	-1.8
Trucks	10192	10029	9441	8938	9405	10313	10773	11407	11841	-0.8	0.0	1.4	0.9
Rail	1153	1222	1376	1267	1296	1367	1376	1392	1330	1.8	-0.6	0.6	-0.3
Aviation	3839	4690	6683	6291	6596	7085	7717	7613	7053	5.7	-0.1	1.6	-0.9
Inland navigation	718	735	778	306	315	329	340	353	369	0.8	-8.7	0.8	0.8

Source: PRIMES

Germany: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**186681**	**141981**	**133331**	**136015**	**119159**	**108500**	**86547**	**82414**	**85808**	**-3.3**	**-1.1**	**-3.1**	**-0.1**
Solids	125125	78834	59599	56488	45650	38386	30732	34881	34582	-7.1	-2.6	-3.9	1.2
Oil	4031	3308	3525	5746	3120	2630	2200	0	0	-1.3	-1.2	-3.4	
Natural gas	13532	15099	15800	14224	12200	11000	10000	8000	6500	1.6	-2.6	-2.0	-4.2
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Renew able energy sources	6320	7417	10656	17496	24281	30055	34696	39533	44726	5.4	8.6	3.6	2.6
Hydro	1498	1873	1869	1684	1811	1883	1922	1986	2052	2.2	-0.3	0.6	0.7
Biomass & Waste	4797	5348	7877	12980	16558	18531	20363	21168	21581	5.1	7.7	2.1	0.6
Wind	6	147	804	2341	4199	7008	8859	11654	15110	62.9	18.0	7.8	5.5
Solar and others	11	41	96	353	1300	2063	2510	2881	3172	24.3	29.8	6.8	2.4
Geothermal	7	9	10	138	413	570	1042	1845	2811	3.4	45.5	9.7	10.4
Net Imports	**166524**	**196270**	**205682**	**215281**	**210888**	**212030**	**221902**	**211284**	**194549**	**2.1**	**0.3**	**0.5**	**-1.3**
Solids	3182	10963	21603	26805	26101	29934	40529	37309	31597	21.1	1.9	4.5	-2.5
Oil	121527	131988	126951	123134	112353	108652	103551	97284	89189	0.4	-1.2	-0.8	-1.5
- Crude oil and Feedstocks	89820	102213	102638	113980	110081	108466	106175	100992	93855	1.3	0.7	-0.4	-1.2
- Oil products	31707	29775	24312	9154	2272	186	-2624	-3709	-4666	-2.6	-21.1		
Natural gas	41747	52904	56865	65734	73590	73063	76287	74803	71734	3.1	2.6	0.4	-0.6
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Gross Inland Consumption	**356271**	**339454**	**341166**	**347147**	**327477**	**317872**	**305800**	**291073**	**277742**	**-0.4**	**-0.4**	**-0.7**	**-1.0**
Solids	131521	92175	83725	82803	71751	68321	71261	72190	66179	-4.4	-1.5	-0.1	-0.7
Oil	125712	134828	130919	124323	112903	108623	103103	94658	86574	0.4	-1.5	-0.9	-1.7
Natural gas	54976	67298	71853	80856	85790	84063	86287	82803	78234	2.7	1.8	0.1	-1.0
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Renew able energy forms	6320	7417	10656	17496	24564	30414	35133	40020	45280	5.4	8.7	3.6	2.6
as % in Gross Inland Consumption													
Solids	36.9	27.2	24.5	23.9	21.9	21.5	23.3	24.8	23.8				
Oil	35.3	39.7	38.4	35.8	34.5	34.2	33.7	32.5	31.2				
Natural gas	15.4	19.8	21.1	23.3	26.2	26.4	28.2	28.4	28.2				
Nuclear	10.6	11.0	12.8	12.1	10.4	8.3	2.9	0.0	0.0				
Renew able energy forms	1.8	2.2	3.1	5.0	7.5	9.6	11.5	13.7	16.3				
Gross Electricity Generation in GWh_e	**547549**	**533711**	**567219**	**613054**	**631996**	**634715**	**640072**	**661848**	**680251**	**0.4**	**1.1**	**0.1**	**0.6**
Self consumption and grid losses	66295	62666	74161	73028	70290	68151	69729	86457	98584	1.1	-0.5	-0.1	3.5
Fuel Inputs for Thermal Power Generation	**92914**	**85884**	**85258**	**92517**	**90560**	**87715**	**96523**	**98438**	**92363**	**-0.9**	**0.6**	**0.6**	**-0.4**
Solids	75541	69147	68066	66172	59768	57030	59276	60216	54604	-1.0	-1.3	-0.1	-0.8
Oil (including refinery gas)	2873	2090	1113	2051	858	1467	2756	2353	1760	-9.0	-2.6	12.4	-4.4
Gas	12676	11982	12906	19356	23181	22052	26110	26055	24320	0.2	6.0	1.2	-0.7
Biomass & Waste	1824	2665	3174	4938	6576	6942	7767	8501	9392	5.7	7.6	1.7	1.9
Geothermal heat	0	0	0	0	179	223	614	1314	2287			13.1	14.1
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**165992**	**141292**	**137838**	**145413**	**135868**	**133235**	**131295**	**121849**	**113755**	**-1.8**	**-0.1**	**-0.3**	**-1.4**
Refineries	108022	117793	120748	127966	120595	118246	115067	107095	99301	1.1	0.0	-0.5	-1.5
Biofuels and hydrogen production	0	31	222	1948	3595	4285	4601	4609	4498		32.1	2.5	-0.2
District heating	6392	3638	1437	868	1528	1365	1491	498	869	-13.9	0.6	-0.2	-5.3
Others	51578	19831	15431	14632	10150	9339	10135	9647	9087	-11.4	-4.1	0.0	-1.1
Energy Branch Consumption	**15451**	**14982**	**14383**	**15267**	**14136**	**13435**	**13005**	**13634**	**13797**	**-0.7**	**-0.2**	**-0.8**	**0.6**
Non-Energy Uses	**23473**	**23323**	**25457**	**24974**	**24221**	**24136**	**23962**	**23079**	**22194**	**0.8**	**-0.5**	**-0.1**	**-0.8**
Final Energy Demand	**227197**	**222795**	**218098**	**218369**	**217767**	**218762**	**215959**	**207827**	**199255**	**-0.4**	**0.0**	**-0.1**	**-0.8**
by sector													
Industry	71457	62001	57896	55666	52776	53258	54259	53533	52843	-2.1	-0.9	0.3	-0.3
- energy intensive industries	48775	42867	39110	37592	34484	34378	34841	33765	33041	-2.2	-1.3	0.1	-0.5
- other industrial sectors	22682	19134	18787	18074	18291	18879	19418	19769	19802	-1.9	-0.3	0.6	0.2
Residential	58417	63145	62142	67731	69448	68995	66344	63530	61267	0.6	1.1	-0.5	-0.8
Tertiary	38691	34569	31872	32823	32799	32602	31857	30861	29593	-1.9	0.3	-0.3	-0.7
Transport	58631	63080	66188	62149	62745	63908	63500	59903	55551	1.2	-0.5	0.1	-1.3
by fuel													
Solids	37141	14915	10949	9829	7225	6849	7065	7165	6955	-11.5	-4.1	-0.2	-0.2
Oil	96799	104905	98462	88706	81498	78302	73577	67275	61418	0.2	-1.9	-1.0	-1.8
Gas	42724	52595	56064	59821	60744	59161	56562	54166	50823	2.8	0.8	-0.7	-1.1
Electricity	38391	38912	41496	44497	45468	47383	48796	49585	50259	0.8	0.9	0.7	0.3
Heat (from CHP and District Heating) [A]	9150	8737	6323	7428	11986	14037	15809	15211	15533	-3.6	6.6	2.8	-0.2
Renew able energy forms	2991	2731	4804	8088	10841	13023	14141	14416	14257	4.9	8.5	2.7	0.1
Other	0	0	0	0	5	8	10	10	9			7.7	-1.1
RES in Gross Final Energy Consumption [B]			**8852**	**14393**	**22559**	**28609**	**32669**	**37004**	**41312**		**9.8**	**3.8**	**2.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**1210.3**		**1025.5**	**997.3**	**923.0**	**889.1**	**885.2**	**801.9**	**681.5**	**-1.6**	**-1.0**	**-0.4**	**-2.6**
of w hich ETS sectors GHGs emissions				544.6	476.4	460.3	481.7	422.7	330.8			0.1	-3.7
CO_2 Emissions (energy related)	**943.1**	**858.6**	**817.9**	**803.4**	**748.2**	**718.6**	**714.9**	**633.2**	**518.2**	**-1.4**	**-0.9**	**-0.5**	**-3.2**
Pow er generation/District heating	373.3	328.6	315.8	325.0	305.1	292.7	309.4	253.7	166.9	-1.7	-0.3	0.1	-6.0
Energy Branch	25.9	27.2	26.6	28.3	24.3	22.1	20.7	19.0	17.4	0.3	-0.9	-1.6	-1.7
Industry	165.4	129.6	113.0	101.0	77.1	70.9	69.2	67.4	63.5	-3.7	-3.8	-1.1	-0.9
Residential	127.3	126.8	117.8	122.2	120.1	113.0	101.8	92.7	85.8	-0.8	0.2	-1.6	-1.7
Tertiary	81.9	63.9	53.2	52.0	49.6	46.4	42.6	39.9	37.0	-4.2	-0.7	-1.5	-1.4
Transport	169.4	182.4	191.5	174.8	171.9	173.4	171.3	160.6	147.7	1.2	-1.1	0.0	-1.5
CO_2 Emissions (non energy related)	**84.2**	**80.6**	**82.8**	**77.7**	**67.9**	**68.2**	**72.4**	**72.7**	**72.0**	**-0.2**	**-2.0**	**0.7**	**-0.1**
Non-CO_2 GHGs Emissions	**183.0**		**124.8**	**116.2**	**107.0**	**102.3**	**97.9**	**96.0**	**91.3**	**-3.8**	**-1.5**	**-0.9**	**-0.7**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**84.7**	**82.4**	**76.3**	**73.5**	**73.1**	**66.3**	**56.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Germany: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	79.113	81.539	82.163	82.501	82.145	81.858	81.472	80.907	80.152	0.4	0.0	-0.1	-0.2
GDP (in 000 M€08)	1933.6	2082.5	2300.1	2369.7	2410.3	2652.3	2877.2	3028.8	3178.6	1.8	0.5	1.8	1.0
Gross Inl. Cons./GDP (toe/M€08)	184.3	163.0	148.3	146.5	135.9	119.8	106.3	96.1	87.4	-2.1	-0.9	-2.4	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.53	2.40	2.31	2.28	2.26	2.34	2.18	1.87	-1.0	-0.5	0.2	-2.2
Import Dependency %	46.4	57.5	59.9	61.6	63.9	66.1	71.9	71.9	69.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			212.3	254.0	268.1	301.0	348.7	372.5	372.8		2.6	3.5	2.1
as % of GDP			9.2	10.7	11.4	12.3	13.5	14.7	15.0				
Energy intensity indicators													
Industry (Energy on Value added)	132.8	118.3	100.0	89.5	83.5	78.1	73.1	68.9	65.4	-2.8	-1.8	-1.3	-1.1
Residential (Energy on Private Income)	113.2	111.0	100.0	107.4	110.1	99.4	88.8	81.0	74.3	-1.2	1.0	-2.1	-1.8
Tertiary (Energy on Value added)	156.4	123.5	100.0	98.2	95.3	86.2	77.7	71.2	64.9	-4.4	-0.5	-2.0	-1.8
Passenger transport (toe/Mpkm)	49.7	45.4	45.0	40.5	39.2	35.9	34.1	31.0	27.8	-1.0	-1.4	-1.4	-2.0
Freight transport (toe/Mtkm)	43.7	43.4	42.5	37.7	37.8	37.2	35.5	33.6	31.4	-0.3	-1.2	-0.6	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.51	0.48	0.45	0.38	0.35	0.36	0.29	0.19	-1.4	-2.3	-0.5	-6.4
Final energy demand (t of CO_2/toe)	2.39	2.26	2.18	2.06	1.92	1.85	1.78	1.73	1.68	-0.9	-1.2	-0.8	-0.6
Industry	2.31	2.09	1.95	1.81	1.46	1.33	1.28	1.26	1.20	-1.7	-2.9	-1.3	-0.6
Residential	2.18	2.01	1.90	1.80	1.73	1.64	1.53	1.46	1.40	-1.4	-0.9	-1.2	-0.9
Tertiary	2.12	1.85	1.67	1.58	1.51	1.42	1.34	1.29	1.25	-2.4	-1.0	-1.2	-0.7
Transport	2.89	2.89	2.89	2.81	2.74	2.71	2.70	2.68	2.66	0.0	-0.5	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			3.9	6.4	10.0	12.6	14.6	17.1	19.8				
RES in transport (%)			0.6	3.9	7.1	8.6	9.6	10.5	11.5				
Gross Electricity generation by fuel type (in GWh)			**567219**	**613054**	**631996**	**634715**	**640072**	**661848**	**680251**		**1.1**	**0.1**	**0.6**
Nuclear energy			169575	163026	131452	102456	34576	0	0		-2.5	-12.5	
Coal and lignite			292440	285286	259860	249528	262322	277036	263528		-1.2	0.1	0.0
Petroleum products			4733	8811	4426	6957	12229	10458	7705		-0.7	10.7	-4.5
Gas (including derived gases)			59321	91860	131597	127026	150531	152782	138442		8.3	1.4	-0.8
Biomass & waste			10011	15988	26427	31269	36112	39497	43093		10.2	3.2	1.8
Hydro			21728	19577	21054	21893	22349	23094	23856		-0.3	0.6	0.7
Wind			9350	27224	48827	81492	103009	135507	175702		18.0	7.8	5.5
Solar, tidal etc.			60	1282	8146	13833	18230	21945	25266		63.4	8.4	3.3
Geothermal and other renewables			0	0	208	260	714	1528	2659			13.1	14.1
Net Generation Capacity in MW_e			**112510**	**121873**	**143633**	**165802**	**173108**	**185047**	**196941**		**2.5**	**1.9**	**1.3**
Nuclear energy			21301	20680	15521	12031	4049	0	0		-3.1	-12.6	
Renewable energy			10477	24021	40427	58576	68805	83006	98953		14.5	5.5	3.7
Hydro (pumping excluded)			4268	4081	4246	4310	4427	4616	4694		-0.1	0.4	0.6
Wind			6095	18433	27723	39906	45459	55616	68039		16.4	5.1	4.1
Solar			114	1508	8458	14360	18919	22774	26220		53.8	8.4	3.3
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			80731	77172	87685	95195	100254	102041	97988		0.8	1.3	-0.2
of which cogeneration units			13526	16773	21790	23145	24610	26269	26842		4.9	1.2	0.9
of which CCS units			0	0	0	0	646	7147	14829				36.8
Solids fired			51482	48960	48589	49004	45725	41647	42696		-0.6	-0.6	-0.7
Gas fired			20674	19428	28704	36205	39248	44379	40506		3.3	3.2	0.3
Oil fired			6659	6354	5356	4176	8758	9179	7715		-2.2	5.0	-1.3
Biomass-waste fired			1916	2430	5006	5781	6442	6662	6769		10.1	2.6	0.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	30	30	81	174	304			10.6	14.1
Load factor for net electric capacities (%)			53.7	53.6	47.2	41.4	40.0	37.8	36.0				
Efficiency for thermal electricity production (%)			37.0	37.4	40.1	40.7	41.2	42.0	42.4				
CHP indicator (% of electricity from CHP)			11.7	13.9	20.2	23.5	24.0	25.3	25.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.1	11.7	22.5				
Non fossil fuels in electricity generation (%)			37.2	37.0	37.4	39.6	33.6	33.5	39.8				
- nuclear			29.9	26.6	20.8	16.1	5.4	0.0	0.0				
- renewable energy forms and industrial waste			7.3	10.5	16.6	23.4	28.2	33.5	39.8				
Transport sector													
Passenger transport activity (Gpkm)	**888.1**	**1033.4**	**1065.5**	**1098.9**	**1112.3**	**1209.7**	**1268.3**	**1300.7**	**1335.5**	**1.8**	**0.4**	**1.3**	**0.5**
Public road transport	73.1	68.5	69.0	67.1	68.5	73.4	77.1	79.1	80.8	-0.6	-0.1	1.2	0.5
Private cars and motorcycles	698.4	830.5	849.6	875.7	881.4	951.5	984.8	996.0	1011.8	2.0	0.4	1.1	0.3
Rail	76.1	85.4	90.0	92.3	93.4	101.6	109.3	114.2	118.9	1.7	0.4	1.6	0.8
Aviation	37.4	46.3	54.7	61.7	66.9	81.0	94.9	109.0	121.6	3.9	2.0	3.6	2.5
Inland navigation	3.1	2.7	2.2	2.0	2.1	2.2	2.3	2.4	2.4	-3.1	-0.7	1.0	0.4
Freight transport activity (Gtkm)	**331.7**	**372.3**	**429.8**	**469.6**	**507.7**	**551.4**	**571.1**	**580.2**	**587.7**	**2.6**	**1.7**	**1.2**	**0.3**
Trucks	175.2	237.8	280.7	310.1	338.9	367.1	376.2	380.1	383.9	4.8	1.9	1.0	0.2
Rail	101.7	70.5	82.7	95.4	103.6	113.3	120.1	123.1	125.1	-2.0	2.3	1.5	0.4
Inland navigation	54.8	64.0	66.5	64.1	65.2	71.0	74.9	77.0	78.7	1.9	-0.2	1.4	0.5
Energy demand in transport (ktoe)	**58631**	**63080**	**66188**	**62149**	**62745**	**63908**	**63500**	**59903**	**55551**	**1.2**	**-0.5**	**0.1**	**-1.3**
Public road transport	779	721	716	682	690	717	715	694	666	-0.8	-0.4	0.4	-0.7
Private cars and motorcycles	37559	39747	39405	35052	33748	32480	31129	28285	24943	0.5	-1.5	-0.8	-2.2
Trucks	12208	13949	16490	15960	17381	18590	18344	17657	16814	3.1	0.5	0.5	-0.9
Rail	2118	2131	1950	1830	1886	1962	1931	1854	1631	-0.8	-0.3	0.2	-1.7
Aviation	5307	5975	7345	8304	8712	9808	11014	11038	11117	3.3	1.7	2.4	0.1
Inland navigation	660	558	281	321	327	352	367	374	380	-8.2	1.5	1.2	0.3

Source: PRIMES

Greece: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9155**	**9741**	**10011**	**10316**	**9798**	**10189**	**10636**	**11201**	**11724**	**0.9**	**-0.2**	**0.8**	**1.0**
Solids	7077	7911	8222	8538	7948	8002	7965	7962	7968	1.5	-0.3	0.0	0.0
Oil	835	460	281	101	82	60	40	0	0	-10.3	-11.6	-6.9	
Natural gas	138	44	42	18	24	0	0	0	0	-11.2	-5.5		
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1105	1326	1466	1659	1744	2127	2632	3239	3757	2.9	1.8	4.2	3.6
Hydro	152	303	318	431	344	353	364	376	384	7.6	0.8	0.6	0.5
Biomass & Waste	893	935	1010	1015	998	1083	1093	1140	1197	1.2	-0.1	0.9	0.9
Wind	0	3	39	109	263	433	742	1092	1320	74.7	21.1	10.9	5.9
Solar and others	56	82	99	102	138	255	367	443	487	5.8	3.4	10.3	2.9
Geothermal	3	3	2	1	1	1	66	188	369	-4.7	-4.1	51.1	18.9
Net Imports	**15473**	**18268**	**22065**	**23448**	**23677**	**25280**	**25969**	**26595**	**26878**	**3.6**	**0.7**	**0.9**	**0.3**
Solids	988	925	768	371	204	213	238	254	267	-2.5	-12.4	1.6	1.2
Oil	14424	17275	19610	20419	19759	20070	19832	19527	19140	3.1	0.1	0.0	-0.4
- Crude oil and Feedstocks	14802	16997	20508	19443	20099	20398	20192	19930	19594	3.3	-0.2	0.0	-0.3
- Oil products	-378	277	-898	977	-340	-329	-360	-403	-453				
Natural gas	0	0	1689	2332	3238	4328	5053	5970	6620		6.7	4.6	2.7
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Gross Inland Consumption	**22338**	**24228**	**28217**	**31352**	**30864**	**32739**	**33773**	**34846**	**35543**	**2.4**	**0.9**	**0.9**	**0.5**
Solids	8091	8783	9040	8952	8152	8215	8202	8216	8235	1.1	-1.0	0.1	0.0
Oil	12942	14006	16007	18063	17230	17399	17040	16577	16080	2.1	0.7	-0.1	-0.6
Natural gas	138	44	1705	2354	3262	4328	5053	5970	6620	28.6	6.7	4.5	2.7
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Renew able energy forms	1105	1326	1466	1659	1819	2360	3073	3693	4222	2.9	2.2	5.4	3.2
as % in Gross Inland Consumption													
Solids	36.2	36.3	32.0	28.6	26.4	25.1	24.3	23.6	23.2				
Oil	57.9	57.8	56.7	57.6	55.8	53.1	50.5	47.6	45.2				
Natural gas	0.6	0.2	6.0	7.5	10.6	13.2	15.0	17.1	18.6				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	4.9	5.5	5.2	5.3	5.9	7.2	9.1	10.6	11.9				
Gross Electricity Generation in GWh_e	**34767**	**41291**	**53415**	**59416**	**61339**	**69330**	**76011**	**82010**	**87041**	**4.4**	**1.4**	**2.2**	**1.4**
Self consumption and grid losses	5818	6451	8430	10124	10133	11194	11891	12763	13342	3.8	1.9	1.6	1.2
Fuel Inputs for Thermal Power Generation	**8619**	**9938**	**11693**	**12405**	**11542**	**12506**	**12927**	**13677**	**14270**	**3.1**	**-0.1**	**1.1**	**1.0**
Solids	6890	7810	8234	8693	7894	7956	7937	7939	7951	1.8	-0.4	0.1	0.0
Oil (including refinery gas)	1711	2076	2114	2055	1556	1380	1026	771	553	2.1	-3.0	-4.1	-6.0
Gas	18	14	1280	1605	2058	2887	3457	4249	4809	53.1	4.9	5.3	3.4
Biomass & Waste	0	38	64	52	34	283	443	530	589		-6.0	29.1	2.9
Geothermal heat	0	0	0	0	0	0	64	187	368				19.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**16747**	**17954**	**22504**	**21602**	**20643**	**21046**	**20931**	**20716**	**20415**	**3.0**	**-0.9**	**0.1**	**-0.2**
Refineries	16670	17901	22473	21510	20496	20801	20599	20320	19987	3.0	-0.9	0.1	-0.3
Biofuels and hydrogen production	0	0	0	0	144	242	330	394	426			8.6	2.6
District heating	0	0	0	0	0	0	0	0	0				
Others	77	52	30	93	3	3	3	2	2	-8.8	-21.0	-1.4	-1.1
Energy Branch Consumption	**1194**	**1172**	**1558**	**1755**	**1725**	**1763**	**1786**	**1788**	**1769**	**2.7**	**1.0**	**0.3**	**-0.1**
Non-Energy Uses	**672**	**456**	**719**	**761**	**771**	**831**	**902**	**941**	**970**	**0.7**	**0.7**	**1.6**	**0.7**
Final Energy Demand	**14541**	**15838**	**18560**	**20800**	**21201**	**22492**	**23264**	**23678**	**23908**	**2.5**	**1.3**	**0.9**	**0.3**
by sector													
Industry	3945	4114	4445	4143	4035	4194	4421	4500	4594	1.2	-1.0	0.9	0.4
- energy intensive industries	2535	2493	2727	2573	2397	2498	2638	2687	2740	0.7	-1.3	1.0	0.4
- other industrial sectors	1410	1621	1718	1570	1638	1696	1782	1813	1854	2.0	-0.5	0.8	0.4
Residential	3057	3332	4486	5489	5703	6204	6443	6536	6583	3.9	2.4	1.2	0.2
Tertiary	1718	1947	2417	3083	3163	3475	3635	3777	3895	3.5	2.7	1.4	0.7
Transport	5821	6445	7212	8085	8300	8619	8765	8865	8836	2.2	1.4	0.5	0.1
by fuel													
Solids	1053	1074	888	446	257	258	265	276	284	-1.7	-11.7	0.3	0.7
Oil	10073	10837	12631	14278	14248	14633	14617	14499	14245	2.3	1.2	0.3	-0.3
Gas	15	14	257	585	674	790	876	900	964	33.0	10.1	2.7	1.0
Electricity	2448	2931	3710	4377	4645	5273	5751	6175	6553	4.2	2.3	2.2	1.3
Heat (from CHP and District Heating) [A]	0	0	28	49	207	328	450	521	537		22.1	8.1	1.8
Renew able energy forms	952	982	1046	1066	1169	1209	1304	1304	1324	0.9	1.1	1.1	0.2
Other	0	0	0	0	1	1	1	1	1			9.0	-0.1
RES in Gross Final Energy Consumption [B]			**1370**	**1507**	**1809**	**2204**	**2778**	**3226**	**3588**		**2.8**	**4.4**	**2.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**101.4**		**120.5**	**127.5**	**117.5**	**121.1**	**122.5**	**123.9**	**124.6**	**1.7**	**-0.3**	**0.4**	**0.2**
of w hich ETS sectors GHGs emissions				67.9	61.9	64.7	66.4	68.4	70.1			0.7	0.5
CO_2 Emissions (energy related)	**71.1**	**78.0**	**88.9**	**95.8**	**90.7**	**93.7**	**94.1**	**94.7**	**94.7**	**2.3**	**0.2**	**0.4**	**0.1**
Pow er generation/District heating	34.1	39.0	43.9	46.3	42.4	44.1	44.2	45.3	45.9	2.6	-0.3	0.4	0.4
Energy Branch	2.4	2.2	3.1	3.5	2.9	2.9	2.9	2.8	2.7	2.3	-0.4	-0.1	-0.8
Industry	9.3	9.8	9.9	8.2	7.1	7.3	7.4	7.3	7.4	0.6	-3.3	0.5	0.0
Residential	4.6	4.8	7.5	9.7	10.2	11.0	11.0	10.8	10.5	4.9	3.2	0.7	-0.4
Tertiary	3.4	3.2	3.4	4.2	4.0	3.8	3.6	3.5	3.3	0.1	1.6	-0.8	-0.9
Transport	17.2	19.1	21.3	23.9	24.0	24.7	24.9	25.0	24.9	2.1	1.2	0.4	0.0
CO_2 Emissions (non energy related)	**7.2**	**7.7**	**8.1**	**8.3**	**8.2**	**8.9**	**9.8**	**10.4**	**11.0**	**1.2**	**0.1**	**1.8**	**1.2**
Non-CO_2 GHGs Emissions	**23.1**		**23.5**	**23.5**	**18.7**	**18.5**	**18.7**	**18.7**	**18.8**	**0.1**	**-2.3**	**0.0**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**118.9**	**125.8**	**115.9**	**119.4**	**120.8**	**122.2**	**122.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Greece: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.121	10.595	10.904	11.083	11.307	11.476	11.556	11.575	11.573	0.7	0.4	0.2	0.0
GDP (in 000 M€08)	134.8	143.5	170.0	208.8	231.8	266.1	307.0	341.4	371.4	2.3	3.2	2.9	1.9
Gross Inl. Cons./GDP (toe/M€08)	165.7	168.9	166.0	150.2	133.1	123.0	110.0	102.1	95.7	0.0	-2.2	-1.9	-1.4
Carbon intensity (t of CO_2/toe of GIC)	3.18	3.22	3.15	3.05	2.94	2.86	2.79	2.72	2.67	-0.1	-0.7	-0.5	-0.4
Import Dependency %	62.2	65.8	69.4	68.6	70.7	71.3	70.9	70.4	69.6				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			18.2	22.3	24.1	28.5	35.2	40.0	42.2		3.2	4.8	2.6
as % of GDP			10.7	10.7	10.7	11.8	13.0	13.5	13.8				
Energy intensity indicators													
Industry (Energy on Value added)	84.1	92.5	100.0	74.3	67.9	62.8	58.2	54.7	52.1	1.7	-3.8	-1.5	-1.1
Residential (Energy on Private Income)	79.7	79.3	100.0	99.6	95.7	90.4	82.3	75.8	70.5	2.3	-0.4	-1.5	-1.5
Tertiary (Energy on Value added)	99.0	104.6	100.0	102.6	95.5	90.5	81.7	75.9	71.7	0.1	-0.5	-1.6	-1.3
Passenger transport (toe/Mpkm)	41.7	39.9	36.3	35.0	34.3	31.9	30.0	28.5	26.8	-1.4	-0.6	-1.3	-1.1
Freight transport (toe/Mtkm)	79.8	79.3	66.6	63.2	61.1	60.8	58.6	56.2	53.6	-1.8	-0.9	-0.4	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.98	0.94	0.82	0.77	0.65	0.59	0.53	0.50	0.48	-1.8	-2.3	-1.9	-1.0
Final energy demand (t of CO_2/toe)	2.38	2.32	2.26	2.21	2.14	2.08	2.02	1.97	1.93	-0.5	-0.6	-0.6	-0.4
Industry	2.36	2.37	2.22	1.98	1.75	1.73	1.67	1.63	1.61	-0.6	-2.4	-0.5	-0.3
Residential	1.51	1.43	1.66	1.77	1.79	1.77	1.70	1.66	1.60	0.9	0.8	-0.5	-0.7
Tertiary	1.96	1.65	1.40	1.37	1.25	1.08	1.00	0.92	0.85	-3.3	-1.1	-2.2	-1.6
Transport	2.96	2.96	2.95	2.95	2.90	2.87	2.84	2.82	2.82	0.0	-0.2	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.2	7.0	8.2	9.4	11.5	13.2	14.6				
RES in transport (%)			0.0	0.0	2.2	3.6	4.9	5.9	6.6				
Gross Electricity generation by fuel type (in GWh)			**53415**	**59416**	**61339**	**69330**	**76011**	**82010**	**87041**		**1.4**	**2.2**	**1.4**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			33585	35610	33567	33731	33431	34219	34311		0.0	0.0	0.3
Petroleum products			9354	9188	8142	6792	5230	3443	2479		-1.4	-4.3	-7.2
Gas (including derived gases)			6149	8154	12325	17512	20732	22393	24727		7.2	5.3	1.8
Biomass & waste			183	182	151	1205	1887	2313	2546		-1.9	28.7	3.0
Hydro			3692	5016	3999	4110	4238	4374	4464		0.8	0.6	0.5
Wind			451	1266	3062	5039	8623	12692	15349		21.1	10.9	5.9
Solar, tidal etc.			0	1	94	941	1795	2358	2738			34.2	4.3
Geothermal and other renewables			0	0	0	0	75	217	427				19.0
Net Generation Capacity in MW_e			**10288**	**11926**	**14954**	**18393**	**21152**	**25889**	**28489**		**3.8**	**3.5**	**3.0**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2585	2887	3820	5458	7540	9619	11085		4.0	7.0	3.9
Hydro (pumping excluded)			2359	2395	2395	2547	2692	2776	2811		0.2	1.2	0.4
Wind			226	491	1348	2230	3678	5306	6489		19.6	10.6	5.8
Solar			0	1	76	682	1170	1537	1785			31.4	4.3
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7703	9039	11135	12935	13613	16270	17404		3.8	2.0	2.5
of which cogeneration units			200	361	581	741	938	1014	1035		11.3	4.9	1.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			4507	4799	4799	4241	4375	4434	4434		0.6	-0.9	0.1
Gas fired			1114	1899	3629	6209	7070	9878	10920		12.5	6.9	4.4
Oil fired			2054	2282	2622	2401	2006	1712	1712		2.5	-2.6	-1.6
Biomass-waste fired			28	59	85	85	152	220	289		11.8	6.1	6.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	9	25	49				19.0
Load factor for net electric capacities (%)			54.9	52.8	43.9	40.5	38.8	34.2	33.1				
Efficiency for thermal electricity production (%)			36.2	36.8	40.4	40.7	40.8	39.4	38.9				
CHP indicator (% of electricity from CHP)			1.6	1.9	5.0	5.7	6.3	6.4	6.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			8.1	10.9	11.9	16.3	21.9	26.8	29.3				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			8.1	10.9	11.9	16.3	21.9	26.8	29.3				
Transport sector													
Passenger transport activity (Gpkm)	**85.8**	**99.2**	**128.7**	**152.9**	**170.2**	**185.7**	**198.3**	**207.7**	**217.8**	**4.1**	**2.8**	**1.5**	**0.9**
Public road transport	17.7	20.2	21.7	21.7	22.2	22.7	23.2	23.3	23.5	2.0	0.2	0.4	0.1
Private cars and motorcycles	37.5	47.5	66.7	89.7	102.7	109.0	111.8	111.0	111.2	5.9	4.4	0.9	-0.1
Rail	2.8	2.3	3.1	3.4	3.7	4.1	4.5	4.8	5.0	0.9	2.0	2.0	0.9
Aviation	22.1	22.8	29.9	31.1	34.1	42.2	50.9	60.4	69.9	3.1	1.3	4.1	3.2
Inland navigation	5.7	6.3	7.3	7.1	7.4	7.7	8.0	8.2	8.3	2.6	0.1	0.7	0.4
Freight transport activity (Gtkm)	**28.0**	**31.4**	**38.1**	**43.2**	**40.3**	**44.2**	**48.1**	**52.3**	**56.1**	**3.1**	**0.6**	**1.8**	**1.6**
Trucks	20.8	24.0	29.0	32.5	28.7	31.6	34.3	37.4	40.3	3.4	-0.1	1.8	1.6
Rail	0.6	0.3	0.4	0.6	0.9	1.0	1.1	1.2	1.2	-3.5	7.4	2.3	1.1
Inland navigation	6.6	7.1	8.7	10.1	10.7	11.6	12.7	13.7	14.6	2.8	2.1	1.7	1.4
Energy demand in transport (ktoe)	**5821**	**6445**	**7212**	**8085**	**8300**	**8619**	**8765**	**8865**	**8836**	**2.2**	**1.4**	**0.5**	**0.1**
Public road transport	190	214	225	220	222	222	215	206	196	1.7	-0.1	-0.3	-1.0
Private cars and motorcycles	1657	2092	2729	3464	3816	3656	3493	3309	3051	5.1	3.4	-0.9	-1.3
Trucks	2066	2309	2380	2517	2223	2426	2535	2642	2704	1.4	-0.7	1.3	0.6
Rail	75	57	60	58	76	85	88	88	82	-2.2	2.4	1.4	-0.6
Aviation	1264	1226	1325	1181	1284	1522	1692	1854	2018	0.5	-0.3	2.8	1.8
Inland navigation	568	546	493	645	678	710	742	766	784	-1.4	3.2	0.9	0.6

Source: PRIMES

Hungary: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**14157**	**13466**	**11215**	**10644**	**10561**	**10984**	**11469**	**12312**	**12891**	**-2.3**	**-0.6**	**0.8**	**1.2**
Solids	3948	3095	2893	1748	1720	1519	1527	1281	1524	-3.1	-5.1	-1.2	0.0
Oil	2330	2339	1673	1780	1200	1000	1000	900	800	-3.3	-3.3	-1.8	-2.2
Natural gas	3812	3788	2475	2331	2200	2000	1900	1775	1700	-4.2	-1.2	-1.5	-1.1
Nuclear	3544	3618	3658	3569	3787	4465	4497	5051	5051	0.3	0.3	1.7	1.2
Renew able energy sources	523	626	516	1217	1654	2000	2545	3305	3816	-0.1	12.4	4.4	4.1
Hydro	15	14	15	17	13	21	90	198	202	0.0	-1.9	21.6	8.4
Biomass & Waste	422	526	415	1110	1552	1853	2150	2544	2689	-0.2	14.1	3.3	2.3
Wind	0	0	0	1	15	25	42	54	64			10.6	4.3
Solar and others	0	0	0	2	10	22	86	118	158			24.6	6.3
Geothermal	86	86	86	87	65	79	178	392	703	0.0	-2.8	10.7	14.7
Net Imports	**14465**	**12652**	**14026**	**17519**	**17741**	**19013**	**19025**	**18433**	**18081**	**-0.3**	**2.4**	**0.7**	**-0.5**
Solids	1686	1395	1081	1303	1320	1332	1309	1311	1294	-4.3	2.0	-0.1	-0.1
Oil	6651	5519	5366	5872	6514	7407	7536	7616	7531	-2.1	2.0	1.5	0.0
- Crude oil and Feedstocks	6505	5962	5893	6334	6615	7477	7600	7683	7630	-1.0	1.2	1.4	0.0
- Oil products	145	-444	-527	-462	-101	-70	-64	-68	-100				
Natural gas	5170	5532	7283	9807	9488	9888	9856	9206	8978	3.5	2.7	0.4	-0.9
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Gross Inland Consumption	**28681**	**25896**	**25016**	**28006**	**28302**	**29997**	**30494**	**30745**	**30972**	**-1.4**	**1.2**	**0.7**	**0.2**
Solids	5969	4549	3967	3054	3041	2851	2836	2592	2817	-4.0	-2.6	-0.7	-0.1
Oil	8774	7721	6923	7537	7714	8407	8536	8516	8331	-2.3	1.1	1.0	-0.2
Natural gas	8913	9175	9657	12094	11688	11888	11756	10981	10678	0.8	1.9	0.1	-1.0
Nuclear	3544	3618	3658	3569	3787	4465	4497	5051	5051	0.3	0.3	1.7	1.2
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Renew able energy forms	523	626	516	1217	1677	2030	2587	3357	3876	-0.1	12.5	4.4	4.1
as % in Gross Inland Consumption													
Solids	20.8	17.6	15.9	10.9	10.7	9.5	9.3	8.4	9.1				
Oil	30.6	29.8	27.7	26.9	27.3	28.0	28.0	27.7	26.9				
Natural gas	31.1	35.4	38.6	43.2	41.3	39.6	38.6	35.7	34.5				
Nuclear	12.4	14.0	14.6	12.7	13.4	14.9	14.7	16.4	16.3				
Renew able energy forms	1.8	2.4	2.1	4.3	5.9	6.8	8.5	10.9	12.5				
Gross Electricity Generation in GWh_e	**28431**	**34011**	**35185**	**35749**	**37726**	**41603**	**45552**	**49348**	**52737**	**2.2**	**0.7**	**1.9**	**1.5**
Self consumption and grid losses	6572	7502	7991	6769	6107	6355	6790	7310	8329	2.0	-2.7	1.1	2.1
Fuel Inputs for Thermal Power Generation	**4970**	**6113**	**6107**	**5659**	**5276**	**5387**	**5985**	**5977**	**6764**	**2.1**	**-1.5**	**1.3**	**1.2**
Solids	2871	2977	2853	1924	1983	1753	1768	1535	1785	-0.1	-3.6	-1.1	0.1
Oil (including refinery gas)	440	1447	1052	122	55	49	63	99	103	9.1	-25.5	1.4	4.9
Gas	1636	1634	2140	3078	2470	2632	2868	2471	2494	2.7	1.4	1.5	-1.4
Biomass & Waste	24	55	62	534	768	938	1180	1564	1759	10.2	28.6	4.4	4.1
Geothermal heat	0	0	0	0	0	15	105	308	623				19.4
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11720**	**10716**	**9261**	**10031**	**10487**	**11314**	**11292**	**11277**	**11072**	**-2.3**	**1.3**	**0.7**	**-0.2**
Refineries	8870	8536	7622	8584	8843	9566	9696	9671	9470	-1.5	1.5	0.9	-0.2
Biofuels and hydrogen production	0	0	0	5	162	232	310	349	369			6.7	1.8
District heating	1146	789	471	629	710	703	488	477	482	-8.5	4.2	-3.7	-0.1
Others	1704	1392	1168	813	770	814	798	780	751	-3.7	-4.1	0.4	-0.6
Energy Branch Consumption	**1459**	**1390**	**1243**	**1657**	**1692**	**1791**	**1799**	**1789**	**1781**	**-1.6**	**3.1**	**0.6**	**-0.1**
Non-Energy Uses	**1584**	**1631**	**1596**	**2326**	**2289**	**2382**	**2451**	**2458**	**2462**	**0.1**	**3.7**	**0.7**	**0.0**
Final Energy Demand	**19184**	**15711**	**15759**	**18080**	**18687**	**19855**	**20211**	**20184**	**20018**	**-1.9**	**1.7**	**0.8**	**-0.1**
by sector													
Industry	6525	3808	3461	3430	3400	3490	3504	3488	3452	-6.1	-0.2	0.3	-0.1
- energy intensive industries	4160	2691	2536	2314	2249	2293	2281	2236	2182	-4.8	-1.2	0.1	-0.4
- other industrial sectors	2365	1117	925	1116	1152	1197	1223	1251	1270	-9.0	2.2	0.6	0.4
Residential	6377	5833	5276	6381	6335	6582	6620	6508	6441	-1.9	1.8	0.4	-0.3
Tertiary	3251	3411	3759	4073	4035	4212	4239	4256	4261	1.5	0.7	0.5	0.1
Transport	3031	2660	3263	4196	4916	5571	5848	5932	5863	0.7	4.2	1.8	0.0
by fuel													
Solids	2502	965	668	692	649	684	695	701	685	-12.4	-0.3	0.7	-0.2
Oil	6029	4158	4186	4812	5290	5923	6081	6091	5958	-3.6	2.4	1.4	-0.2
Gas	5941	6370	6503	7852	7796	7763	7496	7094	6772	0.9	1.8	-0.4	-1.0
Electricity	2717	2385	2531	2780	2840	3096	3322	3565	3747	-0.7	1.2	1.6	1.2
Heat (from CHP and District Heating) [A]	1570	1287	1440	1297	1256	1387	1478	1530	1666	-0.9	-1.4	1.6	1.2
Renew able energy forms	425	545	430	647	854	1001	1138	1201	1188	0.1	7.1	2.9	0.4
Other	0	0	0	0	1	1	1	1	1			10.8	0.0
RES in Gross Final Energy Consumption [B]			**469**	**798**	**1274**	**1550**	**1980**	**2476**	**2686**		**10.5**	**4.5**	**3.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**96.9**		**76.3**	**77.5**	**75.4**	**76.1**	**75.9**	**73.2**	**70.3**	**-2.4**	**-0.1**	**0.1**	**-0.8**
of w hich ETS sectors GHGs emissions				29.6	27.7	27.0	27.3	25.5	24.0			-0.1	-1.3
CO_2 Emissions (energy related)	**65.7**	**57.0**	**53.7**	**55.0**	**55.1**	**56.6**	**56.5**	**53.7**	**51.0**	**-2.0**	**0.3**	**0.2**	**-1.0**
Pow er generation/District heating	20.5	23.0	21.5	17.3	16.0	15.4	15.6	13.7	12.4	0.5	-2.9	-0.3	-2.2
Energy Branch	2.6	2.4	1.6	2.0	2.2	2.4	2.3	2.2	2.0	-4.7	3.4	0.2	-1.1
Industry	14.7	8.7	6.3	6.2	6.1	6.1	5.7	5.5	5.0	-8.1	-0.4	-0.6	-1.3
Residential	13.7	9.9	8.6	10.5	10.2	10.4	10.2	9.6	9.3	-4.6	1.8	0.0	-0.9
Tertiary	5.6	5.5	6.2	6.7	6.7	6.7	6.5	6.3	6.2	1.1	0.7	-0.2	-0.6
Transport	8.6	7.6	9.5	12.2	14.0	15.7	16.3	16.4	16.1	0.9	4.0	1.5	-0.1
CO_2 Emissions (non energy related)	**5.3**	**3.7**	**3.7**	**3.8**	**3.7**	**3.9**	**4.1**	**4.2**	**4.3**	**-3.5**	**-0.1**	**1.0**	**0.4**
Non-CO_2 GHGs Emissions	**25.9**		**18.8**	**18.8**	**16.5**	**15.6**	**15.3**	**15.3**	**15.0**	**-3.1**	**-1.3**	**-0.8**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**78.7**	**80.0**	**77.8**	**78.5**	**78.3**	**75.6**	**72.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Hungary: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.375	10.337	10.222	10.098	10.023	9.964	9.893	9.790	9.651	-0.1	-0.2	-0.1	-0.2
GDP (in 000 M€08)	69.8	62.5	76.1	93.7	92.5	106.8	121.2	134.8	149.2	0.9	2.0	2.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	411.1	414.5	328.9	298.9	305.8	280.8	251.5	228.1	207.6	-2.2	-0.7	-1.9	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.29	2.20	2.15	1.96	1.95	1.89	1.85	1.75	1.65	-0.6	-1.0	-0.5	-1.2
Import Dependency %	50.4	48.9	56.1	62.6	62.7	63.4	62.4	60.0	58.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			13.7	15.4	16.9	20.5	25.2	28.4	29.9		2.4	5.1	2.7
as % of GDP			18.0	16.4	18.8	21.0	23.5	24.8	25.1				
Energy intensity indicators													
Industry (Energy on Value added)	248.3	156.7	100.0	79.0	81.5	75.8	69.9	64.6	60.2	-8.7	-2.0	-1.5	-1.5
Residential (Energy on Private Income)	123.0	126.8	100.0	89.6	93.8	81.1	71.6	63.4	55.9	-2.1	-0.6	-2.7	-2.5
Tertiary (Energy on Value added)	81.4	103.5	100.0	86.0	86.8	76.6	67.4	60.4	54.1	2.1	-1.4	-2.5	-2.2
Passenger transport (toe/Mpkm)	25.9	25.3	24.2	24.9	25.2	25.1	25.2	24.7	23.6	-0.7	0.4	0.0	-0.7
Freight transport (toe/Mtkm)	26.1	32.6	45.9	59.7	63.0	63.3	60.6	57.3	53.2	5.8	3.2	-0.4	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.45	0.40	0.33	0.28	0.25	0.23	0.19	0.16	-0.6	-3.4	-2.0	-3.4
Final energy demand (t of CO_2/toe)	2.22	2.02	1.94	1.97	1.98	1.96	1.91	1.87	1.82	-1.3	0.2	-0.3	-0.5
Industry	2.25	2.28	1.83	1.81	1.79	1.74	1.64	1.58	1.46	-2.1	-0.2	-0.9	-1.2
Residential	2.15	1.70	1.62	1.65	1.61	1.57	1.53	1.47	1.44	-2.8	-0.1	-0.5	-0.6
Tertiary	1.71	1.60	1.66	1.65	1.65	1.60	1.54	1.48	1.44	-0.3	0.0	-0.7	-0.6
Transport	2.84	2.85	2.90	2.91	2.84	2.82	2.78	2.76	2.74	0.2	-0.2	-0.2	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.9	4.3	6.6	7.6	9.5	11.9	13.0				
RES in transport (%)			0.0	0.2	3.7	4.6	5.9	6.7	7.3				
Gross Electricity generation by fuel type (in GWh)			**35185**	**35749**	**37726**	**41603**	**45552**	**49348**	**52737**		**0.7**	**1.9**	**1.5**
Nuclear energy			14177	13832	14681	17308	17432	19816	19816		0.3	1.7	1.3
Coal and lignite			9924	6910	7208	6320	6824	6065	8060		-3.1	-0.5	1.7
Petroleum products			3901	505	279	210	266	430	459		-23.2	-0.5	5.6
Gas (including derived gases)			6885	12572	11958	13339	14444	13021	13142		5.7	1.9	-0.9
Biomass & waste			120	1717	3273	3849	4859	6590	7210		39.2	4.0	4.0
Hydro			178	203	147	241	1043	2297	2345		-1.9	21.6	8.4
Wind			0	10	177	289	483	623	740			10.6	4.3
Solar, tidal etc.			0	0	3	29	77	147	241			38.3	12.1
Geothermal and other renewables			0	0	0	18	123	358	724				19.4
Net Generation Capacity in MW_e			**7956**	**8749**	**9385**	**9804**	**9456**	**9295**	**9975**		**1.7**	**0.1**	**0.5**
Nuclear energy			1804	1827	1854	2161	2174	2475	2475		0.3	1.6	1.3
Renewable energy			44	64	256	422	1069	1325	1604		19.2	15.4	4.1
Hydro (pumping excluded)			44	47	47	61	437	461	509		0.7	25.0	1.5
Wind			0	17	205	330	552	711	845			10.4	4.3
Solar			0	0	4	30	80	153	250			34.9	12.1
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6109	6859	7276	7221	6214	5495	5896		1.8	-1.6	-0.5
of which cogeneration units			1125	1339	1710	2031	2460	2811	3066		4.3	3.7	2.2
of which CCS units			0	0	0	0	0	0	329				
Solids fired			1664	1475	1511	1140	993	867	1095		-1.0	-4.1	1.0
Gas fired			3599	4648	5021	5274	4374	3433	3579		3.4	-1.4	-2.0
Oil fired			762	309	317	285	201	249	234		-8.4	-4.5	1.5
Biomass-waste fired			84	427	427	521	632	905	905		17.6	4.0	3.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	2	14	41	83				19.4
Load factor for net electric capacities (%)			46.0	43.0	43.3	46.1	52.3	57.6	56.5				
Efficiency for thermal electricity production (%)			29.3	33.0	37.0	37.9	38.1	38.1	37.6				
CHP indicator (% of electricity from CHP)			14.3	20.0	29.4	32.3	35.8	34.9	34.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	6.4				
Non fossil fuels in electricity generation (%)			41.1	44.1	48.5	52.2	52.7	60.5	58.9				
- nuclear			40.3	38.7	38.9	41.6	38.3	40.2	37.6				
- renewable energy forms and industrial waste			0.8	5.4	9.5	10.6	14.5	20.3	21.4				
Transport sector													
Passenger transport activity (Gpkm)	**82.7**	**75.1**	**80.1**	**81.4**	**79.4**	**91.8**	**100.9**	**108.8**	**117.0**	**-0.3**	**-0.1**	**2.4**	**1.5**
Public road transport	19.3	16.6	18.7	17.8	17.0	17.2	17.5	17.8	18.1	-0.3	-0.9	0.2	0.4
Private cars and motorcycles	47.6	46.2	47.0	47.7	47.1	57.9	64.4	69.3	74.5	-0.1	0.0	3.2	1.5
Rail	13.9	10.9	12.3	12.2	11.0	11.3	12.0	13.0	14.1	-1.2	-1.1	0.9	1.6
Aviation	1.9	1.4	2.1	3.7	4.2	5.4	7.0	8.7	10.3	0.6	7.3	5.2	4.0
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**34.0**	**23.4**	**28.8**	**36.4**	**46.3**	**51.6**	**54.4**	**56.5**	**58.4**	**-1.6**	**4.8**	**1.6**	**0.7**
Trucks	15.2	13.8	19.1	25.2	34.4	39.1	41.0	42.3	43.4	2.4	6.0	1.8	0.6
Rail	16.8	8.4	8.8	9.1	9.8	10.3	11.0	11.6	12.2	-6.3	1.1	1.2	1.1
Inland navigation	2.0	1.2	0.9	2.1	2.1	2.3	2.4	2.6	2.7	-7.9	9.0	1.5	1.1
Energy demand in transport (ktoe)	**3031**	**2660**	**3263**	**4196**	**4916**	**5571**	**5848**	**5932**	**5863**	**0.7**	**4.2**	**1.8**	**0.0**
Public road transport	123	141	156	184	174	170	165	159	154	2.3	1.1	-0.5	-0.7
Private cars and motorcycles	1825	1546	1532	1583	1545	1790	1983	2073	2095	-1.7	0.1	2.5	0.6
Trucks	637	595	1181	2040	2782	3132	3166	3113	3006	6.4	8.9	1.3	-0.5
Rail	272	191	176	159	156	162	158	152	122	-4.3	-1.1	0.1	-2.6
Aviation	164	182	219	230	258	315	375	434	487	2.9	1.7	3.8	2.6
Inland navigation	9	5	1	1	1	1	1	1	1	-24.1	5.8	1.3	0.9

Source: PRIMES

Ireland: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3353**	**4010**	**2152**	**1616**	**1633**	**1846**	**2109**	**2410**	**2738**	**-4.3**	**-2.7**	**2.6**	**2.6**
Solids	1312	1606	959	789	598	609	634	643	594	-3.1	-4.6	0.6	-0.7
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	1873	2249	958	461	410	454	476	493	500	-6.5	-8.1	1.5	0.5
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	168	155	235	367	625	783	998	1275	1644	3.4	10.3	4.8	5.1
Hydro	60	61	73	54	59	61	61	61	61	2.0	-2.0	0.2	0.0
Biomass & Waste	108	92	141	216	264	292	357	457	583	2.7	6.5	3.0	5.0
Wind	0	1	21	96	286	388	490	628	798		29.9	5.5	5.0
Solar and others	0	0	0	0	13	37	80	112	182	14.9	52.1	20.2	8.6
Geothermal	0	0	0	0	2	5	11	17	22	0.0	48.2	16.0	7.3
Net Imports	**7093**	**7631**	**12266**	**13657**	**13989**	**15127**	**15786**	**16065**	**16047**	**5.6**	**1.3**	**1.2**	**0.2**
Solids	2064	1823	1789	1969	1644	1779	1933	1902	1745	-1.4	-0.8	1.6	-1.0
Oil	5029	5725	7991	8503	8633	9156	9355	9460	9527	4.7	0.8	0.8	0.2
- Crude oil and Feedstocks	2023	2269	3008	3305	3147	3308	3356	3371	3374	4.0	0.5	0.6	0.1
- Oil products	3006	3456	4982	5198	5486	5848	5999	6088	6154	5.2	1.0	0.9	0.3
Natural gas	0	85	2478	3010	3481	3851	4045	4184	4250		3.5	1.5	0.5
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Gross Inland Consumption	**10246**	**10861**	**14328**	**15123**	**15522**	**16865**	**17782**	**18356**	**18660**	**3.4**	**0.8**	**1.4**	**0.5**
Solids	3416	2775	2711	2685	2242	2388	2568	2544	2339	-2.3	-1.9	1.4	-0.9
Oil	4789	5598	7938	8426	8534	9049	9241	9340	9402	5.2	0.7	0.8	0.2
Natural gas	1873	2334	3436	3470	3891	4304	4521	4677	4750	6.3	1.3	1.5	0.5
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Renew able energy forms	168	155	235	367	699	961	1280	1632	2016	3.4	11.5	6.2	4.6
as % in Gross Inland Consumption													
Solids	33.3	25.6	18.9	17.8	14.4	14.2	14.4	13.9	12.5				
Oil	46.7	51.5	55.4	55.7	55.0	53.7	52.0	50.9	50.4				
Natural gas	18.3	21.5	24.0	22.9	25.1	25.5	25.4	25.5	25.5				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	1.6	1.4	1.6	2.4	4.5	5.7	7.2	8.9	10.8				
Gross Electricity Generation in GWh_e	**14232**	**17622**	**23695**	**25008**	**26679**	**30342**	**33345**	**36268**	**38339**	**5.2**	**1.2**	**2.3**	**1.4**
Self consumption and grid losses	2261	2658	3457	3869	3599	4040	4405	4712	4804	4.3	0.4	2.0	0.9
Fuel Inputs for Thermal Power Generation	**3019**	**3711**	**4792**	**4747**	**4168**	**4606**	**4897**	**5030**	**4831**	**4.7**	**-1.4**	**1.6**	**-0.1**
Solids	1839	2028	1925	1903	1646	1851	2024	2031	1871	0.5	-1.6	2.1	-0.8
Oil (including refinery gas)	339	622	1019	775	349	328	288	253	224	11.6	-10.2	-1.9	-2.5
Gas	841	1060	1825	2040	2127	2348	2428	2505	2464	8.1	1.5	1.3	0.1
Biomass & Waste	0	0	24	30	45	79	157	241	273		6.7	13.2	5.7
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1943**	**2439**	**3488**	**3479**	**3328**	**3551**	**3666**	**3711**	**3734**	**6.0**	**-0.5**	**1.0**	**0.2**
Refineries	1746	2272	3317	3343	3147	3308	3356	3371	3374	6.6	-0.5	0.6	0.1
Biofuels and hydrogen production	0	0	0	1	93	171	243	283	313			10.1	2.6
District heating	0	0	0	0	0	0	0	0	0				
Others	197	167	171	135	87	72	67	57	47	-1.4	-6.5	-2.6	-3.4
Energy Branch Consumption	**168**	**185**	**245**	**379**	**335**	**354**	**367**	**373**	**362**	**3.9**	**3.2**	**0.9**	**-0.1**
Non-Energy Uses	**624**	**552**	**552**	**308**	**177**	**208**	**220**	**230**	**242**	**-1.2**	**-10.8**	**2.2**	**0.9**
Final Energy Demand	**7368**	**7910**	**10681**	**12340**	**12508**	**13600**	**14347**	**14897**	**15391**	**3.8**	**1.6**	**1.4**	**0.7**
by sector													
Industry	1745	1854	2348	2481	2286	2503	2703	2881	3059	3.0	-0.3	1.7	1.2
- energy intensive industries	870	881	1174	1237	1025	1056	1085	1119	1152	3.0	-1.3	0.6	0.6
- other industrial sectors	876	973	1174	1244	1261	1447	1618	1762	1906	3.0	0.7	2.5	1.7
Residential	2406	2200	2489	2895	3257	3480	3612	3722	3838	0.3	2.7	1.0	0.6
Tertiary	1227	1507	1826	1967	1965	2149	2229	2311	2376	4.1	0.7	1.3	0.6
Transport	1989	2349	4018	4997	5000	5468	5803	5983	6118	7.3	2.2	1.5	0.5
by fuel													
Solids	1784	933	699	704	583	525	532	502	458	-9.0	-1.8	-0.9	-1.5
Oil	3887	4813	6919	8020	7682	8199	8443	8595	8732	5.9	1.1	0.9	0.3
Gas	568	796	1201	1337	1684	1873	2008	2088	2180	7.8	3.4	1.8	0.8
Electricity	1020	1277	1744	2094	2127	2412	2647	2863	3024	5.5	2.0	2.2	1.3
Heat (from CHP and District Heating) [A]	0	0	0	0	123	160	163	185	206			2.9	2.3
Renew able energy forms	108	92	118	184	308	430	552	662	790	0.9	10.1	6.0	3.6
Other	0	0	0	0	0	1	1	1	1			9.8	1.7
RES in Gross Final Energy Consumption [B]			**218**	**349**	**551**	**929**	**1241**	**1585**	**1965**		**9.7**	**8.5**	**4.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**56.0**		**69.0**	**70.7**	**66.0**	**69.3**	**71.1**	**72.2**	**71.8**	**2.1**	**-0.4**	**0.7**	**0.1**
of w hich ETS sectors GHGs emissions				24.6	19.7	21.6	22.7	23.1	22.5			1.4	-0.1
CO_2 Emissions (energy related)	**30.8**	**32.9**	**41.9**	**45.5**	**42.6**	**45.6**	**47.5**	**48.1**	**47.7**	**3.1**	**0.1**	**1.1**	**0.1**
Pow er generation/District heating	10.4	12.6	15.2	14.8	12.7	13.9	14.7	14.8	14.0	3.9	-1.8	1.5	-0.5
Energy Branch	0.2	0.2	0.3	0.6	0.6	0.6	0.6	0.6	0.6	4.0	5.6	0.8	-0.3
Industry	4.0	3.8	4.6	4.9	3.8	4.1	4.3	4.3	4.3	1.5	-1.9	1.1	0.1
Residential	7.5	6.0	6.0	6.8	7.6	7.7	7.8	7.8	7.9	-2.1	2.3	0.3	0.1
Tertiary	2.9	3.4	3.8	3.4	3.3	3.5	3.6	3.6	3.7	2.8	-1.3	0.7	0.3
Transport	5.9	6.9	12.0	14.9	14.6	15.8	16.5	17.0	17.3	7.4	2.0	1.3	0.4
CO_2 Emissions (non energy related)	**2.3**	**2.3**	**2.9**	**2.7**	**1.5**	**1.7**	**1.7**	**1.8**	**1.9**	**2.4**	**-6.5**	**1.4**	**0.9**
Non-CO_2 GHGs Emissions	**22.8**		**24.1**	**22.6**	**22.0**	**22.0**	**21.8**	**22.3**	**22.2**	**0.5**	**-0.9**	**-0.1**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**123.2**	**126.4**	**117.9**	**123.8**	**126.9**	**129.0**	**128.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Ireland: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.507	3.598	3.778	4.109	4.614	5.052	5.404	5.673	5.881	0.7	2.0	1.6	0.8
GDP (in 000 M€08)	64.6	82.0	130.7	171.3	167.7	201.0	234.2	267.7	302.0	7.3	2.5	3.4	2.6
Gross Inl. Cons./GDP (toe/M€08)	158.5	132.4	109.6	88.3	92.5	83.9	75.9	68.6	61.8	-3.6	-1.7	-2.0	-2.0
Carbon intensity (t of CO_2/toe of GIC)	3.01	3.03	2.93	3.01	2.74	2.71	2.67	2.62	2.56	-0.3	-0.7	-0.3	-0.4
Import Dependency %	69.1	69.5	84.7	89.7	89.5	89.1	88.2	87.0	85.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			10.8	13.7	13.6	15.9	19.9	22.9	24.5		2.5	4.6	3.5
as % of GDP			8.3	8.0	8.3	8.4	9.3	10.0	10.2				
Energy intensity indicators													
Industry (Energy on Value added)	222.5	150.3	100.0	80.1	68.9	64.5	60.3	57.4	54.7	-7.7	-3.7	-1.3	-1.0
Residential (Energy on Private Income)	167.3	129.6	100.0	93.3	99.0	95.0	86.3	80.7	76.4	-5.0	-0.1	-1.4	-1.2
Tertiary (Energy on Value added)	111.3	119.2	100.0	81.9	80.3	72.9	64.5	58.0	52.5	-1.1	-2.2	-2.2	-2.1
Passenger transport (toe/Mpkm)	48.7	45.2	51.0	48.5	47.4	43.9	41.0	37.1	33.6	0.5	-0.7	-1.5	-2.0
Freight transport (toe/Mtkm)	95.9	115.5	121.2	116.0	115.6	114.2	109.9	105.1	99.5	2.4	-0.5	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.73	0.71	0.64	0.59	0.45	0.43	0.42	0.38	0.34	-1.3	-3.5	-0.8	-1.9
Final energy demand (t of CO_2/toe)	2.74	2.55	2.47	2.43	2.34	2.29	2.24	2.20	2.16	-1.0	-0.5	-0.4	-0.4
Industry	2.28	2.05	1.98	1.99	1.67	1.62	1.58	1.50	1.41	-1.4	-1.7	-0.6	-1.1
Residential	3.10	2.71	2.42	2.34	2.33	2.22	2.16	2.11	2.06	-2.4	-0.4	-0.7	-0.5
Tertiary	2.34	2.28	2.07	1.74	1.69	1.65	1.60	1.55	1.54	-1.2	-2.0	-0.6	-0.3
Transport	2.96	2.96	2.97	2.98	2.92	2.88	2.85	2.84	2.82	0.1	-0.2	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			2.0	2.8	4.4	6.8	8.6	10.6	12.7				
RES in transport (%)			0.0	0.0	2.3	3.9	5.3	6.0	6.6				
Gross Electricity generation by fuel type (in GWh)			**23695**	**25008**	**26679**	**30342**	**33345**	**36268**	**38339**		**1.2**	**2.3**	**1.4**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			8830	8822	7889	8903	9741	9770	9004		-1.1	2.1	-0.8
Petroleum products			4387	3389	1646	1521	1322	1311	1170		-9.3	-2.2	-1.2
Gas (including derived gases)			9311	10959	12995	14419	15062	15806	16028		3.4	1.5	0.6
Biomass & waste			76	95	129	263	595	931	1067		5.4	16.5	6.0
Hydro			846	631	691	708	707	704	705		-2.0	0.2	0.0
Wind			244	1112	3327	4516	5702	7305	9276		29.9	5.5	5.0
Solar, tidal etc.			0	0	2	14	24	35	49			28.7	7.5
Geothermal and other renewables			0	0	0	0	193	405	1039				18.4
Net Generation Capacity in MW_e			**4399**	**5718**	**9578**	**9495**	**9808**	**10340**	**11580**		**8.1**	**0.2**	**1.7**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			346	743	1578	1901	2413	3061	4026		16.4	4.3	5.3
Hydro (pumping excluded)			230	225	225	229	230	230	230		-0.2	0.2	0.0
Wind			116	517	1348	1659	2058	2585	3206		27.8	4.3	4.5
Solar			0	0	5	14	25	37	51			17.3	7.5
Other renewables (tidal etc.)			0	0	0	0	100	210	539				18.4
Thermal power			4053	4976	7999	7593	7395	7278	7553		7.0	-0.8	0.2
of which cogeneration units			133	127	273	319	325	331	351		7.4	1.8	0.8
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1276	1229	1230	1204	1222	1221	1221		-0.4	-0.1	0.0
Gas fired			1966	2927	5903	6115	5853	5648	5899		11.6	-0.1	0.1
Oil fired			783	772	781	190	192	224	224		0.0	-13.1	1.6
Biomass-waste fired			27	49	85	85	128	186	209		12.0	4.2	5.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	46.6	30.2	34.8	37.1	38.4	36.4				
Efficiency for thermal electricity production (%)			40.6	42.2	46.8	46.9	46.9	47.6	48.5				
CHP indicator (% of electricity from CHP)			2.6	2.6	2.6	4.4	4.6	4.3	4.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			4.9	7.3	15.5	18.1	21.7	25.9	31.7				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			4.9	7.3	15.5	18.1	21.7	25.9	31.7				
Transport sector													
Passenger transport activity (Gpkm)	**29.2**	**35.6**	**47.1**	**58.1**	**62.9**	**71.3**	**80.8**	**90.4**	**100.6**	**4.9**	**2.9**	**2.5**	**2.2**
Public road transport	3.9	5.2	6.1	6.7	7.2	7.7	8.2	8.7	9.2	4.7	1.6	1.3	1.2
Private cars and motorcycles	21.3	25.3	32.4	38.4	40.8	46.0	52.0	58.5	65.4	4.3	2.3	2.5	2.3
Rail	1.2	1.3	1.4	1.9	2.1	2.4	2.7	3.1	3.5	1.3	4.1	2.7	2.4
Aviation	2.0	3.0	6.3	10.1	11.9	14.2	16.7	19.0	21.3	12.3	6.6	3.5	2.4
Inland navigation	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	0.5	0.6	1.6	1.3
Freight transport activity (Gtkm)	**5.9**	**6.4**	**13.3**	**18.8**	**17.4**	**20.4**	**22.7**	**25.0**	**27.5**	**8.5**	**2.7**	**2.7**	**2.0**
Trucks	5.1	5.5	12.3	17.9	16.7	19.6	21.7	24.0	26.4	9.2	3.1	2.7	2.0
Rail	0.6	0.6	0.5	0.3	0.1	0.2	0.2	0.2	0.3	-1.8	-12.5	4.4	3.0
Inland navigation	0.2	0.3	0.6	0.6	0.6	0.7	0.7	0.8	0.8	9.3	0.3	2.5	1.4
Energy demand in transport (ktoe)	**1989**	**2349**	**4018**	**4997**	**5000**	**5468**	**5803**	**5983**	**6118**	**7.3**	**2.2**	**1.5**	**0.5**
Public road transport	31	41	48	51	54	57	58	58	58	4.4	1.3	0.6	0.1
Private cars and motorcycles	994	1146	1713	1897	1935	1954	2041	2030	1981	5.6	1.2	0.5	-0.3
Trucks	525	694	1577	2150	1999	2316	2472	2607	2717	11.6	2.4	2.1	1.0
Rail	48	50	42	45	28	30	25	27	25	-1.4	-4.0	-1.0	-0.2
Aviation	365	390	613	836	966	1092	1185	1239	1313	5.3	4.6	2.1	1.0
Inland navigation	26	28	25	18	18	20	21	23	24	-0.5	-3.2	1.7	1.2

Source: PRIMES

Italy: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**25558**	**29435**	**27128**	**28111**	**28335**	**28954**	**33209**	**44411**	**57483**	**0.6**	**0.4**	**1.6**	**5.6**
Solids	218	44	4	60	0	0	0	0	0	-33.8			
Oil	4766	5405	4811	6520	5380	5386	5322	5186	4985	0.1	1.1	-0.1	-0.7
Natural gas	14030	16347	13622	9886	8500	7900	7300	6700	6000	-0.3	-4.6	-1.5	-1.9
Nuclear	0	0	0	0	0	0	3277	12794	24935				22.5
Renew able energy sources	6544	7640	8691	11645	14455	15668	17310	19731	21564	2.9	5.2	1.8	2.2
Hydro	2719	3249	3812	3101	3300	3308	3329	3329	3353	3.4	-1.4	0.1	0.1
Biomass & Waste	849	1215	1716	3521	5401	5568	5796	5880	5961	7.3	12.2	0.7	0.3
Wind	0	1	48	202	528	1005	1588	2314	2632	73.3	27.0	11.6	5.2
Solar and others	5	8	12	30	246	823	1440	1990	2383	9.2	34.8	19.4	5.2
Geothermal	2971	3167	3103	4791	4981	4964	5157	6218	7236	0.4	4.8	0.3	3.4
Net Imports	**132454**	**135059**	**153428**	**160955**	**154695**	**160870**	**165232**	**160992**	**154556**	**1.5**	**0.1**	**0.7**	**-0.7**
Solids	13792	12987	13188	16366	16066	17246	18216	17237	15820	-0.4	2.0	1.3	-1.4
Oil	90279	90092	88933	79901	69397	69795	69133	67062	63956	-0.2	-2.4	0.0	-0.8
- Crude oil and Feedstocks	84617	82939	90784	95053	81995	82416	81761	79702	76595	0.7	-1.0	0.0	-0.7
- Oil products	5662	7153	-1852	-15153	-12597	-12621	-12628	-12640	-12639				
Natural gas	25311	28530	47008	59840	64248	68436	71848	70261	67972	6.4	3.2	1.1	-0.6
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Gross Inland Consumption	**153512**	**161674**	**172955**	**187312**	**179957**	**186614**	**195164**	**202037**	**208554**	**1.2**	**0.4**	**0.8**	**0.7**
Solids	14621	12272	12659	16477	16066	17246	18216	17237	15820	-1.4	2.4	1.3	-1.4
Oil	90274	93660	89365	83691	71704	71971	71178	68882	65454	-0.1	-2.2	-0.1	-0.8
Natural gas	39001	44652	57940	70651	72748	76336	79148	76961	73972	4.0	2.3	0.8	-0.7
Nuclear	0	0	0	0	0	0	3277	12794	24935				22.5
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Renew able energy forms	6636	7871	9177	12266	15808	17728	20431	23651	26247	3.3	5.6	2.6	2.5
as % in Gross Inland Consumption													
Solids	9.5	7.6	7.3	8.8	8.9	9.2	9.3	8.5	7.6				
Oil	58.8	57.9	51.7	44.7	39.8	38.6	36.5	34.1	31.4				
Natural gas	25.4	27.6	33.5	37.7	40.4	40.9	40.6	38.1	35.5				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	1.7	6.3	12.0				
Renew able energy forms	4.3	4.9	5.3	6.5	8.8	9.5	10.5	11.7	12.6				
Gross Electricity Generation in GWh_e	**213400**	**237312**	**270016**	**296786**	**300873**	**331620**	**373488**	**405533**	**434222**	**2.4**	**1.1**	**2.2**	**1.5**
Self consumption and grid losses	29388	31368	35087	36142	33441	37053	42830	46626	51323	1.8	-0.5	2.5	1.8
Fuel Inputs for Thermal Power Generation	**40328**	**43578**	**47763**	**54689**	**52209**	**55568**	**57998**	**55885**	**50688**	**1.7**	**0.9**	**1.1**	**-1.3**
Solids	7017	5287	5836	10001	10924	11716	12403	11368	10227	-1.8	6.5	1.3	-1.9
Oil (including refinery gas)	21531	25009	18954	9640	2060	3157	2854	3319	1621	-1.3	-19.9	3.3	-5.5
Gas	8971	10234	19665	28200	31258	32298	33739	29997	25816	8.2	4.7	0.8	-2.6
Biomass & Waste	39	94	419	2270	3214	3644	4065	5214	5987	26.8	22.6	2.4	3.9
Geothermal heat	2770	2954	2890	4578	4753	4753	4937	5987	7037	0.4	5.1	0.4	3.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99583**	**99070**	**103125**	**107857**	**94778**	**95848**	**95990**	**94125**	**90768**	**0.4**	**-0.8**	**0.1**	**-0.6**
Refineries	91895	92690	97315	102905	89434	89681	88863	86601	83238	0.6	-0.8	-0.1	-0.7
Biofuels and hydrogen production	0	0	0	179	1281	1808	2567	2964	3293			7.2	2.5
District heating	0	0	0	0	0	0	0	0	0				
Others	7688	6380	5811	4773	4063	4358	4560	4561	4237	-2.8	-3.5	1.2	-0.7
Energy Branch Consumption	**7028**	**7345**	**7289**	**10110**	**9398**	**9473**	**9674**	**9607**	**9425**	**0.4**	**2.6**	**0.3**	**-0.3**
Non-Energy Uses	**10095**	**13807**	**11039**	**11267**	**10618**	**10809**	**11108**	**11301**	**11501**	**0.9**	**-0.4**	**0.5**	**0.3**
Final Energy Demand	**107380**	**113897**	**123465**	**135679**	**131767**	**137212**	**141883**	**144056**	**145714**	**1.4**	**0.7**	**0.7**	**0.3**
by sector													
Industry	36259	36459	39526	41924	39732	40372	42233	43653	45260	0.9	0.1	0.6	0.7
- energy intensive industries	25255	24765	24933	26667	24618	24873	25547	25809	26047	-0.1	-0.1	0.4	0.2
- other industrial sectors	11004	11694	14593	15257	15114	15500	16685	17844	19213	2.9	0.4	1.0	1.4
Residential	26334	26707	28361	32040	32616	34582	35540	35839	36005	0.7	1.4	0.9	0.1
Tertiary	11271	12990	14190	17934	16861	17645	18484	18597	18533	2.3	1.7	0.9	0.0
Transport	33514	37741	41388	43782	42558	44612	45626	45966	45916	2.1	0.3	0.7	0.1
by fuel													
Solids	4209	4012	3681	4220	3321	3596	3772	3813	3628	-1.3	-1.0	1.3	-0.4
Oil	53841	53287	56357	58458	53763	53159	52682	51862	50998	0.5	-0.5	-0.2	-0.3
Gas	29813	34652	37984	41979	40953	43226	44454	44168	44650	2.5	0.8	0.8	0.0
Electricity	18409	20442	23435	25828	25852	27888	30571	32606	34314	2.4	1.0	1.7	1.2
Heat (from CHP and District Heating) [A]	0	0	0	3082	4011	4634	4413	5628	5984			1.0	3.1
Renew able energy forms	1107	1505	2007	2112	3864	4704	5984	5973	6134	6.1	6.8	4.5	0.2
Other	0	0	0	0	2	5	6	6	6			9.7	0.1
RES in Gross Final Energy Consumption [B]			**6180**	**7829**	**10053**	**11953**	**14729**	**17071**	**18774**		**5.0**	**3.9**	**2.5**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**499.0**		**532.3**	**561.6**	**513.8**	**526.5**	**530.2**	**513.7**	**485.1**	**0.6**	**-0.4**	**0.3**	**-0.9**
of w hich ETS sectors GHGs emissions				254.4	217.8	226.6	230.7	218.1	193.4			0.6	-1.7
CO_2 Emissions (energy related)	**384.7**	**399.5**	**418.8**	**447.6**	**412.3**	**425.9**	**429.8**	**413.1**	**384.8**	**0.9**	**-0.2**	**0.4**	**-1.1**
Pow er generation/District heating	118.8	125.9	130.5	137.8	124.4	133.6	135.6	123.6	99.1	0.9	-0.5	0.9	-3.1
Energy Branch	16.0	16.4	15.9	19.1	17.5	17.4	17.2	15.6	14.3	-0.1	1.0	-0.2	-1.9
Industry	77.6	73.8	75.5	74.9	63.1	61.5	64.1	62.9	64.1	-0.3	-1.8	0.2	0.0
Residential	55.7	52.9	54.8	61.4	62.7	65.0	64.6	64.0	62.9	-0.2	1.4	0.3	-0.3
Tertiary	19.1	21.2	22.0	27.2	24.3	23.7	23.0	21.9	20.7	1.4	1.0	-0.6	-1.0
Transport	97.5	109.2	120.1	127.3	120.1	124.6	125.2	125.0	123.7	2.1	0.0	0.4	-0.1
CO_2 Emissions (non energy related)	**32.7**	**30.6**	**28.2**	**30.5**	**27.7**	**28.4**	**29.2**	**30.0**	**30.5**	**-1.5**	**-0.2**	**0.5**	**0.5**
Non-CO_2 GHGs Emissions	**81.5**		**85.2**	**83.5**	**73.7**	**72.2**	**71.2**	**70.6**	**69.8**	**0.4**	**-1.4**	**-0.3**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**106.7**	**112.6**	**103.0**	**105.5**	**106.3**	**103.0**	**97.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Italy: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.694	56.844	56.924	58.462	60.017	60.929	61.421	61.683	61.868	0.0	0.5	0.2	0.1
GDP (in 000 M€08)	1234.6	1315.1	1444.9	1510.1	1482.7	1612.2	1773.4	1936.3	2085.4	1.6	0.3	1.8	1.6
Gross Inl. Cons./GDP (toe/M€08)	124.3	122.9	119.7	124.0	121.4	115.7	110.1	104.3	100.0	-0.4	0.1	-1.0	-1.0
Carbon intensity (t of CO_2/toe of GIC)	2.51	2.47	2.42	2.39	2.29	2.28	2.20	2.04	1.85	-0.3	-0.6	-0.4	-1.8
Import Dependency %	84.8	82.3	87.3	84.4	84.5	84.7	83.3	78.4	72.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			145.0	167.0	167.0	196.6	237.7	268.4	280.8		1.8	4.5	2.9
as % of GDP			10.0	11.1	11.6	13.4	15.2	16.6	17.2				
Energy intensity indicators													
Industry (Energy on Value added)	105.9	98.6	100.0	110.7	111.4	106.4	100.5	92.9	87.4	-0.6	1.1	-1.0	-1.4
Residential (Energy on Private Income)	109.6	106.6	100.0	108.8	110.4	105.1	98.3	91.7	86.5	-0.9	1.0	-1.2	-1.3
Tertiary (Energy on Value added)	93.4	101.2	100.0	119.0	111.9	106.4	100.8	92.8	85.9	0.7	1.1	-1.0	-1.6
Passenger transport (toe/Mpkm)	33.5	32.5	31.3	32.3	31.6	30.9	30.1	28.8	27.6	-0.7	0.1	-0.5	-0.9
Freight transport (toe/Mtkm)	48.4	44.6	45.2	47.5	46.4	46.5	45.6	44.1	42.0	-0.7	0.3	-0.2	-0.8
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.53	0.48	0.39	0.34	0.33	0.31	0.25	0.19	-1.4	-3.4	-1.1	-4.6
Final energy demand (t of CO_2/toe)	2.33	2.26	2.21	2.14	2.05	2.00	1.95	1.90	1.86	-0.5	-0.7	-0.5	-0.5
Industry	2.14	2.03	1.91	1.79	1.59	1.52	1.52	1.44	1.42	-1.1	-1.8	-0.5	-0.7
Residential	2.12	1.98	1.93	1.92	1.92	1.88	1.82	1.79	1.75	-0.9	0.0	-0.6	-0.4
Tertiary	1.70	1.63	1.55	1.51	1.44	1.34	1.24	1.18	1.12	-0.9	-0.7	-1.5	-1.1
Transport	2.91	2.89	2.90	2.91	2.82	2.79	2.75	2.72	2.69	0.0	-0.3	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			4.9	5.6	7.5	8.5	10.1	11.5	12.5				
RES in transport (%)			0.3	0.9	3.9	5.2	7.1	8.2	9.1				
Gross Electricity generation by fuel type (in GWh)			**270016**	**296786**	**300873**	**331620**	**373488**	**405533**	**434222**		**1.1**	**2.2**	**1.5**
Nuclear energy			0	0	0	0	13681	54580	107502				22.9
Coal and lignite			27603	46304	48896	55517	59526	56696	53197		5.9	2.0	-1.1
Petroleum products			85749	45284	9789	15697	14001	14836	7176		-19.5	3.6	-6.5
Gas (including derived gases)			105453	152542	177441	186399	201434	177090	152004		5.3	1.3	-2.8
Biomass & waste			1604	8901	13003	14733	15873	20134	23807		23.3	2.0	4.1
Hydro			44328	36061	38369	38468	38710	38707	38992		-1.4	0.1	0.1
Wind			563	2344	6138	11685	18465	26909	30600		27.0	11.6	5.2
Solar, tidal etc.			18	31	1711	3594	6058	9620	12762		57.7	13.5	7.7
Geothermal and other renewables			4698	5320	5526	5526	5741	6962	8183		1.6	0.4	3.6
Net Generation Capacity in MW_e			**67747**	**81560**	**96738**	**100125**	**102164**	**113381**	**125226**		**3.6**	**0.5**	**2.1**
Nuclear energy			0	0	0	0	1579	6301	12410				22.9
Renewable energy			13784	19213	22856	27907	33428	39797	43570		5.2	3.9	2.7
Hydro (pumping excluded)			13212	17095	17095	17440	17440	17440	17440		2.6	0.2	0.0
Wind			363	1635	4507	7942	12154	16746	19008		28.6	10.4	4.6
Solar			209	483	1254	2524	3834	5611	7122		19.6	11.8	6.4
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			53963	62347	73882	72218	67157	67283	69245		3.2	-0.9	0.3
of which cogeneration units			3956	5817	7500	8571	8828	9536	10528		6.6	1.6	1.8
of which CCS units			0	0	0	0	460	460	1207				10.1
Solids fired			8719	8816	9772	11776	10056	9899	10816		1.1	0.3	0.7
Gas fired			23805	34917	50453	50201	48289	46701	46166		7.8	-0.4	-0.4
Oil fired			20261	16623	10546	6221	3706	4017	4086		-6.3	-9.9	1.0
Biomass-waste fired			588	1322	2440	3349	4435	5871	7243		15.3	6.2	5.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			590	671	671	671	671	795	934		1.3	0.0	3.4
Load factor for net electric capacities (%)			43.3	39.7	34.3	36.5	40.1	39.2	37.8				
Efficiency for thermal electricity production (%)			40.5	40.6	41.9	43.0	44.0	42.4	41.5				
CHP indicator (% of electricity from CHP)			9.1	9.7	13.3	14.6	14.4	14.1	14.3				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.3	1.2	2.9				
Non fossil fuels in electricity generation (%)			19.0	17.7	21.5	22.3	26.4	38.7	51.1				
- nuclear			0.0	0.0	0.0	0.0	3.7	13.5	24.8				
- renewable energy forms and industrial waste			19.0	17.7	21.5	22.3	22.7	25.2	26.3				
Transport sector													
Passenger transport activity (Gpkm)	**739.1**	**842.8**	**980.7**	**968.1**	**1001.0**	**1056.7**	**1102.3**	**1147.5**	**1191.1**	**2.9**	**0.2**	**1.0**	**0.8**
Public road transport	84.0	87.1	93.6	101.2	103.7	106.6	109.4	112.3	114.7	1.1	1.0	0.5	0.5
Private cars and motorcycles	582.7	674.6	793.5	763.0	788.1	832.3	862.5	891.2	919.5	3.1	-0.1	0.9	0.6
Rail	48.9	51.9	55.2	56.5	55.7	56.8	60.5	64.9	69.5	1.2	0.1	0.8	1.4
Aviation	18.4	24.3	33.5	42.7	48.6	56.1	64.8	73.8	81.9	6.2	3.8	2.9	2.4
Inland navigation	5.1	4.9	5.0	4.7	4.8	4.9	5.1	5.3	5.5	-0.4	-0.3	0.5	0.7
Freight transport activity (Gtkm)	**180.7**	**231.6**	**237.6**	**262.6**	**235.8**	**257.2**	**273.9**	**291.8**	**311.9**	**2.8**	**-0.1**	**1.5**	**1.3**
Trucks	125.5	174.4	184.7	211.8	184.0	202.7	217.0	232.6	250.6	3.9	0.0	1.7	1.5
Rail	19.4	21.7	22.8	22.8	24.6	25.7	26.9	27.7	28.5	1.7	0.7	0.9	0.6
Inland navigation	35.8	35.4	30.2	28.0	27.2	28.8	30.1	31.5	32.9	-1.7	-1.0	1.0	0.9
Energy demand in transport (ktoe)	**33514**	**37741**	**41388**	**43782**	**42558**	**44612**	**45626**	**45966**	**45916**	**2.1**	**0.3**	**0.7**	**0.1**
Public road transport	739	706	793	932	945	942	920	895	867	0.7	1.8	-0.3	-0.6
Private cars and motorcycles	21620	23735	25970	26093	25971	26689	26885	26620	26248	1.8	0.0	0.3	-0.2
Trucks	8154	9612	10097	11738	10175	11168	11718	12104	12382	2.2	0.1	1.4	0.6
Rail	739	821	835	908	931	920	898	882	842	1.2	1.1	-0.4	-0.6
Aviation	1872	2418	3491	3863	4288	4638	4939	5191	5295	6.4	2.1	1.4	0.7
Inland navigation	391	450	203	249	248	257	265	274	283	-6.3	2.0	0.7	0.7

Source: PRIMES

Latvia: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**1124**	**1432**	**1409**	**1870**	**1914**	**2208**	**2311**	**2363**	**2396**	**2.3**	**3.1**	**1.9**	**0.4**
Solids	61	78	16	3	1	1	1	1	1	-12.3	-21.8	-1.9	-2.7
Oil	1	0	0	10	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1062	1354	1393	1858	1913	2206	2310	2363	2395	2.8	3.2	1.9	0.4
Hydro	387	253	242	286	248	250	252	255	257	-4.6	0.2	0.2	0.2
Biomass & Waste	675	1101	1150	1568	1651	1918	2004	2035	2048	5.5	3.7	2.0	0.2
Wind	0	0	0	4	14	37	51	70	85		44.4	14.2	5.3
Solar and others	0	0	0	0	0	1	2	3	5			25.2	7.7
Geothermal	0	0	0	0	0	0	0	0	0			2.1	1.6
Net Imports	**7468**	**3366**	**2245**	**2994**	**3146**	**3295**	**3295**	**3234**	**3197**	**-11.3**	**3.4**	**0.5**	**-0.3**
Solids	627	170	63	77	53	43	36	24	21	-20.5	-1.8	-3.7	-5.3
Oil	3972	2094	1116	1676	1938	2183	2183	2166	2135	-11.9	5.7	1.2	-0.2
- Crude oil and Feedstocks	1	2	94	4	1	1	1	1	1	55.9	-35.0	1.2	-0.6
- Oil products	3971	2092	1022	1672	1937	2181	2182	2165	2134	-12.7	6.6	1.2	-0.2
Natural gas	2561	999	1113	1434	1415	1434	1457	1391	1417	-8.0	2.4	0.3	-0.3
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Gross Inland Consumption	**7931**	**4628**	**3746**	**4491**	**4747**	**5158**	**5249**	**5232**	**5221**	**-7.2**	**2.4**	**1.0**	**-0.1**
Solids	711	273	135	82	54	44	37	24	22	-15.3	-8.7	-3.6	-5.2
Oil	3487	1893	1175	1382	1625	1838	1826	1801	1763	-10.3	3.3	1.2	-0.4
Natural gas	2380	1010	1092	1358	1415	1434	1457	1391	1417	-7.5	2.6	0.3	-0.3
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Renew able energy forms	1045	1258	1191	1485	1532	1799	1909	1996	1999	1.3	2.5	2.2	0.5
as % in Gross Inland Consumption													
Solids	9.0	5.9	3.6	1.8	1.1	0.9	0.7	0.5	0.4				
Oil	44.0	40.9	31.4	30.8	34.2	35.6	34.8	34.4	33.8				
Natural gas	30.0	21.8	29.2	30.2	29.8	27.8	27.8	26.6	27.1				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	13.2	27.2	31.8	33.1	32.3	34.9	36.4	38.1	38.3				
Gross Electricity Generation in GWh_e	**6647**	**3978**	**4135**	**4904**	**5796**	**7651**	**8569**	**9000**	**9320**	**-4.6**	**3.4**	**4.0**	**0.8**
Self consumption and grid losses	1445	1428	1148	1027	1066	1156	1200	1193	1142	-2.3	-0.7	1.2	-0.5
Fuel Inputs for Thermal Power Generation	**887**	**592**	**513**	**576**	**752**	**966**	**1077**	**1154**	**1230**	**-5.3**	**3.9**	**3.7**	**1.3**
Solids	20	65	47	0	0	0	0	0	0	9.2			
Oil (including refinery gas)	177	242	77	13	11	14	12	10	10	-8.0	-17.5	0.8	-2.0
Gas	690	286	388	541	641	702	734	695	709	-5.6	5.1	1.4	-0.3
Biomass & Waste	0	0	0	21	100	250	331	449	511			12.7	4.4
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**2570**	**892**	**562**	**476**	**443**	**444**	**430**	**388**	**334**	**-14.1**	**-2.4**	**-0.3**	**-2.5**
Refineries	1	1	1	1	1	1	1	1	1	0.0	1.3	1.2	-0.6
Biofuels and hydrogen production	0	0	0	2	33	48	67	79	88			7.5	2.7
District heating	2542	881	560	473	409	395	362	307	245	-14.0	-3.1	-1.2	-3.8
Others	27	9	1	0	0	0	0	0	0	-28.3			
Energy Branch Consumption	**126**	**127**	**147**	**100**	**128**	**136**	**138**	**135**	**132**	**1.5**	**-1.4**	**0.7**	**-0.4**
Non-Energy Uses	**78**	**46**	**79**	**93**	**56**	**58**	**59**	**56**	**55**	**0.2**	**-3.5**	**0.7**	**-0.8**
Final Energy Demand	**6389**	**3814**	**3239**	**4029**	**4161**	**4459**	**4513**	**4504**	**4487**	**-6.6**	**2.5**	**0.8**	**-0.1**
by sector													
Industry	1980	692	573	705	654	656	639	619	623	-11.7	1.3	-0.2	-0.3
- energy intensive industries	712	308	224	287	259	236	217	202	195	-10.9	1.4	-1.7	-1.1
- other industrial sectors	1267	384	349	419	396	420	422	417	428	-12.1	1.3	0.6	0.1
Residential	1586	1603	1327	1514	1505	1552	1571	1565	1548	-1.8	1.3	0.4	-0.1
Tertiary	1727	806	592	743	705	747	751	748	746	-10.1	1.8	0.6	-0.1
Transport	1097	714	747	1066	1297	1504	1551	1572	1571	-3.8	5.7	1.8	0.1
by fuel													
Solids	316	124	57	73	46	37	31	18	18	-15.7	-2.1	-4.0	-5.5
Oil	2062	1157	1057	1331	1550	1751	1740	1720	1684	-6.5	3.9	1.2	-0.3
Gas	672	366	329	508	491	478	503	532	565	-6.9	4.1	0.2	1.2
Electricity	711	381	382	490	505	577	630	669	700	-6.0	2.8	2.2	1.1
Heat (from CHP and District Heating) [A]	2013	905	590	598	542	514	494	501	494	-11.5	-0.9	-0.9	0.0
Renew able energy forms	616	881	824	1028	1027	1102	1115	1062	1026	3.0	2.2	0.8	-0.8
Other	0	0	0	0	0	0	0	0	0			12.6	3.6
RES in Gross Final Energy Consumption [B]			**1178**	**1387**	**1457**	**1671**	**1757**	**1815**	**1810**		**2.1**	**1.9**	**0.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**26.9**		**10.0**	**11.4**	**11.6**	**12.2**	**12.0**	**11.8**	**11.7**	**-9.5**	**1.6**	**0.3**	**-0.2**
of w hich ETS sectors GHGs emissions				3.0	3.0	3.1	3.1	3.0	3.0			0.5	-0.4
CO_2 Emissions (energy related)	**18.8**	**8.8**	**6.7**	**7.6**	**8.2**	**8.9**	**8.8**	**8.6**	**8.5**	**-9.9**	**2.1**	**0.7**	**-0.4**
Pow er generation/District heating	9.7	3.9	2.4	2.1	2.2	2.2	2.2	2.0	2.0	-13.1	-0.9	0.3	-1.2
Energy Branch	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.0	-10.3	2.5	-1.1
Industry	2.5	1.3	0.9	1.1	1.0	1.0	0.9	0.9	0.8	-9.5	1.0	-1.2	-1.5
Residential	1.2	0.5	0.3	0.4	0.5	0.5	0.6	0.6	0.8	-13.3	4.7	2.2	3.0
Tertiary	2.1	0.9	0.7	0.8	0.7	0.7	0.6	0.6	0.6	-10.8	1.1	-1.4	-1.0
Transport	3.2	2.1	2.2	3.1	3.7	4.3	4.4	4.4	4.3	-3.7	5.6	1.6	-0.2
CO_2 Emissions (non energy related)	**0.6**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**-8.5**	**1.4**	**0.3**	**-0.4**
Non-CO_2 GHGs Emissions	**7.5**		**3.1**	**3.5**	**3.2**	**3.0**	**2.9**	**3.0**	**3.0**	**-8.6**	**0.3**	**-0.8**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**37.0**	**42.4**	**43.3**	**45.2**	**44.7**	**44.0**	**43.6**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Latvia: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	2.668	2.501	2.382	2.306	2.247	2.200	2.151	2.095	2.033	-1.1	-0.6	-0.4	-0.6
GDP (in 000 M€08)	13.2	7.1	9.3	13.7	13.6	16.3	18.4	20.3	22.2	-3.5	3.9	3.0	1.9
Gross Inl. Cons./GDP (toe/M€08)	598.6	648.1	403.9	326.7	348.2	316.3	285.3	258.2	235.1	-3.9	-1.5	-2.0	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.37	1.91	1.78	1.70	1.73	1.72	1.69	1.64	1.63	-2.9	-0.2	-0.3	-0.3
Import Dependency %	88.9	70.5	59.8	63.0	62.2	59.9	58.8	57.8	57.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.9	2.9	3.2	4.2	5.2	6.0	6.3		5.7	5.9	2.7
as % of GDP			20.8	21.0	24.7	28.8	32.5	34.6	35.1				
Energy intensity indicators													
Industry (Energy on Value added)	157.6	153.2	100.0	84.9	84.4	76.9	71.4	66.9	63.1	-4.4	-1.7	-1.7	-1.2
Residential (Energy on Private Income)	84.9	156.2	100.0	75.0	80.6	67.8	58.8	52.6	47.0	1.7	-2.1	-3.1	-2.2
Tertiary (Energy on Value added)	322.8	180.2	100.0	84.3	80.7	69.1	61.0	54.4	49.2	-11.1	-2.1	-2.8	-2.1
Passenger transport (toe/Mpkm)	19.6	37.3	26.2	26.1	27.0	27.2	27.0	26.6	25.5	2.9	0.3	0.0	-0.6
Freight transport (toe/Mtkm)	27.8	24.9	19.0	19.6	24.8	24.8	23.1	21.4	19.9	-3.7	2.7	-0.7	-1.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.28	0.23	0.18	0.16	0.15	0.15	0.14	0.12	0.12	-4.3	-1.6	-1.0	-1.5
Final energy demand (t of CO_2/toe)	1.41	1.26	1.26	1.35	1.44	1.46	1.44	1.44	1.43	-1.2	1.4	0.0	-0.1
Industry	1.28	1.92	1.63	1.52	1.57	1.50	1.42	1.39	1.25	2.4	-0.3	-1.0	-1.2
Residential	0.76	0.33	0.22	0.28	0.30	0.32	0.36	0.41	0.49	-11.7	3.4	1.8	3.1
Tertiary	1.21	1.12	1.13	1.09	1.06	0.96	0.86	0.81	0.79	-0.7	-0.6	-2.0	-0.9
Transport	2.90	2.89	2.92	2.95	2.89	2.87	2.83	2.78	2.74	0.1	-0.1	-0.2	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			33.7	32.6	33.4	35.9	37.4	38.7	38.9				
RES in transport (%)			0.7	0.7	3.1	4.0	5.5	7.1	8.5				
Gross Electricity generation by fuel type (in GWh)			**4135**	**4904**	**5796**	**7651**	**8569**	**9000**	**9320**		**3.4**	**4.0**	**0.8**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			78	0	0	0	0	0	0				
Petroleum products			107	26	45	52	47	38	34		-8.2	0.4	-3.2
Gas (including derived gases)			1128	1465	2342	3303	3729	3548	3428		7.6	4.8	-0.8
Biomass & waste			0	42	368	949	1261	1630	1861			13.1	4.0
Hydro			2818	3324	2881	2911	2931	2960	2992		0.2	0.2	0.2
Wind			4	47	158	432	594	813	991		44.4	14.2	5.3
Solar, tidal etc.			0	0	1	5	8	12	14			24.5	5.8
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2079**	**2171**	**2359**	**2856**	**2902**	**3068**	**3110**		**1.3**	**2.1**	**0.7**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			1499	1544	1616	1777	1868	1983	2071		0.8	1.5	1.0
Hydro (pumping excluded)			1497	1518	1520	1522	1525	1529	1532		0.2	0.0	0.0
Wind			2	26	94	250	334	441	524		46.9	13.6	4.6
Solar			0	0	2	5	9	13	15			15.6	5.8
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			581	627	743	1079	1034	1085	1039		2.5	3.4	0.0
of which cogeneration units			354	386	441	449	478	514	467		2.2	0.8	-0.2
of which CCS units			0	0	0	0	0	0	0				
Solids fired			29	0	0	0	0	0	0				
Gas fired			449	548	608	899	809	809	716		3.1	2.9	-1.2
Oil fired			91	53	54	54	54	54	47		-5.1	0.1	-1.3
Biomass-waste fired			11	26	81	126	172	222	276		22.2	7.8	4.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			21.8	24.8	27.0	29.7	32.8	32.5	33.3				
Efficiency for thermal electricity production (%)			22.0	22.9	31.5	38.3	40.2	38.9	37.2				
CHP indicator (% of electricity from CHP)			39.8	33.1	38.0	30.0	29.0	30.0	25.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			68.3	69.6	58.8	56.2	55.9	60.2	62.9				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			68.3	69.6	58.8	56.2	55.9	60.2	62.9				
Transport sector													
Passenger transport activity (Gpkm)	**21.1**	**11.4**	**15.4**	**19.7**	**21.5**	**24.6**	**26.1**	**27.4**	**28.7**	**-3.1**	**3.4**	**1.9**	**0.9**
Public road transport	5.9	1.8	2.3	2.9	2.5	2.7	2.9	3.0	3.2	-8.7	0.8	1.2	1.2
Private cars and motorcycles	6.6	7.7	11.8	14.8	16.6	19.0	19.6	19.9	20.1	6.0	3.5	1.7	0.3
Rail	6.1	1.7	1.0	1.2	1.2	1.3	1.5	1.5	1.6	-16.7	2.0	1.9	1.1
Aviation	2.5	0.2	0.3	0.8	1.2	1.7	2.2	3.0	3.8	-18.7	14.9	6.1	5.3
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**24.5**	**11.6**	**18.1**	**28.2**	**28.8**	**33.6**	**36.6**	**39.4**	**42.3**	**-3.0**	**4.8**	**2.4**	**1.4**
Trucks	5.9	1.8	4.8	8.4	11.6	13.7	14.5	15.2	15.8	-2.0	9.3	2.2	0.9
Rail	18.5	9.8	13.3	19.8	17.2	19.8	22.1	24.2	26.5	-3.3	2.6	2.6	1.8
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1097**	**714**	**747**	**1066**	**1297**	**1504**	**1551**	**1572**	**1571**	**-3.8**	**5.7**	**1.8**	**0.1**
Public road transport	46	15	17	21	18	19	19	20	21	-9.3	0.6	0.5	0.9
Private cars and motorcycles	242	378	356	433	476	541	548	544	510	4.0	2.9	1.4	-0.7
Trucks	512	205	270	460	637	746	761	783	801	-6.2	9.0	1.8	0.5
Rail	189	90	76	94	81	90	88	60	42	-8.7	0.6	0.9	-7.1
Aviation	73	26	27	59	85	108	135	164	198	-9.6	12.2	4.8	3.9
Inland navigation	35	0	0	0	0	0	0	0	0				

Source: PRIMES

Lithuania: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**4740**	**3695**	**3188**	**3702**	**1010**	**1250**	**2996**	**4789**	**5027**	**-3.9**	**-10.9**	**11.5**	**5.3**
Solids	14	15	12	20	3	4	3	2	2	-1.8	-11.7	-0.3	-6.6
Oil	12	130	349	240	155	130	100	85	70	40.0	-7.8	-4.3	-3.5
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	4394	3050	2172	2666	0	0	1572	3099	3099	-6.8			7.0
Renew able energy sources	321	501	656	776	851	1116	1321	1602	1856	7.4	2.6	4.5	3.5
Hydro	36	32	29	39	36	37	39	39	40	-2.0	2.1	0.7	0.4
Biomass & Waste	285	469	627	734	801	1050	1231	1493	1730	8.2	2.5	4.4	3.5
Wind	0	0	0	0	14	29	48	64	77			13.3	4.7
Solar and others	0	0	0	0	0	1	3	5	9			21.7	12.7
Geothermal	0	0	0	3	0	0	0	0	0			2.0	0.4
Net Imports	**11688**	**5650**	**4343**	**5120**	**6554**	**7019**	**6534**	**5794**	**5573**	**-9.4**	**4.2**	**0.0**	**-1.6**
Solids	758	157	87	190	116	100	92	75	63	-19.5	2.9	-2.3	-3.6
Oil	7281	3693	2313	2700	2531	2839	2940	3000	3023	-10.8	0.9	1.5	0.3
- Crude oil and Feedstocks	9560	3619	4846	9093	8831	9812	10105	10279	10328	-6.6	6.2	1.4	0.2
- Oil products	-2279	74	-2533	-6393	-6301	-6973	-7165	-7279	-7305				
Natural gas	4678	2029	2065	2492	3558	3695	3571	3149	2939	-7.9	5.6	0.0	-1.9
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Gross Inland Consumption	**16059**	**8672**	**7070**	**8616**	**7408**	**8098**	**9354**	**10404**	**10420**	**-7.9**	**0.5**	**2.4**	**1.1**
Solids	797	246	98	201	119	103	95	77	65	-18.9	2.0	-2.3	-3.7
Oil	6899	3085	2203	2769	2530	2798	2864	2906	2913	-10.8	1.4	1.2	0.2
Natural gas	4678	2029	2064	2476	3558	3695	3571	3149	2939	-7.9	5.6	0.0	-1.9
Nuclear	4394	3050	2172	2666	0	0	1572	3099	3099	-6.8			7.0
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Renew able energy forms	320	493	649	758	836	1089	1283	1545	1765	7.3	2.6	4.4	3.2
as % in Gross Inland Consumption													
Solids	5.0	2.8	1.4	2.3	1.6	1.3	1.0	0.7	0.6				
Oil	43.0	35.6	31.2	32.1	34.1	34.6	30.6	27.9	28.0				
Natural gas	29.1	23.4	29.2	28.7	48.0	45.6	38.2	30.3	28.2				
Nuclear	27.4	35.2	30.7	30.9	0.0	0.0	16.8	29.8	29.7				
Renew able energy forms	2.0	5.7	9.2	8.8	11.3	13.4	13.7	14.8	16.9				
Gross Electricity Generation in GWh_e	**28400**	**13518**	**11118**	**14412**	**6425**	**7007**	**13413**	**18643**	**18802**	**-9.0**	**-5.3**	**7.6**	**3.4**
Self consumption and grid losses	3959	4152	3075	2782	1760	1758	2079	2375	2293	-2.5	-5.4	1.7	1.0
Fuel Inputs for Thermal Power Generation	**2610**	**950**	**912**	**1221**	**1923**	**2059**	**2035**	**1717**	**1770**	**-10.0**	**7.7**	**0.6**	**-1.4**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	1067	517	196	172	72	64	57	40	73	-15.6	-9.5	-2.4	2.6
Gas	1543	433	716	1044	1770	1829	1714	1357	1349	-7.4	9.5	-0.3	-2.4
Biomass & Waste	0	0	0	5	81	165	264	321	347			12.5	2.8
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11418**	**4482**	**5762**	**9984**	**9517**	**10570**	**10892**	**11071**	**11133**	**-6.6**	**5.1**	**1.4**	**0.2**
Refineries	9591	3402	5105	9458	8936	9912	10191	10357	10395	-6.1	5.8	1.3	0.2
Biofuels and hydrogen production	0	0	0	3	11	36	81	100	111			21.7	3.2
District heating	1819	1074	653	519	567	620	618	613	626	-9.7	-1.4	0.9	0.1
Others	8	6	4	4	3	2	2	1	1	-7.0	-4.4	-2.3	-7.1
Energy Branch Consumption	**996**	**600**	**670**	**958**	**849**	**913**	**982**	**1045**	**1036**	**-3.9**	**2.4**	**1.5**	**0.5**
Non-Energy Uses	**864**	**544**	**657**	**795**	**1007**	**1102**	**1100**	**1092**	**1073**	**-2.7**	**4.4**	**0.9**	**-0.3**
Final Energy Demand	**9679**	**4592**	**3740**	**4465**	**4635**	**5145**	**5395**	**5580**	**5640**	**-9.1**	**2.2**	**1.5**	**0.4**
by sector													
Industry	3327	1017	780	995	973	1078	1099	1120	1107	-13.5	2.2	1.2	0.1
- energy intensive industries	1670	473	361	442	436	471	465	473	469	-14.2	1.9	0.7	0.1
- other industrial sectors	1657	544	419	552	537	607	633	647	638	-12.8	2.5	1.7	0.1
Residential	1843	1641	1342	1384	1365	1488	1552	1556	1573	-3.1	0.2	1.3	0.1
Tertiary	2512	894	566	678	679	727	741	747	748	-13.8	1.8	0.9	0.1
Transport	1996	1040	1051	1408	1618	1853	2004	2158	2212	-6.2	4.4	2.2	1.0
by fuel													
Solids	748	225	87	190	116	99	91	74	62	-19.4	2.9	-2.3	-3.8
Oil	4064	1670	1352	1610	1793	2025	2126	2247	2280	-10.4	2.9	1.7	0.7
Gas	1483	510	363	503	405	454	469	472	484	-13.1	1.1	1.5	0.3
Electricity	1033	546	531	682	700	791	856	925	958	-6.4	2.8	2.0	1.1
Heat (from CHP and District Heating) [A]	2078	1193	828	905	1080	1204	1275	1229	1306	-8.8	2.7	1.7	0.2
Renew able energy forms	272	448	579	574	541	572	576	632	550	7.9	-0.7	0.6	-0.5
Other	0	0	0	0	0	0	0	0	0			12.5	0.3
RES in Gross Final Energy Consumption [B]			**642**	**727**	**770**	**893**	**988**	**1082**	**1223**		**1.8**	**2.5**	**2.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**48.8**		**18.9**	**22.5**	**23.7**	**22.9**	**22.7**	**21.6**	**21.2**	**-9.0**	**2.3**	**-0.4**	**-0.7**
of w hich ETS sectors GHGs emissions				10.1	11.1	10.0	9.8	8.8	8.4			-1.3	-1.5
CO_2 Emissions (energy related)	**32.4**	**13.5**	**10.2**	**12.5**	**13.6**	**14.3**	**14.2**	**13.3**	**12.8**	**-10.9**	**2.8**	**0.5**	**-1.0**
Pow er generation/District heating	12.0	5.6	3.9	3.9	5.3	5.6	5.3	4.4	4.0	-10.6	3.1	0.0	-2.7
Energy Branch	1.6	0.8	1.1	1.9	1.5	1.3	1.2	0.9	0.7	-3.5	3.1	-2.8	-5.4
Industry	6.1	1.7	1.1	1.3	0.9	0.9	0.9	0.9	0.9	-15.9	-2.0	0.7	-0.8
Residential	2.3	0.8	0.5	0.6	0.6	0.7	0.7	0.7	0.7	-13.6	1.1	1.4	-0.2
Tertiary	4.5	1.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	-19.8	-0.2	-0.8	-0.7
Transport	5.8	3.0	3.1	4.1	4.7	5.3	5.6	6.0	6.1	-6.2	4.4	1.8	0.8
CO_2 Emissions (non energy related)	**3.5**	**1.5**	**1.6**	**1.7**	**1.9**	**2.1**	**2.2**	**2.3**	**2.4**	**-7.7**	**1.9**	**1.6**	**0.8**
Non-CO_2 GHGs Emissions	**12.9**		**7.1**	**8.3**	**8.3**	**6.4**	**6.3**	**6.0**	**6.0**	**-5.8**	**1.5**	**-2.7**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**38.8**	**46.1**	**48.6**	**46.8**	**46.4**	**44.3**	**43.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Lithuania: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.694	3.643	3.512	3.425	3.337	3.275	3.220	3.158	3.083	-0.5	-0.5	-0.4	-0.4
GDP (in 000 M€08)	20.4	12.0	15.2	22.0	22.7	27.7	32.1	35.4	38.3	-3.0	4.1	3.5	1.8
Gross Inl. Cons./GDP (toe/M€08)	785.3	720.4	466.7	390.8	326.9	292.0	291.7	293.6	271.8	-5.1	-3.5	-1.1	-0.7
Carbon intensity (t of CO_2/toe of GIC)	2.02	1.55	1.45	1.45	1.83	1.77	1.52	1.28	1.23	-3.3	2.4	-1.9	-2.1
Import Dependency %	72.4	64.1	60.6	58.5	86.7	84.9	68.6	54.8	52.6				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.4	3.6	4.1	5.3	6.9	8.2	9.0		5.9	6.7	3.4
as % of GDP			16.1	16.2	19.0	22.1	25.6	28.0	30.0				
Energy intensity indicators													
Industry (Energy on Value added)	258.4	180.8	100.0	78.3	68.7	62.1	55.8	53.5	51.0	-9.1	-3.7	-2.1	-0.9
Residential (Energy on Private Income)	103.1	158.3	100.0	67.4	68.6	61.1	56.2	51.4	48.1	-0.3	-3.7	-2.0	-1.5
Tertiary (Energy on Value added)	452.0	203.3	100.0	87.1	86.4	75.5	65.9	58.8	53.3	-14.0	-1.5	-2.7	-2.1
Passenger transport (toe/Mpkm)	30.8	26.6	20.7	18.0	18.1	18.6	20.3	22.8	23.5	-3.9	-1.3	1.2	1.5
Freight transport (toe/Mtkm)	46.9	37.1	25.8	24.2	24.9	24.9	24.2	23.5	22.8	-5.8	-0.3	-0.3	-0.6
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.21	0.17	0.16	0.14	0.23	0.22	0.16	0.12	0.11	-2.8	3.6	-3.4	-4.2
Final energy demand (t of CO_2/toe)	1.94	1.54	1.39	1.49	1.44	1.44	1.43	1.44	1.43	-3.3	0.4	-0.1	0.0
Industry	1.83	1.69	1.37	1.35	0.90	0.87	0.86	0.80	0.78	-2.8	-4.1	-0.5	-0.9
Residential	1.27	0.48	0.40	0.46	0.44	0.45	0.45	0.44	0.43	-10.8	0.9	0.1	-0.3
Tertiary	1.80	1.73	0.88	0.85	0.72	0.66	0.61	0.57	0.57	-6.9	-2.0	-1.6	-0.8
Transport	2.93	2.91	2.93	2.93	2.91	2.88	2.81	2.79	2.77	0.0	-0.1	-0.4	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			15.1	14.8	15.4	16.2	17.1	18.1	20.3				
RES in transport (%)			0.0	0.3	0.9	2.5	5.2	6.0	6.6				
Gross Electricity generation by fuel type (in GWh)			**11118**	**14412**	**6425**	**7007**	**13413**	**18643**	**18802**		**-5.3**	**7.6**	**3.4**
Nuclear energy			8417	10335	0	0	6563	13127	13127				7.2
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			405	476	207	189	168	102	179		-6.5	-2.1	0.6
Gas (including derived gases)			1957	3136	5422	5602	4861	3272	3188		10.7	-1.1	-4.1
Biomass & waste			0	12	212	451	794	904	893			14.1	1.2
Hydro			339	451	419	425	449	457	466		2.1	0.7	0.4
Wind			0	2	162	336	564	745	890			13.3	4.7
Solar, tidal etc.			0	0	2	4	15	34	60			24.3	14.7
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**4586**	**3692**	**2756**	**3020**	**4131**	**4850**	**4984**		**-5.0**	**4.1**	**1.9**
Nuclear energy			2291	1200	0	0	758	1515	1515				7.2
Renewable energy			100	115	299	493	779	1006	1196		11.6	10.0	4.4
Hydro (pumping excluded)			100	114	122	123	148	155	159		2.0	1.9	0.7
Wind			0	1	175	365	615	815	975			13.4	4.7
Solar			0	0	2	5	16	36	62			22.9	14.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2196	2377	2457	2527	2595	2329	2273		1.1	0.5	-1.3
of which cogeneration units			873	824	873	930	999	916	997		0.0	1.4	0.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			1661	2057	2124	2163	2184	2017	2017		2.5	0.3	-0.8
Oil fired			528	303	315	327	332	203	96		-5.0	0.5	-11.6
Biomass-waste fired			7	17	18	38	78	110	160		9.6	16.2	7.4
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			23.5	40.2	24.9	25.2	35.3	41.7	41.0				
Efficiency for thermal electricity production (%)			22.3	25.5	26.1	26.1	24.6	21.4	20.7				
CHP indicator (% of electricity from CHP)			18.3	17.8	62.5	59.5	32.6	20.4	21.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			78.8	74.9	12.4	17.4	62.5	81.9	82.1				
- nuclear			75.7	71.7	0.0	0.0	48.9	70.4	69.8				
- renewable energy forms and industrial waste			3.0	3.2	12.4	17.4	13.6	11.5	12.3				
Transport sector													
Passenger transport activity (Gpkm)	**24.1**	**21.7**	**30.0**	**40.1**	**44.9**	**49.1**	**49.9**	**50.1**	**50.4**	**2.2**	**4.1**	**1.1**	**0.1**
Public road transport	7.9	4.2	2.8	3.7	3.6	3.9	4.1	4.2	4.2	-10.0	2.7	1.4	0.3
Private cars and motorcycles	11.3	16.2	26.3	35.1	39.8	43.2	43.3	42.8	42.2	8.8	4.2	0.9	-0.3
Rail	3.6	1.1	0.6	0.4	0.4	0.4	0.5	0.5	0.5	-16.3	-4.0	1.6	1.3
Aviation	1.0	0.2	0.3	0.8	1.0	1.4	1.9	2.5	3.3	-10.3	12.4	6.0	5.8
Inland navigation	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-12.8	0.2	0.8	0.6
Freight transport activity (Gtkm)	**26.8**	**12.4**	**16.7**	**28.4**	**32.3**	**37.8**	**40.9**	**43.1**	**45.0**	**-4.6**	**6.8**	**2.4**	**1.0**
Trucks	7.3	5.2	7.8	15.9	19.0	22.5	24.1	25.1	25.8	0.6	9.3	2.4	0.7
Rail	19.3	7.2	8.9	12.5	13.4	15.3	16.8	18.1	19.3	-7.4	4.1	2.3	1.4
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1996**	**1040**	**1051**	**1408**	**1618**	**1853**	**2004**	**2158**	**2212**	**-6.2**	**4.4**	**2.2**	**1.0**
Public road transport	46	25	16	21	21	23	24	25	26	-9.8	2.5	1.6	0.5
Private cars and motorcycles	539	504	572	648	725	804	886	993	1007	0.6	2.4	2.0	1.3
Trucks	1139	383	358	608	723	850	892	913	922	-10.9	7.3	2.1	0.3
Rail	133	87	76	79	84	94	99	103	108	-5.5	1.0	1.7	0.9
Aviation	135	41	27	46	60	77	96	118	144	-14.9	8.5	4.8	4.1
Inland navigation	5	1	3	5	5	5	5	6	6	-5.0	5.3	0.7	0.4

Source: PRIMES

Luxembourg: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**47**	**47**	**57**	**74**	**96**	**149**	**182**	**203**	**215**	**1.9**	**5.5**	**6.6**	**1.7**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	47	47	57	74	96	149	182	203	215	1.9	5.5	6.6	1.7
Hydro	6	7	10	8	8	7	8	8	8	5.8	-2.9	0.2	0.2
Biomass & Waste	41	39	44	59	76	103	119	123	126	0.7	5.6	4.5	0.6
Wind	0	0	2	5	6	13	20	23	27		10.8	11.8	3.0
Solar and others	0	0	0	2	6	26	36	49	55			19.7	4.3
Geothermal	0	0	0	0	0	0	0	0	0			0.3	0.5
Net Imports	**3526**	**3264**	**3630**	**4622**	**4697**	**5068**	**5127**	**5131**	**5043**	**0.3**	**2.6**	**0.9**	**-0.2**
Solids	1134	514	125	82	37	30	25	17	12	-19.8	-11.6	-3.7	-7.1
Oil	1626	1763	2342	3081	3067	3271	3208	3118	2972	3.7	2.7	0.5	-0.8
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	1626	1763	2342	3081	3067	3271	3208	3118	2972	3.7	2.7	0.5	-0.8
Natural gas	430	557	670	1179	1250	1372	1489	1599	1644	4.6	6.4	1.8	1.0
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Gross Inland Consumption	**3561**	**3342**	**3637**	**4714**	**4793**	**5217**	**5309**	**5334**	**5257**	**0.2**	**2.8**	**1.0**	**-0.1**
Solids	1134	514	125	82	37	30	25	17	12	-19.8	-11.6	-3.7	-7.1
Oil	1614	1794	2292	3100	3067	3271	3208	3118	2972	3.6	3.0	0.5	-0.8
Natural gas	430	557	670	1179	1250	1372	1489	1599	1644	4.6	6.4	1.8	1.0
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Renew able energy forms	47	47	57	74	122	218	287	326	345	1.9	8.0	9.0	1.9
as % in Gross Inland Consumption													
Solids	31.9	15.4	3.4	1.7	0.8	0.6	0.5	0.3	0.2				
Oil	45.3	53.7	63.0	65.8	64.0	62.7	60.4	58.5	56.5				
Natural gas	12.1	16.7	18.4	25.0	26.1	26.3	28.0	30.0	31.3				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	1.3	1.4	1.6	1.6	2.5	4.2	5.4	6.1	6.6				
Gross Electricity Generation in GWh_e	**627**	**498**	**433**	**3344**	**3485**	**4411**	**5303**	**6025**	**6163**	**-3.6**	**23.2**	**4.3**	**1.5**
Self consumption and grid losses	410	497	439	448	545	644	707	753	780	0.7	2.2	2.6	1.0
Fuel Inputs for Thermal Power Generation	**190**	**132**	**75**	**568**	**574**	**697**	**813**	**922**	**937**	**-8.8**	**22.5**	**3.5**	**1.4**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	3	2	0	0	0	1	1	1	1				2.5
Gas	162	106	47	525	540	655	765	874	892	-11.6	27.6	3.5	1.5
Biomass & Waste	25	24	28	43	34	42	47	47	44	1.0	1.8	3.4	-0.6
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**378**	**144**	**0**	**1**	**55**	**116**	**163**	**182**	**188**			**11.5**	**1.4**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	1	55	116	163	182	188			11.5	1.4
District heating	0	0	0	0	0	0	0	0	0				
Others	378	144	0	0	0	0	0	0	0				
Energy Branch Consumption	**31**	**30**	**26**	**30**	**37**	**44**	**48**	**51**	**53**	**-1.8**	**3.8**	**2.7**	**0.8**
Non-Energy Uses	**20**	**23**	**14**	**20**	**22**	**27**	**29**	**31**	**33**	**-3.9**	**5.0**	**2.7**	**1.3**
Final Energy Demand	**3335**	**3171**	**3558**	**4439**	**4491**	**4859**	**4904**	**4885**	**4805**	**0.7**	**2.4**	**0.9**	**-0.2**
by sector													
Industry	1729	1197	958	938	899	997	1041	1081	1120	-5.7	-0.6	1.5	0.7
- energy intensive industries	1525	901	506	461	431	468	481	486	491	-10.5	-1.6	1.1	0.2
- other industrial sectors	204	296	453	477	468	529	560	595	630	8.3	0.3	1.8	1.2
Residential	521	565	598	651	676	701	708	717	725	1.4	1.2	0.5	0.2
Tertiary	74	99	118	130	137	149	155	158	162	4.7	1.5	1.3	0.4
Transport	1010	1311	1884	2721	2780	3012	3000	2929	2798	6.4	4.0	0.8	-0.7
by fuel													
Solids	756	369	125	82	37	30	25	17	12	-16.5	-11.6	-3.7	-7.1
Oil	1587	1758	2276	3080	3044	3243	3178	3086	2937	3.7	3.0	0.4	-0.8
Gas	622	585	623	678	710	717	724	725	752	0.0	1.3	0.2	0.4
Electricity	355	430	491	529	571	651	696	727	747	3.3	1.5	2.0	0.7
Heat (from CHP and District Heating) [A]	0	14	27	55	59	68	76	89	98		8.1	2.6	2.5
Renew able energy forms	15	15	16	16	70	149	206	240	259	0.4	16.0	11.3	2.3
Other	0	0	0	0	0	0	1	1	1			7.5	1.5
RES in Gross Final Energy Consumption [B]			**32**	**41**	**109**	**203**	**271**	**311**	**331**		**13.2**	**9.5**	**2.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**13.1**		**10.5**	**14.3**	**14.1**	**15.1**	**15.2**	**15.1**	**14.7**	**-2.2**	**3.0**	**0.7**	**-0.3**
of w hich ETS sectors GHGs emissions				4.0	3.8	4.2	4.5	4.7	4.6			1.7	0.2
CO_2 Emissions (energy related)	**10.7**	**8.7**	**8.9**	**12.4**	**12.3**	**13.1**	**13.2**	**13.1**	**12.8**	**-1.8**	**3.3**	**0.7**	**-0.3**
Pow er generation/District heating	0.7	0.4	0.1	1.2	1.3	1.5	1.8	2.0	2.1	-17.0	27.6	3.6	1.5
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	5.7	3.1	1.7	1.5	1.3	1.4	1.4	1.4	1.5	-11.5	-2.5	0.8	0.4
Residential	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.1	0.2	-0.4	-0.6
Tertiary	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17.3	-3.0	0.3	-1.3
Transport	3.0	3.9	5.6	8.2	8.2	8.7	8.6	8.3	7.9	6.5	3.9	0.4	-0.8
CO_2 Emissions (non energy related)	**1.6**	**1.0**	**0.7**	**0.8**	**0.7**	**0.8**	**0.8**	**0.8**	**0.8**	**-7.6**	**0.2**	**1.5**	**-0.4**
Non-CO_2 GHGs Emissions	**0.9**		**0.9**	**1.1**	**1.1**	**1.2**	**1.1**	**1.1**	**1.1**	**0.4**	**2.0**	**0.1**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**80.2**	**109.1**	**107.6**	**115.0**	**115.6**	**115.1**	**112.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Luxembourg: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.379	0.406	0.434	0.461	0.494	0.523	0.551	0.579	0.607	1.3	1.3	1.1	1.0
GDP (in 000 M€08)	14.3	19.9	26.8	31.9	34.4	42.8	50.0	56.4	62.8	6.5	2.5	3.8	2.3
Gross Inl. Cons./GDP (toe/M€08)	248.3	167.9	135.7	147.6	139.3	121.8	106.2	94.5	83.8	-5.9	0.3	-2.7	-2.3
Carbon intensity (t of CO_2/toe of GIC)	2.99	2.62	2.44	2.64	2.56	2.52	2.49	2.47	2.43	-2.0	0.5	-0.3	-0.2
Import Dependency %	99.0	97.7	99.8	98.0	98.0	97.1	96.6	96.2	95.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.9	3.9	4.1	4.9	6.0	6.7	6.8		3.7	4.4	1.8
as % of GDP			10.8	12.3	12.1	12.0	12.8	13.0	12.2				
Energy intensity indicators													
Industry (Energy on Value added)	259.7	159.1	100.0	93.6	86.3	78.9	72.4	68.5	65.6	-9.1	-1.5	-1.7	-1.0
Residential (Energy on Private Income)	125.3	116.2	100.0	100.4	98.1	81.0	69.7	62.5	56.6	-2.2	-0.2	-3.4	-2.1
Tertiary (Energy on Value added)	103.2	111.6	100.0	91.5	88.9	77.8	69.0	62.0	57.1	-0.3	-1.2	-2.5	-1.9
Passenger transport (toe/Mpkm)	119.7	125.6	136.5	150.7	143.3	131.7	119.4	107.2	96.4	1.3	0.5	-1.8	-2.1
Freight transport (toe/Mtkm)	92.1	84.1	102.9	156.5	154.7	151.2	146.2	139.2	128.0	1.1	4.2	-0.6	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.13	0.59	0.15	0.31	0.30	0.29	0.29	0.29	0.29	-18.4	7.4	-0.5	-0.1
Final energy demand (t of CO_2/toe)	2.98	2.63	2.46	2.52	2.45	2.39	2.33	2.27	2.22	-1.9	-0.1	-0.5	-0.4
Industry	3.28	2.58	1.74	1.63	1.45	1.41	1.36	1.32	1.31	-6.1	-1.8	-0.7	-0.3
Residential	2.45	2.39	2.37	2.21	2.14	2.03	1.96	1.88	1.81	-0.3	-1.0	-0.9	-0.8
Tertiary	0.21	0.35	0.65	0.48	0.41	0.40	0.37	0.34	0.32	12.0	-4.4	-1.0	-1.7
Transport	2.96	2.96	2.97	3.00	2.95	2.90	2.85	2.83	2.81	0.1	-0.1	-0.3	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.9	0.9	2.5	4.3	5.7	6.5	7.0				
RES in transport (%)			0.0	0.1	2.3	4.6	6.5	7.4	8.0				
Gross Electricity generation by fuel type (in GWh)			**433**	**3344**	**3485**	**4411**	**5303**	**6025**	**6163**		**23.2**	**4.3**	**1.5**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			0	0	0	3	3	4	4				2.5
Gas (including derived gases)			231	3050	3165	3976	4698	5374	5477		29.9	4.0	1.5
Biomass & waste			55	130	115	136	208	206	197		7.6	6.1	-0.6
Hydro			120	93	90	84	92	92	94		-2.9	0.2	0.2
Wind			27	53	75	155	231	270	309		10.8	11.8	3.0
Solar, tidal etc.			0	18	40	59	72	80	82			6.1	1.4
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**165**	**609**	**607**	**858**	**1048**	**1179**	**1233**		**13.9**	**5.6**	**1.6**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			54	101	131	234	300	334	358		9.3	8.7	1.8
Hydro (pumping excluded)			39	40	40	40	40	40	40		0.2	0.0	0.1
Wind			14	35	50	134	186	211	232		13.5	14.1	2.3
Solar			1	26	41	61	74	83	86		45.1	6.1	1.4
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			111	509	477	624	749	845	875		15.7	4.6	1.6
of which cogeneration units			37	54	94	151	185	213	226		9.8	7.0	2.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			95	483	452	599	719	816	845		16.8	4.8	1.6
Oil fired			0	0	0	1	1	1	1				1.0
Biomass-waste fired			16	25	25	24	28	28	28		4.5	1.3	0.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			28.0	62.2	63.9	57.1	56.2	56.8	55.6				
Efficiency for thermal electricity production (%)			32.7	48.1	49.2	50.7	51.9	52.1	52.1				
CHP indicator (% of electricity from CHP)			52.7	12.6	16.3	18.9	18.0	18.4	19.3				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			46.7	8.8	9.2	9.8	11.4	10.7	11.1				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			46.7	8.8	9.2	9.8	11.4	10.7	11.1				
Transport sector													
Passenger transport activity (Gpkm)	**5.2**	**6.2**	**7.3**	**8.1**	**8.6**	**9.5**	**9.8**	**10.2**	**10.7**	**3.4**	**1.6**	**1.4**	**0.9**
Public road transport	0.5	0.5	0.6	0.8	0.9	0.9	1.0	1.0	1.1	2.6	3.3	1.1	1.0
Private cars and motorcycles	4.0	4.8	5.7	6.5	6.7	7.4	7.5	7.7	8.0	3.6	1.6	1.1	0.6
Rail	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	4.8	-0.5	1.8	1.0
Aviation	0.5	0.5	0.6	0.6	0.7	0.8	1.0	1.1	1.2	2.2	0.7	3.5	2.5
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**4.2**	**6.4**	**8.6**	**9.5**	**10.0**	**11.7**	**12.5**	**13.2**	**13.8**	**7.5**	**1.5**	**2.2**	**1.0**
Trucks	3.2	5.5	7.6	8.8	9.3	10.8	11.6	12.3	12.9	9.0	2.0	2.3	1.0
Rail	0.6	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.3	-4.1	1.8	0.4
Inland navigation	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	-1.0	0.9	0.9
Energy demand in transport (ktoe)	**1010**	**1311**	**1884**	**2721**	**2780**	**3012**	**3000**	**2929**	**2798**	**6.4**	**4.0**	**0.8**	**-0.7**
Public road transport	10	11	13	17	18	18	18	18	18	2.3	3.2	0.3	0.0
Private cars and motorcycles	483	574	662	779	769	751	674	602	570	3.2	1.5	-1.3	-1.7
Trucks	364	520	866	1479	1540	1750	1815	1820	1752	9.1	5.9	1.7	-0.3
Rail	13	9	15	9	10	11	11	10	10	2.0	-4.5	0.8	-0.5
Aviation	131	189	320	431	438	476	477	472	441	9.3	3.2	0.9	-0.8
Inland navigation	9	8	7	6	6	6	6	6	7	-2.4	-1.5	0.7	0.8

Source: PRIMES

Malta: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**0**	**0**	**0**	**0**	**5**	**25**	**40**	**55**	**66**			**24.5**	**5.1**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	0	0	0	0	5	25	40	55	66			24.5	5.1
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	0	0	0	0	0	3	4	5	5			50.7	2.8
Wind	0	0	0	0	0	3	9	19	28				11.4
Solar and others	0	0	0	0	4	19	27	30	33			19.8	2.2
Geothermal	0	0	0	0	0	0	0	0	0			0.1	-1.5
Net Imports	**612**	**891**	**822**	**958**	**911**	**808**	**793**	**777**	**761**	**3.0**	**1.0**	**-1.4**	**-0.4**
Solids	0	0	0	0	0	0	0	0	0				
Oil	612	891	822	958	911	662	617	537	485	3.0	1.0	-3.8	-2.4
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	612	891	822	958	911	662	617	537	485	3.0	1.0	-3.8	-2.4
Natural gas	0	0	0	0	0	143	149	211	242			138.2	5.0
Electricity	0	0	0	0	0	0	22	24	26				1.7
Gross Inland Consumption	**582**	**809**	**773**	**958**	**916**	**833**	**833**	**832**	**827**	**2.9**	**1.7**	**-0.9**	**-0.1**
Solids	0	0	0	0	0	0	0	0	0				
Oil	582	809	773	958	911	662	617	537	485	2.9	1.7	-3.8	-2.4
Natural gas	0	0	0	0	0	143	149	211	242			138.2	5.0
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	22	24	26				1.7
Renew able energy forms	0	0	0	0	5	28	45	60	73			24.7	5.1
as % in Gross Inland Consumption													
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Oil	100.0	100.0	100.0	100.0	99.5	79.5	74.1	64.6	58.7				
Natural gas	0.0	0.0	0.0	0.0	0.0	17.1	17.9	25.3	29.2				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	0.0	0.0	0.0	0.0	0.5	3.4	5.4	7.2	8.9				
Gross Electricity Generation in GWh_e	**1100**	**1632**	**1917**	**2240**	**2166**	**2269**	**2136**	**2186**	**2170**	**5.7**	**1.2**	**-0.1**	**0.2**
Self consumption and grid losses	190	373	350	396	382	369	345	310	268	6.3	0.9	-1.0	-2.5
Fuel Inputs for Thermal Power Generation	**322**	**463**	**495**	**580**	**539**	**419**	**369**	**333**	**297**	**4.4**	**0.9**	**-3.7**	**-2.1**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	322	463	495	580	539	275	224	149	108	4.4	0.9	-8.4	-7.1
Gas	0	0	0	0	0	140	140	177	182				2.7
Biomass & Waste	0	0	0	0	0	4	5	7	7				3.0
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**4**	**6**			**23.1**	**5.4**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	0	0	2	3	4	6			25.0	5.4
District heating	0	0	0	0	0	0	0	0	0			3.3	3.4
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**8**	**19**	**10**	**9**	**8**	**8**	**7**	**6**	**5**	**2.5**	**-2.3**	**-1.7**	**-3.1**
Non-Energy Uses	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**				
Final Energy Demand	**333**	**451**	**412**	**526**	**529**	**573**	**604**	**634**	**654**	**2.2**	**2.5**	**1.3**	**0.8**
by sector													
Industry	0	42	43	46	46	50	53	57	60		0.7	1.4	1.2
- energy intensive industries	0	0	0	0	0	0	0	0	0				
- other industrial sectors	0	42	43	46	46	50	53	57	60		0.7	1.4	1.2
Residential	55	73	76	89	92	101	111	120	126	3.2	2.0	1.9	1.2
Tertiary	56	32	55	63	66	75	85	94	100	-0.2	1.9	2.5	1.6
Transport	222	305	238	329	324	346	355	363	369	0.7	3.1	0.9	0.4
by fuel													
Solids	0	0	0	0	0	0	0	0	0				
Oil	255	343	277	378	371	387	393	388	378	0.9	3.0	0.6	-0.4
Gas	0	0	0	0	0	2	9	33	60			79.7	20.9
Electricity	78	108	135	148	153	163	176	186	190	5.6	1.3	1.4	0.7
Heat (from CHP and District Heating) [A]	0	0	0	0	0	0	0	0	0			3.3	3.4
Renew able energy forms	0	0	0	0	4	20	25	26	27			19.9	0.6
Other	0	0	0	0	0	0	0	0	0			9.5	-0.3
RES in Gross Final Energy Consumption [B]			**0**	**0**	**5**	**26**	**41**	**56**	**69**			**23.9**	**5.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**2.0**		**2.7**	**3.3**	**3.1**	**2.6**	**2.5**	**2.4**	**2.3**	**3.1**	**1.6**	**-2.2**	**-0.8**
of w hich ETS sectors GHGs emissions				2.1	2.0	1.6	1.5	1.3	1.3			-3.3	-1.5
CO_2 Emissions (energy related)	**1.8**	**2.5**	**2.4**	**3.0**	**2.8**	**2.4**	**2.2**	**2.1**	**2.0**	**3.0**	**1.7**	**-2.3**	**-0.9**
Pow er generation/District heating	1.0	1.5	1.6	1.9	1.7	1.2	1.0	0.9	0.8	4.4	0.9	-4.9	-3.0
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Residential	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.8	2.0	-0.4	1.7
Tertiary	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1		2.4	2.6	4.3
Transport	0.7	0.9	0.7	1.0	1.0	1.0	1.1	1.1	1.1	0.7	3.2	0.8	0.2
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.2**		**0.3**	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.2**	**3.4**	**0.6**	**-1.3**	**0.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.1**	**168.0**	**158.3**	**134.5**	**126.3**	**121.5**	**116.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Malta: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.352	0.369	0.380	0.403	0.414	0.421	0.427	0.431	0.432	0.8	0.8	0.3	0.1
GDP (in 000 M€08)	3.1	3.9	4.8	5.1	5.5	6.2	7.2	8.0	8.8	4.6	1.3	2.7	2.0
Gross Inl. Cons./GDP (toe/M€08)	189.6	206.3	161.2	189.0	167.5	133.9	116.3	103.8	94.3	-1.6	0.4	-3.6	-2.1
Carbon intensity (t of CO_2/toe of GIC)	3.06	3.08	3.10	3.12	3.10	2.84	2.69	2.56	2.46	0.1	0.0	-1.4	-0.9
Import Dependency %	100.0	104.5	100.8	100.0	99.5	97.0	95.2	93.4	92.0				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			0.4	0.6	0.7	0.8	1.0	1.2	1.3		5.0	5.2	2.8
as % of GDP			8.9	12.6	12.8	14.2	16.2	17.4	17.4				
Energy intensity indicators													
Industry (Energy on Value added)	0.0	122.2	100.0	133.5	125.2	119.2	110.4	105.4	102.6		2.3	-1.3	-0.7
Residential (Energy on Private Income)	115.3	114.5	100.0	108.5	106.3	101.4	96.4	92.3	88.5	-1.4	0.6	-1.0	-0.8
Tertiary (Energy on Value added)	158.1	70.7	100.0	103.0	100.8	100.6	98.2	97.5	94.2	-4.5	0.1	-0.3	-0.4
Passenger transport (toe/Mpkm)	47.2	56.2	41.7	57.4	51.3	47.8	44.2	41.3	38.4	-1.2	2.1	-1.5	-1.4
Freight transport (toe/Mtkm)	211.4	232.0	156.0	212.1	192.7	183.1	178.7	175.0	169.6	-3.0	2.1	-0.8	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.93	0.91	0.82	0.83	0.80	0.53	0.49	0.41	0.35	-1.3	-0.3	-4.8	-3.2
Final energy demand (t of CO_2/toe)	2.26	2.24	1.99	2.14	2.10	2.03	1.99	1.96	1.94	-1.3	0.5	-0.5	-0.2
Industry		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Residential	1.66	1.47	1.01	1.10	1.00	0.86	0.80	0.79	0.83	-4.9	0.0	-2.3	0.4
Tertiary	0.00	0.00	0.64	0.69	0.67	0.60	0.67	0.78	0.87		0.5	0.1	2.6
Transport	2.97	2.96	2.98	3.00	3.00	2.98	2.97	2.96	2.93	0.0	0.1	-0.1	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.0	0.0	1.0	5.2	7.9	10.5	12.7				
RES in transport (%)			0.0	0.0	0.1	1.1	1.5	1.9	2.9				
Gross Electricity generation by fuel type (in GWh)			**1917**	**2240**	**2166**	**2269**	**2136**	**2186**	**2170**		**1.2**	**-0.1**	**0.2**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			1917	2240	2158	1303	1060	701	503		1.2	-6.9	-7.2
Gas (including derived gases)			0	0	0	893	893	1145	1181				2.8
Biomass & waste			0	0	0	17	23	30	31				3.0
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	32	109	222	321				11.4
Solar, tidal etc.			0	0	8	25	52	89	135			21.1	9.9
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**484**	**544**	**550**	**836**	**654**	**757**	**828**		**1.3**	**1.7**	**2.4**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	0	5	31	80	147	213			31.9	10.3
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	15	46	89	125				10.6
Solar			0	0	5	16	34	58	88			21.1	9.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			484	544	545	805	574	609	615		1.2	0.5	0.7
of which cogeneration units			0	0	0	0	0	0	0				
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	124	124	160	165				2.9
Oil fired			484	544	545	678	447	446	446		1.2	-2.0	0.0
Biomass-waste fired			0	0	0	2	3	4	4				3.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			42.5	44.9	43.0	29.8	35.9	32.0	29.1				
Efficiency for thermal electricity production (%)			33.3	33.2	34.4	45.4	46.0	48.5	49.6				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.4	3.2	8.6	15.6	22.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.4	3.2	8.6	15.6	22.4				
Transport sector													
Passenger transport activity (Gpkm)	**3.9**	**4.4**	**4.8**	**4.8**	**5.4**	**6.2**	**6.8**	**7.4**	**8.1**	**1.9**	**1.2**	**2.4**	**1.7**
Public road transport	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.2	1.2	0.5	0.2
Private cars and motorcycles	1.5	1.8	1.9	2.1	2.2	2.2	2.2	2.2	2.2	1.9	1.7	0.1	-0.1
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	2.0	2.2	2.5	2.3	2.7	3.4	4.0	4.7	5.3	2.1	0.8	4.2	2.8
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**4.1**	**0.0**	**1.9**	**1.3**
Trucks	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.1	0.0	1.9	1.3
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**222**	**305**	**238**	**329**	**324**	**346**	**355**	**363**	**369**	**0.7**	**3.1**	**0.9**	**0.4**
Public road transport	9	9	7	10	11	11	10	10	10	-1.9	3.7	-0.1	-0.7
Private cars and motorcycles	105	164	105	175	164	160	151	142	135	0.0	4.6	-0.9	-1.1
Trucks	35	58	39	53	48	51	54	57	58	1.0	2.1	1.2	0.8
Rail	0	0	0	0	0	0	0	0	0				
Aviation	72	74	86	90	101	124	140	154	165	1.8	1.6	3.3	1.7
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Netherlands: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**60563**	**66301**	**57430**	**61899**	**60223**	**57815**	**55655**	**47328**	**41544**	**-0.5**	**0.5**	**-0.8**	**-2.9**
Solids	0	0	0	0	2	2	2	1	3			0.5	5.6
Oil	4114	3625	2472	2346	1240	530	0	0	0	-5.0	-6.7		
Natural gas	54613	60456	51904	56265	54900	51980	49180	40100	32670	-0.5	0.6	-1.1	-4.0
Nuclear	881	1036	1013	1031	1017	1023	1024	1186	2217	1.4	0.0	0.1	8.0
Renew able energy sources	956	1184	2040	2257	3064	4280	5449	6041	6654	7.9	4.2	5.9	2.0
Hydro	7	8	12	8	8	9	9	9	9	5.3	-3.6	0.0	0.0
Biomass & Waste	942	1144	1945	2050	2360	2754	2926	3069	3253	7.5	2.0	2.2	1.1
Wind	5	27	71	178	616	1324	2191	2463	2669	30.9	24.1	13.5	2.0
Solar and others	2	5	12	22	80	155	238	345	457	18.5	21.3	11.6	6.7
Geothermal	0	0	0	0	0	37	86	155	267			129.9	11.9
Net Imports	**18273**	**17142**	**35442**	**38390**	**34250**	**37859**	**38981**	**46505**	**51211**	**6.8**	**-0.3**	**1.3**	**2.8**
Solids	9574	8921	8222	8313	7268	9105	9320	10106	9428	-1.5	-1.2	2.5	0.1
Oil	31704	33609	42777	48868	46283	47209	46960	45775	43950	3.0	0.8	0.1	-0.7
- Crude oil and Feedstocks	48979	60332	62222	62643	60536	61512	61195	59946	58023	2.4	-0.3	0.1	-0.5
- Oil products	-17275	-26723	-19446	-13775	-14252	-14304	-14235	-14171	-14073				
Natural gas	-23799	-26370	-17191	-20941	-21488	-19799	-18416	-10560	-3373				
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Gross Inland Consumption	**67955**	**74528**	**77042**	**82479**	**78383**	**79419**	**78479**	**77470**	**75977**	**1.3**	**0.2**	**0.0**	**-0.3**
Solids	9206	9098	8035	8190	7269	9106	9322	10107	9430	-1.4	-1.0	2.5	0.1
Oil	25308	28142	29610	33527	31434	31484	30802	29412	27172	1.6	0.6	-0.2	-1.2
Natural gas	30810	34085	34711	35324	33412	32181	30764	29540	29297	1.2	-0.4	-0.8	-0.5
Nuclear	881	1036	1013	1031	1017	1023	1024	1186	2217	1.4	0.0	0.1	8.0
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Renew able energy forms	959	1187	2048	2834	3862	5298	6656	7401	8057	7.9	6.6	5.6	1.9
as % in Gross Inland Consumption													
Solids	13.5	12.2	10.4	9.9	9.3	11.5	11.9	13.0	12.4				
Oil	37.2	37.8	38.4	40.6	40.1	39.6	39.2	38.0	35.8				
Natural gas	45.3	45.7	45.1	42.8	42.6	40.5	39.2	38.1	38.6				
Nuclear	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.5	2.9				
Renew able energy forms	1.4	1.6	2.7	3.4	4.9	6.7	8.5	9.6	10.6				
Gross Electricity Generation in GWh_e	**71824**	**81054**	**89599**	**100235**	**104437**	**126316**	**138830**	**145932**	**150252**	**2.2**	**1.5**	**2.9**	**0.8**
Self consumption and grid losses	5556	6855	7754	8521	8805	10706	12902	13952	14193	3.4	1.3	3.9	1.0
Fuel Inputs for Thermal Power Generation	**14646**	**17053**	**18277**	**19614**	**19102**	**21547**	**22032**	**22795**	**22679**	**2.2**	**0.4**	**1.4**	**0.3**
Solids	5698	5900	5114	4958	4760	6675	6936	7788	7171	-1.1	-0.7	3.8	0.3
Oil (including refinery gas)	727	917	671	691	594	588	571	718	630	-0.8	-1.2	-0.4	1.0
Gas	7651	9466	11071	11913	11392	11461	11505	10873	11074	3.8	0.3	0.1	-0.4
Biomass & Waste	570	770	1421	2052	2356	2787	2934	3262	3538	9.6	5.2	2.2	1.9
Geothermal heat	0	0	0	0	0	37	86	155	267				11.9
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**73390**	**84833**	**86509**	**91301**	**84034**	**84457**	**82494**	**80776**	**78382**	**1.7**	**-0.3**	**-0.2**	**-0.5**
Refineries	69876	81133	83485	87803	81008	81393	79366	77655	75347	1.8	-0.3	-0.2	-0.5
Biofuels and hydrogen production	0	0	0	0	255	455	604	653	679			9.0	1.2
District heating	0	11	153	436	494	494	494	455	388		12.4	0.0	-2.4
Others	3514	3689	2870	3062	2276	2114	2029	2014	1967	-2.0	-2.3	-1.1	-0.3
Energy Branch Consumption	**5462**	**6320**	**5600**	**6665**	**5810**	**5795**	**5797**	**5678**	**5473**	**0.2**	**0.4**	**0.0**	**-0.6**
Non-Energy Uses	**9775**	**9892**	**10307**	**13031**	**12949**	**12826**	**12341**	**12166**	**12154**	**0.5**	**2.3**	**-0.5**	**-0.2**
Final Energy Demand	**42876**	**47727**	**50174**	**51639**	**50669**	**50888**	**50282**	**49128**	**47572**	**1.6**	**0.1**	**-0.1**	**-0.6**
by sector													
Industry	12542	12675	13753	14929	14508	14446	14058	13724	13360	0.9	0.5	-0.3	-0.5
- energy intensive industries	9531	8686	9823	10639	10042	9948	9612	9328	9010	0.3	0.2	-0.4	-0.6
- other industrial sectors	3010	3989	3930	4291	4466	4497	4446	4396	4350	2.7	1.3	0.0	-0.2
Residential	9938	11152	10333	10101	10171	10359	10187	9986	9745	0.4	-0.2	0.0	-0.4
Tertiary	10012	11463	12229	11495	11305	11316	11103	10785	10476	2.0	-0.8	-0.2	-0.6
Transport	10385	12436	13858	15114	14685	14767	14934	14633	13991	2.9	0.6	0.2	-0.7
by fuel													
Solids	1651	1415	1295	1515	1137	1188	1200	1114	1065	-2.4	-1.3	0.5	-1.2
Oil	12851	14721	16512	17406	16692	16595	16515	15315	13809	2.5	0.1	-0.1	-1.8
Gas	21244	22515	21008	20335	19322	18518	17105	16578	15684	-0.1	-0.8	-1.2	-0.9
Electricity	6322	7143	8421	8989	9174	9825	10299	10740	11079	2.9	0.9	1.2	0.7
Heat (from CHP and District Heating) [A]	439	1568	2558	2981	3675	3835	3942	4044	4490	19.3	3.7	0.7	1.3
Renew able energy forms	370	364	380	413	668	925	1218	1335	1442	0.3	5.8	6.2	1.7
Other	0	0	0	0	1	2	2	2	2			8.2	-0.1
RES in Gross Final Energy Consumption [B]			**814**	**1169**	**3244**	**4750**	**6053**	**6717**	**7263**		**14.8**	**6.4**	**1.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**214.2**		**219.2**	**217.8**	**197.4**	**202.8**	**195.8**	**191.2**	**180.8**	**0.2**	**-1.0**	**-0.1**	**-0.8**
of w hich ETS sectors GHGs emissions				107.3	91.5	98.7	95.4	94.9	88.7			0.4	-0.7
CO_2 Emissions (energy related)	**152.1**	**167.6**	**166.2**	**172.1**	**159.6**	**164.5**	**157.4**	**152.7**	**142.1**	**0.9**	**-0.4**	**-0.1**	**-1.0**
Pow er generation/District heating	43.4	49.2	49.1	51.2	48.5	56.2	53.2	53.9	50.6	1.2	-0.1	0.9	-0.5
Energy Branch	13.8	16.0	13.5	15.0	11.4	10.6	10.1	9.6	9.0	-0.3	-1.7	-1.2	-1.2
Industry	26.6	24.8	24.6	25.4	21.9	21.3	19.9	18.4	15.8	-0.8	-1.1	-1.0	-2.3
Residential	19.2	20.6	18.9	17.8	17.9	17.6	16.6	15.6	14.7	-0.2	-0.5	-0.8	-1.2
Tertiary	18.9	20.7	19.5	18.1	17.4	16.6	15.4	14.0	12.8	0.3	-1.2	-1.2	-1.9
Transport	30.2	36.3	40.6	44.5	42.5	42.2	42.2	41.2	39.2	3.0	0.4	-0.1	-0.7
CO_2 Emissions (non energy related)	**9.4**	**9.1**	**8.2**	**8.6**	**7.9**	**8.1**	**8.0**	**8.1**	**8.1**	**-1.4**	**-0.4**	**0.1**	**0.1**
Non-CO_2 GHGs Emissions	**52.6**		**44.8**	**37.0**	**29.9**	**30.3**	**30.3**	**30.4**	**30.7**	**-1.6**	**-4.0**	**0.1**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.3**	**101.7**	**92.2**	**94.7**	**91.4**	**89.3**	**84.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Netherlands: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	14.893	15.424	15.864	16.306	16.503	16.717	16.896	17.069	17.208	0.6	0.4	0.2	0.2
GDP (in 000 M€08)	367.1	416.6	508.0	542.4	569.9	622.3	673.9	720.9	767.3	3.3	1.2	1.7	1.3
Gross Inl. Cons./GDP (toe/M€08)	185.1	178.9	151.7	152.1	137.5	127.6	116.5	107.5	99.0	-2.0	-1.0	-1.6	-1.6
Carbon intensity (t of CO_2/toe of GIC)	2.24	2.25	2.16	2.09	2.04	2.07	2.01	1.97	1.87	-0.4	-0.6	-0.1	-0.7
Import Dependency %	23.2	20.0	39.2	38.7	36.3	39.6	41.2	49.6	55.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			48.2	56.0	56.8	65.5	77.8	85.5	87.7		1.9	3.9	2.4
as % of GDP			9.5	10.3	10.2	11.2	12.6	13.7	14.0				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	107.3	100.0	108.1	104.0	97.5	90.7	84.9	79.6	-0.5	0.4	-1.4	-1.3
Residential (Energy on Private Income)	133.0	133.8	100.0	93.4	91.5	83.9	75.3	69.0	63.1	-2.8	-0.9	-1.9	-1.8
Tertiary (Energy on Value added)	117.5	115.7	100.0	86.8	80.6	72.8	65.4	58.9	53.5	-1.6	-2.1	-2.1	-2.0
Passenger transport (toe/Mpkm)	41.4	49.0	49.3	52.8	50.8	46.7	44.9	41.2	36.4	1.8	0.3	-1.2	-2.1
Freight transport (toe/Mtkm)	34.9	37.8	38.1	36.6	35.8	35.6	34.1	32.5	30.8	0.9	-0.6	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.48	0.39	0.35	0.30	0.30	0.26	0.26	0.23	-3.4	-2.8	-1.3	-1.3
Final energy demand (t of CO_2/toe)	2.21	2.15	2.07	2.05	1.97	1.92	1.87	1.82	1.74	-0.7	-0.5	-0.5	-0.8
Industry	2.12	1.96	1.79	1.70	1.51	1.47	1.42	1.34	1.18	-1.7	-1.7	-0.6	-1.8
Residential	1.93	1.85	1.83	1.76	1.76	1.70	1.63	1.56	1.51	-0.5	-0.4	-0.8	-0.7
Tertiary	1.89	1.81	1.60	1.58	1.54	1.47	1.39	1.30	1.22	-1.7	-0.4	-1.0	-1.3
Transport	2.91	2.92	2.93	2.95	2.89	2.86	2.83	2.82	2.80	0.1	-0.1	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			1.6	2.2	6.3	9.2	11.9	13.5	15.0				
RES in transport (%)			0.1	0.1	2.6	4.6	6.2	6.9	7.5				
Gross Electricity generation by fuel type (in GWh)			**89599**	**100235**	**104437**	**126316**	**138830**	**145932**	**150252**		**1.5**	**2.9**	**0.8**
Nuclear energy			3925	3996	3942	3967	3971	5096	9592		0.0	0.1	9.2
Coal and lignite			23513	22687	21513	33250	35217	39552	36127		-0.9	5.1	0.3
Petroleum products			2380	2698	2946	2937	2885	2121	1850		2.2	-0.2	-4.3
Gas (including derived gases)			55301	62203	59752	59828	59705	57709	57580		0.8	0.0	-0.4
Biomass & waste			3500	6463	8937	10677	11252	12430	13306		9.8	2.3	1.7
Hydro			142	88	99	99	99	99	99		-3.6	0.0	0.0
Wind			829	2067	7160	15398	25472	28637	31031		24.1	13.5	2.0
Solar, tidal etc.			8	34	87	116	124	103	170		27.0	3.6	3.2
Geothermal and other renewables			0	0	0	43	105	185	497				16.8
Net Generation Capacity in MW_e			**20559**	**23096**	**26283**	**31431**	**33532**	**34187**	**35845**		**2.5**	**2.5**	**0.7**
Nuclear energy			504	504	504	504	504	589	1108		0.0	0.0	8.2
Renewable energy			494	1331	3212	5740	8782	9778	10672		20.6	10.6	2.0
Hydro (pumping excluded)			39	37	37	37	37	37	37		-0.5	0.0	0.0
Wind			442	1243	3078	5578	8615	9632	10397		21.4	10.8	1.9
Solar			13	51	96	125	128	107	177		22.2	2.9	3.2
Other renewables (tidal etc.)			0	0	0	0	2	2	61				44.8
Thermal power			19561	21261	22566	25186	24246	23821	24066		1.4	0.7	-0.1
of which cogeneration units			6017	5905	8239	8347	8659	8880	9101		3.2	0.5	0.5
of which CCS units			0	0	0	0	1005	1005	1005				0.0
Solids fired			4200	4200	4186	8133	8534	8534	8534		0.0	7.4	0.0
Gas fired			13732	14827	15935	14307	12857	12216	12258		1.5	-2.1	-0.5
Oil fired			776	762	995	787	786	898	896		2.5	-2.3	1.3
Biomass-waste fired			853	1473	1451	1954	2057	2152	2343		5.4	3.6	1.3
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	5	11	21	35				11.9
Load factor for net electric capacities (%)			47.7	47.5	43.5	43.8	44.7	46.0	45.2				
Efficiency for thermal electricity production (%)			39.9	41.2	41.9	42.6	42.6	42.3	41.4				
CHP indicator (% of electricity from CHP)			39.1	30.8	42.7	36.3	33.4	31.5	31.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	4.7	6.1	6.9				
Non fossil fuels in electricity generation (%)			9.4	12.6	19.4	24.0	29.5	31.9	36.4				
- nuclear			4.4	4.0	3.8	3.1	2.9	3.5	6.4				
- renewable energy forms and industrial waste			5.0	8.6	15.6	20.8	26.7	28.4	30.0				
Transport sector													
Passenger transport activity (Gpkm)	**172.2**	**172.3**	**184.4**	**194.8**	**197.9**	**213.8**	**226.7**	**240.0**	**254.4**	**0.7**	**0.7**	**1.4**	**1.2**
Public road transport	13.0	12.0	11.3	11.8	12.4	13.2	13.8	14.1	14.3	-1.4	0.9	1.1	0.3
Private cars and motorcycles	138.6	133.0	143.3	151.5	151.7	162.2	169.2	177.5	187.4	0.3	0.6	1.1	1.0
Rail	12.3	17.7	16.1	16.7	18.1	19.6	21.2	22.6	23.9	2.7	1.2	1.6	1.2
Aviation	7.0	8.5	13.0	14.2	15.1	18.0	21.7	25.1	28.0	6.3	1.5	3.7	2.6
Inland navigation	1.2	1.0	0.7	0.7	0.7	0.8	0.8	0.8	0.8	-5.0	0.2	0.6	0.5
Freight transport activity (Gtkm)	**93.2**	**105.7**	**125.4**	**132.3**	**129.2**	**134.5**	**139.4**	**146.1**	**153.8**	**3.0**	**0.3**	**0.8**	**1.0**
Trucks	54.5	67.1	79.6	84.2	80.0	83.8	86.6	91.2	96.8	3.9	0.1	0.8	1.1
Rail	3.1	3.1	4.5	5.9	7.4	7.7	7.9	8.1	8.1	3.9	5.0	0.7	0.2
Inland navigation	35.7	35.5	41.3	42.2	41.8	43.0	44.8	46.9	48.9	1.5	0.1	0.7	0.9
Energy demand in transport (ktoe)	**10385**	**12436**	**13858**	**15114**	**14685**	**14767**	**14934**	**14633**	**13991**	**2.9**	**0.6**	**0.2**	**-0.7**
Public road transport	166	151	140	144	150	155	153	148	143	-1.7	0.7	0.2	-0.7
Private cars and motorcycles	5237	5553	5491	6371	6117	5868	5668	5358	4946	0.5	1.1	-0.8	-1.4
Trucks	2666	3278	4037	4552	4319	4475	4450	4451	4436	4.2	0.7	0.3	0.0
Rail	147	163	176	172	197	203	187	173	167	1.8	1.2	-0.6	-1.1
Aviation	1608	2589	3343	3670	3698	3857	4260	4280	4068	7.6	1.0	1.4	-0.5
Inland navigation	560	702	672	206	204	209	216	223	231	1.8	-11.2	0.5	0.7

Source: PRIMES

Poland: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**99385**	**99403**	**80300**	**79260**	**69088**	**66603**	**67801**	**67231**	**66595**	**-2.1**	**-1.5**	**-0.2**	**-0.2**
Solids	94459	91104	71298	68876	59068	55712	52821	49038	46066	-2.8	-1.9	-1.1	-1.4
Oil	179	367	1433	1498	750	700	700	650	600	23.1	-6.3	-0.7	-1.5
Natural gas	2378	3169	3313	3884	3865	3440	3100	2800	2700	3.4	1.6	-2.2	-1.4
Nuclear	0	0	0	0	0	0	2817	5094	6738				9.1
Renew able energy sources	2369	4763	4256	5002	5405	6750	8363	9648	10491	6.0	2.4	4.5	2.3
Hydro	139	162	181	189	195	205	221	231	246	2.7	0.7	1.3	1.1
Biomass & Waste	2230	4600	4072	4792	5094	6363	7819	8957	9653	6.2	2.3	4.4	2.1
Wind	0	0	0	12	87	126	215	294	375		70.0	9.5	5.7
Solar and others	0	0	0	0	1	9	27	51	82			34.5	11.6
Geothermal	0	0	3	9	28	49	81	115	135		25.1	11.3	5.2
Net Imports	**2306**	**-11**	**10262**	**16911**	**32447**	**42316**	**45107**	**47966**	**47838**	**16.1**	**12.2**	**3.3**	**0.6**
Solids	-18913	-21202	-16309	-12755	-5382	-342	2088	4353	4686				8.4
Oil	14536	15622	20512	22155	27324	31119	31716	32146	31654	3.5	2.9	1.5	0.0
- Crude oil and Feedstocks	13196	14112	18949	18362	22682	25656	26086	26393	26105	3.7	1.8	1.4	0.0
- Oil products	1340	1510	1563	3793	4642	5463	5629	5753	5549	1.5	11.5	1.9	-0.1
Natural gas	6773	5810	6607	8531	11191	12166	12023	12310	12420	-0.2	5.4	0.7	0.3
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Gross Inland Consumption	**100083**	**100165**	**90907**	**93870**	**101116**	**108449**	**112433**	**114721**	**113961**	**-1.0**	**1.1**	**1.1**	**0.1**
Solids	75405	70500	56358	54918	53686	55370	54910	53391	50752	-2.9	-0.5	0.2	-0.8
Oil	13461	16149	20889	22734	27655	31350	31940	32319	31782	4.5	2.8	1.5	0.0
Natural gas	8938	8995	9960	12235	15056	15606	15123	15110	15120	1.1	4.2	0.0	0.0
Nuclear	0	0	0	0	0	0	2817	5094	6738				9.1
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Renew able energy forms	2369	4763	4249	4946	5295	6565	8091	9304	10098	6.0	2.2	4.3	2.2
as % in Gross Inland Consumption													
Solids	75.3	70.4	62.0	58.5	53.1	51.1	48.8	46.5	44.5				
Oil	13.4	16.1	23.0	24.2	27.3	28.9	28.4	28.2	27.9				
Natural gas	8.9	9.0	11.0	13.0	14.9	14.4	13.5	13.2	13.3				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	2.5	4.4	5.9				
Renew able energy forms	2.4	4.8	4.7	5.3	5.2	6.1	7.2	8.1	8.9				
Gross Electricity Generation in GWh_e	**134591**	**137017**	**143148**	**155331**	**162746**	**173065**	**187136**	**201069**	**215830**	**0.6**	**1.3**	**1.4**	**1.4**
Self consumption and grid losses	24377	30428	27978	28523	30141	31338	34507	37423	40450	1.4	0.7	1.4	1.6
Fuel Inputs for Thermal Power Generation	**43419**	**36847**	**35960**	**38149**	**41083**	**43197**	**42995**	**42347**	**40951**	**-1.9**	**1.3**	**0.5**	**-0.5**
Solids	41138	35842	34793	35942	37763	39902	39481	38784	37337	-1.7	0.8	0.4	-0.6
Oil (including refinery gas)	1235	405	228	179	190	231	206	197	196	-15.6	-1.8	0.8	-0.5
Gas	673	488	783	1483	1479	1342	1500	1445	1356	1.5	6.6	0.1	-1.0
Biomass & Waste	372	114	157	546	1651	1721	1809	1914	2046	-8.3	26.6	0.9	1.2
Geothermal heat	0	0	0	0	0	0	0	8	16				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**37964**	**33093**	**34029**	**32016**	**34125**	**36746**	**37145**	**37380**	**36896**	**-1.1**	**0.0**	**0.9**	**-0.1**
Refineries	13269	15062	20074	19789	23597	26532	26945	27192	26845	4.2	1.6	1.3	0.0
Biofuels and hydrogen production	0	0	0	47	363	652	941	1144	1290			10.0	3.2
District heating	9949	5985	4320	3640	3545	3462	3892	4234	4433	-8.0	-2.0	0.9	1.3
Others	14746	12045	9635	8541	6620	6099	5366	4810	4329	-4.2	-3.7	-2.1	-2.1
Energy Branch Consumption	**6808**	**7653**	**7263**	**7151**	**8573**	**8968**	**9084**	**9140**	**9008**	**0.6**	**1.7**	**0.6**	**-0.1**
Non-Energy Uses	**4218**	**3720**	**4319**	**4471**	**4708**	**5007**	**5071**	**5216**	**5414**	**0.2**	**0.9**	**0.7**	**0.7**
Final Energy Demand	**59652**	**63525**	**55323**	**57854**	**64813**	**70690**	**73022**	**74704**	**74949**	**-0.8**	**1.6**	**1.2**	**0.3**
by sector													
Industry	25258	22722	18886	16462	17460	18667	19017	19180	19142	-2.9	-0.8	0.9	0.1
- energy intensive industries	16252	15428	13373	11186	11360	11803	11738	11564	11558	-1.9	-1.6	0.3	-0.2
- other industrial sectors	9006	7294	5513	5276	6100	6864	7279	7616	7583	-4.8	1.0	1.8	0.4
Residential	18126	23284	17519	18377	18767	19374	19725	19877	19836	-0.3	0.7	0.5	0.1
Tertiary	8906	9244	9714	10932	11848	12984	13587	14156	14357	0.9	2.0	1.4	0.6
Transport	7362	8275	9204	12083	16738	19664	20693	21491	21614	2.3	6.2	2.1	0.4
by fuel													
Solids	17066	23299	13728	11350	10261	9994	10176	9601	8724	-2.2	-2.9	-0.1	-1.5
Oil	9143	11618	14917	17874	21970	25387	25903	26362	26112	5.0	3.9	1.7	0.1
Gas	7987	7735	7447	8400	11522	12231	11428	11141	10881	-0.7	4.5	-0.1	-0.5
Electricity	8262	7703	8454	9028	9926	10828	11760	12680	13698	0.2	1.6	1.7	1.5
Heat (from CHP and District Heating) [A]	15563	8763	6886	7056	7907	7784	7994	8260	8525	-7.8	1.4	0.1	0.6
Renew able energy forms	1631	4408	3889	4146	3226	4463	5759	6656	7005	9.1	-1.9	6.0	2.0
Other	0	0	0	0	1	3	4	4	4			12.1	0.5
RES in Gross Final Energy Consumption [B]			**3766**	**4290**	**4929**	**5897**	**7352**	**8507**	**9233**		**2.7**	**4.1**	**2.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**440.8**		**374.8**	**375.2**	**396.5**	**414.2**	**409.7**	**401.1**	**381.2**	**-1.6**	**0.6**	**0.3**	**-0.7**
of w hich ETS sectors GHGs emissions				218.9	221.1	229.0	225.1	217.4	203.9			0.2	-1.0
CO_2 Emissions (energy related)	**332.3**	**330.9**	**288.6**	**291.2**	**312.3**	**330.8**	**325.7**	**315.8**	**296.5**	**-1.4**	**0.8**	**0.4**	**-0.9**
Pow er generation/District heating	209.3	169.9	158.8	162.1	168.3	176.6	171.8	164.0	150.2	-2.7	0.6	0.2	-1.3
Energy Branch	5.8	12.7	11.3	10.6	10.2	9.8	9.4	9.1	8.5	6.9	-1.0	-0.8	-1.0
Industry	44.0	59.9	46.3	33.5	33.5	35.4	35.8	35.0	34.0	0.5	-3.2	0.7	-0.5
Residential	33.1	44.4	27.9	30.2	31.2	31.7	29.9	27.7	24.9	-1.7	1.1	-0.4	-1.8
Tertiary	19.4	20.8	18.4	20.5	21.8	22.4	21.7	21.3	20.4	-0.5	1.7	-0.1	-0.6
Transport	20.6	23.2	25.8	34.4	47.1	54.8	57.0	58.7	58.5	2.3	6.2	1.9	0.3
CO_2 Emissions (non energy related)	**17.7**	**18.0**	**17.6**	**16.8**	**18.6**	**20.7**	**22.3**	**23.4**	**24.3**	**-0.1**	**0.6**	**1.8**	**0.9**
Non-CO_2 GHGs Emissions	**90.8**		**68.6**	**67.2**	**65.6**	**62.6**	**61.8**	**62.0**	**60.5**	**-2.8**	**-0.5**	**-0.6**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**85.0**	**85.1**	**89.9**	**94.0**	**92.9**	**91.0**	**86.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Poland: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.038	38.581	38.654	38.174	38.092	38.068	37.960	37.612	36.975	0.2	-0.1	0.0	-0.3
GDP (in 000 M€08)	152.9	170.4	221.8	258.2	314.9	373.9	429.0	490.8	544.9	3.8	3.6	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	654.7	587.7	409.8	363.5	321.1	290.1	262.1	233.8	209.1	-4.6	-2.4	-2.0	-2.2
Carbon intensity (t of CO_2/toe of GIC)	3.32	3.30	3.17	3.10	3.09	3.05	2.90	2.75	2.60	-0.4	-0.3	-0.6	-1.1
Import Dependency %	2.3	0.0	11.3	18.0	32.0	38.9	40.0	41.6	41.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.3	42.0	50.4	62.0	78.7	91.7	98.9		4.7	6.1	3.5
as % of GDP			15.0	16.3	16.7	19.1	22.2	23.7	24.5				
Energy intensity indicators													
Industry (Energy on Value added)	200.8	177.4	100.0	67.2	56.2	49.6	45.2	41.6	39.7	-6.7	-5.6	-2.1	-1.3
Residential (Energy on Private Income)	182.3	177.4	100.0	91.0	79.4	69.5	60.7	53.2	47.2	-5.8	-2.3	-2.7	-2.5
Tertiary (Energy on Value added)	130.3	119.8	100.0	98.0	88.9	79.8	71.7	64.1	57.4	-2.6	-1.2	-2.1	-2.2
Passenger transport (toe/Mpkm)	22.8	27.4	24.9	26.7	27.6	27.1	26.8	26.4	25.8	0.9	1.1	-0.3	-0.4
Freight transport (toe/Mtkm)	25.3	27.2	29.2	32.1	34.1	34.0	33.3	32.7	31.6	1.4	1.6	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.62	0.67	0.67	0.65	0.59	0.58	0.54	0.49	0.42	0.8	-1.3	-0.9	-2.3
Final energy demand (t of CO_2/toe)	1.96	2.33	2.14	2.05	2.06	2.04	1.98	1.91	1.84	0.9	-0.4	-0.4	-0.7
Industry	1.74	2.64	2.45	2.03	1.92	1.89	1.88	1.83	1.77	3.5	-2.4	-0.2	-0.6
Residential	1.83	1.90	1.59	1.64	1.66	1.64	1.52	1.39	1.26	-1.3	0.4	-0.9	-1.9
Tertiary	2.18	2.25	1.89	1.87	1.84	1.73	1.60	1.51	1.42	-1.4	-0.3	-1.4	-1.1
Transport	2.80	2.80	2.81	2.85	2.81	2.79	2.75	2.73	2.70	0.0	0.0	-0.2	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			6.5	7.1	7.3	8.0	9.7	10.9	11.8				
RES in transport (%)			0.1	0.5	2.7	4.1	5.6	6.6	7.4				
Gross Electricity generation by fuel type (in GWh)			**143148**	**155331**	**162746**	**173065**	**187136**	**201069**	**215830**		**1.3**	**1.4**	**1.4**
Nuclear energy			0	0	0	0	11760	21546	28710				9.3
Coal and lignite			137226	145736	148979	159480	159386	162120	167841		0.8	0.7	0.5
Petroleum products			911	759	994	766	266	250	427		0.9	-12.4	4.9
Gas (including derived gases)			2450	4990	4995	4443	5278	5154	5489		7.4	0.6	0.4
Biomass & waste			451	1510	4505	4531	5373	5867	6085		25.9	1.8	1.3
Hydro			2106	2201	2263	2379	2568	2682	2856		0.7	1.3	1.1
Wind			5	135	1008	1462	2495	3418	4361		70.0	9.5	5.7
Solar, tidal etc.			0	0	1	4	10	23	42			22.8	16.0
Geothermal and other renewables			0	0	0	0	0	9	18				
Net Generation Capacity in MW_e			**29565**	**30959**	**32474**	**32365**	**33340**	**35977**	**40667**		**0.9**	**0.3**	**2.0**
Nuclear energy			0	0	0	0	1515	2776	3699				9.3
Renewable energy			813	1028	1687	2024	2727	3360	4003		7.6	4.9	3.9
Hydro (pumping excluded)			809	907	1014	1098	1187	1203	1203		2.3	1.6	0.1
Wind			4	121	672	922	1530	2133	2756		66.9	8.6	6.1
Solar			0	0	1	4	10	24	44			22.3	16.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			28752	29931	30787	30340	29098	29841	32965		0.7	-0.6	1.3
of which cogeneration units			9348	9606	9771	8066	7948	8255	8505		0.4	-2.0	0.7
of which CCS units			0	0	0	0	610	1238	2268				14.0
Solids fired			27462	28152	28873	27782	25966	26574	29459		0.5	-1.1	1.3
Gas fired			847	1291	1208	1556	1753	1741	1722		3.6	3.8	-0.2
Oil fired			429	430	430	439	391	274	213		0.0	-0.9	-5.9
Biomass-waste fired			14	59	276	563	988	1252	1568		34.6	13.6	4.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	1	2				
Load factor for net electric capacities (%)			50.3	52.4	52.3	56.0	58.4	57.8	54.7				
Efficiency for thermal electricity production (%)			33.7	34.5	33.4	33.7	34.1	35.2	37.8				
CHP indicator (% of electricity from CHP)			17.6	18.3	17.8	18.2	18.6	20.1	18.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	3.6	6.6	10.9				
Non fossil fuels in electricity generation (%)			1.8	2.5	4.8	4.8	11.9	16.7	19.5				
- nuclear			0.0	0.0	0.0	0.0	6.3	10.7	13.3				
- renewable energy forms and industrial waste			1.8	2.5	4.8	4.8	5.6	6.0	6.2				
Transport sector													
Passenger transport activity (Gpkm)	**186.5**	**182.3**	**217.1**	**257.8**	**323.6**	**378.2**	**412.2**	**442.6**	**464.7**	**1.5**	**4.1**	**2.5**	**1.2**
Public road transport	46.3	34.0	31.7	29.3	28.3	29.5	31.4	33.7	35.3	-3.7	-1.1	1.1	1.2
Private cars and motorcycles	83.4	115.2	153.6	201.2	262.6	310.3	338.3	360.8	375.5	6.3	5.5	2.6	1.0
Rail	55.4	31.6	28.8	22.3	24.8	27.4	29.4	31.6	33.2	-6.3	-1.5	1.7	1.2
Aviation	0.9	1.2	2.8	4.8	7.6	10.8	12.8	16.2	20.4	12.4	10.7	5.3	4.8
Inland navigation	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	-6.3	-0.6	1.3	0.7
Freight transport activity (Gtkm)	**122.9**	**120.3**	**130.2**	**162.1**	**228.4**	**276.9**	**290.6**	**300.2**	**304.0**	**0.6**	**5.8**	**2.4**	**0.5**
Trucks	40.3	51.2	75.0	111.8	172.5	210.8	219.3	223.9	223.8	6.4	8.7	2.4	0.2
Rail	81.6	68.2	54.0	50.0	55.5	65.6	70.8	75.8	79.7	-4.0	0.3	2.5	1.2
Inland navigation	1.0	0.9	1.2	0.3	0.4	0.4	0.4	0.5	0.5	1.3	-11.4	2.5	1.4
Energy demand in transport (ktoe)	**7362**	**8275**	**9204**	**12083**	**16738**	**19664**	**20693**	**21491**	**21614**	**2.3**	**6.2**	**2.1**	**0.4**
Public road transport	421	307	276	254	244	248	253	257	262	-4.1	-1.3	0.4	0.3
Private cars and motorcycles	3435	4241	4687	6248	8146	9271	9961	10519	10657	3.2	5.7	2.0	0.7
Trucks	2111	2659	3326	4792	7343	8895	9139	9316	9200	4.6	8.2	2.2	0.1
Rail	1099	669	540	468	507	584	572	558	471	-6.9	-0.6	1.2	-1.9
Aviation	196	371	369	319	497	664	765	838	1021	6.5	3.0	4.4	2.9
Inland navigation	99	29	6	2	2	2	3	3	3	-24.3	-9.9	1.7	0.8

Source: PRIMES

Portugal: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3396**	**3321**	**3826**	**3583**	**4652**	**4972**	**5251**	**5723**	**6448**	**1.2**	**2.0**	**1.2**	**2.1**
Solids	115	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	3281	3321	3826	3583	4652	4972	5251	5723	6448	1.5	2.0	1.2	2.1
Hydro	787	717	974	407	892	937	941	959	925	2.1	-0.9	0.5	-0.2
Biomass & Waste	2479	2550	2770	2936	2950	2955	3023	3293	3358	1.1	0.6	0.2	1.1
Wind	0	1	14	152	589	753	876	977	1342	66.9	44.9	4.0	4.4
Solar and others	11	15	18	23	66	172	256	328	572	5.4	13.6	14.5	8.4
Geothermal	3	37	49	66	154	155	155	167	250	31.4	12.1	0.1	4.9
Net Imports	**15122**	**18012**	**21881**	**24414**	**20967**	**21046**	**20929**	**20913**	**20328**	**3.8**	**-0.4**	**0.0**	**-0.3**
Solids	2789	3797	3913	3223	2319	2256	2181	2103	1613	3.4	-5.1	-0.6	-3.0
Oil	12329	14137	15848	16711	13740	13771	13616	13416	13227	2.5	-1.4	-0.1	-0.3
- Crude oil and Feedstocks	11319	13603	12231	13637	12411	12440	12380	12299	12216	0.8	0.1	0.0	-0.1
- Oil products	1011	534	3618	3073	1329	1330	1236	1117	1011	13.6	-9.5	-0.7	-2.0
Natural gas	0	0	2039	3893	4220	4074	4034	4127	4217		7.5	-0.4	0.4
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Gross Inland Consumption	**17508**	**20469**	**25078**	**27035**	**25036**	**25411**	**25561**	**26004**	**26124**	**3.7**	**0.0**	**0.2**	**0.2**
Solids	2580	3493	3803	3347	2319	2256	2181	2103	1613	4.0	-4.8	-0.6	-3.0
Oil	11644	13576	15335	15768	13157	13164	12997	12783	12575	2.8	-1.5	-0.1	-0.3
Natural gas	0	0	2034	3751	4220	4074	4034	4127	4217		7.6	-0.4	0.4
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Renew able energy forms	3281	3321	3826	3583	4797	5354	5723	6282	7026	1.5	2.3	1.8	2.1
as % in Gross Inland Consumption													
Solids	14.7	17.1	15.2	12.4	9.3	8.9	8.5	8.1	6.2				
Oil	66.5	66.3	61.1	58.3	52.6	51.8	50.8	49.2	48.1				
Natural gas	0.0	0.0	8.1	13.9	16.9	16.0	15.8	15.9	16.1				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	18.7	16.2	15.3	13.3	19.2	21.1	22.4	24.2	26.9				
Gross Electricity Generation in GWh_e	**28350**	**33148**	**43364**	**46180**	**46349**	**50371**	**54603**	**59551**	**65860**	**4.3**	**0.7**	**1.7**	**1.9**
Self consumption and grid losses	4441	4776	5363	5983	5692	6297	6991	8391	9873	1.9	0.6	2.1	3.5
Fuel Inputs for Thermal Power Generation	**4304**	**5493**	**6508**	**8007**	**6198**	**6301**	**6634**	**7074**	**6675**	**4.2**	**-0.5**	**0.7**	**0.1**
Solids	2027	2919	3198	3319	2314	2251	2177	2099	1610	4.7	-3.2	-0.6	-3.0
Oil (including refinery gas)	2105	2371	1671	1885	551	466	432	232	160	-2.3	-10.5	-2.4	-9.5
Gas	19	18	1234	2309	2478	2355	2348	2655	2690	51.6	7.2	-0.5	1.4
Biomass & Waste	149	148	356	430	704	1078	1527	1927	1971	9.1	7.1	8.1	2.6
Geothermal heat	3	37	49	65	151	151	151	161	244	31.4	11.8	0.0	4.9
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11443**	**14111**	**12911**	**13785**	**12847**	**12959**	**12959**	**12919**	**12853**	**1.2**	**0.0**	**0.1**	**-0.1**
Refineries	11111	13635	12462	13785	12694	12702	12623	12522	12431	1.2	0.2	-0.1	-0.2
Biofuels and hydrogen production	0	0	0	0	154	258	335	397	422			8.1	2.3
District heating	0	16	0	0	0	0	0	0	0				
Others	332	460	449	0	0	0	0	0	0	3.1			
Energy Branch Consumption	**655**	**960**	**1025**	**1101**	**898**	**880**	**859**	**902**	**946**	**4.6**	**-1.3**	**-0.4**	**1.0**
Non-Energy Uses	**2113**	**1891**	**2364**	**2429**	**2182**	**2228**	**2264**	**2290**	**2392**	**1.1**	**-0.8**	**0.4**	**0.6**
Final Energy Demand	**11813**	**13789**	**17694**	**18723**	**18125**	**18628**	**19031**	**19399**	**19784**	**4.1**	**0.2**	**0.5**	**0.4**
by sector													
Industry	4728	4974	6244	5689	5004	4887	4955	5077	5419	2.8	-2.2	-0.1	0.9
- energy intensive industries	3073	3350	4092	3767	3010	2881	2848	2834	2960	2.9	-3.0	-0.6	0.4
- other industrial sectors	1656	1625	2151	1922	1994	2006	2107	2243	2459	2.7	-0.8	0.6	1.6
Residential	2290	2569	2804	3206	3192	3357	3455	3532	3565	2.0	1.3	0.8	0.3
Tertiary	1055	1377	2105	2773	2622	2785	2869	2957	3016	7.1	2.2	0.9	0.5
Transport	3740	4869	6542	7055	7307	7599	7752	7832	7784	5.8	1.1	0.6	0.0
by fuel													
Solids	617	546	465	16	5	5	4	4	3	-2.8	-35.9	-2.6	-2.9
Oil	6700	8215	10509	10561	9637	9714	9582	9574	9379	4.6	-0.9	-0.1	-0.2
Gas	103	97	853	1307	1682	1663	1635	1423	1480	23.6	7.0	-0.3	-1.0
Electricity	2024	2477	3299	3983	3980	4295	4662	5051	5451	5.0	1.9	1.6	1.6
Heat (from CHP and District Heating) [A]	28	36	134	328	375	604	1073	1299	1376	16.8	10.8	11.1	2.5
Renew able energy forms	2341	2417	2433	2529	2444	2346	2074	2046	2093	0.4	0.0	-1.6	0.1
Other	0	0	0	0	1	1	1	1	1			9.9	-0.2
RES in Gross Final Energy Consumption [B]			**3559**	**3886**	**4526**	**4815**	**5120**	**5661**	**6409**		**2.4**	**1.2**	**2.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**59.3**		**83.4**	**89.3**	**74.2**	**73.5**	**72.1**	**71.6**	**64.5**	**3.5**	**-1.2**	**-0.3**	**-1.1**
of w hich ETS sectors GHGs emissions				42.1	31.4	30.4	30.1	30.1	23.8			-0.4	-2.3
CO_2 Emissions (energy related)	**39.1**	**48.6**	**58.7**	**61.8**	**51.6**	**50.9**	**49.9**	**49.1**	**41.8**	**4.2**	**-1.3**	**-0.3**	**-1.7**
Pow er generation/District heating	14.8	19.2	20.9	24.5	16.7	15.9	15.4	15.2	8.6	3.5	-2.2	-0.8	-5.7
Energy Branch	1.5	2.4	2.5	2.6	2.2	2.1	2.0	1.9	1.8	5.3	-1.4	-1.0	-1.2
Industry	8.2	8.4	10.7	7.1	5.6	5.3	5.0	4.7	4.7	2.6	-6.2	-1.2	-0.5
Residential	1.6	1.9	2.0	2.3	2.2	2.2	2.1	2.0	2.0	2.0	1.1	-0.4	-0.6
Tertiary	1.9	2.2	3.2	4.3	3.6	3.5	3.2	3.0	2.8	5.4	1.2	-1.0	-1.3
Transport	11.1	14.4	19.4	21.0	21.3	21.9	22.1	22.2	21.9	5.8	0.9	0.4	-0.1
CO_2 Emissions (non energy related)	**4.4**	**5.9**	**6.6**	**7.8**	**6.6**	**6.6**	**6.6**	**6.7**	**7.0**	**4.1**	**0.1**	**0.0**	**0.6**
Non-CO_2 GHGs Emissions	**15.8**		**18.1**	**19.7**	**16.0**	**16.0**	**15.6**	**15.8**	**15.7**	**1.4**	**-1.2**	**-0.2**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**140.7**	**150.5**	**125.2**	**123.9**	**121.6**	**120.7**	**108.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Portugal: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.996	10.018	10.195	10.529	10.723	10.947	11.108	11.224	11.317	0.2	0.5	0.4	0.2
GDP (in 000 M€08)	107.7	123.5	150.8	157.5	156.2	171.5	189.8	209.9	234.0	3.4	0.4	2.0	2.1
Gross Inl. Cons./GDP (toe/M€08)	162.5	165.8	166.3	171.6	160.3	148.1	134.7	123.9	111.7	0.2	-0.4	-1.7	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.23	2.37	2.34	2.29	2.06	2.00	1.95	1.89	1.60	0.5	-1.3	-0.5	-2.0
Import Dependency %	83.5	86.0	85.0	88.4	81.8	80.9	79.9	78.5	75.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			19.0	22.0	23.5	27.3	32.8	36.9	39.2		2.5	4.3	2.9
as % of GDP			12.6	14.0	15.5	17.4	19.5	20.8	21.1				
Energy intensity indicators													
Industry (Energy on Value added)	82.1	95.7	100.0	93.4	88.5	82.3	77.6	72.4	70.2	2.0	-1.2	-1.3	-1.0
Residential (Energy on Private Income)	121.8	112.4	100.0	106.5	109.0	103.9	95.7	89.3	81.8	-2.0	0.9	-1.3	-1.6
Tertiary (Energy on Value added)	70.3	77.9	100.0	121.4	111.2	105.7	96.7	88.8	80.0	3.6	1.1	-1.4	-1.9
Passenger transport (toe/Mpkm)	40.1	44.2	40.9	40.3	39.3	36.3	34.3	32.2	29.5	0.2	-0.4	-1.3	-1.5
Freight transport (toe/Mtkm)	45.1	53.4	66.8	61.4	61.3	60.9	58.5	55.5	52.1	4.0	-0.9	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.52	0.57	0.47	0.49	0.33	0.28	0.23	0.20	0.10	-1.0	-3.4	-3.5	-7.6
Final energy demand (t of CO_2/toe)	1.93	1.95	1.99	1.85	1.81	1.77	1.70	1.65	1.59	0.3	-1.0	-0.6	-0.7
Industry	1.74	1.68	1.71	1.25	1.12	1.08	1.00	0.93	0.87	-0.2	-4.1	-1.1	-1.3
Residential	0.71	0.74	0.71	0.70	0.70	0.67	0.62	0.58	0.56	0.0	-0.2	-1.2	-0.9
Tertiary	1.77	1.62	1.51	1.53	1.36	1.25	1.12	1.02	0.94	-1.6	-1.0	-1.9	-1.8
Transport	2.96	2.96	2.97	2.98	2.92	2.88	2.86	2.83	2.82	0.1	-0.2	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			19.6	20.2	24.3	25.1	26.1	28.3	31.2				
RES in transport (%)			0.2	0.2	2.7	4.3	5.5	6.5	7.1				
Gross Electricity generation by fuel type (in GWh)			**43364**	**46180**	**46349**	**50371**	**54603**	**59551**	**65860**		**0.7**	**1.7**	**1.9**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15643	15647	10758	10463	10121	9759	8731		-3.7	-0.6	-1.5
Petroleum products			7769	8912	2886	2432	2193	1143	871		-9.4	-2.7	-8.8
Gas (including derived gases)			7229	13599	13010	11885	12202	14633	15291		6.1	-0.6	2.3
Biomass & waste			1153	1410	2063	4712	6971	8835	9054		6.0	12.9	2.6
Hydro			11321	4730	10371	10892	10947	11146	10761		-0.9	0.5	-0.2
Wind			168	1773	6853	8758	10180	11360	15601		44.9	4.0	4.4
Solar, tidal etc.			1	3	194	996	1562	1923	4321		69.3	23.2	10.7
Geothermal and other renewables			80	105	215	233	426	751	1231		10.4	7.1	11.2
Net Generation Capacity in MW_e			**10360**	**13096**	**17405**	**20172**	**20699**	**21216**	**24270**		**5.3**	**1.7**	**1.6**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3967	5488	8490	10133	11387	12378	15221		7.9	3.0	2.9
Hydro (pumping excluded)			3883	4422	4499	4622	4676	4676	4781		1.5	0.4	0.2
Wind			83	1064	3832	4803	5508	6084	7600		46.7	3.7	3.3
Solar			1	2	156	696	1091	1343	2366		65.7	21.5	8.0
Other renewables (tidal etc.)			0	0	2	12	112	274	473			47.8	15.5
Thermal power			6393	7607	8915	10039	9312	8838	9049		3.4	0.4	-0.3
of which cogeneration units			1640	1845	2271	2431	2525	2927	2960		3.3	1.1	1.6
of which CCS units			0	0	0	0	0	0	654				
Solids fired			1889	1903	1855	1807	1807	1421	1222		-0.2	-0.3	-3.8
Gas fired			1383	2589	3923	5512	5253	5340	5744		11.0	3.0	0.9
Oil fired			2795	2730	2727	2181	1420	947	903		-0.2	-6.3	-4.4
Biomass-waste fired			312	372	387	515	807	1105	1143		2.2	7.6	3.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			14	14	24	24	24	25	36		5.5	0.0	4.2
Load factor for net electric capacities (%)			46.1	38.9	29.6	27.8	29.3	30.8	29.4				
Efficiency for thermal electricity production (%)			42.1	42.6	40.1	40.5	41.1	42.1	44.1				
CHP indicator (% of electricity from CHP)			10.6	12.2	21.9	25.7	27.2	30.7	28.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	10.1				
Non fossil fuels in electricity generation (%)			29.3	17.4	42.5	50.8	55.1	57.1	62.2				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			29.3	17.4	42.5	50.8	55.1	57.1	62.2				
Transport sector													
Passenger transport activity (Gpkm)	**56.9**	**67.3**	**91.5**	**105.0**	**110.8**	**121.1**	**130.4**	**140.8**	**152.0**	**4.9**	**1.9**	**1.6**	**1.5**
Public road transport	10.3	11.3	11.8	11.1	10.8	11.2	11.8	12.3	12.8	1.4	-0.9	0.8	0.8
Private cars and motorcycles	33.3	41.9	59.2	72.0	75.4	80.9	86.0	91.0	96.6	5.9	2.4	1.3	1.2
Rail	6.3	5.3	4.6	4.7	5.0	5.5	6.0	6.5	7.1	-3.2	1.0	1.7	1.7
Aviation	6.7	8.5	15.7	17.0	19.2	23.2	26.3	30.7	35.2	8.9	2.1	3.2	3.0
Inland navigation	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	1.0	0.5	0.4
Freight transport activity (Gtkm)	**32.3**	**35.4**	**41.9**	**46.0**	**48.2**	**52.7**	**56.1**	**59.5**	**63.4**	**2.6**	**1.4**	**1.5**	**1.2**
Trucks	28.9	32.0	38.9	42.6	44.7	48.9	51.9	55.1	58.8	3.0	1.4	1.5	1.2
Rail	1.5	2.0	2.2	2.4	2.5	2.8	3.0	3.2	3.4	4.1	1.5	1.7	1.2
Inland navigation	1.9	1.4	0.8	1.0	1.0	1.0	1.1	1.2	1.3	-7.9	1.4	1.6	1.2
Energy demand in transport (ktoe)	**3740**	**4869**	**6542**	**7055**	**7307**	**7599**	**7752**	**7832**	**7784**	**5.8**	**1.1**	**0.6**	**0.0**
Public road transport	82	95	114	113	109	110	110	108	107	3.3	-0.4	0.1	-0.3
Private cars and motorcycles	1573	2209	2788	3200	3219	3113	3081	3058	2945	5.9	1.4	-0.4	-0.5
Trucks	1384	1817	2718	2769	2899	3144	3216	3237	3255	7.0	0.6	1.0	0.1
Rail	83	81	88	66	66	68	67	66	55	0.6	-2.9	0.1	-1.9
Aviation	574	620	790	881	987	1136	1250	1334	1390	3.2	2.3	2.4	1.1
Inland navigation	44	47	44	26	27	28	29	30	31	0.0	-4.9	0.9	0.6

Source: PRIMES

Romania: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**41415**	**32618**	**28816**	**28180**	**27530**	**28866**	**30203**	**31052**	**31237**	**-3.6**	**-0.5**	**0.9**	**0.3**
Solids	7935	7886	5875	5793	5757	6401	5941	4890	4826	-3.0	-0.2	0.3	-2.1
Oil	7963	7124	6434	6183	4790	5100	5000	4950	4794	-2.1	-2.9	0.4	-0.4
Natural gas	22911	14446	10968	9701	8869	8500	8231	8200	7922	-7.1	-2.1	-0.7	-0.4
Nuclear	0	0	1407	1433	2906	2906	4365	5783	5783		7.5	4.2	2.9
Renew able energy sources	2606	3162	4131	5070	5208	5958	6665	7229	7912	4.7	2.3	2.5	1.7
Hydro	1460	1435	1271	1737	1548	1760	2053	2143	2191	-1.4	2.0	2.9	0.7
Biomass & Waste	1146	1726	2854	3314	3589	3929	4146	4478	5052	9.5	2.3	1.5	2.0
Wind	0	0	0	0	34	128	191	240	274			18.9	3.7
Solar and others	0	0	0	0	6	43	142	199	213			36.9	4.1
Geothermal	0	0	7	18	31	97	134	168	181		16.5	15.8	3.1
Net Imports	**22567**	**14552**	**8116**	**10814**	**11581**	**12542**	**12598**	**12429**	**11831**	**-9.7**	**3.6**	**0.8**	**-0.6**
Solids	4615	2870	1905	2904	1899	1929	1972	1792	1664	-8.5	0.0	0.4	-1.7
Oil	11209	6862	3560	3970	6200	7106	7341	7359	7101	-10.8	5.7	1.7	-0.3
- Crude oil and Feedstocks	16126	8760	4870	8851	10984	12328	12612	12624	12275	-11.3	8.5	1.4	-0.3
- Oil products	-4917	-1898	-1311	-4882	-4784	-5223	-5271	-5264	-5174				
Natural gas	5928	4794	2712	4190	3877	4158	4026	4046	3909	-7.5	3.6	0.4	-0.3
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Gross Inland Consumption	**63714**	**47138**	**37131**	**39242**	**39111**	**41408**	**42801**	**43481**	**43068**	**-5.3**	**0.5**	**0.9**	**0.1**
Solids	12318	10793	7753	8769	7656	8330	7913	6681	6490	-4.5	-0.1	0.3	-2.0
Oil	19136	13917	10214	10321	10990	12206	12341	12309	11895	-6.1	0.7	1.2	-0.4
Natural gas	28838	19240	13680	13942	12746	12658	12257	12246	11831	-7.2	-0.7	-0.4	-0.4
Nuclear	0	0	1407	1433	2906	2906	4365	5783	5783		7.5	4.2	2.9
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Renew able energy forms	2606	3162	4137	5026	5155	5881	6576	7123	7740	4.7	2.2	2.5	1.6
as % in Gross Inland Consumption													
Solids	19.3	22.9	20.9	22.3	19.6	20.1	18.5	15.4	15.1				
Oil	30.0	29.5	27.5	26.3	28.1	29.5	28.8	28.3	27.6				
Natural gas	45.3	40.8	36.8	35.5	32.6	30.6	28.6	28.2	27.5				
Nuclear	0.0	0.0	3.8	3.7	7.4	7.0	10.2	13.3	13.4				
Renew able energy forms	4.1	6.7	11.1	12.8	13.2	14.2	15.4	16.4	18.0				
Gross Electricity Generation in GWh_e	**63398**	**59255**	**51925**	**59402**	**61558**	**69947**	**76342**	**81219**	**84943**	**-2.0**	**1.7**	**2.2**	**1.1**
Self consumption and grid losses	14858	13101	9963	9773	9848	10477	10719	10805	12259	-3.9	-0.1	0.9	1.4
Fuel Inputs for Thermal Power Generation	**23517**	**16474**	**10637**	**10103**	**9131**	**9921**	**8618**	**7531**	**7610**	**-7.6**	**-1.5**	**-0.6**	**-1.2**
Solids	8166	7352	5442	5982	5799	6492	5641	4578	4558	-4.0	0.6	-0.3	-2.1
Oil (including refinery gas)	6202	2996	1683	775	464	451	398	331	428	-12.2	-12.1	-1.5	0.7
Gas	9113	6090	3507	3343	2489	2515	2109	2134	2072	-9.1	-3.4	-1.6	-0.2
Biomass & Waste	36	37	4	3	379	441	448	465	530	-19.0	56.3	1.7	1.7
Geothermal heat	0	0	0	0	0	23	23	23	23				0.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**25114**	**21082**	**14984**	**18111**	**18276**	**19711**	**19835**	**19781**	**19242**	**-5.0**	**2.0**	**0.8**	**-0.3**
Refineries	23765	15691	11396	15142	15774	17428	17612	17574	17070	-7.1	3.3	1.1	-0.3
Biofuels and hydrogen production	0	0	0	0	59	119	168	270	403			11.1	9.1
District heating	496	1902	1739	825	953	760	680	714	714	13.4	-5.8	-3.3	0.5
Others	853	3489	1850	2144	1489	1404	1374	1223	1056	8.0	-2.1	-0.8	-2.6
Energy Branch Consumption	**3579**	**5328**	**4163**	**4205**	**4109**	**4309**	**4297**	**4207**	**4165**	**1.5**	**-0.1**	**0.4**	**-0.3**
Non-Energy Uses	**922**	**1401**	**2048**	**2469**	**2399**	**2203**	**2047**	**1850**	**1636**	**8.3**	**1.6**	**-1.6**	**-2.2**
Final Energy Demand	**37257**	**26634**	**22460**	**24613**	**24884**	**27053**	**28708**	**29490**	**29420**	**-4.9**	**1.0**	**1.4**	**0.2**
by sector													
Industry	25111	14854	9051	9904	9032	9443	10179	10553	10332	-9.7	0.0	1.2	0.1
- energy intensive industries	15699	10577	6223	7109	6168	6090	6304	6220	5741	-8.8	-0.1	0.2	-0.9
- other industrial sectors	9412	4278	2828	2795	2864	3353	3875	4333	4591	-11.3	0.1	3.1	1.7
Residential	4548	6353	8426	7964	7894	8128	8103	7911	7663	6.4	-0.7	0.3	-0.6
Tertiary	3181	2358	1587	2524	2911	3333	3559	3700	3758	-6.7	6.3	2.0	0.5
Transport	4416	3069	3396	4221	5047	6148	6867	7326	7666	-2.6	4.0	3.1	1.1
by fuel													
Solids	3026	1586	977	1569	1097	1125	1595	1508	1422	-10.7	1.2	3.8	-1.1
Oil	8055	5519	5310	6606	7173	8336	8680	8894	8957	-4.1	3.1	1.9	0.3
Gas	20495	10249	6885	7721	7574	7863	8000	7975	7383	-10.3	1.0	0.5	-0.8
Electricity	4690	3126	2916	3337	3528	3951	4390	4810	5023	-4.6	1.9	2.2	1.4
Heat (from CHP and District Heating) [A]	377	4679	3570	2135	2319	2254	2192	2065	1933	25.2	-4.2	-0.6	-1.2
Renew able energy forms	612	1476	2802	3244	3192	3523	3850	4236	4699	16.4	1.3	1.9	2.0
Other	0	0	0	0	0	1	1	2	2		7.1	13.1	1.6
RES in Gross Final Energy Consumption [B]			**4118**	**4599**	**4916**	**5518**	**6231**	**6779**	**7421**		**1.8**	**2.4**	**1.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**262.9**		**138.2**	**150.5**	**140.7**	**145.6**	**143.9**	**138.2**	**129.0**	**-6.2**	**0.2**	**0.2**	**-1.1**
of w hich ETS sectors GHGs emissions				79.5	68.7	69.5	66.2	61.0	51.3			-0.4	-2.5
CO_2 Emissions (energy related)	**168.7**	**115.1**	**84.8**	**90.3**	**85.7**	**92.5**	**90.8**	**85.8**	**76.8**	**-6.6**	**0.1**	**0.6**	**-1.7**
Pow er generation/District heating	76.4	59.2	40.6	37.2	33.6	36.1	31.2	26.3	19.5	-6.1	-1.9	-0.7	-4.6
Energy Branch	6.2	7.6	7.4	7.9	7.7	7.9	7.7	7.5	7.0	1.7	0.5	0.0	-1.0
Industry	58.1	31.3	18.8	21.5	17.2	17.6	19.0	18.4	16.2	-10.7	-0.9	1.0	-1.6
Residential	8.8	5.2	6.6	7.2	7.3	7.3	7.4	7.3	7.3	-2.9	1.1	0.1	-0.1
Tertiary	6.8	3.1	1.9	4.4	5.4	6.1	6.0	5.9	5.8	-12.2	11.3	1.0	-0.2
Transport	12.3	8.6	9.7	12.2	14.5	17.6	19.5	20.5	21.0	-2.4	4.1	3.0	0.8
CO_2 Emissions (non energy related)	**23.2**	**18.5**	**13.1**	**16.3**	**14.1**	**14.0**	**15.4**	**16.2**	**15.4**	**-5.5**	**0.7**	**0.9**	**0.0**
Non-CO_2 GHGs Emissions	**71.0**		**40.3**	**43.9**	**40.9**	**39.1**	**37.8**	**36.2**	**36.8**	**-5.5**	**0.2**	**-0.8**	**-0.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**52.5**	**57.2**	**53.5**	**55.4**	**54.7**	**52.6**	**49.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Romania: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	23.211	22.712	22.455	21.659	21.334	21.103	20.834	20.484	20.049	-0.3	-0.5	-0.2	-0.4
GDP (in 000 M€08)	75.7	68.1	63.8	84.3	99.1	121.9	142.6	160.2	175.5	-1.7	4.5	3.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	841.9	692.3	581.6	465.5	394.6	339.6	300.1	271.4	245.4	-3.6	-3.8	-2.7	-2.0
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.44	2.28	2.30	2.19	2.23	2.12	1.97	1.78	-1.5	-0.4	-0.3	-1.7
Import Dependency %	35.4	30.9	21.9	27.6	29.6	30.3	29.4	28.6	27.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			11.7	16.7	18.4	24.4	32.0	37.1	40.1		5.0	6.8	3.3
as % of GDP			18.3	19.8	19.2	22.1	25.7	27.5	28.8				
Energy intensity indicators													
Industry (Energy on Value added)	200.0	171.9	100.0	81.4	71.0	60.7	54.4	48.5	43.4	-6.7	-3.4	-2.6	-2.2
Residential (Energy on Private Income)	50.5	69.0	100.0	58.9	48.8	41.1	36.0	31.8	28.8	7.1	-6.9	-3.0	-2.2
Tertiary (Energy on Value added)	186.9	138.7	100.0	121.7	110.4	100.5	89.0	79.5	70.6	-6.1	1.0	-2.1	-2.3
Passenger transport (toe/Mpkm)	16.3	20.1	28.4	21.4	22.0	22.3	22.4	22.1	21.3	5.7	-2.5	0.2	-0.5
Freight transport (toe/Mtkm)	37.3	36.8	34.8	30.6	31.5	31.9	31.4	30.6	30.3	-0.7	-1.0	0.0	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.12	0.43	0.39	0.39	0.33	0.33	0.27	0.22	0.16	-10.1	-1.4	-2.1	-4.9
Final energy demand (t of CO_2/toe)	2.31	1.81	1.64	1.84	1.78	1.79	1.81	1.76	1.71	-3.4	0.8	0.1	-0.5
Industry	2.32	2.11	2.07	2.17	1.90	1.86	1.87	1.74	1.57	-1.1	-0.9	-0.2	-1.8
Residential	1.94	0.83	0.78	0.90	0.92	0.90	0.91	0.92	0.96	-8.7	1.7	-0.1	0.5
Tertiary	2.13	1.33	1.17	1.73	1.86	1.82	1.68	1.58	1.55	-5.8	4.7	-1.0	-0.8
Transport	2.79	2.81	2.85	2.89	2.87	2.86	2.83	2.79	2.74	0.2	0.1	-0.1	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			17.0	17.6	18.7	19.3	20.6	21.9	24.0				
RES in transport (%)			1.5	1.0	2.2	3.0	3.7	5.1	6.8				
Gross Electricity generation by fuel type (in GWh)			**51925**	**59402**	**61558**	**69947**	**76342**	**81219**	**84943**		**1.7**	**2.2**	**1.1**
Nuclear energy			5455	5554	11592	11592	17684	23775	23775		7.8	4.3	3.0
Coal and lignite			18913	21922	21537	24281	22065	17786	19632		1.3	0.2	-1.2
Petroleum products			3398	1894	1149	1101	986	914	1194		-10.3	-1.5	1.9
Gas (including derived gases)			9373	9822	7742	9629	8003	9344	9130		-1.9	0.3	1.3
Biomass & waste			10	7	1138	1301	1373	1483	2273		60.6	1.9	5.2
Hydro			14775	20203	18003	20466	23869	24923	25477		2.0	2.9	0.7
Wind			0	0	394	1492	2220	2787	3192			18.9	3.7
Solar, tidal etc.			0	0	5	58	116	180	244			37.5	7.7
Geothermal and other renewables			0	0	0	26	26	26	26				0.0
Net Generation Capacity in MW_e			**21880**	**18732**	**20417**	**21849**	**24452**	**22194**	**22072**		**-0.7**	**1.8**	**-1.0**
Nuclear energy			667	663	1357	1368	2109	2844	2844		7.4	4.5	3.0
Renewable energy			6154	6161	6563	7703	9082	9573	9890		0.6	3.3	0.9
Hydro (pumping excluded)			6154	6160	6312	6717	7585	7661	7661		0.3	1.9	0.1
Wind			0	1	246	926	1376	1726	1976			18.8	3.7
Solar			0	0	5	60	121	187	253			37.5	7.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			15058	11908	12497	12777	13261	9778	9338		-1.8	0.6	-3.4
of which cogeneration units			3742	3305	3236	3236	3218	2995	2936		-1.4	-0.1	-0.9
of which CCS units			0	0	0	0	0	49	843				
Solids fired			8144	6483	6667	7463	8415	5568	5030		-2.0	2.4	-5.0
Gas fired			4299	3584	4029	4043	3615	3245	3185		-0.6	-1.1	-1.3
Oil fired			2384	1583	1550	1016	975	683	683		-4.2	-4.5	-3.5
Biomass-waste fired			231	257	252	252	252	278	437		0.9	0.0	5.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	3	3	3	3				0.0
Load factor for net electric capacities (%)			25.4	33.8	32.3	34.5	33.7	39.6	40.9				
Efficiency for thermal electricity production (%)			25.6	28.6	29.7	31.5	32.4	33.8	36.5				
CHP indicator (% of electricity from CHP)			35.2	28.6	24.7	25.4	25.0	23.9	21.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.7	11.0				
Non fossil fuels in electricity generation (%)			39.0	43.4	50.6	49.9	59.3	65.5	64.7				
- nuclear			10.5	9.3	18.8	16.6	23.2	29.3	28.0				
- renewable energy forms and industrial waste			28.5	34.0	31.7	33.4	36.2	36.2	36.7				
Transport sector													
Passenger transport activity (Gpkm)	**87.7**	**78.1**	**78.9**	**87.7**	**100.6**	**119.7**	**136.3**	**149.8**	**161.5**	**-1.1**	**2.5**	**3.1**	**1.7**
Public road transport	24.0	12.3	12.0	11.8	12.6	13.7	15.1	16.1	16.9	-6.7	0.5	1.8	1.1
Private cars and motorcycles	24.3	39.0	47.6	58.4	67.3	83.2	96.5	107.2	116.6	7.0	3.5	3.7	1.9
Rail	36.6	24.9	17.6	14.6	14.8	15.5	16.5	17.4	18.2	-7.0	-1.7	1.1	1.0
Aviation	2.8	1.8	1.7	3.0	5.9	7.2	8.3	9.2	9.8	-5.1	13.4	3.4	1.7
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7	-2.2	0.8	0.1
Freight transport activity (Gtkm)	**80.0**	**40.7**	**33.3**	**76.5**	**89.8**	**109.0**	**121.3**	**131.1**	**139.8**	**-8.4**	**10.4**	**3.1**	**1.4**
Trucks	29.0	19.7	14.3	51.5	63.3	79.0	87.6	94.3	100.6	-6.8	16.1	3.3	1.4
Rail	48.9	17.9	16.4	16.6	17.0	19.1	21.5	23.5	25.1	-10.4	0.4	2.3	1.6
Inland navigation	2.1	3.1	2.6	8.4	9.4	10.9	12.2	13.3	14.1	2.3	13.6	2.7	1.4
Energy demand in transport (ktoe)	**4416**	**3069**	**3396**	**4221**	**5047**	**6148**	**6867**	**7326**	**7666**	**-2.6**	**4.0**	**3.1**	**1.1**
Public road transport	241	130	120	97	103	110	115	117	115	-6.7	-1.5	1.1	0.0
Private cars and motorcycles	843	1133	1893	1610	1832	2236	2596	2848	2974	8.4	-0.3	3.6	1.4
Trucks	2463	1039	688	2140	2624	3248	3557	3736	3943	-12.0	14.3	3.1	1.0
Rail	282	472	451	209	207	218	230	247	253	4.8	-7.5	1.1	0.9
Aviation	275	192	128	113	224	271	296	301	299	-7.3	5.7	2.8	0.1
Inland navigation	312	103	115	51	57	65	73	78	82	-9.5	-6.8	2.5	1.3

Source: PRIMES

Slovak Republic: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5249**	**4862**	**6074**	**6634**	**5975**	**8269**	**8566**	**8910**	**9565**	**1.5**	**-0.2**	**3.7**	**1.1**
Solids	1397	1017	1018	637	932	932	969	1144	1156	-3.1	-0.9	0.4	1.8
Oil	81	128	162	384	38	40	41	41	40	7.2	-13.5	0.8	-0.4
Natural gas	338	264	133	126	123	132	138	134	137	-8.9	-0.7	1.1	-0.1
Nuclear	3105	2950	4255	4573	3610	5139	5188	5152	5637	3.2	-1.6	3.7	0.8
Renew able energy sources	328	503	506	914	1272	2025	2230	2438	2596	4.4	9.7	5.8	1.5
Hydro	162	427	406	399	403	434	440	443	446	9.7	-0.1	0.9	0.1
Biomass & Waste	166	76	100	507	857	1548	1715	1888	2013	-5.0	24.0	7.2	1.6
Wind	0	0	0	1	7	31	54	76	97			23.2	5.9
Solar and others	0	0	0	0	4	10	18	27	36			17.4	7.1
Geothermal	0	0	0	8	2	2	3	4	4			7.1	2.5
Net Imports	**16102**	**12344**	**11586**	**12488**	**12738**	**12966**	**13454**	**13641**	**13098**	**-3.2**	**1.0**	**0.5**	**-0.3**
Solids	6055	4131	3437	3737	3262	3255	3338	3771	3400	-5.5	-0.5	0.2	0.2
Oil	4246	3565	2674	3320	4165	4385	4479	4452	4255	-4.5	4.5	0.7	-0.5
- Crude oil and Feedstocks	5916	5293	5310	5433	6491	6823	6973	6940	6681	-1.1	2.0	0.7	-0.4
- Oil products	-1670	-1728	-2636	-2114	-2326	-2439	-2495	-2488	-2426				
Natural gas	5353	4528	5707	5754	5662	6076	6314	6169	6270	0.6	-0.1	1.1	-0.1
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Gross Inland Consumption	**20994**	**17748**	**17550**	**19061**	**18714**	**21235**	**22020**	**22551**	**22663**	**-1.8**	**0.6**	**1.6**	**0.3**
Solids	7771	5414	4261	4231	4194	4187	4307	4915	4555	-5.8	-0.2	0.3	0.6
Oil	4255	3543	2992	3758	4203	4425	4520	4493	4295	-3.5	3.5	0.7	-0.5
Natural gas	5088	5217	5776	5921	5785	6209	6452	6303	6407	1.3	0.0	1.1	-0.1
Nuclear	3105	2950	4255	4573	3610	5139	5188	5152	5637	3.2	-1.6	3.7	0.8
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Renew able energy forms	328	504	498	858	1087	1450	1768	2028	2193	4.3	8.1	5.0	2.2
as % in Gross Inland Consumption													
Solids	37.0	30.5	24.3	22.2	22.4	19.7	19.6	21.8	20.1				
Oil	20.3	20.0	17.0	19.7	22.5	20.8	20.5	19.9	18.9				
Natural gas	24.2	29.4	32.9	31.1	30.9	29.2	29.3	28.0	28.3				
Nuclear	14.8	16.6	24.2	24.0	19.3	24.2	23.6	22.8	24.9				
Renew able energy forms	1.6	2.8	2.8	4.5	5.8	6.8	8.0	9.0	9.7				
Gross Electricity Generation in GWh_e	**23428**	**26036**	**30431**	**31346**	**31993**	**37033**	**41246**	**46595**	**49652**	**2.6**	**0.5**	**2.6**	**1.9**
Self consumption and grid losses	5213	5190	5246	3910	3846	4211	4516	5669	6516	0.1	-3.1	1.6	3.7
Fuel Inputs for Thermal Power Generation	**3178**	**3113**	**2551**	**2478**	**3510**	**3167**	**3656**	**4589**	**4512**	**-2.2**	**3.2**	**0.4**	**2.1**
Solids	2054	1835	1617	1638	2061	1918	2038	2700	2501	-2.4	2.5	-0.1	2.1
Oil (including refinery gas)	243	119	30	99	166	67	142	17	7	-19.0	18.8	-1.6	-26.5
Gas	882	1158	905	701	968	745	883	968	1077	0.3	0.7	-0.9	2.0
Biomass & Waste	0	0	0	40	315	437	593	903	927			6.6	4.6
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9061**	**8065**	**8153**	**9349**	**9422**	**10095**	**10339**	**10278**	**9858**	**-1.1**	**1.5**	**0.9**	**-0.5**
Refineries	6339	5263	5541	6388	6975	7351	7539	7508	7222	-1.3	2.3	0.8	-0.4
Biofuels and hydrogen production	0	0	0	11	47	89	128	145	159			10.5	2.1
District heating	265	743	586	717	525	799	882	931	889	8.3	-1.1	5.3	0.1
Others	2458	2060	2026	2233	1875	1856	1791	1694	1588	-1.9	-0.8	-0.5	-1.2
Energy Branch Consumption	**1153**	**994**	**915**	**2194**	**2281**	**2357**	**2361**	**2311**	**2238**	**-2.3**	**9.6**	**0.3**	**-0.5**
Non-Energy Uses	**1375**	**886**	**1263**	**1244**	**1220**	**1453**	**1641**	**1700**	**1739**	**-0.8**	**-0.3**	**3.0**	**0.6**
Final Energy Demand	**14791**	**10460**	**10285**	**10613**	**10913**	**12259**	**12822**	**12959**	**12871**	**-3.6**	**0.6**	**1.6**	**0.0**
by sector													
Industry	6728	4088	3816	4470	4118	4564	4703	4675	4581	-5.5	0.8	1.3	-0.3
- energy intensive industries	3162	2966	3026	3645	3101	3342	3377	3315	3228	-0.4	0.2	0.9	-0.5
- other industrial sectors	3566	1122	790	825	1017	1222	1325	1360	1353	-14.0	2.6	2.7	0.2
Residential	2233	1976	2586	2533	2542	2702	2782	2806	2814	1.5	-0.2	0.9	0.1
Tertiary	4384	2980	2424	1815	2011	2401	2617	2762	2826	-5.8	-1.9	2.7	0.8
Transport	1446	1415	1459	1796	2242	2592	2721	2716	2649	0.1	4.4	2.0	-0.3
by fuel													
Solids	4319	2322	1511	1511	1240	1375	1397	1385	1264	-10.0	-2.0	1.2	-1.0
Oil	3324	1636	1725	2191	2477	2793	2857	2806	2691	-6.4	3.7	1.4	-0.6
Gas	4319	3907	4537	3651	3530	3739	3792	3690	3672	0.5	-2.5	0.7	-0.3
Electricity	2013	1868	1893	1965	2131	2513	2805	3044	3158	-0.6	1.2	2.8	1.2
Heat (from CHP and District Heating) [A]	648	722	619	951	1172	1380	1634	1717	1637	-0.5	6.6	3.4	0.0
Renew able energy forms	166	4	1	344	362	459	336	316	448	-42.8	89.0	-0.7	2.9
Other	0	0	0	0	0	0	1	1	1			11.1	-0.2
RES in Gross Final Energy Consumption [B]			**291**	**722**	**931**	**1203**	**1301**	**1668**	**1867**		**12.4**	**3.4**	**3.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**68.0**		**45.8**	**49.3**	**50.4**	**50.9**	**52.7**	**54.2**	**50.0**	**-3.9**	**1.0**	**0.5**	**-0.5**
of w hich ETS sectors GHGs emissions				29.1	28.9	27.8	29.1	30.6	27.0			0.1	-0.7
CO_2 Emissions (energy related)	**53.1**	**38.5**	**34.3**	**36.9**	**38.5**	**39.4**	**40.3**	**41.2**	**37.0**	**-4.3**	**1.2**	**0.5**	**-0.9**
Pow er generation/District heating	12.0	12.8	10.3	10.2	12.5	11.7	12.8	14.1	11.0	-1.5	1.9	0.3	-1.5
Energy Branch	2.4	1.7	1.6	4.9	4.9	4.7	4.1	4.1	4.0	-4.3	12.1	-1.8	-0.4
Industry	17.7	11.1	9.7	10.6	8.7	9.2	9.3	9.1	8.5	-5.8	-1.0	0.7	-1.0
Residential	4.4	2.9	4.1	3.5	3.3	3.5	3.5	3.4	3.4	-0.6	-2.1	0.4	-0.2
Tertiary	12.5	6.1	4.5	2.5	2.6	3.0	3.0	2.9	2.9	-9.8	-5.5	1.6	-0.4
Transport	4.0	3.9	4.1	5.2	6.4	7.3	7.6	7.5	7.3	0.1	4.6	1.7	-0.4
CO_2 Emissions (non energy related)	**3.5**	**2.8**	**3.3**	**3.7**	**3.9**	**4.8**	**5.5**	**5.9**	**6.0**	**-0.7**	**1.8**	**3.6**	**0.9**
Non-CO_2 GHGs Emissions	**11.4**		**8.2**	**8.6**	**8.0**	**6.7**	**6.9**	**7.1**	**7.0**	**-3.2**	**-0.2**	**-1.6**	**0.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**67.3**	**72.4**	**74.1**	**74.9**	**77.6**	**79.7**	**73.6**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Slovak Republic: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.288	5.356	5.399	5.385	5.407	5.427	5.432	5.402	5.332	0.2	0.0	0.0	-0.2
GDP (in 000 M€08)	27.7	27.1	32.0	40.7	50.9	64.5	77.4	87.4	97.1	1.5	4.8	4.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	758.6	655.4	548.6	468.8	367.7	329.4	284.4	257.9	233.5	-3.2	-3.9	-2.5	-2.0
Carbon intensity (t of CO_2/toe of GIC)	2.53	2.17	1.95	1.94	2.06	1.86	1.83	1.82	1.63	-2.6	0.5	-1.1	-1.2
Import Dependency %	76.7	69.6	66.0	65.5	68.1	61.1	61.1	60.5	57.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			6.8	7.9	8.5	11.2	14.4	16.6	17.6		2.5	6.3	2.9
as % of GDP			21.2	19.4	17.1	18.6	20.6	21.6	21.8				
Energy intensity indicators													
Industry (Energy on Value added)	201.8	135.7	100.0	69.1	50.3	41.7	35.8	32.6	30.7	-6.8	-6.6	-3.3	-1.5
Residential (Energy on Private Income)	87.6	95.0	100.0	77.6	70.3	59.1	52.0	46.7	42.1	1.3	-3.5	-3.0	-2.1
Tertiary (Energy on Value added)	206.5	152.1	100.0	61.4	56.9	50.9	45.6	41.5	37.0	-7.0	-5.5	-2.2	-2.1
Passenger transport (toe/Mpkm)	16.3	19.2	22.0	21.9	22.2	22.3	22.3	21.8	20.5	3.1	0.1	0.1	-0.8
Freight transport (toe/Mtkm)	19.9	22.2	23.8	28.7	31.1	31.9	30.8	29.2	27.6	1.8	2.7	-0.1	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.37	0.34	0.25	0.22	0.25	0.20	0.19	0.19	0.15	-3.6	-0.2	-2.4	-2.8
Final energy demand (t of CO_2/toe)	2.61	2.29	2.18	2.05	1.93	1.88	1.82	1.77	1.71	-1.8	-1.2	-0.5	-0.6
Industry	2.63	2.72	2.54	2.37	2.12	2.02	1.98	1.95	1.85	-0.3	-1.8	-0.7	-0.7
Residential	1.96	1.47	1.59	1.39	1.31	1.30	1.26	1.21	1.21	-2.1	-1.9	-0.5	-0.4
Tertiary	2.86	2.04	1.85	1.36	1.27	1.23	1.14	1.05	1.02	-4.3	-3.7	-1.1	-1.1
Transport	2.80	2.74	2.81	2.89	2.86	2.83	2.79	2.76	2.74	0.0	0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.7	6.5	8.2	9.4	9.7	12.2	13.7				
RES in transport (%)			0.7	1.0	2.6	3.9	5.3	6.1	6.8				
Gross Electricity generation by fuel type (in GWh)			**30431**	**31346**	**31993**	**37033**	**41246**	**46595**	**49652**		**0.5**	**2.6**	**1.9**
Nuclear energy			16491	17724	13996	20330	20536	21101	23216		-1.6	3.9	1.2
Coal and lignite			5591	5514	6409	6482	7090	10552	10902		1.4	1.0	4.4
Petroleum products			126	441	846	347	747	84	27		20.9	-1.2	-28.4
Gas (including derived gases)			3498	2929	5000	3113	4982	5498	5694		3.6	0.0	1.3
Biomass & waste			0	95	974	1342	2114	3265	3414			8.1	4.9
Hydro			4725	4637	4685	5042	5115	5151	5189		-0.1	0.9	0.1
Wind			0	7	78	365	632	888	1123			23.2	5.9
Solar, tidal etc.			0	0	4	13	30	54	86			22.8	11.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**6775**	**7153**	**6633**	**8202**	**8206**	**8902**	**10085**		**-0.2**	**2.2**	**2.1**
Nuclear energy			2484	2605	1859	2721	2735	2748	3016		-2.9	3.9	1.0
Renewable energy			1620	1583	1759	2135	2466	2732	2989		0.8	3.4	1.9
Hydro (pumping excluded)			1620	1578	1686	1797	1863	1863	1863		0.4	1.0	0.0
Wind			0	5	69	325	572	812	1036			23.6	6.1
Solar			0	0	4	14	31	56	90			22.8	11.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2671	2965	3016	3346	3006	3423	4080		1.2	0.0	3.1
of which cogeneration units			491	1043	1296	1402	1734	1791	1804		10.2	3.0	0.4
of which CCS units			0	0	0	0	0	126	443				
Solids fired			1453	1541	1492	1781	1562	1870	1972		0.3	0.5	2.4
Gas fired			1138	1191	1290	1299	1103	1159	1658		1.3	-1.6	4.2
Oil fired			81	182	184	185	185	162	115		8.6	0.1	-4.7
Biomass-waste fired			0	50	50	81	155	232	335			11.9	8.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			45.6	46.6	51.8	48.9	54.7	56.2	52.3				
Efficiency for thermal electricity production (%)			31.1	31.2	32.4	30.6	35.1	36.4	38.2				
CHP indicator (% of electricity from CHP)			21.6	17.0	24.1	21.0	25.1	24.0	22.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	2.9	9.2				
Non fossil fuels in electricity generation (%)			69.7	71.7	61.7	73.2	68.9	65.4	66.5				
- nuclear			54.2	56.5	43.7	54.9	49.8	45.3	46.8				
- renewable energy forms and industrial waste			15.5	15.1	17.9	18.3	19.1	20.1	19.8				
Transport sector													
Passenger transport activity (Gpkm)	**42.7**	**37.6**	**37.2**	**39.0**	**42.9**	**47.6**	**51.4**	**54.4**	**57.3**	**-1.4**	**1.5**	**1.8**	**1.1**
Public road transport	19.8	14.4	9.3	8.5	8.8	9.0	9.2	9.4	9.5	-7.3	-0.6	0.5	0.3
Private cars and motorcycles	16.0	18.4	24.4	26.4	29.9	33.6	36.5	38.5	40.4	4.3	2.1	2.0	1.0
Rail	6.8	4.6	3.2	2.6	2.6	2.6	2.8	2.9	3.0	-7.3	-2.2	0.7	0.9
Aviation	0.0	0.1	0.2	1.5	1.7	2.3	2.9	3.7	4.4		22.1	5.8	4.2
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**37.7**	**31.2**	**27.0**	**32.8**	**41.4**	**47.9**	**51.0**	**52.4**	**53.4**	**-3.3**	**4.4**	**2.1**	**0.5**
Trucks	15.6	15.9	14.3	22.6	30.7	36.2	38.0	38.4	38.5	-0.8	7.9	2.2	0.1
Rail	21.4	13.8	11.2	9.5	9.9	10.9	12.1	13.1	13.9	-6.2	-1.2	2.0	1.4
Inland navigation	0.7	1.5	1.4	0.7	0.8	0.8	0.9	0.9	1.0	6.6	-5.8	1.6	0.9
Energy demand in transport (ktoe)	**1446**	**1415**	**1459**	**1796**	**2242**	**2592**	**2721**	**2716**	**2649**	**0.1**	**4.4**	**2.0**	**-0.3**
Public road transport	123	88	57	51	52	52	51	50	50	-7.4	-0.9	-0.2	-0.2
Private cars and motorcycles	558	579	724	759	852	947	1022	1052	1029	2.6	1.6	1.8	0.1
Trucks	652	566	552	888	1235	1474	1511	1462	1406	-1.7	8.4	2.0	-0.7
Rail	100	119	83	49	51	53	57	61	63	-1.9	-4.8	1.2	1.0
Aviation	0	40	27	39	43	56	69	80	89		4.8	4.9	2.6
Inland navigation	12	24	16	9	9	10	11	11	11	3.1	-5.8	1.5	0.8

Source: PRIMES

Slovenia: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**2902**	**3020**	**3085**	**3492**	**3657**	**4019**	**4221**	**4801**	**4928**	**0.6**	**1.7**	**1.4**	**1.6**
Solids	1432	1216	1062	1184	1252	1505	1573	745	823	-2.9	1.7	2.3	-6.3
Oil	3	2	1	0	0	0	0	0	0	-10.4			
Natural gas	20	16	6	3	4	0	0	0	0	-11.4	-4.9		
Nuclear	1192	1245	1228	1518	1557	1557	1557	2904	2904	0.3	2.4	0.0	6.4
Renew able energy sources	254	542	788	787	845	957	1091	1152	1201	12.0	0.7	2.6	1.0
Hydro	254	279	330	298	338	353	365	366	368	2.7	0.2	0.8	0.1
Biomass & Waste	0	263	458	489	502	568	653	690	715		0.9	2.7	0.9
Wind	0	0	0	0	0	6	14	20	24				5.2
Solar and others	0	0	0	0	6	31	57	74	92			26.2	4.9
Geothermal	0	0	0	0	0	1	1	1	1			28.1	4.1
Net Imports	**2572**	**3063**	**3381**	**3825**	**4276**	**4824**	**5248**	**4845**	**4585**	**2.8**	**2.4**	**2.1**	**-1.3**
Solids	130	186	245	323	269	293	373	233	216	6.5	0.9	3.3	-5.3
Oil	1804	2239	2430	2604	3075	3546	3735	3645	3474	3.0	2.4	2.0	-0.7
- Crude oil and Feedstocks	598	589	151	0	1	1	1	1	1	-12.8	-38.2	1.9	-0.4
- Oil products	1206	1650	2278	2604	3074	3544	3734	3644	3473	6.6	3.0	2.0	-0.7
Natural gas	723	750	820	925	980	1073	1239	1152	1097	1.3	1.8	2.4	-1.2
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Gross Inland Consumption	**5523**	**6111**	**6427**	**7299**	**7904**	**8808**	**9431**	**9607**	**9473**	**1.5**	**2.1**	**1.8**	**0.0**
Solids	1645	1402	1306	1539	1521	1798	1946	978	1039	-2.3	1.5	2.5	-6.1
Oil	1754	2290	2393	2554	3046	3511	3698	3606	3434	3.2	2.4	2.0	-0.7
Natural gas	763	746	826	929	984	1073	1239	1152	1097	0.8	1.8	2.3	-1.2
Nuclear	1192	1245	1228	1518	1557	1557	1557	2904	2904	0.3	2.4	0.0	6.4
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Renew able energy forms	254	571	788	787	855	983	1127	1213	1269	12.0	0.8	2.8	1.2
as % in Gross Inland Consumption													
Solids	29.8	22.9	20.3	21.1	19.2	20.4	20.6	10.2	11.0				
Oil	31.8	37.5	37.2	35.0	38.5	39.9	39.2	37.5	36.3				
Natural gas	13.8	12.2	12.8	12.7	12.4	12.2	13.1	12.0	11.6				
Nuclear	21.6	20.4	19.1	20.8	19.7	17.7	16.5	30.2	30.7				
Renew able energy forms	4.6	9.3	12.3	10.8	10.8	11.2	11.9	12.6	13.4				
Gross Electricity Generation in GWh_e	**12440**	**12652**	**13622**	**15114**	**16193**	**18404**	**20168**	**22179**	**22930**	**0.9**	**1.7**	**2.2**	**1.3**
Self consumption and grid losses	1584	1497	1662	1943	1965	2244	2385	2400	2804	0.5	1.7	2.0	1.6
Fuel Inputs for Thermal Power Generation	**1543**	**1523**	**1342**	**1507**	**1622**	**1987**	**2246**	**1272**	**1349**	**-1.4**	**1.9**	**3.3**	**-5.0**
Solids	1296	1315	1253	1411	1431	1702	1849	886	959	-0.3	1.3	2.6	-6.4
Oil (including refinery gas)	155	119	12	9	2	7	2	6	5	-22.8	-15.5	-0.9	10.6
Gas	92	90	62	58	147	165	274	232	235	-3.8	9.0	6.4	-1.6
Biomass & Waste	0	0	15	30	42	114	120	148	151		10.5	11.1	2.3
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**596**	**582**	**253**	**90**	**93**	**175**	**225**	**315**	**343**	**-8.2**	**-9.5**	**9.2**	**4.3**
Refineries	542	505	170	1	1	1	1	1	1	-11.0	-38.9	1.9	-0.4
Biofuels and hydrogen production	0	0	0	0	39	106	173	211	238			16.0	3.3
District heating	53	76	83	89	53	68	50	102	103	4.7	-4.5	-0.5	7.4
Others	1	1	0	0	0	0	0	0	0				
Energy Branch Consumption	**122**	**121**	**112**	**104**	**112**	**131**	**137**	**134**	**166**	**-0.9**	**0.0**	**2.1**	**1.9**
Non-Energy Uses	**6**	**122**	**238**	**310**	**351**	**406**	**446**	**465**	**468**	**43.8**	**4.0**	**2.4**	**0.5**
Final Energy Demand	**3373**	**3948**	**4440**	**4892**	**5448**	**6167**	**6597**	**6576**	**6393**	**2.8**	**2.1**	**1.9**	**-0.3**
by sector													
Industry	1469	1180	1424	1657	1693	1835	1977	1908	1837	-0.3	1.7	1.6	-0.7
- energy intensive industries	729	587	840	1038	1046	1149	1248	1201	1152	1.4	2.2	1.8	-0.8
- other industrial sectors	740	593	585	619	647	686	730	707	685	-2.3	1.0	1.2	-0.6
Residential	853	1180	1124	1186	1205	1305	1355	1371	1365	2.8	0.7	1.2	0.1
Tertiary	122	259	580	575	569	604	610	609	593	16.9	-0.2	0.7	-0.3
Transport	930	1329	1312	1475	1981	2423	2655	2688	2598	3.5	4.2	3.0	-0.2
by fuel													
Solids	243	115	97	80	60	63	63	60	52	-8.8	-4.7	0.5	-1.9
Oil	1513	2106	2239	2404	2857	3283	3450	3334	3153	4.0	2.5	1.9	-0.9
Gas	603	468	569	665	655	695	753	679	630	-0.6	1.4	1.4	-1.8
Electricity	837	807	905	1096	1153	1263	1382	1441	1447	0.8	2.5	1.8	0.5
Heat (from CHP and District Heating) [A]	177	192	195	196	257	363	336	422	434	1.0	2.8	2.7	2.6
Renew able energy forms	0	260	435	452	466	500	612	640	675		0.7	2.8	1.0
Other	0	0	0	0	0	0	1	1	1			11.9	0.8
RES in Gross Final Energy Consumption [B]			**768**	**810**	**832**	**911**	**1093**	**1177**	**1230**		**0.8**	**2.8**	**1.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**18.1**		**18.6**	**20.1**	**21.3**	**24.1**	**25.6**	**20.8**	**18.9**	**0.3**	**1.4**	**1.8**	**-3.0**
of w hich ETS sectors GHGs emissions				9.0	8.8	10.2	11.2	7.1	5.7			2.5	-6.5
CO_2 Emissions (energy related)	**13.2**	**14.1**	**14.0**	**15.3**	**16.7**	**19.3**	**20.8**	**16.3**	**14.4**	**0.6**	**1.8**	**2.2**	**-3.6**
Pow er generation/District heating	6.2	6.2	5.5	6.2	6.4	7.6	8.4	4.4	3.2	-1.1	1.4	2.8	-9.1
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.9			
Industry	2.5	1.8	2.3	2.3	2.2	2.3	2.5	2.0	1.8	-0.7	-0.8	1.3	-3.1
Residential	1.7	2.1	1.3	1.4	1.5	1.6	1.6	1.6	1.5	-2.5	1.3	0.8	-0.7
Tertiary	0.0	0.0	1.0	1.0	0.9	1.0	0.9	0.9	0.9	47.0	-0.1	-0.1	-1.0
Transport	2.7	3.9	3.8	4.3	5.8	6.9	7.4	7.4	7.0	3.5	4.3	2.5	-0.5
CO_2 Emissions (non energy related)	**1.1**	**0.9**	**0.9**	**1.1**	**1.1**	**1.2**	**1.4**	**1.4**	**1.4**	**-1.9**	**1.8**	**2.1**	**0.2**
Non-CO_2 GHGs Emissions	**3.8**		**3.7**	**3.7**	**3.5**	**3.5**	**3.4**	**3.2**	**3.1**	**-0.4**	**-0.6**	**-0.1**	**-1.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.8**	**110.8**	**117.6**	**133.1**	**141.2**	**115.1**	**104.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Slovenia: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.996	1.989	1.988	1.998	2.034	2.053	2.058	2.047	2.023	0.0	0.2	0.1	-0.2
GDP (in 000 M€08)	21.1	20.5	25.3	30.3	34.6	40.6	46.5	50.9	53.6	1.9	3.1	3.0	1.4
Gross Inl. Cons./GDP (toe/M€08)	261.9	298.4	253.6	240.6	228.7	217.2	202.8	188.8	176.8	-0.3	-1.0	-1.2	-1.4
Carbon intensity (t of CO_2/toe of GIC)	2.39	2.30	2.18	2.09	2.12	2.20	2.20	1.69	1.52	-0.9	-0.3	0.4	-3.6
Import Dependency %	46.6	50.1	52.6	52.3	53.9	54.5	55.4	50.2	48.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			3.8	4.1	5.1	6.6	8.3	9.4	9.7		3.3	5.9	2.9
as % of GDP			15.0	13.6	15.2	17.7	20.2	22.2	23.2				
Energy intensity indicators													
Industry (Energy on Value added)	109.1	109.6	100.0	92.4	82.7	76.8	73.2	67.1	63.9	-0.9	-1.9	-1.2	-1.4
Residential (Energy on Private Income)	99.0	123.5	100.0	92.2	85.2	79.3	71.5	65.3	60.7	0.1	-1.6	-1.7	-1.6
Tertiary (Energy on Value added)	27.6	54.1	100.0	82.4	72.6	65.0	57.1	51.6	47.0	13.7	-3.2	-2.4	-1.9
Passenger transport (toe/Mpkm)	33.4	45.5	38.5	32.6	32.1	31.2	30.3	27.5	24.6	1.4	-1.8	-0.6	-2.1
Freight transport (toe/Mtkm)	22.8	56.0	42.7	41.9	46.1	47.0	45.2	43.2	40.6	6.5	0.8	-0.2	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.34	0.34	0.32	0.32	0.34	0.16	0.11	-2.0	-0.7	0.5	-10.5
Final energy demand (t of CO_2/toe)	2.05	1.99	1.89	1.86	1.90	1.91	1.88	1.81	1.75	-0.8	0.0	-0.1	-0.7
Industry	1.72	1.55	1.65	1.39	1.28	1.23	1.25	1.06	0.98	-0.4	-2.5	-0.3	-2.4
Residential	1.98	1.81	1.17	1.21	1.24	1.23	1.19	1.14	1.11	-5.2	0.6	-0.4	-0.7
Tertiary	0.17	0.13	1.65	1.76	1.66	1.64	1.54	1.49	1.44	25.7	0.0	-0.8	-0.7
Transport	2.88	2.91	2.89	2.94	2.91	2.85	2.78	2.74	2.70	0.0	0.1	-0.4	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			16.7	15.9	14.7	14.2	15.9	17.2	18.4				
RES in transport (%)			0.5	0.3	2.3	4.7	6.8	8.3	9.6				
Gross Electricity generation by fuel type (in GWh)			**13622**	**15114**	**16193**	**18404**	**20168**	**22179**	**22930**		**1.7**	**2.2**	**1.3**
Nuclear energy			4760	5883	6035	6035	6035	12480	12480		2.4	0.0	7.5
Coal and lignite			4630	5314	5179	6738	7501	3182	3777		1.1	3.8	-6.6
Petroleum products			40	34	9	19	8	14	13		-14.0	-0.8	4.6
Gas (including derived gases)			313	324	869	897	1604	1281	1306		10.8	6.3	-2.0
Biomass & waste			45	100	171	529	555	645	659		14.3	12.5	1.7
Hydro			3833	3460	3927	4100	4249	4256	4283		0.2	0.8	0.1
Wind			0	0	0	66	167	234	278				5.2
Solar, tidal etc.			0	0	3	20	48	86	135			32.5	10.9
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2748**	**3084**	**3293**	**4039**	**3971**	**4548**	**4846**		**1.8**	**1.9**	**2.0**
Nuclear energy			696	696	706	706	706	1515	1515		0.1	0.0	7.9
Renewable energy			846	963	1041	1175	1388	1506	1623		2.1	2.9	1.6
Hydro (pumping excluded)			846	963	1038	1079	1147	1149	1166		2.1	1.0	0.2
Wind			0	0	0	75	191	267	317				5.2
Solar			0	0	3	21	50	90	140			32.5	10.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			1206	1424	1547	2158	1877	1527	1707		2.5	2.0	-0.9
of which cogeneration units			453	389	448	614	589	649	644		-0.1	2.8	0.9
of which CCS units			0	0	0	0	0	0	185				
Solids fired			948	947	894	1495	1244	870	1039		-0.6	3.4	-1.8
Gas fired			223	446	624	626	552	573	585		10.8	-1.2	0.6
Oil fired			17	10	10	10	2	1	1		-5.2	-13.6	-12.0
Biomass-waste fired			17	21	19	27	79	83	83		1.4	15.2	0.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			53.1	52.3	52.8	48.7	54.5	52.7	50.3				
Efficiency for thermal electricity production (%)			32.2	32.9	33.0	35.4	37.0	34.6	36.7				
CHP indicator (% of electricity from CHP)			7.2	8.2	12.5	18.7	19.0	16.9	16.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	8.3				
Non fossil fuels in electricity generation (%)			63.4	62.5	62.6	58.4	54.8	79.8	77.8				
- nuclear			34.9	38.9	37.3	32.8	29.9	56.3	54.4				
- renewable energy forms and industrial waste			28.5	23.6	25.3	25.6	24.9	23.5	23.3				
Transport sector													
Passenger transport activity (Gpkm)	**21.6**	**21.4**	**25.0**	**26.9**	**29.5**	**32.8**	**35.6**	**37.1**	**38.0**	**1.5**	**1.7**	**1.9**	**0.7**
Public road transport	6.5	4.1	3.5	3.1	3.3	3.5	3.7	3.8	3.8	-6.0	-0.6	1.1	0.4
Private cars and motorcycles	13.5	16.5	20.5	22.7	24.9	27.8	30.1	31.4	32.1	4.3	2.0	1.9	0.6
Rail	1.4	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	-6.8	1.7	1.9	1.1
Aviation	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.9	1.0	3.7	4.9	4.7	3.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**9.1**	**6.4**	**8.2**	**14.3**	**22.4**	**29.8**	**34.8**	**38.6**	**40.9**	**-1.1**	**10.6**	**4.5**	**1.6**
Trucks	4.9	3.3	5.3	11.0	18.4	25.2	29.3	32.5	34.6	0.8	13.3	4.7	1.7
Rail	4.2	3.1	2.9	3.2	4.0	4.6	5.5	6.0	6.3	-3.8	3.4	3.3	1.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**930**	**1329**	**1312**	**1475**	**1981**	**2423**	**2655**	**2688**	**2598**	**3.5**	**4.2**	**3.0**	**-0.2**
Public road transport	51	33	27	23	25	26	26	26	25	-6.2	-0.9	0.3	-0.2
Private cars and motorcycles	642	918	909	829	892	961	1012	951	859	3.5	-0.2	1.3	-1.6
Trucks	181	329	316	570	1000	1362	1535	1625	1635	5.8	12.2	4.4	0.6
Rail	29	29	34	29	35	40	43	42	31	1.4	0.3	2.1	-3.2
Aviation	27	20	25	23	29	35	40	44	48	-0.8	1.6	3.3	1.9
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Spain: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**33731**	**31366**	**31335**	**30127**	**32789**	**36507**	**38761**	**39853**	**48777**	**-0.7**	**0.5**	**1.7**	**2.3**
Solids	11679	10170	7740	6265	4688	4504	4225	3036	2519	-4.0	-4.9	-1.0	-5.0
Oil	801	790	229	168	135	107	85	0	0	-11.8	-5.1	-4.5	
Natural gas	1273	379	148	144	70	45	0	0	0	-19.4	-7.2		
Nuclear	13701	14305	16046	14842	15121	15267	15267	12490	15510	1.6	-0.6	0.1	0.2
Renew able energy sources	6276	5722	7172	8709	12775	16584	19184	24326	30749	1.3	5.9	4.1	4.8
Hydro	2184	1987	2534	1681	2537	2603	2638	2783	2821	1.5	0.0	0.4	0.7
Biomass & Waste	4067	3684	4191	5131	6125	8543	9976	11441	12130	0.3	3.9	5.0	2.0
Wind	1	23	406	1825	3379	4208	4933	7229	10178	79.0	23.6	3.9	7.5
Solar and others	21	25	33	65	722	1208	1579	1886	2086	4.5	36.3	8.1	2.8
Geothermal	2	3	8	8	12	22	59	987	3533	12.3	4.9	16.9	50.6
Net Imports	**60168**	**76165**	**99334**	**123972**	**117506**	**125901**	**133583**	**138195**	**133865**	**5.1**	**1.7**	**1.3**	**0.0**
Solids	7038	9146	12636	14418	9347	12040	13306	14414	13068	6.0	-3.0	3.6	-0.2
Oil	49476	59112	70849	79421	74755	79244	81289	82152	80604	3.7	0.5	0.8	-0.1
- Crude oil and Feedstocks	53717	56145	59233	60834	59676	63031	64552	65208	64567	1.0	0.1	0.8	0.0
- Oil products	-4240	2968	11616	18587	15079	16213	16738	16945	16037		2.6	1.0	-0.4
Natural gas	3690	7521	15467	30248	33591	34480	38712	41233	39667	15.4	8.1	1.4	0.2
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Gross Inland Consumption	**89717**	**102950**	**123652**	**144589**	**142061**	**153514**	**163033**	**168446**	**172866**	**3.3**	**1.4**	**1.4**	**0.6**
Solids	18942	19515	20643	20698	14035	16544	17531	17450	15587	0.9	-3.8	2.2	-1.2
Oil	45863	55298	64191	70610	66656	70457	72064	72551	70828	3.4	0.4	0.8	-0.2
Natural gas	4970	7722	15219	29844	33661	34525	38712	41233	39667	11.8	8.3	1.4	0.2
Nuclear	13701	14305	16046	14842	15121	15267	15267	12490	15510	1.6	-0.6	0.1	0.2
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Renew able energy forms	6276	5723	7172	8710	12964	17034	19820	25122	31662	1.3	6.1	4.3	4.8
as % in Gross Inland Consumption													
Solids	21.1	19.0	16.7	14.3	9.9	10.8	10.8	10.4	9.0				
Oil	51.1	53.7	51.9	48.8	46.9	45.9	44.2	43.1	41.0				
Natural gas	5.5	7.5	12.3	20.6	23.7	22.5	23.7	24.5	22.9				
Nuclear	15.3	13.9	13.0	10.3	10.6	9.9	9.4	7.4	9.0				
Renew able energy forms	7.0	5.6	5.8	6.0	9.1	11.1	12.2	14.9	18.3				
Gross Electricity Generation in GWh_e	**150944**	**165585**	**222776**	**290518**	**297111**	**333024**	**369455**	**405466**	**437073**	**4.0**	**2.9**	**2.2**	**1.7**
Self consumption and grid losses	21386	24594	32562	40810	39356	44288	49807	56003	64796	4.3	1.9	2.4	2.7
Fuel Inputs for Thermal Power Generation	**16683**	**18604**	**26463**	**35421**	**31257**	**34921**	**39383**	**42286**	**40307**	**4.7**	**1.7**	**2.3**	**0.2**
Solids	13881	13585	18249	17641	11993	14600	15497	15073	13169	2.8	-4.1	2.6	-1.6
Oil (including refinery gas)	2171	3654	4445	5249	4279	4041	3085	2845	2504	7.4	-0.4	-3.2	-2.1
Gas	486	987	3075	11140	13009	12905	16423	18199	15075	20.3	15.5	2.4	-0.9
Biomass & Waste	145	377	694	1391	1976	3376	4377	5265	6130	16.9	11.0	8.3	3.4
Geothermal heat	0	0	0	0	0	0	0	904	3429				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**58344**	**59752**	**63964**	**64825**	**62852**	**67118**	**69346**	**70347**	**69858**	**0.9**	**-0.2**	**1.0**	**0.1**
Refineries	54213	56829	60882	61490	59465	62998	64616	65253	64647	1.2	-0.2	0.8	0.0
Biofuels and hydrogen production	0	0	51	259	1557	2523	3024	3340	3465		40.7	6.9	1.4
District heating	0	0	0	0	0	0	0	0	0				
Others	4131	2924	3031	3077	1830	1598	1705	1754	1746	-3.0	-4.9	-0.7	0.2
Energy Branch Consumption	**4745**	**5505**	**6119**	**6708**	**5974**	**6245**	**6516**	**6753**	**7093**	**2.6**	**-0.2**	**0.9**	**0.9**
Non-Energy Uses	**6027**	**8358**	**9467**	**8349**	**7854**	**8682**	**9435**	**10142**	**10611**	**4.6**	**-1.8**	**1.9**	**1.2**
Final Energy Demand	**56801**	**63691**	**79631**	**97456**	**99884**	**109066**	**115996**	**121385**	**123799**	**3.4**	**2.3**	**1.5**	**0.7**
by sector													
Industry	20070	20508	25528	31098	30699	33262	36475	39969	42839	2.4	1.9	1.7	1.6
- energy intensive industries	13093	13648	17306	20472	19182	20397	21957	23569	24891	2.8	1.0	1.4	1.3
- other industrial sectors	6977	6860	8221	10626	11518	12865	14518	16400	17949	1.7	3.4	2.3	2.1
Residential	9275	9998	11886	15168	16074	17586	17976	17972	17779	2.5	3.1	1.1	-0.1
Tertiary	5054	7024	9241	11580	11869	12907	13537	14299	14749	6.2	2.5	1.3	0.9
Transport	22401	26162	32977	39609	41242	45311	48008	49145	48431	3.9	2.3	1.5	0.1
by fuel													
Solids	3524	2235	1671	1782	1166	1202	1245	1545	1565	-7.2	-3.5	0.7	2.3
Oil	33612	39125	46007	53066	51314	54916	56617	57150	55953	3.2	1.1	1.0	-0.1
Gas	4903	6841	12141	17978	19362	19981	20716	21036	22201	9.5	4.8	0.7	0.7
Electricity	10817	12116	16205	20824	21272	23974	26570	29095	31087	4.1	2.8	2.2	1.6
Heat (from CHP and District Heating) [A]	0	39	74	0	2185	2914	3955	4778	5177		40.3	6.1	2.7
Renew able energy forms	3945	3335	3533	3805	4582	6073	6885	7772	7807	-1.1	2.6	4.2	1.3
Other	0	0	0	1	3	6	9	9	9		61.8	11.4	0.4
RES in Gross Final Energy Consumption [B]			**6612**	**8524**	**12017**	**16130**	**18788**	**23243**	**27377**		**6.2**	**4.6**	**3.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**285.1**		**386.1**	**440.6**	**406.8**	**429.8**	**446.0**	**452.8**	**410.9**	**3.1**	**0.5**	**0.9**	**-0.8**
of w hich ETS sectors GHGs emissions				207.1	170.7	181.7	191.7	196.1	156.4			1.2	-2.0
CO_2 Emissions (energy related)	**202.4**	**224.6**	**281.1**	**336.8**	**308.4**	**329.3**	**342.6**	**347.4**	**303.2**	**3.3**	**0.9**	**1.1**	**-1.2**
Pow er generation/District heating	63.6	68.2	94.1	113.0	91.7	100.8	106.8	108.5	66.1	4.0	-0.3	1.5	-4.7
Energy Branch	11.5	13.1	13.4	14.4	12.1	11.5	11.7	11.4	10.6	1.5	-1.0	-0.3	-1.0
Industry	40.7	41.9	46.4	55.4	48.2	49.4	51.6	54.3	57.7	1.3	0.4	0.7	1.1
Residential	12.9	13.6	16.5	20.4	21.4	22.5	21.1	19.3	17.8	2.5	2.7	-0.2	-1.7
Tertiary	7.7	10.6	13.0	16.3	16.4	17.0	16.9	17.3	17.7	5.3	2.3	0.3	0.4
Transport	65.9	77.2	97.7	117.3	118.6	128.0	134.5	136.6	133.4	4.0	2.0	1.3	-0.1
CO_2 Emissions (non energy related)	**23.1**	**22.3**	**27.0**	**30.4**	**27.1**	**28.5**	**30.1**	**31.7**	**32.8**	**1.6**	**0.0**	**1.1**	**0.9**
Non-CO_2 GHGs Emissions	**59.6**		**78.0**	**73.4**	**71.4**	**72.0**	**73.4**	**73.7**	**74.9**	**2.7**	**-0.9**	**0.3**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.4**	**154.6**	**142.7**	**150.8**	**156.5**	**158.8**	**144.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Spain: Baseline 2009
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.826	39.343	40.050	43.038	46.673	49.381	51.109	52.101	52.661	0.3	1.5	0.9	0.3
GDP (in 000 M€08)	607.4	668.6	817.6	960.1	1003.0	1161.4	1357.7	1557.2	1728.1	3.0	2.1	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	147.7	154.0	151.2	150.6	141.6	132.2	120.1	108.2	100.0	0.2	-0.7	-1.6	-1.8
Carbon intensity (t of CO_2/toe of GIC)	2.26	2.18	2.27	2.33	2.17	2.15	2.10	2.06	1.75	0.1	-0.5	-0.3	-1.8
Import Dependency %	64.3	71.8	76.7	81.3	78.2	77.5	77.5	77.6	73.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			78.8	97.8	107.0	130.4	164.4	189.9	199.5		3.4	5.4	3.1
as % of GDP			9.6	10.2	11.0	12.2	13.8	14.6	14.7				
Energy intensity indicators													
Industry (Energy on Value added)	98.8	100.1	100.0	115.5	111.3	103.0	94.6	88.2	84.1	0.1	1.1	-1.6	-1.2
Residential (Energy on Private Income)	103.7	102.8	100.0	107.4	111.0	105.5	95.3	86.1	78.6	-0.4	1.0	-1.5	-1.9
Tertiary (Energy on Value added)	70.9	90.3	100.0	107.4	104.9	97.2	87.7	81.1	75.5	3.5	0.5	-1.8	-1.5
Passenger transport (toe/Mpkm)	37.4	38.0	40.9	40.1	38.6	35.7	33.6	31.1	28.7	0.9	-0.6	-1.4	-1.6
Freight transport (toe/Mtkm)	89.2	76.3	70.6	65.5	65.4	65.2	62.7	59.7	55.8	-2.3	-0.8	-0.4	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.42	0.39	0.28	0.27	0.25	0.23	0.13	0.0	-3.8	-1.1	-6.4
Final energy demand (t of CO_2/toe)	2.24	2.25	2.18	2.15	2.05	1.99	1.93	1.87	1.83	-0.3	-0.6	-0.6	-0.5
Industry	2.03	2.04	1.82	1.78	1.57	1.49	1.41	1.36	1.35	-1.1	-1.5	-1.0	-0.5
Residential	1.39	1.36	1.39	1.35	1.33	1.28	1.17	1.08	1.00	0.0	-0.4	-1.3	-1.6
Tertiary	1.53	1.51	1.41	1.41	1.38	1.32	1.25	1.21	1.20	-0.9	-0.2	-1.0	-0.4
Transport	2.94	2.95	2.96	2.96	2.87	2.83	2.80	2.78	2.75	0.1	-0.3	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			8.0	8.5	11.6	14.3	15.6	18.4	21.2				
RES in transport (%)			0.4	1.0	4.7	6.9	7.8	8.5	9.3				
Gross Electricity generation by fuel type (in GWh)			**222776**	**290518**	**297111**	**333024**	**369455**	**405466**	**437073**		**2.9**	**2.2**	**1.7**
Nuclear energy			62195	57529	58619	59185	59185	49897	63059		-0.6	0.1	0.6
Coal and lignite			86960	93772	57863	70783	75470	73286	69467		-4.0	2.7	-0.8
Petroleum products			22636	26417	19176	18220	13853	12940	12164		-1.6	-3.2	-1.3
Gas (including derived gases)			14956	67692	80579	83617	104476	118017	97634		18.3	2.6	-0.7
Biomass & waste			1824	4303	6420	13095	17061	20383	24628		13.4	10.3	3.7
Hydro			29465	19549	29499	30267	30673	32359	32806		0.0	0.4	0.7
Wind			4723	21215	39295	48930	57356	84064	118350		23.6	3.9	7.5
Solar, tidal etc.			18	41	5658	8925	11381	13468	14978		77.7	7.2	2.8
Geothermal and other renewables			0	0	1	1	1	1052	3988			0.0	132.4
Net Generation Capacity in MW_e			**48421**	**69109**	**95500**	**102635**	**108840**	**119477**	**138749**		**7.0**	**1.3**	**2.5**
Nuclear energy			7579	7579	7434	6986	6986	5919	7500		-0.2	-0.6	0.7
Renewable energy			14819	22686	37238	43678	49232	60577	73394		9.7	2.8	4.1
Hydro (pumping excluded)			12533	12731	13819	13922	14192	14464	14761		1.0	0.3	0.4
Wind			2274	9918	19423	23528	27113	36806	48367		23.9	3.4	6.0
Solar			12	37	3996	6228	7926	9306	10266		78.7	7.1	2.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0			0.0	0.0
Thermal power			26024	38845	50827	51971	52622	52982	57855		6.9	0.3	1.0
of which cogeneration units			3800	4796	5477	7196	8852	11067	11165		3.7	4.9	2.3
of which CCS units			0	0	0	0	340	340	4097				28.3
Solids fired			11549	11674	11466	10531	10530	9886	12937		-0.1	-0.8	2.1
Gas fired			7466	20921	31823	33241	33530	34121	34421		15.6	0.5	0.3
Oil fired			6536	5386	5609	5356	5099	4508	4923		-1.5	-0.9	-0.3
Biomass-waste fired			472	864	1929	2842	3462	4347	5119		15.1	6.0	4.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	120	455				
Load factor for net electric capacities (%)			50.2	46.0	34.4	35.9	37.5	37.3	34.2				
Efficiency for thermal electricity production (%)			41.1	46.7	45.1	45.7	46.0	45.9	44.4				
CHP indicator (% of electricity from CHP)			9.7	8.2	8.3	11.8	14.0	16.6	15.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.0	0.9	9.6				
Non fossil fuels in electricity generation (%)			44.1	35.3	46.9	48.2	47.5	49.6	59.0				
- nuclear			27.9	19.8	19.7	17.8	16.0	12.3	14.4				
- renewable energy forms and industrial waste			16.2	15.5	27.2	30.4	31.5	37.3	44.6				
Transport sector													
Passenger transport activity (Gpkm)	**301.3**	**386.4**	**476.1**	**535.4**	**558.5**	**641.8**	**722.3**	**797.8**	**858.1**	**4.7**	**1.6**	**2.6**	**1.7**
Public road transport	33.4	39.6	50.3	53.2	59.7	65.1	70.1	74.0	76.6	4.2	1.7	1.6	0.9
Private cars and motorcycles	186.8	257.3	310.2	346.4	353.7	404.1	458.2	501.7	531.4	5.2	1.3	2.6	1.5
Rail	19.9	20.8	25.4	27.6	28.3	31.0	35.1	39.8	43.9	2.5	1.1	2.2	2.3
Aviation	59.6	67.0	88.6	106.5	115.1	139.7	156.8	180.3	204.0	4.0	2.6	3.1	2.7
Inland navigation	1.6	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	-0.2	0.9	1.3	0.9
Freight transport activity (Gtkm)	**124.7**	**150.5**	**191.3**	**276.9**	**300.9**	**343.8**	**378.4**	**407.4**	**426.9**	**4.4**	**4.6**	**2.3**	**1.2**
Trucks	80.5	101.6	148.7	233.2	258.1	298.7	328.9	353.2	369.5	6.3	5.7	2.5	1.2
Rail	11.2	11.0	11.6	11.6	10.9	11.7	13.1	14.7	15.9	0.4	-0.7	1.9	1.9
Inland navigation	33.0	38.0	31.0	32.0	32.0	33.4	36.4	39.5	41.5	-0.6	0.3	1.3	1.3
Energy demand in transport (ktoe)	**22401**	**26162**	**32977**	**39609**	**41242**	**45311**	**48008**	**49145**	**48431**	**3.9**	**2.3**	**1.5**	**0.1**
Public road transport	356	417	522	541	602	639	656	656	643	3.9	1.4	0.9	-0.2
Private cars and motorcycles	8092	10704	14024	15106	14798	15247	15987	16278	15783	5.7	0.5	0.8	-0.1
Trucks	9305	9427	11708	15923	17571	20170	21395	21876	21598	2.3	4.1	2.0	0.1
Rail	529	629	850	1171	1072	1146	1159	1149	868	4.9	2.3	0.8	-2.9
Aviation	2456	3105	4486	5323	5650	6496	7074	7323	7601	6.2	2.3	2.3	0.7
Inland navigation	1664	1881	1386	1544	1548	1613	1737	1863	1939	-1.8	1.1	1.2	1.1

Source: PRIMES

Sweden: Baseline 2009									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**29665**	**31344**	**30008**	**34207**	**32984**	**34009**	**35645**	**36935**	**36883**	**0.1**	**1.0**	**0.8**	**0.3**
Solids	152	225	162	211	261	227	207	171	153	0.6	4.9	-2.3	-3.0
Oil	3	4	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	17764	18040	14781	18670	17297	17570	18789	19522	19375	-1.8	1.6	0.8	0.3
Renew able energy sources	11745	13075	15065	15325	15427	16212	16650	17243	17354	2.5	0.2	0.8	0.4
Hydro	6234	5856	6757	6260	5814	5835	5760	5864	5871	0.8	-1.5	-0.1	0.2
Biomass & Waste	5507	7206	8264	8978	9309	9887	10236	10590	10595	4.1	1.2	1.0	0.3
Wind	1	9	39	80	286	453	606	724	812	54.2	22.0	7.8	3.0
Solar and others	3	5	5	6	18	36	48	65	76	5.3	12.9	10.4	4.7
Geothermal	0	0	0	0	0	0	0	0	0			4.8	0.1
Net Imports	**18035**	**19405**	**19291**	**20179**	**18590**	**18766**	**18118**	**16987**	**16396**	**0.7**	**-0.4**	**-0.3**	**-1.0**
Solids	2399	2750	2409	2556	2012	2094	2100	1634	1747	0.0	-1.8	0.4	-1.8
Oil	15211	16044	15703	17416	15847	15718	15342	14739	14219	0.3	0.1	-0.3	-0.8
- Crude oil and Feedstocks	17071	17892	20449	20071	18457	18328	17953	17349	16827	1.8	-1.0	-0.3	-0.6
- Oil products	-1861	-1848	-4745	-2655	-2610	-2610	-2611	-2610	-2608				
Natural gas	577	755	776	843	1224	1371	1284	1235	1253	3.0	4.7	0.5	-0.2
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Gross Inland Consumption	**47213**	**50401**	**47896**	**51689**	**49654**	**50738**	**51673**	**51781**	**51083**	**0.1**	**0.4**	**0.4**	**-0.1**
Solids	2683	2890	2442	2629	2272	2322	2307	1805	1900	-0.9	-0.7	0.2	-1.9
Oil	14596	15786	14429	14858	13927	13681	13251	12597	12023	-0.1	-0.4	-0.5	-1.0
Natural gas	577	755	776	843	1224	1371	1284	1235	1253	3.0	4.7	0.5	-0.2
Nuclear	17764	18040	14781	18670	17297	17570	18789	19522	19375	-1.8	1.6	0.8	0.3
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Renew able energy forms	11745	13075	15065	15325	15469	16342	16853	17481	17429	2.5	0.3	0.9	0.3
as % in Gross Inland Consumption													
Solids	5.7	5.7	5.1	5.1	4.6	4.6	4.5	3.5	3.7				
Oil	30.9	31.3	30.1	28.7	28.0	27.0	25.6	24.3	23.5				
Natural gas	1.2	1.5	1.6	1.6	2.5	2.7	2.5	2.4	2.5				
Nuclear	37.6	35.8	30.9	36.1	34.8	34.6	36.4	37.7	37.9				
Renew able energy forms	24.9	25.9	31.5	29.6	31.2	32.2	32.6	33.8	34.1				
Gross Electricity Generation in GWh_e	**145958**	**148264**	**145524**	**158340**	**156570**	**163879**	**172429**	**180020**	**181004**	**0.0**	**0.7**	**1.0**	**0.5**
Self consumption and grid losses	15140	15969	16250	17365	15650	16734	17548	18850	18815	0.7	-0.4	1.2	0.7
Fuel Inputs for Thermal Power Generation	**1491**	**3246**	**3239**	**4458**	**4937**	**5512**	**5892**	**6225**	**6697**	**8.1**	**4.3**	**1.8**	**1.3**
Solids	558	705	467	494	564	565	602	308	265	-1.8	1.9	0.7	-7.9
Oil (including refinery gas)	253	737	276	317	411	304	277	269	74	0.9	4.1	-3.9	-12.3
Gas	253	406	414	490	880	1103	1041	997	981	5.0	7.8	1.7	-0.6
Biomass & Waste	427	1398	2083	3158	3082	3540	3972	4651	5376	17.2	4.0	2.6	3.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**20664**	**23542**	**25372**	**24500**	**22325**	**22258**	**21926**	**21023**	**19786**	**2.1**	**-1.3**	**-0.2**	**-1.0**
Refineries	18125	19553	21694	20789	18453	18326	17952	17348	16827	1.8	-1.6	-0.3	-0.6
Biofuels and hydrogen production	0	0	0	152	292	430	509	551	601			5.7	1.7
District heating	1123	2373	1973	1728	2320	2123	2103	1781	1023	5.8	1.6	-1.0	-6.9
Others	1416	1616	1705	1832	1260	1378	1363	1343	1335	1.9	-3.0	0.8	-0.2
Energy Branch Consumption	**1758**	**1629**	**1532**	**1371**	**1310**	**1355**	**1378**	**1415**	**1379**	**-1.4**	**-1.6**	**0.5**	**0.0**
Non-Energy Uses	**1826**	**2051**	**1808**	**2425**	**2444**	**2537**	**2566**	**2523**	**2542**	**-0.1**	**3.1**	**0.5**	**-0.1**
Final Energy Demand	**30518**	**32305**	**33350**	**33173**	**31638**	**32290**	**32320**	**31942**	**31501**	**0.9**	**-0.5**	**0.2**	**-0.3**
by sector													
Industry	11827	11195	12056	12097	10862	10735	10756	10803	10981	0.2	-1.0	-0.1	0.2
- energy intensive industries	8542	7497	8396	8887	7813	7657	7607	7595	7675	-0.2	-0.7	-0.3	0.1
- other industrial sectors	3285	3699	3660	3209	3049	3078	3149	3208	3306	1.1	-1.8	0.3	0.5
Residential	6542	7735	7554	7302	7323	7468	7446	7267	7042	1.4	-0.3	0.2	-0.6
Tertiary	4873	5694	5593	5166	4820	5049	5020	5024	4921	1.4	-1.5	0.4	-0.2
Transport	7276	7680	8147	8608	8633	9037	9098	8847	8557	1.1	0.6	0.5	-0.6
by fuel													
Solids	1231	1192	1141	1345	1060	1058	1039	860	996	-0.8	-0.7	-0.2	-0.4
Oil	12007	12343	12389	11175	10008	10052	9775	9327	8889	0.3	-2.1	-0.2	-0.9
Gas	587	611	673	764	602	692	660	653	692	1.4	-1.1	0.9	0.5
Electricity	10348	10711	11068	11382	11337	11855	12248	12739	12792	0.7	0.2	0.8	0.4
Heat (from CHP and District Heating) [A]	1706	3540	3550	4174	4710	4589	4570	4315	4014	7.6	2.9	-0.3	-1.3
Renew able energy forms	4639	3908	4529	4332	3920	4041	4026	4046	4116	-0.2	-1.4	0.3	0.2
Other	0	0	0	0	1	1	2	2	2			8.4	-0.2
RES in Gross Final Energy Consumption [B]			**12960**	**13507**	**14612**	**15410**	**15913**	**16434**	**16430**		**1.2**	**0.9**	**0.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**71.7**		**70.8**	**68.6**	**62.5**	**61.9**	**60.8**	**57.4**	**56.6**	**-0.1**	**-1.3**	**-0.3**	**-0.7**
of w hich ETS sectors GHGs emissions				24.1	20.4	19.9	20.0	18.5	18.8			-0.2	-0.6
CO_2 Emissions (energy related)	**50.5**	**53.3**	**50.7**	**48.6**	**43.6**	**43.4**	**42.2**	**38.7**	**37.7**	**0.0**	**-1.5**	**-0.3**	**-1.1**
Pow er generation/District heating	6.3	7.9	5.1	5.5	6.7	6.3	6.2	4.8	4.1	-1.9	2.7	-0.8	-4.1
Energy Branch	1.5	1.8	1.9	2.1	1.1	0.9	0.8	0.7	1.1	2.3	-5.5	-3.0	3.5
Industry	11.5	11.7	11.0	12.4	8.3	8.2	7.8	7.0	7.5	-0.4	-2.8	-0.6	-0.4
Residential	4.9	4.6	3.7	1.4	1.5	1.5	1.3	1.2	1.1	-2.6	-8.8	-1.5	-1.6
Tertiary	5.6	5.4	5.6	3.1	2.3	2.0	1.6	1.4	1.3	0.0	-8.7	-3.2	-2.1
Transport	20.7	21.9	23.2	24.1	23.7	24.5	24.4	23.6	22.6	1.1	0.2	0.3	-0.8
CO_2 Emissions (non energy related)	**5.6**	**5.9**	**5.4**	**5.6**	**5.1**	**5.4**	**5.4**	**5.6**	**5.6**	**-0.3**	**-0.6**	**0.7**	**0.4**
Non-CO_2 GHGs Emissions	**15.6**		**14.7**	**14.4**	**13.8**	**13.2**	**13.2**	**13.2**	**13.3**	**-0.6**	**-0.6**	**-0.5**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**98.8**	**95.7**	**87.1**	**86.4**	**84.8**	**80.1**	**79.0**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)											Sweden: Baseline 2009		
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.527	8.816	8.861	9.011	9.306	9.588	9.853	10.094	10.270	0.4	0.5	0.6	0.4
GDP (in 000 M€08)	221.8	232.8	274.4	311.3	321.5	362.1	401.8	441.2	482.5	2.2	1.6	2.3	1.8
Gross Inl. Cons./GDP (toe/M€08)	212.9	216.5	174.6	166.0	154.5	140.1	128.6	117.4	105.9	-2.0	-1.2	-1.8	-1.9
Carbon intensity (t of CO_2/toe of GIC)	1.07	1.06	1.06	0.94	0.88	0.85	0.82	0.75	0.74	-0.1	-1.9	-0.7	-1.0
Import Dependency %	37.7	37.7	39.2	37.6	36.0	35.6	33.7	31.5	30.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			27.1	33.8	34.6	39.1	44.3	48.0	49.6		2.7	3.3	2.4
as % of GDP			9.9	10.9	11.0	11.5	12.1	12.7	12.8				
Energy intensity indicators													
Industry (Energy on Value added)	175.0	133.3	100.0	80.6	70.7	60.4	54.7	50.2	46.7	-5.4	-3.4	-2.5	-1.6
Residential (Energy on Private Income)	102.6	120.4	100.0	87.3	91.7	81.2	73.3	66.0	59.0	-0.3	-0.9	-2.2	-2.1
Tertiary (Energy on Value added)	103.9	118.2	100.0	82.9	75.6	69.8	62.3	56.6	50.6	-0.4	-2.8	-1.9	-2.1
Passenger transport (toe/Mpkm)	40.6	41.3	39.9	40.2	38.5	35.2	33.0	29.6	26.6	-0.2	-0.4	-1.5	-2.1
Freight transport (toe/Mtkm)	41.7	43.0	45.6	45.2	44.8	44.6	42.8	40.8	38.7	0.9	-0.2	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	-3.1	1.5	-1.5	-4.2
Final energy demand (t of CO_2/toe)	1.40	1.35	1.31	1.24	1.13	1.12	1.09	1.04	1.03	-0.7	-1.4	-0.4	-0.5
Industry	0.97	1.04	0.92	1.02	0.77	0.76	0.73	0.65	0.68	-0.6	-1.8	-0.5	-0.7
Residential	0.74	0.59	0.49	0.20	0.20	0.20	0.17	0.16	0.16	-4.0	-8.5	-1.7	-1.0
Tertiary	1.15	0.95	1.00	0.61	0.47	0.40	0.32	0.29	0.27	-1.4	-7.4	-3.6	-1.9
Transport	2.85	2.85	2.85	2.79	2.74	2.71	2.68	2.66	2.64	0.0	-0.4	-0.2	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			36.8	38.8	44.1	45.5	46.8	48.8	49.4				
RES in transport (%)			1.9	4.2	6.2	7.9	9.1	10.1	11.5				
Gross Electricity generation by fuel type (in GWh)			**145524**	**158340**	**156570**	**163879**	**172429**	**180020**	**181004**		**0.7**	**1.0**	**0.5**
Nuclear energy			57306	72364	67071	68131	72855	75697	75130		1.6	0.8	0.3
Coal and lignite			1623	1720	2149	2136	2278	1117	888		2.8	0.6	-9.0
Petroleum products			1210	1277	2151	1302	1203	1164	308		5.9	-5.7	-12.7
Gas (including derived gases)			1599	1844	4036	5653	5403	5537	5316		9.7	3.0	-0.2
Biomass & waste			4759	7405	10230	13491	16591	19800	21528		8.0	5.0	2.6
Hydro			78570	72795	67600	67850	66972	68183	68267		-1.5	-0.1	0.2
Wind			457	936	3328	5272	7052	8418	9443		22.0	7.8	3.0
Solar, tidal etc.			0	0	4	45	76	104	124			34.7	5.1
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**33642**	**33916**	**35761**	**37005**	**37493**	**39626**	**40737**		**0.6**	**0.5**	**0.8**
Nuclear energy			9584	9646	9685	10545	10547	10547	10547		0.1	0.9	0.0
Renewable energy			16559	16896	17939	18824	19646	20539	20972		0.8	0.9	0.7
Hydro (pumping excluded)			16347	16374	16460	16679	16770	17086	17086		0.1	0.2	0.2
Wind			209	516	1465	2097	2797	3345	3757		21.5	6.7	3.0
Solar			3	5	15	49	78	108	129		17.1	18.3	5.1
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7499	7374	8137	7637	7301	8541	9219		0.8	-1.1	2.4
of which cogeneration units			3662	3662	4292	4146	4378	4695	4774		1.6	0.2	0.9
of which CCS units			0	0	0	0	0	0	0				
Solids fired			764	686	686	582	582	530	287		-1.1	-1.6	-6.8
Gas fired			549	405	1093	1167	1167	2199	3329		7.1	0.7	11.1
Oil fired			4606	3340	3200	2706	2053	1614	850		-3.6	-4.3	-8.4
Biomass-waste fired			1581	2943	3159	3182	3499	4197	4753		7.2	1.0	3.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			47.6	51.4	48.7	49.3	51.1	50.4	49.3				
Efficiency for thermal electricity production (%)			24.4	23.6	32.3	35.2	37.2	38.2	36.0				
CHP indicator (% of electricity from CHP)			6.2	7.1	11.9	13.8	14.7	15.2	15.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			97.0	96.9	94.7	94.5	94.8	95.7	96.4				
- nuclear			39.4	45.7	42.8	41.6	42.3	42.0	41.5				
- renewable energy forms and industrial waste			57.6	51.2	51.8	52.9	52.6	53.6	54.9				
Transport sector													
Passenger transport activity (Gpkm)	**123.7**	**124.8**	**133.4**	**138.7**	**143.5**	**158.9**	**168.7**	**178.3**	**187.1**	**0.8**	**0.7**	**1.6**	**1.0**
Public road transport	9.7	9.7	9.5	8.8	8.6	8.8	9.1	9.4	9.7	-0.2	-1.0	0.6	0.6
Private cars and motorcycles	86.9	88.1	93.5	99.6	102.0	112.0	117.5	122.0	125.6	0.7	0.9	1.4	0.7
Rail	8.6	8.8	10.2	11.0	12.6	14.3	15.3	16.3	17.1	1.7	2.1	2.0	1.1
Aviation	11.8	12.1	14.2	13.5	14.4	17.5	20.4	24.1	28.1	1.8	0.2	3.5	3.3
Inland navigation	6.7	6.2	6.1	5.8	6.0	6.2	6.4	6.5	6.7	-0.9	-0.2	0.7	0.4
Freight transport activity (Gtkm)	**53.9**	**58.9**	**62.0**	**67.3**	**69.5**	**77.4**	**82.7**	**87.6**	**92.4**	**1.4**	**1.1**	**1.8**	**1.1**
Trucks	26.5	31.6	35.6	38.6	39.6	44.6	47.5	50.4	53.3	3.0	1.1	1.8	1.2
Rail	19.1	19.4	19.5	21.7	22.9	25.5	27.2	28.8	30.2	0.2	1.7	1.7	1.0
Inland navigation	8.3	7.9	6.9	7.0	6.9	7.4	8.0	8.5	8.9	-1.8	0.1	1.4	1.1
Energy demand in transport (ktoe)	**7276**	**7680**	**8147**	**8608**	**8633**	**9037**	**9098**	**8847**	**8557**	**1.1**	**0.6**	**0.5**	**-0.6**
Public road transport	129	122	130	114	110	110	108	105	103	0.1	-1.7	-0.2	-0.4
Private cars and motorcycles	4016	4078	4108	4468	4373	4297	4142	3779	3401	0.2	0.6	-0.5	-2.0
Trucks	1974	2253	2526	2706	2768	3081	3162	3197	3195	2.5	0.9	1.3	0.1
Rail	252	273	299	332	350	372	375	376	380	1.7	1.6	0.7	0.1
Aviation	760	849	928	846	888	1027	1156	1230	1315	2.0	-0.4	2.7	1.3
Inland navigation	144	103	155	142	144	151	156	160	164	0.8	-0.7	0.8	0.5

Source: PRIMES

United Kingdom: Baseline 2009										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**205941**	**250517**	**269601**	**203293**	**166174**	**114909**	**82913**	**77593**	**77485**	**2.7**	**-4.7**	**-6.7**	**-0.7**
Solids	54125	30516	18577	12172	10500	9000	8000	7000	6000	-10.1	-5.5	-2.7	-2.8
Oil	93246	133042	128893	86714	70000	45000	25000	20000	18000	3.3	-5.9	-9.8	-3.2
Natural gas	40925	63715	97554	79397	63000	35000	24000	18000	13000	9.1	-4.3	-9.2	-5.9
Nuclear	16574	21249	21942	21054	16098	16255	12152	17454	23884	2.8	-3.0	-2.8	7.0
Renew able energy sources	1070	1996	2635	3956	6576	9654	13762	15138	16602	9.4	9.6	7.7	1.9
Hydro	436	416	437	423	403	414	415	416	418	0.0	-0.8	0.3	0.1
Biomass & Waste	627	1539	2104	3252	4770	5449	5938	6005	6115	12.9	8.5	2.2	0.3
Wind	1	34	81	250	1315	3573	6970	8083	9227	59.3	32.1	18.1	2.8
Solar and others	5	6	11	30	86	209	417	591	778	8.1	22.5	17.1	6.4
Geothermal	1	1	1	1	2	9	22	44	63	0.0	7.3	29.7	11.4
Net Imports	**5720**	**-36234**	**-39249**	**32152**	**52090**	**102118**	**127927**	**129875**	**129149**			**9.4**	**0.1**
Solids	9122	10493	14577	27459	24525	26491	24761	21021	19359	4.8	5.3	0.1	-2.4
Oil	-10607	-48766	-45734	-2409	8111	34618	53898	56740	57540			20.9	0.7
- Crude oil and Feedstocks	-4602	-36569	-39312	4857	14116	40676	59979	62977	63861			15.6	0.6
- Oil products	-6005	-12197	-6422	-7266	-6005	-6058	-6081	-6237	-6321				
Natural gas	6178	637	-9311	5973	18100	38705	46288	48690	48366			9.8	0.4
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Gross Inland Consumption	**211304**	**218439**	**231868**	**232972**	**216265**	**215004**	**208826**	**205432**	**204545**	**0.9**	**-0.7**	**-0.3**	**-0.2**
Solids	64305	45866	36816	38387	35025	35491	32761	28021	25359	-5.4	-0.5	-0.7	-2.5
Oil	81124	82806	81857	82974	76112	77595	76884	74705	73452	0.1	-0.7	0.1	-0.5
Natural gas	47203	65119	87399	85473	81100	73705	70288	66690	61366	6.4	-0.7	-1.4	-1.3
Nuclear	16574	21249	21942	21054	16098	16255	12152	17454	23884	2.8	-3.0	-2.8	7.0
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Renew able energy forms	1070	1996	2635	4370	7417	11191	15958	17964	19894	9.4	10.9	8.0	2.2
as % in Gross Inland Consumption													
Solids	30.4	21.0	15.9	16.5	16.2	16.5	15.7	13.6	12.4				
Oil	38.4	37.9	35.3	35.6	35.2	36.1	36.8	36.4	35.9				
Natural gas	22.3	29.8	37.7	36.7	37.5	34.3	33.7	32.5	30.0				
Nuclear	7.8	9.7	9.5	9.0	7.4	7.6	5.8	8.5	11.7				
Renew able energy forms	0.5	0.9	1.1	1.9	3.4	5.2	7.6	8.7	9.7				
Gross Electricity Generation in GWh_e	**316937**	**332435**	**374308**	**395367**	**391026**	**408409**	**429845**	**443803**	**460913**	**1.7**	**0.4**	**1.0**	**0.7**
Self consumption and grid losses	44606	46775	48358	48835	48595	51713	58877	58575	65936	0.8	0.0	1.9	1.1
Fuel Inputs for Thermal Power Generation	**56324**	**49960**	**55408**	**61068**	**60204**	**59165**	**56302**	**51368**	**44803**	**-0.2**	**0.8**	**-0.7**	**-2.3**
Solids	47267	33844	27232	30920	29175	29883	27234	22730	20208	-5.4	0.7	-0.7	-2.9
Oil (including refinery gas)	7177	3443	767	677	331	1197	1289	1064	1070	-20.0	-8.1	14.6	-1.8
Gas	1668	12054	25999	26428	26885	23697	23075	22545	18224	31.6	0.3	-1.5	-2.3
Biomass & Waste	212	620	1410	3043	3813	4379	4686	4993	5246	20.9	10.5	2.1	1.1
Geothermal heat	0	0	0	0	0	7	18	36	53				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99522**	**102761**	**100927**	**95428**	**90000**	**91651**	**91728**	**89936**	**89048**	**0.1**	**-1.1**	**0.2**	**-0.3**
Refineries	90259	94682	89873	87812	82732	85019	84766	83022	82047	0.0	-0.8	0.2	-0.3
Biofuels and hydrogen production	0	0	0	68	1051	1847	2540	2755	2965			9.2	1.6
District heating	0	0	3373	2111	1867	637	428	361	264		-5.7	-13.7	-4.7
Others	9264	8079	7682	5436	4350	4148	3994	3799	3772	-1.9	-5.5	-0.9	-0.6
Energy Branch Consumption	**12823**	**14392**	**15027**	**15548**	**14370**	**13537**	**13427**	**12588**	**12385**	**1.6**	**-0.4**	**-0.7**	**-0.8**
Non-Energy Uses	**11365**	**12762**	**11323**	**11241**	**9838**	**11001**	**11884**	**12602**	**13335**	**0.0**	**-1.4**	**1.9**	**1.2**
Final Energy Demand	**137080**	**142633**	**152177**	**152272**	**144370**	**145683**	**144521**	**141179**	**140266**	**1.1**	**-0.5**	**0.0**	**-0.3**
by sector													
Industry	34977	35146	36424	34371	32506	32915	33575	34077	34557	0.4	-1.1	0.3	0.3
- energy intensive industries	19485	19968	19231	16421	14720	14790	15139	15415	15862	-0.1	-2.6	0.3	0.5
- other industrial sectors	15492	15178	17193	17950	17786	18125	18436	18662	18695	1.0	0.3	0.4	0.1
Residential	37941	39568	43074	43519	39646	40034	39327	38226	38173	1.3	-0.8	-0.1	-0.3
Tertiary	18621	20887	20373	19176	17792	17334	16534	15823	15413	0.9	-1.3	-0.7	-0.7
Transport	45541	47032	52307	55206	54426	55400	55084	53053	52123	1.4	0.4	0.1	-0.6
by fuel													
Solids	12266	8891	5683	4418	3573	3485	3554	3451	3446	-7.4	-4.5	-0.1	-0.3
Oil	58903	60401	62950	65915	61632	61593	60488	58173	56708	0.7	-0.2	-0.2	-0.6
Gas	41893	47140	52180	50227	45716	43542	40902	38182	37313	2.2	-1.3	-1.1	-0.9
Electricity	23597	25274	28325	29792	29273	30749	32000	33060	33906	1.8	0.3	0.9	0.6
Heat (from CHP and District Heating) [A]	0	0	2439	1268	2458	3735	4068	4368	4495		0.1	5.2	1.0
Renew able energy forms	421	926	600	653	1713	2574	3501	3937	4392	3.6	11.1	7.4	2.3
Other	0	0	0	0	3	6	7	7	7			7.5	-0.6
RES in Gross Final Energy Consumption [B]			**1432**	**2139**	**4788**	**8608**	**13432**	**15652**	**17757**		**12.8**	**10.9**	**2.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**772.6**		**693.3**	**678.6**	**629.5**	**611.7**	**568.2**	**532.6**	**479.2**	**-1.1**	**-1.0**	**-1.0**	**-1.7**
of w hich ETS sectors GHGs emissions				311.8	286.0	278.9	251.5	231.2	185.8			-1.3	-3.0
CO_2 Emissions (energy related)	**566.4**	**532.7**	**546.6**	**559.7**	**521.0**	**507.1**	**467.9**	**432.5**	**379.8**	**-0.4**	**-0.5**	**-1.1**	**-2.1**
Pow er generation/District heating	214.1	173.0	181.0	192.8	184.3	179.5	151.3	131.3	86.8	-1.7	0.2	-2.0	-5.4
Energy Branch	27.1	31.3	32.2	34.2	30.3	26.8	25.1	23.4	21.5	1.7	-0.6	-1.8	-1.5
Industry	81.8	78.8	72.1	66.4	58.1	54.9	54.5	53.3	52.7	-1.3	-2.1	-0.6	-0.3
Residential	77.8	77.3	81.9	80.1	70.6	69.9	66.8	63.2	62.4	0.5	-1.5	-0.6	-0.7
Tertiary	33.0	35.3	26.7	24.5	21.5	19.0	16.4	14.3	13.1	-2.1	-2.2	-2.7	-2.2
Transport	132.6	137.0	152.6	161.6	156.3	156.9	153.8	147.0	143.3	1.4	0.2	-0.2	-0.7
CO_2 Emissions (non energy related)	**22.8**	**23.4**	**20.1**	**19.8**	**18.6**	**19.3**	**20.1**	**20.7**	**21.3**	**-1.2**	**-0.8**	**0.8**	**0.6**
Non-CO_2 GHGs Emissions	**183.4**		**126.7**	**99.1**	**89.9**	**85.3**	**80.2**	**79.4**	**78.1**	**-3.6**	**-3.4**	**-1.1**	**-0.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**89.7**	**87.8**	**81.5**	**79.2**	**73.5**	**68.9**	**62.0**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										United Kingdom: Baseline 2009			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	57.157	57.943	58.785	60.060	61.984	63.792	65.683	67.543	69.224	0.3	0.5	0.6	0.5
GDP (in 000 M€08)	1334.6	1448.9	1715.5	1935.0	1988.6	2252.7	2506.8	2773.5	3066.9	2.5	1.5	2.3	2.0
Gross Inl. Cons./GDP (toe/M€08)	158.3	150.8	135.2	120.4	108.8	95.4	83.3	74.1	66.7	-1.6	-2.2	-2.6	-2.2
Carbon intensity (t of CO_2/toe of GIC)	2.68	2.44	2.36	2.40	2.41	2.36	2.24	2.11	1.86	-1.3	0.2	-0.7	-1.9
Import Dependency %	2.7	-16.4	-16.8	13.7	23.9	47.1	60.7	62.6	62.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			149.8	162.2	163.2	186.6	217.5	236.1	242.0		1.2	3.9	2.8
as % of GDP			8.7	8.4	8.4	9.1	9.8	10.5	10.6				
Energy intensity indicators													
Industry (Energy on Value added)	104.4	102.7	100.0	104.8	103.1	96.4	91.9	86.0	80.7	-0.4	0.3	-1.1	-1.3
Residential (Energy on Private Income)	116.5	113.7	100.0	87.6	82.0	71.6	62.4	55.2	50.2	-1.5	-2.0	-2.7	-2.1
Tertiary (Energy on Value added)	123.1	124.4	100.0	78.1	69.4	58.6	49.8	42.8	37.5	-2.1	-3.6	-3.3	-2.8
Passenger transport (toe/Mpkm)	45.4	45.3	47.6	47.2	44.9	41.5	38.9	35.2	32.7	0.5	-0.6	-1.4	-1.7
Freight transport (toe/Mtkm)	56.2	53.2	53.7	53.7	53.3	53.0	50.8	48.0	44.9	-0.5	-0.1	-0.5	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.68	0.52	0.45	0.47	0.44	0.39	0.31	0.26	0.17	-4.0	-0.3	-3.3	-6.1
Final energy demand (t of CO_2/toe)	2.37	2.30	2.19	2.18	2.12	2.06	2.02	1.97	1.94	-0.8	-0.3	-0.5	-0.4
Industry	2.34	2.24	1.98	1.93	1.79	1.67	1.62	1.56	1.52	-1.7	-1.0	-1.0	-0.6
Residential	2.05	1.95	1.90	1.84	1.78	1.75	1.70	1.65	1.63	-0.7	-0.7	-0.5	-0.4
Tertiary	1.77	1.69	1.31	1.28	1.21	1.10	0.99	0.90	0.85	-3.0	-0.8	-2.0	-1.5
Transport	2.91	2.91	2.92	2.93	2.87	2.83	2.79	2.77	2.75	0.0	-0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.9	1.4	3.3	5.9	9.3	11.2	12.7				
RES in transport (%)			0.0	0.2	2.7	4.8	6.9	8.0	8.9				
Gross Electricity generation by fuel type (in GWh)			**374308**	**395367**	**391026**	**408409**	**429845**	**443803**	**460913**		**0.4**	**1.0**	**0.7**
Nuclear energy			85048	81603	62408	63013	48031	71330	101947		-3.0	-2.6	7.8
Coal and lignite			125076	139027	126687	129737	128171	107877	104492		0.1	0.1	-2.0
Petroleum products			3447	3053	1511	5226	5533	4506	4468		-7.9	13.9	-2.1
Gas (including derived gases)			150451	152255	164829	145463	141620	138335	111668		0.9	-1.5	-2.3
Biomass & waste			4253	11595	15566	17889	18416	19117	20402		13.9	1.7	1.0
Hydro			5085	4921	4682	4811	4827	4836	4864		-0.8	0.3	0.1
Wind			947	2903	15295	41541	81043	93994	107286		32.1	18.1	2.8
Solar, tidal etc.			1	8	38	97	183	301	448		43.8	17.1	9.4
Geothermal and other renewables			0	0	12	631	2021	3507	5339			67.6	10.2
Net Generation Capacity in MW_e			**77225**	**79496**	**86809**	**99681**	**103816**	**110549**	**118842**		**1.2**	**1.8**	**1.4**
Nuclear energy			13038	10962	10723	9265	6012	8887	12638		-1.9	-5.6	7.7
Renewable energy			1873	3016	8089	16649	29905	35013	40955		15.8	14.0	3.2
Hydro (pumping excluded)			1462	1439	1499	1514	1526	1537	1551		0.2	0.2	0.2
Wind			408	1565	6542	14711	27151	31366	36201		32.0	15.3	2.9
Solar			2	11	41	101	190	312	465		35.3	16.5	9.4
Other renewables (tidal etc.)			0	1	6	323	1038	1798	2738			67.4	10.2
Thermal power			62315	65518	67997	73768	67899	66649	65249		0.9	0.0	-0.4
of which cogeneration units			4015	3141	5879	8580	8430	8600	8533		3.9	3.7	0.1
of which CCS units			0	0	0	0	2334	2334	5783				9.5
Solids fired			28647	27019	26336	21374	14997	13305	15215		-0.8	-5.5	0.1
Gas fired			26520	32734	35224	46092	47463	46936	43308		2.9	3.0	-0.9
Oil fired			5826	4093	4330	3815	2302	2129	1921		-2.9	-6.1	-1.8
Biomass-waste fired			1321	1672	2107	2485	3135	4274	4798		4.8	4.1	4.3
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	2	5	7				11.6
Load factor for net electric capacities (%)			52.9	54.2	49.1	44.6	44.5	43.4	41.4				
Efficiency for thermal electricity production (%)			44.0	43.1	44.1	43.4	44.9	45.2	46.3				
CHP indicator (% of electricity from CHP)			6.4	6.6	9.1	13.4	13.1	12.8	12.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	5.9	5.6	12.8				
Non fossil fuels in electricity generation (%)			25.5	25.6	25.1	31.3	35.9	43.5	52.1				
- nuclear			22.7	20.6	16.0	15.4	11.2	16.1	22.1				
- renewable energy forms and industrial waste			2.7	4.9	9.1	15.9	24.8	27.4	30.0				
Transport sector													
Passenger transport activity (Gpkm)	**740.2**	**770.7**	**823.2**	**884.5**	**909.1**	**993.7**	**1055.5**	**1115.9**	**1179.5**	**1.1**	**1.0**	**1.5**	**1.1**
Public road transport	47.7	45.8	48.5	49.5	51.6	54.9	57.5	59.5	61.3	0.2	0.6	1.1	0.6
Private cars and motorcycles	593.9	622.3	645.0	680.0	693.4	749.3	780.9	819.1	861.4	0.8	0.7	1.2	1.0
Rail	39.9	37.1	46.7	53.1	60.5	66.4	71.9	76.4	81.3	1.6	2.6	1.7	1.2
Aviation	52.2	58.8	77.4	96.7	98.2	117.5	139.5	155.0	169.5	4.0	2.4	3.6	2.0
Inland navigation	6.5	6.7	5.5	5.3	5.4	5.6	5.7	5.8	6.0	-1.6	-0.3	0.5	0.5
Freight transport activity (Gtkm)	**211.8**	**227.9**	**243.7**	**251.0**	**255.1**	**267.5**	**275.9**	**286.7**	**300.5**	**1.4**	**0.5**	**0.8**	**0.9**
Trucks	140.0	161.5	165.6	167.5	168.6	176.6	181.5	189.5	201.0	1.7	0.2	0.7	1.0
Rail	16.0	13.3	18.1	22.3	25.1	27.2	28.1	28.8	29.4	1.2	3.3	1.2	0.4
Inland navigation	55.8	53.1	60.0	61.2	61.4	63.8	66.2	68.4	70.1	0.7	0.2	0.8	0.6
Energy demand in transport (ktoe)	**45541**	**47032**	**52307**	**55206**	**54426**	**55400**	**55084**	**53053**	**52123**	**1.4**	**0.4**	**0.1**	**-0.6**
Public road transport	429	435	484	505	522	541	539	527	512	1.2	0.8	0.3	-0.5
Private cars and motorcycles	25845	25978	27091	27804	27161	26257	25159	23106	22478	0.5	0.0	-0.8	-1.1
Trucks	10141	10378	11364	11406	11453	11876	11756	11680	11677	1.1	0.1	0.3	-0.1
Rail	1068	1238	1326	1405	1500	1591	1514	1307	1052	2.2	1.2	0.1	-3.6
Aviation	6781	7879	11115	12810	12504	13812	14757	15040	14985	5.1	1.2	1.7	0.2
Inland navigation	1277	1123	926	1275	1286	1324	1360	1393	1420	-3.2	3.3	0.6	0.4

Source: PRIMES

(A) Regarding heat from CHP, there is a break in the series between 2005 and 2010. This is related to the practice of Eurostat to report the fuel consumption of on site CHP under the final demand categories of the individual fuels, even if the fuel is in reality used in industrial CHP. In order to keep comparability with Eurostat statistics, the fuel consumption data for the statistical years are presented in a Eurostat compatible format. For the projection period from 2010 onwards the modeling allocates the fuel consumption for new CHP plants to the CHP part of the power generation sector while the corresponding heat and steam is shown under industrial energy demand. Comparisons concerning steam in industry should therefore start only from 2010 onwards. Except for the knock-on effect on total steam, this break in the heat series does not affect other comparisons in PRIMES that can start from 2005 or earlier years.

(B) PRIMES does not report separately on industrial waste. In order to ensure a consistent breakdown of supply and demand quanties, industrial waste is shown as part of total waste and of renewables. Given that only biodegradable waste counts towards the renewables targets, the indicators on the share of RES in gross final energy demand have been adjusted to exclude industrial waste. RES indicators have been calculated on the basis of the methodology developed by EUROSTAT, i.e. taking into account normalised hydro and wind production, increased weight for renewable electricity in road transport and aviation cap for gross final energy demand.

(C) Costs related to the energy system (total cost of energy measuring how much the rest of the economy has to pay in order to get the required services from energy). The costs reported exclude costs for buying auctioned ETS allowances. These do not constitute a net cost given that there are corresponding auctioning revenues which can be recycled back into the economy.

Disclaimer: Energy and transport statistics reported in this publication and used for the modelling are taken mainly from EUROSTAT and from the publication "EU Energy and Transport in Figures" of the Directorate General for Energy and Transport. Energy and transport statistical concepts have developed differently in the past according to their individual purposes. Energy demand in transport reflects usually sales of fuels at the point of refuelling, which can differ from the region of consumption. This is particularly relevant for airplanes and trucks. Transport statistics deal with the transport activity within a country but may not always fully include transit shipments. These differences should be borne in mind when comparing energy and transport figures. This applies in particular to transport activity ratios, such as energy efficiency in freight transport, which is measured in tonnes of oil equivalent per million tonne-km.

Abbreviations

GIC: Gross Inland Consumption

CHP: combined heat and power

Units

toe: tonne of oil equivalent, or 10^7 kilocalories, or 41.86 GJ (Gigajoule)

ktoe: 1000 toe

MW: Megawatt or 10^6 watt

MWh: megawatt-hour or 10^6 watt-hours

GWh: gigawatt-hour or 10^9 watt-hours

t: metric tonnes, or 1000 kilogrammes

Mt: Million metric tonnes

km: kilometre

pkm: passenger-kilometre (one passenger transported a distance of one kilometre)

tkm: tonne-kilometre (one tonne transported a distance of one kilometre)

Gpkm: Giga passenger-kilometre, or 10^9 passenger-kilometre

Gtkm: Giga tonne-kilometre, or 10^9 tonne-kilometre

EU27: REFERENCE SCENARIO

Summary report
Primes Ver. 4 Energy Model

E3M Lab
National Technical University of Athens
05/05/2011

EU27: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**936047**	**950181**	**941860**	**900326**	**823117**	**794959**	**788107**	**765018**	**769893**	**0.1**	**-1.3**	**-0.4**	**-0.2**
Solids	366477	277810	213423	196277	167851	157230	139083	130204	124611	-5.3	-2.4	-1.9	-1.1
Oil	129551	171052	173006	134290	102925	74274	49602	40617	37067	2.9	-5.1	-7.0	-2.9
Natural gas	162447	188965	207559	188677	164145	128750	111020	91425	74900	2.5	-2.3	-3.8	-3.9
Nuclear	202589	223028	243761	257360	238768	240281	226615	229774	244047	1.9	-0.2	-0.5	0.7
Renew able energy sources	74984	89326	104111	123722	149430	194424	261787	272997	289268	3.3	3.7	5.8	1.0
Hydro	25101	28054	30374	26395	27808	28609	29347	30113	30748	1.9	-0.9	0.5	0.5
Biomass & Waste	46473	57201	67982	85129	97801	120894	154971	152833	153328	3.9	3.7	4.7	-0.1
Wind	67	350	1913	6061	13869	27864	45147	52085	59716	39.8	21.9	12.5	2.8
Solar and others	153	274	421	807	3261	9129	19191	21328	24186	10.7	22.7	19.4	2.3
Geothermal	3190	3447	3421	5331	6691	7929	13131	16638	21289	0.7	6.9	7.0	5.0
Net Imports	**756079**	**738600**	**826299**	**986048**	**993767**	**1048999**	**1045618**	**1059926**	**1038992**	**0.9**	**1.9**	**0.5**	**-0.1**
Solids	81846	79338	98645	126639	121637	125196	121958	132684	128533	1.9	2.1	0.0	0.5
Oil	535645	512185	533039	599851	580101	609993	607583	600309	577898	0.0	0.8	0.5	-0.5
- Crude oil and Feedstocks	508460	494000	513725	581995	578807	612244	615836	612364	594438	0.1	1.2	0.6	-0.4
- Oil products	27185	18185	19314	17856	1294	-2251	-8253	-12054	-16540	-3.4	-23.7		
Natural gas	135121	145288	192531	257366	288448	307412	300505	314528	318454	3.6	4.1	0.4	0.6
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Gross Inland Consumption	**1660159**	**1662517**	**1723099**	**1825989**	**1766833**	**1792089**	**1781202**	**1771272**	**1753868**	**0.4**	**0.3**	**0.1**	**-0.2**
Solids	452940	364248	321007	319922	289488	282427	261040	262888	253144	-3.4	-1.0	-1.0	-0.3
Oil	631058	650858	658727	676859	632974	632398	604663	587254	559948	0.4	-0.4	-0.5	-0.8
Natural gas	294905	333268	393417	445998	452592	436161	411525	405953	393355	2.9	1.4	-0.9	-0.5
Nuclear	202589	223028	243761	257360	238768	240281	226615	229774	244047	1.9	-0.2	-0.5	0.7
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Renew able energy forms	75343	89606	104501	124880	152912	201435	279043	287184	305242	3.3	3.9	6.2	0.9
as % in Gross Inland Consumption													
Solids	27.3	21.9	18.6	17.5	16.4	15.8	14.7	14.8	14.4				
Oil	38.0	39.1	38.2	37.1	35.8	35.3	33.9	33.2	31.9				
Natural gas	17.8	20.0	22.8	24.4	25.6	24.3	23.1	22.9	22.4				
Nuclear	12.2	13.4	14.1	14.1	13.5	13.4	12.7	13.0	13.9				
Renew able energy forms	4.5	5.4	6.1	6.8	8.7	11.2	15.7	16.2	17.4				
Gross Electricity Generation in GWh_e	**2562823**	**2712209**	**2991720**	**3274121**	**3306096**	**3531372**	**3709250**	**3931041**	**4073010**	**1.6**	**1.0**	**1.2**	**0.9**
Self consumption and grid losses	358053	383048	408040	429777	398056	420619	443863	477498	491490	1.3	-0.2	1.1	1.0
Fuel Inputs for Thermal Power Generation	**383492**	**362334**	**382613**	**424208**	**412779**	**411520**	**406826**	**420747**	**411570**	**0.0**	**0.8**	**-0.1**	**0.1**
Solids	263837	230040	223012	229245	219240	213333	193298	195169	185794	-1.7	-0.2	-1.3	-0.4
Oil (including refinery gas)	54404	51463	39294	29780	15932	15190	10484	11109	9431	-3.2	-8.6	-4.1	-1.1
Gas	56754	67806	102408	134637	138639	131139	122841	129294	124355	6.1	3.1	-1.2	0.1
Biomass & Waste	5724	10033	14960	25901	33081	45300	69665	70890	72868	10.1	8.3	7.7	0.5
Geothermal heat	2774	2992	2939	4645	5886	6558	10538	14285	19122	0.6	7.2	6.0	6.1
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**839073**	**814654**	**827098**	**842975**	**794215**	**804065**	**790086**	**776333**	**756234**	**-0.1**	**-0.4**	**-0.1**	**-0.4**
Refineries	679426	705954	735244	758152	716308	721887	699235	685382	662438	0.8	-0.3	-0.2	-0.5
Biofuels and hydrogen production	2	202	610	3129	11793	19035	29589	31995	35591	79.6	34.5	9.6	1.9
District heating	32960	23240	19323	16212	17556	16243	15221	13851	13353	-5.2	-1.0	-1.4	-1.3
Others	126685	85258	71921	65482	48559	46901	46041	45105	44851	-5.5	-3.9	-0.5	-0.3
Energy Branch Consumption	**82379**	**88696**	**88176**	**96033**	**92378**	**90544**	**88773**	**87375**	**83701**	**0.7**	**0.5**	**-0.4**	**-0.6**
Non-Energy Uses	**97931**	**110541**	**112495**	**117477**	**111365**	**114991**	**117065**	**117759**	**118736**	**1.4**	**-0.1**	**0.5**	**0.1**
Final Energy Demand	**1068710**	**1069989**	**1112989**	**1173676**	**1169000**	**1207870**	**1216152**	**1204347**	**1189353**	**0.4**	**0.5**	**0.4**	**-0.2**
by sector													
Industry	365650	328513	326949	326308	313247	322797	330376	334260	336912	-1.1	-0.4	0.5	0.2
- energy intensive industries	234722	214526	213112	210991	193770	196394	198371	197691	196806	-1.0	-0.9	0.2	-0.1
- other industrial sectors	130928	113987	113837	115317	119477	126403	132005	136569	140106	-1.4	0.5	1.0	0.6
Residential	264307	280418	286784	308104	309183	316386	313609	301904	295839	0.8	0.8	0.1	-0.6
Tertiary	158484	160442	159866	176859	176217	180998	179482	175921	174011	0.1	1.0	0.2	-0.3
Transport	280269	300617	339389	362405	370354	387688	392685	392262	382591	1.9	0.9	0.6	-0.3
by fuel													
Solids	125031	84977	61454	54486	44398	44209	43577	43912	43270	-6.9	-3.2	-0.2	-0.1
Oil	444429	456959	478880	495857	475332	476930	458953	446056	425602	0.7	-0.1	-0.4	-0.8
Gas	227902	245996	265552	283524	284161	276114	259289	243820	233521	1.5	0.7	-0.9	-1.0
Electricity	184145	193367	216403	237537	240622	258395	270699	286872	298025	1.6	1.1	1.2	1.0
Heat (from CHP and District Heating) [A]	48610	44616	40061	44441	58961	67607	72883	76671	79237	-1.9	3.9	2.1	0.8
Renew able energy forms	38592	44073	50639	57830	65500	84566	110686	106950	109632	2.8	2.6	5.4	-0.1
Other	0	0	0	0	27	49	66	67	66			9.5	0.0
RES in Gross Final Energy Consumption [B]			**87370**	**104626**	**133450**	**181568**	**250514**	**257926**	**272694**		**4.3**	**6.5**	**0.9**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5532.3**		**5063.6**	**5129.6**	**4836.1**	**4708.0**	**4409.7**	**4359.1**	**4211.7**	**-0.9**	**-0.5**	**-0.9**	**-0.5**
of w hich ETS sectors GHGs emissions				2438.2	2179.6	2116.2	1970.4	2001.3	1943.2			-1.0	-0.1
CO_2 Emissions (energy related)	**4030.6**	**3800.1**	**3810.6**	**3946.6**	**3740.4**	**3665.0**	**3403.5**	**3345.0**	**3193.7**	**-0.6**	**-0.2**	**-0.9**	**-0.6**
Pow er generation/District heating	1484.3	1321.2	1320.8	1381.1	1302.8	1255.6	1103.7	1124.1	1068.8	-1.2	-0.1	-1.6	-0.3
Energy Branch	152.2	171.0	170.2	181.6	158.7	146.2	132.8	127.8	119.0	1.1	-0.7	-1.8	-1.1
Industry	781.4	678.1	623.0	581.9	493.7	474.9	459.9	453.6	450.5	-2.2	-2.3	-0.7	-0.2
Residential	499.4	481.6	466.2	486.7	481.1	466.8	424.6	385.4	358.8	-0.7	0.3	-1.2	-1.7
Tertiary	300.5	275.3	242.0	262.2	253.5	240.7	219.4	200.5	185.0	-2.1	0.5	-1.4	-1.7
Transport	812.7	872.9	988.5	1053.1	1050.6	1080.7	1063.1	1053.6	1011.6	2.0	0.6	0.1	-0.5
CO_2 Emissions (non energy related)	**329.5**	**306.8**	**299.3**	**304.5**	**280.3**	**293.9**	**310.4**	**320.5**	**328.6**	**-1.0**	**-0.7**	**1.0**	**0.6**
Non-CO_2 GHGs Emissions	**1172.1**		**953.7**	**878.5**	**815.4**	**749.2**	**695.9**	**693.7**	**689.5**	**-2.0**	**-1.6**	**-1.6**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**91.5**	**92.7**	**87.4**	**85.1**	**79.7**	**78.8**	**76.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									EU27: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	470.388	477.010	481.072	489.211	499.389	507.727	513.838	517.811	519.942	0.2	0.4	0.3	0.1
GDP (in 000 M€08)	8602.0	9242.0	10677.4	11687.2	12027.9	13469.6	14963.1	16378.4	17773.9	2.2	1.2	2.2	1.7
Gross Inl. Cons./GDP (toe/M€08)	193.0	179.9	161.4	156.2	146.9	133.0	119.0	108.1	98.7	-1.8	-0.9	-2.1	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.43	2.29	2.21	2.16	2.12	2.05	1.91	1.89	1.82	-0.9	-0.4	-1.0	-0.5
Import Dependency %	44.6	43.5	46.8	52.5	54.7	56.9	57.0	58.1	57.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1051.0	1226.4	1283.9	1502.7	1826.2	2020.1	2079.5		2.3	4.5	2.5
as % of GDP			9.8	10.5	11.0	12.2	13.7	14.6	14.7				
Energy intensity indicators													
Industry (Energy on Value added)	130.3	115.2	100.0	95.1	90.5	84.5	78.4	72.9	68.3	-2.6	-1.0	-1.4	-1.4
Residential (Energy on Private Income)	114.4	113.2	100.0	97.5	97.2	88.4	79.3	70.5	64.1	-1.3	-0.3	-2.0	-2.1
Tertiary (Energy on Value added)	126.5	117.0	100.0	99.4	95.3	86.6	77.0	68.7	62.3	-2.3	-0.5	-2.1	-2.1
Passenger transport (toe/Mpkm)	39.6	39.5	40.3	39.5	38.0	35.4	33.7	31.6	29.1	0.2	-0.6	-1.2	-1.5
Freight transport (toe/Mtkm)	47.1	46.8	46.3	46.5	46.1	45.8	44.2	42.5	40.3	-0.2	-0.1	-0.4	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.46	0.40	0.37	0.35	0.31	0.28	0.23	0.22	0.21	-2.1	-1.8	-3.0	-1.2
Final energy demand (t of CO_2/toe)	2.24	2.16	2.08	2.03	1.95	1.87	1.78	1.74	1.69	-0.7	-0.7	-0.9	-0.5
Industry	2.14	2.06	1.91	1.78	1.58	1.47	1.39	1.36	1.34	-1.1	-1.9	-1.2	-0.4
Residential	1.89	1.72	1.63	1.58	1.56	1.48	1.35	1.28	1.21	-1.5	-0.4	-1.4	-1.1
Tertiary	1.90	1.72	1.51	1.48	1.44	1.33	1.22	1.14	1.06	-2.2	-0.5	-1.6	-1.4
Transport	2.90	2.90	2.91	2.91	2.84	2.79	2.71	2.69	2.64	0.0	-0.3	-0.5	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.6	8.6	11.1	14.6	20.0	20.8	22.2				
RES in transport (%)			0.5	1.4	4.2	6.5	10.0	10.9	12.5				
Gross Electricity generation by fuel type (in GWh)			**2991720**	**3274121**	**3306096**	**3531372**	**3709250**	**3931041**	**4073010**		**1.0**	**1.2**	**0.9**
Nuclear energy			944823	997519	925964	933009	884705	914083	982494		-0.2	-0.5	1.1
Coal and lignite			944939	980774	911488	910809	844706	877735	857577		-0.4	-0.8	0.2
Petroleum products			169709	133406	73737	69550	48115	47469	40234		-8.0	-4.2	-1.8
Gas (including derived gases)			507154	693902	765580	748830	722561	757661	724312		4.2	-0.6	0.0
Biomass & waste			44772	84256	120424	171463	261200	274652	285967		10.4	8.1	0.9
Hydro			353183	306916	323347	332658	341246	350147	357538		-0.9	0.5	0.5
Wind			22246	70473	161262	324004	524963	605644	694373		21.9	12.5	2.8
Solar, tidal etc.			116	1447	16933	32193	62458	76790	94488		64.6	13.9	4.2
Geothermal and other renewables			4778	5427	7361	8856	19297	26860	36026		4.4	10.1	6.4
Net Generation Capacity in MW_e			**654125**	**715734**	**815695**	**920003**	**1003260**	**1041059**	**1110853**		**2.2**	**2.1**	**1.0**
Nuclear energy			133923	134409	127038	126752	123297	115200	123612		-0.5	-0.3	0.0
Renewable energy			112878	147262	209260	282909	388505	428770	476615		6.4	6.4	2.1
Hydro (pumping excluded)			99714	104505	107334	110738	114158	115386	117780		0.7	0.6	0.3
Wind			12793	40584	86404	143642	222085	248331	279733		21.0	9.9	2.3
Solar			371	2172	15272	27911	48639	59787	72022		45.0	12.3	4.0
Other renewables (tidal etc.)			0	1	249	619	3623	5267	7080			30.7	6.9
Thermal power			407324	434063	479397	510341	491458	497089	510626		1.6	0.2	0.4
of which cogeneration units			77070	84892	99221	113653	115164	125887	135406		2.6	1.5	1.6
of which CCS units			0	0	0	0	5394	5729	5964				1.0
Solids fired			194165	186620	182723	182220	160822	147727	142194		-0.6	-1.3	-1.2
Gas fired			129444	167173	215960	243318	237940	253608	268259		5.3	1.0	1.2
Oil fired			71058	62082	55832	44426	36621	33637	31478		-2.4	-4.1	-1.5
Biomass-waste fired			12051	17502	24091	39502	54673	60217	66153		7.2	8.5	1.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			605	686	792	875	1403	1901	2543		2.7	5.9	6.1
Load factor for net electric capacities (%)			49.1	49.1	44.0	41.8	40.2	41.1	39.9				
Efficiency for thermal electricity production (%)			37.6	38.5	39.1	39.9	39.9	40.4	40.3				
CHP indicator (% of electricity from CHP)			11.4	11.7	14.9	18.2	18.4	19.0	19.3				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.4	1.4	1.4				
Non fossil fuels in electricity generation (%)			45.8	44.8	47.0	51.0	56.4	57.2	60.2				
- nuclear			31.6	30.5	28.0	26.4	23.9	23.3	24.1				
- renewable energy forms and industrial waste			14.2	14.3	19.0	24.6	32.6	33.9	36.1				
Transport sector													
Passenger transport activity (Gpkm)	**4880.7**	**5307.7**	**5892.2**	**6240.3**	**6511.3**	**7124.9**	**7555.4**	**7986.6**	**8389.8**	**1.9**	**1.0**	**1.5**	**1.1**
Public road transport	544.0	504.0	517.6	526.0	545.0	574.0	600.7	623.3	641.7	-0.5	0.5	1.0	0.7
Private cars and motorcycles	3501.1	3986.3	4428.1	4686.5	4866.1	5288.7	5532.8	5776.4	6003.9	2.4	0.9	1.3	0.8
Rail	472.5	421.7	447.9	461.0	482.5	523.0	564.2	604.9	643.1	-0.5	0.7	1.6	1.3
Aviation	317.3	351.3	456.9	527.3	576.9	696.7	814.1	937.0	1054.9	3.7	2.4	3.5	2.6
Inland navigation	45.8	44.4	41.7	39.5	40.8	42.3	43.7	45.0	46.2	-0.9	-0.2	0.7	0.6
Freight transport activity (Gtkm)	**1848.4**	**1942.4**	**2195.7**	**2494.6**	**2662.6**	**2958.0**	**3124.6**	**3292.3**	**3438.9**	**1.7**	**1.9**	**1.6**	**1.0**
Trucks	1060.4	1288.7	1518.7	1800.3	1940.3	2171.6	2284.4	2407.1	2517.0	3.7	2.5	1.6	1.0
Rail	526.3	386.1	403.7	414.1	440.5	488.2	525.3	555.1	579.6	-2.6	0.9	1.8	1.0
Inland navigation	261.6	267.6	273.3	280.2	281.9	298.2	314.9	330.1	342.2	0.4	0.3	1.1	0.8
Energy demand in transport (ktoe)	**280269**	**300617**	**339389**	**362405**	**370354**	**387688**	**392685**	**392262**	**382591**	**1.9**	**0.9**	**0.6**	**-0.3**
Public road transport	5197	4732	4914	5039	5179	5312	5293	5202	5071	-0.6	0.5	0.2	-0.4
Private cars and motorcycles	154395	166321	182974	187736	186470	184834	181619	176494	168352	1.7	0.2	-0.3	-0.8
Trucks	74969	79037	90951	105104	111595	123528	126197	128168	127810	2.0	2.1	1.2	0.1
Rail	9560	9452	9600	9436	9652	10172	10003	9677	8522	0.0	0.1	0.4	-1.6
Aviation	29038	34112	45395	49703	51992	58165	63638	66535	66467	4.6	1.4	2.0	0.4
Inland navigation	7110	6963	5555	5386	5466	5679	5935	6187	6369	-2.4	-0.2	0.8	0.7

Source: PRIMES

Austria: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**8207**	**8711**	**9820**	**9653**	**10310**	**11117**	**11804**	**11597**	**11984**	**1.8**	**0.5**	**1.4**	**0.2**
Solids	644	305	293	0	0	0	0	0	0	-7.6			
Oil	1295	1108	1116	986	957	850	620	280	230	-1.5	-1.5	-4.2	-9.4
Natural gas	1097	1261	1533	1403	1475	1270	740	670	600	3.4	-0.4	-6.7	-2.1
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	5172	6037	6879	7263	7878	8997	10444	10647	11154	2.9	1.4	2.9	0.7
Hydro	2709	3187	3598	3085	3238	3456	3592	3676	3873	2.9	-1.0	1.0	0.8
Biomass & Waste	2445	2809	3189	3937	4246	4819	5760	5798	5964	2.7	2.9	3.1	0.3
Wind	0	0	6	114	218	351	451	502	574		43.8	7.5	2.4
Solar and others	15	36	64	92	164	353	608	621	667	15.7	9.9	14.0	0.9
Geothermal	4	5	23	35	13	18	32	50	76	20.3	-5.9	9.9	9.0
Net Imports	**17306**	**18028**	**19106**	**24658**	**23645**	**22778**	**22098**	**22047**	**21331**	**1.0**	**2.2**	**-0.7**	**-0.4**
Solids	3112	2550	3019	3959	3520	3230	3221	3181	3385	-0.3	1.5	-0.9	0.5
Oil	9741	10264	11001	13322	12743	12795	12211	11769	10998	1.2	1.5	-0.4	-1.0
- Crude oil and Feedstocks	8043	8309	7975	8225	8213	8302	8255	8320	8071	-0.1	0.3	0.1	-0.2
- Oil products	1699	1955	3026	5098	4529	4493	3956	3449	2927	5.9	4.1	-1.3	-3.0
Natural gas	4443	5404	5253	7203	7124	6642	6520	6812	6590	1.7	3.1	-0.9	0.1
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Gross Inland Consumption	**25258**	**27054**	**29046**	**34105**	**33955**	**33895**	**33901**	**33644**	**33315**	**1.4**	**1.6**	**0.0**	**-0.2**
Solids	4042	3344	3592	4039	3520	3230	3221	3181	3385	-1.2	-0.2	-0.9	0.5
Oil	10863	11485	12223	14455	13700	13645	12831	12049	11228	1.2	1.1	-0.7	-1.3
Natural gas	5184	6374	6519	8178	8599	7912	7260	7482	7190	2.3	2.8	-1.7	-0.1
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Renew able energy forms	5208	6063	6829	7204	7857	9070	10603	10952	11516	2.7	1.4	3.0	0.8
as % in Gross Inland Consumption													
Solids	16.0	12.4	12.4	11.8	10.4	9.5	9.5	9.5	10.2				
Oil	43.0	42.5	42.1	42.4	40.3	40.3	37.8	35.8	33.7				
Natural gas	20.5	23.6	22.4	24.0	25.3	23.3	21.4	22.2	21.6				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	20.6	22.4	23.5	21.1	23.1	26.8	31.3	32.6	34.6				
Gross Electricity Generation in GWh_e	**49287**	**55170**	**59854**	**62963**	**63522**	**69903**	**73066**	**78894**	**82118**	**2.0**	**0.6**	**1.4**	**1.2**
Self consumption and grid losses	5257	5042	5269	7556	7683	8412	8831	9370	9806	0.0	3.8	1.4	1.1
Fuel Inputs for Thermal Power Generation	**4007**	**4309**	**3901**	**5473**	**4968**	**5199**	**5507**	**6304**	**6495**	**-0.3**	**2.4**	**1.0**	**1.7**
Solids	1510	1055	1239	1510	1377	1141	1146	1154	1161	-2.0	1.1	-1.8	0.1
Oil (including refinery gas)	488	489	279	270	164	166	170	100	173	-5.4	-5.2	0.4	0.1
Gas	1776	2321	1961	2901	2526	2216	1810	2598	2542	1.0	2.6	-3.3	3.5
Biomass & Waste	233	444	421	790	895	1667	2363	2417	2559	6.1	7.8	10.2	0.8
Geothermal heat	0	0	0	2	7	10	18	35	61			9.9	13.2
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11637**	**11680**	**11550**	**12088**	**11921**	**11950**	**11831**	**11446**	**11160**	**-0.1**	**0.3**	**-0.1**	**-0.6**
Refineries	9317	9445	9077	9374	9171	9153	8875	8600	8301	-0.3	0.1	-0.3	-0.7
Biofuels and hydrogen production	2	5	9	42	245	384	606	735	872	17.5	39.5	9.5	3.7
District heating	347	439	554	663	769	753	722	532	306	4.8	3.3	-0.6	-8.2
Others	1971	1790	1910	2009	1735	1660	1628	1578	1681	-0.3	-1.0	-0.6	0.3
Energy Branch Consumption	**1774**	**1883**	**1924**	**2375**	**2217**	**2095**	**1999**	**1927**	**1852**	**0.8**	**1.4**	**-1.0**	**-0.8**
Non-Energy Uses	**1554**	**1318**	**1576**	**1591**	**1526**	**1582**	**1613**	**1629**	**1648**	**0.1**	**-0.3**	**0.6**	**0.2**
Final Energy Demand	**19124**	**21062**	**23122**	**27107**	**27540**	**28309**	**28368**	**27881**	**27644**	**1.9**	**1.8**	**0.3**	**-0.3**
by sector													
Industry	6366	6684	7757	8601	8658	8611	8697	8718	8852	2.0	1.1	0.0	0.2
- energy intensive industries	4194	4189	5033	5447	5135	5006	5033	5021	5057	1.8	0.2	-0.2	0.0
- other industrial sectors	2172	2495	2723	3154	3522	3605	3664	3697	3796	2.3	2.6	0.4	0.4
Residential	5801	6244	5995	6657	6906	7215	7148	6885	6707	0.3	1.4	0.3	-0.6
Tertiary	2412	2934	3290	3814	3850	4092	4150	4108	4152	3.2	1.6	0.8	0.0
Transport	4545	5200	6081	8034	8127	8391	8373	8170	7932	3.0	2.9	0.3	-0.5
by fuel													
Solids	1785	1582	1399	1497	1228	1229	1224	1176	1165	-2.4	-1.3	0.0	-0.5
Oil	7929	8779	9465	11829	11364	11468	10789	10152	9535	1.8	1.8	-0.5	-1.2
Gas	2968	3607	4265	4788	5502	5273	5032	4476	4333	3.7	2.6	-0.9	-1.5
Electricity	3629	3952	4417	4831	4928	5170	5356	5807	6063	2.0	1.1	0.8	1.2
Heat (from CHP and District Heating) [A]	612	848	1025	1324	1453	2028	2243	2254	2321	5.3	3.6	4.4	0.3
Renew able energy forms	2201	2294	2552	2838	3065	3141	3722	4013	4225	1.5	1.8	2.0	1.3
Other	0	0	0	0	1	1	2	2	2			9.1	0.2
RES in Gross Final Energy Consumption [B]			**6012**	**6593**	**7033**	**8644**	**9965**	**10210**	**10665**		**1.6**	**3.5**	**0.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**80.7**		**84.6**	**97.2**	**92.8**	**89.3**	**85.3**	**83.7**	**81.3**	**0.5**	**0.9**	**-0.8**	**-0.5**
of w hich ETS sectors GHGs emissions				37.0	32.8	30.4	29.7	31.3	31.2			-1.0	0.5
CO_2 Emissions (energy related)	**55.7**	**58.9**	**61.3**	**74.1**	**70.8**	**67.7**	**63.6**	**61.5**	**58.9**	**1.0**	**1.4**	**-1.1**	**-0.8**
Pow er generation/District heating	12.8	12.3	11.5	15.0	13.2	11.5	10.5	12.1	11.5	-1.1	1.4	-2.3	0.9
Energy Branch	4.0	4.4	4.5	5.0	4.4	3.3	2.9	2.7	2.6	1.1	-0.1	-4.0	-1.1
Industry	13.1	13.9	15.6	17.4	16.8	16.2	15.8	14.7	14.9	1.8	0.7	-0.6	-0.6
Residential	9.9	9.7	8.5	9.1	9.4	9.4	8.3	7.5	6.9	-1.4	1.0	-1.2	-1.9
Tertiary	3.3	4.0	3.9	4.4	4.2	4.2	3.7	3.2	2.9	1.6	0.8	-1.3	-2.4
Transport	12.7	14.6	17.3	23.2	22.8	23.1	22.4	21.3	20.2	3.1	2.8	-0.2	-1.0
CO_2 Emissions (non energy related)	**8.0**	**7.7**	**8.1**	**9.1**	**8.5**	**8.8**	**9.4**	**9.8**	**10.2**	**0.2**	**0.5**	**1.0**	**0.9**
Non-CO_2 GHGs Emissions	**17.0**		**15.2**	**14.0**	**13.5**	**12.8**	**12.3**	**12.3**	**12.2**	**-1.1**	**-1.1**	**-0.9**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.8**	**120.5**	**115.0**	**110.7**	**105.7**	**103.7**	**100.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)											Austria: REFERENCE SCENARIO		
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	7.645	7.943	8.002	8.207	8.405	8.570	8.723	8.866	8.988	0.5	0.5	0.4	0.3
GDP (in 000 M€08)	184.3	205.2	237.7	258.2	268.8	297.8	327.9	356.8	384.0	2.6	1.2	2.0	1.6
Gross Inl. Cons./GDP (toe/M€08)	137.0	131.9	122.2	132.1	126.3	113.8	103.4	94.3	86.8	-1.1	0.3	-2.0	-1.7
Carbon intensity (t of CO_2/toe of GIC)	2.21	2.18	2.11	2.17	2.08	2.00	1.88	1.83	1.77	-0.4	-0.1	-1.0	-0.6
Import Dependency %	68.5	66.6	65.8	72.3	69.6	67.2	65.2	65.5	64.0				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			20.3	26.2	29.1	34.4	40.4	44.2	45.3		3.9	4.1	2.0
as % of GDP			8.5	10.1	11.1	12.4	13.6	14.3	14.2				
Energy intensity indicators													
Industry (Energy on Value added)	102.4	102.2	100.0	100.8	96.6	86.4	79.5	73.0	68.8	-0.2	-0.3	-1.9	-1.4
Residential (Energy on Private Income)	118.1	114.6	100.0	102.5	103.3	97.6	88.1	78.7	71.7	-1.7	0.3	-1.6	-2.0
Tertiary (Energy on Value added)	96.4	103.2	100.0	106.0	102.7	98.0	89.9	81.6	76.6	0.4	0.3	-1.3	-1.6
Passenger transport (toe/Mpkm)	37.1	36.2	37.9	45.8	44.3	40.6	38.0	34.8	32.3	0.2	1.6	-1.5	-1.6
Freight transport (toe/Mtkm)	44.2	46.3	45.4	59.0	57.1	56.2	53.4	50.7	47.6	0.3	2.3	-0.7	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.22	0.19	0.16	0.19	0.16	0.12	0.10	0.11	0.10	-3.5	0.1	-4.5	0.0
Final energy demand (t of CO_2/toe)	2.04	2.01	1.96	2.00	1.93	1.87	1.77	1.67	1.62	-0.4	-0.2	-0.9	-0.9
Industry	2.06	2.08	2.02	2.02	1.94	1.88	1.82	1.68	1.68	-0.2	-0.4	-0.6	-0.8
Residential	1.70	1.55	1.42	1.36	1.36	1.31	1.16	1.08	1.02	-1.8	-0.4	-1.6	-1.3
Tertiary	1.36	1.37	1.17	1.16	1.09	1.02	0.88	0.78	0.69	-1.5	-0.8	-2.0	-2.4
Transport	2.80	2.81	2.85	2.89	2.80	2.75	2.67	2.61	2.54	0.2	-0.2	-0.5	-0.5
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			25.4	23.7	24.8	29.6	34.0	35.4	37.2				
RES in transport (%)			3.7	2.9	6.0	8.4	11.8	14.0	16.9				
Gross Electricity generation by fuel type (in GWh)			**59854**	**62963**	**63522**	**69903**	**73066**	**78894**	**82118**		**0.6**	**1.4**	**1.2**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			5924	6964	5885	5247	5270	5418	5359		-0.1	-1.1	0.2
Petroleum products			1096	1130	858	867	891	449	671		-2.4	0.4	-2.8
Gas (including derived gases)			9407	15163	13450	12236	9977	14092	13236		3.6	-2.9	2.9
Biomass & waste			1524	2494	3079	7096	9575	9788	10317		7.3	12.0	0.7
Hydro			41832	35868	37651	40188	41769	42746	45033		-1.0	1.0	0.8
Wind			67	1328	2538	4086	5246	5839	6680		43.8	7.5	2.4
Solar, tidal etc.			3	14	49	169	314	519	747		32.3	20.3	9.1
Geothermal and other renewables			0	3	11	14	24	43	74			7.8	12.1
Net Generation Capacity in MW_e			**14171**	**15139**	**16863**	**19941**	**20347**	**20050**	**20781**		**1.8**	**1.9**	**0.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			7951	8568	9814	11835	12906	13450	14392		2.1	2.8	1.1
Hydro (pumping excluded)			7892	7719	8360	9795	10302	10400	10778		0.6	2.1	0.5
Wind			54	827	1388	1897	2342	2619	3001		38.4	5.4	2.5
Solar			5	22	66	143	261	431	613		29.4	14.8	8.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6220	6571	7049	8106	7442	6600	6388		1.3	0.5	-1.5
of which cogeneration units			2284	2668	2228	3254	3420	3457	4032		-0.2	4.4	1.7
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1865	1708	1618	1604	1596	741	734		-1.4	-0.1	-7.5
Gas fired			3102	3441	4129	4597	3887	3876	3790		2.9	-0.6	-0.3
Oil fired			951	950	885	558	265	263	187		-0.7	-11.4	-3.4
Biomass-waste fired			301	471	416	1346	1690	1715	1669		3.3	15.1	-0.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			1	1	1	2	3	5	8		0.0	7.8	12.1
Load factor for net electric capacities (%)			46.8	44.8	40.6	37.6	38.5	42.3	42.5				
Efficiency for thermal electricity production (%)			39.6	40.5	40.3	42.1	40.2	40.6	39.3				
CHP indicator (% of electricity from CHP)			11.3	17.0	15.3	27.3	28.6	27.5	28.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			72.6	63.1	68.2	73.7	77.9	74.7	76.5				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			72.6	63.1	68.2	73.7	77.9	74.7	76.5				
Transport sector													
Passenger transport activity (Gpkm)	**80.3**	**90.3**	**95.6**	**101.1**	**104.9**	**113.5**	**119.8**	**126.1**	**131.9**	**1.8**	**0.9**	**1.3**	**1.0**
Public road transport	7.9	8.7	9.2	9.3	9.9	10.6	11.2	11.7	12.1	1.5	0.6	1.3	0.7
Private cars and motorcycles	56.4	63.0	67.8	71.9	73.5	78.4	80.8	83.4	86.1	1.9	0.8	1.0	0.6
Rail	11.7	13.4	12.3	12.8	13.4	14.5	15.6	16.5	17.3	0.5	0.8	1.6	1.0
Aviation	4.2	5.0	6.1	7.0	8.1	10.0	12.1	14.4	16.4	3.9	2.8	4.1	3.1
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.5	0.9	0.6
Freight transport activity (Gtkm)	**35.4**	**41.7**	**54.2**	**57.8**	**61.0**	**67.2**	**71.5**	**74.5**	**77.1**	**4.4**	**1.2**	**1.6**	**0.8**
Trucks	21.6	26.5	35.1	37.0	37.7	41.4	43.5	45.0	46.5	5.0	0.7	1.4	0.7
Rail	12.2	13.2	16.6	19.0	21.5	23.8	25.8	27.3	28.1	3.2	2.6	1.9	0.9
Inland navigation	1.7	2.0	2.4	1.8	1.8	2.0	2.1	2.3	2.4	3.9	-3.0	1.8	1.2
Energy demand in transport (ktoe)	**4545**	**5200**	**6081**	**8034**	**8127**	**8391**	**8373**	**8170**	**7932**	**3.0**	**2.9**	**0.3**	**-0.5**
Public road transport	74	79	82	82	86	90	90	89	86	1.0	0.4	0.5	-0.4
Private cars and motorcycles	2570	2699	2922	3839	3762	3602	3438	3171	2958	1.3	2.6	-0.9	-1.5
Trucks	1301	1646	2152	3118	3160	3433	3467	3430	3353	5.2	3.9	0.9	-0.3
Rail	283	309	333	311	340	363	368	364	336	1.6	0.2	0.8	-0.9
Aviation	310	461	586	675	769	894	1000	1105	1186	6.6	2.8	2.7	1.7
Inland navigation	7	6	6	9	9	10	11	11	12	-1.5	4.4	1.5	1.0

Source: PRIMES

Belgium: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**13112**	**12734**	**15509**	**15450**	**15753**	**16954**	**18734**	**9998**	**5006**	**1.7**	**0.2**	**1.7**	**-12.4**
Solids	1085	269	191	57	13	12	10	16	16	-16.0	-23.5	-2.2	4.1
Oil	0	0	0	6	0	0	0	0	0				
Natural gas	10	0	2	0	0	0	0	0	0	-14.3			
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Renew able energy sources	1310	2125	2894	3110	3358	4412	6318	4591	4990	8.2	1.5	6.5	-2.3
Hydro	23	29	39	25	31	33	35	37	38	5.6	-2.2	1.1	0.9
Biomass & Waste	1285	2093	2848	3061	3090	3779	4992	3114	3450	8.3	0.8	4.9	-3.6
Wind	1	1	1	20	217	444	847	1035	1153	7.9	67.0	14.6	3.1
Solar and others	1	1	1	3	17	152	431	396	342	2.1	32.5	38.0	-2.3
Geothermal	1	1	4	1	2	4	13	9	7	14.0	-7.6	22.7	-5.8
Net Imports	**39625**	**46863**	**50812**	**53775**	**48956**	**49995**	**48666**	**53739**	**56173**	**2.5**	**-0.4**	**-0.1**	**1.4**
Solids	9493	9343	7566	5511	4292	4705	4618	7000	9376	-2.2	-5.5	0.7	7.3
Oil	22236	26667	29491	32623	29696	29975	28627	27916	27021	2.9	0.1	-0.4	-0.6
- Crude oil and Feedstocks	26896	26573	34067	32206	31702	31984	30790	30189	29402	2.4	-0.7	-0.3	-0.5
- Oil products	-4660	94	-4576	417	-2006	-2009	-2164	-2273	-2381				
Natural gas	8217	10418	13278	14817	14064	14201	13794	17220	18177	4.9	0.6	-0.2	2.8
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Gross Inland Consumption	**48607**	**54940**	**61461**	**61147**	**57326**	**59370**	**59726**	**55862**	**53048**	**2.4**	**-0.7**	**0.4**	**-1.2**
Solids	10244	8551	8200	5450	4305	4717	4628	7016	9391	-2.2	-6.2	0.7	7.3
Oil	18497	22877	24100	24747	22312	22396	20953	20042	18890	2.7	-0.8	-0.6	-1.0
Natural gas	8169	10611	13369	14740	14064	14201	13794	17220	18177	5.0	0.5	-0.2	2.8
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Renew able energy forms	1310	2210	2998	3391	3590	4740	6948	5016	5417	8.6	1.8	6.8	-2.5
as % in Gross Inland Consumption													
Solids	21.1	15.6	13.3	8.9	7.5	7.9	7.7	12.6	17.7				
Oil	38.1	41.6	39.2	40.5	38.9	37.7	35.1	35.9	35.6				
Natural gas	16.8	19.3	21.8	24.1	24.5	23.9	23.1	30.8	34.3				
Nuclear	22.0	18.8	20.2	20.1	21.6	21.1	20.8	9.7	0.0				
Renew able energy forms	2.7	4.0	4.9	5.5	6.3	8.0	11.6	9.0	10.2				
Gross Electricity Generation in GWh_e	**70202**	**73524**	**82639**	**85695**	**84692**	**89521**	**93744**	**101084**	**106591**	**1.6**	**0.2**	**1.0**	**1.3**
Self consumption and grid losses	7382	7800	7825	8266	8119	8584	9237	10154	11592	0.6	0.4	1.3	2.3
Fuel Inputs for Thermal Power Generation	**6544**	**7182**	**7493**	**7733**	**6566**	**6953**	**7216**	**12104**	**15470**	**1.4**	**-1.3**	**0.9**	**7.9**
Solids	3875	3764	3025	1889	1624	1862	1798	4229	6581	-2.4	-6.0	1.0	13.9
Oil (including refinery gas)	318	232	186	411	187	286	363	683	724	-5.2	0.1	6.8	7.2
Gas	1983	2721	3790	4612	3936	3815	3034	5482	6218	6.7	0.4	-2.6	7.4
Biomass & Waste	368	465	492	821	819	988	2021	1710	1947	2.9	5.2	9.5	-0.4
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**35940**	**33857**	**42146**	**40638**	**37844**	**38625**	**37541**	**36251**	**35144**	**1.6**	**-1.1**	**-0.1**	**-0.7**
Refineries	29821	29532	38492	37438	35111	35430	33929	32787	31566	2.6	-0.9	-0.3	-0.7
Biofuels and hydrogen production	0	0	0	0	174	447	873	859	963			17.5	1.0
District heating	10	5	41	27	1	1	1	0	0	15.3	-35.1	0.0	
Others	6109	4320	3612	3173	2557	2747	2738	2605	2615	-5.1	-3.4	0.7	-0.5
Energy Branch Consumption	**2307**	**2270**	**2367**	**2125**	**1882**	**1921**	**1877**	**1793**	**1817**	**0.3**	**-2.3**	**0.0**	**-0.3**
Non-Energy Uses	**2749**	**5513**	**6865**	**7495**	**6295**	**6765**	**7124**	**7106**	**7329**	**9.6**	**-0.9**	**1.2**	**0.3**
Final Energy Demand	**32071**	**36073**	**39131**	**38443**	**37099**	**38725**	**38901**	**37669**	**36980**	**2.0**	**-0.5**	**0.5**	**-0.5**
by sector													
Industry	12591	13612	15762	13563	12103	13211	13651	13082	13104	2.3	-2.6	1.2	-0.4
- energy intensive industries	9987	10689	12028	10578	8853	9471	9639	9207	9106	1.9	-3.0	0.9	-0.6
- other industrial sectors	2604	2923	3734	2986	3250	3740	4012	3875	3999	3.7	-1.4	2.1	0.0
Residential	8360	9320	9491	9938	10011	10207	10097	9709	9339	1.3	0.5	0.1	-0.8
Tertiary	3390	4631	4167	5017	5146	5372	5365	5261	5265	2.1	2.1	0.4	-0.2
Transport	7730	8511	9710	9926	9840	9935	9787	9617	9272	2.3	0.1	-0.1	-0.5
by fuel													
Solids	3787	3306	3378	2080	1681	1757	1745	1797	1811	-1.1	-6.7	0.4	0.4
Oil	14927	16434	16130	16529	15758	15619	14413	13582	12621	0.8	-0.2	-0.9	-1.3
Gas	7249	8517	10010	10009	9655	9650	9422	10040	9887	3.3	-0.4	-0.2	0.5
Electricity	4986	5885	6667	6894	6977	7461	7985	8728	9083	2.9	0.5	1.4	1.3
Heat (from CHP and District Heating) [A]	213	220	490	427	516	978	1310	1310	1324	8.7	0.5	9.8	0.1
Renew able energy forms	909	1710	2454	2503	2511	3259	4024	2210	2253	10.4	0.2	4.8	-5.6
Other	0	0	0	0	1	1	2	2	2			9.1	-0.1
RES in Gross Final Energy Consumption [B]			**535**	**910**	**1396**	**2843**	**4863**	**4059**	**4405**		**10.1**	**13.3**	**-1.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**139.9**		**146.5**	**135.8**	**125.7**	**125.7**	**120.0**	**135.2**	**143.6**	**0.5**	**-1.5**	**-0.5**	**1.8**
of w hich ETS sectors GHGs emissions				61.4	50.8	51.5	50.4	67.9	79.5			-0.1	4.7
CO_2 Emissions (energy related)	**106.4**	**112.6**	**115.0**	**107.7**	**97.9**	**98.8**	**92.4**	**107.4**	**115.2**	**0.8**	**-1.6**	**-0.6**	**2.2**
Pow er generation/District heating	21.8	23.0	22.6	20.6	17.1	18.0	16.2	32.4	43.6	0.3	-2.8	-0.5	10.4
Energy Branch	5.3	5.1	5.3	4.1	2.9	2.8	2.6	2.3	2.2	0.0	-6.0	-0.9	-1.6
Industry	30.3	28.8	30.1	22.7	18.5	19.0	18.9	21.2	21.4	-0.1	-4.8	0.2	1.3
Residential	18.7	20.1	20.1	20.4	20.1	19.8	17.8	15.6	13.6	0.7	0.0	-1.2	-2.6
Tertiary	7.6	10.5	8.2	10.5	10.7	11.0	10.5	10.0	9.8	0.8	2.7	-0.1	-0.7
Transport	22.7	25.0	28.8	29.5	28.7	28.2	26.4	25.9	24.5	2.4	0.0	-0.8	-0.7
CO_2 Emissions (non energy related)	**9.0**	**10.0**	**10.2**	**9.8**	**9.1**	**10.3**	**11.1**	**11.3**	**11.9**	**1.2**	**-1.2**	**2.1**	**0.7**
Non-CO_2 GHGs Emissions	**24.4**		**21.3**	**18.3**	**18.8**	**16.6**	**16.5**	**16.5**	**16.6**	**-1.4**	**-1.3**	**-1.3**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.7**	**97.1**	**89.9**	**89.8**	**85.8**	**96.6**	**102.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Belgium: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.948	10.131	10.239	10.446	10.784	11.070	11.322	11.547	11.745	0.3	0.5	0.5	0.4
GDP (in 000 M€08)	233.7	257.7	294.5	319.2	328.9	371.3	411.5	447.1	484.4	2.3	1.1	2.3	1.6
Gross Inl. Cons./GDP (toe/M€08)	208.0	213.2	208.7	191.6	174.3	159.9	145.2	124.9	109.5	0.0	-1.8	-1.8	-2.8
Carbon intensity (t of CO_2/toe of GIC)	2.19	2.05	1.87	1.76	1.71	1.66	1.55	1.92	2.17	-1.6	-0.9	-1.0	3.4
Import Dependency %	75.2	79.6	76.1	78.2	75.7	74.7	72.2	84.3	91.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.4	36.9	36.9	42.6	52.6	58.1	60.0		1.2	4.3	2.2
as % of GDP			11.3	11.6	11.5	12.2	13.9	14.8	14.8				
Energy intensity indicators													
Industry (Energy on Value added)	91.3	100.2	100.0	85.7	77.9	72.0	66.2	60.2	55.5	0.9	-2.5	-1.6	-1.7
Residential (Energy on Private Income)	109.5	110.3	100.0	99.3	99.3	93.1	85.2	76.2	68.7	-0.9	-0.1	-1.5	-2.1
Tertiary (Energy on Value added)	98.1	124.2	100.0	108.9	109.6	99.9	90.0	80.4	74.1	0.2	0.9	-1.9	-1.9
Passenger transport (toe/Mpkm)	45.4	44.2	46.5	46.4	44.4	40.7	38.3	35.4	32.2	0.3	-0.5	-1.5	-1.7
Freight transport (toe/Mtkm)	50.6	49.1	50.5	52.4	51.8	51.4	49.4	47.5	45.1	0.0	0.3	-0.5	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.30	0.30	0.25	0.22	0.18	0.17	0.14	0.27	0.35	-1.6	-3.2	-2.3	9.2
Final energy demand (t of CO_2/toe)	2.47	2.34	2.23	2.16	2.10	2.01	1.89	1.93	1.88	-1.0	-0.6	-1.0	-0.1
Industry	2.41	2.11	1.91	1.67	1.53	1.44	1.38	1.62	1.63	-2.3	-2.2	-1.0	1.7
Residential	2.24	2.16	2.11	2.05	2.01	1.94	1.76	1.60	1.46	-0.6	-0.5	-1.3	-1.9
Tertiary	2.23	2.26	1.96	2.09	2.07	2.04	1.96	1.89	1.86	-1.3	0.6	-0.6	-0.6
Transport	2.94	2.94	2.96	2.97	2.92	2.83	2.70	2.70	2.65	0.1	-0.1	-0.8	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			1.3	2.3	3.7	7.2	12.2	10.5	11.6				
RES in transport (%)			0.0	0.0	2.2	5.5	11.1	11.1	12.9				
Gross Electricity generation by fuel type (in GWh)			**82639**	**85695**	**84692**	**89521**	**93744**	**101084**	**106591**		**0.2**	**1.0**	**1.3**
Nuclear energy			48148	47586	48002	48578	48092	20899	0		0.0	0.0	
Coal and lignite			13089	7774	6125	7607	7309	21496	39055		-7.3	1.8	18.2
Petroleum products			586	1734	1005	1364	1888	3201	3363		5.5	6.5	5.9
Gas (including derived gases)			19024	25013	22708	21973	18144	34817	41109		1.8	-2.2	8.5
Biomass & waste			1317	3071	3838	4281	7828	7951	8935		11.3	7.4	1.3
Hydro			459	288	366	388	408	428	447		-2.2	1.1	0.9
Wind			15	227	2529	5158	9844	12033	13410		67.0	14.6	3.1
Solar, tidal etc.			0	1	118	172	232	258	273			7.0	1.7
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13941**	**14716**	**17321**	**18646**	**21192**	**23304**	**24782**		**2.2**	**2.0**	**1.6**
Nuclear energy			5801	5817	5941	5941	5941	2516	0		0.2	0.0	
Renewable energy			117	285	1331	2339	3942	4878	5396		27.6	11.5	3.2
Hydro (pumping excluded)			103	116	116	125	138	148	150		1.2	1.8	0.8
Wind			14	167	1062	2036	3569	4468	4969		54.2	12.9	3.4
Solar			0	2	153	178	236	262	277			4.4	1.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			8024	8615	10049	10366	11309	15910	19386		2.3	1.2	5.5
of which cogeneration units			1394	1680	2142	2854	2554	2998	3052		4.4	1.8	1.8
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1964	1709	1476	1076	1079	2710	5484		-2.8	-3.1	17.7
Gas fired			4891	5710	7117	7273	7242	10096	11047		3.8	0.2	4.3
Oil fired			632	639	653	679	997	1159	1172		0.3	4.3	1.6
Biomass-waste fired			537	556	803	1337	1992	1945	1682		4.1	9.5	-1.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			64.6	63.6	53.6	52.6	48.5	47.6	46.8				
Efficiency for thermal electricity production (%)			39.0	41.8	44.1	43.6	41.9	47.9	51.4				
CHP indicator (% of electricity from CHP)			6.8	8.8	12.4	17.1	17.8	19.2	17.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			60.4	59.7	64.8	65.4	70.8	41.1	21.6				
- nuclear			58.3	55.5	56.7	54.3	51.3	20.7	0.0				
- renewable energy forms and industrial waste			2.2	4.2	8.1	11.2	19.5	20.4	21.6				
Transport sector													
Passenger transport activity (Gpkm)	**116.4**	**127.3**	**137.1**	**145.6**	**152.3**	**164.8**	**170.8**	**177.8**	**184.5**	**1.6**	**1.1**	**1.2**	**0.8**
Public road transport	11.4	13.1	13.3	17.5	18.9	20.0	20.8	21.2	21.5	1.6	3.6	0.9	0.4
Private cars and motorcycles	90.5	99.1	106.5	110.1	113.6	122.3	124.7	128.9	133.2	1.6	0.6	0.9	0.7
Rail	7.3	7.6	8.6	10.1	11.1	12.5	13.5	14.2	14.8	1.7	2.6	2.0	0.9
Aviation	6.6	7.0	8.4	7.6	8.3	9.7	11.5	13.1	14.7	2.4	-0.1	3.3	2.5
Inland navigation	0.7	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-7.4	-0.1	0.4	0.2
Freight transport activity (Gtkm)	**48.3**	**58.6**	**65.9**	**60.5**	**59.3**	**62.9**	**65.7**	**69.9**	**74.1**	**3.2**	**-1.1**	**1.0**	**1.2**
Trucks	34.6	45.6	51.0	43.8	42.4	45.1	47.0	50.6	54.3	4.0	-1.8	1.0	1.4
Rail	8.4	7.3	7.7	8.1	8.3	9.0	9.5	9.8	10.0	-0.9	0.8	1.4	0.5
Inland navigation	5.4	5.7	7.2	8.6	8.6	8.8	9.1	9.5	9.8	3.0	1.8	0.5	0.7
Energy demand in transport (ktoe)	**7730**	**8511**	**9710**	**9926**	**9840**	**9935**	**9787**	**9617**	**9272**	**2.3**	**0.1**	**-0.1**	**-0.5**
Public road transport	104	118	118	153	164	168	165	161	154	1.3	3.3	0.1	-0.7
Private cars and motorcycles	4157	4474	4677	5260	5209	5049	4769	4552	4232	1.2	1.1	-0.9	-1.2
Trucks	2210	2523	3065	2827	2726	2876	2880	2960	2992	3.3	-1.2	0.6	0.4
Rail	178	202	184	186	187	196	192	185	165	0.3	0.2	0.3	-1.5
Aviation	952	945	1530	1281	1334	1423	1552	1523	1488	4.9	-1.4	1.5	-0.4
Inland navigation	130	248	136	218	220	223	229	236	241	0.5	4.9	0.4	0.5

Source: PRIMES

Bulgaria: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9136**	**10191**	**9846**	**10612**	**9708**	**10019**	**11559**	**12085**	**12812**	**0.8**	**-0.1**	**1.8**	**1.0**
Solids	5121	5287	4310	4178	4376	4363	3549	2302	2837	-1.7	0.2	-2.1	-2.2
Oil	60	43	43	30	26	25	24	23	22	-3.4	-4.8	-0.8	-0.9
Natural gas	11	40	12	384	237	200	169	143	122	1.3	34.4	-3.3	-3.2
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Renew able energy sources	161	369	792	1207	1277	1639	2193	2212	2427	17.2	4.9	5.6	1.0
Hydro	161	151	230	373	350	354	359	365	375	3.6	4.3	0.3	0.4
Biomass & Waste	0	219	562	801	849	1028	1360	1324	1425		4.2	4.8	0.5
Wind	0	0	0	0	35	102	167	211	231			16.9	3.3
Solar and others	0	0	0	0	3	44	95	131	156			40.7	5.1
Geothermal	0	0	0	33	41	111	213	181	240			18.0	1.2
Net Imports	**17836**	**13484**	**8718**	**9516**	**9544**	**9948**	**9247**	**9393**	**9174**	**-6.9**	**0.9**	**-0.3**	**-0.1**
Solids	3527	2424	2258	2550	2724	3111	2756	2873	2738	-4.4	1.9	0.1	-0.1
Oil	8553	6519	4118	5186	4683	5004	4957	4944	4756	-7.0	1.3	0.6	-0.4
- Crude oil and Feedstocks	8264	8021	5389	6423	6281	6700	6649	6644	6433	-4.2	1.5	0.6	-0.3
- Oil products	289	-1502	-1271	-1237	-1599	-1696	-1693	-1699	-1677				
Natural gas	5430	4563	2742	2458	2537	2436	2526	2752	2880	-6.6	-0.8	0.0	1.3
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Gross Inland Consumption	**27981**	**23312**	**18647**	**19984**	**19140**	**19843**	**20678**	**21346**	**21849**	**-4.0**	**0.3**	**0.8**	**0.6**
Solids	8706	7673	6417	6892	7101	7474	6305	5175	5574	-3.0	1.0	-1.2	-1.2
Oil	9609	6253	4218	4947	4596	4905	4853	4835	4641	-7.9	0.9	0.5	-0.4
Natural gas	5395	4584	2932	2804	2773	2636	2695	2895	3002	-5.9	-0.6	-0.3	1.1
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Renew able energy forms	161	363	788	1182	1237	1572	2089	2123	2347	17.2	4.6	5.4	1.2
as % in Gross Inland Consumption													
Solids	31.1	32.9	34.4	34.5	37.1	37.7	30.5	24.2	25.5				
Oil	34.3	26.8	22.6	24.8	24.0	24.7	23.5	22.7	21.2				
Natural gas	19.3	19.7	15.7	14.0	14.5	13.3	13.0	13.6	13.7				
Nuclear	13.5	19.1	25.1	24.1	19.8	19.1	27.2	34.7	33.9				
Renew able energy forms	0.6	1.6	4.2	5.9	6.5	7.9	10.1	9.9	10.7				
Gross Electricity Generation in GWh_e	**42133**	**41219**	**40639**	**43964**	**39688**	**43063**	**48527**	**53438**	**55949**	**-0.4**	**-0.2**	**2.0**	**1.4**
Self consumption and grid losses	9435	11161	10721	9679	8127	7749	7468	7565	7753	1.3	-2.7	-0.8	0.4
Fuel Inputs for Thermal Power Generation	**10103**	**9160**	**6281**	**6520**	**6281**	**6727**	**5845**	**4818**	**5446**	**-4.6**	**0.0**	**-0.7**	**-0.7**
Solids	6800	6734	5245	5670	5595	5960	4828	3802	4264	-2.6	0.6	-1.5	-1.2
Oil (including refinery gas)	951	612	170	172	44	31	28	25	48	-15.8	-12.6	-4.4	5.5
Gas	2352	1813	863	676	589	543	543	484	478	-9.5	-3.8	-0.8	-1.3
Biomass & Waste	0	0	3	2	54	166	392	431	494		32.2	22.0	2.3
Geothermal heat	0	0	0	0	0	27	54	76	163				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**13098**	**11654**	**7655**	**8936**	**7747**	**8014**	**7906**	**7810**	**7579**	**-5.2**	**0.1**	**0.2**	**-0.4**
Refineries	8358	8040	5449	6683	6459	6876	6800	6781	6555	-4.2	1.7	0.5	-0.4
Biofuels and hydrogen production	0	0	0	0	23	48	129	136	232			18.8	6.1
District heating	2781	1544	324	370	361	173	89	65	0	-19.3	1.1	-13.0	
Others	1960	2069	1882	1883	903	917	888	827	791	-0.4	-7.1	-0.2	-1.1
Energy Branch Consumption	**1357**	**1457**	**1145**	**1278**	**1321**	**1316**	**1285**	**1302**	**1293**	**-1.7**	**1.4**	**-0.3**	**0.1**
Non-Energy Uses	**1427**	**1236**	**1264**	**1067**	**928**	**1008**	**1100**	**1168**	**1197**	**-1.2**	**-3.0**	**1.7**	**0.9**
Final Energy Demand	**16102**	**11409**	**8602**	**9595**	**9802**	**10555**	**11020**	**11269**	**11400**	**-6.1**	**1.3**	**1.2**	**0.3**
by sector													
Industry	8969	6034	3652	3720	3848	4230	4456	4553	4585	-8.6	0.5	1.5	0.3
- energy intensive industries	5579	4891	2829	2851	2825	2956	2986	2966	2905	-6.6	0.0	0.6	-0.3
- other industrial sectors	3390	1143	824	870	1023	1274	1470	1587	1681	-13.2	2.2	3.7	1.3
Residential	2228	2257	2165	2145	2132	2162	2187	2144	2092	-0.3	-0.2	0.3	-0.4
Tertiary	2382	1139	962	1130	1175	1211	1227	1219	1244	-8.7	2.0	0.4	0.1
Transport	2523	1980	1823	2599	2647	2953	3151	3352	3478	-3.2	3.8	1.8	1.0
by fuel													
Solids	1477	1280	860	951	1138	1152	1129	1048	999	-5.3	2.8	-0.1	-1.2
Oil	4983	2900	3004	3672	3637	3955	3982	4029	3900	-4.9	1.9	0.9	-0.2
Gas	2066	1787	1231	1025	1143	1233	1280	1463	1591	-5.0	-0.7	1.1	2.2
Electricity	3033	2467	2075	2208	2264	2407	2550	2767	2935	-3.7	0.9	1.2	1.4
Heat (from CHP and District Heating) [A]	4543	2798	877	939	822	889	968	934	907	-15.2	-0.6	1.6	-0.6
Renew able energy forms	0	178	555	800	798	920	1109	1028	1067		3.7	3.3	-0.4
Other	0	0	0	0	0	0	1	1	1			12.1	1.3
RES in Gross Final Energy Consumption [B]			**737**	**958**	**1111**	**1420**	**1927**	**1925**	**2083**		**4.2**	**5.7**	**0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**111.5**		**65.4**	**67.0**	**66.6**	**66.6**	**61.0**	**56.9**	**58.7**	**-5.2**	**0.2**	**-0.9**	**-0.4**
of w hich ETS sectors GHGs emissions				41.2	40.9	42.0	37.7	33.5	35.4			-0.8	-0.6
CO_2 Emissions (energy related)	**72.5**	**58.0**	**42.1**	**45.1**	**45.2**	**47.2**	**42.4**	**38.2**	**39.7**	**-5.3**	**0.7**	**-0.6**	**-0.7**
Pow er generation/District heating	44.9	38.1	24.9	26.1	25.4	26.3	21.5	17.0	18.8	-5.7	0.2	-1.7	-1.3
Energy Branch	1.6	1.4	1.3	1.6	1.6	1.6	1.5	1.5	1.5	-2.1	2.5	-0.8	-0.3
Industry	11.2	9.4	8.3	7.5	8.2	8.6	8.6	8.5	8.3	-3.0	-0.1	0.5	-0.4
Residential	3.0	2.2	1.2	1.2	1.2	1.2	1.0	1.0	0.9	-8.9	0.2	-1.5	-1.5
Tertiary	4.8	1.4	1.2	1.1	1.1	1.2	1.0	0.9	0.9	-13.0	-0.4	-1.0	-1.8
Transport	7.1	5.6	5.2	7.6	7.6	8.4	8.8	9.3	9.4	-3.0	3.8	1.4	0.7
CO_2 Emissions (non energy related)	**7.6**	**7.0**	**4.6**	**5.1**	**5.6**	**6.1**	**6.6**	**6.9**	**7.1**	**-4.9**	**2.0**	**1.7**	**0.7**
Non-CO_2 GHGs Emissions	**31.4**		**18.7**	**16.8**	**15.8**	**13.2**	**12.0**	**11.8**	**11.9**	**-5.0**	**-1.7**	**-2.7**	**0.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**58.7**	**60.1**	**59.7**	**59.7**	**54.7**	**51.0**	**52.6**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Bulgaria: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.767	8.427	8.191	7.761	7.564	7.382	7.188	6.974	6.753	-0.7	-0.8	-0.5	-0.6
GDP (in 000 M€08)	21.3	18.6	17.9	23.1	27.2	32.2	36.6	40.6	44.6	-1.7	4.3	3.0	2.0
Gross Inl. Cons./GDP (toe/M€08)	1316.3	1251.7	1043.7	864.5	703.6	616.8	564.9	525.5	490.3	-2.3	-3.9	-2.2	-1.4
Carbon intensity (t of CO_2/toe of GIC)	2.59	2.49	2.26	2.26	2.36	2.38	2.05	1.79	1.82	-1.4	0.5	-1.4	-1.2
Import Dependency %	63.6	57.2	46.6	47.4	49.6	49.8	44.4	43.7	41.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			5.5	7.0	7.5	9.5	12.1	14.2	15.2		3.6	6.4	2.8
as % of GDP			30.9	30.1	29.0	34.4	40.0	42.9	43.4				
Energy intensity indicators													
Industry (Energy on Value added)	140.7	112.0	100.0	72.1	61.9	52.1	44.8	39.8	36.0	-3.4	-4.7	-3.2	-2.2
Residential (Energy on Private Income)	92.4	105.2	100.0	74.2	63.2	57.5	56.2	53.7	52.6	0.8	-4.5	-1.2	-0.7
Tertiary (Energy on Value added)	201.6	112.3	100.0	93.9	84.9	72.5	66.0	59.9	55.9	-6.8	-1.6	-2.5	-1.7
Passenger transport (toe/Mpkm)	35.8	32.3	28.0	31.2	29.3	28.3	27.8	27.5	26.7	-2.4	0.4	-0.5	-0.4
Freight transport (toe/Mtkm)	34.2	44.4	50.3	55.0	50.1	49.3	48.6	48.0	46.9	3.9	0.0	-0.3	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.45	0.49	0.46	0.44	0.46	0.44	0.32	0.24	0.26	0.2	0.2	-3.5	-2.3
Final energy demand (t of CO_2/toe)	1.62	1.62	1.85	1.81	1.85	1.84	1.77	1.75	1.70	1.3	0.0	-0.5	-0.4
Industry	1.25	1.55	2.27	2.02	2.13	2.02	1.94	1.87	1.80	6.2	-0.6	-0.9	-0.7
Residential	1.35	0.97	0.55	0.56	0.57	0.54	0.48	0.45	0.43	-8.7	0.4	-1.7	-1.1
Tertiary	2.00	1.22	1.23	0.96	0.97	1.00	0.84	0.75	0.69	-4.7	-2.4	-1.4	-2.0
Transport	2.81	2.84	2.87	2.91	2.87	2.86	2.78	2.78	2.70	0.2	0.0	-0.3	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.6	9.1	10.4	12.5	16.3	15.9	17.0				
RES in transport (%)			0.2	0.1	1.4	2.5	6.1	6.1	9.7				
Gross Electricity generation by fuel type (in GWh)			**40639**	**43964**	**39688**	**43063**	**48527**	**53438**	**55949**		**-0.2**	**2.0**	**1.4**
Nuclear energy			18175	18650	14700	14700	22350	30000	30000		-2.1	4.3	3.0
Coal and lignite			16820	18056	17323	19306	15312	12183	13862		0.3	-1.2	-1.0
Petroleum products			590	600	125	90	80	64	116		-14.4	-4.4	3.8
Gas (including derived gases)			2374	2312	2869	2930	2858	2469	2520		1.9	0.0	-1.3
Biomass & waste			8	5	197	676	1670	1803	2015		37.9	23.8	1.9
Hydro			2673	4336	4065	4116	4169	4242	4357		4.3	0.3	0.4
Wind			0	5	406	1190	1942	2448	2681			16.9	3.3
Solar, tidal etc.			0	0	3	24	83	140	209			38.2	9.7
Geothermal and other renewables			0	0	0	32	63	88	189				11.6
Net Generation Capacity in MW_e			**10934**	**10174**	**9634**	**10650**	**11114**	**12458**	**12542**		**-1.3**	**1.4**	**1.2**
Nuclear energy			3473	2678	1885	1910	2870	3817	3817		-5.9	4.3	2.9
Renewable energy			1908	1975	2489	3186	3937	4432	4794		2.7	4.7	2.0
Hydro (pumping excluded)			1908	1967	2097	2122	2136	2191	2340		0.9	0.2	0.9
Wind			0	8	389	1039	1728	2115	2262			16.1	2.7
Solar			0	0	3	25	73	126	192			35.8	10.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			5554	5521	5260	5554	4306	4209	3932		-0.5	-2.0	-0.9
of which cogeneration units			972	1108	1198	1330	1661	1573	1529		2.1	3.3	-0.8
of which CCS units			0	0	0	0	0	0	0				
Solids fired			4430	4376	4179	4553	3277	3250	3040		-0.6	-2.4	-0.7
Gas fired			812	834	794	613	516	462	421		-0.2	-4.2	-2.0
Oil fired			271	271	276	279	253	213	132		0.2	-0.9	-6.3
Biomass-waste fired			40	40	11	105	254	274	317		-12.2	37.1	2.2
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	4	7	10	22				11.6
Load factor for net electric capacities (%)			38.0	44.1	43.2	42.9	46.9	46.3	48.1				
Efficiency for thermal electricity production (%)			27.1	27.7	28.1	29.4	29.4	29.6	29.5				
CHP indicator (% of electricity from CHP)			8.5	6.8	14.7	18.6	19.7	16.8	16.3				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			51.3	52.3	48.8	48.2	62.4	72.5	70.5				
- nuclear			44.7	42.4	37.0	34.1	46.1	56.1	53.6				
- renewable energy forms and industrial waste			6.6	9.9	11.8	14.0	16.3	16.3	16.9				
Transport sector													
Passenger transport activity (Gpkm)	**51.9**	**41.6**	**43.0**	**47.5**	**54.5**	**61.6**	**66.2**	**70.5**	**74.4**	**-1.9**	**2.4**	**2.0**	**1.2**
Public road transport	25.9	15.7	13.9	11.4	11.4	11.9	12.1	12.2	12.3	-6.0	-1.9	0.6	0.1
Private cars and motorcycles	14.8	18.6	23.6	29.7	35.6	40.2	42.4	44.2	46.2	4.8	4.2	1.8	0.9
Rail	8.1	5.0	3.9	2.8	3.0	3.1	3.4	3.7	3.9	-7.1	-2.7	1.4	1.5
Aviation	2.8	2.1	1.7	3.6	4.5	6.4	8.2	10.3	12.0	-5.3	10.5	6.2	3.8
Inland navigation	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-22.7	-1.7	0.5	0.3
Freight transport activity (Gtkm)	**19.3**	**14.3**	**12.3**	**20.3**	**21.0**	**24.6**	**27.0**	**29.4**	**31.7**	**-4.5**	**5.5**	**2.5**	**1.6**
Trucks	3.6	5.2	6.4	14.4	14.8	17.7	19.3	20.9	22.5	5.9	8.8	2.6	1.6
Rail	14.1	8.6	5.5	5.2	5.3	6.0	6.7	7.4	8.0	-8.9	-0.4	2.4	1.8
Inland navigation	1.6	0.5	0.3	0.8	0.8	0.9	1.0	1.1	1.2	-15.1	9.8	2.0	1.7
Energy demand in transport (ktoe)	**2523**	**1980**	**1823**	**2599**	**2647**	**2953**	**3151**	**3352**	**3478**	**-3.2**	**3.8**	**1.8**	**1.0**
Public road transport	293	127	108	87	85	87	85	82	78	-9.5	-2.4	0.0	-0.9
Private cars and motorcycles	1266	923	982	1186	1259	1312	1343	1387	1395	-2.5	2.5	0.7	0.4
Trucks	452	504	551	1058	993	1145	1240	1336	1424	2.0	6.1	2.2	1.4
Rail	217	144	78	65	65	70	75	78	69	-9.8	-1.8	1.5	-0.9
Aviation	276	276	101	200	243	335	404	465	509	-9.6	9.2	5.2	2.3
Inland navigation	18	6	3	4	4	4	4	5	5	-16.9	2.6	1.7	1.4

Source: PRIMES

Cyprus: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**6**	**42**	**45**	**49**	**86**	**182**	**282**	**343**	**408**	**23.2**	**6.6**	**12.7**	**3.8**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	6	42	45	49	86	182	282	343	408	23.2	6.6	12.7	3.8
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	6	11	10	7	18	37	54	73	91	5.8	6.0	12.0	5.2
Wind	0	0	0	0	0	26	66	87	98				4.0
Solar and others	0	31	35	41	68	119	162	183	220		6.7	9.1	3.1
Geothermal	0	0	0	0	0	0	0	0	0			14.3	20.8
Net Imports	**1638**	**2024**	**2547**	**2816**	**3087**	**3049**	**3100**	**3165**	**3146**	**4.5**	**1.9**	**0.0**	**0.1**
Solids	68	17	36	43	38	43	52	52	57	-6.3	0.6	3.2	0.9
Oil	1570	2007	2511	2773	3049	2638	2605	2637	2568	4.8	2.0	-1.6	-0.1
- Crude oil and Feedstocks	631	797	1153	0	0	0	0	0	0	6.2	-60.7	-0.8	0.0
- Oil products	939	1210	1358	2773	3049	2638	2605	2637	2568	3.8	8.4	-1.6	-0.1
Natural gas	0	0	0	0	0	365	423	456	506			157.3	1.8
Electricity	0	0	0	0	0	0	0	0	0				
Gross Inland Consumption	**1519**	**1976**	**2390**	**2466**	**2855**	**2899**	**3043**	**3158**	**3194**	**4.6**	**1.8**	**0.6**	**0.5**
Solids	60	13	35	36	38	43	52	52	57	-5.3	0.8	3.2	0.9
Oil	1453	1920	2310	2382	2731	2305	2266	2288	2208	4.7	1.7	-1.9	-0.3
Natural gas	0	0	0	0	0	365	423	456	506			157.3	1.8
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	0	0	0				
Renew able energy forms	6	42	45	49	86	185	303	363	424	23.2	6.6	13.4	3.4
as % in Gross Inland Consumption													
Solids	4.0	0.7	1.5	1.4	1.3	1.5	1.7	1.6	1.8				
Oil	95.7	97.2	96.6	96.6	95.7	79.5	74.5	72.4	69.1				
Natural gas	0.0	0.0	0.0	0.0	0.0	12.6	13.9	14.4	15.8				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	0.4	2.1	1.9	2.0	3.0	6.4	9.9	11.5	13.3				
Gross Electricity Generation in GWh_e	**1974**	**2473**	**3369**	**4377**	**4708**	**5333**	**6124**	**6842**	**7598**	**5.5**	**3.4**	**2.7**	**2.2**
Self consumption and grid losses	207	236	353	417	421	404	449	496	533	5.5	1.8	0.7	1.7
Fuel Inputs for Thermal Power Generation	**516**	**641**	**884**	**1077**	**1092**	**936**	**956**	**1018**	**1040**	**5.5**	**2.1**	**-1.3**	**0.8**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	516	641	884	1077	1085	551	495	505	474	5.5	2.1	-7.5	-0.4
Gas	0	0	0	0	0	365	423	456	505				1.8
Biomass & Waste	0	0	0	0	7	21	38	56	61			18.1	4.9
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**643**	**828**	**1171**	**0**	**4**	**12**	**30**	**30**	**41**	**6.2**	**-44.0**	**23.7**	**3.2**
Refineries	643	828	1171	0	0	0	0	0	0	6.2	-60.7	-0.8	0.0
Biofuels and hydrogen production	0	0	0	0	3	12	29	29	41			24.0	3.2
District heating	0	0	0	0	0	0	0	0	0				
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**41**	**43**	**54**	**22**	**21**	**17**	**17**	**18**	**17**	**2.7**	**-9.1**	**-1.9**	**0.1**
Non-Energy Uses	**31**	**62**	**84**	**71**	**61**	**60**	**61**	**63**	**67**	**10.6**	**-3.1**	**-0.1**	**1.0**
Final Energy Demand	**1099**	**1414**	**1640**	**1809**	**2071**	**2301**	**2442**	**2520**	**2561**	**4.1**	**2.4**	**1.7**	**0.5**
by sector													
Industry	277	391	442	316	326	345	359	376	383	4.8	-3.0	1.0	0.6
- energy intensive industries	127	220	225	196	205	223	234	247	253	5.9	-0.9	1.3	0.8
- other industrial sectors	150	171	217	120	120	123	125	130	130	3.7	-5.7	0.4	0.4
Residential	110	179	215	319	363	403	442	447	463	6.9	5.4	2.0	0.5
Tertiary	82	91	129	203	314	396	445	484	505	4.6	9.3	3.5	1.3
Transport	629	752	854	972	1069	1156	1196	1212	1210	3.1	2.3	1.1	0.1
by fuel													
Solids	76	13	35	36	38	43	52	52	57	-7.5	0.8	3.2	0.9
Oil	867	1167	1302	1385	1585	1695	1710	1719	1667	4.2	2.0	0.8	-0.3
Gas	0	0	0	0	0	0	0	0	0			8.6	0.7
Electricity	151	191	258	340	369	424	488	546	608	5.5	3.7	2.8	2.2
Heat (from CHP and District Heating) [A]	0	0	0	0	2	3	4	5	4			9.6	0.0
Renew able energy forms	6	42	45	49	78	135	187	199	225	23.2	5.6	9.2	1.9
Other	0	0	0	0	0	0	0	0	0			9.7	-0.4
RES in Gross Final Energy Consumption [B]			**44**	**48**	**82**	**176**	**283**	**334**	**393**		**6.4**	**13.1**	**3.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5.5**		**9.5**	**9.4**	**9.9**	**9.3**	**9.3**	**9.5**	**9.5**	**5.7**	**0.4**	**-0.7**	**0.2**
of w hich ETS sectors GHGs emissions				4.9	5.1	4.4	4.5	4.8	4.9			-1.1	0.8
CO_2 Emissions (energy related)	**4.6**	**5.7**	**7.0**	**7.7**	**8.3**	**7.8**	**7.9**	**8.0**	**7.9**	**4.2**	**1.8**	**-0.6**	**0.0**
Pow er generation/District heating	1.7	2.1	2.8	3.5	3.5	2.6	2.6	2.7	2.7	5.5	2.1	-3.0	0.5
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8			
Industry	0.8	1.1	1.3	0.9	0.9	0.9	0.9	1.0	1.0	4.3	-3.7	0.8	0.6
Residential	0.2	0.2	0.2	0.5	0.5	0.5	0.4	0.4	0.3	2.4	7.9	-0.7	-3.5
Tertiary	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.5	0.4			2.4	-0.6
Transport	1.9	2.2	2.5	2.9	3.2	3.4	3.5	3.5	3.5	3.1	2.2	0.9	0.0
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.8**		**2.5**	**1.7**	**1.6**	**1.5**	**1.4**	**1.5**	**1.6**	**11.7**	**-4.5**	**-1.2**	**1.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**174.1**	**173.2**	**181.8**	**171.1**	**170.0**	**175.0**	**174.0**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Cyprus: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.573	0.645	0.690	0.749	0.821	0.888	0.955	1.017	1.072	1.9	1.7	1.5	1.2
GDP (in 000 M€08)	7.9	10.2	12.3	14.4	16.4	19.7	23.8	28.2	32.7	4.6	2.9	3.8	3.2
Gross Inl. Cons./GDP (toe/M€08)	192.7	193.5	194.1	170.9	173.8	146.9	127.9	111.8	97.8	0.1	-1.1	-3.0	-2.7
Carbon intensity (t of CO_2/toe of GIC)	3.04	2.88	2.92	3.13	2.92	2.70	2.58	2.54	2.47	-0.4	0.0	-1.2	-0.4
Import Dependency %	103.9	99.1	98.7	100.8	97.3	94.4	91.7	90.2	88.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.3	2.7	3.5	4.1	4.4		6.4	5.2	3.3
as % of GDP			10.4	13.2	14.5	15.1	16.7	17.2	16.8				
Energy intensity indicators													
Industry (Energy on Value added)	71.9	89.2	100.0	68.2	63.4	57.6	51.1	46.6	42.2	3.4	-4.4	-2.1	-1.9
Residential (Energy on Private Income)	92.3	102.4	100.0	124.2	126.1	115.4	104.4	89.0	79.3	0.8	2.3	-1.9	-2.7
Tertiary (Energy on Value added)	113.7	89.3	100.0	134.4	181.9	189.8	175.9	160.5	143.8	-1.3	6.2	-0.3	-2.0
Passenger transport (toe/Mpkm)	50.5	48.7	46.1	47.4	46.7	44.0	40.5	36.3	32.6	-0.9	0.1	-1.4	-2.2
Freight transport (toe/Mtkm)	216.8	219.8	225.2	226.3	225.8	224.2	216.1	206.1	195.0	0.4	0.0	-0.4	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.84	0.83	0.84	0.79	0.74	0.49	0.42	0.39	0.35	0.0	-1.3	-5.5	-1.7
Final energy demand (t of CO_2/toe)	2.62	2.51	2.46	2.36	2.34	2.26	2.17	2.11	2.03	-0.6	-0.5	-0.8	-0.7
Industry	3.00	2.86	2.87	2.71	2.67	2.61	2.61	2.58	2.59	-0.4	-0.7	-0.2	-0.1
Residential	1.60	1.11	1.05	1.42	1.33	1.19	1.02	0.80	0.68	-4.2	2.4	-2.6	-4.0
Tertiary	0.00	0.00	0.00	0.42	1.10	1.09	0.99	0.99	0.82			-1.1	-1.8
Transport	2.97	2.97	2.98	2.96	2.95	2.93	2.89	2.90	2.87	0.0	-0.1	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			3.1	3.0	4.5	8.7	13.2	15.2	17.8				
RES in transport (%)			0.0	0.0	0.5	1.6	3.9	4.0	5.8				
Gross Electricity generation by fuel type (in GWh)			**3369**	**4377**	**4708**	**5333**	**6124**	**6842**	**7598**		**3.4**	**2.7**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			3369	4376	4668	2584	2367	2405	2264		3.3	-6.6	-0.4
Gas (including derived gases)			0	0	0	2323	2693	2923	3434				2.5
Biomass & waste			0	0	28	88	163	267	293			19.2	6.0
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	304	764	1015	1136				4.0
Solar, tidal etc.			0	1	11	34	137	232	471			28.2	13.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**940**	**1105**	**1473**	**1782**	**1993**	**2105**	**2484**		**4.6**	**3.1**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	1	7	182	438	609	798			50.3	6.2
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	161	359	470	521				3.8
Solar			0	1	7	21	79	138	277			26.7	13.4
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			940	1103	1466	1601	1556	1497	1686		4.5	0.6	0.8
of which cogeneration units			0	0	2	5	7	7	8			13.9	2.4
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	566	566	613	913				4.9
Oil fired			940	1103	1462	1023	967	853	739		4.5	-4.0	-2.7
Biomass-waste fired			0	0	4	12	23	31	35			19.8	4.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			38.9	42.6	34.6	32.9	33.9	36.0	34.0				
Efficiency for thermal electricity production (%)			32.8	35.0	37.0	45.9	47.0	47.3	49.5				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.3	0.6	0.7	0.6	0.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.8	8.0	17.4	22.1	25.0				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.8	8.0	17.4	22.1	25.0				
Transport sector													
Passenger transport activity (Gpkm)	**8.6**	**10.0**	**12.1**	**13.9**	**16.4**	**18.7**	**21.0**	**23.6**	**26.1**	**3.5**	**3.1**	**2.5**	**2.2**
Public road transport	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.6	1.7	2.8	1.8	1.4	1.1
Private cars and motorcycles	3.1	3.6	4.1	4.9	6.1	6.6	6.8	7.2	7.5	2.8	4.2	1.1	0.9
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	4.7	5.4	6.9	7.7	8.9	10.7	12.7	14.8	16.9	4.0	2.5	3.6	2.9
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.9**	**1.2**	**1.3**	**1.4**	**1.3**	**1.5**	**1.6**	**1.7**	**1.8**	**3.9**	**0.3**	**1.7**	**1.5**
Trucks	0.9	1.2	1.3	1.4	1.3	1.5	1.6	1.7	1.8	3.9	0.3	1.7	1.5
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**629**	**752**	**854**	**972**	**1069**	**1156**	**1196**	**1212**	**1210**	**3.1**	**2.3**	**1.1**	**0.1**
Public road transport	18	21	24	26	28	29	30	30	30	2.6	1.6	0.7	0.0
Private cars and motorcycles	175	200	246	331	393	397	388	358	318	3.5	4.8	-0.1	-2.0
Trucks	194	264	295	315	304	334	344	355	360	4.3	0.3	1.2	0.5
Rail	0	0	0	0	0	0	0	0	0				
Aviation	242	267	290	299	344	396	435	469	502	1.8	1.7	2.4	1.5
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Czech Republic: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**40090**	**32221**	**29911**	**32845**	**30379**	**31221**	**32360**	**33625**	**34665**	**-2.9**	**0.2**	**0.6**	**0.7**
Solids	36321	27946	25049	23570	20374	19725	18723	18447	18757	-3.6	-2.0	-0.8	0.0
Oil	223	296	461	600	200	200	200	200	197	7.5	-8.0	0.0	-0.1
Natural gas	201	198	169	154	162	163	150	142	136	-1.7	-0.4	-0.8	-1.0
Nuclear	3246	3155	3506	6379	6834	7675	8841	10361	11053	0.8	6.9	2.6	2.3
Renew able energy sources	100	626	727	2142	2808	3458	4446	4475	4522	22.0	14.5	4.7	0.2
Hydro	100	172	151	205	195	198	203	206	209	4.2	2.6	0.4	0.3
Biomass & Waste	0	454	576	1933	2547	3037	3753	3780	3665		16.0	4.0	-0.2
Wind	0	0	0	2	30	61	93	108	122			12.0	2.8
Solar and others	0	0	0	2	36	162	397	381	526			27.0	2.8
Geothermal	0	0	0	0	0	0	0	0	0			8.1	-1.7
Net Imports	**7684**	**8716**	**9448**	**12896**	**14046**	**14606**	**14182**	**13548**	**12487**	**2.1**	**4.0**	**0.1**	**-1.3**
Solids	-5690	-5762	-4765	-3179	-3068	-3456	-3362	-3458	-3815				
Oil	8648	8019	7593	9813	10171	11202	11209	11229	10900	-1.3	3.0	1.0	-0.3
- Crude oil and Feedstocks	7440	7071	5655	7857	8227	9017	9020	9035	8900	-2.7	3.8	0.9	-0.1
- Oil products	1209	948	1937	1956	1944	2185	2189	2194	2000	4.8	0.0	1.2	-0.9
Natural gas	4786	6424	7482	7535	7949	7982	7353	6942	6661	4.6	0.6	-0.8	-1.0
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Gross Inland Consumption	**48992**	**41605**	**40506**	**45319**	**44424**	**45827**	**46542**	**47173**	**47151**	**-1.9**	**0.9**	**0.5**	**0.1**
Solids	31433	23062	21598	20300	17306	16269	15361	14990	14941	-3.7	-2.2	-1.2	-0.3
Oil	9025	8174	8036	10068	10371	11402	11409	11429	11097	-1.2	2.6	1.0	-0.3
Natural gas	5248	6552	7500	7703	8112	8145	7503	7083	6797	3.6	0.8	-0.8	-1.0
Nuclear	3246	3155	3506	6379	6834	7675	8841	10361	11053	0.8	6.9	2.6	2.3
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Renew able energy forms	100	626	727	1955	2619	3281	4267	4330	4416	22.0	13.7	5.0	0.3
as % in Gross Inland Consumption													
Solids	64.2	55.4	53.3	44.8	39.0	35.5	33.0	31.8	31.7				
Oil	18.4	19.6	19.8	22.2	23.3	24.9	24.5	24.2	23.5				
Natural gas	10.7	15.7	18.5	17.0	18.3	17.8	16.1	15.0	14.4				
Nuclear	6.6	7.6	8.7	14.1	15.4	16.7	19.0	22.0	23.4				
Renew able energy forms	0.2	1.5	1.8	4.3	5.9	7.2	9.2	9.2	9.4				
Gross Electricity Generation in GWh_e	**62260**	**60564**	**72898**	**81916**	**80310**	**89439**	**94731**	**104140**	**110724**	**1.6**	**1.0**	**1.7**	**1.6**
Self consumption and grid losses	8840	9047	10756	11776	11079	12269	13137	14788	15828	2.0	0.3	1.7	1.9
Fuel Inputs for Thermal Power Generation	**15255**	**11006**	**15753**	**15729**	**15063**	**14440**	**13798**	**13703**	**13824**	**0.3**	**-0.4**	**-0.9**	**0.0**
Solids	14213	10002	13911	14061	13426	12436	11836	11614	11601	-0.2	-0.4	-1.3	-0.2
Oil (including refinery gas)	741	311	203	152	41	72	38	37	30	-12.2	-14.8	-0.6	-2.3
Gas	300	573	1270	1292	1205	1357	1218	1278	1348	15.5	-0.5	0.1	1.0
Biomass & Waste	0	119	369	224	390	575	705	774	843		0.6	6.1	1.8
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**18077**	**14555**	**11640**	**13441**	**12136**	**12793**	**12711**	**12758**	**12662**	**-4.3**	**0.4**	**0.5**	**0.0**
Refineries	8005	7299	6218	8278	8496	9309	9321	9339	9205	-2.5	3.2	0.9	-0.1
Biofuels and hydrogen production	0	11	0	3	237	357	596	696	772			9.6	2.6
District heating	1830	1361	966	922	790	735	588	545	523	-6.2	-2.0	-2.9	-1.2
Others	8242	5885	4456	4239	2613	2392	2206	2179	2163	-6.0	-5.2	-1.7	-0.2
Energy Branch Consumption	**2116**	**1673**	**1919**	**1944**	**2041**	**2141**	**2154**	**2216**	**2236**	**-1.0**	**0.6**	**0.5**	**0.4**
Non-Energy Uses	**1713**	**2379**	**2090**	**2939**	**2853**	**3201**	**3340**	**3508**	**3563**	**2.0**	**3.2**	**1.6**	**0.6**
Final Energy Demand	**32224**	**25067**	**23562**	**25846**	**26652**	**28456**	**29075**	**29065**	**28773**	**-3.1**	**1.2**	**0.9**	**-0.1**
by sector													
Industry	16258	12339	9723	9593	9324	10057	10118	10093	9986	-5.0	-0.4	0.8	-0.1
- energy intensive industries	6961	5795	5990	6654	6068	6397	6299	6254	6162	-1.5	0.1	0.4	-0.2
- other industrial sectors	9297	6544	3733	2939	3256	3660	3819	3840	3824	-8.7	-1.4	1.6	0.0
Residential	7848	5433	5301	6019	6265	6467	6661	6524	6483	-3.8	1.7	0.6	-0.3
Tertiary	5306	4438	4161	4070	4182	4296	4421	4514	4581	-2.4	0.1	0.6	0.4
Transport	2812	2857	4377	6164	6881	7636	7875	7934	7724	4.5	4.6	1.4	-0.2
by fuel													
Solids	13719	5797	4778	3636	2638	2707	2548	2442	2377	-10.0	-5.8	-0.3	-0.7
Oil	6257	5048	5397	6940	7314	7918	7820	7710	7366	-1.5	3.1	0.7	-0.6
Gas	5146	6119	6419	6581	6747	6634	6163	5653	5295	2.2	0.5	-0.9	-1.5
Electricity	4142	4129	4243	4750	4947	5504	5992	6475	6820	0.2	1.5	1.9	1.3
Heat (from CHP and District Heating) [A]	2959	3664	2624	2478	3078	3334	3377	3607	3723	-1.2	1.6	0.9	1.0
Renew able energy forms	0	308	102	1461	1927	2359	3174	3175	3190		34.2	5.1	0.1
Other	0	0	0	0	1	1	2	2	2			11.0	0.4
RES in Gross Final Energy Consumption [B]			**454**	**1663**	**2344**	**3021**	**4020**	**4110**	**4195**		**17.8**	**5.5**	**0.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**207.5**		**150.8**	**149.5**	**140.6**	**137.6**	**130.0**	**127.5**	**125.8**	**-3.1**	**-0.7**	**-0.8**	**-0.3**
of w hich ETS sectors GHGs emissions				86.5	77.9	74.2	70.9	70.3	70.5			-0.9	-0.1
CO_2 Emissions (energy related)	**158.4**	**104.2**	**117.9**	**118.5**	**111.4**	**109.3**	**103.9**	**101.0**	**98.9**	**-2.9**	**-0.6**	**-0.7**	**-0.5**
Pow er generation/District heating	67.0	48.0	64.0	64.2	60.5	56.7	53.4	52.6	52.7	-0.4	-0.6	-1.2	-0.1
Energy Branch	2.3	1.6	2.2	2.4	1.9	1.9	1.8	1.7	1.7	-0.4	-1.5	-0.7	-0.3
Industry	46.9	27.6	24.5	21.6	17.3	17.8	16.6	15.7	15.0	-6.3	-3.4	-0.4	-1.0
Residential	21.6	9.9	8.1	6.9	6.9	6.7	6.2	5.6	5.4	-9.3	-1.6	-1.0	-1.3
Tertiary	13.2	9.3	6.7	5.6	5.5	5.1	4.7	4.4	4.1	-6.5	-1.9	-1.5	-1.6
Transport	7.5	7.8	12.4	17.8	19.3	21.2	21.1	21.0	20.1	5.1	4.5	0.9	-0.5
CO_2 Emissions (non energy related)	**18.3**	**13.5**	**12.4**	**11.3**	**10.2**	**11.2**	**11.8**	**12.2**	**12.5**	**-3.8**	**-1.9**	**1.4**	**0.6**
Non-CO_2 GHGs Emissions	**30.8**		**20.5**	**19.7**	**19.0**	**17.1**	**14.4**	**14.3**	**14.4**	**-4.0**	**-0.8**	**-2.7**	**0.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**72.7**	**72.0**	**67.8**	**66.3**	**62.7**	**61.4**	**60.6**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Czech Republic: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.362	10.333	10.278	10.221	10.394	10.497	10.543	10.516	10.420	-0.1	0.1	0.1	-0.1
GDP (in 000 M€08)	85.9	81.8	88.1	105.8	120.7	142.4	162.9	178.9	192.8	0.3	3.2	3.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	570.4	508.4	459.8	428.2	368.0	321.8	285.8	263.6	244.5	-2.1	-2.2	-2.5	-1.5
Carbon intensity (t of CO_2/toe of GIC)	3.23	2.50	2.91	2.62	2.51	2.39	2.23	2.14	2.10	-1.0	-1.5	-1.2	-0.6
Import Dependency %	15.7	21.0	23.3	28.5	31.6	31.9	30.5	28.7	26.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.2	19.1	21.0	26.2	32.7	37.0	38.1		2.9	5.5	2.5
as % of GDP			18.4	18.1	17.9	20.2	22.7	24.1	24.5				
Energy intensity indicators													
Industry (Energy on Value added)	196.2	170.1	100.0	73.8	61.6	56.3	50.6	46.6	43.3	-6.5	-4.7	-1.9	-1.5
Residential (Energy on Private Income)	163.9	117.2	100.0	97.2	90.2	79.5	71.7	64.1	59.4	-4.8	-1.0	-2.3	-1.9
Tertiary (Energy on Value added)	194.0	113.2	100.0	80.7	73.4	62.8	55.6	51.1	47.8	-6.4	-3.0	-2.7	-1.5
Passenger transport (toe/Mpkm)	19.6	19.5	25.5	31.2	30.7	28.6	26.9	25.4	23.4	2.6	1.9	-1.3	-1.4
Freight transport (toe/Mtkm)	18.9	18.1	31.8	45.8	46.1	45.9	44.0	42.0	39.6	5.4	3.8	-0.4	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.44	0.57	0.53	0.46	0.39	0.35	0.32	0.31	-1.0	-2.2	-2.6	-1.3
Final energy demand (t of CO_2/toe)	2.77	2.18	2.19	2.01	1.84	1.78	1.67	1.61	1.55	-2.3	-1.8	-0.9	-0.8
Industry	2.88	2.24	2.52	2.25	1.86	1.77	1.64	1.55	1.50	-1.3	-3.0	-1.2	-0.9
Residential	2.75	1.83	1.53	1.15	1.10	1.04	0.93	0.86	0.84	-5.7	-3.3	-1.6	-1.1
Tertiary	2.48	2.09	1.61	1.37	1.32	1.19	1.07	0.98	0.88	-4.2	-2.0	-2.0	-1.9
Transport	2.68	2.71	2.83	2.89	2.80	2.77	2.68	2.65	2.60	0.6	-0.1	-0.4	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			1.8	6.1	8.3	10.0	13.0	13.2	13.6				
RES in transport (%)			0.2	0.2	3.9	5.3	8.5	9.9	11.4				
Gross Electricity generation by fuel type (in GWh)			**72898**	**81916**	**80310**	**89439**	**94731**	**104140**	**110724**		**1.0**	**1.7**	**1.6**
Nuclear energy			13588	24724	26495	29753	34627	41160	44173		6.9	2.7	2.5
Coal and lignite			52069	48848	43021	45768	46181	48027	50932		-1.9	0.7	1.0
Petroleum products			421	416	181	374	201	183	148		-8.1	1.1	-3.1
Gas (including derived gases)			3893	4714	6385	7714	6894	7255	7419		5.1	0.8	0.7
Biomass & waste			1170	814	1548	2638	3162	3600	3923		2.8	7.4	2.2
Hydro			1758	2380	2263	2306	2361	2397	2433		2.6	0.4	0.3
Wind			0	21	348	713	1077	1256	1418			12.0	2.8
Solar, tidal etc.			0	0	70	172	228	261	278			12.6	2.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13222**	**15228**	**14760**	**17014**	**18071**	**19530**	**20735**		**1.1**	**2.0**	**1.4**
Nuclear energy			1706	3621	3636	3651	4259	5052	5418		7.9	1.6	2.4
Renewable energy			948	1045	1508	1966	2421	2665	2860		4.7	4.8	1.7
Hydro (pumping excluded)			947	1016	1045	1053	1065	1084	1090		1.0	0.2	0.2
Wind			1	29	364	734	1119	1310	1483		80.3	11.9	2.9
Solar			0	0	99	179	236	271	288			9.1	2.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10568	10563	9616	11396	11390	11812	12457		-0.9	1.7	0.9
of which cogeneration units			3510	3621	4107	5079	5720	6240	6385		1.6	3.4	1.1
of which CCS units			0	0	0	0	0	0	0				
Solids fired			9090	8987	7985	9484	9338	9207	9589		-1.3	1.6	0.3
Gas fired			1207	1300	1333	1325	1326	1836	2047		1.0	-0.1	4.4
Oil fired			129	133	136	271	200	187	171		0.6	3.9	-1.5
Biomass-waste fired			143	143	162	316	526	583	649		1.3	12.5	2.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	56.5	57.7	55.8	55.7	56.5	56.5				
Efficiency for thermal electricity production (%)			31.4	30.0	29.2	33.6	35.2	37.1	38.8				
CHP indicator (% of electricity from CHP)			19.4	18.1	25.8	37.6	39.3	39.4	39.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			22.7	34.1	38.3	39.8	43.8	46.7	47.2				
- nuclear			18.6	30.2	33.0	33.3	36.6	39.5	39.9				
- renewable energy forms and industrial waste			4.0	3.9	5.3	6.5	7.2	7.2	7.3				
Transport sector													
Passenger transport activity (Gpkm)	**85.3**	**96.3**	**103.4**	**111.9**	**122.0**	**139.1**	**151.0**	**160.3**	**168.2**	**1.9**	**1.7**	**2.2**	**1.1**
Public road transport	14.1	18.6	16.2	15.6	16.3	17.1	17.9	18.4	18.8	1.4	0.1	1.0	0.5
Private cars and motorcycles	45.7	58.1	66.8	71.8	79.8	91.8	98.1	101.3	105.0	3.9	1.8	2.1	0.7
Rail	20.9	15.7	15.4	14.6	14.7	15.3	16.1	16.7	17.2	-3.0	-0.4	0.9	0.7
Aviation	4.6	3.9	5.0	9.9	11.3	14.8	19.0	23.8	27.1	0.7	8.6	5.3	3.6
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**60.3**	**54.2**	**54.9**	**58.4**	**68.1**	**79.6**	**86.8**	**92.0**	**95.7**	**-0.9**	**2.2**	**2.5**	**1.0**
Trucks	18.6	31.3	37.3	43.4	51.3	60.5	65.8	69.8	72.7	7.2	3.2	2.5	1.0
Rail	38.0	22.6	17.5	14.9	16.7	19.0	20.9	22.1	22.8	-7.5	-0.4	2.2	0.9
Inland navigation	3.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-31.8	-1.0	1.8	0.5
Energy demand in transport (ktoe)	**2812**	**2857**	**4377**	**6164**	**6881**	**7636**	**7875**	**7934**	**7724**	**4.5**	**4.6**	**1.4**	**-0.2**
Public road transport	100	131	112	107	110	114	113	110	107	1.1	-0.1	0.3	-0.6
Private cars and motorcycles	1351	1518	2249	2961	3172	3308	3299	3228	3048	5.2	3.5	0.4	-0.8
Trucks	768	783	1509	2476	2915	3406	3571	3623	3586	7.0	6.8	2.0	0.0
Rail	272	200	304	272	290	313	306	295	259	1.1	-0.5	0.5	-1.6
Aviation	174	185	197	344	388	489	580	670	717	1.3	7.0	4.1	2.2
Inland navigation	147	40	5	5	6	6	7	7	7	-28.6	1.2	1.6	0.4

Source: PRIMES

Denmark: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**10062**	**15593**	**27665**	**31280**	**25857**	**22965**	**19816**	**17868**	**15632**	**10.6**	**-0.7**	**-2.6**	**-2.3**
Solids	0	0	0	0	0	0	0	0	0				
Oil	6093	9357	18189	18942	14670	12500	9500	8500	7500	11.6	-2.1	-4.3	-2.3
Natural gas	2770	4702	7412	9383	8100	6980	6040	4800	3500	10.3	0.9	-2.9	-5.3
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1199	1534	2065	2955	3087	3485	4276	4568	4632	5.6	4.1	3.3	0.8
Hydro	2	3	3	2	2	2	2	2	2	1.1	-3.5	3.3	-0.2
Biomass & Waste	1140	1423	1687	2371	2369	2494	2744	2856	2795	4.0	3.5	1.5	0.2
Wind	52	101	365	569	683	888	1287	1398	1487	21.4	6.5	6.5	1.5
Solar and others	2	5	8	10	33	101	243	313	347	12.9	15.3	22.0	3.6
Geothermal	2	2	3	3	0	0	0	0	0	1.9	-36.1	3.3	-0.1
Net Imports	**8621**	**7544**	**-7259**	**-10433**	**-6047**	**-3330**	**-424**	**1200**	**3250**				
Solids	6216	7664	3784	3540	3212	2908	2350	2179	2153	-4.8	-1.6	-3.1	-0.9
Oil	2727	1439	-8277	-9388	-6452	-4508	-1687	-956	-164				
- Crude oil and Feedstocks	2036	804	-9803	-11214	-7192	-5136	-2229	-1364	-472				
- Oil products	691	635	1526	1826	740	628	541	408	308	8.3	-7.0	-3.1	-5.5
Natural gas	-928	-1496	-2882	-5010	-3385	-2599	-2180	-1272	17				
Electricity	606	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Gross Inland Consumption	**17893**	**20283**	**19522**	**19702**	**19049**	**18850**	**18594**	**18250**	**18042**	**0.9**	**-0.2**	**-0.2**	**-0.3**
Solids	6088	6498	3987	3751	3212	2908	2350	2179	2153	-4.1	-2.1	-3.1	-0.9
Oil	8181	9143	8905	8171	7458	7206	7014	6725	6497	0.9	-1.8	-0.6	-0.8
Natural gas	1818	3170	4449	4399	4715	4381	3860	3528	3517	9.4	0.6	-2.0	-0.9
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	608	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Renew able energy forms	1199	1540	2124	3262	3572	4236	5234	5632	5692	5.9	5.3	3.9	0.8
as % in Gross Inland Consumption													
Solids	34.0	32.0	20.4	19.0	16.9	15.4	12.6	11.9	11.9				
Oil	45.7	45.1	45.6	41.5	39.2	38.2	37.7	36.9	36.0				
Natural gas	10.2	15.6	22.8	22.3	24.7	23.2	20.8	19.3	19.5				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	6.7	7.6	10.9	16.6	18.8	22.5	28.2	30.9	31.5				
Gross Electricity Generation in GWh_e	**25733**	**36648**	**36043**	**36348**	**36646**	**37797**	**37137**	**39218**	**41364**	**3.4**	**0.2**	**0.1**	**1.1**
Self consumption and grid losses	3289	4389	3708	3457	3299	3245	2978	3566	3724	1.2	-1.2	-1.0	2.3
Fuel Inputs for Thermal Power Generation	**6016**	**8423**	**7821**	**7165**	**6265**	**6311**	**5686**	**5687**	**5771**	**2.7**	**-2.2**	**-1.0**	**0.1**
Solids	5541	6061	3667	3444	3000	2706	2153	1981	1955	-4.0	-2.0	-3.3	-1.0
Oil (including refinery gas)	237	1008	1344	344	67	55	49	40	35	19.0	-25.9	-3.1	-3.5
Gas	174	975	2112	2003	1874	1864	1624	1479	1459	28.4	-1.2	-1.4	-1.1
Biomass & Waste	65	378	699	1374	1323	1687	1859	2187	2322	26.9	6.6	3.5	2.2
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9099**	**10781**	**9008**	**8362**	**8385**	**8171**	**8307**	**8115**	**7907**	**-0.1**	**-0.7**	**-0.1**	**-0.5**
Refineries	8048	9985	8472	7841	7478	7364	7271	7136	7028	0.5	-1.2	-0.3	-0.3
Biofuels and hydrogen production	0	0	0	0	134	233	383	437	486			11.1	2.4
District heating	1009	766	519	508	773	574	652	542	393	-6.4	4.1	-1.7	-4.9
Others	42	31	17	13	0	0	0	0	0	-8.4			
Energy Branch Consumption	**733**	**1010**	**1157**	**1264**	**1276**	**1179**	**1052**	**1015**	**977**	**4.7**	**1.0**	**-1.9**	**-0.7**
Non-Energy Uses	**299**	**298**	**298**	**285**	**263**	**277**	**287**	**301**	**317**	**0.0**	**-1.2**	**0.9**	**1.0**
Final Energy Demand	**13522**	**14750**	**14638**	**15457**	**15091**	**15274**	**15273**	**15066**	**14949**	**0.8**	**0.3**	**0.1**	**-0.2**
by sector													
Industry	2715	3031	2941	2866	2638	2508	2467	2502	2539	0.8	-1.1	-0.7	0.3
- energy intensive industries	1078	1125	1149	1117	984	931	921	930	937	0.6	-1.5	-0.7	0.2
- other industrial sectors	1637	1906	1792	1749	1654	1578	1546	1572	1601	0.9	-0.8	-0.7	0.4
Residential	3954	4474	4158	4462	4519	4712	4738	4648	4655	0.5	0.8	0.5	-0.2
Tertiary	2829	2786	2807	2861	2833	2848	2839	2834	2829	-0.1	0.1	0.0	0.0
Transport	4024	4460	4732	5269	5100	5205	5230	5083	4927	1.6	0.8	0.3	-0.6
by fuel													
Solids	396	405	290	253	211	201	195	197	196	-3.1	-3.2	-0.8	0.1
Oil	7127	7162	6979	7234	6628	6448	6230	5993	5790	-0.2	-0.5	-0.6	-0.7
Gas	1159	1691	1667	1702	1847	1756	1548	1461	1432	3.7	1.0	-1.8	-0.8
Electricity	2517	2655	2791	2877	2896	3027	3011	3189	3360	1.0	0.4	0.4	1.1
Heat (from CHP and District Heating) [A]	1758	2242	2255	2444	2393	2633	2658	2590	2498	2.5	0.6	1.1	-0.6
Renew able energy forms	566	595	657	947	1117	1209	1630	1635	1673	1.5	5.4	3.9	0.3
Other	0	0	0	0	0	1	1	1	1			8.4	0.5
RES in Gross Final Energy Consumption [B]			**1812**	**2774**	**3071**	**3794**	**4790**	**5174**	**5277**		**5.4**	**4.5**	**1.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**69.5**		**69.4**	**64.5**	**59.9**	**56.6**	**52.2**	**49.9**	**49.2**	**0.0**	**-1.5**	**-1.4**	**-0.6**
of w hich ETS sectors GHGs emissions				29.2	25.1	23.3	21.1	19.9	20.1			-1.7	-0.5
CO_2 Emissions (energy related)	**51.7**	**59.3**	**52.3**	**48.9**	**44.8**	**42.0**	**38.1**	**35.8**	**35.0**	**0.1**	**-1.6**	**-1.6**	**-0.8**
Pow er generation/District heating	24.5	30.2	24.0	19.7	17.2	15.5	13.0	11.7	11.7	-0.2	-3.3	-2.8	-1.0
Energy Branch	1.5	2.0	2.4	2.5	2.5	2.3	2.0	1.9	1.8	4.9	0.7	-2.0	-1.4
Industry	5.4	5.9	5.2	4.9	4.3	3.6	3.4	3.5	3.6	-0.3	-1.9	-2.3	0.5
Residential	4.9	4.9	3.9	3.5	3.6	3.5	3.0	2.7	2.6	-2.3	-0.7	-1.9	-1.6
Tertiary	3.6	3.1	2.9	2.7	2.4	2.3	2.3	2.3	2.3	-2.0	-1.9	-0.5	-0.2
Transport	11.9	13.2	13.9	15.6	14.7	14.7	14.3	13.7	13.1	1.6	0.5	-0.2	-0.9
CO_2 Emissions (non energy related)	**1.5**	**1.9**	**2.4**	**2.2**	**2.1**	**2.2**	**2.2**	**2.3**	**2.4**	**4.8**	**-1.3**	**0.5**	**0.7**
Non-CO_2 GHGs Emissions	**16.3**		**14.7**	**13.4**	**13.1**	**12.3**	**11.9**	**11.8**	**11.8**	**-1.0**	**-1.2**	**-0.9**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.9**	**92.7**	**86.2**	**81.3**	**75.0**	**71.7**	**70.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Denmark: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.135	5.216	5.330	5.411	5.512	5.591	5.661	5.736	5.808	0.4	0.3	0.3	0.3
GDP (in 000 M€08)	159.3	178.8	205.8	219.1	220.8	239.7	259.7	283.4	305.9	2.6	0.7	1.6	1.7
Gross Inl. Cons./GDP (toe/M€08)	112.3	113.4	94.8	89.9	86.3	78.6	71.6	64.4	59.0	-1.7	-0.9	-1.9	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.89	2.92	2.68	2.48	2.35	2.23	2.05	1.96	1.94	-0.7	-1.3	-1.4	-0.5
Import Dependency %	45.7	34.5	-34.8	-50.8	-30.5	-17.0	-2.2	6.3	17.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			17.8	19.3	19.7	22.4	26.2	28.7	29.8		1.2	3.5	2.3
as % of GDP			8.7	8.8	9.1	9.9	10.9	11.5	11.6				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	105.9	100.0	91.7	85.3	76.0	69.9	65.0	61.6	-0.5	-1.6	-2.0	-1.3
Residential (Energy on Private Income)	114.7	115.7	100.0	96.2	100.0	97.0	90.5	81.8	75.3	-1.4	0.0	-1.0	-1.8
Tertiary (Energy on Value added)	127.4	113.7	100.0	97.5	94.1	86.1	78.9	72.1	66.5	-2.4	-0.6	-1.7	-1.7
Passenger transport (toe/Mpkm)	36.5	37.6	38.1	41.0	39.7	36.9	35.7	32.5	30.2	0.4	0.4	-1.1	-1.7
Freight transport (toe/Mtkm)	69.2	66.4	66.6	74.5	74.0	73.5	70.4	66.9	61.9	-0.4	1.1	-0.5	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.48	0.43	0.35	0.27	0.24	0.20	0.17	0.15	0.15	-3.1	-3.7	-3.3	-1.2
Final energy demand (t of CO_2/toe)	1.91	1.84	1.77	1.73	1.66	1.59	1.51	1.47	1.44	-0.7	-0.7	-0.9	-0.5
Industry	1.98	1.95	1.77	1.70	1.62	1.45	1.38	1.39	1.41	-1.1	-0.9	-1.6	0.2
Residential	1.24	1.09	0.94	0.79	0.80	0.75	0.64	0.58	0.55	-2.8	-1.5	-2.3	-1.4
Tertiary	1.27	1.12	1.04	0.94	0.85	0.82	0.81	0.80	0.80	-1.9	-2.0	-0.5	-0.2
Transport	2.96	2.95	2.95	2.96	2.88	2.83	2.74	2.70	2.66	0.0	-0.2	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			11.7	16.9	19.2	23.5	30.0	32.9	34.0				
RES in transport (%)			0.1	0.2	3.5	6.0	10.1	12.1	14.5				
Gross Electricity generation by fuel type (in GWh)			**36043**	**36348**	**36646**	**37797**	**37137**	**39218**	**41364**		**0.2**	**0.1**	**1.1**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15757	15052	13297	12142	8116	8091	8140		-1.7	-4.8	0.0
Petroleum products			4920	1371	352	238	203	169	141		-23.2	-5.3	-3.6
Gas (including derived gases)			9246	9308	10167	9531	7715	7071	7334		1.0	-2.7	-0.5
Biomass & waste			1849	3982	4865	5502	6008	7484	8279		10.2	2.1	3.3
Hydro			30	23	21	28	29	28	29		-3.5	3.3	-0.2
Wind			4240	6613	7938	10321	14964	16250	17295		6.5	6.5	1.5
Solar, tidal etc.			0	0	6	36	102	125	146			31.9	3.7
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**12431**	**13128**	**13199**	**13010**	**12955**	**13523**	**14203**		**0.6**	**-0.2**	**0.9**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2403	3143	3746	4251	5850	6281	6698		4.5	4.6	1.4
Hydro (pumping excluded)			10	11	11	11	12	12	12		1.0	0.9	0.0
Wind			2392	3129	3719	4202	5731	6138	6530		4.5	4.4	1.3
Solar			1	3	16	38	107	131	156		32.0	20.8	3.8
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10028	9985	9452	8759	7105	7242	7505		-0.6	-2.8	0.5
of which cogeneration units			4488	4691	4681	5198	4772	4969	5232		0.4	0.2	0.9
of which CCS units			0	0	0	0	0	0	0				
Solids fired			6232	5752	5269	4451	3321	3144	3104		-1.7	-4.5	-0.7
Gas fired			2092	2257	2227	2265	2169	2382	2524		0.6	-0.3	1.5
Oil fired			1124	1099	1022	982	387	228	118		-0.9	-9.2	-11.2
Biomass-waste fired			581	877	934	1061	1226	1488	1759		4.9	2.8	3.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			31.6	30.0	30.3	31.9	31.7	31.7	31.9				
Efficiency for thermal electricity production (%)			34.9	35.7	39.4	37.4	33.3	34.5	35.6				
CHP indicator (% of electricity from CHP)			55.4	59.0	66.3	70.4	56.3	56.3	56.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			17.0	29.2	35.0	42.0	56.8	60.9	62.2				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			17.0	29.2	35.0	42.0	56.8	60.9	62.2				
Transport sector													
Passenger transport activity (Gpkm)	**68.9**	**71.6**	**76.1**	**79.5**	**82.8**	**88.8**	**92.4**	**96.5**	**100.2**	**1.0**	**0.8**	**1.1**	**0.8**
Public road transport	6.4	7.3	7.4	7.3	7.4	7.8	8.0	8.3	8.5	1.4	0.0	0.8	0.6
Private cars and motorcycles	48.0	49.1	51.9	53.7	56.1	59.5	60.1	61.1	61.8	0.8	0.8	0.7	0.3
Rail	5.1	4.9	5.5	6.1	6.4	6.8	7.3	7.9	8.3	0.9	1.4	1.4	1.3
Aviation	5.2	6.5	7.9	9.3	9.8	11.5	13.5	15.7	18.0	4.3	2.2	3.2	2.9
Inland navigation	4.2	3.8	3.3	3.0	3.1	3.2	3.4	3.5	3.7	-2.5	-0.6	0.9	0.9
Freight transport activity (Gtkm)	**21.7**	**26.7**	**27.5**	**27.0**	**24.5**	**26.3**	**27.5**	**29.1**	**30.7**	**2.4**	**-1.1**	**1.1**	**1.1**
Trucks	18.1	22.4	24.0	23.3	21.0	22.6	23.6	25.0	26.4	2.9	-1.3	1.2	1.1
Rail	1.7	2.0	2.0	2.0	1.8	1.9	2.0	2.1	2.3	1.6	-1.2	1.0	1.4
Inland navigation	1.9	2.3	1.5	1.7	1.7	1.8	1.9	2.0	2.0	-2.4	1.5	0.8	0.7
Energy demand in transport (ktoe)	**4024**	**4460**	**4732**	**5269**	**5100**	**5205**	**5230**	**5083**	**4927**	**1.6**	**0.8**	**0.3**	**-0.6**
Public road transport	59	74	76	75	75	77	76	74	71	2.6	-0.1	0.0	-0.6
Private cars and motorcycles	1627	1776	1882	2100	2098	1992	1850	1651	1477	1.5	1.1	-1.3	-2.2
Trucks	1383	1636	1735	1908	1719	1832	1838	1853	1842	2.3	-0.1	0.7	0.0
Rail	114	118	103	107	97	100	95	90	55	-1.0	-0.6	-0.3	-5.3
Aviation	690	675	820	943	971	1059	1220	1257	1319	1.7	1.7	2.3	0.8
Inland navigation	150	182	116	136	139	145	151	158	163	-2.6	1.9	0.8	0.7

Source: PRIMES

Estonia: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5500**	**3354**	**3186**	**4210**	**3310**	**4060**	**4177**	**4108**	**4123**	**-5.3**	**0.4**	**2.4**	**-0.1**
Solids	5050	2868	2672	3176	2454	2893	2492	2429	2436	-6.2	-0.8	0.2	-0.2
Oil	0	0	2	354	120	90	74	60	38		51.3	-4.7	-6.4
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	450	487	512	680	736	1078	1612	1618	1649	1.3	3.7	8.2	0.2
Hydro	0	0	0	2	1	1	2	2	2		13.2	2.3	0.4
Biomass & Waste	450	486	512	674	715	1006	1426	1397	1371	1.3	3.4	7.2	-0.4
Wind	0	0	0	5	18	63	172	205	257		70.7	25.3	4.1
Solar and others	0	0	0	0	1	7	12	15	19			23.8	5.1
Geothermal	0	0	0	0	0	0	0	0	0			19.6	-0.7
Net Imports	**4470**	**1995**	**1593**	**1471**	**1697**	**1550**	**1338**	**1392**	**1451**	**-9.8**	**0.6**	**-2.3**	**0.8**
Solids	697	293	272	30	88	84	81	77	74	-9.0	-10.7	-0.7	-1.0
Oil	3153	1185	744	873	1089	1201	1223	1213	1223	-13.4	3.9	1.2	0.0
- Crude oil and Feedstocks	0	0	0	0	1	1	1	1	1			0.7	-0.1
- Oil products	3153	1185	744	873	1088	1200	1222	1212	1222	-13.4	3.9	1.2	0.0
Natural gas	1222	583	662	800	814	765	836	867	880	-5.9	2.1	0.3	0.5
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Gross Inland Consumption	**9919**	**5347**	**4696**	**5559**	**4880**	**5473**	**5372**	**5350**	**5416**	**-7.2**	**0.4**	**1.0**	**0.1**
Solids	5967	3310	2974	3191	2542	2976	2573	2506	2510	-6.7	-1.6	0.1	-0.3
Oil	2872	1039	627	1118	1082	1154	1154	1124	1104	-14.1	5.6	0.6	-0.4
Natural gas	1222	583	662	800	814	765	836	867	880	-5.9	2.1	0.3	0.5
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Renew able energy forms	460	481	513	589	593	801	1106	1153	1223	1.1	1.5	6.4	1.0
as % in Gross Inland Consumption													
Solids	60.2	61.9	63.3	57.4	52.1	54.4	47.9	46.8	46.3				
Oil	28.9	19.4	13.4	20.1	22.2	21.1	21.5	21.0	20.4				
Natural gas	12.3	10.9	14.1	14.4	16.7	14.0	15.6	16.2	16.2				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	4.6	9.0	10.9	10.6	12.1	14.6	20.6	21.5	22.6				
Gross Electricity Generation in GWh_e	**17178**	**8691**	**8511**	**10203**	**10697**	**12883**	**13994**	**14580**	**15255**	**-6.8**	**2.3**	**2.7**	**0.9**
Self consumption and grid losses	2879	2858	2162	2194	2258	2524	2374	2344	2300	-2.8	0.4	0.5	-0.3
Fuel Inputs for Thermal Power Generation	**5654**	**2673**	**2439**	**2539**	**2561**	**2967**	**2752**	**2670**	**2708**	**-8.1**	**0.5**	**0.7**	**-0.2**
Solids	5085	2491	2200	2294	2383	2789	2354	2276	2276	-8.0	0.8	-0.1	-0.3
Oil (including refinery gas)	210	80	12	10	1	0	3	2	2	-25.2	-20.9	9.4	-2.9
Gas	357	100	226	227	158	72	125	107	97	-4.5	-3.5	-2.3	-2.5
Biomass & Waste	2	2	2	8	19	106	271	285	333	-0.3	24.6	30.6	2.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1906**	**788**	**662**	**725**	**482**	**482**	**465**	**447**	**433**	**-10.0**	**-3.1**	**-0.4**	**-0.7**
Refineries	1	1	1	1	1	1	1	1	1	0.0	-0.1	0.7	-0.1
Biofuels and hydrogen production	0	0	0	0	18	29	45	56	69			9.5	4.2
District heating	1607	501	456	495	457	448	416	389	362	-11.8	0.0	-0.9	-1.4
Others	299	287	206	229	6	3	2	2	1	-3.7	-30.2	-8.8	-4.5
Energy Branch Consumption	**295**	**148**	**172**	**196**	**186**	**205**	**194**	**192**	**190**	**-5.3**	**0.8**	**0.4**	**-0.2**
Non-Energy Uses	**170**	**230**	**220**	**231**	**210**	**264**	**301**	**332**	**335**	**2.6**	**-0.4**	**3.6**	**1.1**
Final Energy Demand	**6018**	**2496**	**2365**	**2783**	**2807**	**3103**	**3235**	**3320**	**3398**	**-8.9**	**1.7**	**1.4**	**0.5**
by sector													
Industry	2735	787	529	645	694	842	908	964	1031	-15.2	2.8	2.7	1.3
- energy intensive industries	666	429	200	192	189	219	234	242	247	-11.3	-0.5	2.1	0.5
- other industrial sectors	2069	358	328	453	504	623	674	722	784	-16.8	4.4	2.9	1.5
Residential	1277	966	928	889	880	921	945	932	922	-3.1	-0.5	0.7	-0.2
Tertiary	1166	252	329	479	444	497	504	512	518	-11.9	3.0	1.3	0.3
Transport	841	492	579	769	789	843	878	911	927	-3.7	3.1	1.1	0.5
by fuel													
Solids	703	193	117	98	101	128	161	174	192	-16.4	-1.5	4.8	1.8
Oil	1808	858	750	965	966	1038	1041	1044	1009	-8.4	2.6	0.7	-0.3
Gas	439	202	134	207	240	261	268	283	297	-11.2	6.0	1.1	1.0
Electricity	585	386	427	518	547	640	676	726	788	-3.1	2.5	2.2	1.5
Heat (from CHP and District Heating) [A]	2086	593	511	547	519	553	573	578	594	-13.1	0.1	1.0	0.3
Renew able energy forms	397	265	425	447	434	483	514	515	518	0.7	0.2	1.7	0.1
Other	0	0	0	0	0	0	0	0	0			11.2	2.9
RES in Gross Final Energy Consumption [B]			**426**	**548**	**569**	**760**	**1035**	**1082**	**1150**		**2.9**	**6.2**	**1.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**43.7**		**17.6**	**18.4**	**18.3**	**19.8**	**18.0**	**17.7**	**17.8**	**-8.7**	**0.4**	**-0.2**	**-0.1**
of w hich ETS sectors GHGs emissions				12.5	12.4	14.0	12.4	12.1	12.2			0.0	-0.2
CO_2 Emissions (energy related)	**37.1**	**16.0**	**13.9**	**15.0**	**15.2**	**17.0**	**15.4**	**15.0**	**15.0**	**-9.4**	**0.9**	**0.1**	**-0.3**
Pow er generation/District heating	27.3	12.1	10.7	11.1	11.2	12.6	10.8	10.4	10.4	-8.9	0.4	-0.3	-0.4
Energy Branch	0.4	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	-11.7	0.9	-0.3	-1.2
Industry	4.6	1.7	0.8	0.8	1.0	1.2	1.3	1.4	1.5	-16.1	1.9	3.5	0.8
Residential	1.2	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-13.5	-3.1	-1.7	-0.9
Tertiary	1.2	0.3	0.3	0.5	0.4	0.4	0.4	0.5	0.5	-14.1	4.7	0.5	0.1
Transport	2.4	1.4	1.7	2.3	2.3	2.4	2.5	2.5	2.5	-3.6	3.0	0.8	0.0
CO_2 Emissions (non energy related)	**0.9**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**	**-4.7**	**-0.3**	**3.7**	**2.0**
Non-CO_2 GHGs Emissions	**5.6**		**3.1**	**2.8**	**2.5**	**2.1**	**1.8**	**1.8**	**1.8**	**-5.7**	**-2.0**	**-3.4**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**40.2**	**42.2**	**41.9**	**45.3**	**41.2**	**40.6**	**40.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Estonia: REFERENCE SCENARIO
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.571	1.448	1.372	1.348	1.333	1.323	1.311	1.292	1.267	-1.3	-0.3	-0.2	-0.3
GDP (in 000 M€08)	8.8	6.0	8.0	11.7	11.8	14.2	16.3	18.3	20.5	-0.9	3.9	3.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	1132.1	893.0	585.0	474.5	412.8	385.1	329.5	291.8	264.5	-6.4	-3.4	-2.2	-2.2
Carbon intensity (t of CO_2/toe of GIC)	3.74	2.99	2.96	2.70	3.11	3.10	2.86	2.81	2.77	-2.3	0.5	-0.8	-0.3
Import Dependency %	44.3	36.7	33.2	25.9	33.9	27.6	24.3	25.3	26.0				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.1	2.6	3.4	3.9	4.1		4.9	5.9	2.7
as % of GDP			16.7	16.2	18.3	20.4	23.5	24.9	24.4				
Energy intensity indicators													
Industry (Energy on Value added)	319.4	219.8	100.0	69.4	62.5	59.0	55.1	51.4	48.6	-11.0	-4.6	-1.3	-1.2
Residential (Energy on Private Income)	136.3	146.4	100.0	60.7	69.8	63.5	59.0	53.8	48.6	-3.1	-3.5	-1.7	-1.9
Tertiary (Energy on Value added)	402.7	106.6	100.0	104.0	106.8	95.1	84.3	75.9	68.3	-13.0	0.7	-2.3	-2.1
Passenger transport (toe/Mpkm)	37.6	42.8	33.8	32.2	31.5	29.4	28.5	27.5	25.8	-1.1	-0.7	-1.0	-1.0
Freight transport (toe/Mtkm)	40.4	26.9	19.1	19.0	22.4	22.2	22.1	22.0	21.7	-7.2	1.6	-0.1	-0.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.70	0.67	0.62	0.62	0.61	0.49	0.46	0.44	0.5	-0.8	-2.2	-1.1
Final energy demand (t of CO_2/toe)	1.56	1.55	1.28	1.36	1.38	1.37	1.37	1.36	1.33	-2.0	0.7	-0.1	-0.3
Industry	1.66	2.18	1.50	1.27	1.38	1.46	1.48	1.43	1.41	-1.1	-0.8	0.7	-0.5
Residential	0.93	0.48	0.30	0.25	0.23	0.18	0.18	0.17	0.17	-10.6	-2.6	-2.4	-0.7
Tertiary	1.05	1.00	0.82	0.98	0.96	0.89	0.88	0.90	0.87	-2.5	1.7	-0.8	-0.2
Transport	2.89	2.90	2.92	2.95	2.89	2.86	2.80	2.76	2.66	0.1	-0.1	-0.3	-0.5
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			16.0	17.9	18.4	22.3	29.3	30.0	31.3				
RES in transport (%)			0.0	0.0	2.5	3.8	6.0	7.4	10.0				
Gross Electricity generation by fuel type (in GWh)			**8511**	**10203**	**10697**	**12883**	**13994**	**14580**	**15255**		**2.3**	**2.7**	**0.9**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			7604	9261	9824	11395	10114	10313	10313		2.6	0.3	0.2
Petroleum products			37	32	4	0	13	11	10		-20.4	13.3	-2.9
Gas (including derived gases)			859	809	554	325	725	672	600		-4.3	2.7	-1.9
Biomass & waste			6	25	87	406	1116	1178	1301		30.7	29.1	1.5
Hydro			5	22	17	17	22	22	22		13.2	2.3	0.4
Wind			1	54	210	737	2001	2379	2988		70.7	25.3	4.1
Solar, tidal etc.			0	0	1	2	4	5	20			15.8	19.1
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2575**	**2293**	**2423**	**2660**	**3257**	**3573**	**3893**		**-0.6**	**3.0**	**1.8**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3	36	115	406	940	1095	1329		45.2	23.4	3.5
Hydro (pumping excluded)			2	5	5	5	6	6	6		9.6	1.9	0.0
Wind			1	31	108	399	930	1084	1303		64.2	24.0	3.4
Solar			0	0	2	2	4	5	20			6.3	18.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2572	2257	2308	2254	2317	2478	2564		-1.1	0.0	1.0
of which cogeneration units			486	345	374	330	412	469	500		-2.6	1.0	2.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			2348	2023	2056	1926	1918	1903	1903		-1.3	-0.7	-0.1
Gas fired			205	205	206	259	239	405	464		0.0	1.5	6.9
Oil fired			12	12	7	7	3	3	2		-5.6	-9.2	-3.5
Biomass-waste fired			7	16	39	62	157	168	195		19.5	14.9	2.2
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			33.7	45.4	44.9	49.4	44.6	42.4	40.9				
Efficiency for thermal electricity production (%)			30.0	34.3	35.2	35.1	37.4	39.2	38.8				
CHP indicator (% of electricity from CHP)			11.7	11.0	16.1	15.8	18.7	21.1	21.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.1	1.0	3.0	9.0	22.5	24.6	28.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.1	1.0	3.0	9.0	22.5	24.6	28.4				
Transport sector													
Passenger transport activity (Gpkm)	**10.0**	**8.1**	**10.3**	**14.2**	**14.4**	**15.5**	**16.1**	**16.7**	**17.4**	**0.3**	**3.4**	**1.1**	**0.8**
Public road transport	4.5	2.0	2.6	2.7	2.7	2.7	2.8	2.8	2.9	-5.1	0.1	0.3	0.4
Private cars and motorcycles	3.1	5.2	6.8	10.0	10.1	10.9	11.0	11.1	11.1	8.0	4.1	0.8	0.1
Rail	1.6	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	-13.8	-0.2	1.0	0.4
Aviation	0.4	0.1	0.2	0.7	0.8	1.1	1.5	2.0	2.6	-6.7	16.8	6.0	5.3
Inland navigation	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.6	-0.3	0.6	0.4
Freight transport activity (Gtkm)	**11.5**	**5.4**	**12.0**	**16.5**	**15.1**	**17.4**	**19.0**	**20.5**	**22.1**	**0.5**	**2.3**	**2.4**	**1.5**
Trucks	4.5	1.5	3.9	5.8	6.6	7.6	8.3	9.2	10.1	-1.4	5.2	2.4	2.0
Rail	7.0	3.8	8.1	10.6	8.5	9.8	10.7	11.4	12.0	1.5	0.5	2.3	1.2
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**841**	**492**	**579**	**769**	**789**	**843**	**878**	**911**	**927**	**-3.7**	**3.1**	**1.1**	**0.5**
Public road transport	59	13	15	16	16	16	15	15	14	-12.5	0.2	-0.3	-0.6
Private cars and motorcycles	267	308	305	385	375	367	354	338	309	1.4	2.1	-0.6	-1.4
Trucks	407	104	180	266	299	344	375	406	437	-7.8	5.2	2.3	1.5
Rail	66	45	52	49	39	44	45	46	43	-2.4	-2.8	1.5	-0.5
Aviation	36	18	20	42	49	61	76	93	112	-5.9	9.6	4.6	3.9
Inland navigation	7	4	7	11	11	12	12	12	12	0.0	4.9	0.5	0.2

Source: PRIMES

Finland: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**11860**	**13166**	**14991**	**16468**	**16156**	**19391**	**20522**	**20211**	**19334**	**2.4**	**0.8**	**2.4**	**-0.6**
Solids	1581	2061	1207	2129	1705	1268	1276	1308	1309	-2.7	3.5	-2.9	0.3
Oil	0	15	37	205	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	5006	4957	5799	6003	5997	8845	9131	9363	9341	1.5	0.3	4.3	0.2
Renewable energy sources	5273	6133	7949	8131	8454	9278	10115	9540	8684	4.2	0.6	1.8	-1.5
Hydro	934	1111	1261	1185	1136	1147	1152	1167	1179	3.0	-1.0	0.1	0.2
Biomass & Waste	4338	5021	6681	6930	7265	7933	8555	7833	6956	4.4	0.8	1.6	-2.0
Wind	0	1	7	15	45	139	295	414	443		21.0	20.6	4.2
Solar and others	0	0	1	1	8	59	113	126	105	3.8	30.6	30.3	-0.7
Geothermal	0	0	0	0	0	0	0	0	0			22.2	-12.0
Net Imports	**18124**	**15650**	**18587**	**19306**	**18730**	**17096**	**16273**	**16176**	**16328**	**0.3**	**0.1**	**-1.4**	**0.0**
Solids	4378	3774	3533	3338	4103	3092	3140	3109	2991	-2.1	1.5	-2.6	-0.5
Oil	10570	8314	10610	10985	9256	9074	8410	8130	8163	0.0	-1.4	-1.0	-0.3
- Crude oil and Feedstocks	8930	8579	12164	11068	10345	10171	9537	9268	9303	3.1	-1.6	-0.8	-0.2
- Oil products	1639	-265	-1553	-84	-1089	-1097	-1127	-1138	-1140				
Natural gas	2261	2839	3422	3598	4206	3720	3416	3543	3899	4.2	2.1	-2.1	1.3
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Gross Inland Consumption	**29046**	**29070**	**32544**	**34666**	**34414**	**36007**	**36313**	**35897**	**35158**	**1.1**	**0.6**	**0.5**	**-0.3**
Solids	5327	5950	5087	4925	5808	4359	4416	4417	4299	-0.5	1.3	-2.7	-0.3
Oil	10029	8455	9266	10625	8784	8595	7929	7640	7660	-0.8	-0.5	-1.0	-0.3
Natural gas	2261	2839	3422	3598	4206	3720	3416	3543	3899	4.2	2.1	-2.1	1.3
Nuclear	5006	4957	5799	6003	5997	8845	9131	9363	9341	1.5	0.3	4.3	0.2
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Renewable energy forms	5508	6146	7949	8053	8531	9628	10759	10375	9419	3.7	0.7	2.3	-1.3
as % in Gross Inland Consumption													
Solids	18.3	20.5	15.6	14.2	16.9	12.1	12.2	12.3	12.2				
Oil	34.5	29.1	28.5	30.7	25.5	23.9	21.8	21.3	21.8				
Natural gas	7.8	9.8	10.5	10.4	12.2	10.3	9.4	9.9	11.1				
Nuclear	17.2	17.1	17.8	17.3	17.4	24.6	25.1	26.1	26.6				
Renewable energy forms	19.0	21.1	24.4	23.2	24.8	26.7	29.6	28.9	26.8				
Gross Electricity Generation in GWh_e	**54367**	**64052**	**69976**	**70540**	**79215**	**86931**	**91064**	**94165**	**93798**	**2.6**	**1.2**	**1.4**	**0.3**
Self consumption and grid losses	5546	6510	5543	5756	6315	7367	7702	8390	8416	0.0	1.3	2.0	0.9
Fuel Inputs for Thermal Power Generation	**5451**	**6714**	**6923**	**7538**	**10545**	**8359**	**8667**	**8427**	**8383**	**2.4**	**4.3**	**-1.9**	**-0.3**
Solids	3216	3882	3168	2974	4439	2928	2952	2608	2371	-0.1	3.4	-4.0	-2.2
Oil (including refinery gas)	294	256	131	107	188	37	35	34	32	-7.8	3.7	-15.5	-0.8
Gas	1015	1581	2106	2384	2941	1672	1440	1673	1739	7.6	3.4	-6.9	1.9
Biomass & Waste	926	996	1518	2073	2977	3723	4240	4113	4241	5.1	7.0	3.6	0.0
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**12101**	**14065**	**15357**	**15526**	**12967**	**13454**	**12957**	**12632**	**13006**	**2.4**	**-1.7**	**0.0**	**0.0**
Refineries	10735	12067	13249	13248	10747	10602	9966	9695	9723	2.1	-2.1	-0.8	-0.2
Biofuels and hydrogen production	0	0	0	0	70	179	321	337	386			16.5	1.8
District heating	573	548	803	954	1150	1703	1682	1600	1879	3.4	3.7	3.9	1.1
Others	793	1451	1306	1325	999	969	988	1000	1017	5.1	-2.6	-0.1	0.3
Energy Branch Consumption	**776**	**959**	**1281**	**1263**	**1221**	**1266**	**1239**	**1254**	**1182**	**5.1**	**-0.5**	**0.1**	**-0.5**
Non-Energy Uses	**1492**	**1203**	**946**	**1149**	**1092**	**1156**	**1161**	**1157**	**1171**	**-4.4**	**1.4**	**0.6**	**0.1**
Final Energy Demand	**21758**	**22069**	**24176**	**25157**	**24664**	**25374**	**25265**	**24756**	**24081**	**1.1**	**0.2**	**0.2**	**-0.5**
by sector													
Industry	9620	9989	12046	11999	11308	11657	11734	11650	11455	2.3	-0.6	0.4	-0.2
- energy intensive industries	7353	7629	9446	9070	8234	8189	8150	7980	7779	2.5	-1.4	-0.1	-0.5
- other industrial sectors	2268	2360	2599	2929	3073	3467	3584	3670	3676	1.4	1.7	1.5	0.3
Residential	5333	5430	4541	4849	5071	5184	5143	4895	4730	-1.6	1.1	0.1	-0.8
Tertiary	2483	2487	3132	3478	3565	3781	3739	3685	3588	2.3	1.3	0.5	-0.4
Transport	4321	4162	4457	4831	4721	4753	4648	4527	4308	0.3	0.6	-0.2	-0.8
by fuel													
Solids	1621	1277	1099	966	745	799	818	1154	1282	-3.8	-3.8	0.9	4.6
Oil	8131	7591	7535	7920	6725	6578	6023	5754	5788	-0.8	-1.1	-1.1	-0.4
Gas	1501	1523	1328	1156	893	1263	1181	1172	1079	-1.2	-3.9	2.8	-0.9
Electricity	5068	5608	6487	6959	7284	7628	7760	7867	7817	2.5	1.2	0.6	0.1
Heat (from CHP and District Heating) [A]	1915	2126	2780	3597	5042	4851	4792	4496	4702	3.8	6.1	-0.5	-0.2
Renewable energy forms	3522	3944	4946	4559	3975	4255	4689	4313	3412	3.5	-2.2	1.7	-3.1
Other	0	0	0	0	0	1	1	1	1			8.2	-0.5
RES in Gross Final Energy Consumption [B]			**7256**	**7401**	**7848**	**9119**	**9976**	**9735**	**8792**		**0.8**	**2.4**	**-1.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**72.2**		**70.1**	**70.3**	**71.3**	**62.0**	**58.3**	**57.7**	**58.1**	**-0.3**	**0.2**	**-2.0**	**0.0**
of which ETS sectors GHGs emissions				37.5	40.4	32.0	31.4	31.0	31.7			-2.5	0.1
CO_2 Emissions (energy related)	**54.4**	**55.6**	**53.7**	**54.1**	**55.6**	**47.9**	**45.4**	**44.9**	**45.3**	**-0.1**	**0.3**	**-2.0**	**0.0**
Power generation/District heating	17.8	21.8	20.2	20.5	28.0	19.8	19.2	18.2	18.5	1.3	3.4	-3.7	-0.4
Energy Branch	1.4	1.6	2.6	2.5	1.8	1.9	1.7	1.6	1.2	6.6	-3.4	-0.8	-3.0
Industry	14.0	12.3	12.5	11.8	7.3	8.0	7.6	8.8	10.3	-1.2	-5.3	0.5	3.1
Residential	6.5	5.9	2.4	2.1	2.1	2.3	2.0	1.8	1.7	-9.6	-1.2	-0.7	-1.1
Tertiary	2.1	1.8	3.0	3.0	2.7	2.6	2.2	2.2	2.0	3.8	-1.2	-1.8	-1.0
Transport	12.7	12.2	13.1	14.2	13.7	13.4	12.7	12.3	11.5	0.3	0.4	-0.7	-1.0
CO_2 Emissions (non energy related)	**3.7**	**3.3**	**3.8**	**3.9**	**3.6**	**3.8**	**3.9**	**4.0**	**4.1**	**0.4**	**-0.5**	**0.8**	**0.5**
Non-CO_2 GHGs Emissions	**14.2**		**12.6**	**12.3**	**12.1**	**10.3**	**9.0**	**8.8**	**8.7**	**-1.2**	**-0.4**	**-2.9**	**-0.3**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**97.1**	**97.4**	**98.7**	**85.9**	**80.8**	**79.9**	**80.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Finland: REFERENCE SCENARIO
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	4.974	5.099	5.171	5.237	5.337	5.429	5.501	5.549	5.569	0.4	0.3	0.3	0.1
GDP (in 000 M€08)	120.4	115.9	146.6	165.9	174.9	194.3	212.8	229.6	246.6	2.0	1.8	2.0	1.5
Gross Inl. Cons./GDP (toe/M€08)	241.3	250.9	222.0	208.9	196.8	185.3	170.7	156.4	142.6	-0.8	-1.2	-1.4	-1.8
Carbon intensity (t of CO_2/toe of GIC)	1.87	1.91	1.65	1.56	1.61	1.33	1.25	1.25	1.29	-1.3	-0.2	-2.5	0.3
Import Dependency %	61.2	53.2	56.0	54.9	53.7	46.9	44.2	44.5	45.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.0	18.9	20.4	23.8	28.1	30.0	30.5		2.7	3.9	1.9
as % of GDP			10.9	11.4	11.9	13.0	14.3	15.0	15.0				
Energy intensity indicators													
Industry (Energy on Value added)	134.0	126.6	100.0	82.1	73.7	67.2	62.1	58.0	54.2	-2.9	-3.0	-1.7	-1.4
Residential (Energy on Private Income)	132.1	141.3	100.0	91.2	93.9	87.8	80.4	71.3	63.8	-2.7	-0.6	-1.5	-2.3
Tertiary (Energy on Value added)	94.6	96.3	100.0	101.6	99.0	93.7	84.3	76.4	68.8	0.6	-0.1	-1.6	-2.0
Passenger transport (toe/Mpkm)	35.9	35.5	35.5	37.8	36.6	33.8	31.7	29.3	26.7	-0.1	0.3	-1.4	-1.7
Freight transport (toe/Mtkm)	46.0	45.8	38.2	36.9	35.8	35.5	33.9	32.4	30.5	-1.8	-0.7	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.23	0.24	0.19	0.18	0.20	0.13	0.13	0.12	0.12	-1.6	0.2	-4.3	-0.5
Final energy demand (t of CO_2/toe)	1.62	1.46	1.28	1.24	1.04	1.04	0.97	1.01	1.06	-2.3	-2.0	-0.7	0.9
Industry	1.46	1.24	1.03	0.98	0.64	0.68	0.65	0.75	0.90	-3.4	-4.7	0.1	3.3
Residential	1.21	1.09	0.52	0.43	0.41	0.44	0.38	0.37	0.37	-8.1	-2.3	-0.8	-0.3
Tertiary	0.84	0.70	0.97	0.87	0.75	0.69	0.60	0.59	0.56	1.4	-2.5	-2.2	-0.6
Transport	2.94	2.93	2.94	2.94	2.90	2.83	2.74	2.72	2.67	0.0	-0.2	-0.6	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			29.2	28.5	30.7	34.6	38.0	37.8	35.0				
RES in transport (%)			0.3	0.4	2.1	4.9	8.8	9.6	11.8				
Gross Electricity generation by fuel type (in GWh)			**69976**	**70540**	**79215**	**86931**	**91064**	**94165**	**93798**		**1.2**	**1.4**	**0.3**
Nuclear energy			22475	23267	23248	35057	36244	37242	37929		0.3	4.5	0.5
Coal and lignite			14241	11925	14270	9895	10007	9644	8633		0.0	-3.5	-1.5
Petroleum products			554	431	834	144	136	130	126		4.2	-16.6	-0.8
Gas (including derived gases)			10676	11917	14056	9290	8012	9472	8852		2.8	-5.5	1.0
Biomass & waste			7292	9047	13070	17548	19761	19185	19245		6.0	4.2	-0.3
Hydro			14657	13782	13206	13338	13396	13570	13715		-1.0	0.1	0.2
Wind			78	170	525	1614	3426	4810	5154		21.0	20.6	4.2
Solar, tidal etc.			2	3	7	44	81	113	144		13.8	27.3	5.9
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**16630**	**17045**	**17582**	**21512**	**21740**	**20981**	**21269**		**0.6**	**2.1**	**-0.2**
Nuclear energy			2687	2690	2691	4207	4207	4322	4396		0.0	4.6	0.4
Renewable energy			2882	3080	3291	3796	4527	5084	5280		1.3	3.2	1.5
Hydro (pumping excluded)			2841	2994	2994	3068	3104	3129	3144		0.5	0.4	0.1
Wind			38	82	289	682	1339	1838	1987		22.5	16.6	4.0
Solar			3	4	8	46	84	117	149		10.5	26.4	5.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			11060	11275	11601	13509	13006	11575	11593		0.5	1.1	-1.1
of which cogeneration units			5965	6033	6717	7122	6801	6758	6535		1.2	0.1	-0.4
of which CCS units			0	0	0	0	0	0	0				
Solids fired			5562	5607	5626	5386	5104	3272	2744		0.1	-1.0	-6.0
Gas fired			3042	3007	3074	3312	3091	3072	3414		0.1	0.1	1.0
Oil fired			898	897	899	478	346	325	176		0.0	-9.1	-6.5
Biomass-waste fired			1558	1763	2001	4333	4464	4906	5260		2.5	8.4	1.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			46.1	45.4	49.4	44.0	45.6	48.6	47.8				
Efficiency for thermal electricity production (%)			40.7	38.0	34.4	37.9	37.6	39.2	37.8				
CHP indicator (% of electricity from CHP)			38.3	41.0	39.5	40.8	38.0	39.1	37.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			63.6	65.6	63.2	77.8	80.1	79.6	81.2				
- nuclear			32.1	33.0	29.3	40.3	39.8	39.5	40.4				
- renewable energy forms and industrial waste			31.5	32.6	33.8	37.4	40.3	40.0	40.8				
Transport sector													
Passenger transport activity (Gpkm)	**74.6**	**72.8**	**80.0**	**87.0**	**89.5**	**96.2**	**100.1**	**103.8**	**106.7**	**0.7**	**1.1**	**1.1**	**0.6**
Public road transport	8.5	8.0	7.7	7.5	7.6	7.7	7.9	8.1	8.2	-1.0	-0.2	0.4	0.4
Private cars and motorcycles	52.0	50.9	56.6	62.8	64.5	68.9	70.4	71.6	71.8	0.9	1.3	0.9	0.2
Rail	3.7	3.6	3.9	4.0	4.3	4.7	5.0	5.3	5.5	0.6	1.0	1.5	0.9
Aviation	6.1	5.8	7.7	8.8	9.1	10.9	12.8	14.8	16.9	2.4	1.8	3.4	2.9
Inland navigation	4.3	4.5	4.2	3.8	3.9	4.0	4.1	4.1	4.1	-0.4	-0.6	0.4	0.1
Freight transport activity (Gtkm)	**35.8**	**34.5**	**42.4**	**41.8**	**40.4**	**42.3**	**43.5**	**45.7**	**47.9**	**1.7**	**-0.5**	**0.8**	**1.0**
Trucks	26.3	24.5	32.0	31.9	29.7	31.1	32.0	33.8	35.9	2.0	-0.7	0.7	1.2
Rail	8.4	9.6	10.1	9.7	10.4	10.9	11.4	11.7	11.8	1.9	0.3	0.9	0.4
Inland navigation	1.1	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-12.2	-4.3	1.3	0.9
Energy demand in transport (ktoe)	**4321**	**4162**	**4457**	**4831**	**4721**	**4753**	**4648**	**4527**	**4308**	**0.3**	**0.6**	**-0.2**	**-0.8**
Public road transport	78	72	69	66	66	65	63	61	59	-1.3	-0.4	-0.4	-0.7
Private cars and motorcycles	2023	1967	2089	2459	2427	2322	2193	2019	1777	0.3	1.5	-1.0	-2.1
Trucks	1546	1479	1529	1448	1349	1401	1382	1394	1400	-0.1	-1.2	0.2	0.1
Rail	100	102	94	97	101	105	99	91	66	-0.6	0.7	-0.2	-3.9
Aviation	459	408	505	565	577	654	703	753	797	1.0	1.3	2.0	1.3
Inland navigation	116	134	170	196	202	206	208	208	209	3.9	1.7	0.3	0.0

Source: PRIMES

France: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**111013**	**127609**	**131920**	**136736**	**135229**	**144856**	**155930**	**158294**	**163058**	**1.7**	**0.2**	**1.4**	**0.4**
Solids	7625	5359	2267	383	337	207	0	3	3	-11.4	-17.3		
Oil	3514	3509	2897	1479	0	0	0	0	0	-1.9			
Natural gas	2516	2793	1505	909	0	0	0	0	0	-5.0			
Nuclear	81018	97308	107093	116474	114683	117571	114303	115272	117977	2.8	0.7	0.0	0.3
Renewable energy sources	16339	18641	18160	17492	20209	27078	41627	43019	45077	1.1	1.1	7.5	0.8
Hydro	4635	6322	5822	4496	4900	4921	4932	5147	5202	2.3	-1.7	0.1	0.5
Biomass & Waste	11575	12171	12181	12761	13953	18041	28858	27932	27640	0.5	1.4	7.5	-0.4
Wind	0	0	7	83	977	2865	4843	5496	5988		64.8	17.4	2.1
Solar and others	19	15	26	22	222	948	1999	2574	3196	2.8	24.1	24.6	4.8
Geothermal	110	132	124	130	156	304	995	1870	3051	1.2	2.4	20.3	11.9
Net Imports	**120596**	**116805**	**134196**	**144346**	**138036**	**128642**	**115379**	**112524**	**107101**	**1.1**	**0.3**	**-1.8**	**-0.7**
Solids	13004	9010	13201	13504	11308	7483	7152	6912	6593	0.2	-1.5	-4.5	-0.8
Oil	87127	86307	91185	95364	89902	85987	79409	75859	71682	0.5	-0.1	-1.2	-1.0
- Crude oil and Feedstocks	76561	79689	85250	85529	84026	82219	79072	77307	73674	1.1	-0.1	-0.6	-0.7
- Oil products	10566	6619	5936	9835	5876	3768	337	-1448	-1992	-5.6	-0.1	-24.9	
Natural gas	24371	27493	35778	40720	42004	40797	34568	34149	32440	3.9	1.6	-1.9	-0.6
Electricity	-3907	-6005	-5974	-5187	-5040	-5296	-5323	-4064	-3421				
Gross Inland Consumption	**227754**	**241418**	**259828**	**277086**	**270483**	**270590**	**268369**	**267814**	**267064**	**1.3**	**0.4**	**-0.1**	**0.0**
Solids	19955	15287	15240	14296	11646	7690	7152	6915	6596	-2.7	-2.7	-4.8	-0.8
Oil	88316	86611	89539	92991	87120	83079	76469	72855	68587	0.1	-0.3	-1.3	-1.1
Natural gas	26032	29577	35766	41077	42004	40797	34568	34149	32440	3.2	1.6	-1.9	-0.6
Nuclear	81018	97308	107093	116474	114683	117571	114303	115272	117977	2.8	0.7	0.0	0.3
Electricity	-3907	-6005	-5975	-5188	-5040	-5296	-5323	-4064	-3421				
Renewable energy forms	16339	18641	18165	17436	20071	26750	41200	42688	44885	1.1	1.0	7.5	0.9
as % in Gross Inland Consumption													
Solids	8.8	6.3	5.9	5.2	4.3	2.8	2.7	2.6	2.5				
Oil	38.8	35.9	34.5	33.6	32.2	30.7	28.5	27.2	25.7				
Natural gas	11.4	12.3	13.8	14.8	15.5	15.1	12.9	12.8	12.1				
Nuclear	35.6	40.3	41.2	42.0	42.4	43.4	42.6	43.0	44.2				
Renewable energy forms	7.2	7.7	7.0	6.3	7.4	9.9	15.4	15.9	16.8				
Gross Electricity Generation in GWh_e	**416667**	**490848**	**535963**	**571367**	**566841**	**598563**	**624606**	**654605**	**681000**	**2.5**	**0.6**	**1.0**	**0.9**
Self consumption and grid losses	61718	69726	72429	80428	59131	62982	66095	73857	77767	1.6	-2.0	1.1	1.6
Fuel Inputs for Thermal Power Generation	**10983**	**8553**	**13122**	**16669**	**14220**	**12444**	**15735**	**17571**	**18609**	**1.8**	**0.8**	**1.0**	**1.7**
Solids	7334	5441	6231	6404	5239	1675	1543	1416	1303	-1.6	-1.7	-11.5	-1.7
Oil (including refinery gas)	1920	605	1284	1952	192	459	0	1	1	-3.9	-17.3	-46.0	8.8
Gas	1423	1216	4062	6288	6183	6218	4398	5396	5544	11.1	4.3	-3.3	2.3
Biomass & Waste	306	1290	1545	2024	2597	4005	9279	9234	8999	17.6	5.3	13.6	-0.3
Geothermal heat	0	0	0	0	9	87	514	1524	2762			49.8	18.3
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**90122**	**91635**	**98266**	**95011**	**91861**	**90791**	**88526**	**87239**	**84046**	**0.9**	**-0.7**	**-0.4**	**-0.5**
Refineries	80205	83811	90956	88526	85561	83653	80356	78530	74864	1.3	-0.6	-0.6	-0.7
Biofuels and hydrogen production	0	155	328	408	1696	2664	3869	4624	5092		17.9	8.6	2.8
District heating	1019	588	312	239	206	271	312	304	281	-11.1	-4.1	4.3	-1.0
Others	8898	7081	6669	5838	4398	4203	3989	3781	3809	-2.8	-4.1	-1.0	-0.5
Energy Branch Consumption	**9413**	**10501**	**10829**	**10252**	**10564**	**9260**	**9079**	**9120**	**8805**	**1.4**	**-0.2**	**-1.5**	**-0.3**
Non-Energy Uses	**13454**	**16838**	**15903**	**16133**	**15055**	**14786**	**14521**	**14307**	**14258**	**1.7**	**-0.5**	**-0.4**	**-0.2**
Final Energy Demand	**137226**	**142756**	**152708**	**157515**	**156872**	**158429**	**158149**	**156214**	**153186**	**1.1**	**0.3**	**0.1**	**-0.3**
by sector													
Industry	36439	37119	36887	34001	33760	34210	34688	34880	35168	0.1	-0.9	0.3	0.1
- energy intensive industries	23706	21472	22331	20150	18915	18567	18297	17994	17685	-0.6	-1.6	-0.3	-0.3
- other industrial sectors	12733	15647	14556	13850	14845	15643	16391	16886	17484	1.3	0.2	1.0	0.6
Residential	37053	37201	42587	45295	45197	45717	45396	44100	43127	1.4	0.6	0.0	-0.5
Tertiary	21698	24144	21648	28279	28584	29166	28999	28436	28303	0.0	2.8	0.1	-0.2
Transport	42037	44292	51586	49941	49332	49336	49066	48798	46588	2.1	-0.4	-0.1	-0.5
by fuel													
Solids	9017	6905	5775	5148	4349	4038	3798	3818	3564	-4.4	-2.8	-1.3	-0.6
Oil	67695	68410	72242	71510	68739	65409	61582	58620	54629	0.7	-0.5	-1.1	-1.2
Gas	23400	27098	30880	33744	34648	32926	27974	25111	23320	2.8	1.2	-2.1	-1.8
Electricity	25960	29456	33096	36337	36233	39497	41492	44671	47268	2.5	0.9	1.4	1.3
Heat (from CHP and District Heating) [A]	774	447	237	182	1620	2220	3821	4021	4097	-11.1	21.2	9.0	0.7
Renewable energy forms	10380	10439	10478	10594	11281	14333	19474	19965	20300	0.1	0.7	5.6	0.4
Other	0	0	0	0	3	6	8	8	8			8.5	0.1
RES in Gross Final Energy Consumption [B]			**16831**	**17055**	**19694**	**25863**	**37693**	**39464**	**40703**		**1.6**	**6.7**	**0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**554.8**		**553.9**	**541.3**	**510.8**	**474.6**	**436.2**	**425.0**	**407.4**	**0.0**	**-0.8**	**-1.6**	**-0.7**
of which ETS sectors GHGs emissions				158.7	130.4	112.0	98.8	102.7	100.9			-2.7	0.2
CO_2 Emissions (energy related)	**352.9**	**344.8**	**372.9**	**379.9**	**356.3**	**327.0**	**292.4**	**280.5**	**262.8**	**0.6**	**-0.5**	**-2.0**	**-1.1**
Power generation/District heating	40.1	27.6	39.7	47.4	36.8	23.5	17.4	19.2	19.5	-0.1	-0.7	-7.2	1.2
Energy Branch	16.8	18.7	19.1	16.1	13.1	12.6	8.3	10.2	9.6	1.3	-3.7	-4.5	1.4
Industry	78.7	75.7	69.7	60.7	54.8	49.1	39.4	37.7	36.8	-1.2	-2.4	-3.2	-0.7
Residential	55.4	52.4	61.7	65.2	66.5	62.5	55.7	48.8	43.5	1.1	0.8	-1.8	-2.4
Tertiary	39.4	41.0	32.2	44.7	45.0	42.2	39.1	35.4	32.7	-2.0	3.4	-1.4	-1.8
Transport	122.5	129.5	150.6	145.8	140.1	137.1	132.5	129.2	120.8	2.1	-0.7	-0.6	-0.9
CO_2 Emissions (non energy related)	**32.4**	**28.5**	**26.7**	**26.7**	**25.2**	**25.8**	**26.4**	**26.6**	**26.7**	**-1.9**	**-0.6**	**0.5**	**0.1**
Non-CO_2 GHGs Emissions	**169.5**		**154.3**	**134.7**	**129.3**	**121.7**	**117.4**	**117.9**	**117.8**	**-0.9**	**-1.8**	**-1.0**	**0.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.8**	**97.6**	**92.1**	**85.5**	**78.6**	**76.6**	**73.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										France: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.577	57.753	58.850	60.825	62.583	64.203	65.607	66.846	67.982	0.4	0.6	0.5	0.4
GDP (in 000 M€08)	1376.2	1462.8	1679.4	1823.4	1858.3	2055.4	2265.4	2474.1	2694.0	2.0	1.0	2.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	165.5	165.0	154.7	152.0	145.6	131.6	118.5	108.2	99.1	-0.7	-0.6	-2.0	-1.8
Carbon intensity (t of CO_2/toe of GIC)	1.55	1.43	1.44	1.37	1.32	1.21	1.09	1.05	0.98	-0.8	-0.9	-1.9	-1.0
Import Dependency %	52.4	47.9	51.1	51.6	50.5	47.0	42.5	41.5	39.6				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			152.8	169.1	174.7	199.7	240.8	264.9	270.6		1.7	4.2	2.4
as % of GDP			9.1	9.3	9.7	10.6	12.0	12.8	12.8				
Energy intensity indicators													
Industry (Energy on Value added)	128.3	120.9	100.0	86.6	86.1	80.6	74.8	68.9	64.0	-2.5	-1.5	-1.4	-1.6
Residential (Energy on Private Income)	103.2	99.3	100.0	94.4	94.9	87.2	79.7	72.1	65.5	-0.3	-0.5	-1.7	-1.9
Tertiary (Energy on Value added)	124.1	128.9	100.0	120.2	117.8	108.1	97.3	87.2	79.6	-2.1	1.7	-1.9	-2.0
Passenger transport (toe/Mpkm)	40.1	40.6	45.2	42.7	40.9	37.1	34.9	32.3	28.4	1.2	-1.0	-1.6	-2.1
Freight transport (toe/Mtkm)	51.9	47.3	38.9	39.0	38.9	38.6	37.8	37.3	35.9	-2.9	0.0	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.09	0.06	0.07	0.08	0.06	0.04	0.03	0.03	0.03	-2.4	-1.8	-8.4	0.3
Final energy demand (t of CO_2/toe)	2.16	2.09	2.06	2.01	1.95	1.84	1.69	1.61	1.53	-0.5	-0.5	-1.5	-1.0
Industry	2.16	2.04	1.89	1.78	1.62	1.44	1.14	1.08	1.05	-1.3	-1.5	-3.5	-0.8
Residential	1.50	1.41	1.45	1.44	1.47	1.37	1.23	1.11	1.01	-0.3	0.2	-1.8	-1.9
Tertiary	1.82	1.70	1.49	1.58	1.57	1.45	1.35	1.24	1.16	-2.0	0.6	-1.5	-1.5
Transport	2.91	2.92	2.92	2.92	2.84	2.78	2.70	2.65	2.59	0.0	-0.3	-0.5	-0.4
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			10.7	10.4	12.2	15.8	23.0	24.3	25.5				
RES in transport (%)			1.1	1.3	4.4	6.9	10.1	12.1	13.9				
Gross Electricity generation by fuel type (in GWh)			**535963**	**571367**	**566841**	**598563**	**624606**	**654605**	**681000**		**0.6**	**1.0**	**0.9**
Nuclear energy			415087	451448	444587	455782	443115	451764	463563		0.7	0.0	0.5
Coal and lignite			27802	28623	22015	7308	6397	5935	5840		-2.3	-11.6	-0.9
Petroleum products			5664	7913	451	1599	2	5	5		-22.4	-41.4	7.7
Gas (including derived gases)			16069	25269	24270	28818	24414	31319	31122		4.2	0.1	2.5
Biomass & waste			3561	4865	6038	11376	29458	28916	30870		5.4	17.2	0.5
Hydro			67698	52277	56979	57217	57354	59849	60485		-1.7	0.1	0.5
Wind			77	963	11361	33309	56310	63902	69629		64.8	17.4	2.1
Solar, tidal etc.			5	10	666	2509	5837	9123	13653		63.1	24.2	8.9
Geothermal and other renewables			0	0	473	647	1720	3791	5834			13.8	13.0
Net Generation Capacity in MW_e			**107892**	**111422**	**117609**	**133709**	**146244**	**148229**	**161628**		**0.9**	**2.2**	**1.0**
Nuclear energy			60309	63242	63242	64757	66272	56212	57688		0.5	0.5	-1.4
Renewable energy			20632	21290	27667	37576	48514	55124	61637		3.0	5.8	2.4
Hydro (pumping excluded)			20568	20551	20652	20706	20770	21141	21322		0.0	0.1	0.3
Wind			57	723	6022	14470	22569	25639	27886		59.4	14.1	2.1
Solar			7	16	753	2117	4593	7296	11069		59.7	19.8	9.2
Other renewables (tidal etc.)			0	0	240	283	582	1048	1361			9.3	8.9
Thermal power			26951	26891	26700	31375	31458	36893	42303		-0.1	1.7	3.0
of which cogeneration units			4599	5371	4353	4901	5775	6108	7363		-0.5	2.9	2.5
of which CCS units			0	0	0	0	0	335	482				
Solids fired			9942	8576	7087	5873	3846	2700	1249		-3.3	-5.9	-10.6
Gas fired			4574	5523	6789	12190	13227	21240	28281		4.0	6.9	7.9
Oil fired			11028	11219	10920	10560	8425	6838	6183		-0.1	-2.6	-3.0
Biomass-waste fired			1407	1572	1903	2741	5892	5913	6224		3.1	12.0	0.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	2	12	68	202	367			46.5	18.3
Load factor for net electric capacities (%)			52.5	53.8	52.6	49.0	46.8	48.3	46.1				
Efficiency for thermal electricity production (%)			34.8	34.4	31.9	34.0	33.3	33.3	32.8				
CHP indicator (% of electricity from CHP)			3.2	3.4	3.2	4.3	5.2	5.2	5.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.4	0.5				
Non fossil fuels in electricity generation (%)			90.8	89.2	91.8	93.7	95.1	94.3	94.6				
- nuclear			77.4	79.0	78.4	76.1	70.9	69.0	68.1				
- renewable energy forms and industrial waste			13.3	10.2	13.3	17.6	24.1	25.3	26.5				
Transport sector													
Passenger transport activity (Gpkm)	**772.5**	**819.1**	**908.2**	**937.7**	**952.1**	**1023.1**	**1069.1**	**1126.9**	**1193.0**	**1.6**	**0.5**	**1.2**	**1.1**
Public road transport	41.3	41.6	43.0	43.9	47.5	51.0	54.3	57.8	61.3	0.4	1.0	1.3	1.2
Private cars and motorcycles	599.8	652.5	711.9	740.3	740.3	787.3	810.6	844.2	886.5	1.7	0.4	0.9	0.9
Rail	73.9	64.5	80.7	88.9	94.0	103.7	111.7	122.0	132.2	0.9	1.5	1.7	1.7
Aviation	53.5	56.4	69.1	61.5	66.9	77.7	88.9	99.3	109.1	2.6	-0.3	2.9	2.1
Inland navigation	3.9	4.1	3.5	3.1	3.2	3.4	3.5	3.7	3.9	-1.3	-0.7	0.8	0.9
Freight transport activity (Gtkm)	**213.6**	**233.1**	**270.8**	**254.9**	**268.2**	**294.3**	**311.1**	**332.4**	**355.5**	**2.4**	**-0.1**	**1.5**	**1.3**
Trucks	153.7	178.2	204.0	205.3	216.5	238.5	251.1	267.9	286.3	2.9	0.6	1.5	1.3
Rail	52.2	48.3	57.7	40.7	42.7	46.4	50.1	54.1	58.3	1.0	-3.0	1.6	1.5
Inland navigation	7.6	6.6	9.1	8.9	9.0	9.5	9.9	10.4	10.9	1.9	-0.1	1.0	0.9
Energy demand in transport (ktoe)	**42037**	**44292**	**51586**	**49941**	**49332**	**49336**	**49066**	**48798**	**46588**	**2.1**	**-0.4**	**-0.1**	**-0.5**
Public road transport	440	438	446	446	480	503	509	511	510	0.1	0.7	0.6	0.0
Private cars and motorcycles	25694	27178	32862	32693	31237	29752	28388	27414	25422	2.5	-0.5	-1.0	-1.1
Trucks	10192	10029	9441	8938	9405	10286	10677	11309	11733	-0.8	0.0	1.3	0.9
Rail	1153	1222	1376	1267	1297	1366	1372	1388	1328	1.8	-0.6	0.6	-0.3
Aviation	3839	4690	6683	6291	6598	7101	7782	7823	7228	5.7	-0.1	1.7	-0.7
Inland navigation	718	735	778	306	315	328	340	353	368	0.8	-8.7	0.8	0.8

Source: PRIMES

Germany: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**186681**	**141981**	**133331**	**136015**	**119216**	**112309**	**94829**	**84027**	**85244**	**-3.3**	**-1.1**	**-2.3**	**-1.1**
Solids	125125	78834	59599	56488	45793	40356	31632	30546	29486	-7.1	-2.6	-3.6	-0.7
Oil	4031	3308	3525	5746	3120	2630	2200	0	0	-1.3	-1.2	-3.4	
Natural gas	13532	15099	15800	14224	12200	11000	10000	8000	6500	1.6	-2.6	-2.0	-4.2
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Renew able energy sources	6320	7417	10656	17496	24195	31895	42078	45481	49258	5.4	8.5	5.7	1.6
Hydro	1498	1873	1869	1684	1811	1883	1922	1986	2052	2.2	-0.3	0.6	0.7
Biomass & Waste	4797	5348	7877	12980	16471	19204	22654	23152	23410	5.1	7.7	3.2	0.3
Wind	6	147	804	2341	4199	7606	11341	14003	17130	62.9	18.0	10.4	4.2
Solar and others	11	41	96	353	1300	2364	4213	4337	4680	24.3	29.8	12.5	1.1
Geothermal	7	9	10	138	413	837	1948	2003	1987	3.4	45.5	16.8	0.2
Net Imports	**166524**	**196270**	**205682**	**215281**	**212127**	**208585**	**208093**	**201643**	**184789**	**2.1**	**0.3**	**-0.2**	**-1.2**
Solids	3182	10963	21603	26805	29085	30137	36857	37424	32355	21.1	3.0	2.4	-1.3
Oil	121527	131988	126951	123134	112346	108069	101322	96133	87023	0.4	-1.2	-1.0	-1.5
- Crude oil and Feedstocks	89820	102213	102638	113980	110079	108172	102481	98334	90407	1.3	0.7	-0.7	-1.2
- Oil products	31707	29775	24312	9154	2266	-103	-1159	-2201	-3384	-2.6	-21.1		
Natural gas	41747	52904	56865	65734	71855	69985	68331	66151	63336	3.1	2.4	-0.5	-0.8
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Gross Inland Consumption	**356271**	**339454**	**341166**	**347147**	**328773**	**318237**	**300278**	**283049**	**267424**	**-0.4**	**-0.4**	**-0.9**	**-1.2**
Solids	131521	92175	83725	82803	74878	70492	68488	67970	61840	-4.4	-1.1	-0.9	-1.0
Oil	125712	134828	130919	124323	112895	108042	100878	93513	84414	0.4	-1.5	-1.1	-1.8
Natural gas	54976	67298	71853	80856	84055	80985	78331	74151	69836	2.7	1.6	-0.7	-1.1
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Renew able energy forms	6320	7417	10656	17496	24476	32267	42564	46012	49859	5.4	8.7	5.7	1.6
as % in Gross Inland Consumption													
Solids	36.9	27.2	24.5	23.9	22.8	22.2	22.8	24.0	23.1				
Oil	35.3	39.7	38.4	35.8	34.3	34.0	33.6	33.0	31.6				
Natural gas	15.4	19.8	21.1	23.3	25.6	25.4	26.1	26.2	26.1				
Nuclear	10.6	11.0	12.8	12.1	10.3	8.3	3.0	0.0	0.0				
Renew able energy forms	1.8	2.2	3.1	5.0	7.4	10.1	14.2	16.3	18.6				
Gross Electricity Generation in GWh_e	**547549**	**533711**	**567219**	**613054**	**631888**	**637039**	**626820**	**639084**	**647163**	**0.4**	**1.1**	**-0.1**	**0.3**
Self consumption and grid losses	66295	62666	74161	73028	71055	68729	67324	68840	68480	1.1	-0.4	-0.5	0.2
Fuel Inputs for Thermal Power Generation	**92914**	**85884**	**85258**	**92517**	**90813**	**87681**	**88997**	**89998**	**83263**	**-0.9**	**0.6**	**-0.2**	**-0.7**
Solids	75541	69147	68066	66172	62709	58944	56316	55851	50066	-1.0	-0.8	-1.1	-1.2
Oil (including refinery gas)	2873	2090	1113	2051	791	1499	1930	2151	1159	-9.0	-3.4	9.3	-5.0
Gas	12676	11982	12906	19356	20829	19759	20714	21610	21534	0.2	4.9	-0.1	0.4
Biomass & Waste	1824	2665	3174	4938	6305	7056	8759	9109	9226	5.7	7.1	3.3	0.5
Geothermal heat	0	0	0	0	179	423	1278	1278	1278			21.7	0.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**165992**	**141292**	**137838**	**145413**	**136007**	**133395**	**128488**	**121186**	**113272**	**-1.8**	**-0.1**	**-0.6**	**-1.3**
Refineries	108022	117793	120748	127966	120590	117953	111376	104442	95855	1.1	0.0	-0.8	-1.5
Biofuels and hydrogen production	0	31	222	1948	3594	4545	5580	6024	6389		32.1	4.5	1.4
District heating	6392	3638	1437	868	1528	1404	1279	733	1299	-13.9	0.6	-1.8	0.2
Others	51578	19831	15431	14632	10295	9494	10253	9987	9729	-11.4	-4.0	0.0	-0.5
Energy Branch Consumption	**15451**	**14982**	**14383**	**15267**	**13952**	**13457**	**12774**	**12148**	**11169**	**-0.7**	**-0.3**	**-0.9**	**-1.3**
Non-Energy Uses	**23473**	**23323**	**25457**	**24974**	**24212**	**24136**	**23971**	**23094**	**22201**	**0.8**	**-0.5**	**-0.1**	**-0.8**
Final Energy Demand	**227197**	**222795**	**218098**	**218369**	**217495**	**218006**	**213505**	**204618**	**194976**	**-0.4**	**0.0**	**-0.2**	**-0.9**
by sector													
Industry	71457	62001	57896	55666	52500	53052	53751	53097	51868	-2.1	-1.0	0.2	-0.4
- energy intensive industries	48775	42867	39110	37592	34340	34286	34642	33725	32711	-2.2	-1.3	0.1	-0.6
- other industrial sectors	22682	19134	18787	18074	18160	18765	19109	19372	19157	-1.9	-0.3	0.5	0.0
Residential	58417	63145	62142	67731	69449	68719	65616	61255	58389	0.6	1.1	-0.6	-1.2
Tertiary	38691	34569	31872	32823	32799	32422	30836	29024	27493	-1.9	0.3	-0.6	-1.1
Transport	58631	63080	66188	62149	62747	63813	63301	61242	57227	1.2	-0.5	0.1	-1.0
by fuel													
Solids	37141	14915	10949	9829	7362	7052	7226	7239	6956	-11.5	-3.9	-0.2	-0.4
Oil	96799	104905	98462	88706	81466	77618	71871	66301	59989	0.2	-1.9	-1.2	-1.8
Gas	42724	52595	56064	59821	61174	58600	54676	49852	45138	2.8	0.9	-1.1	-1.9
Electricity	38391	38912	41496	44497	45385	47525	47858	49117	49968	0.8	0.9	0.5	0.4
Heat (from CHP and District Heating) [A]	9150	8737	6323	7428	11079	13355	14764	14947	15528	-3.6	5.8	2.9	0.5
Renew able energy forms	2991	2731	4804	8088	11024	13848	17100	17152	17388	4.9	8.7	4.5	0.2
Other	0	0	0	0	5	8	10	10	10			7.9	-0.5
RES in Gross Final Energy Consumption [B]			**8852**	**14393**	**22739**	**30238**	**39785**	**43066**	**47131**		**9.9**	**5.8**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**1210.3**		**1025.5**	**997.3**	**931.7**	**883.6**	**836.7**	**805.2**	**743.4**	**-1.6**	**-1.0**	**-1.1**	**-1.2**
of w hich ETS sectors GHGs emissions				544.6	484.8	464.9	457.9	454.5	424.0			-0.6	-0.8
CO_2 Emissions (energy related)	**943.1**	**858.6**	**817.9**	**803.4**	**756.5**	**718.6**	**679.9**	**649.2**	**590.6**	**-1.4**	**-0.8**	**-1.1**	**-1.4**
Pow er generation/District heating	373.3	328.6	315.8	325.0	311.0	295.3	283.3	282.4	256.9	-1.7	-0.2	-0.9	-1.0
Energy Branch	25.9	27.2	26.6	28.3	25.2	22.1	20.7	19.0	17.2	0.3	-0.6	-2.0	-1.8
Industry	165.4	129.6	113.0	101.0	78.6	72.4	71.4	67.3	62.7	-3.7	-3.6	-0.9	-1.3
Residential	127.3	126.8	117.8	122.2	120.1	110.9	96.4	84.6	76.0	-0.8	0.2	-2.2	-2.4
Tertiary	81.9	63.9	53.2	52.0	49.6	45.5	40.4	35.6	30.9	-4.2	-0.7	-2.0	-2.6
Transport	169.4	182.4	191.5	174.8	171.9	172.3	167.7	160.2	147.0	1.2	-1.1	-0.2	-1.3
CO_2 Emissions (non energy related)	**84.2**	**80.6**	**82.8**	**77.7**	**68.2**	**68.7**	**72.9**	**73.7**	**74.3**	**-0.2**	**-1.9**	**0.7**	**0.2**
Non-CO_2 GHGs Emissions	**183.0**		**124.8**	**116.2**	**107.0**	**96.3**	**84.0**	**82.4**	**78.4**	**-3.8**	**-1.5**	**-2.4**	**-0.7**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**84.7**	**82.4**	**77.0**	**73.0**	**69.1**	**66.5**	**61.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Germany: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	79.113	81.539	82.163	82.501	82.145	81.858	81.472	80.907	80.152	0.4	0.0	-0.1	-0.2
GDP (in 000 M€08)	1933.6	2082.5	2300.1	2369.7	2410.3	2652.3	2877.2	3028.8	3178.6	1.8	0.5	1.8	1.0
Gross Inl. Cons./GDP (toe/M€08)	184.3	163.0	148.3	146.5	136.4	120.0	104.4	93.5	84.1	-2.1	-0.8	-2.6	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.53	2.40	2.31	2.30	2.26	2.26	2.29	2.21	-1.0	-0.4	-0.2	-0.2
Import Dependency %	46.4	57.5	59.9	61.6	64.0	65.0	68.7	70.6	68.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			212.3	254.0	268.1	303.4	357.0	384.2	382.9		2.6	3.7	1.7
as % of GDP			9.2	10.7	11.4	12.4	13.8	14.7	14.7				
Energy intensity indicators													
Industry (Energy on Value added)	132.8	118.3	100.0	89.5	83.1	77.8	72.4	68.4	64.2	-2.8	-1.8	-1.4	-1.2
Residential (Energy on Private Income)	113.2	111.0	100.0	107.4	110.1	99.0	87.8	78.1	70.8	-1.2	1.0	-2.2	-2.1
Tertiary (Energy on Value added)	156.4	123.5	100.0	98.2	95.3	85.8	75.2	67.0	60.3	-4.4	-0.5	-2.3	-2.2
Passenger transport (toe/Mpkm)	49.7	45.4	45.0	40.5	39.2	35.9	34.2	32.3	29.3	-1.0	-1.4	-1.3	-1.5
Freight transport (toe/Mtkm)	43.7	43.4	42.5	37.7	37.8	37.2	35.4	33.6	31.3	-0.3	-1.2	-0.6	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.51	0.48	0.45	0.40	0.36	0.34	0.34	0.30	-1.4	-1.9	-1.5	-1.3
Final energy demand (t of CO_2/toe)	2.39	2.26	2.18	2.06	1.93	1.84	1.76	1.70	1.62	-0.9	-1.2	-0.9	-0.8
Industry	2.31	2.09	1.95	1.81	1.50	1.37	1.33	1.27	1.21	-1.7	-2.6	-1.2	-0.9
Residential	2.18	2.01	1.90	1.80	1.73	1.61	1.47	1.38	1.30	-1.4	-0.9	-1.6	-1.2
Tertiary	2.12	1.85	1.67	1.58	1.51	1.40	1.31	1.23	1.12	-2.4	-1.0	-1.4	-1.5
Transport	2.89	2.89	2.89	2.81	2.74	2.70	2.65	2.62	2.57	0.0	-0.5	-0.3	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			3.9	6.4	10.1	13.4	18.0	20.3	23.3				
RES in transport (%)			0.6	3.9	7.1	9.1	11.7	13.4	15.5				
Gross Electricity generation by fuel type (in GWh)			**567219**	**613054**	**631888**	**637039**	**626820**	**639084**	**647163**		**1.1**	**-0.1**	**0.3**
Nuclear energy			169575	163026	131452	102456	34576	0	0		-2.5	-12.5	
Coal and lignite			292440	285286	275951	259307	249575	251300	224747		-0.6	-1.0	-1.0
Petroleum products			4733	8811	4032	6999	8980	10013	5221		-1.6	8.3	-5.3
Gas (including derived gases)			59321	91860	117806	113672	119102	125924	123688		7.1	0.1	0.4
Biomass & waste			10011	15988	24412	29942	36759	38609	39645		9.3	4.2	0.8
Hydro			21728	19577	21054	21893	22349	23094	23856		-0.3	0.6	0.7
Wind			9350	27224	48827	88445	131872	162822	199189		18.0	10.4	4.2
Solar, tidal etc.			60	1282	8146	13833	22121	25836	29331		63.4	10.5	2.9
Geothermal and other renewables			0	0	208	492	1486	1486	1486			21.7	0.0
Net Generation Capacity in MW_e			**112510**	**121873**	**141003**	**166811**	**182458**	**194064**	**206739**		**2.3**	**2.6**	**1.3**
Nuclear energy			21301	20680	15521	12031	4049	0	0		-3.1	-12.6	
Renewable energy			10477	24021	40427	59342	83826	95571	110251		14.5	7.6	2.8
Hydro (pumping excluded)			4268	4081	4246	4310	4427	4616	4694		-0.1	0.4	0.6
Wind			6095	18433	27723	40672	56926	64628	75626		16.4	7.5	2.9
Solar			114	1508	8458	14360	22472	26327	29932		53.8	10.3	2.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			80731	77172	85055	95438	94584	98493	96488		0.5	1.1	0.2
of which cogeneration units			13526	16773	21040	22899	23681	25410	27690		4.5	1.2	1.6
of which CCS units			0	0	0	0	646	646	646				0.0
Solids fired			51482	48960	47689	47882	44700	39694	35620		-0.8	-0.6	-2.2
Gas fired			20674	19428	26974	36244	35836	41141	42538		2.7	2.9	1.7
Oil fired			6659	6354	5356	4635	6205	8600	8114		-2.2	1.5	2.7
Biomass-waste fired			1916	2430	5006	6621	7673	8889	10046		10.1	4.4	2.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	30	56	170	170	170			19.0	0.0
Load factor for net electric capacities (%)			53.7	53.6	48.1	41.3	37.3	35.8	34.1				
Efficiency for thermal electricity production (%)			37.0	37.4	40.0	40.3	40.2	40.8	40.8				
CHP indicator (% of electricity from CHP)			11.7	13.9	19.4	23.6	24.6	24.6	25.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.9	0.9	1.0				
Non fossil fuels in electricity generation (%)			37.2	37.0	37.0	40.4	39.8	39.4	45.4				
- nuclear			29.9	26.6	20.8	16.1	5.5	0.0	0.0				
- renewable energy forms and industrial waste			7.3	10.5	16.2	24.3	34.2	39.4	45.4				
Transport sector													
Passenger transport activity (Gpkm)	**888.1**	**1033.4**	**1065.5**	**1098.9**	**1112.3**	**1208.0**	**1262.7**	**1295.3**	**1329.2**	**1.8**	**0.4**	**1.3**	**0.5**
Public road transport	73.1	68.5	69.0	67.1	68.5	73.3	76.9	78.9	80.6	-0.6	-0.1	1.2	0.5
Private cars and motorcycles	698.4	830.5	849.6	875.7	881.4	949.6	978.9	990.1	1004.9	2.0	0.4	1.1	0.3
Rail	76.1	85.4	90.0	92.3	93.4	101.8	109.5	114.6	119.3	1.7	0.4	1.6	0.9
Aviation	37.4	46.3	54.7	61.7	66.9	81.1	95.0	109.3	121.9	3.9	2.0	3.6	2.5
Inland navigation	3.1	2.7	2.2	2.0	2.1	2.2	2.3	2.4	2.4	-3.1	-0.7	1.0	0.4
Freight transport activity (Gtkm)	**331.7**	**372.3**	**429.8**	**469.6**	**507.7**	**550.4**	**568.1**	**577.3**	**584.4**	**2.6**	**1.7**	**1.1**	**0.3**
Trucks	175.2	237.8	280.7	310.1	338.9	366.0	373.1	377.0	380.5	4.8	1.9	1.0	0.2
Rail	101.7	70.5	82.7	95.4	103.6	113.5	120.2	123.4	125.3	-2.0	2.3	1.5	0.4
Inland navigation	54.8	64.0	66.5	64.1	65.2	71.0	74.8	76.9	78.6	1.9	-0.2	1.4	0.5
Energy demand in transport (ktoe)	**58631**	**63080**	**66188**	**62149**	**62747**	**63813**	**63301**	**61242**	**57227**	**1.2**	**-0.5**	**0.1**	**-1.0**
Public road transport	779	721	716	682	690	716	714	692	664	-0.8	-0.4	0.3	-0.7
Private cars and motorcycles	37559	39747	39405	35052	33748	32415	30987	29178	26642	0.5	-1.5	-0.9	-1.5
Trucks	12208	13949	16490	15960	17381	18539	18195	17514	16658	3.1	0.5	0.5	-0.9
Rail	2118	2131	1950	1830	1887	1963	1932	1857	1634	-0.8	-0.3	0.2	-1.7
Aviation	5307	5975	7345	8304	8714	9829	11107	11627	11250	3.3	1.7	2.5	0.1
Inland navigation	660	558	281	321	327	352	367	374	379	-8.2	1.5	1.2	0.3

Source: PRIMES

Greece: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9155**	**9741**	**10011**	**10316**	**9805**	**10765**	**11479**	**11650**	**12198**	**0.9**	**-0.2**	**1.6**	**0.6**
Solids	7077	7911	8222	8538	7948	7942	7361	7488	7474	1.5	-0.3	-0.8	0.2
Oil	835	460	281	101	82	60	40	0	0	-10.3	-11.6	-6.9	
Natural gas	138	44	42	18	24	0	0	0	0	-11.2	-5.5		
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1105	1326	1466	1659	1750	2763	4078	4162	4724	2.9	1.8	8.8	1.5
Hydro	152	303	318	431	344	355	375	385	413	7.6	0.8	0.9	1.0
Biomass & Waste	893	935	1010	1015	998	1259	1670	1393	1489	1.2	-0.1	5.3	-1.1
Wind	0	3	39	109	269	614	1116	1304	1499	74.7	21.4	15.3	3.0
Solar and others	56	82	99	102	138	470	684	738	801	5.8	3.4	17.4	1.6
Geothermal	3	3	2	1	1	65	233	341	521	-4.7	-4.1	71.5	8.4
Net Imports	**15473**	**18268**	**22065**	**23448**	**23675**	**24412**	**24200**	**25017**	**25309**	**3.6**	**0.7**	**0.2**	**0.4**
Solids	988	925	768	371	208	222	249	273	294	-2.5	-12.2	1.8	1.7
Oil	14424	17275	19610	20419	19817	19795	18883	18778	18343	3.1	0.1	-0.5	-0.3
- Crude oil and Feedstocks	14802	16997	20508	19443	20129	20108	19317	19228	18848	3.3	-0.2	-0.4	-0.2
- Oil products	-378	277	-898	977	-311	-313	-434	-450	-505				
Natural gas	0	0	1689	2332	3173	3688	3990	5021	5709		6.5	2.3	3.6
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Gross Inland Consumption	**22338**	**24228**	**28217**	**31352**	**30867**	**32447**	**32853**	**33720**	**34449**	**2.4**	**0.9**	**0.6**	**0.5**
Solids	8091	8783	9040	8952	8157	8163	7610	7761	7767	1.1	-1.0	-0.7	0.2
Oil	12942	14006	16007	18063	17288	17125	16096	15830	15285	2.1	0.8	-0.7	-0.5
Natural gas	138	44	1705	2354	3197	3688	3990	5021	5709	28.6	6.5	2.2	3.6
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Renew able energy forms	1105	1326	1466	1659	1825	3035	4752	4718	5303	2.9	2.2	10.0	1.1
as % in Gross Inland Consumption													
Solids	36.2	36.3	32.0	28.6	26.4	25.2	23.2	23.0	22.5				
Oil	57.9	57.8	56.7	57.6	56.0	52.8	49.0	46.9	44.4				
Natural gas	0.6	0.2	6.0	7.5	10.4	11.4	12.1	14.9	16.6				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	4.9	5.5	5.2	5.3	5.9	9.4	14.5	14.0	15.4				
Gross Electricity Generation in GWh_e	**34767**	**41291**	**53415**	**59416**	**61331**	**67826**	**73377**	**80681**	**86012**	**4.4**	**1.4**	**1.8**	**1.6**
Self consumption and grid losses	5818	6451	8430	10124	10127	10847	11197	12248	12899	3.8	1.9	1.0	1.4
Fuel Inputs for Thermal Power Generation	**8619**	**9938**	**11693**	**12405**	**11529**	**11957**	**11729**	**12634**	**13331**	**3.1**	**-0.1**	**0.2**	**1.3**
Solids	6890	7810	8234	8693	7894	7910	7336	7468	7458	1.8	-0.4	-0.7	0.2
Oil (including refinery gas)	1711	2076	2114	2055	1542	1374	1039	623	455	2.1	-3.1	-3.9	-7.9
Gas	18	14	1280	1605	2058	2572	2597	3623	4250	53.1	4.9	2.4	5.0
Biomass & Waste	0	38	64	52	34	38	525	580	649		-6.0	31.3	2.1
Geothermal heat	0	0	0	0	0	63	231	340	519				8.4
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**16747**	**17954**	**22504**	**21602**	**20672**	**20786**	**20265**	**20139**	**19824**	**3.0**	**-0.8**	**-0.2**	**-0.2**
Refineries	16670	17901	22473	21510	20525	20510	19724	19618	19242	3.0	-0.9	-0.4	-0.2
Biofuels and hydrogen production	0	0	0	0	144	273	539	519	580			14.1	0.7
District heating	0	0	0	0	0	0	0	0	0				
Others	77	52	30	93	3	3	2	2	2	-8.8	-21.0	-1.8	-1.4
Energy Branch Consumption	**1194**	**1172**	**1558**	**1755**	**1731**	**1743**	**1677**	**1758**	**1733**	**2.7**	**1.1**	**-0.3**	**0.3**
Non-Energy Uses	**672**	**456**	**719**	**761**	**771**	**831**	**902**	**942**	**970**	**0.7**	**0.7**	**1.6**	**0.7**
Final Energy Demand	**14541**	**15838**	**18560**	**20800**	**21205**	**22472**	**22989**	**23203**	**23361**	**2.5**	**1.3**	**0.8**	**0.2**
by sector													
Industry	3945	4114	4445	4143	4039	4181	4335	4399	4461	1.2	-1.0	0.7	0.3
- energy intensive industries	2535	2493	2727	2573	2398	2498	2623	2670	2711	0.7	-1.3	0.9	0.3
- other industrial sectors	1410	1621	1718	1570	1640	1683	1712	1728	1750	2.0	-0.5	0.4	0.2
Residential	3057	3332	4486	5489	5703	6250	6435	6355	6377	3.9	2.4	1.2	-0.1
Tertiary	1718	1947	2417	3083	3163	3438	3522	3610	3711	3.5	2.7	1.1	0.5
Transport	5821	6445	7212	8085	8300	8603	8697	8839	8812	2.2	1.4	0.5	0.1
by fuel													
Solids	1053	1074	888	446	262	252	273	292	309	-1.7	-11.5	0.4	1.2
Oil	10073	10837	12631	14278	14247	14434	13991	13813	13471	2.3	1.2	-0.2	-0.4
Gas	15	14	257	585	675	532	633	668	699	33.0	10.1	-0.6	1.0
Electricity	2448	2931	3710	4377	4644	5172	5584	6104	6501	4.2	2.3	1.9	1.5
Heat (from CHP and District Heating) [A]	0	0	28	49	207	321	442	515	524		22.1	7.9	1.7
Renew able energy forms	952	982	1046	1066	1169	1759	2064	1809	1858	0.9	1.1	5.8	-1.0
Other	0	0	0	0	1	1	1	1	1			9.3	-0.3
RES in Gross Final Energy Consumption [B]			**1370**	**1507**	**1815**	**2843**	**4262**	**4298**	**4724**		**2.8**	**8.9**	**1.0**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**101.4**		**120.5**	**127.5**	**117.6**	**118.2**	**112.9**	**115.8**	**116.4**	**1.7**	**-0.2**	**-0.4**	**0.3**
of w hich ETS sectors GHGs emissions				67.9	61.9	63.2	60.9	64.5	66.5			-0.2	0.9
CO_2 Emissions (energy related)	**71.1**	**78.0**	**88.9**	**95.8**	**90.7**	**91.2**	**86.3**	**88.4**	**88.3**	**2.3**	**0.2**	**-0.5**	**0.2**
Pow er generation/District heating	34.1	39.0	43.9	46.3	42.4	43.1	39.8	41.4	42.3	2.6	-0.3	-0.6	0.6
Energy Branch	2.4	2.2	3.1	3.5	3.0	2.6	2.1	2.8	2.7	2.3	-0.1	-3.8	2.9
Industry	9.3	9.8	9.9	8.2	7.1	6.6	6.6	6.5	6.6	0.6	-3.3	-0.6	-0.1
Residential	4.6	4.8	7.5	9.7	10.2	10.7	10.4	9.9	9.5	4.9	3.2	0.1	-0.9
Tertiary	3.4	3.2	3.4	4.2	4.0	3.6	3.4	3.1	2.9	0.1	1.6	-1.4	-1.8
Transport	17.2	19.1	21.3	23.9	24.0	24.6	24.1	24.6	24.4	2.1	1.2	0.0	0.1
CO_2 Emissions (non energy related)	**7.2**	**7.7**	**8.1**	**8.3**	**8.2**	**8.9**	**9.8**	**10.5**	**11.2**	**1.2**	**0.1**	**1.9**	**1.3**
Non-CO_2 GHGs Emissions	**23.1**		**23.5**	**23.5**	**18.7**	**18.1**	**16.7**	**16.9**	**17.0**	**0.1**	**-2.3**	**-1.1**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**118.9**	**125.8**	**115.9**	**116.6**	**111.3**	**114.2**	**114.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Greece: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.121	10.595	10.904	11.083	11.307	11.476	11.556	11.575	11.573	0.7	0.4	0.2	0.0
GDP (in 000 M€08)	134.8	143.5	170.0	208.8	231.8	266.1	307.0	341.4	371.4	2.3	3.2	2.9	1.9
Gross Inl. Cons./GDP (toe/M€08)	165.7	168.9	166.0	150.2	133.2	122.0	107.0	98.8	92.7	0.0	-2.2	-2.2	-1.4
Carbon intensity (t of CO_2/toe of GIC)	3.18	3.22	3.15	3.05	2.94	2.81	2.63	2.62	2.56	-0.1	-0.7	-1.1	-0.3
Import Dependency %	62.2	65.8	69.4	68.6	70.7	69.4	67.8	68.2	67.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			18.2	22.3	24.1	28.5	36.0	40.5	42.9		3.2	5.0	2.5
as % of GDP			10.7	10.7	10.7	11.8	13.2	13.7	14.0				
Energy intensity indicators													
Industry (Energy on Value added)	84.1	92.5	100.0	74.3	68.0	62.6	57.1	53.5	50.6	1.7	-3.8	-1.7	-1.2
Residential (Energy on Private Income)	79.7	79.3	100.0	99.6	95.7	91.0	82.2	73.7	68.3	2.3	-0.4	-1.5	-1.8
Tertiary (Energy on Value added)	99.0	104.6	100.0	102.6	95.5	89.5	79.1	72.5	68.3	0.1	-0.5	-1.9	-1.5
Passenger transport (toe/Mpkm)	41.7	39.9	36.3	35.0	34.3	31.9	30.0	28.6	26.8	-1.4	-0.6	-1.3	-1.1
Freight transport (toe/Mtkm)	79.8	79.3	66.6	63.2	61.1	60.8	58.5	56.1	53.5	-1.8	-0.9	-0.4	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.98	0.94	0.82	0.77	0.65	0.59	0.50	0.47	0.45	-1.8	-2.3	-2.6	-0.9
Final energy demand (t of CO_2/toe)	2.38	2.32	2.26	2.21	2.14	2.02	1.94	1.90	1.85	-0.5	-0.6	-1.0	-0.4
Industry	2.36	2.37	2.22	1.98	1.75	1.57	1.53	1.48	1.47	-0.6	-2.3	-1.3	-0.4
Residential	1.51	1.43	1.66	1.77	1.79	1.71	1.61	1.56	1.49	0.9	0.8	-1.1	-0.8
Tertiary	1.96	1.65	1.40	1.37	1.25	1.05	0.98	0.86	0.77	-3.3	-1.1	-2.5	-2.3
Transport	2.96	2.96	2.95	2.95	2.90	2.86	2.77	2.78	2.76	0.0	-0.2	-0.4	0.0
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.2	7.0	8.2	12.2	18.0	18.0	19.7				
RES in transport (%)			0.0	0.0	2.2	4.1	8.1	7.8	9.0				
Gross Electricity generation by fuel type (in GWh)			**53415**	**59416**	**61331**	**67826**	**73377**	**80681**	**86012**		**1.4**	**1.8**	**1.6**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			33585	35610	33543	33616	31301	32318	32318		0.0	-0.7	0.3
Petroleum products			9354	9188	8108	6572	4984	2809	2045		-1.4	-4.7	-8.5
Gas (including derived gases)			6149	8154	12305	15197	14747	19778	22024		7.2	1.8	4.1
Biomass & waste			183	182	151	153	2054	2276	2560		-1.9	29.8	2.2
Hydro			3692	5016	3999	4129	4358	4477	4805		0.8	0.9	1.0
Wind			451	1266	3131	7144	12971	15167	17431		21.4	15.3	3.0
Solar, tidal etc.			0	1	94	941	2693	3460	4224			39.8	4.6
Geothermal and other renewables			0	0	0	74	269	395	604				8.4
Net Generation Capacity in MW_e			**10288**	**11926**	**14966**	**19061**	**23212**	**26048**	**29471**		**3.8**	**4.5**	**2.4**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2585	2887	3843	6195	9612	11126	13001		4.0	9.6	3.1
Hydro (pumping excluded)			2359	2395	2395	2576	2871	2926	3329		0.2	1.8	1.5
Wind			226	491	1371	2936	5138	6137	7187		19.8	14.1	3.4
Solar			0	1	76	682	1602	2062	2485			35.6	4.5
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7703	9039	11124	12866	13600	14922	16469		3.7	2.0	1.9
of which cogeneration units			200	361	575	760	905	1115	1116		11.2	4.6	2.1
of which CCS units			0	0	0	0	0	0	0				
Solids fired			4507	4799	4799	4241	4375	4056	4056		0.6	-0.9	-0.8
Gas fired			1114	1899	3618	6198	6743	8635	10122		12.5	6.4	4.1
Oil fired			2054	2282	2622	2335	1940	1607	1575		2.5	-3.0	-2.1
Biomass-waste fired			28	59	85	85	511	579	647		11.8	19.7	2.4
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	8	31	45	69				8.4
Load factor for net electric capacities (%)			54.9	52.8	43.8	38.3	34.3	33.6	31.7				
Efficiency for thermal electricity production (%)			36.2	36.8	40.4	40.0	39.1	39.2	38.4				
CHP indicator (% of electricity from CHP)			1.6	1.9	5.0	6.0	5.7	7.2	6.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			8.1	10.9	12.0	18.3	30.5	31.9	34.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			8.1	10.9	12.0	18.3	30.5	31.9	34.4				
Transport sector													
Passenger transport activity (Gpkm)	**85.8**	**99.2**	**128.7**	**152.9**	**170.2**	**185.5**	**197.1**	**207.1**	**217.3**	**4.1**	**2.8**	**1.5**	**1.0**
Public road transport	17.7	20.2	21.7	21.7	22.2	22.6	23.1	23.3	23.4	2.0	0.2	0.4	0.1
Private cars and motorcycles	37.5	47.5	66.7	89.7	102.7	108.7	110.5	110.3	110.5	5.9	4.4	0.7	0.0
Rail	2.8	2.3	3.1	3.4	3.7	4.2	4.6	4.8	5.0	0.9	2.0	2.0	0.9
Aviation	22.1	22.8	29.9	31.1	34.1	42.3	50.9	60.6	70.1	3.1	1.3	4.1	3.2
Inland navigation	5.7	6.3	7.3	7.1	7.4	7.7	8.0	8.2	8.3	2.6	0.1	0.7	0.4
Freight transport activity (Gtkm)	**28.0**	**31.4**	**38.1**	**43.2**	**40.3**	**44.0**	**47.5**	**52.0**	**55.8**	**3.1**	**0.6**	**1.7**	**1.6**
Trucks	20.8	24.0	29.0	32.5	28.7	31.5	33.8	37.1	40.0	3.4	-0.1	1.6	1.7
Rail	0.6	0.3	0.4	0.6	0.9	1.0	1.1	1.2	1.2	-3.5	7.4	2.3	1.2
Inland navigation	6.6	7.1	8.7	10.1	10.7	11.6	12.6	13.7	14.6	2.8	2.1	1.7	1.4
Energy demand in transport (ktoe)	**5821**	**6445**	**7212**	**8085**	**8300**	**8603**	**8697**	**8839**	**8812**	**2.2**	**1.4**	**0.5**	**0.1**
Public road transport	190	214	225	220	222	221	214	205	195	1.7	-0.1	-0.4	-0.9
Private cars and motorcycles	1657	2092	2729	3464	3816	3647	3461	3299	3042	5.1	3.4	-1.0	-1.3
Trucks	2066	2309	2380	2517	2223	2419	2501	2624	2686	1.4	-0.7	1.2	0.7
Rail	75	57	60	58	76	85	88	88	82	-2.2	2.4	1.4	-0.6
Aviation	1264	1226	1325	1181	1284	1524	1695	1858	2024	0.5	-0.3	2.8	1.8
Inland navigation	568	546	493	645	678	708	738	764	782	-1.4	3.2	0.8	0.6

Source: PRIMES

Hungary: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**14157**	**13466**	**11215**	**10644**	**10561**	**11162**	**12106**	**12499**	**12759**	**-2.3**	**-0.6**	**1.4**	**0.5**
Solids	3948	3095	2893	1748	1720	1519	1527	1523	1497	-3.1	-5.1	-1.2	-0.2
Oil	2330	2339	1673	1780	1200	1000	1000	900	800	-3.3	-3.3	-1.8	-2.2
Natural gas	3812	3788	2475	2331	2200	2000	1842	1741	1700	-4.2	-1.2	-1.8	-0.8
Nuclear	3544	3618	3658	3569	3787	4465	4497	4497	4497	0.3	0.3	1.7	0.0
Renewable energy sources	523	626	516	1217	1654	2178	3240	3837	4265	-0.1	12.4	7.0	2.8
Hydro	15	14	15	17	13	21	90	198	202	0.0	-1.9	21.6	8.4
Biomass & Waste	422	526	415	1110	1552	2008	2602	2793	2840	-0.2	14.1	5.3	0.9
Wind	0	0	0	1	15	26	47	59	69			11.9	4.0
Solar and others	0	0	0	2	10	29	229	257	315			37.4	3.2
Geothermal	86	86	86	87	65	93	273	531	840	0.0	-2.8	15.5	11.9
Net Imports	**14465**	**12652**	**14026**	**17519**	**17738**	**18783**	**18055**	**17535**	**17234**	**-0.3**	**2.4**	**0.2**	**-0.5**
Solids	1686	1395	1081	1303	1324	1337	1318	1318	1307	-4.3	2.0	0.0	-0.1
Oil	6651	5519	5366	5872	6508	7358	7407	7467	7361	-2.1	1.9	1.3	-0.1
- Crude oil and Feedstocks	6505	5962	5893	6334	6609	7430	7477	7543	7472	-1.0	1.2	1.2	0.0
- Oil products	145	-444	-527	-462	-101	-72	-70	-76	-111				
Natural gas	5170	5532	7283	9807	9488	9699	8933	8446	8283	3.5	2.7	-0.6	-0.8
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Gross Inland Consumption	**28681**	**25896**	**25016**	**28006**	**28299**	**29945**	**30161**	**30034**	**29992**	**-1.4**	**1.2**	**0.6**	**-0.1**
Solids	5969	4549	3967	3054	3045	2857	2845	2841	2804	-4.0	-2.6	-0.7	-0.1
Oil	8774	7721	6923	7537	7708	8358	8407	8367	8161	-2.3	1.1	0.9	-0.3
Natural gas	8913	9175	9657	12094	11688	11699	10775	10187	9983	0.8	1.9	-0.8	-0.8
Nuclear	3544	3618	3658	3569	3787	4465	4497	4497	4497	0.3	0.3	1.7	0.0
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Renewable energy forms	523	626	516	1217	1676	2210	3354	3894	4329	-0.1	12.5	7.2	2.6
as % in Gross Inland Consumption													
Solids	20.8	17.6	15.9	10.9	10.8	9.5	9.4	9.5	9.3				
Oil	30.6	29.8	27.7	26.9	27.2	27.9	27.9	27.9	27.2				
Natural gas	31.1	35.4	38.6	43.2	41.3	39.1	35.7	33.9	33.3				
Nuclear	12.4	14.0	14.6	12.7	13.4	14.9	14.9	15.0	15.0				
Renewable energy forms	1.8	2.4	2.1	4.3	5.9	7.4	11.1	13.0	14.4				
Gross Electricity Generation in GWh_e	**28431**	**34011**	**35185**	**35749**	**37696**	**41740**	**44696**	**48272**	**51161**	**2.2**	**0.7**	**1.7**	**1.4**
Self consumption and grid losses	6572	7502	7991	6769	6104	6378	6760	7232	7453	2.0	-2.7	1.0	1.0
Fuel Inputs for Thermal Power Generation	**4970**	**6113**	**6107**	**5659**	**5276**	**5374**	**5798**	**6284**	**6821**	**2.1**	**-1.5**	**0.9**	**1.6**
Solids	2871	2977	2853	1924	1983	1753	1768	1778	1758	-0.1	-3.6	-1.1	-0.1
Oil (including refinery gas)	440	1447	1052	122	55	49	52	151	88	9.1	-25.5	-0.7	5.5
Gas	1636	1634	2140	3078	2490	2613	2326	2328	2534	2.7	1.5	-0.7	0.9
Biomass & Waste	24	55	62	534	747	944	1486	1614	1709	10.2	28.3	7.1	1.4
Geothermal heat	0	0	0	0	0	15	166	414	731				15.9
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11720**	**10716**	**9261**	**10031**	**10481**	**11290**	**11251**	**11238**	**11043**	**-2.3**	**1.2**	**0.7**	**-0.2**
Refineries	8870	8536	7622	8584	8837	9518	9572	9531	9312	-1.5	1.5	0.8	-0.3
Biofuels and hydrogen production	0	0	0	5	162	244	386	438	477			9.0	2.1
District heating	1146	789	471	629	710	703	478	460	459	-8.5	4.2	-3.9	-0.4
Others	1704	1392	1168	813	771	825	814	809	794	-3.7	-4.1	0.5	-0.2
Energy Branch Consumption	**1459**	**1390**	**1243**	**1657**	**1693**	**1795**	**1805**	**1788**	**1711**	**-1.6**	**3.1**	**0.6**	**-0.5**
Non-Energy Uses	**1584**	**1631**	**1596**	**2326**	**2288**	**2382**	**2451**	**2458**	**2463**	**0.1**	**3.7**	**0.7**	**0.0**
Final Energy Demand	**19184**	**15711**	**15759**	**18080**	**18686**	**19788**	**19948**	**19656**	**19446**	**-1.9**	**1.7**	**0.7**	**-0.3**
by sector													
Industry	6525	3808	3461	3430	3400	3499	3488	3424	3383	-6.1	-0.2	0.3	-0.3
- energy intensive industries	4160	2691	2536	2314	2250	2303	2285	2226	2175	-4.8	-1.2	0.2	-0.5
- other industrial sectors	2365	1117	925	1116	1149	1196	1204	1198	1208	-9.0	2.2	0.5	0.0
Residential	6377	5833	5276	6381	6335	6544	6525	6281	6193	-1.9	1.8	0.3	-0.5
Tertiary	3251	3411	3759	4073	4035	4182	4114	4038	4026	1.5	0.7	0.2	-0.2
Transport	3031	2660	3263	4196	4916	5564	5821	5912	5844	0.7	4.2	1.7	0.0
by fuel													
Solids	2502	965	668	692	654	686	694	705	701	-12.4	-0.2	0.6	0.1
Oil	6029	4158	4186	4812	5289	5899	5955	5946	5792	-3.6	2.4	1.2	-0.3
Gas	5941	6370	6503	7852	7769	7571	7097	6415	6087	0.9	1.8	-0.9	-1.5
Electricity	2717	2385	2531	2780	2837	3106	3252	3484	3690	-0.7	1.1	1.4	1.3
Heat (from CHP and District Heating) [A]	1570	1287	1440	1297	1261	1351	1407	1518	1584	-0.9	-1.3	1.1	1.2
Renewable energy forms	425	545	430	647	875	1173	1542	1587	1591	0.1	7.4	5.8	0.3
Other	0	0	0	0	1	1	1	1	1			10.9	0.0
RES in Gross Final Energy Consumption [B]			**469**	**798**	**1284**	**1720**	**2667**	**2982**	**3295**		**10.6**	**7.6**	**2.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**96.9**		**76.3**	**77.5**	**75.4**	**75.0**	**72.2**	**71.0**	**69.6**	**-2.4**	**-0.1**	**-0.4**	**-0.4**
of which ETS sectors GHGs emissions				29.6	27.7	26.9	26.0	26.2	26.5			-0.6	0.2
CO_2 Emissions (energy related)	**65.7**	**57.0**	**53.7**	**55.0**	**55.1**	**56.1**	**53.9**	**52.5**	**51.3**	**-2.0**	**0.3**	**-0.2**	**-0.5**
Power generation/District heating	20.5	23.0	21.5	17.3	16.1	15.4	14.3	14.5	14.8	0.5	-2.9	-1.2	0.4
Energy Branch	2.6	2.4	1.6	2.0	2.2	2.4	2.3	2.2	2.0	-4.7	3.4	0.2	-1.4
Industry	14.7	8.7	6.3	6.2	6.0	5.9	5.7	5.1	4.8	-8.1	-0.5	-0.6	-1.6
Residential	13.7	9.9	8.6	10.5	10.2	10.2	9.7	8.9	8.5	-4.6	1.8	-0.5	-1.3
Tertiary	5.6	5.5	6.2	6.7	6.7	6.6	6.1	5.7	5.5	1.1	0.7	-0.9	-1.0
Transport	8.6	7.6	9.5	12.2	14.0	15.6	16.0	16.0	15.7	0.9	4.0	1.4	-0.2
CO_2 Emissions (non energy related)	**5.3**	**3.7**	**3.7**	**3.8**	**3.7**	**4.0**	**4.2**	**4.3**	**4.4**	**-3.5**	**-0.1**	**1.3**	**0.4**
Non-CO_2 GHGs Emissions	**25.9**		**18.8**	**18.8**	**16.5**	**14.9**	**14.1**	**14.2**	**14.0**	**-3.1**	**-1.3**	**-1.6**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**78.7**	**80.0**	**77.8**	**77.3**	**74.5**	**73.3**	**71.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Hungary: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.375	10.337	10.222	10.098	10.023	9.964	9.893	9.790	9.651	-0.1	-0.2	-0.1	-0.2
GDP (in 000 M€08)	69.8	62.5	76.1	93.7	92.5	106.8	121.2	134.8	149.2	0.9	2.0	2.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	411.1	414.5	328.9	298.9	305.8	280.3	248.8	222.8	201.1	-2.2	-0.7	-2.0	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.29	2.20	2.15	1.96	1.95	1.87	1.79	1.75	1.71	-0.6	-1.0	-0.9	-0.4
Import Dependency %	50.4	48.9	56.1	62.6	62.7	62.7	59.9	58.4	57.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			13.7	15.4	16.9	20.7	25.4	28.9	30.4		2.4	5.2	2.8
as % of GDP			18.0	16.4	18.8	21.1	23.7	25.2	25.3				
Energy intensity indicators													
Industry (Energy on Value added)	248.3	156.7	100.0	79.0	81.5	76.0	69.6	63.4	59.0	-8.7	-2.0	-1.6	-1.6
Residential (Energy on Private Income)	123.0	126.8	100.0	89.6	93.8	80.7	70.6	61.2	53.7	-2.1	-0.6	-2.8	-2.7
Tertiary (Energy on Value added)	81.4	103.5	100.0	86.0	86.8	76.1	65.4	57.3	51.2	2.1	-1.4	-2.8	-2.4
Passenger transport (toe/Mpkm)	25.9	25.3	24.2	24.9	25.2	25.1	25.3	24.8	23.6	-0.7	0.4	0.0	-0.7
Freight transport (toe/Mtkm)	26.1	32.6	45.9	59.7	63.0	63.3	60.5	57.2	53.1	5.8	3.2	-0.4	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.45	0.40	0.33	0.28	0.25	0.22	0.21	0.20	-0.6	-3.3	-2.7	-0.8
Final energy demand (t of CO_2/toe)	2.22	2.02	1.94	1.97	1.97	1.94	1.87	1.82	1.77	-1.3	0.2	-0.5	-0.5
Industry	2.25	2.28	1.83	1.81	1.76	1.68	1.62	1.49	1.43	-2.1	-0.4	-0.8	-1.2
Residential	2.15	1.70	1.62	1.65	1.61	1.55	1.48	1.41	1.37	-2.8	-0.1	-0.8	-0.8
Tertiary	1.71	1.60	1.66	1.65	1.65	1.58	1.48	1.42	1.37	-0.3	0.0	-1.1	-0.8
Transport	2.84	2.85	2.90	2.91	2.84	2.81	2.74	2.71	2.68	0.2	-0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.9	4.3	6.7	8.5	13.0	14.7	16.4				
RES in transport (%)			0.0	0.2	3.7	4.9	7.4	8.4	9.4				
Gross Electricity generation by fuel type (in GWh)			**35185**	**35749**	**37696**	**41740**	**44696**	**48272**	**51161**		**0.7**	**1.7**	**1.4**
Nuclear energy			14177	13832	14681	17308	17432	17432	17432		0.3	1.7	0.0
Coal and lignite			9924	6910	7208	6320	6898	7711	7626		-3.1	-0.4	1.0
Petroleum products			3901	505	268	212	233	690	433		-23.5	-1.4	6.4
Gas (including derived gases)			6885	12572	12038	13416	12115	12142	14593		5.7	0.1	1.9
Biomass & waste			120	1717	3174	3891	6163	6691	6843		38.8	6.9	1.1
Hydro			178	203	147	241	1043	2297	2345		-1.9	21.6	8.4
Wind			0	10	177	306	541	681	798			11.9	4.0
Solar, tidal etc.			0	0	3	29	77	147	241			38.3	12.1
Geothermal and other renewables			0	0	0	18	194	481	850				15.9
Net Generation Capacity in MW_e			**7956**	**8749**	**9385**	**9821**	**9695**	**9238**	**10105**		**1.7**	**0.3**	**0.4**
Nuclear energy			1804	1827	1854	2161	2174	2174	2174		0.3	1.6	0.0
Renewable energy			44	64	256	441	1135	1391	1670		19.2	16.1	3.9
Hydro (pumping excluded)			44	47	47	61	437	461	509		0.7	25.0	1.5
Wind			0	17	205	349	618	777	911			11.7	4.0
Solar			0	0	4	30	80	153	250			34.9	12.1
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6109	6859	7276	7220	6386	5672	6261		1.8	-1.3	-0.2
of which cogeneration units			1125	1339	1710	2099	2549	2821	3069		4.3	4.1	1.9
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1664	1475	1511	1130	936	1048	950		-1.0	-4.7	0.1
Gas fired			3599	4648	5021	5285	4274	3322	3870		3.4	-1.6	-1.0
Oil fired			762	309	317	263	183	144	92		-8.4	-5.4	-6.7
Biomass-waste fired			84	427	427	539	970	1103	1252		17.6	8.6	2.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	2	22	55	97				15.9
Load factor for net electric capacities (%)			46.0	43.0	43.3	46.2	49.9	56.5	54.9				
Efficiency for thermal electricity production (%)			29.3	33.0	37.0	38.2	38.0	37.9	38.3				
CHP indicator (% of electricity from CHP)			14.3	20.0	29.5	31.7	35.9	36.5	34.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			41.1	44.1	48.2	52.2	56.9	57.4	55.7				
- nuclear			40.3	38.7	38.9	41.5	39.0	36.1	34.1				
- renewable energy forms and industrial waste			0.8	5.4	9.3	10.7	17.9	21.3	21.7				
Transport sector													
Passenger transport activity (Gpkm)	**82.7**	**75.1**	**80.1**	**81.4**	**79.4**	**91.7**	**100.7**	**108.6**	**116.8**	**-0.3**	**-0.1**	**2.4**	**1.5**
Public road transport	19.3	16.6	18.7	17.8	17.0	17.2	17.4	17.7	18.1	-0.3	-0.9	0.2	0.4
Private cars and motorcycles	47.6	46.2	47.0	47.7	47.1	57.8	64.2	69.1	74.3	-0.1	0.0	3.1	1.5
Rail	13.9	10.9	12.3	12.2	11.0	11.3	12.1	13.0	14.1	-1.2	-1.1	0.9	1.6
Aviation	1.9	1.4	2.1	3.7	4.2	5.4	7.0	8.7	10.4	0.6	7.3	5.3	4.0
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**34.0**	**23.4**	**28.8**	**36.4**	**46.3**	**51.6**	**54.2**	**56.3**	**58.1**	**-1.6**	**4.8**	**1.6**	**0.7**
Trucks	15.2	13.8	19.1	25.2	34.4	39.0	40.7	42.1	43.1	2.4	6.0	1.7	0.6
Rail	16.8	8.4	8.8	9.1	9.8	10.3	11.0	11.6	12.3	-6.3	1.1	1.2	1.1
Inland navigation	2.0	1.2	0.9	2.1	2.1	2.3	2.4	2.6	2.7	-7.9	9.0	1.5	1.1
Energy demand in transport (ktoe)	**3031**	**2660**	**3263**	**4196**	**4916**	**5564**	**5821**	**5912**	**5844**	**0.7**	**4.2**	**1.7**	**0.0**
Public road transport	123	141	156	184	174	170	165	159	153	2.3	1.1	-0.5	-0.7
Private cars and motorcycles	1825	1546	1532	1583	1545	1788	1977	2070	2092	-1.7	0.1	2.5	0.6
Trucks	637	595	1181	2040	2782	3126	3144	3095	2988	6.4	8.9	1.2	-0.5
Rail	272	191	176	159	156	162	158	152	122	-4.3	-1.1	0.1	-2.6
Aviation	164	182	219	230	258	316	376	435	488	2.9	1.7	3.8	2.7
Inland navigation	9	5	1	1	1	1	1	1	1	-24.1	5.8	1.3	0.9

Source: PRIMES

Ireland: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3353**	**4010**	**2152**	**1616**	**1636**	**1976**	**2737**	**2888**	**3045**	**-4.3**	**-2.7**	**5.3**	**1.1**
Solids	1312	1606	959	789	617	611	602	639	619	-3.1	-4.3	-0.2	0.3
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	1873	2249	958	461	410	461	363	421	440	-6.5	-8.1	-1.2	2.0
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	168	155	235	367	609	905	1772	1828	1986	3.4	10.0	11.3	1.1
Hydro	60	61	73	54	59	61	61	61	61	2.0	-2.0	0.2	0.0
Biomass & Waste	108	92	141	216	248	331	506	528	560	2.7	5.8	7.4	1.0
Wind	0	1	21	96	286	432	925	961	992		29.9	12.4	0.7
Solar and others	0	0	0	0	13	75	258	257	345	14.9	52.1	35.2	2.9
Geothermal	0	0	0	0	2	6	23	22	29	0.0	48.3	24.9	2.4
Net Imports	**7093**	**7631**	**12266**	**13657**	**13998**	**14826**	**14304**	**14813**	**15062**	**5.6**	**1.3**	**0.2**	**0.5**
Solids	2064	1823	1789	1969	1718	1581	1615	1635	1724	-1.4	-0.4	-0.6	0.7
Oil	5029	5725	7991	8503	8680	9086	8983	9141	9202	4.7	0.8	0.3	0.2
- Crude oil and Feedstocks	2023	2269	3008	3305	3156	3276	3233	3267	3268	4.0	0.5	0.2	0.1
- Oil products	3006	3456	4982	5198	5524	5810	5750	5874	5934	5.2	1.0	0.4	0.3
Natural gas	0	85	2478	3010	3374	3795	2986	3462	3625		3.1	-1.2	2.0
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Gross Inland Consumption	**10246**	**10861**	**14328**	**15123**	**15535**	**16695**	**16928**	**17582**	**17982**	**3.4**	**0.8**	**0.9**	**0.6**
Solids	3416	2775	2711	2685	2335	2191	2218	2274	2343	-2.3	-1.5	-0.5	0.6
Oil	4789	5598	7938	8426	8581	8978	8870	9022	9077	5.2	0.8	0.3	0.2
Natural gas	1873	2334	3436	3470	3784	4256	3349	3883	4065	6.3	1.0	-1.2	2.0
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Renewable energy forms	168	155	235	367	679	1106	2319	2241	2343	3.4	11.2	13.1	0.1
as % in Gross Inland Consumption													
Solids	33.3	25.6	18.9	17.8	15.0	13.1	13.1	12.9	13.0				
Oil	46.7	51.5	55.4	55.7	55.2	53.8	52.4	51.3	50.5				
Natural gas	18.3	21.5	24.0	22.9	24.4	25.5	19.8	22.1	22.6				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	1.6	1.4	1.6	2.4	4.4	6.6	13.7	12.7	13.0				
Gross Electricity Generation in GWh_e	**14232**	**17622**	**23695**	**25008**	**26612**	**30214**	**31746**	**35666**	**38396**	**5.2**	**1.2**	**1.8**	**1.9**
Self consumption and grid losses	2261	2658	3457	3869	3630	4002	4066	4539	4799	4.3	0.5	1.1	1.7
Fuel Inputs for Thermal Power Generation	**3019**	**3711**	**4792**	**4747**	**4181**	**4459**	**3717**	**4227**	**4397**	**4.7**	**-1.4**	**-1.2**	**1.7**
Solids	1839	2028	1925	1903	1738	1660	1695	1788	1892	0.5	-1.0	-0.2	1.1
Oil (including refinery gas)	339	622	1019	775	369	317	288	255	241	11.6	-9.7	-2.4	-1.8
Gas	841	1060	1825	2040	2010	2353	1479	1922	2046	8.1	1.0	-3.0	3.3
Biomass & Waste	0	0	24	30	65	129	255	262	219		10.7	14.6	-1.5
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1943**	**2439**	**3488**	**3479**	**3336**	**3540**	**3715**	**3700**	**3754**	**6.0**	**-0.4**	**1.1**	**0.1**
Refineries	1746	2272	3317	3343	3156	3276	3233	3267	3268	6.6	-0.5	0.2	0.1
Biofuels and hydrogen production	0	0	0	1	93	193	419	381	442			16.2	0.6
District heating	0	0	0	0	0	0	0	0	0				
Others	197	167	171	135	87	71	63	52	43	-1.4	-6.5	-3.2	-3.8
Energy Branch Consumption	**168**	**185**	**245**	**379**	**338**	**350**	**347**	**359**	**355**	**3.9**	**3.3**	**0.3**	**0.2**
Non-Energy Uses	**624**	**552**	**552**	**308**	**177**	**208**	**220**	**230**	**242**	**-1.2**	**-10.8**	**2.2**	**0.9**
Final Energy Demand	**7368**	**7910**	**10681**	**12340**	**12505**	**13542**	**14129**	**14530**	**14976**	**3.8**	**1.6**	**1.2**	**0.6**
by sector													
Industry	1745	1854	2348	2481	2283	2496	2677	2814	2937	3.0	-0.3	1.6	0.9
- energy intensive industries	870	881	1174	1237	1024	1053	1082	1111	1135	3.0	-1.4	0.6	0.5
- other industrial sectors	876	973	1174	1244	1259	1443	1595	1703	1802	3.0	0.7	2.4	1.2
Residential	2406	2200	2489	2895	3257	3463	3567	3554	3665	0.3	2.7	0.9	0.3
Tertiary	1227	1507	1826	1967	1965	2124	2139	2142	2156	4.1	0.7	0.8	0.1
Transport	1989	2349	4018	4997	5000	5459	5747	6020	6218	7.3	2.2	1.4	0.8
by fuel													
Solids	1784	933	699	704	585	519	512	475	441	-9.0	-1.8	-1.3	-1.5
Oil	3887	4813	6919	8020	7709	8141	8076	8280	8385	5.9	1.1	0.5	0.4
Gas	568	796	1201	1337	1696	1821	1807	1890	1933	7.8	3.5	0.6	0.7
Electricity	1020	1277	1744	2094	2119	2404	2539	2826	3030	5.5	2.0	1.8	1.8
Heat (from CHP and District Heating) [A]	0	0	0	0	128	174	162	178	249			2.4	4.4
Renewable energy forms	108	92	118	184	268	482	1033	881	936	0.9	8.6	14.4	-1.0
Other	0	0	0	0	0	1	1	1	1			10.2	1.8
RES in Gross Final Energy Consumption [B]			**218**	**349**	**528**	**1064**	**2272**	**2194**	**2303**		**9.3**	**15.7**	**0.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**56.0**		**69.0**	**70.7**	**66.3**	**68.1**	**65.5**	**68.0**	**68.9**	**2.1**	**-0.4**	**-0.1**	**0.5**
of which ETS sectors GHGs emissions				24.6	19.9	20.8	19.2	20.8	21.8			-0.4	1.3
CO_2 Emissions (energy related)	**30.8**	**32.9**	**41.9**	**45.5**	**42.8**	**44.5**	**42.3**	**44.3**	**45.2**	**3.1**	**0.2**	**-0.1**	**0.7**
Power generation/District heating	10.4	12.6	15.2	14.8	12.8	13.2	11.2	12.5	13.1	3.9	-1.7	-1.4	1.6
Energy Branch	0.2	0.2	0.3	0.6	0.6	0.6	0.6	0.6	0.6	4.0	5.6	0.7	-0.3
Industry	4.0	3.8	4.6	4.9	3.9	4.1	3.9	4.2	4.3	1.5	-1.6	0.0	0.8
Residential	7.5	6.0	6.0	6.8	7.6	7.6	7.4	7.2	7.2	-2.1	2.3	-0.2	-0.3
Tertiary	2.9	3.4	3.8	3.4	3.3	3.4	3.3	3.0	2.8	2.8	-1.3	0.0	-1.7
Transport	5.9	6.9	12.0	14.9	14.6	15.7	15.8	16.8	17.2	7.4	2.0	0.8	0.8
CO_2 Emissions (non energy related)	**2.3**	**2.3**	**2.9**	**2.7**	**1.5**	**1.7**	**1.7**	**1.8**	**1.9**	**2.4**	**-6.5**	**1.5**	**1.1**
Non-CO_2 GHGs Emissions	**22.8**		**24.1**	**22.6**	**22.0**	**21.9**	**21.5**	**21.9**	**21.9**	**0.5**	**-0.9**	**-0.2**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**123.2**	**126.4**	**118.4**	**121.7**	**117.0**	**121.5**	**123.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)												Ireland: REFERENCE SCENARIO	
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.507	3.598	3.778	4.109	4.614	5.052	5.404	5.673	5.881	0.7	2.0	1.6	0.8
GDP (in 000 M€08)	64.6	82.0	130.7	171.3	167.7	201.0	234.2	267.7	302.0	7.3	2.5	3.4	2.6
Gross Inl. Cons./GDP (toe/M€08)	158.5	132.4	109.6	88.3	92.6	83.1	72.3	65.7	59.5	-3.6	-1.7	-2.4	-1.9
Carbon intensity (t of CO_2/toe of GIC)	3.01	3.03	2.93	3.01	2.76	2.67	2.50	2.52	2.51	-0.3	-0.6	-1.0	0.1
Import Dependency %	69.1	69.5	84.7	89.7	89.5	88.2	83.9	83.7	83.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			10.8	13.7	13.6	16.0	20.5	23.2	24.7		2.5	4.9	2.9
as % of GDP			8.3	8.0	8.3	8.5	9.6	9.9	9.9				
Energy intensity indicators													
Industry (Energy on Value added)	222.5	150.3	100.0	80.1	68.8	64.3	59.7	56.0	52.5	-7.7	-3.7	-1.4	-1.3
Residential (Energy on Private Income)	167.3	129.6	100.0	93.3	99.0	94.5	85.2	77.0	73.0	-5.0	-0.1	-1.5	-1.5
Tertiary (Energy on Value added)	111.3	119.2	100.0	81.9	80.3	72.1	61.9	53.7	47.6	-1.1	-2.2	-2.6	-2.6
Passenger transport (toe/Mpkm)	48.7	45.2	51.0	48.5	47.4	44.0	41.1	37.9	34.9	0.5	-0.7	-1.4	-1.6
Freight transport (toe/Mtkm)	95.9	115.5	121.2	116.0	115.6	114.2	109.9	105.0	99.4	2.4	-0.5	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.73	0.71	0.64	0.59	0.46	0.41	0.33	0.33	0.32	-1.3	-3.3	-3.1	-0.4
Final energy demand (t of CO_2/toe)	2.74	2.55	2.47	2.43	2.35	2.27	2.16	2.15	2.10	-1.0	-0.5	-0.9	-0.3
Industry	2.28	2.05	1.98	1.99	1.72	1.63	1.46	1.49	1.45	-1.4	-1.4	-1.6	-0.1
Residential	3.10	2.71	2.42	2.34	2.33	2.20	2.08	2.02	1.97	-2.4	-0.4	-1.1	-0.5
Tertiary	2.34	2.28	2.07	1.74	1.69	1.62	1.56	1.41	1.30	-1.2	-2.0	-0.8	-1.8
Transport	2.96	2.96	2.97	2.98	2.92	2.87	2.76	2.79	2.76	0.1	-0.2	-0.6	0.0
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.0	2.8	4.2	7.8	16.0	15.0	15.3				
RES in transport (%)			0.0	0.0	2.3	4.5	9.3	8.1	9.2				
Gross Electricity generation by fuel type (in GWh)			**23695**	**25008**	**26612**	**30214**	**31746**	**35666**	**38396**		**1.2**	**1.8**	**1.9**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			8830	8822	8336	7971	8159	8602	9119		-0.6	-0.2	1.1
Petroleum products			4387	3389	1728	1535	1380	1242	1269		-8.9	-2.2	-0.8
Gas (including derived gases)			9311	10959	12317	14524	9306	12069	13367		2.8	-2.8	3.7
Biomass & waste			76	95	212	439	921	1013	843		10.8	15.8	-0.9
Hydro			846	631	691	708	707	704	705		-2.0	0.2	0.0
Wind			244	1112	3327	5024	10751	11173	11532		29.9	12.4	0.7
Solar, tidal etc.			0	0	2	14	29	45	62			31.4	7.8
Geothermal and other renewables			0	0	0	0	492	819	1499				11.8
Net Generation Capacity in MW_e			**4399**	**5718**	**9589**	**9573**	**11462**	**11311**	**12417**		**8.1**	**1.8**	**0.8**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			346	743	1590	2071	4203	4526	5011		16.5	10.2	1.8
Hydro (pumping excluded)			230	225	225	229	230	230	230		-0.2	0.2	0.0
Wind			116	517	1360	1828	3687	3824	3938		27.9	10.5	0.7
Solar			0	0	5	14	30	46	64			19.7	7.8
Other renewables (tidal etc.)			0	0	0	0	255	425	778				11.8
Thermal power			4053	4976	7999	7502	7259	6785	7406		7.0	-1.0	0.2
of which cogeneration units			133	127	273	390	342	396	632		7.4	2.3	6.3
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1276	1229	1230	1204	1181	1179	1179		-0.4	-0.4	0.0
Gas fired			1966	2927	5903	6115	5853	5317	5817		11.6	-0.1	-0.1
Oil fired			783	772	781	55	26	75	196		0.0	-28.8	22.2
Biomass-waste fired			27	49	85	129	199	214	214		12.0	8.9	0.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	46.6	30.1	34.4	30.4	34.6	34.1				
Efficiency for thermal electricity production (%)			40.6	42.2	46.5	47.2	45.7	46.6	48.1				
CHP indicator (% of electricity from CHP)			2.6	2.6	3.3	5.4	4.5	4.8	8.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			4.9	7.3	15.9	20.5	40.6	38.6	38.1				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			4.9	7.3	15.9	20.5	40.6	38.6	38.1				
Transport sector													
Passenger transport activity (Gpkm)	**29.2**	**35.6**	**47.1**	**58.1**	**62.9**	**71.2**	**80.2**	**90.1**	**100.3**	**4.9**	**2.9**	**2.5**	**2.3**
Public road transport	3.9	5.2	6.1	6.7	7.2	7.7	8.1	8.6	9.1	4.7	1.6	1.3	1.2
Private cars and motorcycles	21.3	25.3	32.4	38.4	40.8	45.9	51.4	58.2	65.0	4.3	2.3	2.3	2.4
Rail	1.2	1.3	1.4	1.9	2.1	2.4	2.7	3.1	3.5	1.3	4.1	2.7	2.4
Aviation	2.0	3.0	6.3	10.1	11.9	14.2	16.8	19.0	21.3	12.3	6.6	3.5	2.4
Inland navigation	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	0.5	0.6	1.6	1.4
Freight transport activity (Gtkm)	**5.9**	**6.4**	**13.3**	**18.8**	**17.4**	**20.4**	**22.3**	**24.8**	**27.3**	**8.5**	**2.7**	**2.5**	**2.0**
Trucks	5.1	5.5	12.3	17.9	16.7	19.5	21.4	23.8	26.2	9.2	3.1	2.5	2.1
Rail	0.6	0.6	0.5	0.3	0.1	0.2	0.2	0.2	0.3	-1.8	-12.5	4.4	3.0
Inland navigation	0.2	0.3	0.6	0.6	0.6	0.7	0.7	0.8	0.8	9.3	0.3	2.4	1.4
Energy demand in transport (ktoe)	**1989**	**2349**	**4018**	**4997**	**5000**	**5459**	**5747**	**6020**	**6218**	**7.3**	**2.2**	**1.4**	**0.8**
Public road transport	31	41	48	51	54	57	57	58	58	4.4	1.3	0.5	0.1
Private cars and motorcycles	994	1146	1713	1897	1935	1950	2023	2075	2093	5.6	1.2	0.4	0.3
Trucks	525	694	1577	2150	1999	2309	2432	2586	2696	11.6	2.4	2.0	1.0
Rail	48	50	42	45	28	30	25	27	25	-1.4	-4.0	-1.0	-0.2
Aviation	365	390	613	836	966	1093	1188	1251	1323	5.3	4.6	2.1	1.1
Inland navigation	26	28	25	18	18	20	21	23	24	-0.5	-3.2	1.7	1.2

Source: PRIMES

Italy: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**25558**	**29435**	**27128**	**28111**	**29186**	**32066**	**40392**	**50403**	**60335**	**0.6**	**0.7**	**3.3**	**4.1**
Solids	218	44	4	60	0	0	0	0	0	-33.8			
Oil	4766	5405	4811	6520	5442	5313	5028	4958	4851	0.1	1.2	-0.8	-0.4
Natural gas	14030	16347	13622	9886	8500	7900	7300	6700	6000	-0.3	-4.6	-1.5	-1.9
Nuclear	0	0	0	0	0	0	3277	12663	21666				20.8
Renewable energy sources	6544	7640	8691	11645	15244	18853	24786	26082	27818	2.9	5.8	5.0	1.2
Hydro	2719	3249	3812	3101	3300	3308	3329	3329	3353	3.4	-1.4	0.1	0.1
Biomass & Waste	849	1215	1716	3521	5401	6607	8438	7815	7831	7.3	12.2	4.6	-0.7
Wind	0	1	48	202	528	1484	3125	3265	3390	73.3	27.0	19.5	0.8
Solar and others	5	8	12	30	246	1412	3379	3988	4416	9.2	34.8	29.9	2.7
Geothermal	2971	3167	3103	4791	5770	6042	6515	7684	8828	0.4	6.4	1.2	3.1
Net Imports	**132454**	**135059**	**153428**	**160955**	**154712**	**156565**	**154715**	**150374**	**146891**	**1.5**	**0.1**	**0.0**	**-0.5**
Solids	13792	12987	13188	16366	16178	16802	16485	15997	16087	-0.4	2.1	0.2	-0.2
Oil	90279	90092	88933	79901	70365	68840	64462	63430	61819	-0.2	-2.3	-0.9	-0.4
- Crude oil and Feedstocks	84617	82939	90784	95053	82952	81444	77079	76043	74420	0.7	-0.9	-0.7	-0.4
- Oil products	5662	7153	-1852	-15153	-12587	-12604	-12617	-12613	-12602				
Natural gas	25311	28530	47008	59840	63074	65146	64707	63225	60706	6.4	3.0	0.3	-0.6
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Gross Inland Consumption	**153512**	**161674**	**172955**	**187312**	**180824**	**185424**	**191842**	**197417**	**203747**	**1.2**	**0.4**	**0.6**	**0.6**
Solids	14621	12272	12659	16477	16178	16802	16485	15997	16087	-1.4	2.5	0.2	-0.2
Oil	90274	93660	89365	83691	72733	70946	66225	65028	63191	-0.1	-2.0	-0.9	-0.5
Natural gas	39001	44652	57940	70651	71574	73046	72007	69925	66706	4.0	2.1	0.1	-0.8
Nuclear	0	0	0	0	0	0	3277	12663	21666				20.8
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Renewable energy forms	6636	7871	9177	12266	16709	21297	30934	31292	33971	3.3	6.2	6.4	0.9
as % in Gross Inland Consumption													
Solids	9.5	7.6	7.3	8.8	8.9	9.1	8.6	8.1	7.9				
Oil	58.8	57.9	51.7	44.7	40.2	38.3	34.5	32.9	31.0				
Natural gas	25.4	27.6	33.5	37.7	39.6	39.4	37.5	35.4	32.7				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	1.7	6.4	10.6				
Renewable energy forms	4.3	4.9	5.3	6.5	9.2	11.5	16.1	15.9	16.7				
Gross Electricity Generation in GWh_e	**213400**	**237312**	**270016**	**296786**	**300118**	**327811**	**361035**	**388536**	**408517**	**2.4**	**1.1**	**1.9**	**1.2**
Self consumption and grid losses	29388	31368	35087	36142	33422	36790	40877	44021	46657	1.8	-0.5	2.0	1.3
Fuel Inputs for Thermal Power Generation	**40328**	**43578**	**47763**	**54689**	**52875**	**54965**	**53508**	**52867**	**49798**	**1.7**	**1.0**	**0.1**	**-0.7**
Solids	7017	5287	5836	10001	10924	11105	10647	9904	9934	-1.8	6.5	-0.3	-0.7
Oil (including refinery gas)	21531	25009	18954	9640	3486	3142	322	1529	1547	-1.3	-15.6	-21.2	17.0
Gas	8971	10234	19665	28200	29992	30648	28831	26861	22261	8.2	4.3	-0.4	-2.6
Biomass & Waste	39	94	419	2270	2933	4368	7783	7388	7612	26.8	21.5	10.3	-0.2
Geothermal heat	2770	2954	2890	4578	5540	5703	5925	7185	8445	0.4	6.7	0.7	3.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99583**	**99070**	**103125**	**107857**	**95888**	**95258**	**92112**	**91394**	**90187**	**0.4**	**-0.7**	**-0.4**	**-0.2**
Refineries	91895	92690	97315	102905	90452	88635	83891	82717	80932	0.6	-0.7	-0.8	-0.4
Biofuels and hydrogen production	0	0	0	179	1281	2026	3567	3789	4333			10.8	2.0
District heating	0	0	0	0	0	0	0	0	0				
Others	7688	6380	5811	4773	4154	4598	4654	4887	4921	-2.8	-3.3	1.1	0.6
Energy Branch Consumption	**7028**	**7345**	**7289**	**10110**	**9415**	**9429**	**9452**	**9368**	**9084**	**0.4**	**2.6**	**0.0**	**-0.4**
Non-Energy Uses	**10095**	**13807**	**11039**	**11267**	**10617**	**10804**	**11120**	**11317**	**11510**	**0.9**	**-0.4**	**0.5**	**0.3**
Final Energy Demand	**107380**	**113897**	**123465**	**135679**	**131856**	**136699**	**140749**	**141760**	**143500**	**1.4**	**0.7**	**0.7**	**0.2**
by sector													
Industry	36259	36459	39526	41924	39829	40223	41993	43073	44653	0.9	0.1	0.5	0.6
- energy intensive industries	25255	24765	24933	26667	24705	24858	25513	25706	26115	-0.1	-0.1	0.3	0.2
- other industrial sectors	11004	11694	14593	15257	15123	15365	16480	17367	18538	2.9	0.4	0.9	1.2
Residential	26334	26707	28361	32040	32618	34552	35583	35263	35467	0.7	1.4	0.9	0.0
Tertiary	11271	12990	14190	17934	16851	17401	17848	17558	17604	2.3	1.7	0.6	-0.1
Transport	33514	37741	41388	43782	42558	44524	45325	45866	45776	2.1	0.3	0.6	0.1
by fuel													
Solids	4209	4012	3681	4220	3417	3724	3826	3990	4007	-1.3	-0.7	1.1	0.5
Oil	53841	53287	56357	58458	53342	52313	50667	50530	49470	0.5	-0.5	-0.5	-0.2
Gas	29813	34652	37984	41979	41065	41520	41985	39750	40535	2.5	0.8	0.2	-0.4
Electricity	18409	20442	23435	25828	25787	27582	29671	31368	32502	2.4	1.0	1.4	0.9
Heat (from CHP and District Heating) [A]	0	0	0	3082	3984	5435	4424	6830	6930			1.1	4.6
Renewable energy forms	1107	1505	2007	2112	4258	6120	10170	9284	10050	6.1	7.8	9.1	-0.1
Other	0	0	0	0	2	5	6	7	6			9.9	-0.1
RES in Gross Final Energy Consumption [B]			**6180**	**7829**	**10414**	**15148**	**23864**	**23327**	**24961**		**5.4**	**8.6**	**0.5**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**499.0**		**532.3**	**561.6**	**514.8**	**510.7**	**485.4**	**474.9**	**462.3**	**0.6**	**-0.3**	**-0.6**	**-0.5**
of which ETS sectors GHGs emissions				254.4	219.2	219.3	202.9	197.8	188.5			-0.8	-0.7
CO_2 Emissions (energy related)	**384.7**	**399.5**	**418.8**	**447.6**	**413.3**	**413.4**	**390.9**	**379.9**	**366.9**	**0.9**	**-0.1**	**-0.6**	**-0.6**
Power generation/District heating	118.8	125.9	130.5	137.8	125.9	127.4	108.9	104.9	94.3	0.9	-0.4	-1.4	-1.4
Energy Branch	16.0	16.4	15.9	19.1	17.6	17.2	16.6	14.6	13.6	-0.1	1.0	-0.6	-2.0
Industry	77.6	73.8	75.5	74.9	62.5	58.8	62.2	59.5	62.0	-0.3	-1.9	0.0	0.0
Residential	55.7	52.9	54.8	61.4	62.8	64.1	61.7	59.9	58.7	-0.2	1.4	-0.2	-0.5
Tertiary	19.1	21.2	22.0	27.2	24.4	22.2	20.2	18.7	18.1	1.4	1.0	-1.9	-1.1
Transport	97.5	109.2	120.1	127.3	120.1	123.6	121.3	122.2	120.2	2.1	0.0	0.1	-0.1
CO_2 Emissions (non energy related)	**32.7**	**30.6**	**28.2**	**30.5**	**27.8**	**28.6**	**29.5**	**30.4**	**31.3**	**-1.5**	**-0.2**	**0.6**	**0.6**
Non-CO_2 GHGs Emissions	**81.5**		**85.2**	**83.5**	**73.7**	**68.7**	**65.0**	**64.6**	**64.2**	**0.4**	**-1.4**	**-1.3**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**106.7**	**112.6**	**103.2**	**102.4**	**97.3**	**95.2**	**92.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Italy: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.694	56.844	56.924	58.462	60.017	60.929	61.421	61.683	61.868	0.0	0.5	0.2	0.1
GDP (in 000 M€08)	1234.6	1315.1	1444.9	1510.1	1482.7	1612.2	1773.4	1936.3	2085.4	1.6	0.3	1.8	1.6
Gross Inl. Cons./GDP (toe/M€08)	124.3	122.9	119.7	124.0	122.0	115.0	108.2	102.0	97.7	-0.4	0.2	-1.2	-1.0
Carbon intensity (t of CO_2/toe of GIC)	2.51	2.47	2.42	2.39	2.29	2.23	2.04	1.92	1.80	-0.3	-0.6	-1.1	-1.2
Import Dependency %	84.8	82.3	87.3	84.4	84.1	83.0	79.3	74.9	70.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			145.0	167.0	167.2	197.5	240.1	269.7	281.8		1.8	4.6	2.8
as % of GDP			10.0	11.1	11.7	13.5	15.3	16.7	17.2				
Energy intensity indicators													
Industry (Energy on Value added)	105.9	98.6	100.0	110.7	111.7	106.0	100.0	91.7	86.2	-0.6	1.1	-1.1	-1.5
Residential (Energy on Private Income)	109.6	106.6	100.0	108.8	110.4	105.0	98.4	90.2	85.2	-0.9	1.0	-1.1	-1.4
Tertiary (Energy on Value added)	93.4	101.2	100.0	119.0	111.8	105.0	97.4	87.6	81.6	0.7	1.1	-1.4	-1.8
Passenger transport (toe/Mpkm)	33.5	32.5	31.3	32.3	31.6	30.9	30.1	28.9	27.6	-0.7	0.1	-0.5	-0.9
Freight transport (toe/Mtkm)	48.4	44.6	45.2	47.5	46.4	46.5	45.6	44.0	41.9	-0.7	0.3	-0.2	-0.8
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.53	0.48	0.39	0.35	0.31	0.25	0.22	0.19	-1.4	-3.3	-3.1	-3.0
Final energy demand (t of CO_2/toe)	2.33	2.26	2.21	2.14	2.05	1.97	1.89	1.84	1.80	-0.5	-0.8	-0.8	-0.4
Industry	2.14	2.03	1.91	1.79	1.57	1.46	1.48	1.38	1.39	-1.1	-2.0	-0.6	-0.6
Residential	2.12	1.98	1.93	1.92	1.92	1.86	1.74	1.70	1.65	-0.9	0.0	-1.0	-0.5
Tertiary	1.70	1.63	1.55	1.51	1.45	1.28	1.13	1.07	1.03	-0.9	-0.7	-2.5	-0.9
Transport	2.91	2.89	2.90	2.91	2.82	2.78	2.68	2.66	2.62	0.0	-0.3	-0.5	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			4.9	5.6	7.7	10.8	16.5	16.0	16.9				
RES in transport (%)			0.3	0.9	3.9	5.8	9.9	10.5	12.0				
Gross Electricity generation by fuel type (in GWh)			**270016**	**296786**	**300118**	**327811**	**361035**	**388536**	**408517**		**1.1**	**1.9**	**1.2**
Nuclear energy			0	0	0	0	13681	54017	93261				21.2
Coal and lignite			27603	46304	48950	53132	52022	48397	48498		5.9	0.6	-0.7
Petroleum products			85749	45284	16853	15046	1531	6157	6789		-15.0	-21.3	16.1
Gas (including derived gases)			105453	152542	169944	178221	178332	157732	129714		4.9	0.5	-3.1
Biomass & waste			1604	8901	11710	15467	26616	27510	29063		22.0	8.6	0.9
Hydro			44328	36061	38369	38468	38710	38707	38992		-1.4	0.1	0.1
Wind			563	2344	6138	17251	36337	37960	39420		27.0	19.5	0.8
Solar, tidal etc.			18	31	1711	3594	6916	9701	12961		57.7	15.0	6.5
Geothermal and other renewables			4698	5320	6442	6632	6889	8354	9819		3.2	0.7	3.6
Net Generation Capacity in MW_e			**67747**	**81560**	**96802**	**103365**	**114175**	**120397**	**128673**		**3.6**	**1.7**	**1.2**
Nuclear energy			0	0	0	0	1579	6236	10766				21.2
Renewable energy			13784	19213	22856	30566	43886	46480	49061		5.2	6.7	1.1
Hydro (pumping excluded)			13212	17095	17095	17440	17440	17440	17440		2.6	0.2	0.0
Wind			363	1635	4507	10602	22262	23395	24417		28.6	17.3	0.9
Solar			209	483	1254	2524	4184	5645	7203		19.6	12.8	5.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			53963	62347	73946	72798	68710	67682	68847		3.2	-0.7	0.0
of which cogeneration units			3956	5817	7500	9669	8081	11276	12783		6.6	0.7	4.7
of which CCS units			0	0	0	0	460	460	460				0.0
Solids fired			8719	8816	9772	11776	10248	8861	8862		1.1	0.5	-1.4
Gas fired			23805	34917	50453	49750	47890	46749	46166		7.8	-0.5	-0.4
Oil fired			20261	16623	10546	6041	3526	3423	3631		-6.3	-10.4	0.3
Biomass-waste fired			588	1322	2440	4474	6259	7695	9067		15.3	9.9	3.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			590	671	735	757	786	954	1121		2.2	0.7	3.6
Load factor for net electric capacities (%)			43.3	39.7	34.2	34.9	34.7	35.4	34.8				
Efficiency for thermal electricity production (%)			40.5	40.6	41.3	42.0	42.7	40.4	38.7				
CHP indicator (% of electricity from CHP)			9.1	9.7	13.5	17.0	13.7	16.8	16.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.4	1.2	1.2				
Non fossil fuels in electricity generation (%)			19.0	17.7	21.4	24.8	35.8	45.4	54.7				
- nuclear			0.0	0.0	0.0	0.0	3.8	13.9	22.8				
- renewable energy forms and industrial waste			19.0	17.7	21.4	24.8	32.0	31.5	31.9				
Transport sector													
Passenger transport activity (Gpkm)	**739.1**	**842.8**	**980.7**	**968.1**	**1001.0**	**1054.6**	**1095.2**	**1143.2**	**1186.3**	**2.9**	**0.2**	**0.9**	**0.8**
Public road transport	84.0	87.1	93.6	101.2	103.7	106.3	109.1	112.0	114.4	1.1	1.0	0.5	0.5
Private cars and motorcycles	582.7	674.6	793.5	763.0	788.1	830.3	855.5	886.7	914.6	3.1	-0.1	0.8	0.7
Rail	48.9	51.9	55.2	56.5	55.7	56.9	60.6	65.2	69.8	1.2	0.1	0.9	1.4
Aviation	18.4	24.3	33.5	42.7	48.6	56.2	64.9	73.9	82.1	6.2	3.8	2.9	2.4
Inland navigation	5.1	4.9	5.0	4.7	4.8	4.9	5.1	5.3	5.4	-0.4	-0.3	0.5	0.7
Freight transport activity (Gtkm)	**180.7**	**231.6**	**237.6**	**262.6**	**235.8**	**256.4**	**271.2**	**290.0**	**309.9**	**2.8**	**-0.1**	**1.4**	**1.3**
Trucks	125.5	174.4	184.7	211.8	184.0	201.9	214.3	230.8	248.6	3.9	0.0	1.5	1.5
Rail	19.4	21.7	22.8	22.8	24.6	25.7	26.9	27.8	28.5	1.7	0.7	0.9	0.6
Inland navigation	35.8	35.4	30.2	28.0	27.2	28.7	30.0	31.4	32.8	-1.7	-1.0	1.0	0.9
Energy demand in transport (ktoe)	**33514**	**37741**	**41388**	**43782**	**42558**	**44524**	**45325**	**45866**	**45776**	**2.1**	**0.3**	**0.6**	**0.1**
Public road transport	739	706	793	932	945	940	917	892	864	0.7	1.8	-0.3	-0.6
Private cars and motorcycles	21620	23735	25970	26093	25971	26632	26721	26537	26148	1.8	0.0	0.3	-0.2
Trucks	8154	9612	10097	11738	10175	11130	11575	12011	12283	2.2	0.1	1.3	0.6
Rail	739	821	835	908	931	919	899	884	844	1.2	1.1	-0.3	-0.6
Aviation	1872	2418	3491	3863	4289	4646	4949	5268	5356	6.4	2.1	1.4	0.8
Inland navigation	391	450	203	249	248	256	264	273	283	-6.3	2.0	0.6	0.7

Source: PRIMES

Latvia: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**1124**	**1432**	**1409**	**1870**	**1911**	**2264**	**2461**	**2459**	**2323**	**2.3**	**3.1**	**2.6**	**-0.6**
Solids	61	78	16	3	1	1	1	1	1	-12.3	-21.7	-3.2	-0.2
Oil	1	0	0	10	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	1062	1354	1393	1858	1910	2263	2460	2458	2322	2.8	3.2	2.6	-0.6
Hydro	387	253	242	286	248	250	252	256	291	-4.6	0.2	0.2	1.4
Biomass & Waste	675	1101	1150	1568	1648	1973	2140	2105	1924	5.5	3.7	2.6	-1.1
Wind	0	0	0	4	14	38	64	92	99		44.4	16.7	4.4
Solar and others	0	0	0	0	0	1	4	6	9			32.5	7.9
Geothermal	0	0	0	0	0	0	0	0	0			4.6	0.9
Net Imports	**7468**	**3366**	**2245**	**2994**	**3152**	**3222**	**3185**	**3117**	**3224**	**-11.3**	**3.5**	**0.1**	**0.1**
Solids	627	170	63	77	52	43	463	452	555	-20.5	-2.0	24.5	1.8
Oil	3972	2094	1116	1676	1944	2169	2143	2118	2099	-11.9	5.7	1.0	-0.2
- Crude oil and Feedstocks	1	2	94	4	1	1	1	1	1	55.9	-35.0	1.0	-0.6
- Oil products	3971	2092	1022	1672	1943	2168	2141	2117	2097	-12.7	6.6	1.0	-0.2
Natural gas	2561	999	1113	1434	1414	1386	987	906	923	-8.0	2.4	-3.5	-0.7
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Gross Inland Consumption	**7931**	**4628**	**3746**	**4491**	**4749**	**5142**	**5289**	**5211**	**5175**	**-7.2**	**2.4**	**1.1**	**-0.2**
Solids	711	273	135	82	53	44	464	453	556	-15.3	-8.8	24.2	1.8
Oil	3487	1893	1175	1382	1631	1825	1786	1753	1727	-10.3	3.3	0.9	-0.3
Natural gas	2380	1010	1092	1358	1414	1386	987	906	923	-7.5	2.6	-3.5	-0.7
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Renew able energy forms	1045	1258	1191	1485	1529	1844	2032	2079	1949	1.3	2.5	2.9	-0.4
as % in Gross Inland Consumption													
Solids	9.0	5.9	3.6	1.8	1.1	0.8	8.8	8.7	10.7				
Oil	44.0	40.9	31.4	30.8	34.3	35.5	33.8	33.6	33.4				
Natural gas	30.0	21.8	29.2	30.2	29.8	27.0	18.7	17.4	17.8				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	13.2	27.2	31.8	33.1	32.2	35.9	38.4	39.9	37.7				
Gross Electricity Generation in GWh_e	**6647**	**3978**	**4135**	**4904**	**5821**	**7725**	**8885**	**9457**	**10110**	**-4.6**	**3.5**	**4.3**	**1.3**
Self consumption and grid losses	1445	1428	1148	1027	1073	1168	1361	1380	1398	-2.3	-0.7	2.4	0.3
Fuel Inputs for Thermal Power Generation	**887**	**592**	**513**	**576**	**756**	**960**	**1204**	**1263**	**1271**	**-5.3**	**4.0**	**4.8**	**0.6**
Solids	20	65	47	0	0	0	425	426	530	9.2			2.2
Oil (including refinery gas)	177	242	77	13	11	12	12	10	10	-8.0	-17.5	0.8	-1.5
Gas	690	286	388	541	642	688	374	339	315	-5.6	5.2	-5.3	-1.7
Biomass & Waste	0	0	0	21	102	259	393	489	416			14.4	0.6
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**2570**	**892**	**562**	**476**	**445**	**438**	**384**	**347**	**334**	**-14.1**	**-2.3**	**-1.5**	**-1.4**
Refineries	1	1	1	1	1	1	1	1	1	0.0	1.3	1.0	-0.6
Biofuels and hydrogen production	0	0	0	2	32	53	82	101	116			9.7	3.6
District heating	2542	881	560	473	411	383	301	245	216	-14.0	-3.0	-3.1	-3.3
Others	27	9	1	0	0	0	0	0	0	-28.3			
Energy Branch Consumption	**126**	**127**	**147**	**100**	**128**	**135**	**145**	**143**	**144**	**1.5**	**-1.4**	**1.3**	**-0.1**
Non-Energy Uses	**78**	**46**	**79**	**93**	**56**	**58**	**59**	**56**	**55**	**0.2**	**-3.5**	**0.7**	**-0.8**
Final Energy Demand	**6389**	**3814**	**3239**	**4029**	**4161**	**4456**	**4484**	**4431**	**4420**	**-6.6**	**2.5**	**0.8**	**-0.1**
by sector													
Industry	1980	692	573	705	654	654	623	599	600	-11.7	1.3	-0.5	-0.4
- energy intensive industries	712	308	224	287	259	235	215	200	192	-10.9	1.4	-1.8	-1.1
- other industrial sectors	1267	384	349	419	396	418	408	400	408	-12.1	1.3	0.3	0.0
Residential	1586	1603	1327	1514	1504	1555	1573	1542	1514	-1.8	1.3	0.4	-0.4
Tertiary	1727	806	592	743	705	745	743	723	720	-10.1	1.8	0.5	-0.3
Transport	1097	714	747	1066	1297	1502	1545	1567	1586	-3.8	5.7	1.8	0.3
by fuel													
Solids	316	124	57	73	46	37	30	18	17	-15.7	-2.1	-4.2	-5.4
Oil	2062	1157	1057	1331	1554	1739	1700	1673	1648	-6.5	3.9	0.9	-0.3
Gas	672	366	329	508	490	467	472	483	501	-6.9	4.1	-0.4	0.6
Electricity	711	381	382	490	506	583	644	694	748	-6.0	2.9	2.4	1.5
Heat (from CHP and District Heating) [A]	2013	905	590	598	543	503	485	490	481	-11.5	-0.8	-1.1	-0.1
Renew able energy forms	616	881	824	1028	1021	1127	1153	1072	1024	3.0	2.2	1.2	-1.2
Other	0	0	0	0	0	0	0	0	0			12.7	3.7
RES in Gross Final Energy Consumption [B]			**1178**	**1387**	**1459**	**1718**	**1873**	**1900**	**1828**		**2.2**	**2.5**	**-0.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**26.9**		**10.0**	**11.4**	**11.7**	**12.0**	**12.4**	**12.2**	**12.5**	**-9.5**	**1.6**	**0.6**	**0.1**
of which ETS sectors GHGs emissions				3.0	3.0	3.0	3.8	3.6	4.1			2.5	0.9
CO_2 Emissions (energy related)	**18.8**	**8.8**	**6.7**	**7.6**	**8.2**	**8.7**	**9.3**	**9.0**	**9.4**	**-9.9**	**2.2**	**1.2**	**0.0**
Power generation/District heating	9.7	3.9	2.4	2.1	2.2	2.2	2.9	2.7	3.1	-13.1	-0.9	2.9	0.6
Energy Branch	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.0	-10.3	2.2	-0.8
Industry	2.5	1.3	0.9	1.1	1.0	1.0	0.8	0.8	0.7	-9.5	1.1	-2.2	-1.7
Residential	1.2	0.5	0.3	0.4	0.5	0.5	0.5	0.6	0.7	-13.3	4.6	1.5	2.4
Tertiary	2.1	0.9	0.7	0.8	0.7	0.7	0.6	0.6	0.5	-10.8	1.1	-1.7	-1.6
Transport	3.2	2.1	2.2	3.1	3.7	4.3	4.3	4.3	4.3	-3.7	5.6	1.4	-0.2
CO_2 Emissions (non energy related)	**0.6**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**-8.5**	**1.4**	**0.4**	**-0.1**
Non-CO_2 GHGs Emissions	**7.5**		**3.1**	**3.5**	**3.2**	**3.0**	**2.8**	**2.9**	**2.9**	**-8.6**	**0.3**	**-1.2**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**37.0**	**42.4**	**43.3**	**44.4**	**46.1**	**45.2**	**46.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Latvia: REFERENCE SCENARIO
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	2.668	2.501	2.382	2.306	2.247	2.200	2.151	2.095	2.033	-1.1	-0.6	-0.4	-0.6
GDP (in 000 M€08)	13.2	7.1	9.3	13.7	13.6	16.3	18.4	20.3	22.2	-3.5	3.9	3.0	1.9
Gross Inl. Cons./GDP (toe/M€08)	598.6	648.1	403.9	326.7	348.4	315.3	287.5	257.2	233.0	-3.9	-1.5	-1.9	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.37	1.91	1.78	1.70	1.73	1.69	1.76	1.72	1.81	-2.9	-0.2	0.2	0.3
Import Dependency %	88.9	70.5	59.8	63.0	62.3	58.7	56.4	55.9	58.1				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.9	2.9	3.2	4.2	5.2	5.9	6.2		5.7	6.0	2.4
as % of GDP			20.8	21.0	24.6	28.7	32.5	34.4	34.0				
Energy intensity indicators													
Industry (Energy on Value added)	157.6	153.2	100.0	84.9	84.4	76.6	69.6	64.8	60.8	-4.4	-1.7	-1.9	-1.3
Residential (Energy on Private Income)	84.9	156.2	100.0	75.0	80.6	68.0	58.9	51.8	46.0	1.7	-2.1	-3.1	-2.4
Tertiary (Energy on Value added)	322.8	180.2	100.0	84.3	80.7	68.9	60.3	52.6	47.4	-11.1	-2.1	-2.9	-2.4
Passenger transport (toe/Mpkm)	19.6	37.3	26.2	26.1	27.0	27.2	27.0	26.7	26.2	2.9	0.3	0.0	-0.3
Freight transport (toe/Mtkm)	27.8	24.9	19.0	19.6	24.8	24.8	23.1	21.3	19.8	-3.7	2.7	-0.7	-1.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.28	0.23	0.18	0.16	0.15	0.14	0.18	0.16	0.18	-4.3	-1.6	1.5	0.1
Final energy demand (t of CO_2/toe)	1.41	1.26	1.26	1.35	1.44	1.45	1.41	1.40	1.40	-1.2	1.4	-0.2	-0.1
Industry	1.28	1.92	1.63	1.52	1.60	1.49	1.35	1.32	1.19	2.4	-0.2	-1.7	-1.3
Residential	0.76	0.33	0.22	0.28	0.30	0.31	0.34	0.37	0.44	-11.7	3.3	1.0	2.8
Tertiary	1.21	1.12	1.13	1.09	1.05	0.94	0.84	0.78	0.74	-0.7	-0.7	-2.2	-1.3
Transport	2.90	2.89	2.92	2.95	2.89	2.86	2.80	2.74	2.69	0.1	-0.1	-0.3	-0.4
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			33.7	32.6	33.5	36.9	40.0	41.1	39.7				
RES in transport (%)			0.7	0.7	3.1	4.3	6.6	8.7	10.4				
Gross Electricity generation by fuel type (in GWh)			**4135**	**4904**	**5821**	**7725**	**8885**	**9457**	**10110**		**3.5**	**4.3**	**1.3**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			78	0	0	0	1869	1918	2483				2.9
Petroleum products			107	26	45	46	47	38	41		-8.2	0.3	-1.2
Gas (including derived gases)			1128	1465	2364	3445	1834	1604	1502		7.7	-2.5	-2.0
Biomass & waste			0	42	371	873	1453	1840	1534			14.6	0.5
Hydro			2818	3324	2881	2911	2931	2978	3380		0.2	0.2	1.4
Wind			4	47	158	445	742	1065	1146		44.4	16.7	4.4
Solar, tidal etc.			0	0	1	5	10	15	23			26.6	9.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2079**	**2171**	**2359**	**2785**	**3092**	**3312**	**3612**		**1.3**	**2.7**	**1.6**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			1499	1544	1616	1782	1940	2094	2289		0.8	1.8	1.7
Hydro (pumping excluded)			1497	1518	1520	1522	1525	1535	1672		0.2	0.0	0.9
Wind			2	26	94	254	404	543	593		46.9	15.8	3.9
Solar			0	0	2	5	10	15	24			17.5	9.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			581	627	743	1003	1152	1218	1323		2.5	4.5	1.4
of which cogeneration units			354	386	442	507	531	593	629		2.2	1.9	1.7
of which CCS units			0	0	0	0	0	0	0				
Solids fired			29	0	0	0	229	235	304				2.9
Gas fired			449	548	608	816	633	633	658		3.1	0.4	0.4
Oil fired			91	53	54	54	54	54	45		-5.1	0.1	-1.8
Biomass-waste fired			11	26	81	134	236	296	316		22.2	11.3	2.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			21.8	24.8	27.1	30.8	31.4	31.2	30.6				
Efficiency for thermal electricity production (%)			22.0	22.9	31.6	39.1	37.2	36.8	37.6				
CHP indicator (% of electricity from CHP)			39.8	33.1	37.9	33.9	34.8	35.8	34.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			68.3	69.6	58.6	54.8	57.8	62.4	60.2				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			68.3	69.6	58.6	54.8	57.8	62.4	60.2				
Transport sector													
Passenger transport activity (Gpkm)	**21.1**	**11.4**	**15.4**	**19.7**	**21.5**	**24.6**	**26.0**	**27.3**	**28.6**	**-3.1**	**3.4**	**1.9**	**0.9**
Public road transport	5.9	1.8	2.3	2.9	2.5	2.7	2.9	3.0	3.2	-8.7	0.8	1.2	1.2
Private cars and motorcycles	6.6	7.7	11.8	14.8	16.6	18.9	19.5	19.8	20.0	6.0	3.5	1.6	0.3
Rail	6.1	1.7	1.0	1.2	1.2	1.3	1.5	1.5	1.6	-16.7	2.0	2.0	1.1
Aviation	2.5	0.2	0.3	0.8	1.2	1.7	2.3	3.0	3.8	-18.7	14.9	6.1	5.3
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**24.5**	**11.6**	**18.1**	**28.2**	**28.8**	**33.5**	**36.6**	**39.3**	**42.2**	**-3.0**	**4.8**	**2.4**	**1.5**
Trucks	5.9	1.8	4.8	8.4	11.6	13.7	14.4	15.1	15.7	-2.0	9.3	2.2	0.9
Rail	18.5	9.8	13.3	19.8	17.2	19.8	22.1	24.2	26.5	-3.3	2.6	2.6	1.8
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1097**	**714**	**747**	**1066**	**1297**	**1502**	**1545**	**1567**	**1586**	**-3.8**	**5.7**	**1.8**	**0.3**
Public road transport	46	15	17	21	18	19	19	20	21	-9.3	0.6	0.5	0.9
Private cars and motorcycles	242	378	356	433	476	540	546	542	528	4.0	2.9	1.4	-0.3
Trucks	512	205	270	460	637	744	758	780	797	-6.2	9.0	1.7	0.5
Rail	189	90	76	94	81	90	88	60	42	-8.7	0.6	0.8	-7.1
Aviation	73	26	27	59	85	108	135	165	198	-9.6	12.2	4.8	3.9
Inland navigation	35	0	0	0	0	0	0	0	0				

Source: PRIMES

Lithuania: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**4740**	**3695**	**3188**	**3702**	**1007**	**1443**	**3334**	**4880**	**5035**	**-3.9**	**-10.9**	**12.7**	**4.2**
Solids	14	15	12	20	4	3	2	2	2	-1.8	-11.0	-4.5	-3.4
Oil	12	130	349	240	155	130	100	85	70	40.0	-7.8	-4.3	-3.5
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	4394	3050	2172	2666	0	0	1572	3099	3034	-6.8			6.8
Renewable energy sources	321	501	656	776	848	1310	1660	1694	1929	7.4	2.6	6.9	1.5
Hydro	36	32	29	39	36	37	39	39	40	-2.0	2.1	0.7	0.4
Biomass & Waste	285	469	627	734	798	1243	1559	1569	1780	8.2	2.4	6.9	1.3
Wind	0	0	0	0	14	29	54	72	86			14.5	4.8
Solar and others	0	0	0	0	0	2	8	14	22			36.7	10.4
Geothermal	0	0	0	3	0	0	0	0	0			7.8	-2.1
Net Imports	**11688**	**5650**	**4343**	**5120**	**6557**	**6791**	**6081**	**5532**	**5381**	**-9.4**	**4.2**	**-0.8**	**-1.2**
Solids	758	157	87	190	117	100	90	75	64	-19.5	3.0	-2.5	-3.4
Oil	7281	3693	2313	2700	2530	2804	2895	2985	2999	-10.8	0.9	1.4	0.4
- Crude oil and Feedstocks	9560	3619	4846	9093	8830	9700	9961	10232	10251	-6.6	6.2	1.2	0.3
- Oil products	-2279	74	-2533	-6393	-6299	-6896	-7066	-7247	-7252				
Natural gas	4678	2029	2065	2492	3561	3508	3174	2904	2773	-7.9	5.6	-1.1	-1.3
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Gross Inland Consumption	**16059**	**8672**	**7070**	**8616**	**7408**	**8063**	**9239**	**10234**	**10236**	**-7.9**	**0.5**	**2.2**	**1.0**
Solids	797	246	98	201	120	103	93	77	65	-18.9	2.0	-2.6	-3.4
Oil	6899	3085	2203	2769	2529	2763	2819	2892	2889	-10.8	1.4	1.1	0.2
Natural gas	4678	2029	2064	2476	3561	3508	3174	2904	2773	-7.9	5.6	-1.1	-1.3
Nuclear	4394	3050	2172	2666	0	0	1572	3099	3034	-6.8			6.8
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Renewable energy forms	320	493	649	758	832	1277	1611	1634	1836	7.3	2.5	6.8	1.3
as % in Gross Inland Consumption													
Solids	5.0	2.8	1.4	2.3	1.6	1.3	1.0	0.8	0.6				
Oil	43.0	35.6	31.2	32.1	34.1	34.3	30.5	28.3	28.2				
Natural gas	29.1	23.4	29.2	28.7	48.1	43.5	34.4	28.4	27.1				
Nuclear	27.4	35.2	30.7	30.9	0.0	0.0	17.0	30.3	29.6				
Renewable energy forms	2.0	5.7	9.2	8.8	11.2	15.8	17.4	16.0	17.9				
Gross Electricity Generation in GWh_e	**28400**	**13518**	**11118**	**14412**	**6416**	**7102**	**13682**	**18625**	**18513**	**-9.0**	**-5.3**	**7.9**	**3.1**
Self consumption and grid losses	3959	4152	3075	2782	1759	1775	2105	2352	2229	-2.5	-5.4	1.8	0.6
Fuel Inputs for Thermal Power Generation	**2610**	**950**	**912**	**1221**	**1926**	**1894**	**1713**	**1606**	**1768**	**-10.0**	**7.8**	**-1.2**	**0.3**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	1067	517	196	172	72	64	57	84	117	-15.6	-9.5	-2.4	7.5
Gas	1543	433	716	1044	1772	1653	1364	1174	1256	-7.4	9.5	-2.6	-0.8
Biomass & Waste	0	0	0	5	82	177	292	348	395			13.6	3.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11418**	**4482**	**5762**	**9984**	**9516**	**10418**	**10720**	**10984**	**11006**	**-6.6**	**5.1**	**1.2**	**0.3**
Refineries	9591	3402	5105	9458	8935	9800	10047	10310	10317	-6.1	5.8	1.2	0.3
Biofuels and hydrogen production	0	0	0	3	11	40	107	137	158			25.1	4.0
District heating	1819	1074	653	519	567	575	564	536	530	-9.7	-1.4	-0.1	-0.6
Others	8	6	4	4	3	2	2	1	1	-7.0	-4.4	-2.8	-8.2
Energy Branch Consumption	**996**	**600**	**670**	**958**	**848**	**913**	**976**	**1035**	**1024**	**-3.9**	**2.4**	**1.4**	**0.5**
Non-Energy Uses	**864**	**544**	**657**	**795**	**1007**	**1102**	**1100**	**1092**	**1073**	**-2.7**	**4.4**	**0.9**	**-0.3**
Final Energy Demand	**9679**	**4592**	**3740**	**4465**	**4634**	**5183**	**5431**	**5511**	**5530**	**-9.1**	**2.2**	**1.6**	**0.2**
by sector													
Industry	3327	1017	780	995	973	1106	1119	1092	1069	-13.5	2.2	1.4	-0.5
- energy intensive industries	1670	473	361	442	436	486	485	475	466	-14.2	1.9	1.1	-0.4
- other industrial sectors	1657	544	419	552	537	620	634	617	603	-12.8	2.5	1.7	-0.5
Residential	1843	1641	1342	1384	1365	1496	1569	1546	1543	-3.1	0.2	1.4	-0.2
Tertiary	2512	894	566	678	678	731	750	724	714	-13.8	1.8	1.0	-0.5
Transport	1996	1040	1051	1408	1618	1849	1994	2149	2204	-6.2	4.4	2.1	1.0
by fuel													
Solids	748	225	87	190	116	100	91	74	62	-19.4	2.9	-2.4	-3.7
Oil	4064	1670	1352	1610	1792	2018	2085	2187	2209	-10.4	2.9	1.5	0.6
Gas	1483	510	363	503	405	448	431	416	417	-13.1	1.1	0.6	-0.3
Electricity	1033	546	531	682	699	797	877	926	939	-6.4	2.8	2.3	0.7
Heat (from CHP and District Heating) [A]	2078	1193	828	905	1083	1059	1030	1145	1242	-8.8	2.7	-0.5	1.9
Renewable energy forms	272	448	579	574	538	761	916	762	659	7.9	-0.7	5.5	-3.2
Other	0	0	0	0	0	0	0	0	0			12.7	0.2
RES in Gross Final Energy Consumption [B]			**642**	**727**	**767**	**1100**	**1403**	**1247**	**1319**		**1.8**	**6.2**	**-0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**48.8**		**18.9**	**22.5**	**23.7**	**22.0**	**21.2**	**20.6**	**20.4**	**-9.0**	**2.3**	**-1.1**	**-0.4**
of which ETS sectors GHGs emissions				10.1	11.1	9.5	8.9	8.5	8.3			-2.2	-0.7
CO_2 Emissions (energy related)	**32.4**	**13.5**	**10.2**	**12.5**	**13.6**	**13.8**	**13.1**	**12.7**	**12.4**	**-10.9**	**2.8**	**-0.3**	**-0.6**
Power generation/District heating	12.0	5.6	3.9	3.9	5.3	5.1	4.3	4.1	4.0	-10.6	3.1	-2.1	-0.9
Energy Branch	1.6	0.8	1.1	1.9	1.5	1.4	1.3	0.9	0.7	-3.5	3.1	-1.7	-6.4
Industry	6.1	1.7	1.1	1.3	0.9	0.9	0.9	0.8	0.7	-15.9	-2.0	-0.3	-1.3
Residential	2.3	0.8	0.5	0.6	0.6	0.7	0.7	0.6	0.6	-13.6	1.1	1.1	-0.7
Tertiary	4.5	1.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	-19.8	-0.2	-0.7	-1.4
Transport	5.8	3.0	3.1	4.1	4.7	5.3	5.5	5.9	6.0	-6.2	4.4	1.6	0.8
CO_2 Emissions (non energy related)	**3.5**	**1.5**	**1.6**	**1.7**	**1.9**	**2.1**	**2.2**	**2.3**	**2.4**	**-7.7**	**1.9**	**1.6**	**0.9**
Non-CO_2 GHGs Emissions	**12.9**		**7.1**	**8.3**	**8.3**	**6.1**	**5.8**	**5.6**	**5.6**	**-5.8**	**1.5**	**-3.4**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**38.8**	**46.1**	**48.6**	**45.0**	**43.4**	**42.1**	**41.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)												Lithuania: REFERENCE SCENARIO	
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.694	3.643	3.512	3.425	3.337	3.275	3.220	3.158	3.083	-0.5	-0.5	-0.4	-0.4
GDP (in 000 M€08)	20.4	12.0	15.2	22.0	22.7	27.7	32.1	35.4	38.3	-3.0	4.1	3.5	1.8
Gross Inl. Cons./GDP (toe/M€08)	785.3	720.4	466.7	390.8	326.8	290.7	288.2	288.7	267.0	-5.1	-3.5	-1.3	-0.8
Carbon intensity (t of CO_2/toe of GIC)	2.02	1.55	1.45	1.45	1.83	1.71	1.42	1.24	1.21	-3.3	2.4	-2.5	-1.6
Import Dependency %	72.4	64.1	60.6	58.5	86.7	82.5	64.6	53.1	51.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.4	3.6	4.1	5.3	6.9	8.3	9.1		5.9	6.7	3.5
as % of GDP			16.1	16.2	19.0	22.2	25.7	28.4	30.3				
Energy intensity indicators													
Industry (Energy on Value added)	258.4	180.8	100.0	78.3	68.7	63.7	56.9	52.2	49.2	-9.1	-3.7	-1.9	-1.4
Residential (Energy on Private Income)	103.1	158.3	100.0	67.4	68.6	61.5	56.8	51.1	47.2	-0.3	-3.7	-1.9	-1.8
Tertiary (Energy on Value added)	452.0	203.3	100.0	87.1	86.4	76.0	66.7	57.0	50.9	-14.0	-1.5	-2.6	-2.7
Passenger transport (toe/Mpkm)	30.8	26.6	20.7	18.0	18.1	18.6	20.4	22.8	23.6	-3.9	-1.3	1.2	1.5
Freight transport (toe/Mtkm)	46.9	37.1	25.8	24.2	24.9	24.9	24.2	23.5	22.8	-5.8	-0.3	-0.3	-0.6
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.21	0.17	0.16	0.14	0.23	0.21	0.14	0.11	0.11	-2.8	3.6	-4.5	-2.9
Final energy demand (t of CO_2/toe)	1.94	1.54	1.39	1.49	1.44	1.43	1.38	1.40	1.40	-3.3	0.4	-0.4	0.1
Industry	1.83	1.69	1.37	1.35	0.90	0.84	0.76	0.71	0.70	-2.8	-4.1	-1.7	-0.9
Residential	1.27	0.48	0.40	0.46	0.44	0.44	0.43	0.42	0.41	-10.8	0.9	-0.3	-0.5
Tertiary	1.80	1.73	0.88	0.85	0.72	0.66	0.61	0.56	0.55	-6.9	-2.0	-1.7	-1.0
Transport	2.93	2.91	2.93	2.93	2.91	2.87	2.77	2.73	2.70	0.0	-0.1	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			15.1	14.8	15.4	19.9	24.2	21.2	22.4				
RES in transport (%)			0.0	0.3	0.9	2.8	6.9	8.3	9.4				
Gross Electricity generation by fuel type (in GWh)			**11118**	**14412**	**6416**	**7102**	**13682**	**18625**	**18513**		**-5.3**	**7.9**	**3.1**
Nuclear energy			8417	10335	0	0	6563	13127	12855				7.0
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			405	476	207	189	168	167	242		-6.5	-2.1	3.7
Gas (including derived gases)			1957	3136	5393	5565	4770	2917	2864		10.7	-1.2	-5.0
Biomass & waste			0	12	233	578	1063	1056	971			16.4	-0.9
Hydro			339	451	419	425	449	457	466		2.1	0.7	0.4
Wind			0	2	162	336	630	832	1003			14.5	4.8
Solar, tidal etc.			0	0	2	9	39	68	112			36.8	11.1
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**4586**	**3692**	**2756**	**3034**	**4275**	**4930**	**5056**		**-5.0**	**4.5**	**1.7**
Nuclear energy			2291	1200	0	0	758	1515	1515				7.2
Renewable energy			100	115	299	497	848	1099	1325		11.6	11.0	4.6
Hydro (pumping excluded)			100	114	122	123	148	155	159		2.0	1.9	0.7
Wind			0	1	175	365	662	876	1055			14.2	4.8
Solar			0	0	2	9	38	67	111			34.2	11.3
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2196	2377	2457	2537	2670	2316	2216		1.1	0.8	-1.8
of which cogeneration units			873	824	873	960	1023	920	977		0.0	1.6	-0.5
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			1661	2057	2124	2158	2179	1905	1910		2.5	0.3	-1.3
Oil fired			528	303	315	308	314	203	77		-5.0	0.0	-13.1
Biomass-waste fired			7	17	18	71	177	208	228		9.6	26.0	2.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			23.5	40.2	24.9	25.5	34.9	41.1	39.8				
Efficiency for thermal electricity production (%)			22.3	25.5	26.0	28.7	30.1	22.2	19.8				
CHP indicator (% of electricity from CHP)			18.3	17.8	62.6	62.9	35.6	21.9	21.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			78.8	74.9	12.7	19.0	63.9	83.4	83.2				
- nuclear			75.7	71.7	0.0	0.0	48.0	70.5	69.4				
- renewable energy forms and industrial waste			3.0	3.2	12.7	19.0	15.9	13.0	13.8				
Transport sector													
Passenger transport activity (Gpkm)	**24.1**	**21.7**	**30.0**	**40.1**	**44.9**	**49.0**	**49.6**	**49.9**	**50.1**	**2.2**	**4.1**	**1.0**	**0.1**
Public road transport	7.9	4.2	2.8	3.7	3.6	3.9	4.1	4.2	4.2	-10.0	2.7	1.4	0.3
Private cars and motorcycles	11.3	16.2	26.3	35.1	39.8	43.1	43.1	42.5	42.0	8.8	4.2	0.8	-0.3
Rail	3.6	1.1	0.6	0.4	0.4	0.4	0.5	0.5	0.5	-16.3	-4.0	1.7	1.3
Aviation	1.0	0.2	0.3	0.8	1.0	1.4	1.9	2.5	3.3	-10.3	12.4	6.0	5.8
Inland navigation	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-12.8	0.2	0.8	0.6
Freight transport activity (Gtkm)	**26.8**	**12.4**	**16.7**	**28.4**	**32.3**	**37.7**	**40.7**	**42.9**	**44.8**	**-4.6**	**6.8**	**2.3**	**1.0**
Trucks	7.3	5.2	7.8	15.9	19.0	22.4	23.9	24.9	25.6	0.6	9.3	2.3	0.7
Rail	19.3	7.2	8.9	12.5	13.4	15.3	16.8	18.0	19.2	-7.4	4.1	2.3	1.4
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1996**	**1040**	**1051**	**1408**	**1618**	**1849**	**1994**	**2149**	**2204**	**-6.2**	**4.4**	**2.1**	**1.0**
Public road transport	46	25	16	21	21	23	24	25	26	-9.8	2.5	1.5	0.5
Private cars and motorcycles	539	504	572	648	725	802	882	990	1004	0.6	2.4	2.0	1.3
Trucks	1139	383	358	608	723	848	887	908	916	-10.9	7.3	2.1	0.3
Rail	133	87	76	79	84	94	99	103	108	-5.5	1.0	1.7	0.9
Aviation	135	41	27	46	60	77	96	118	145	-14.9	8.5	4.8	4.1
Inland navigation	5	1	3	5	5	5	5	6	6	-5.0	5.3	0.7	0.4

Source: PRIMES

Luxembourg: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**47**	**47**	**57**	**74**	**99**	**169**	**249**	**286**	**305**	**1.9**	**5.7**	**9.7**	**2.0**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	47	47	57	74	99	169	249	286	305	1.9	5.7	9.7	2.0
Hydro	6	7	10	8	8	7	8	8	8	5.8	-2.9	0.2	0.2
Biomass & Waste	41	39	44	59	79	111	139	174	185	0.7	6.0	5.9	2.9
Wind	0	0	2	5	6	15	27	30	34		10.8	15.2	2.3
Solar and others	0	0	0	2	6	35	75	74	78			29.0	0.4
Geothermal	0	0	0	0	0	0	0	0	0			16.9	-8.8
Net Imports	**3526**	**3264**	**3630**	**4622**	**4695**	**5046**	**5013**	**4992**	**4893**	**0.3**	**2.6**	**0.7**	**-0.2**
Solids	1134	514	125	82	37	31	26	18	13	-19.8	-11.5	-3.4	-6.5
Oil	1626	1763	2342	3081	3067	3242	3099	3003	2846	3.7	2.7	0.1	-0.8
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	1626	1763	2342	3081	3067	3242	3099	3003	2846	3.7	2.7	0.1	-0.8
Natural gas	430	557	670	1179	1247	1356	1386	1519	1557	4.6	6.4	1.1	1.2
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Gross Inland Consumption	**3561**	**3342**	**3637**	**4714**	**4794**	**5215**	**5262**	**5278**	**5198**	**0.2**	**2.8**	**0.9**	**-0.1**
Solids	1134	514	125	82	37	31	26	18	13	-19.8	-11.5	-3.4	-6.5
Oil	1614	1794	2292	3100	3067	3242	3099	3003	2846	3.6	3.0	0.1	-0.8
Natural gas	430	557	670	1179	1247	1356	1386	1519	1557	4.6	6.4	1.1	1.2
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Renew able energy forms	47	47	57	74	125	259	451	464	497	1.9	8.3	13.7	1.0
as % in Gross Inland Consumption													
Solids	31.9	15.4	3.4	1.7	0.8	0.6	0.5	0.3	0.3				
Oil	45.3	53.7	63.0	65.8	64.0	62.2	58.9	56.9	54.8				
Natural gas	12.1	16.7	18.4	25.0	26.0	26.0	26.3	28.8	30.0				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	1.3	1.4	1.6	1.6	2.6	5.0	8.6	8.8	9.6				
Gross Electricity Generation in GWh_e	**627**	**498**	**433**	**3344**	**3475**	**4358**	**5207**	**6317**	**6535**	**-3.6**	**23.2**	**4.1**	**2.3**
Self consumption and grid losses	410	497	439	448	545	641	699	782	815	0.7	2.2	2.5	1.6
Fuel Inputs for Thermal Power Generation	**190**	**132**	**75**	**568**	**574**	**704**	**802**	**962**	**988**	**-8.8**	**22.5**	**3.4**	**2.1**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	3	2	0	0	0	1	1	1	1				2.5
Gas	162	106	47	525	537	647	708	870	894	-11.6	27.5	2.8	2.4
Biomass & Waste	25	24	28	43	37	56	93	91	93	1.0	2.8	9.7	-0.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**378**	**144**	**0**	**1**	**55**	**131**	**232**	**244**	**261**			**15.5**	**1.2**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	1	55	131	232	244	261			15.5	1.2
District heating	0	0	0	0	0	0	0	0	0				
Others	378	144	0	0	0	0	0	0	0				
Energy Branch Consumption	**31**	**30**	**26**	**30**	**37**	**44**	**48**	**53**	**55**	**-1.8**	**3.8**	**2.6**	**1.3**
Non-Energy Uses	**20**	**23**	**14**	**20**	**22**	**27**	**29**	**31**	**33**	**-3.9**	**5.0**	**2.7**	**1.3**
Final Energy Demand	**3335**	**3171**	**3558**	**4439**	**4492**	**4845**	**4860**	**4804**	**4713**	**0.7**	**2.4**	**0.8**	**-0.3**
by sector													
Industry	1729	1197	958	938	899	997	1029	1052	1082	-5.7	-0.6	1.4	0.5
- energy intensive industries	1525	901	506	461	431	468	479	482	486	-10.5	-1.6	1.1	0.1
- other industrial sectors	204	296	453	477	468	528	550	570	596	8.3	0.3	1.6	0.8
Residential	521	565	598	651	676	697	700	683	688	1.4	1.2	0.3	-0.2
Tertiary	74	99	118	130	137	147	151	156	160	4.7	1.5	1.0	0.6
Transport	1010	1311	1884	2721	2780	3005	2980	2914	2784	6.4	4.0	0.7	-0.7
by fuel													
Solids	756	369	125	82	37	31	26	18	13	-16.5	-11.5	-3.4	-6.5
Oil	1587	1758	2276	3080	3044	3215	3069	2971	2812	3.7	3.0	0.1	-0.9
Gas	622	585	623	678	711	709	678	648	663	0.0	1.3	-0.5	-0.2
Electricity	355	430	491	529	570	646	688	750	776	3.3	1.5	1.9	1.2
Heat (from CHP and District Heating) [A]	0	14	27	55	59	68	84	90	95		8.2	3.5	1.3
Renew able energy forms	15	15	16	16	70	175	315	327	353	0.4	16.0	16.2	1.1
Other	0	0	0	0	0	0	1	1	1			7.8	1.3
RES in Gross Final Energy Consumption [B]			**32**	**41**	**111**	**241**	**433**	**449**	**481**		**13.4**	**14.6**	**1.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**13.1**		**10.5**	**14.3**	**14.1**	**14.9**	**14.6**	**14.5**	**14.1**	**-2.2**	**3.0**	**0.3**	**-0.3**
of w hich ETS sectors GHGs emissions				4.0	3.8	4.2	4.4	4.7	4.6			1.5	0.6
CO_2 Emissions (energy related)	**10.7**	**8.7**	**8.9**	**12.4**	**12.3**	**13.0**	**12.6**	**12.6**	**12.2**	**-1.8**	**3.3**	**0.3**	**-0.3**
Pow er generation/District heating	0.7	0.4	0.1	1.2	1.3	1.5	1.7	2.0	2.1	-17.0	27.5	2.8	2.4
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	5.7	3.1	1.7	1.5	1.3	1.4	1.4	1.3	1.3	-11.5	-2.4	0.5	-0.3
Residential	1.3	1.3	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.1	0.2	-1.3	-1.1
Tertiary	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	17.3	-3.1	-0.6	-1.7
Transport	3.0	3.9	5.6	8.2	8.2	8.7	8.3	8.0	7.6	6.5	3.9	0.1	-0.9
CO_2 Emissions (non energy related)	**1.6**	**1.0**	**0.7**	**0.8**	**0.7**	**0.8**	**0.9**	**0.8**	**0.8**	**-7.6**	**0.2**	**1.7**	**-0.3**
Non-CO_2 GHGs Emissions	**0.9**		**0.9**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**0.4**	**2.0**	**-0.5**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**80.2**	**109.1**	**107.5**	**113.7**	**110.9**	**110.6**	**107.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Luxembourg: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.379	0.406	0.434	0.461	0.494	0.523	0.551	0.579	0.607	1.3	1.3	1.1	1.0
GDP (in 000 M€08)	14.3	19.9	26.8	31.9	34.4	42.8	50.0	56.4	62.8	6.5	2.5	3.8	2.3
Gross Inl. Cons./GDP (toe/M€08)	248.3	167.9	135.7	147.6	139.3	121.8	105.2	93.6	82.8	-5.9	0.3	-2.8	-2.4
Carbon intensity (t of CO_2/toe of GIC)	2.99	2.62	2.44	2.64	2.56	2.50	2.40	2.39	2.35	-2.0	0.5	-0.6	-0.2
Import Dependency %	99.0	97.7	99.8	98.0	97.9	96.8	95.3	94.6	94.1				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.9	3.9	4.1	5.0	6.2	6.8	6.9		3.7	4.7	1.7
as % of GDP			10.8	12.3	12.1	12.1	13.2	13.2	12.5				
Energy intensity indicators													
Industry (Energy on Value added)	259.7	159.1	100.0	93.6	86.4	78.9	71.6	66.6	63.3	-9.1	-1.5	-1.9	-1.2
Residential (Energy on Private Income)	125.3	116.2	100.0	100.4	98.1	80.5	68.9	59.5	53.7	-2.2	-0.2	-3.5	-2.5
Tertiary (Energy on Value added)	103.2	111.6	100.0	91.5	88.9	76.7	67.1	61.1	56.2	-0.3	-1.2	-2.8	-1.8
Passenger transport (toe/Mpkm)	119.7	125.6	136.5	150.7	143.3	131.9	120.8	107.9	97.4	1.3	0.5	-1.7	-2.1
Freight transport (toe/Mtkm)	92.1	84.1	102.9	156.5	154.7	151.1	146.0	139.0	127.6	1.1	4.2	-0.6	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.13	0.59	0.15	0.31	0.30	0.29	0.27	0.28	0.27	-18.4	7.4	-1.2	0.2
Final energy demand (t of CO_2/toe)	2.98	2.63	2.46	2.52	2.45	2.37	2.26	2.20	2.14	-1.9	-0.1	-0.8	-0.5
Industry	3.28	2.58	1.74	1.63	1.45	1.41	1.33	1.25	1.23	-6.1	-1.8	-0.9	-0.8
Residential	2.45	2.39	2.37	2.21	2.14	1.99	1.81	1.71	1.65	-0.3	-1.0	-1.6	-0.9
Tertiary	0.21	0.35	0.65	0.48	0.41	0.39	0.35	0.30	0.28	12.0	-4.5	-1.6	-2.3
Transport	2.96	2.96	2.97	3.00	2.95	2.88	2.78	2.76	2.73	0.1	-0.1	-0.6	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.9	0.9	2.5	5.1	9.1	9.6	10.4				
RES in transport (%)			0.0	0.1	2.3	5.2	9.3	10.1	11.2				
Gross Electricity generation by fuel type (in GWh)			**433**	**3344**	**3475**	**4358**	**5207**	**6317**	**6535**		**23.2**	**4.1**	**2.3**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			0	0	0	3	3	4	4				2.5
Gas (including derived gases)			231	3050	3147	3885	4360	5425	5579		29.9	3.3	2.5
Biomass & waste			55	130	123	155	362	352	360		8.3	11.4	-0.1
Hydro			120	93	90	84	92	92	94		-2.9	0.2	0.2
Wind			27	53	75	173	310	353	391		10.8	15.2	2.3
Solar, tidal etc.			0	18	40	59	79	91	107			7.2	3.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**165**	**609**	**607**	**841**	**1090**	**1290**	**1355**		**13.9**	**6.0**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			54	101	131	234	331	375	418		9.3	9.7	2.4
Hydro (pumping excluded)			39	40	40	40	40	40	40		0.2	0.0	0.1
Wind			14	35	50	134	210	242	270		13.5	15.5	2.6
Solar			1	26	41	61	81	93	108		45.1	7.0	2.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			111	509	477	607	759	915	937		15.7	4.8	2.1
of which cogeneration units			37	54	96	115	154	189	207		10.0	4.9	3.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			95	483	452	580	696	851	872		16.8	4.4	2.3
Oil fired			0	0	0	1	1	1	1				2.5
Biomass-waste fired			16	25	25	25	62	62	63		4.5	9.7	0.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			28.0	62.2	63.7	57.5	53.1	54.5	53.7				
Efficiency for thermal electricity production (%)			32.7	48.1	49.0	49.4	50.7	51.7	51.8				
CHP indicator (% of electricity from CHP)			52.7	12.6	16.1	13.0	16.9	15.7	16.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			46.7	8.8	9.4	10.8	16.2	14.1	14.6				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			46.7	8.8	9.4	10.8	16.2	14.1	14.6				
Transport sector													
Passenger transport activity (Gpkm)	**5.2**	**6.2**	**7.3**	**8.1**	**8.6**	**9.4**	**9.7**	**10.1**	**10.6**	**3.4**	**1.6**	**1.3**	**0.9**
Public road transport	0.5	0.5	0.6	0.8	0.9	0.9	1.0	1.0	1.1	2.6	3.3	1.1	1.0
Private cars and motorcycles	4.0	4.8	5.7	6.5	6.7	7.4	7.4	7.7	7.9	3.6	1.6	1.0	0.7
Rail	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	4.8	-0.5	1.8	1.0
Aviation	0.5	0.5	0.6	0.6	0.7	0.8	1.0	1.1	1.2	2.2	0.7	3.6	2.5
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**4.2**	**6.4**	**8.6**	**9.5**	**10.0**	**11.6**	**12.4**	**13.1**	**13.7**	**7.5**	**1.5**	**2.1**	**1.0**
Trucks	3.2	5.5	7.6	8.8	9.3	10.8	11.5	12.2	12.8	9.0	2.0	2.2	1.1
Rail	0.6	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.3	-4.1	1.8	0.4
Inland navigation	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	-1.0	0.9	0.9
Energy demand in transport (ktoe)	**1010**	**1311**	**1884**	**2721**	**2780**	**3005**	**2980**	**2914**	**2784**	**6.4**	**4.0**	**0.7**	**-0.7**
Public road transport	10	11	13	17	18	18	18	18	18	2.3	3.2	0.2	0.0
Private cars and motorcycles	483	574	662	779	769	750	667	597	566	3.2	1.5	-1.4	-1.6
Trucks	364	520	866	1479	1540	1743	1791	1803	1733	9.1	5.9	1.5	-0.3
Rail	13	9	15	9	10	11	11	10	10	2.0	-4.5	0.8	-0.5
Aviation	131	189	320	431	438	477	488	479	450	9.3	3.2	1.1	-0.8
Inland navigation	9	8	7	6	6	6	6	6	7	-2.4	-1.5	0.7	0.8

Source: PRIMES

Malta: REFERENCE SCENARIO										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**0**	**0**	**0**	**0**	**5**	**28**	**46**	**58**	**71**			**26.1**	**4.4**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renew able energy sources	0	0	0	0	5	28	46	58	71			26.1	4.4
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	0	0	0	0	0	3	4	5	7			50.7	4.8
Wind	0	0	0	0	0	3	8	16	25				11.7
Solar and others	0	0	0	0	4	23	33	36	39			22.5	1.7
Geothermal	0	0	0	0	0	0	0	0	0			18.7	-0.3
Net Imports	**612**	**891**	**822**	**958**	**911**	**796**	**770**	**760**	**746**	**3.0**	**1.0**	**-1.7**	**-0.3**
Solids	0	0	0	0	0	0	0	0	0				
Oil	612	891	822	958	911	649	591	526	488	3.0	1.0	-4.2	-1.9
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	612	891	822	958	911	649	591	526	488	3.0	1.0	-4.2	-1.9
Natural gas	0	0	0	0	0	142	148	203	222			138.0	4.2
Electricity	0	0	0	0	0	0	22	24	26				1.7
Gross Inland Consumption	**582**	**809**	**773**	**958**	**916**	**824**	**816**	**817**	**817**	**2.9**	**1.7**	**-1.1**	**0.0**
Solids	0	0	0	0	0	0	0	0	0				
Oil	582	809	773	958	911	649	591	526	488	2.9	1.7	-4.2	-1.9
Natural gas	0	0	0	0	0	142	148	203	222			138.0	4.2
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	22	24	26				1.7
Renew able energy forms	0	0	0	0	5	33	55	65	80			27.4	3.8
as % in Gross Inland Consumption													
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Oil	100.0	100.0	100.0	100.0	99.5	78.8	72.4	64.3	59.8				
Natural gas	0.0	0.0	0.0	0.0	0.0	17.3	18.1	24.8	27.2				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renew able energy forms	0.0	0.0	0.0	0.0	0.5	4.0	6.8	7.9	9.8				
Gross Electricity Generation in GWh_e	**1100**	**1632**	**1917**	**2240**	**2165**	**2223**	**2055**	**2134**	**2149**	**5.7**	**1.2**	**-0.5**	**0.4**
Self consumption and grid losses	190	373	350	396	382	361	334	306	271	6.3	0.9	-1.3	-2.1
Fuel Inputs for Thermal Power Generation	**322**	**463**	**495**	**580**	**539**	**409**	**354**	**328**	**302**	**4.4**	**0.9**	**-4.1**	**-1.6**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	322	463	495	580	539	264	208	145	118	4.4	0.9	-9.1	-5.5
Gas	0	0	0	0	0	140	140	176	176				2.3
Biomass & Waste	0	0	0	0	0	4	6	7	8				2.9
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**0**	**0**	**0**	**0**	**0**	**3**	**7**	**5**	**7**			**32.4**	**0.3**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	0	0	3	7	5	7			34.6	0.2
District heating	0	0	0	0	0	0	0	0	0			2.8	3.0
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**8**	**19**	**10**	**9**	**8**	**7**	**6**	**6**	**5**	**2.5**	**-2.3**	**-2.1**	**-2.4**
Non-Energy Uses	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**				
Final Energy Demand	**333**	**451**	**412**	**526**	**529**	**571**	**597**	**622**	**639**	**2.2**	**2.5**	**1.2**	**0.7**
by sector													
Industry	0	42	43	46	46	50	51	54	56		0.7	1.0	0.9
- energy intensive industries	0	0	0	0	0	0	0	0	0				
- other industrial sectors	0	42	43	46	46	50	51	54	56		0.7	1.0	0.9
Residential	55	73	76	89	92	101	110	115	121	3.2	2.0	1.7	1.0
Tertiary	56	32	55	63	66	74	81	89	94	-0.2	1.9	2.1	1.4
Transport	222	305	238	329	324	346	354	363	368	0.7	3.1	0.9	0.4
by fuel													
Solids	0	0	0	0	0	0	0	0	0				
Oil	255	343	277	378	371	385	383	381	370	0.9	3.0	0.3	-0.3
Gas	0	0	0	0	0	2	7	27	46			76.6	20.1
Electricity	78	108	135	148	153	160	170	181	188	5.6	1.3	1.0	1.0
Heat (from CHP and District Heating) [A]	0	0	0	0	0	0	0	0	0			2.8	3.0
Renew able energy forms	0	0	0	0	4	23	36	33	35			24.0	-0.3
Other	0	0	0	0	0	0	0	0	0			9.6	-0.4
RES in Gross Final Energy Consumption [B]			**0**	**0**	**5**	**30**	**51**	**60**	**74**			**26.5**	**3.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**2.0**		**2.7**	**3.3**	**3.1**	**2.6**	**2.4**	**2.3**	**2.2**	**3.1**	**1.6**	**-2.7**	**-0.6**
of which ETS sectors GHGs emissions				2.1	2.0	1.5	1.4	1.3	1.3			-3.6	-1.0
CO_2 Emissions (energy related)	**1.8**	**2.5**	**2.4**	**3.0**	**2.8**	**2.3**	**2.2**	**2.1**	**2.0**	**3.0**	**1.7**	**-2.7**	**-0.7**
Power generation/District heating	1.0	1.5	1.6	1.9	1.7	1.2	1.0	0.9	0.8	4.4	0.9	-5.4	-2.3
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Residential	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.8	2.0	-1.6	-0.1
Tertiary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		2.4	0.5	3.5
Transport	0.7	0.9	0.7	1.0	1.0	1.0	1.0	1.1	1.1	0.7	3.2	0.7	0.3
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.2**		**0.3**	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**3.4**	**0.6**	**-2.5**	**0.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.1**	**168.0**	**158.3**	**131.5**	**120.6**	**117.3**	**113.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)											Malta: REFERENCE SCENARIO		
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.352	0.369	0.380	0.403	0.414	0.421	0.427	0.431	0.432	0.8	0.8	0.3	0.1
GDP (in 000 M€08)	3.1	3.9	4.8	5.1	5.5	6.2	7.2	8.0	8.8	4.6	1.3	2.7	2.0
Gross Inl. Cons./GDP (toe/M€08)	189.6	206.3	161.2	189.0	167.5	132.4	113.9	102.0	93.2	-1.6	0.4	-3.8	-2.0
Carbon intensity (t of CO_2/toe of GIC)	3.06	3.08	3.10	3.12	3.10	2.83	2.64	2.54	2.45	0.1	0.0	-1.6	-0.7
Import Dependency %	100.0	104.5	100.8	100.0	99.5	96.6	94.4	92.9	91.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			0.4	0.6	0.7	0.8	1.0	1.2	1.3		5.1	5.2	2.7
as % of GDP			8.9	12.6	12.8	14.3	16.2	17.4	17.3				
Energy intensity indicators													
Industry (Energy on Value added)	0.0	122.2	100.0	133.5	125.2	118.7	106.6	100.4	95.7		2.3	-1.6	-1.1
Residential (Energy on Private Income)	115.3	114.5	100.0	108.5	106.3	101.1	95.1	89.2	85.0	-1.4	0.6	-1.1	-1.1
Tertiary (Energy on Value added)	158.1	70.7	100.0	103.0	100.8	98.6	94.4	92.2	88.9	-4.5	0.1	-0.6	-0.6
Passenger transport (toe/Mpkm)	47.2	56.2	41.7	57.4	51.3	47.8	44.1	41.3	38.4	-1.2	2.1	-1.5	-1.4
Freight transport (toe/Mtkm)	211.4	232.0	156.0	212.1	192.7	183.1	178.8	175.1	169.7	-3.0	2.1	-0.7	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.93	0.91	0.82	0.83	0.80	0.53	0.48	0.41	0.36	-1.3	-0.3	-4.9	-2.7
Final energy demand (t of CO_2/toe)	2.26	2.24	1.99	2.14	2.10	2.02	1.95	1.94	1.90	-1.3	0.5	-0.7	-0.2
Industry		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Residential	1.66	1.47	1.01	1.10	1.00	0.84	0.72	0.64	0.65	-4.9	0.0	-3.3	-1.0
Tertiary	0.00	0.00	0.64	0.69	0.67	0.55	0.57	0.65	0.70		0.5	-1.5	2.0
Transport	2.97	2.96	2.98	3.00	3.00	2.98	2.94	2.95	2.92	0.0	0.1	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.0	0.0	1.0	6.0	10.0	11.5	14.2				
RES in transport (%)			0.0	0.0	0.1	1.2	3.3	2.4	3.7				
Gross Electricity generation by fuel type (in GWh)			**1917**	**2240**	**2165**	**2223**	**2055**	**2134**	**2149**		**1.2**	**-0.5**	**0.4**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			1917	2240	2158	1256	984	683	550		1.2	-7.6	-5.6
Gas (including derived gases)			0	0	0	893	893	1136	1136				2.4
Biomass & waste			0	0	0	18	28	33	37				3.0
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	32	94	188	286				11.7
Solar, tidal etc.			0	0	8	25	57	93	139			22.1	9.4
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**484**	**544**	**550**	**836**	**650**	**742**	**806**		**1.3**	**1.7**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	0	5	31	75	133	196			31.1	10.1
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	15	39	73	106				10.5
Solar			0	0	5	16	36	60	90			21.9	9.5
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			484	544	545	805	575	609	609		1.2	0.5	0.6
of which cogeneration units			0	0	0	0	0	0	0				
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	124	124	158	158				2.5
Oil fired			484	544	545	678	447	446	446		1.2	-2.0	0.0
Biomass-waste fired			0	0	0	3	4	5	5				2.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			42.5	44.9	43.0	29.2	34.8	31.8	29.6				
Efficiency for thermal electricity production (%)			33.3	33.2	34.4	45.6	46.2	48.5	49.1				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.4	3.4	8.7	14.7	21.5				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.4	3.4	8.7	14.7	21.5				
Transport sector													
Passenger transport activity (Gpkm)	**3.9**	**4.4**	**4.8**	**4.8**	**5.4**	**6.2**	**6.8**	**7.4**	**8.1**	**1.9**	**1.2**	**2.4**	**1.8**
Public road transport	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.2	1.2	0.5	0.2
Private cars and motorcycles	1.5	1.8	1.9	2.1	2.2	2.2	2.2	2.2	2.2	1.9	1.7	0.0	-0.1
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	2.0	2.2	2.5	2.3	2.7	3.4	4.1	4.7	5.4	2.1	0.8	4.3	2.8
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**4.1**	**0.0**	**1.9**	**1.3**
Trucks	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.1	0.0	1.9	1.3
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**222**	**305**	**238**	**329**	**324**	**346**	**354**	**363**	**368**	**0.7**	**3.1**	**0.9**	**0.4**
Public road transport	9	9	7	10	11	11	10	10	10	-1.9	3.7	-0.1	-0.7
Private cars and motorcycles	105	164	105	175	164	160	150	142	135	0.0	4.6	-0.9	-1.0
Trucks	35	58	39	53	48	51	54	56	58	1.0	2.1	1.1	0.8
Rail	0	0	0	0	0	0	0	0	0				
Aviation	72	74	86	90	101	124	140	155	166	1.8	1.6	3.3	1.7
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Netherlands: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**60563**	**66301**	**57430**	**61899**	**60215**	**58132**	**56544**	**47990**	**41466**	**-0.5**	**0.5**	**-0.6**	**-3.1**
Solids	0	0	0	0	2	2	2	1	1			0.5	-3.4
Oil	4114	3625	2472	2346	1240	530	0	0	0	-5.0	-6.7		
Natural gas	54613	60456	51904	56265	54900	51980	49180	40100	32670	-0.5	0.6	-1.1	-4.0
Nuclear	881	1036	1013	1031	1017	1023	1024	1186	1186	1.4	0.0	0.1	1.5
Renewable energy sources	956	1184	2040	2257	3056	4597	6338	6704	7609	7.9	4.1	7.6	1.8
Hydro	7	8	12	8	8	9	9	9	9	5.3	-3.6	0.0	0.0
Biomass & Waste	942	1144	1945	2050	2352	2917	3360	3261	3758	7.5	1.9	3.6	1.1
Wind	5	27	71	178	616	1448	2488	2699	2869	30.9	24.1	15.0	1.4
Solar and others	2	5	12	22	80	187	378	525	658	18.5	21.3	16.8	5.7
Geothermal	0	0	0	0	0	37	105	210	315			134.4	11.6
Net Imports	**18273**	**17142**	**35442**	**38390**	**34239**	**37485**	**37034**	**44435**	**49765**	**6.8**	**-0.3**	**0.8**	**3.0**
Solids	9574	8921	8222	8313	7280	8989	9208	9417	9579	-1.5	-1.2	2.4	0.4
Oil	31704	33609	42777	48868	46273	47317	46439	45924	44190	3.0	0.8	0.0	-0.5
- Crude oil and Feedstocks	48979	60332	62222	62643	60525	61639	60669	60115	58289	2.4	-0.3	0.0	-0.4
- Oil products	-17275	-26723	-19446	-13775	-14252	-14322	-14230	-14191	-14099				
Natural gas	-23799	-26370	-17191	-20941	-21498	-20225	-19909	-12173	-5430				
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Gross Inland Consumption	**67955**	**74528**	**77042**	**82479**	**78365**	**79369**	**77457**	**76072**	**74462**	**1.3**	**0.2**	**-0.1**	**-0.4**
Solids	9206	9098	8035	8190	7281	8991	9210	9418	9581	-1.4	-1.0	2.4	0.4
Oil	25308	28142	29610	33527	31423	31599	30317	29570	27422	1.6	0.6	-0.4	-1.0
Natural gas	30810	34085	34711	35324	33402	31755	29271	27927	27240	1.2	-0.4	-1.3	-0.7
Nuclear	881	1036	1013	1031	1017	1023	1024	1186	1186	1.4	0.0	0.1	1.5
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Renewable energy forms	959	1187	2048	2834	3851	5676	7724	8148	9230	7.9	6.5	7.2	1.8
as % in Gross Inland Consumption													
Solids	13.5	12.2	10.4	9.9	9.3	11.3	11.9	12.4	12.9				
Oil	37.2	37.8	38.4	40.6	40.1	39.8	39.1	38.9	36.8				
Natural gas	45.3	45.7	45.1	42.8	42.6	40.0	37.8	36.7	36.6				
Nuclear	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.6	1.6				
Renewable energy forms	1.4	1.6	2.7	3.4	4.9	7.2	10.0	10.7	12.4				
Gross Electricity Generation in GWh_e	**71824**	**81054**	**89599**	**100235**	**104191**	**126189**	**136417**	**140592**	**143553**	**2.2**	**1.5**	**2.7**	**0.5**
Self consumption and grid losses	5556	6855	7754	8521	8795	10570	12357	12871	13133	3.4	1.3	3.5	0.6
Fuel Inputs for Thermal Power Generation	**14646**	**17053**	**18277**	**19614**	**19036**	**21145**	**21164**	**21542**	**22264**	**2.2**	**0.4**	**1.1**	**0.5**
Solids	5698	5900	5114	4958	4760	6541	6797	7004	7171	-1.1	-0.7	3.6	0.5
Oil (including refinery gas)	727	917	671	691	587	590	582	814	759	-0.8	-1.3	-0.1	2.7
Gas	7651	9466	11071	11913	11344	11041	10382	10111	10175	3.8	0.2	-0.9	-0.2
Biomass & Waste	570	770	1421	2052	2345	2936	3298	3403	3844	9.6	5.1	3.5	1.5
Geothermal heat	0	0	0	0	0	37	105	210	315				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**73390**	**84833**	**86509**	**91301**	**84021**	**84626**	**82214**	**81127**	**78920**	**1.7**	**-0.3**	**-0.2**	**-0.4**
Refineries	69876	81133	83485	87803	80993	81520	78842	77828	75616	1.8	-0.3	-0.3	-0.4
Biofuels and hydrogen production	0	0	0	0	255	497	844	789	856			12.7	0.1
District heating	0	11	153	436	494	494	494	455	388		12.4	0.0	-2.4
Others	3514	3689	2870	3062	2279	2115	2035	2055	2059	-2.0	-2.3	-1.1	0.1
Energy Branch Consumption	**5462**	**6320**	**5600**	**6665**	**5809**	**5783**	**5707**	**5616**	**5445**	**0.2**	**0.4**	**-0.2**	**-0.5**
Non-Energy Uses	**9775**	**9892**	**10307**	**13031**	**12946**	**12826**	**12342**	**12168**	**12156**	**0.5**	**2.3**	**-0.5**	**-0.2**
Final Energy Demand	**42876**	**47727**	**50174**	**51639**	**50682**	**50951**	**49628**	**48338**	**46689**	**1.6**	**0.1**	**-0.2**	**-0.6**
by sector													
Industry	12542	12675	13753	14929	14519	14500	13957	13622	13238	0.9	0.5	-0.4	-0.5
- energy intensive industries	9531	8686	9823	10639	10052	9993	9579	9306	9004	0.3	0.2	-0.5	-0.6
- other industrial sectors	3010	3989	3930	4291	4467	4507	4379	4316	4234	2.7	1.3	-0.2	-0.3
Residential	9938	11152	10333	10101	10171	10301	10045	9617	9282	0.4	-0.2	-0.1	-0.8
Tertiary	10012	11463	12229	11495	11305	11244	10858	10238	9830	2.0	-0.8	-0.4	-1.0
Transport	10385	12436	13858	15114	14687	14906	14768	14861	14339	2.9	0.6	0.1	-0.3
by fuel													
Solids	1651	1415	1295	1515	1151	1212	1230	1198	1171	-2.4	-1.2	0.7	-0.5
Oil	12851	14721	16512	17406	16693	16703	16045	15356	13939	2.5	0.1	-0.4	-1.4
Gas	21244	22515	21008	20335	19363	18536	16771	15755	14536	-0.1	-0.8	-1.4	-1.4
Electricity	6322	7143	8421	8989	9153	9824	10138	10367	10585	2.9	0.8	1.0	0.4
Heat (from CHP and District Heating) [A]	439	1568	2558	2981	3653	3645	3843	4028	4410	19.3	3.6	0.5	1.4
Renewable energy forms	370	364	380	413	668	1029	1599	1631	2045	0.3	5.8	9.1	2.5
Other	0	0	0	0	1	2	2	2	2			8.5	0.2
RES in Gross Final Energy Consumption [B]			**814**	**1169**	**3235**	**5114**	**7059**	**7412**	**8338**		**14.8**	**8.1**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**214.2**		**219.2**	**217.8**	**197.4**	**201.1**	**188.9**	**184.5**	**177.3**	**0.2**	**-1.0**	**-0.4**	**-0.6**
of which ETS sectors GHGs emissions				107.3	91.4	98.0	92.1	91.6	88.8			0.1	-0.4
CO_2 Emissions (energy related)	**152.1**	**167.6**	**166.2**	**172.1**	**159.6**	**163.4**	**152.1**	**147.5**	**139.9**	**0.9**	**-0.4**	**-0.5**	**-0.8**
Power generation/District heating	43.4	49.2	49.1	51.2	48.4	54.7	50.0	50.2	50.2	1.2	-0.1	0.3	0.0
Energy Branch	13.8	16.0	13.5	15.0	11.3	10.5	9.9	9.6	9.0	-0.3	-1.7	-1.3	-1.0
Industry	26.6	24.8	24.6	25.4	22.1	21.8	20.0	18.4	15.7	-0.8	-1.1	-1.0	-2.4
Residential	19.2	20.6	18.9	17.8	17.9	17.4	16.2	14.9	14.0	-0.2	-0.5	-1.0	-1.5
Tertiary	18.9	20.7	19.5	18.1	17.4	16.4	14.9	12.9	11.3	0.3	-1.2	-1.5	-2.7
Transport	30.2	36.3	40.6	44.5	42.5	42.5	41.0	41.5	39.7	3.0	0.5	-0.4	-0.3
CO_2 Emissions (non energy related)	**9.4**	**9.1**	**8.2**	**8.6**	**7.9**	**8.1**	**8.1**	**8.2**	**8.3**	**-1.4**	**-0.4**	**0.2**	**0.3**
Non-CO_2 GHGs Emissions	**52.6**		**44.8**	**37.0**	**29.9**	**29.6**	**28.7**	**28.7**	**29.1**	**-1.6**	**-4.0**	**-0.4**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.3**	**101.7**	**92.2**	**93.9**	**88.2**	**86.1**	**82.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Netherlands: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	14.893	15.424	15.864	16.306	16.503	16.717	16.896	17.069	17.208	0.6	0.4	0.2	0.2
GDP (in 000 M€08)	367.1	416.6	508.0	542.4	569.9	622.3	673.9	720.9	767.3	3.3	1.2	1.7	1.3
Gross Inl. Cons./GDP (toe/M€08)	185.1	178.9	151.7	152.1	137.5	127.5	114.9	105.5	97.0	-2.0	-1.0	-1.8	-1.7
Carbon intensity (t of CO_2/toe of GIC)	2.24	2.25	2.16	2.09	2.04	2.06	1.96	1.94	1.88	-0.4	-0.6	-0.4	-0.4
Import Dependency %	23.2	20.0	39.2	38.7	36.2	39.2	39.6	48.1	54.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			48.2	56.0	56.8	66.0	78.7	86.6	88.4		1.9	4.0	2.0
as % of GDP			9.5	10.3	10.2	11.3	12.7	13.6	13.7				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	107.3	100.0	108.1	104.1	97.9	90.1	84.3	78.9	-0.5	0.4	-1.4	-1.3
Residential (Energy on Private Income)	133.0	133.8	100.0	93.4	91.5	83.4	74.3	66.5	60.1	-2.8	-0.9	-2.1	-2.1
Tertiary (Energy on Value added)	117.5	115.7	100.0	86.8	80.6	72.3	63.9	56.0	50.2	-1.6	-2.1	-2.3	-2.4
Passenger transport (toe/Mpkm)	41.4	49.0	49.3	52.8	50.8	47.4	44.6	42.3	37.9	1.8	0.3	-1.3	-1.6
Freight transport (toe/Mtkm)	34.9	37.8	38.1	36.6	35.8	35.6	34.0	32.4	30.7	0.9	-0.6	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.48	0.39	0.35	0.30	0.29	0.25	0.24	0.23	-3.4	-2.8	-1.7	-0.7
Final energy demand (t of CO_2/toe)	2.21	2.15	2.07	2.05	1.97	1.93	1.86	1.81	1.73	-0.7	-0.5	-0.6	-0.7
Industry	2.12	1.96	1.79	1.70	1.52	1.51	1.43	1.35	1.19	-1.7	-1.6	-0.6	-1.9
Residential	1.93	1.85	1.83	1.76	1.76	1.69	1.61	1.55	1.50	-0.5	-0.4	-0.9	-0.7
Tertiary	1.89	1.81	1.60	1.58	1.54	1.46	1.37	1.26	1.15	-1.7	-0.4	-1.1	-1.8
Transport	2.91	2.92	2.93	2.95	2.89	2.85	2.78	2.79	2.77	0.1	-0.1	-0.4	0.0
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			1.6	2.2	6.3	9.9	14.0	15.2	17.6				
RES in transport (%)			0.1	0.1	2.6	5.0	8.7	8.3	9.2				
Gross Electricity generation by fuel type (in GWh)			**89599**	**100235**	**104191**	**126189**	**136417**	**140592**	**143553**		**1.5**	**2.7**	**0.5**
Nuclear energy			3925	3996	3942	3967	3971	5096	5096		0.0	0.1	2.5
Coal and lignite			23513	22687	21513	32499	33750	35434	36107		-0.9	4.6	0.7
Petroleum products			2380	2698	2910	2952	2864	2099	1685		2.0	-0.2	-5.2
Gas (including derived gases)			55301	62203	59549	58838	54729	53820	52688		0.7	-0.8	-0.4
Biomass & waste			3500	6463	8931	10840	11745	12084	13618		9.8	2.8	1.5
Hydro			142	88	99	99	99	99	99		-3.6	0.0	0.0
Wind			829	2067	7160	16833	28925	31382	33363		24.1	15.0	1.4
Solar, tidal etc.			8	34	87	117	149	170	240		27.0	5.5	4.9
Geothermal and other renewables			0	0	0	43	186	407	657				13.5
Net Generation Capacity in MW_e			**20559**	**23096**	**26283**	**31527**	**34322**	**34926**	**35623**		**2.5**	**2.7**	**0.4**
Nuclear energy			504	504	504	504	504	589	589		0.0	0.0	1.6
Renewable energy			494	1331	3212	6138	9925	10782	11565		20.6	11.9	1.5
Hydro (pumping excluded)			39	37	37	37	37	37	37		-0.5	0.0	0.0
Wind			442	1243	3078	5975	9716	10524	11192		21.4	12.2	1.4
Solar			13	51	96	126	151	168	241		22.2	4.6	4.8
Other renewables (tidal etc.)			0	0	0	0	21	53	95				16.4
Thermal power			19561	21261	22566	24884	23892	23555	23470		1.4	0.6	-0.2
of which cogeneration units			6017	5905	8227	8305	8336	8570	8470		3.2	0.1	0.2
of which CCS units			0	0	0	0	1005	1005	1005				0.0
Solids fired			4200	4200	4186	8133	8534	8534	8534		0.0	7.4	0.0
Gas fired			13732	14827	15935	13936	12432	11917	11709		1.5	-2.5	-0.6
Oil fired			776	762	995	787	786	777	770		2.5	-2.3	-0.2
Biomass-waste fired			853	1473	1451	2023	2126	2300	2414		5.4	3.9	1.3
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	5	14	28	42				11.6
Load factor for net electric capacities (%)			47.7	47.5	43.4	43.7	43.0	43.5	43.6				
Efficiency for thermal electricity production (%)			39.9	41.2	42.0	42.8	41.9	41.4	40.4				
CHP indicator (% of electricity from CHP)			39.1	30.8	42.8	35.4	32.6	31.1	31.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	4.8	5.3	5.8				
Non fossil fuels in electricity generation (%)			9.4	12.6	19.4	25.3	33.0	35.0	37.0				
- nuclear			4.4	4.0	3.8	3.1	2.9	3.6	3.5				
- renewable energy forms and industrial waste			5.0	8.6	15.6	22.1	30.1	31.4	33.4				
Transport sector													
Passenger transport activity (Gpkm)	**172.2**	**172.3**	**184.4**	**194.8**	**197.9**	**213.6**	**225.6**	**239.6**	**254.0**	**0.7**	**0.7**	**1.3**	**1.2**
Public road transport	13.0	12.0	11.3	11.8	12.4	13.2	13.7	14.0	14.2	-1.4	0.9	1.1	0.4
Private cars and motorcycles	138.6	133.0	143.3	151.5	151.7	161.9	168.1	177.0	186.8	0.3	0.6	1.0	1.1
Rail	12.3	17.7	16.1	16.7	18.1	19.7	21.2	22.7	24.0	2.7	1.2	1.6	1.2
Aviation	7.0	8.5	13.0	14.2	15.1	18.0	21.7	25.1	28.0	6.3	1.5	3.7	2.6
Inland navigation	1.2	1.0	0.7	0.7	0.7	0.8	0.8	0.8	0.8	-5.0	0.2	0.6	0.5
Freight transport activity (Gtkm)	**93.2**	**105.7**	**125.4**	**132.3**	**129.2**	**134.2**	**138.3**	**145.7**	**153.4**	**3.0**	**0.3**	**0.7**	**1.0**
Trucks	54.5	67.1	79.6	84.2	80.0	83.5	85.6	90.7	96.3	3.9	0.1	0.7	1.2
Rail	3.1	3.1	4.5	5.9	7.4	7.7	7.9	8.1	8.2	3.9	5.0	0.8	0.3
Inland navigation	35.7	35.5	41.3	42.2	41.8	43.0	44.7	46.8	48.9	1.5	0.1	0.7	0.9
Energy demand in transport (ktoe)	**10385**	**12436**	**13858**	**15114**	**14687**	**14906**	**14768**	**14861**	**14339**	**2.9**	**0.6**	**0.1**	**-0.3**
Public road transport	166	151	140	144	150	155	153	148	143	-1.7	0.7	0.2	-0.7
Private cars and motorcycles	5237	5553	5491	6371	6117	5860	5640	5523	5258	0.5	1.1	-0.8	-0.7
Trucks	2666	3278	4037	4552	4319	4464	4400	4430	4415	4.2	0.7	0.2	0.0
Rail	147	163	176	172	197	203	186	173	167	1.8	1.2	-0.6	-1.1
Aviation	1608	2589	3343	3670	3699	4017	4175	4365	4126	7.6	1.0	1.2	-0.1
Inland navigation	560	702	672	206	204	209	215	223	231	1.8	-11.2	0.5	0.7

Source: PRIMES

Poland: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**99385**	**99403**	**80300**	**79260**	**69136**	**67673**	**71398**	**68318**	**65446**	**-2.1**	**-1.5**	**0.3**	**-0.9**
Solids	94459	91104	71298	68876	59068	55686	52620	49038	45860	-2.8	-1.9	-1.1	-1.4
Oil	179	367	1433	1498	750	700	692	650	600	23.1	-6.3	-0.8	-1.4
Natural gas	2378	3169	3313	3884	3865	3440	3100	2800	2691	3.4	1.6	-2.2	-1.4
Nuclear	0	0	0	0	0	0	2817	2817	3947				3.4
Renew able energy sources	2369	4763	4256	5002	5453	7847	12170	13013	12347	6.0	2.5	8.4	0.1
Hydro	139	162	181	189	195	205	221	231	246	2.7	0.7	1.3	1.1
Biomass & Waste	2230	4600	4072	4792	5142	7373	11231	11981	11116	6.2	2.4	8.1	-0.1
Wind	0	0	0	12	87	145	248	312	378		70.0	11.1	4.3
Solar and others	0	0	0	0	1	31	93	166	270			51.9	11.3
Geothermal	0	0	3	9	28	93	377	323	338		25.1	29.7	-1.1
Net Imports	**2306**	**-11**	**10262**	**16911**	**32419**	**40183**	**38924**	**43003**	**44484**	**16.1**	**12.2**	**1.8**	**1.3**
Solids	-18913	-21202	-16309	-12755	-5332	-1269	-2283	2306	4902				
Oil	14536	15622	20512	22155	27282	30588	30270	30737	30067	3.5	2.9	1.0	-0.1
- Crude oil and Feedstocks	13196	14112	18949	18362	22649	25237	25004	25342	24983	3.7	1.8	1.0	0.0
- Oil products	1340	1510	1563	3793	4633	5352	5267	5396	5084	1.5	11.5	1.3	-0.4
Natural gas	6773	5810	6607	8531	11155	11521	10968	10919	10496	-0.2	5.4	-0.2	-0.4
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Gross Inland Consumption	**100083**	**100165**	**90907**	**93870**	**101135**	**107387**	**109849**	**110846**	**109460**	**-1.0**	**1.1**	**0.8**	**0.0**
Solids	75405	70500	56358	54918	53736	54417	50337	51344	50763	-2.9	-0.5	-0.7	0.1
Oil	13461	16149	20889	22734	27613	30819	30489	30912	30197	4.5	2.8	1.0	-0.1
Natural gas	8938	8995	9960	12235	15020	14961	14068	13719	13187	1.1	4.2	-0.7	-0.6
Nuclear	0	0	0	0	0	0	2817	2817	3947				3.4
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Renew able energy forms	2369	4763	4249	4946	5342	7633	12587	12552	11894	6.0	2.3	8.9	-0.6
as % in Gross Inland Consumption													
Solids	75.3	70.4	62.0	58.5	53.1	50.7	45.8	46.3	46.4				
Oil	13.4	16.1	23.0	24.2	27.3	28.7	27.8	27.9	27.6				
Natural gas	8.9	9.0	11.0	13.0	14.9	13.9	12.8	12.4	12.0				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.5	3.6				
Renew able energy forms	2.4	4.8	4.7	5.3	5.3	7.1	11.5	11.3	10.9				
Gross Electricity Generation in GWh_e	**134591**	**137017**	**143148**	**155331**	**162543**	**173429**	**189148**	**203965**	**219681**	**0.6**	**1.3**	**1.5**	**1.5**
Self consumption and grid losses	24377	30428	27978	28523	30121	31462	34744	36795	38524	1.4	0.7	1.4	1.0
Fuel Inputs for Thermal Power Generation	**43419**	**36847**	**35960**	**38149**	**41036**	**42093**	**41417**	**43174**	**42121**	**-1.9**	**1.3**	**0.1**	**0.2**
Solids	41138	35842	34793	35942	37718	38849	35894	37163	36837	-1.7	0.8	-0.5	0.3
Oil (including refinery gas)	1235	405	228	179	200	166	84	90	77	-15.6	-1.3	-8.3	-0.9
Gas	673	488	783	1483	1448	1353	1369	1376	1392	1.5	6.3	-0.6	0.2
Biomass & Waste	372	114	157	546	1670	1726	3952	4421	3683	-8.3	26.7	9.0	-0.7
Geothermal heat	0	0	0	0	0	0	118	125	133				1.2
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**37964**	**33093**	**34029**	**32016**	**34260**	**36446**	**36010**	**36010**	**35743**	**-1.1**	**0.1**	**0.5**	**-0.1**
Refineries	13269	15062	20074	19789	23563	26113	25854	26141	25723	4.2	1.6	0.9	-0.1
Biofuels and hydrogen production	0	0	0	47	363	717	1397	1554	1817			14.4	2.7
District heating	9949	5985	4320	3640	3567	3364	3321	3390	3631	-8.0	-1.9	-0.7	0.9
Others	14746	12045	9635	8541	6766	6252	5438	4926	4572	-4.2	-3.5	-2.2	-1.7
Energy Branch Consumption	**6808**	**7653**	**7263**	**7151**	**8586**	**8937**	**8904**	**8898**	**8650**	**0.6**	**1.7**	**0.4**	**-0.3**
Non-Energy Uses	**4218**	**3720**	**4319**	**4471**	**4707**	**5007**	**5072**	**5218**	**5415**	**0.2**	**0.9**	**0.8**	**0.7**
Final Energy Demand	**59652**	**63525**	**55323**	**57854**	**64840**	**70719**	**72568**	**73271**	**73261**	**-0.8**	**1.6**	**1.1**	**0.1**
by sector													
Industry	25258	22722	18886	16462	17489	18737	18824	18829	18711	-2.9	-0.8	0.7	-0.1
- energy intensive industries	16252	15428	13373	11186	11388	11860	11680	11460	11444	-1.9	-1.6	0.3	-0.2
- other industrial sectors	9006	7294	5513	5276	6101	6877	7144	7370	7267	-4.8	1.0	1.6	0.2
Residential	18126	23284	17519	18377	18765	19418	19783	19383	19373	-0.3	0.7	0.5	-0.2
Tertiary	8906	9244	9714	10932	11847	12938	13452	13670	13668	0.9	2.0	1.3	0.2
Transport	7362	8275	9204	12083	16739	19627	20508	21390	21510	2.3	6.2	2.1	0.5
by fuel													
Solids	17066	23299	13728	11350	10318	10045	9414	9298	9244	-2.2	-2.8	-0.9	-0.2
Oil	9143	11618	14917	17874	22015	24993	24879	25377	24947	5.0	4.0	1.2	0.0
Gas	7987	7735	7447	8400	11465	11633	10647	10173	9106	-0.7	4.4	-0.7	-1.6
Electricity	8262	7703	8454	9028	9908	10855	11933	13008	14217	0.2	1.6	1.9	1.8
Heat (from CHP and District Heating) [A]	15563	8763	6886	7056	7929	7661	7690	8002	8336	-7.8	1.4	-0.3	0.8
Renew able energy forms	1631	4408	3889	4146	3204	5530	8000	7410	7407	9.1	-1.9	9.6	-0.8
Other	0	0	0	0	1	3	4	4	4			12.3	0.4
RES in Gross Final Energy Consumption [B]			**3766**	**4290**	**4979**	**6842**	**11322**	**11278**	**10791**		**2.8**	**8.6**	**-0.5**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**440.8**		**374.8**	**375.2**	**396.5**	**403.8**	**374.6**	**380.7**	**375.1**	**-1.6**	**0.6**	**-0.6**	**0.0**
of w hich ETS sectors GHGs emissions				218.9	221.1	224.4	207.2	213.8	214.7			-0.6	0.4
CO_2 Emissions (energy related)	**332.3**	**330.9**	**288.6**	**291.2**	**312.2**	**323.9**	**300.8**	**305.6**	**300.2**	**-1.4**	**0.8**	**-0.4**	**0.0**
Pow er generation/District heating	209.3	169.9	158.8	162.1	167.9	172.1	155.2	160.5	159.7	-2.7	0.6	-0.8	0.3
Energy Branch	5.8	12.7	11.3	10.6	10.3	9.9	9.0	8.8	8.3	6.9	-1.0	-1.3	-0.9
Industry	44.0	59.9	46.3	33.5	33.9	34.9	33.1	33.9	35.2	0.5	-3.1	-0.2	0.6
Residential	33.1	44.4	27.9	30.2	31.2	30.7	27.8	25.4	22.7	-1.7	1.1	-1.2	-2.0
Tertiary	19.4	20.8	18.4	20.5	21.8	21.9	20.6	19.8	17.8	-0.5	1.7	-0.6	-1.4
Transport	20.6	23.2	25.8	34.4	47.1	54.5	55.0	57.1	56.5	2.3	6.2	1.6	0.3
CO_2 Emissions (non energy related)	**17.7**	**18.0**	**17.6**	**16.8**	**18.7**	**20.9**	**22.6**	**23.8**	**24.9**	**-0.1**	**0.6**	**2.0**	**0.9**
Non-CO_2 GHGs Emissions	**90.8**		**68.6**	**67.2**	**65.6**	**58.9**	**51.2**	**51.4**	**50.0**	**-2.8**	**-0.5**	**-2.4**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**85.0**	**85.1**	**89.9**	**91.6**	**85.0**	**86.4**	**85.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Poland: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.038	38.581	38.654	38.174	38.092	38.068	37.960	37.612	36.975	0.2	-0.1	0.0	-0.3
GDP (in 000 M€08)	152.9	170.4	221.8	258.2	314.9	373.9	429.0	490.8	544.9	3.8	3.6	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	654.7	587.7	409.8	363.5	321.1	287.2	256.1	225.9	200.9	-4.6	-2.4	-2.2	-2.4
Carbon intensity (t of CO_2/toe of GIC)	3.32	3.30	3.17	3.10	3.09	3.02	2.74	2.76	2.74	-0.4	-0.3	-1.2	0.0
Import Dependency %	2.3	0.0	11.3	18.0	31.9	37.3	35.3	38.6	40.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.3	42.0	50.3	62.5	81.0	93.3	99.6		4.7	6.4	3.3
as % of GDP			15.0	16.3	16.7	19.3	22.7	24.0	24.7				
Energy intensity indicators													
Industry (Energy on Value added)	200.8	177.4	100.0	67.2	56.3	49.8	44.8	40.8	38.8	-6.7	-5.6	-2.3	-1.4
Residential (Energy on Private Income)	182.3	177.4	100.0	91.0	79.4	69.6	60.8	51.9	46.1	-5.8	-2.3	-2.6	-2.7
Tertiary (Energy on Value added)	130.3	119.8	100.0	98.0	88.9	79.5	71.0	61.9	54.6	-2.6	-1.2	-2.2	-2.6
Passenger transport (toe/Mpkm)	22.8	27.4	24.9	26.7	27.6	27.1	26.8	26.4	25.9	0.9	1.1	-0.3	-0.3
Freight transport (toe/Mtkm)	25.3	27.2	29.2	32.1	34.1	34.0	33.2	32.7	31.6	1.4	1.6	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.62	0.67	0.67	0.65	0.58	0.57	0.49	0.48	0.45	0.8	-1.3	-1.8	-0.8
Final energy demand (t of CO_2/toe)	1.96	2.33	2.14	2.05	2.07	2.01	1.88	1.86	1.80	0.9	-0.4	-0.9	-0.4
Industry	1.74	2.64	2.45	2.03	1.94	1.86	1.76	1.80	1.88	3.5	-2.3	-0.9	0.7
Residential	1.83	1.90	1.59	1.64	1.66	1.58	1.40	1.31	1.17	-1.3	0.4	-1.7	-1.8
Tertiary	2.18	2.25	1.89	1.87	1.84	1.69	1.53	1.45	1.31	-1.4	-0.3	-1.8	-1.6
Transport	2.80	2.80	2.81	2.85	2.81	2.78	2.68	2.67	2.63	0.0	0.0	-0.5	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			6.5	7.1	7.4	9.3	15.0	14.8	14.1				
RES in transport (%)			0.1	0.5	2.7	4.6	8.5	9.1	10.5				
Gross Electricity generation by fuel type (in GWh)			**143148**	**155331**	**162543**	**173429**	**189148**	**203965**	**219681**		**1.3**	**1.5**	**1.5**
Nuclear energy			0	0	0	0	11760	11760	16687				3.6
Coal and lignite			137226	145736	148794	158283	152110	164348	174890		0.8	0.2	1.4
Petroleum products			911	759	1046	702	250	171	211		1.4	-13.3	-1.7
Gas (including derived gases)			2450	4990	4883	5141	6213	6265	7079		7.1	2.4	1.3
Biomass & waste			451	1510	4547	5224	13208	14922	13335		26.0	11.3	0.1
Hydro			2106	2201	2263	2379	2568	2682	2856		0.7	1.3	1.1
Wind			5	135	1008	1692	2884	3633	4393		70.0	11.1	4.3
Solar, tidal etc.			0	0	1	8	18	39	76			31.0	15.1
Geothermal and other renewables			0	0	0	0	137	145	154				1.2
Net Generation Capacity in MW_e			**29565**	**30959**	**32481**	**33527**	**35301**	**36857**	**41254**		**0.9**	**0.8**	**1.6**
Nuclear energy			0	0	0	0	1515	1515	2150				3.6
Renewable energy			813	1028	1687	2137	2920	3442	3978		7.6	5.6	3.1
Hydro (pumping excluded)			809	907	1014	1098	1187	1203	1203		2.3	1.6	0.1
Wind			4	121	672	1031	1714	2200	2701		66.9	9.8	4.6
Solar			0	0	1	8	18	39	74			29.8	15.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			28752	29931	30794	31390	30866	31900	35126		0.7	0.0	1.3
of which cogeneration units			9348	9606	9781	9330	10320	10876	11145		0.5	0.5	0.8
of which CCS units			0	0	0	0	610	610	610				0.0
Solids fired			27462	28152	28873	28439	26499	27090	29615		0.5	-0.9	1.1
Gas fired			847	1291	1215	1562	1758	1754	1774		3.7	3.8	0.1
Oil fired			429	430	430	440	384	271	210		0.0	-1.1	-5.9
Biomass-waste fired			14	59	276	950	2209	2769	3509		34.6	23.1	4.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	16	17	18				1.2
Load factor for net electric capacities (%)			50.3	52.4	52.2	54.2	55.8	57.7	55.7				
Efficiency for thermal electricity production (%)			33.7	34.5	33.4	34.6	35.7	37.0	40.0				
CHP indicator (% of electricity from CHP)			17.6	18.3	17.8	22.6	27.3	30.6	31.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	3.5	3.2	2.9				
Non fossil fuels in electricity generation (%)			1.8	2.5	4.8	5.4	16.2	16.3	17.1				
- nuclear			0.0	0.0	0.0	0.0	6.2	5.8	7.6				
- renewable energy forms and industrial waste			1.8	2.5	4.8	5.4	9.9	10.5	9.5				
Transport sector													
Passenger transport activity (Gpkm)	**186.5**	**182.3**	**217.1**	**257.8**	**323.6**	**377.6**	**409.4**	**440.8**	**462.7**	**1.5**	**4.1**	**2.4**	**1.2**
Public road transport	46.3	34.0	31.7	29.3	28.3	29.5	31.4	33.7	35.3	-3.7	-1.1	1.0	1.2
Private cars and motorcycles	83.4	115.2	153.6	201.2	262.6	309.7	335.5	358.9	373.4	6.3	5.5	2.5	1.1
Rail	55.4	31.6	28.8	22.3	24.8	27.4	29.5	31.7	33.3	-6.3	-1.5	1.7	1.2
Aviation	0.9	1.2	2.8	4.8	7.6	10.8	12.8	16.3	20.5	12.4	10.7	5.3	4.8
Inland navigation	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	-6.3	-0.6	1.3	0.7
Freight transport activity (Gtkm)	**122.9**	**120.3**	**130.2**	**162.1**	**228.4**	**276.3**	**287.6**	**298.4**	**302.1**	**0.6**	**5.8**	**2.3**	**0.5**
Trucks	40.3	51.2	75.0	111.8	172.5	210.2	216.3	221.9	221.7	6.4	8.7	2.3	0.2
Rail	81.6	68.2	54.0	50.0	55.5	65.7	70.8	76.0	79.9	-4.0	0.3	2.5	1.2
Inland navigation	1.0	0.9	1.2	0.3	0.4	0.4	0.4	0.5	0.5	1.3	-11.4	2.5	1.4
Energy demand in transport (ktoe)	**7362**	**8275**	**9204**	**12083**	**16739**	**19627**	**20508**	**21390**	**21510**	**2.3**	**6.2**	**2.1**	**0.5**
Public road transport	421	307	276	254	244	248	253	257	261	-4.1	-1.3	0.4	0.3
Private cars and motorcycles	3435	4241	4687	6248	8146	9255	9897	10486	10625	3.2	5.7	2.0	0.7
Trucks	2111	2659	3326	4792	7343	8873	9017	9237	9118	4.6	8.2	2.1	0.1
Rail	1099	669	540	468	507	584	572	559	472	-6.9	-0.6	1.2	-1.9
Aviation	196	371	369	319	497	665	767	848	1031	6.5	3.0	4.4	3.0
Inland navigation	99	29	6	2	2	2	3	3	3	-24.3	-9.9	1.6	0.8

Source: PRIMES

Portugal: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3396**	**3321**	**3826**	**3583**	**4594**	**5362**	**6198**	**6567**	**6986**	**1.2**	**1.8**	**3.0**	**1.2**
Solids	115	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	3281	3321	3826	3583	4594	5362	6198	6567	6986	1.5	1.8	3.0	1.2
Hydro	787	717	974	407	892	937	954	971	988	2.1	-0.9	0.7	0.4
Biomass & Waste	2479	2550	2770	2936	2892	3291	3563	3718	3901	1.1	0.4	2.1	0.9
Wind	0	1	14	152	589	753	902	1004	1102	66.9	44.9	4.3	2.0
Solar and others	11	15	18	23	66	225	609	703	824	5.4	13.6	24.9	3.1
Geothermal	3	37	49	66	154	156	170	170	171	31.4	12.1	1.0	0.0
Net Imports	**15122**	**18012**	**21881**	**24414**	**20964**	**20506**	**19013**	**18915**	**18723**	**3.8**	**-0.4**	**-1.0**	**-0.2**
Solids	2789	3797	3913	3223	2320	1981	1736	1674	952	3.4	-5.1	-2.9	-5.8
Oil	12329	14137	15848	16711	13753	13675	13274	13028	12857	2.5	-1.4	-0.4	-0.3
- Crude oil and Feedstocks	11319	13603	12231	13637	12417	12393	12219	12116	12040	0.8	0.2	-0.2	-0.1
- Oil products	1011	534	3618	3073	1336	1282	1055	913	817	13.6	-9.5	-2.3	-2.5
Natural gas	0	0	2039	3893	4206	3860	2820	2872	3549		7.5	-3.9	2.3
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Gross Inland Consumption	**17508**	**20469**	**25078**	**27035**	**24974**	**25262**	**24592**	**24849**	**25058**	**3.7**	**0.0**	**-0.2**	**0.2**
Solids	2580	3493	3803	3347	2320	1981	1736	1674	952	4.0	-4.8	-2.9	-5.8
Oil	11644	13576	15335	15768	13171	13069	12656	12396	12206	2.8	-1.5	-0.4	-0.4
Natural gas	0	0	2034	3751	4206	3860	2820	2872	3549		7.5	-3.9	2.3
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Renewable energy forms	3281	3321	3826	3583	4736	5787	6754	7197	7658	1.5	2.2	3.6	1.3
as % in Gross Inland Consumption													
Solids	14.7	17.1	15.2	12.4	9.3	7.8	7.1	6.7	3.8				
Oil	66.5	66.3	61.1	58.3	52.7	51.7	51.5	49.9	48.7				
Natural gas	0.0	0.0	8.1	13.9	16.8	15.3	11.5	11.6	14.2				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	18.7	16.2	15.3	13.3	19.0	22.9	27.5	29.0	30.6				
Gross Electricity Generation in GWh_e	**28350**	**33148**	**43364**	**46180**	**46279**	**49780**	**52391**	**55678**	**59729**	**4.3**	**0.7**	**1.2**	**1.3**
Self consumption and grid losses	4441	4776	5363	5983	5686	6235	6735	7651	7868	1.9	0.6	1.7	1.6
Fuel Inputs for Thermal Power Generation	**4304**	**5493**	**6508**	**8007**	**6131**	**6045**	**5550**	**5730**	**5752**	**4.2**	**-0.6**	**-1.0**	**0.4**
Solids	2027	2919	3198	3319	2314	1975	1732	1670	948	4.7	-3.2	-2.9	-5.8
Oil (including refinery gas)	2105	2371	1671	1885	613	631	506	280	153	-2.3	-9.5	-1.9	-11.3
Gas	19	18	1234	2309	2457	2197	1362	1601	2234	51.6	7.1	-5.7	5.1
Biomass & Waste	149	148	356	430	596	1091	1790	2018	2256	9.1	5.3	11.6	2.3
Geothermal heat	3	37	49	65	151	151	161	161	161	31.4	11.8	0.7	0.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11443**	**14111**	**12911**	**13785**	**12853**	**12941**	**12896**	**12869**	**12838**	**1.2**	**0.0**	**0.0**	**0.0**
Refineries	11111	13635	12462	13785	12700	12655	12463	12339	12255	1.2	0.2	-0.2	-0.2
Biofuels and hydrogen production	0	0	0	0	154	287	433	530	584			10.9	3.0
District heating	0	16	0	0	0	0	0	0	0				
Others	332	460	449	0	0	0	0	0	0	3.1			
Energy Branch Consumption	**655**	**960**	**1025**	**1101**	**896**	**873**	**845**	**858**	**808**	**4.6**	**-1.3**	**-0.6**	**-0.4**
Non-Energy Uses	**2113**	**1891**	**2364**	**2429**	**2181**	**2228**	**2265**	**2292**	**2393**	**1.1**	**-0.8**	**0.4**	**0.6**
Final Energy Demand	**11813**	**13789**	**17694**	**18723**	**18119**	**18520**	**18714**	**18906**	**19150**	**4.1**	**0.2**	**0.3**	**0.2**
by sector													
Industry	4728	4974	6244	5689	4997	4840	4801	4917	5185	2.8	-2.2	-0.4	0.8
- energy intensive industries	3073	3350	4092	3767	3001	2857	2777	2770	2858	2.9	-3.1	-0.8	0.3
- other industrial sectors	1656	1625	2151	1922	1995	1982	2025	2148	2328	2.7	-0.7	0.1	1.4
Residential	2290	2569	2804	3206	3192	3363	3469	3423	3400	2.0	1.3	0.8	-0.2
Tertiary	1055	1377	2105	2773	2623	2730	2722	2737	2788	7.1	2.2	0.4	0.2
Transport	3740	4869	6542	7055	7307	7587	7721	7828	7776	5.8	1.1	0.6	0.1
by fuel													
Solids	617	546	465	16	6	5	4	4	4	-2.8	-35.4	-2.8	-1.1
Oil	6700	8215	10509	10561	9592	9544	9265	9158	9028	4.6	-0.9	-0.3	-0.3
Gas	103	97	853	1307	1689	1530	1341	1237	1277	23.6	7.1	-2.3	-0.5
Electricity	2024	2477	3299	3983	3975	4250	4494	4783	5097	5.0	1.9	1.2	1.3
Heat (from CHP and District Heating) [A]	28	36	134	328	366	443	1027	1146	1174	16.8	10.5	10.9	1.3
Renewable energy forms	2341	2417	2433	2529	2490	2746	2580	2576	2569	0.4	0.2	0.4	0.0
Other	0	0	0	0	1	1	1	1	1			10.0	-0.2
RES in Gross Final Energy Consumption [B]			**3559**	**3886**	**4524**	**5386**	**6399**	**6807**	**7288**		**2.4**	**3.5**	**1.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**59.3**		**83.4**	**89.3**	**74.2**	**70.5**	**64.8**	**64.2**	**62.3**	**3.5**	**-1.2**	**-1.3**	**-0.4**
of which ETS sectors GHGs emissions				42.1	31.4	29.1	25.8	25.7	24.5			-2.0	-0.5
CO_2 Emissions (energy related)	**39.1**	**48.6**	**58.7**	**61.8**	**51.6**	**49.0**	**44.3**	**43.3**	**41.2**	**4.2**	**-1.3**	**-1.5**	**-0.7**
Power generation/District heating	14.8	19.2	20.9	24.5	16.8	14.9	11.6	11.2	9.4	3.5	-2.1	-3.6	-2.1
Energy Branch	1.5	2.4	2.5	2.6	2.2	2.0	1.9	1.9	1.7	5.3	-1.4	-1.5	-0.8
Industry	8.2	8.4	10.7	7.1	5.5	4.7	4.1	3.9	4.2	2.6	-6.4	-2.9	0.4
Residential	1.6	1.9	2.0	2.3	2.2	2.2	2.0	1.9	1.9	2.0	1.1	-0.8	-0.8
Tertiary	1.9	2.2	3.2	4.3	3.6	3.4	2.9	2.7	2.4	5.4	1.2	-1.9	-1.9
Transport	11.1	14.4	19.4	21.0	21.3	21.8	21.7	21.8	21.4	5.8	0.9	0.2	-0.2
CO_2 Emissions (non energy related)	**4.4**	**5.9**	**6.6**	**7.8**	**6.6**	**6.7**	**6.7**	**6.8**	**7.2**	**4.1**	**0.1**	**0.1**	**0.8**
Non-CO_2 GHGs Emissions	**15.8**		**18.1**	**19.7**	**16.0**	**14.8**	**13.9**	**14.0**	**14.0**	**1.4**	**-1.2**	**-1.4**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**140.7**	**150.5**	**125.2**	**118.9**	**109.4**	**108.2**	**105.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Portugal: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.996	10.018	10.195	10.529	10.723	10.947	11.108	11.224	11.317	0.2	0.5	0.4	0.2
GDP (in 000 M€08)	107.7	123.5	150.8	157.5	156.2	171.5	189.8	209.9	234.0	3.4	0.4	2.0	2.1
Gross Inl. Cons./GDP (toe/M€08)	162.5	165.8	166.3	171.6	159.9	147.3	129.6	118.4	107.1	0.2	-0.4	-2.1	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.23	2.37	2.34	2.29	2.07	1.94	1.80	1.74	1.64	0.5	-1.2	-1.4	-0.9
Import Dependency %	83.5	86.0	85.0	88.4	82.0	79.3	75.4	74.2	72.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			19.0	22.0	23.5	27.7	33.5	37.8	39.7		2.5	4.6	2.8
as % of GDP			12.6	14.0	15.5	17.6	19.9	21.1	21.3				
Energy intensity indicators													
Industry (Energy on Value added)	82.1	95.7	100.0	93.4	88.4	81.5	75.1	70.1	67.1	2.0	-1.2	-1.6	-1.1
Residential (Energy on Private Income)	121.8	112.4	100.0	106.5	109.0	104.1	96.1	86.5	78.0	-2.0	0.9	-1.3	-2.1
Tertiary (Energy on Value added)	70.3	77.9	100.0	121.4	111.3	103.6	91.8	82.2	74.0	3.6	1.1	-1.9	-2.1
Passenger transport (toe/Mpkm)	40.1	44.2	40.9	40.3	39.3	36.3	34.3	32.4	29.6	0.2	-0.4	-1.3	-1.5
Freight transport (toe/Mtkm)	45.1	53.4	66.8	61.4	61.3	60.9	58.5	55.5	52.1	4.0	-0.9	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.52	0.57	0.47	0.49	0.33	0.27	0.18	0.16	0.13	-1.0	-3.3	-5.9	-3.3
Final energy demand (t of CO_2/toe)	1.93	1.95	1.99	1.85	1.80	1.73	1.65	1.60	1.56	0.3	-1.0	-0.9	-0.5
Industry	1.74	1.68	1.71	1.25	1.10	0.96	0.85	0.79	0.82	-0.2	-4.3	-2.5	-0.4
Residential	0.71	0.74	0.71	0.70	0.70	0.65	0.59	0.56	0.56	0.0	-0.2	-1.7	-0.6
Tertiary	1.77	1.62	1.51	1.53	1.36	1.25	1.08	0.98	0.87	-1.6	-1.0	-2.3	-2.1
Transport	2.96	2.96	2.97	2.98	2.92	2.87	2.82	2.78	2.75	0.1	-0.2	-0.4	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			19.6	20.2	24.3	28.3	33.3	35.1	37.1				
RES in transport (%)			0.2	0.2	2.7	4.8	7.2	8.7	9.8				
Gross Electricity generation by fuel type (in GWh)			**43364**	**46180**	**46279**	**49780**	**52391**	**55678**	**59729**		**0.7**	**1.2**	**1.3**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15643	15647	10758	9184	8051	7763	4409		-3.7	-2.9	-5.8
Petroleum products			7769	8912	3209	3288	2618	1354	709		-8.5	-2.0	-12.2
Gas (including derived gases)			7229	13599	12796	11834	7659	9050	13166		5.9	-5.0	5.6
Biomass & waste			1153	1410	1884	4353	8010	8915	10171		5.0	15.6	2.4
Hydro			11321	4730	10371	10892	11092	11292	11491		-0.9	0.7	0.4
Wind			168	1773	6853	8758	10490	11669	12811		44.9	4.3	2.0
Solar, tidal etc.			1	3	194	1239	3733	4480	5498		69.3	34.4	3.9
Geothermal and other renewables			80	105	215	233	737	1155	1474		10.4	13.1	7.2
Net Generation Capacity in MW_e			**10360**	**13096**	**17403**	**20580**	**22670**	**23061**	**23718**		**5.3**	**2.7**	**0.5**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3967	5488	8490	10292	12746	13949	15458		7.9	4.1	1.9
Hydro (pumping excluded)			3883	4422	4499	4622	4731	4731	5077		1.5	0.5	0.7
Wind			83	1064	3832	4803	5601	6177	6687		46.7	3.9	1.8
Solar			1	2	156	854	2147	2557	3044		65.7	30.0	3.6
Other renewables (tidal etc.)			0	0	2	12	267	484	649			61.2	9.3
Thermal power			6393	7607	8913	10288	9924	9112	8260		3.4	1.1	-1.8
of which cogeneration units			1640	1845	2269	2164	2395	2493	2381		3.3	0.5	-0.1
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1889	1903	1855	1807	1807	1421	568		-0.2	-0.3	-10.9
Gas fired			1383	2589	3921	5510	5253	5234	5234		11.0	3.0	0.0
Oil fired			2795	2730	2727	2181	1420	882	774		-0.2	-6.3	-5.9
Biomass-waste fired			312	372	387	766	1419	1550	1658		2.2	13.9	1.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			14	14	24	24	25	25	25		5.5	0.6	0.0
Load factor for net electric capacities (%)			46.1	38.9	29.6	26.9	25.6	26.5	27.8				
Efficiency for thermal electricity production (%)			42.1	42.6	40.5	41.1	41.2	41.0	42.9				
CHP indicator (% of electricity from CHP)			10.6	12.2	21.4	24.0	29.5	29.0	26.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			29.3	17.4	42.2	51.2	65.0	67.4	69.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			29.3	17.4	42.2	51.2	65.0	67.4	69.4				
Transport sector													
Passenger transport activity (Gpkm)	**56.9**	**67.3**	**91.5**	**105.0**	**110.8**	**121.0**	**130.0**	**140.4**	**151.6**	**4.9**	**1.9**	**1.6**	**1.5**
Public road transport	10.3	11.3	11.8	11.1	10.8	11.2	11.8	12.3	12.8	1.4	-0.9	0.8	0.8
Private cars and motorcycles	33.3	41.9	59.2	72.0	75.4	80.7	85.6	90.5	96.1	5.9	2.4	1.3	1.2
Rail	6.3	5.3	4.6	4.7	5.0	5.5	6.0	6.5	7.1	-3.2	1.0	1.7	1.7
Aviation	6.7	8.5	15.7	17.0	19.2	23.2	26.3	30.7	35.3	8.9	2.1	3.2	3.0
Inland navigation	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	1.0	0.5	0.4
Freight transport activity (Gtkm)	**32.3**	**35.4**	**41.9**	**46.0**	**48.2**	**52.5**	**55.7**	**59.1**	**63.0**	**2.6**	**1.4**	**1.5**	**1.2**
Trucks	28.9	32.0	38.9	42.6	44.7	48.7	51.6	54.7	58.4	3.0	1.4	1.4	1.2
Rail	1.5	2.0	2.2	2.4	2.5	2.8	3.0	3.2	3.4	4.1	1.5	1.7	1.3
Inland navigation	1.9	1.4	0.8	1.0	1.0	1.0	1.1	1.2	1.3	-7.9	1.4	1.5	1.2
Energy demand in transport (ktoe)	**3740**	**4869**	**6542**	**7055**	**7307**	**7587**	**7721**	**7828**	**7776**	**5.8**	**1.1**	**0.6**	**0.1**
Public road transport	82	95	114	113	109	110	110	108	107	3.3	-0.4	0.0	-0.3
Private cars and motorcycles	1573	2209	2788	3200	3219	3107	3069	3054	2944	5.9	1.4	-0.5	-0.4
Trucks	1384	1817	2718	2769	2899	3137	3195	3217	3235	7.0	0.6	1.0	0.1
Rail	83	81	88	66	66	68	67	65	55	0.6	-2.9	0.1	-1.9
Aviation	574	620	790	881	987	1137	1252	1353	1406	3.2	2.3	2.4	1.2
Inland navigation	44	47	44	26	27	28	29	30	31	0.0	-4.9	0.9	0.6

Source: PRIMES

Romania: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**41415**	**32618**	**28816**	**28180**	**27517**	**29101**	**30679**	**31581**	**31349**	**-3.6**	**-0.5**	**1.1**	**0.2**
Solids	7935	7886	5875	5793	5741	6593	5589	4871	4223	-3.0	-0.2	-0.3	-2.8
Oil	7963	7124	6434	6183	4790	5100	5000	4922	4721	-2.1	-2.9	0.4	-0.6
Natural gas	22911	14446	10968	9701	8875	8181	8007	7784	7416	-7.1	-2.1	-1.0	-0.8
Nuclear	0	0	1407	1433	2906	2906	4365	5783	5783		7.5	4.2	2.9
Renewable energy sources	2606	3162	4131	5070	5206	6321	7717	8221	9205	4.7	2.3	4.0	1.8
Hydro	1460	1435	1271	1737	1548	1782	2053	2149	2191	-1.4	2.0	2.9	0.7
Biomass & Waste	1146	1726	2854	3314	3587	4222	4862	5035	5866	9.5	2.3	3.1	1.9
Wind	0	0	0	0	34	128	235	292	327			21.4	3.3
Solar and others	0	0	0	0	6	83	383	480	507			51.1	2.9
Geothermal	0	0	7	18	31	105	184	266	314		16.5	19.5	5.5
Net Imports	**22567**	**14552**	**8116**	**10814**	**11621**	**11831**	**11550**	**11268**	**10544**	**-9.7**	**3.7**	**-0.1**	**-0.9**
Solids	4615	2870	1905	2904	1940	1904	1831	1786	1628	-8.5	0.2	-0.6	-1.2
Oil	11209	6862	3560	3970	6197	7007	6975	6861	6545	-10.8	5.7	1.2	-0.6
- Crude oil and Feedstocks	16126	8760	4870	8851	10981	12194	12134	11977	11546	-11.3	8.5	1.0	-0.5
- Oil products	-4917	-1898	-1311	-4882	-4784	-5187	-5159	-5117	-5001				
Natural gas	5928	4794	2712	4190	3879	3576	3500	3403	3242	-7.5	3.6	-1.0	-0.8
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Gross Inland Consumption	**63714**	**47138**	**37131**	**39242**	**39138**	**40932**	**42229**	**42848**	**41892**	**-5.3**	**0.5**	**0.8**	**-0.1**
Solids	12318	10793	7753	8769	7680	8497	7421	6656	5851	-4.5	-0.1	-0.3	-2.3
Oil	19136	13917	10214	10321	10987	12107	11975	11782	11266	-6.1	0.7	0.9	-0.6
Natural gas	28838	19240	13680	13942	12754	11757	11507	11186	10658	-7.2	-0.7	-1.0	-0.8
Nuclear	0	0	1407	1433	2906	2906	4365	5783	5783		7.5	4.2	2.9
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Renewable energy forms	2606	3162	4137	5026	5153	6238	7613	8103	9005	4.7	2.2	4.0	1.7
as % in Gross Inland Consumption													
Solids	19.3	22.9	20.9	22.3	19.6	20.8	17.6	15.5	14.0				
Oil	30.0	29.5	27.5	26.3	28.1	29.6	28.4	27.5	26.9				
Natural gas	45.3	40.8	36.8	35.5	32.6	28.7	27.2	26.1	25.4				
Nuclear	0.0	0.0	3.8	3.7	7.4	7.1	10.3	13.5	13.8				
Renewable energy forms	4.1	6.7	11.1	12.8	13.2	15.2	18.0	18.9	21.5				
Gross Electricity Generation in GWh_e	**63398**	**59255**	**51925**	**59402**	**61460**	**70554**	**76787**	**82781**	**84897**	**-2.0**	**1.7**	**2.3**	**1.0**
Self consumption and grid losses	14858	13101	9963	9773	9832	10597	10680	10918	10483	-3.9	-0.1	0.8	-0.2
Fuel Inputs for Thermal Power Generation	**23517**	**16474**	**10637**	**10103**	**9104**	**9154**	**7877**	**7103**	**7058**	**-7.6**	**-1.5**	**-1.4**	**-1.1**
Solids	8166	7352	5442	5982	5783	6326	5102	4424	3757	-4.0	0.6	-1.2	-3.0
Oil (including refinery gas)	6202	2996	1683	775	464	451	398	298	393	-12.2	-12.1	-1.5	-0.1
Gas	9113	6090	3507	3343	2509	1932	1655	1580	2094	-9.1	-3.3	-4.1	2.4
Biomass & Waste	36	37	4	3	349	423	677	710	678	-19.0	55.0	6.9	0.0
Geothermal heat	0	0	0	0	0	23	45	91	136				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**25114**	**21082**	**14984**	**18111**	**18327**	**19978**	**19920**	**19707**	**18862**	**-5.0**	**2.0**	**0.8**	**-0.5**
Refineries	23765	15691	11396	15142	15771	17294	17134	16899	16267	-7.1	3.3	0.8	-0.5
Biofuels and hydrogen production	0	0	0	0	59	132	248	363	561			15.4	8.5
District heating	496	1902	1739	825	977	1120	1120	1120	841	13.4	-5.6	1.4	-2.8
Others	853	3489	1850	2144	1521	1432	1418	1326	1193	8.0	-1.9	-0.7	-1.7
Energy Branch Consumption	**3579**	**5328**	**4163**	**4205**	**4115**	**4259**	**4185**	**4094**	**3882**	**1.5**	**-0.1**	**0.2**	**-0.7**
Non-Energy Uses	**922**	**1401**	**2048**	**2469**	**2399**	**2203**	**2047**	**1850**	**1636**	**8.3**	**1.6**	**-1.6**	**-2.2**
Final Energy Demand	**37257**	**26634**	**22460**	**24613**	**24903**	**27119**	**28547**	**29061**	**28891**	**-4.9**	**1.0**	**1.4**	**0.1**
by sector													
Industry	25111	14854	9051	9904	9053	9494	10117	10465	10197	-9.7	0.0	1.1	0.1
- energy intensive industries	15699	10577	6223	7109	6188	6129	6306	6282	5825	-8.8	-0.1	0.2	-0.8
- other industrial sectors	9412	4278	2828	2795	2864	3365	3812	4183	4372	-11.3	0.1	2.9	1.4
Residential	4548	6353	8426	7964	7893	8184	8180	7846	7580	6.4	-0.7	0.4	-0.8
Tertiary	3181	2358	1587	2524	2911	3303	3418	3451	3482	-6.7	6.3	1.6	0.2
Transport	4416	3069	3396	4221	5047	6138	6832	7299	7632	-2.6	4.0	3.1	1.1
by fuel													
Solids	3026	1586	977	1569	1128	1447	1639	1614	1556	-10.7	1.4	3.8	-0.5
Oil	8055	5519	5310	6606	7170	8232	8360	8478	8452	-4.1	3.0	1.5	0.1
Gas	20495	10249	6885	7721	7546	7291	7358	7168	6180	-10.3	0.9	-0.3	-1.7
Electricity	4690	3126	2916	3337	3515	3986	4424	4915	5144	-4.6	1.9	2.3	1.5
Heat (from CHP and District Heating) [A]	377	4679	3570	2135	2323	2287	2176	2047	1911	25.2	-4.2	-0.7	-1.3
Renewable energy forms	612	1476	2802	3244	3221	3875	4588	4839	5646	16.4	1.4	3.6	2.1
Other	0	0	0	0	0	1	1	2	2		7.1	13.2	1.5
RES in Gross Final Energy Consumption [B]			**4118**	**4599**	**4916**	**5872**	**7213**	**7667**	**8568**		**1.8**	**3.9**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**262.9**		**138.2**	**150.5**	**140.9**	**138.2**	**131.9**	**127.4**	**122.8**	**-6.2**	**0.2**	**-0.7**	**-0.7**
of which ETS sectors GHGs emissions				79.5	68.9	68.5	63.9	60.6	55.8			-0.7	-1.3
CO_2 Emissions (energy related)	**168.7**	**115.1**	**84.8**	**90.3**	**85.8**	**90.9**	**86.0**	**82.2**	**76.9**	**-6.6**	**0.1**	**0.0**	**-1.1**
Power generation/District heating	76.4	59.2	40.6	37.2	33.7	34.9	29.0	25.7	23.7	-6.1	-1.8	-1.5	-2.0
Energy Branch	6.2	7.6	7.4	7.9	7.7	7.8	7.4	7.2	6.6	1.7	0.5	-0.4	-1.3
Industry	58.1	31.3	18.8	21.5	17.3	17.9	18.7	18.1	15.2	-10.7	-0.8	0.8	-2.1
Residential	8.8	5.2	6.6	7.2	7.3	7.0	6.7	6.5	6.5	-2.9	1.0	-0.8	-0.2
Tertiary	6.8	3.1	1.9	4.4	5.4	5.8	5.0	4.6	4.5	-12.2	11.3	-0.8	-1.1
Transport	12.3	8.6	9.7	12.2	14.5	17.5	19.1	20.1	20.4	-2.4	4.1	2.8	0.7
CO_2 Emissions (non energy related)	**23.2**	**18.5**	**13.1**	**16.3**	**14.2**	**14.2**	**15.5**	**16.5**	**16.0**	**-5.5**	**0.8**	**0.9**	**0.3**
Non-CO_2 GHGs Emissions	**71.0**		**40.3**	**43.9**	**40.9**	**33.1**	**30.3**	**28.8**	**29.9**	**-5.5**	**0.2**	**-3.0**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**52.5**	**57.2**	**53.6**	**52.5**	**50.2**	**48.5**	**46.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Romania: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	23.211	22.712	22.455	21.659	21.334	21.103	20.834	20.484	20.049	-0.3	-0.5	-0.2	-0.4
GDP (in 000 M€08)	75.7	68.1	63.8	84.3	99.1	121.9	142.6	160.2	175.5	-1.7	4.5	3.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	841.9	692.3	581.6	465.5	394.8	335.7	296.0	267.4	238.7	-3.6	-3.8	-2.8	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.44	2.28	2.30	2.19	2.22	2.04	1.92	1.84	-1.5	-0.4	-0.7	-1.0
Import Dependency %	35.4	30.9	21.9	27.6	29.7	28.9	27.4	26.3	25.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			11.7	16.7	18.4	24.1	31.7	36.6	39.3		4.9	6.7	3.2
as % of GDP			18.3	19.8	19.1	21.9	25.5	27.2	28.4				
Energy intensity indicators													
Industry (Energy on Value added)	200.0	171.9	100.0	81.4	71.1	61.1	54.0	48.1	42.8	-6.7	-3.4	-2.7	-2.3
Residential (Energy on Private Income)	50.5	69.0	100.0	58.9	48.8	41.4	36.3	31.5	28.5	7.1	-6.9	-2.9	-2.4
Tertiary (Energy on Value added)	186.9	138.7	100.0	121.7	110.4	99.6	85.5	74.2	65.4	-6.1	1.0	-2.5	-2.6
Passenger transport (toe/Mpkm)	16.3	20.1	28.4	21.4	22.0	22.3	22.4	22.1	21.3	5.7	-2.5	0.2	-0.5
Freight transport (toe/Mtkm)	37.3	36.8	34.8	30.6	31.5	31.9	31.4	30.5	30.2	-0.7	-1.0	-0.1	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.12	0.43	0.39	0.39	0.33	0.31	0.25	0.22	0.20	-10.1	-1.4	-2.8	-2.3
Final energy demand (t of CO_2/toe)	2.31	1.81	1.64	1.84	1.78	1.78	1.74	1.70	1.61	-3.4	0.8	-0.3	-0.7
Industry	2.32	2.11	2.07	2.17	1.91	1.89	1.85	1.73	1.49	-1.1	-0.8	-0.3	-2.2
Residential	1.94	0.83	0.78	0.90	0.92	0.85	0.82	0.83	0.86	-8.7	1.7	-1.1	0.5
Tertiary	2.13	1.33	1.17	1.73	1.86	1.77	1.47	1.34	1.28	-5.8	4.7	-2.3	-1.3
Transport	2.79	2.81	2.85	2.89	2.87	2.85	2.80	2.75	2.68	0.2	0.1	-0.3	-0.4
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			17.0	17.6	18.6	20.5	24.0	25.2	28.4				
RES in transport (%)			1.5	1.0	2.2	3.2	5.0	6.5	9.1				
Gross Electricity generation by fuel type (in GWh)			**51925**	**59402**	**61460**	**70554**	**76787**	**82781**	**84897**		**1.7**	**2.3**	**1.0**
Nuclear energy			5455	5554	11592	11592	17684	23775	23775		7.8	4.3	3.0
Coal and lignite			18913	21922	21470	24050	19886	17356	15201		1.3	-0.8	-2.7
Petroleum products			3398	1894	1139	1101	1219	930	1097		-10.4	0.7	-1.1
Gas (including derived gases)			9373	9822	7826	10256	9244	9766	12710		-1.8	1.7	3.2
Biomass & waste			10	7	1031	1254	1940	2227	2375		59.0	6.5	2.0
Hydro			14775	20203	18003	20724	23869	24992	25477		2.0	2.9	0.7
Wind			0	0	394	1492	2738	3394	3799			21.4	3.3
Solar, tidal etc.			0	0	5	58	155	237	306			41.5	7.0
Geothermal and other renewables			0	0	0	26	53	105	158				11.6
Net Generation Capacity in MW_e			**21880**	**18732**	**20396**	**22358**	**24626**	**21671**	**20362**		**-0.7**	**1.9**	**-1.9**
Nuclear energy			667	663	1357	1368	2109	2844	2844		7.4	4.5	3.0
Renewable energy			6154	6161	6563	7764	9362	9910	10232		0.6	3.6	0.9
Hydro (pumping excluded)			6154	6160	6312	6778	7585	7677	7677		0.3	1.9	0.1
Wind			0	1	246	926	1616	1990	2240			20.7	3.3
Solar			0	0	5	60	161	243	315			41.5	7.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			15058	11908	12476	13226	13156	8917	7286		-1.9	0.5	-5.7
of which cogeneration units			3742	3305	3216	3809	2817	2582	3049		-1.5	-1.3	0.8
of which CCS units			0	0	0	0	0	0	0				
Solids fired			8144	6483	6640	7871	8163	5264	3702		-2.0	2.1	-7.6
Gas fired			4299	3584	4029	4066	3569	2787	2732		-0.6	-1.2	-2.6
Oil fired			2384	1583	1550	1016	975	365	365		-4.2	-4.5	-9.4
Biomass-waste fired			231	257	258	270	443	490	470		1.1	5.6	0.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	3	6	12	18				11.6
Load factor for net electric capacities (%)			25.4	33.8	32.3	34.0	33.8	41.4	45.4				
Efficiency for thermal electricity production (%)			25.6	28.6	29.7	34.5	35.3	36.8	38.4				
CHP indicator (% of electricity from CHP)			35.2	28.6	24.6	27.0	24.2	21.7	24.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			39.0	43.4	50.5	49.8	60.5	66.1	65.8				
- nuclear			10.5	9.3	18.9	16.4	23.0	28.7	28.0				
- renewable energy forms and industrial waste			28.5	34.0	31.6	33.4	37.4	37.4	37.8				
Transport sector													
Passenger transport activity (Gpkm)	**87.7**	**78.1**	**78.9**	**87.7**	**100.6**	**119.5**	**135.8**	**149.4**	**160.9**	**-1.1**	**2.5**	**3.0**	**1.7**
Public road transport	24.0	12.3	12.0	11.8	12.6	13.7	15.0	16.1	16.8	-6.7	0.5	1.8	1.1
Private cars and motorcycles	24.3	39.0	47.6	58.4	67.3	83.1	96.0	106.7	116.0	7.0	3.5	3.6	1.9
Rail	36.6	24.9	17.6	14.6	14.8	15.5	16.5	17.5	18.2	-7.0	-1.7	1.1	1.0
Aviation	2.8	1.8	1.7	3.0	5.9	7.2	8.3	9.2	9.8	-5.1	13.4	3.4	1.7
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7	-2.2	0.8	0.1
Freight transport activity (Gtkm)	**80.0**	**40.7**	**33.3**	**76.5**	**89.8**	**108.8**	**120.7**	**130.6**	**139.1**	**-8.4**	**10.4**	**3.0**	**1.4**
Trucks	29.0	19.7	14.3	51.5	63.3	78.8	87.0	93.8	99.9	-6.8	16.1	3.2	1.4
Rail	48.9	17.9	16.4	16.6	17.0	19.1	21.5	23.6	25.2	-10.4	0.4	2.3	1.6
Inland navigation	2.1	3.1	2.6	8.4	9.4	10.9	12.2	13.2	14.1	2.3	13.6	2.7	1.4
Energy demand in transport (ktoe)	**4416**	**3069**	**3396**	**4221**	**5047**	**6138**	**6832**	**7299**	**7632**	**-2.6**	**4.0**	**3.1**	**1.1**
Public road transport	241	130	120	97	103	110	115	117	115	-6.7	-1.5	1.1	0.0
Private cars and motorcycles	843	1133	1893	1610	1832	2233	2586	2840	2964	8.4	-0.3	3.5	1.4
Trucks	2463	1039	688	2140	2624	3241	3532	3716	3918	-12.0	14.3	3.0	1.0
Rail	282	472	451	209	207	218	230	247	253	4.8	-7.5	1.1	1.0
Aviation	275	192	128	113	224	271	296	301	300	-7.3	5.7	2.8	0.1
Inland navigation	312	103	115	51	57	65	72	78	82	-9.5	-6.8	2.5	1.3

Source: PRIMES

Slovak Republic: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5249**	**4862**	**6074**	**6634**	**5975**	**8244**	**8913**	**10262**	**10442**	**1.5**	**-0.2**	**4.1**	**1.6**
Solids	1397	1017	1018	637	932	874	850	951	941	-3.1	-0.9	-0.9	1.0
Oil	81	128	162	384	38	39	39	40	38	7.2	-13.5	0.2	-0.3
Natural gas	338	264	133	126	123	130	129	124	124	-8.9	-0.8	0.5	-0.4
Nuclear	3105	2950	4255	4573	3610	5139	5327	6261	6361	3.2	-1.6	4.0	1.8
Renewable energy sources	328	503	506	914	1272	2062	2568	2886	2978	4.4	9.7	7.3	1.5
Hydro	162	427	406	399	403	434	440	443	446	9.7	-0.1	0.9	0.1
Biomass & Waste	166	76	100	507	857	1548	1935	2221	2223	-5.0	24.0	8.5	1.4
Wind	0	0	0	1	7	31	55	76	97			23.3	5.8
Solar and others	0	0	0	0	4	36	64	87	111			33.3	5.6
Geothermal	0	0	0	8	2	13	75	59	101			45.9	3.1
Net Imports	**16102**	**12344**	**11586**	**12488**	**12738**	**12847**	**12750**	**11983**	**11659**	**-3.2**	**1.0**	**0.0**	**-0.9**
Solids	6055	4131	3437	3737	3275	3231	2889	2853	2800	-5.5	-0.5	-1.2	-0.3
Oil	4246	3565	2674	3320	4164	4249	4206	4248	4038	-4.5	4.5	0.1	-0.4
- Crude oil and Feedstocks	5916	5293	5310	5433	6490	6630	6586	6647	6370	-1.1	2.0	0.1	-0.3
- Oil products	-1670	-1728	-2636	-2114	-2326	-2381	-2379	-2399	-2332				
Natural gas	5353	4528	5707	5754	5650	5966	5920	5705	5690	0.6	-0.1	0.5	-0.4
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Gross Inland Consumption	**20994**	**17748**	**17550**	**19061**	**18713**	**21091**	**21664**	**22245**	**22101**	**-1.8**	**0.6**	**1.5**	**0.2**
Solids	7771	5414	4261	4231	4206	4105	3739	3804	3741	-5.8	-0.1	-1.2	0.0
Oil	4255	3543	2992	3758	4203	4289	4245	4288	4075	-3.5	3.5	0.1	-0.4
Natural gas	5088	5217	5776	5921	5773	6096	6049	5829	5814	1.3	0.0	0.5	-0.4
Nuclear	3105	2950	4255	4573	3610	5139	5327	6261	6361	3.2	-1.6	4.0	1.8
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Renewable energy forms	328	504	498	858	1087	1637	2517	2402	2533	4.3	8.1	8.8	0.1
as % in Gross Inland Consumption													
Solids	37.0	30.5	24.3	22.2	22.5	19.5	17.3	17.1	16.9				
Oil	20.3	20.0	17.0	19.7	22.5	20.3	19.6	19.3	18.4				
Natural gas	24.2	29.4	32.9	31.1	30.8	28.9	27.9	26.2	26.3				
Nuclear	14.8	16.6	24.2	24.0	19.3	24.4	24.6	28.1	28.8				
Renewable energy forms	1.6	2.8	2.8	4.5	5.8	7.8	11.6	10.8	11.5				
Gross Electricity Generation in GWh_e	**23428**	**26036**	**30431**	**31346**	**31942**	**36941**	**41336**	**47099**	**49724**	**2.6**	**0.5**	**2.6**	**1.9**
Self consumption and grid losses	5213	5190	5246	3910	3843	4175	4406	5219	5668	0.1	-3.1	1.4	2.6
Fuel Inputs for Thermal Power Generation	**3178**	**3113**	**2551**	**2478**	**3499**	**3008**	**3522**	**3697**	**3993**	**-2.2**	**3.2**	**0.1**	**1.3**
Solids	2054	1835	1617	1638	2061	1874	1581	1721	1753	-2.4	2.5	-2.6	1.0
Oil (including refinery gas)	243	119	30	99	166	30	142	6	7	-19.0	18.8	-1.6	-26.5
Gas	882	1158	905	701	957	746	970	1015	1217	0.3	0.6	0.1	2.3
Biomass & Waste	0	0	0	40	315	351	776	903	922			9.5	1.7
Geothermal heat	0	0	0	0	0	8	52	52	94				6.2
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9061**	**8065**	**8153**	**9349**	**9434**	**9905**	**9990**	**9965**	**9579**	**-1.1**	**1.5**	**0.6**	**-0.4**
Refineries	6339	5263	5541	6388	6973	7156	7148	7213	6909	-1.3	2.3	0.2	-0.3
Biofuels and hydrogen production	0	0	0	11	47	100	216	196	221			16.5	0.3
District heating	265	743	586	717	530	778	819	838	820	8.3	-1.0	4.4	0.0
Others	2458	2060	2026	2233	1884	1871	1807	1718	1628	-1.9	-0.7	-0.4	-1.0
Energy Branch Consumption	**1153**	**994**	**915**	**2194**	**2279**	**2340**	**2301**	**2237**	**2125**	**-2.3**	**9.6**	**0.1**	**-0.8**
Non-Energy Uses	**1375**	**886**	**1263**	**1244**	**1219**	**1452**	**1641**	**1700**	**1740**	**-0.8**	**-0.4**	**3.0**	**0.6**
Final Energy Demand	**14791**	**10460**	**10285**	**10613**	**10918**	**12222**	**12564**	**12522**	**12333**	**-3.6**	**0.6**	**1.4**	**-0.2**
by sector													
Industry	6728	4088	3816	4470	4123	4572	4578	4477	4341	-5.5	0.8	1.1	-0.5
- energy intensive industries	3162	2966	3026	3645	3106	3353	3304	3207	3097	-0.4	0.3	0.6	-0.6
- other industrial sectors	3566	1122	790	825	1017	1219	1274	1270	1244	-14.0	2.6	2.3	-0.2
Residential	2233	1976	2586	2533	2542	2686	2740	2704	2709	1.5	-0.2	0.8	-0.1
Tertiary	4384	2980	2424	1815	2011	2377	2558	2639	2649	-5.8	-1.9	2.4	0.4
Transport	1446	1415	1459	1796	2242	2586	2689	2701	2634	0.1	4.4	1.8	-0.2
by fuel													
Solids	4319	2322	1511	1511	1254	1350	1301	1259	1136	-10.0	-1.9	0.4	-1.3
Oil	3324	1636	1725	2191	2477	2768	2708	2711	2588	-6.4	3.7	0.9	-0.5
Gas	4319	3907	4537	3651	3525	3706	3531	3257	3134	0.5	-2.5	0.0	-1.2
Electricity	2013	1868	1893	1965	2127	2508	2824	3127	3238	-0.6	1.2	2.9	1.4
Heat (from CHP and District Heating) [A]	648	722	619	951	1173	1294	1598	1650	1729	-0.5	6.6	3.1	0.8
Renewable energy forms	166	4	1	344	362	595	602	517	507	-42.8	89.0	5.2	-1.7
Other	0	0	0	0	0	0	1	1	1			11.5	-0.4
RES in Gross Final Energy Consumption [B]			**291**	**722**	**927**	**1351**	**1845**	**1922**	**1975**		**12.3**	**7.1**	**0.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**68.0**		**45.8**	**49.3**	**50.5**	**49.4**	**47.8**	**47.9**	**46.4**	**-3.9**	**1.0**	**-0.5**	**-0.3**
of which ETS sectors GHGs emissions				29.1	29.0	27.1	26.1	26.8	26.1			-1.0	0.0
CO_2 Emissions (energy related)	**53.1**	**38.5**	**34.3**	**36.9**	**38.5**	**38.5**	**36.4**	**36.1**	**34.5**	**-4.3**	**1.2**	**-0.6**	**-0.5**
Power generation/District heating	12.0	12.8	10.3	10.2	12.5	11.2	10.8	11.1	11.0	-1.5	1.9	-1.5	0.2
Energy Branch	2.4	1.7	1.6	4.9	4.9	4.5	3.6	4.0	3.5	-4.3	12.1	-3.0	-0.3
Industry	17.7	11.1	9.7	10.6	8.8	9.1	8.5	8.0	7.4	-5.8	-1.0	-0.3	-1.5
Residential	4.4	2.9	4.1	3.5	3.3	3.4	3.4	3.2	3.2	-0.6	-2.1	0.1	-0.6
Tertiary	12.5	6.1	4.5	2.5	2.6	2.9	2.8	2.6	2.4	-9.8	-5.5	1.0	-1.7
Transport	4.0	3.9	4.1	5.2	6.4	7.3	7.2	7.3	7.0	0.1	4.6	1.2	-0.3
CO_2 Emissions (non energy related)	**3.5**	**2.8**	**3.3**	**3.7**	**3.9**	**4.9**	**5.9**	**6.1**	**6.2**	**-0.7**	**1.8**	**4.2**	**0.6**
Non-CO_2 GHGs Emissions	**11.4**		**8.2**	**8.6**	**8.0**	**6.0**	**5.6**	**5.7**	**5.7**	**-3.2**	**-0.2**	**-3.6**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**67.3**	**72.4**	**74.2**	**72.6**	**70.3**	**70.5**	**68.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									Slovak Republic: REFERENCE SCENARIO				
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.288	5.356	5.399	5.385	5.407	5.427	5.432	5.402	5.332	0.2	0.0	0.0	-0.2
GDP (in 000 M€08)	27.7	27.1	32.0	40.7	50.9	64.5	77.4	87.4	97.1	1.5	4.8	4.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	758.6	655.4	548.6	468.8	367.7	327.1	279.8	254.4	227.7	-3.2	-3.9	-2.7	-2.0
Carbon intensity (t of CO_2/toe of GIC)	2.53	2.17	1.95	1.94	2.06	1.82	1.68	1.62	1.56	-2.6	0.5	-2.0	-0.7
Import Dependency %	76.7	69.6	66.0	65.5	68.1	60.9	58.9	53.9	52.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			6.8	7.9	8.5	11.2	14.9	17.0	18.0		2.5	6.5	2.8
as % of GDP			21.2	19.4	17.1	18.8	21.1	22.0	22.2				
Energy intensity indicators													
Industry (Energy on Value added)	201.8	135.7	100.0	69.1	50.4	41.8	34.8	31.2	29.1	-6.8	-6.6	-3.6	-1.8
Residential (Energy on Private Income)	87.6	95.0	100.0	77.6	70.3	58.8	51.3	45.0	40.5	1.3	-3.5	-3.1	-2.3
Tertiary (Energy on Value added)	206.5	152.1	100.0	61.4	56.9	50.4	44.5	39.6	34.7	-7.0	-5.5	-2.4	-2.5
Passenger transport (toe/Mpkm)	16.3	19.2	22.0	21.9	22.2	22.3	22.3	21.9	20.5	3.1	0.1	0.1	-0.8
Freight transport (toe/Mtkm)	19.9	22.2	23.8	28.7	31.1	31.9	30.7	29.1	27.5	1.8	2.7	-0.1	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.37	0.34	0.25	0.22	0.25	0.20	0.16	0.15	0.15	-3.6	-0.2	-4.0	-1.1
Final energy demand (t of CO_2/toe)	2.61	2.29	2.18	2.05	1.93	1.86	1.75	1.69	1.62	-1.8	-1.2	-1.0	-0.8
Industry	2.63	2.72	2.54	2.37	2.13	2.00	1.86	1.79	1.70	-0.3	-1.8	-1.3	-0.9
Residential	1.96	1.47	1.59	1.39	1.31	1.28	1.23	1.18	1.17	-2.1	-1.9	-0.7	-0.5
Tertiary	2.86	2.04	1.85	1.36	1.27	1.22	1.11	0.99	0.90	-4.3	-3.7	-1.4	-2.0
Transport	2.80	2.74	2.81	2.89	2.86	2.82	2.69	2.71	2.67	0.0	0.2	-0.6	-0.1
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.7	6.5	8.1	10.6	14.0	14.6	15.2				
RES in transport (%)			0.7	1.0	2.6	4.4	8.8	8.1	9.4				
Gross Electricity generation by fuel type (in GWh)			**30431**	**31346**	**31942**	**36941**	**41336**	**47099**	**49724**		**0.5**	**2.6**	**1.9**
Nuclear energy			16491	17724	13996	20330	21115	25852	26285		-1.6	4.2	2.2
Coal and lignite			5591	5514	6400	6444	5140	5795	6483		1.4	-2.2	2.3
Petroleum products			126	441	846	152	747	24	27		20.9	-1.2	-28.4
Gas (including derived gases)			3498	2929	4948	3285	5497	5770	6730		3.5	1.1	2.0
Biomass & waste			0	95	984	1301	2995	3505	3687			11.8	2.1
Hydro			4725	4637	4685	5042	5115	5151	5189		-0.1	0.9	0.1
Wind			0	7	78	365	637	888	1123			23.3	5.8
Solar, tidal etc.			0	0	4	13	30	54	90			22.8	11.6
Geothermal and other renewables			0	0	0	9	60	60	110				6.2
Net Generation Capacity in MW_e			**6775**	**7153**	**6628**	**8247**	**8337**	**9055**	**9780**		**-0.2**	**2.3**	**1.6**
Nuclear energy			2484	2605	1859	2721	2808	3351	3406		-2.9	4.2	1.9
Renewable energy			1620	1583	1759	2135	2469	2732	2992		0.8	3.4	1.9
Hydro (pumping excluded)			1620	1578	1686	1797	1863	1863	1863		0.4	1.0	0.0
Wind			0	5	69	325	575	812	1036			23.6	6.1
Solar			0	0	4	14	31	56	93			22.8	11.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2671	2965	3010	3391	3061	2972	3382		1.2	0.2	1.0
of which cogeneration units			491	1043	1296	1392	1809	1631	1989		10.2	3.4	1.0
of which CCS units			0	0	0	0	0	0	87				
Solids fired			1453	1541	1492	1699	1291	1094	1128		0.3	-1.4	-1.3
Gas fired			1138	1191	1284	1294	1136	1177	1523		1.2	-1.2	3.0
Oil fired			81	182	184	169	123	115	115		8.6	-3.9	-0.7
Biomass-waste fired			0	50	50	228	502	579	603			25.9	1.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	7	7	13				6.2
Load factor for net electric capacities (%)			45.6	46.6	51.7	48.5	54.1	56.5	55.0				
Efficiency for thermal electricity production (%)			31.1	31.2	32.4	32.0	35.3	35.3	36.7				
CHP indicator (% of electricity from CHP)			21.6	17.0	24.0	21.4	26.0	23.2	25.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	1.8				
Non fossil fuels in electricity generation (%)			69.7	71.7	61.8	73.3	72.5	75.4	73.4				
- nuclear			54.2	56.5	43.8	55.0	51.1	54.9	52.9				
- renewable energy forms and industrial waste			15.5	15.1	18.0	18.2	21.4	20.5	20.5				
Transport sector													
Passenger transport activity (Gpkm)	**42.7**	**37.6**	**37.2**	**39.0**	**42.9**	**47.5**	**51.0**	**54.2**	**57.0**	**-1.4**	**1.5**	**1.7**	**1.1**
Public road transport	19.8	14.4	9.3	8.5	8.8	9.0	9.2	9.3	9.4	-7.3	-0.6	0.5	0.3
Private cars and motorcycles	16.0	18.4	24.4	26.4	29.9	33.6	36.1	38.2	40.1	4.3	2.1	1.9	1.1
Rail	6.8	4.6	3.2	2.6	2.6	2.6	2.8	2.9	3.0	-7.3	-2.2	0.7	0.9
Aviation	0.0	0.1	0.2	1.5	1.7	2.3	2.9	3.7	4.5		22.1	5.8	4.2
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**37.7**	**31.2**	**27.0**	**32.8**	**41.4**	**47.8**	**50.5**	**52.1**	**53.1**	**-3.3**	**4.4**	**2.0**	**0.5**
Trucks	15.6	15.9	14.3	22.6	30.7	36.1	37.5	38.1	38.2	-0.8	7.9	2.0	0.2
Rail	21.4	13.8	11.2	9.5	9.9	10.9	12.1	13.1	13.9	-6.2	-1.2	2.0	1.4
Inland navigation	0.7	1.5	1.4	0.7	0.8	0.8	0.9	0.9	1.0	6.6	-5.8	1.6	0.9
Energy demand in transport (ktoe)	**1446**	**1415**	**1459**	**1796**	**2242**	**2586**	**2689**	**2701**	**2634**	**0.1**	**4.4**	**1.8**	**-0.2**
Public road transport	123	88	57	51	52	52	51	50	50	-7.4	-0.9	-0.2	-0.2
Private cars and motorcycles	558	579	724	759	852	945	1012	1050	1026	2.6	1.6	1.7	0.1
Trucks	652	566	552	888	1235	1470	1489	1450	1394	-1.7	8.4	1.9	-0.7
Rail	100	119	83	49	51	53	57	61	63	-1.9	-4.8	1.2	1.0
Aviation	0	40	27	39	43	56	69	80	89		4.8	4.9	2.6
Inland navigation	12	24	16	9	9	10	11	11	11	3.1	-5.8	1.4	0.8

Source: PRIMES

Slovenia: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**2902**	**3020**	**3085**	**3492**	**3657**	**4194**	**4544**	**5062**	**5143**	**0.6**	**1.7**	**2.2**	**1.2**
Solids	1432	1216	1062	1184	1252	1493	1290	481	481	-2.9	1.7	0.3	-9.4
Oil	3	2	1	0	0	0	0	0	0	-10.4			
Natural gas	20	16	6	3	4	0	0	0	0	-11.4	-4.9		
Nuclear	1192	1245	1228	1518	1557	1557	1557	2863	2904	0.3	2.4	0.0	6.4
Renewable energy sources	254	542	788	787	845	1144	1697	1717	1758	12.0	0.7	7.2	0.4
Hydro	254	279	330	298	338	353	373	373	376	2.7	0.2	1.0	0.1
Biomass & Waste	0	263	458	489	501	701	1147	1127	1140		0.9	8.6	-0.1
Wind	0	0	0	0	0	6	19	25	29				4.1
Solar and others	0	0	0	0	6	79	130	163	184			37.0	3.5
Geothermal	0	0	0	0	0	4	29	30	30			79.9	0.3
Net Imports	**2572**	**3063**	**3381**	**3825**	**4279**	**4655**	**4810**	**4379**	**4130**	**2.8**	**2.4**	**1.2**	**-1.5**
Solids	130	186	245	323	270	244	251	181	174	6.5	1.0	-0.7	-3.6
Oil	1804	2239	2430	2604	3074	3503	3507	3425	3216	3.0	2.4	1.3	-0.9
- Crude oil and Feedstocks	598	589	151	0	1	1	1	1	1	-12.8	-38.2	1.3	-0.4
- Oil products	1206	1650	2278	2604	3072	3501	3506	3423	3214	6.6	3.0	1.3	-0.9
Natural gas	723	750	820	925	984	991	1073	920	903	1.3	1.8	0.9	-1.7
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Gross Inland Consumption	**5523**	**6111**	**6427**	**7299**	**7907**	**8814**	**9317**	**9401**	**9233**	**1.5**	**2.1**	**1.7**	**-0.1**
Solids	1645	1402	1306	1539	1522	1738	1540	662	655	-2.3	1.5	0.1	-8.2
Oil	1754	2290	2393	2554	3044	3468	3469	3385	3175	3.2	2.4	1.3	-0.9
Natural gas	763	746	826	929	987	991	1073	920	903	0.8	1.8	0.8	-1.7
Nuclear	1192	1245	1228	1518	1557	1557	1557	2863	2904	0.3	2.4	0.0	6.4
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Renewable energy forms	254	571	788	787	855	1176	1812	1817	1866	12.0	0.8	7.8	0.3
as % in Gross Inland Consumption													
Solids	29.8	22.9	20.3	21.1	19.2	19.7	16.5	7.0	7.1				
Oil	31.8	37.5	37.2	35.0	38.5	39.3	37.2	36.0	34.4				
Natural gas	13.8	12.2	12.8	12.7	12.5	11.2	11.5	9.8	9.8				
Nuclear	21.6	20.4	19.1	20.8	19.7	17.7	16.7	30.5	31.5				
Renewable energy forms	4.6	9.3	12.3	10.8	10.8	13.3	19.5	19.3	20.2				
Gross Electricity Generation in GWh_e	**12440**	**12652**	**13622**	**15114**	**16191**	**18063**	**19643**	**21963**	**22522**	**0.9**	**1.7**	**2.0**	**1.4**
Self consumption and grid losses	1584	1497	1662	1943	1964	2145	2300	2331	2392	0.5	1.7	1.6	0.4
Fuel Inputs for Thermal Power Generation	**1543**	**1523**	**1342**	**1507**	**1621**	**1934**	**2136**	**1271**	**1325**	**-1.4**	**1.9**	**2.8**	**-4.7**
Solids	1296	1315	1253	1411	1431	1641	1444	590	590	-0.3	1.3	0.1	-8.6
Oil (including refinery gas)	155	119	12	9	2	2	2	0	0	-22.8	-15.5	-0.9	-20.7
Gas	92	90	62	58	147	135	152	123	176	-3.8	9.0	0.4	1.5
Biomass & Waste	0	0	15	30	41	153	510	532	532		10.2	28.8	0.4
Geothermal heat	0	0	0	0	0	3	27	27	27				0.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**596**	**582**	**253**	**90**	**97**	**169**	**323**	**370**	**420**	**-8.2**	**-9.2**	**12.8**	**2.6**
Refineries	542	505	170	1	1	1	1	1	1	-11.0	-38.9	1.3	-0.4
Biofuels and hydrogen production	0	0	0	0	39	119	263	287	334			21.0	2.4
District heating	53	76	83	89	56	49	59	82	84	4.7	-3.9	0.4	3.6
Others	1	1	0	0	0	0	0	0	0				
Energy Branch Consumption	**122**	**121**	**112**	**104**	**112**	**127**	**134**	**132**	**131**	**-0.9**	**-0.1**	**1.9**	**-0.2**
Non-Energy Uses	**6**	**122**	**238**	**310**	**351**	**407**	**446**	**465**	**468**	**43.8**	**4.0**	**2.4**	**0.5**
Final Energy Demand	**3373**	**3948**	**4440**	**4892**	**5448**	**6176**	**6537**	**6440**	**6231**	**2.8**	**2.1**	**1.8**	**-0.5**
by sector													
Industry	1469	1180	1424	1657	1694	1841	1932	1849	1759	-0.3	1.8	1.3	-0.9
- energy intensive industries	729	587	840	1038	1047	1155	1229	1177	1116	1.4	2.2	1.6	-1.0
- other industrial sectors	740	593	585	619	647	685	703	672	642	-2.3	1.0	0.8	-0.9
Residential	853	1180	1124	1186	1204	1330	1402	1362	1358	2.8	0.7	1.5	-0.3
Tertiary	122	259	580	575	569	588	584	564	540	16.9	-0.2	0.3	-0.8
Transport	930	1329	1312	1475	1981	2416	2618	2665	2573	3.5	4.2	2.8	-0.2
by fuel													
Solids	243	115	97	80	61	63	61	41	37	-8.8	-4.6	0.1	-4.9
Oil	1513	2106	2239	2404	2856	3244	3222	3123	2892	4.0	2.5	1.2	-1.1
Gas	603	468	569	665	655	662	702	556	495	-0.6	1.4	0.7	-3.4
Electricity	837	807	905	1096	1153	1242	1344	1428	1448	0.8	2.5	1.5	0.7
Heat (from CHP and District Heating) [A]	177	192	195	196	257	314	338	453	479	1.0	2.8	2.8	3.6
Renewable energy forms	0	260	435	452	467	650	869	838	880		0.7	6.4	0.1
Other	0	0	0	0	0	0	1	1	1			12.4	0.6
RES in Gross Final Energy Consumption [B]			**768**	**810**	**833**	**1128**	**1696**	**1700**	**1747**		**0.8**	**7.4**	**0.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**18.1**		**18.6**	**20.1**	**21.3**	**23.5**	**22.5**	**18.1**	**17.4**	**0.3**	**1.4**	**0.5**	**-2.5**
of which ETS sectors GHGs emissions				9.0	8.8	9.8	9.2	5.3	5.3			0.5	-5.4
CO_2 Emissions (energy related)	**13.2**	**14.1**	**14.0**	**15.3**	**16.7**	**18.8**	**18.0**	**13.8**	**13.0**	**0.6**	**1.8**	**0.8**	**-3.2**
Power generation/District heating	6.2	6.2	5.5	6.2	6.4	7.2	6.4	2.9	3.0	-1.1	1.4	0.1	-7.3
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.9			
Industry	2.5	1.8	2.3	2.3	2.2	2.2	2.2	1.6	1.4	-0.7	-0.8	0.2	-4.7
Residential	1.7	2.1	1.3	1.4	1.5	1.5	1.5	1.4	1.3	-2.5	1.2	0.0	-1.1
Tertiary	0.0	0.0	1.0	1.0	0.9	1.0	0.9	0.8	0.7	47.0	-0.2	-0.7	-2.5
Transport	2.7	3.9	3.8	4.3	5.8	6.8	7.0	7.1	6.6	3.5	4.3	2.0	-0.5
CO_2 Emissions (non energy related)	**1.1**	**0.9**	**0.9**	**1.1**	**1.1**	**1.3**	**1.4**	**1.4**	**1.4**	**-1.9**	**1.8**	**2.1**	**0.3**
Non-CO_2 GHGs Emissions	**3.8**		**3.7**	**3.7**	**3.5**	**3.5**	**3.1**	**2.9**	**2.9**	**-0.4**	**-0.6**	**-1.3**	**-0.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.8**	**110.8**	**117.7**	**129.7**	**124.0**	**99.8**	**95.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Slovenia: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.996	1.989	1.988	1.998	2.034	2.053	2.058	2.047	2.023	0.0	0.2	0.1	-0.2
GDP (in 000 M€08)	21.1	20.5	25.3	30.3	34.6	40.6	46.5	50.9	53.6	1.9	3.1	3.0	1.4
Gross Inl. Cons./GDP (toe/M€08)	261.9	298.4	253.6	240.6	228.8	217.4	200.4	184.8	172.3	-0.3	-1.0	-1.3	-1.5
Carbon intensity (t of CO_2/toe of GIC)	2.39	2.30	2.18	2.09	2.12	2.13	1.94	1.46	1.41	-0.9	-0.3	-0.9	-3.1
Import Dependency %	46.6	50.1	52.6	52.3	53.9	52.6	51.4	46.4	44.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			3.8	4.1	5.1	6.6	8.6	9.4	9.7		3.3	6.2	2.6
as % of GDP			15.0	13.6	15.2	17.7	20.8	22.3	23.2				
Energy intensity indicators													
Industry (Energy on Value added)	109.1	109.6	100.0	92.4	82.8	77.0	71.5	65.0	61.2	-0.9	-1.9	-1.4	-1.5
Residential (Energy on Private Income)	99.0	123.5	100.0	92.2	85.2	80.8	74.0	64.9	60.4	0.1	-1.6	-1.4	-2.0
Tertiary (Energy on Value added)	27.6	54.1	100.0	82.4	72.6	63.4	54.7	47.7	42.9	13.7	-3.2	-2.8	-2.4
Passenger transport (toe/Mpkm)	33.4	45.5	38.5	32.6	32.1	31.2	30.4	27.6	24.6	1.4	-1.8	-0.5	-2.1
Freight transport (toe/Mtkm)	22.8	56.0	42.7	41.9	46.1	47.0	45.1	43.1	40.5	6.5	0.8	-0.2	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.34	0.34	0.32	0.32	0.26	0.10	0.10	-2.0	-0.7	-1.8	-8.9
Final energy demand (t of CO_2/toe)	2.05	1.99	1.89	1.86	1.90	1.87	1.77	1.69	1.61	-0.8	0.0	-0.7	-1.0
Industry	1.72	1.55	1.65	1.39	1.28	1.20	1.15	0.87	0.78	-0.4	-2.5	-1.1	-3.8
Residential	1.98	1.81	1.17	1.21	1.24	1.16	1.06	1.02	0.98	-5.2	0.5	-1.5	-0.8
Tertiary	0.17	0.13	1.65	1.76	1.66	1.65	1.50	1.41	1.25	25.7	0.0	-1.0	-1.8
Transport	2.88	2.91	2.89	2.94	2.91	2.83	2.67	2.66	2.58	0.0	0.1	-0.8	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			16.7	15.9	14.7	17.6	25.0	25.4	26.9				
RES in transport (%)			0.5	0.3	2.3	5.3	10.6	11.3	13.7				
Gross Electricity generation by fuel type (in GWh)			**13622**	**15114**	**16191**	**18063**	**19643**	**21963**	**22522**		**1.7**	**2.0**	**1.4**
Nuclear energy			4760	5883	6035	6035	6035	12305	12480		2.4	0.0	7.5
Coal and lignite			4630	5314	5183	6335	5960	2034	2043		1.1	1.4	-10.2
Petroleum products			40	34	9	7	7	0	1		-14.0	-2.1	-17.1
Gas (including derived gases)			313	324	870	778	901	696	950		10.8	0.4	0.5
Biomass & waste			45	100	165	710	2107	2183	2183		13.9	29.0	0.4
Hydro			3833	3460	3927	4109	4332	4338	4367		0.2	1.0	0.1
Wind			0	0	0	66	223	289	333				4.1
Solar, tidal etc.			0	0	3	20	48	86	135			32.5	10.9
Geothermal and other renewables			0	0	0	4	31	31	31				0.0
Net Generation Capacity in MW_e			**2748**	**3084**	**3284**	**3823**	**4078**	**4584**	**4720**		**1.8**	**2.2**	**1.5**
Nuclear energy			696	696	706	706	706	1515	1515		0.1	0.0	7.9
Renewable energy			846	963	1041	1178	1486	1604	1721		2.1	3.6	1.5
Hydro (pumping excluded)			846	963	1038	1082	1182	1184	1201		2.1	1.3	0.2
Wind			0	0	0	75	254	330	380				4.1
Solar			0	0	3	21	50	90	140			32.5	10.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			1206	1424	1538	1938	1885	1465	1483		2.5	2.1	-2.4
of which cogeneration units			453	389	447	556	504	600	636		-0.1	1.2	2.4
of which CCS units			0	0	0	0	0	0	0				
Solids fired			948	947	894	1199	1087	682	665		-0.6	2.0	-4.8
Gas fired			223	446	615	617	486	472	507		10.7	-2.3	0.4
Oil fired			17	10	10	10	2	0	0		-5.2	-15.9	-22.3
Biomass-waste fired			17	21	19	111	307	308	308		1.4	32.0	0.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	4	4	4				0.0
Load factor for net electric capacities (%)			53.1	52.3	52.9	50.6	51.7	51.8	51.6				
Efficiency for thermal electricity production (%)			32.2	32.9	33.0	34.8	36.3	33.5	33.8				
CHP indicator (% of electricity from CHP)			7.2	8.2	12.5	17.3	17.8	17.2	17.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			63.4	62.5	62.6	60.6	65.0	87.6	86.7				
- nuclear			34.9	38.9	37.3	33.4	30.7	56.0	55.4				
- renewable energy forms and industrial waste			28.5	23.6	25.3	27.2	34.3	31.5	31.3				
Transport sector													
Passenger transport activity (Gpkm)	**21.6**	**21.4**	**25.0**	**26.9**	**29.5**	**32.7**	**35.2**	**36.9**	**37.8**	**1.5**	**1.7**	**1.8**	**0.7**
Public road transport	6.5	4.1	3.5	3.1	3.3	3.5	3.7	3.8	3.8	-6.0	-0.6	1.1	0.4
Private cars and motorcycles	13.5	16.5	20.5	22.7	24.9	27.7	29.8	31.2	31.8	4.3	2.0	1.8	0.7
Rail	1.4	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	-6.8	1.7	1.9	1.1
Aviation	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.9	1.0	3.7	4.9	4.7	3.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**9.1**	**6.4**	**8.2**	**14.3**	**22.4**	**29.7**	**34.3**	**38.2**	**40.5**	**-1.1**	**10.6**	**4.3**	**1.7**
Trucks	4.9	3.3	5.3	11.0	18.4	25.1	28.8	32.2	34.2	0.8	13.3	4.6	1.8
Rail	4.2	3.1	2.9	3.2	4.0	4.6	5.5	6.0	6.3	-3.8	3.4	3.3	1.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**930**	**1329**	**1312**	**1475**	**1981**	**2416**	**2618**	**2665**	**2573**	**3.5**	**4.2**	**2.8**	**-0.2**
Public road transport	51	33	27	23	25	26	26	26	25	-6.2	-0.9	0.3	-0.2
Private cars and motorcycles	642	918	909	829	892	959	1004	948	855	3.5	-0.2	1.2	-1.6
Trucks	181	329	316	570	1000	1357	1506	1606	1614	5.8	12.2	4.2	0.7
Rail	29	29	34	29	35	40	43	42	31	1.4	0.3	2.0	-3.2
Aviation	27	20	25	23	29	35	40	45	49	-0.8	1.6	3.3	1.9
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Spain: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**33731**	**31366**	**31335**	**30127**	**32856**	**38099**	**45375**	**40919**	**45484**	**-0.7**	**0.5**	**3.3**	**0.0**
Solids	11679	10170	7740	6265	4745	4504	4210	3061	2580	-4.0	-4.8	-1.2	-4.8
Oil	801	790	229	168	135	107	85	0	0	-11.8	-5.1	-4.5	
Natural gas	1273	379	148	144	70	45	0	0	0	-19.4	-7.2		
Nuclear	13701	14305	16046	14842	15121	15267	15267	8981	8981	1.6	-0.6	0.1	-5.2
Renewable energy sources	6276	5722	7172	8709	12785	18176	25813	28876	33923	1.3	6.0	7.3	2.8
Hydro	2184	1987	2534	1681	2537	2603	2663	2783	2884	1.5	0.0	0.5	0.8
Biomass & Waste	4067	3684	4191	5131	6132	9279	12025	12857	13622	0.3	3.9	7.0	1.3
Wind	1	23	406	1825	3379	4785	6040	7121	9430	79.0	23.6	6.0	4.6
Solar and others	21	25	33	65	724	1482	3177	3283	3626	4.5	36.3	15.9	1.3
Geothermal	2	3	8	8	12	28	1909	2831	4361	12.3	4.9	65.5	8.6
Net Imports	**60168**	**76165**	**99334**	**123972**	**117251**	**122545**	**123991**	**133933**	**131846**	**5.1**	**1.7**	**0.6**	**0.6**
Solids	7038	9146	12636	14418	9502	11936	10862	15010	14806	6.0	-2.8	1.3	3.1
Oil	49476	59112	70849	79421	75096	78556	79286	79946	78068	3.7	0.6	0.5	-0.2
- Crude oil and Feedstocks	53717	56145	59233	60834	59812	62382	62909	63412	62639	1.0	0.1	0.5	0.0
- Oil products	-4240	2968	11616	18587	15284	16173	16377	16534	15429		2.8	0.7	-0.6
Natural gas	3690	7521	15467	30248	32840	31877	33088	38484	38333	15.4	7.8	0.1	1.5
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Gross Inland Consumption	**89717**	**102950**	**123652**	**144589**	**141873**	**151753**	**160066**	**165260**	**167564**	**3.3**	**1.4**	**1.2**	**0.5**
Solids	18942	19515	20643	20698	14247	16440	15072	18071	17386	0.9	-3.6	0.6	1.4
Oil	45863	55298	64191	70610	66998	69771	70071	70354	68303	3.4	0.4	0.4	-0.3
Natural gas	4970	7722	15219	29844	32910	31922	33088	38484	38333	11.8	8.0	0.1	1.5
Nuclear	13701	14305	16046	14842	15121	15267	15267	8981	8981	1.6	-0.6	0.1	-5.2
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Renewable energy forms	6276	5723	7172	8710	12974	18664	26928	29770	34948	1.3	6.1	7.6	2.6
as % in Gross Inland Consumption													
Solids	21.1	19.0	16.7	14.3	10.0	10.8	9.4	10.9	10.4				
Oil	51.1	53.7	51.9	48.8	47.2	46.0	43.8	42.6	40.8				
Natural gas	5.5	7.5	12.3	20.6	23.2	21.0	20.7	23.3	22.9				
Nuclear	15.3	13.9	13.0	10.3	10.7	10.1	9.5	5.4	5.4				
Renewable energy forms	7.0	5.6	5.8	6.0	9.1	12.3	16.8	18.0	20.9				
Gross Electricity Generation in GWh_e	**150944**	**165585**	**222776**	**290518**	**295436**	**328781**	**354623**	**390183**	**410386**	**4.0**	**2.9**	**1.8**	**1.5**
Self consumption and grid losses	21386	24594	32562	40810	39088	43585	46622	53736	55210	4.3	1.8	1.8	1.7
Fuel Inputs for Thermal Power Generation	**16683**	**18604**	**26463**	**35421**	**31012**	**33474**	**35123**	**42897**	**42360**	**4.7**	**1.6**	**1.3**	**1.9**
Solids	13881	13585	18249	17641	12180	14422	12960	15507	14595	2.8	-4.0	0.6	1.2
Oil (including refinery gas)	2171	3654	4445	5249	4332	4155	3025	2661	2483	7.4	-0.3	-3.5	-2.0
Gas	486	987	3075	11140	12962	11287	12283	16630	15237	20.3	15.5	-0.5	2.2
Biomass & Waste	145	377	694	1391	1538	3610	5032	5372	5812	16.9	8.3	12.6	1.5
Geothermal heat	0	0	0	0	0	0	1823	2727	4234				8.8
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**58344**	**59752**	**63964**	**64825**	**63010**	**66852**	**68699**	**69964**	**69670**	**0.9**	**-0.2**	**0.9**	**0.1**
Refineries	54213	56829	60882	61490	59602	62349	62974	63457	62719	1.2	-0.2	0.6	0.0
Biofuels and hydrogen production	0	0	51	259	1557	2814	3913	4464	4788		40.7	9.7	2.0
District heating	0	0	0	0	0	0	0	0	0				
Others	4131	2924	3031	3077	1852	1689	1812	2043	2163	-3.0	-4.8	-0.2	1.8
Energy Branch Consumption	**4745**	**5505**	**6119**	**6708**	**5993**	**6241**	**6374**	**6657**	**6385**	**2.6**	**-0.2**	**0.6**	**0.0**
Non-Energy Uses	**6027**	**8358**	**9467**	**8349**	**7850**	**8684**	**9439**	**10146**	**10616**	**4.6**	**-1.9**	**1.9**	**1.2**
Final Energy Demand	**56801**	**63691**	**79631**	**97456**	**99875**	**108652**	**114871**	**119537**	**121618**	**3.4**	**2.3**	**1.4**	**0.6**
by sector													
Industry	20070	20508	25528	31098	30687	33196	36324	39694	42307	2.4	1.9	1.7	1.5
- energy intensive industries	13093	13648	17306	20472	19168	20399	21956	23512	24696	2.8	1.0	1.4	1.2
- other industrial sectors	6977	6860	8221	10626	11519	12796	14369	16182	17611	1.7	3.4	2.2	2.1
Residential	9275	9998	11886	15168	16085	17540	17817	17382	17137	2.5	3.1	1.0	-0.4
Tertiary	5054	7024	9241	11580	11860	12726	13027	13517	13957	6.2	2.5	0.9	0.7
Transport	22401	26162	32977	39609	41242	45190	47703	48944	48216	3.9	2.3	1.5	0.1
by fuel													
Solids	3524	2235	1671	1782	1182	1242	1283	1621	1775	-7.2	-3.4	0.8	3.3
Oil	33612	39125	46007	53066	51361	54334	54858	54982	53501	3.2	1.1	0.7	-0.3
Gas	4903	6841	12141	17978	18884	18835	19147	20146	20809	9.5	4.5	0.1	0.8
Electricity	10817	12116	16205	20824	21150	23669	25570	27976	29614	4.1	2.7	1.9	1.5
Heat (from CHP and District Heating) [A]	0	39	74	0	2266	3674	4277	4856	5418		40.8	6.6	2.4
Renewable energy forms	3945	3335	3533	3805	5029	6892	9727	9947	10491	-1.1	3.6	6.8	0.8
Other	0	0	0	1	3	6	9	9	9		61.8	11.6	0.3
RES in Gross Final Energy Consumption [B]			**6612**	**8524**	**12414**	**17838**	**24325**	**26320**	**30043**		**6.5**	**7.0**	**2.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**285.1**		**386.1**	**440.6**	**407.0**	**420.0**	**415.9**	**440.9**	**432.4**	**3.1**	**0.5**	**0.2**	**0.4**
of which ETS sectors GHGs emissions				207.1	171.3	176.5	171.6	194.9	189.8			0.0	1.0
CO_2 Emissions (energy related)	**202.4**	**224.6**	**281.1**	**336.8**	**308.5**	**320.7**	**314.9**	**337.6**	**326.5**	**3.3**	**0.9**	**0.2**	**0.4**
Power generation/District heating	63.6	68.2	94.1	113.0	92.5	96.6	88.0	106.9	99.1	4.0	-0.2	-0.5	1.2
Energy Branch	11.5	13.1	13.4	14.4	12.3	11.4	11.6	11.4	10.6	1.5	-0.8	-0.6	-0.9
Industry	40.7	41.9	46.4	55.4	47.2	47.2	48.9	53.7	56.7	1.3	0.2	0.4	1.5
Residential	12.9	13.6	16.5	20.4	21.5	22.1	19.5	17.0	15.3	2.5	2.7	-1.0	-2.4
Tertiary	7.7	10.6	13.0	16.3	16.4	16.6	16.0	16.0	16.1	5.3	2.4	-0.3	0.1
Transport	65.9	77.2	97.7	117.3	118.6	126.8	130.8	132.6	128.7	4.0	2.0	1.0	-0.2
CO_2 Emissions (non energy related)	**23.1**	**22.3**	**27.0**	**30.4**	**27.1**	**28.8**	**30.3**	**32.3**	**33.9**	**1.6**	**0.0**	**1.1**	**1.1**
Non-CO_2 GHGs Emissions	**59.6**		**78.0**	**73.4**	**71.4**	**70.5**	**70.7**	**71.0**	**72.0**	**2.7**	**-0.9**	**-0.1**	**0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.4**	**154.6**	**142.8**	**147.3**	**145.9**	**154.7**	**151.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Spain: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.826	39.343	40.050	43.038	46.673	49.381	51.109	52.101	52.661	0.3	1.5	0.9	0.3
GDP (in 000 M€08)	607.4	668.6	817.6	960.1	1003.0	1161.4	1357.7	1557.2	1728.1	3.0	2.1	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	147.7	154.0	151.2	150.6	141.4	130.7	117.9	106.1	97.0	0.2	-0.7	-1.8	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.26	2.18	2.27	2.33	2.17	2.11	1.97	2.04	1.95	0.1	-0.4	-1.0	-0.1
Import Dependency %	64.3	71.8	76.7	81.3	78.1	76.3	73.2	76.6	74.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			78.8	97.8	107.7	131.9	168.3	193.9	201.8		3.5	5.6	3.0
as % of GDP			9.6	10.2	11.0	12.4	14.1	14.9	14.8				
Energy intensity indicators													
Industry (Energy on Value added)	98.8	100.1	100.0	115.5	111.3	102.8	94.2	87.6	83.0	0.1	1.1	-1.7	-1.3
Residential (Energy on Private Income)	103.7	102.8	100.0	107.4	111.0	105.2	94.4	83.2	75.7	-0.4	1.1	-1.6	-2.2
Tertiary (Energy on Value added)	70.9	90.3	100.0	107.4	104.8	95.9	84.4	76.7	71.4	3.5	0.5	-2.1	-1.7
Passenger transport (toe/Mpkm)	37.4	38.0	40.9	40.1	38.6	35.7	33.6	31.3	28.8	0.9	-0.6	-1.4	-1.5
Freight transport (toe/Mtkm)	89.2	76.3	70.6	65.5	65.4	65.2	62.8	59.7	55.7	-2.3	-0.8	-0.4	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.42	0.39	0.29	0.26	0.22	0.24	0.21	0.0	-3.7	-2.8	-0.4
Final energy demand (t of CO_2/toe)	2.24	2.25	2.18	2.15	2.04	1.96	1.87	1.83	1.78	-0.3	-0.7	-0.8	-0.5
Industry	2.03	2.04	1.82	1.78	1.54	1.42	1.35	1.35	1.34	-1.1	-1.7	-1.3	-0.1
Residential	1.39	1.36	1.39	1.35	1.34	1.26	1.10	0.98	0.89	0.0	-0.4	-2.0	-2.0
Tertiary	1.53	1.51	1.41	1.41	1.39	1.31	1.23	1.18	1.16	-0.9	-0.1	-1.2	-0.6
Transport	2.94	2.95	2.96	2.96	2.87	2.81	2.74	2.71	2.67	0.1	-0.3	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			8.0	8.5	12.0	15.9	20.5	21.2	23.8				
RES in transport (%)			0.4	1.0	4.7	7.7	10.1	11.3	12.7				
Gross Electricity generation by fuel type (in GWh)			**222776**	**290518**	**295436**	**328781**	**354623**	**390183**	**410386**		**2.9**	**1.8**	**1.5**
Nuclear energy			62195	57529	58619	59185	59185	34817	34817		-0.6	0.1	-5.2
Coal and lignite			86960	93772	58688	69908	62971	75180	70412		-3.9	0.7	1.1
Petroleum products			22636	26417	19094	18814	13285	11872	11847		-1.7	-3.6	-1.1
Gas (including derived gases)			14956	67692	80333	73077	79524	107758	98516		18.3	-0.1	2.2
Biomass & waste			1824	4303	4250	12968	17335	21162	22404		8.8	15.1	2.6
Hydro			29465	19549	29499	30267	30967	32359	33530		0.0	0.5	0.8
Wind			4723	21215	39295	55636	70230	82805	109652		23.6	6.0	4.6
Solar, tidal etc.			18	41	5658	8925	19006	21058	24285		77.7	12.9	2.5
Geothermal and other renewables			0	0	1	1	2121	3172	4924			118.2	8.8
Net Generation Capacity in MW_e			**48421**	**69109**	**97751**	**105157**	**115743**	**119647**	**132584**		**7.3**	**1.7**	**1.4**
Nuclear energy			7579	7579	7434	6986	6986	4107	4107		-0.2	-0.6	-5.2
Renewable energy			14819	22686	39490	45931	57276	63696	74497		10.3	3.8	2.7
Hydro (pumping excluded)			12533	12731	13819	13923	14291	14464	15012		1.0	0.3	0.5
Wind			2274	9918	21674	25779	31399	36292	45408		25.3	3.8	3.8
Solar			12	37	3996	6228	11585	12940	14077		78.7	11.2	2.0
Other renewables (tidal etc.)			0	0	0	0	1	1	1			4.0	0.0
Thermal power			26024	38845	50827	52240	51482	51844	53979		6.9	0.1	0.5
of which cogeneration units			3800	4796	5477	8112	8621	11534	12469		3.7	4.6	3.8
of which CCS units			0	0	0	0	340	340	340				0.0
Solids fired			11549	11674	11466	10531	10530	9886	9180		-0.1	-0.8	-1.4
Gas fired			7466	20921	31823	33218	31731	32882	34422		15.6	0.0	0.8
Oil fired			6536	5386	5609	5112	4855	3979	4472		-1.5	-1.4	-0.8
Biomass-waste fired			472	864	1929	3378	4123	4735	5343		15.1	7.9	2.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	242	362	562				8.8
Load factor for net electric capacities (%)			50.2	46.0	33.4	34.6	33.9	35.8	34.2				
Efficiency for thermal electricity production (%)			41.1	46.7	45.0	44.9	42.9	43.9	42.2				
CHP indicator (% of electricity from CHP)			9.7	8.2	8.2	14.1	13.8	17.5	17.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.6	0.6	0.7				
Non fossil fuels in electricity generation (%)			44.1	35.3	46.5	50.8	56.1	50.1	56.0				
- nuclear			27.9	19.8	19.8	18.0	16.7	8.9	8.5				
- renewable energy forms and industrial waste			16.2	15.5	26.6	32.8	39.4	41.1	47.5				
Transport sector													
Passenger transport activity (Gpkm)	**301.3**	**386.4**	**476.1**	**535.4**	**558.5**	**640.5**	**718.6**	**794.3**	**854.4**	**4.7**	**1.6**	**2.6**	**1.7**
Public road transport	33.4	39.6	50.3	53.2	59.7	64.9	69.9	73.8	76.4	4.2	1.7	1.6	0.9
Private cars and motorcycles	186.8	257.3	310.2	346.4	353.7	402.7	454.4	498.0	527.4	5.2	1.3	2.5	1.5
Rail	19.9	20.8	25.4	27.6	28.3	31.0	35.2	39.8	43.9	2.5	1.1	2.2	2.2
Aviation	59.6	67.0	88.6	106.5	115.1	139.9	157.1	180.6	204.5	4.0	2.6	3.2	2.7
Inland navigation	1.6	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	-0.2	0.9	1.3	0.9
Freight transport activity (Gtkm)	**124.7**	**150.5**	**191.3**	**276.9**	**300.9**	**342.5**	**375.0**	**404.1**	**423.4**	**4.4**	**4.6**	**2.2**	**1.2**
Trucks	80.5	101.6	148.7	233.2	258.1	297.5	325.7	350.1	366.2	6.3	5.7	2.4	1.2
Rail	11.2	11.0	11.6	11.6	10.9	11.7	13.1	14.6	15.9	0.4	-0.7	1.9	1.9
Inland navigation	33.0	38.0	31.0	32.0	32.0	33.3	36.3	39.4	41.3	-0.6	0.3	1.3	1.3
Energy demand in transport (ktoe)	**22401**	**26162**	**32977**	**39609**	**41242**	**45190**	**47703**	**48944**	**48216**	**3.9**	**2.3**	**1.5**	**0.1**
Public road transport	356	417	522	541	602	638	655	654	641	3.9	1.4	0.8	-0.2
Private cars and motorcycles	8092	10704	14024	15106	14798	15197	15882	16203	15716	5.7	0.5	0.7	-0.1
Trucks	9305	9427	11708	15923	17572	20097	21193	21689	21410	2.3	4.1	1.9	0.1
Rail	529	629	850	1171	1072	1142	1154	1145	862	4.9	2.3	0.7	-2.9
Aviation	2456	3105	4486	5323	5650	6507	7089	7397	7656	6.2	2.3	2.3	0.8
Inland navigation	1664	1881	1386	1544	1548	1610	1731	1857	1932	-1.8	1.1	1.1	1.1

Source: PRIMES

Sweden: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**29665**	**31344**	**30008**	**34207**	**32785**	**34123**	**34919**	**34785**	**33940**	**0.1**	**0.9**	**0.6**	**-0.3**
Solids	152	225	162	211	267	179	114	96	89	0.6	5.2	-8.2	-2.4
Oil	3	4	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	17764	18040	14781	18670	17074	16828	15536	16378	15953	-1.8	1.5	-0.9	0.3
Renewable energy sources	11745	13075	15065	15325	15443	17117	19269	18311	17897	2.5	0.2	2.2	-0.7
Hydro	6234	5856	6757	6260	5814	5835	5857	5864	5871	0.8	-1.5	0.1	0.0
Biomass & Waste	5507	7206	8264	8978	9325	10553	12012	10900	10360	4.1	1.2	2.6	-1.5
Wind	1	9	39	80	286	676	1253	1370	1458	54.2	22.0	15.9	1.5
Solar and others	3	5	5	6	18	53	148	177	208	5.3	12.7	23.7	3.5
Geothermal	0	0	0	0	0	0	0	0	0			25.0	0.3
Net Imports	**18035**	**19405**	**19291**	**20179**	**18642**	**18004**	**16399**	**16269**	**15622**	**0.7**	**-0.3**	**-1.3**	**-0.5**
Solids	2399	2750	2409	2556	2061	1647	1411	1601	1613	0.0	-1.6	-3.7	1.3
Oil	15211	16044	15703	17416	15850	15585	14802	14289	13701	0.3	0.1	-0.7	-0.8
- Crude oil and Feedstocks	17071	17892	20449	20071	18460	18195	17412	16897	16304	1.8	-1.0	-0.6	-0.7
- Oil products	-1861	-1848	-4745	-2655	-2610	-2610	-2610	-2608	-2602				
Natural gas	577	755	776	843	1224	1181	758	992	1133	3.0	4.7	-4.7	4.1
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Gross Inland Consumption	**47213**	**50401**	**47896**	**51689**	**49506**	**50090**	**49229**	**48913**	**47367**	**0.1**	**0.3**	**-0.1**	**-0.4**
Solids	2683	2890	2442	2629	2328	1826	1525	1697	1703	-0.9	-0.5	-4.1	1.1
Oil	14596	15786	14429	14858	13929	13548	12713	12148	11506	-0.1	-0.4	-0.9	-1.0
Natural gas	577	755	776	843	1224	1181	758	992	1133	3.0	4.7	-4.7	4.1
Nuclear	17764	18040	14781	18670	17074	16828	15536	16378	15953	-1.8	1.5	-0.9	0.3
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Renewable energy forms	11745	13075	15065	15325	15485	17256	19508	18557	17970	2.5	0.3	2.3	-0.8
as % in Gross Inland Consumption													
Solids	5.7	5.7	5.1	5.1	4.7	3.6	3.1	3.5	3.6				
Oil	30.9	31.3	30.1	28.7	28.1	27.0	25.8	24.8	24.3				
Natural gas	1.2	1.5	1.6	1.6	2.5	2.4	1.5	2.0	2.4				
Nuclear	37.6	35.8	30.9	36.1	34.5	33.6	31.6	33.5	33.7				
Renewable energy forms	24.9	25.9	31.5	29.6	31.3	34.4	39.6	37.9	37.9				
Gross Electricity Generation in GWh_e	**145958**	**148264**	**145524**	**158340**	**155560**	**162044**	**168068**	**174435**	**174193**	**0.0**	**0.7**	**0.8**	**0.4**
Self consumption and grid losses	15140	15969	16250	17365	15509	16399	16978	18171	17977	0.7	-0.5	0.9	0.6
Fuel Inputs for Thermal Power Generation	**1491**	**3246**	**3239**	**4458**	**4955**	**5301**	**6021**	**5920**	**6338**	**8.1**	**4.3**	**2.0**	**0.5**
Solids	558	705	467	494	596	323	114	197	90	-1.8	2.5	-15.2	-2.4
Oil (including refinery gas)	253	737	276	317	401	288	227	234	25	0.9	3.8	-5.5	-19.9
Gas	253	406	414	490	946	928	448	764	966	5.0	8.6	-7.2	8.0
Biomass & Waste	427	1398	2083	3158	3012	3762	5231	4726	5257	17.2	3.8	5.7	0.0
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**20664**	**23542**	**25372**	**24500**	**22356**	**22143**	**21322**	**20817**	**19724**	**2.1**	**-1.3**	**-0.5**	**-0.8**
Refineries	18125	19553	21694	20789	18456	18193	17411	16896	16303	1.8	-1.6	-0.6	-0.7
Biofuels and hydrogen production	0	0	0	152	292	473	647	724	817			8.3	2.4
District heating	1123	2373	1973	1728	2342	2082	2082	1884	1127	5.8	1.7	-1.2	-6.0
Others	1416	1616	1705	1832	1267	1395	1182	1313	1477	1.9	-2.9	-0.7	2.3
Energy Branch Consumption	**1758**	**1629**	**1532**	**1371**	**1303**	**1334**	**1314**	**1335**	**1281**	**-1.4**	**-1.6**	**0.1**	**-0.3**
Non-Energy Uses	**1826**	**2051**	**1808**	**2425**	**2444**	**2538**	**2566**	**2524**	**2544**	**-0.1**	**3.1**	**0.5**	**-0.1**
Final Energy Demand	**30518**	**32305**	**33350**	**33173**	**31651**	**32165**	**31708**	**30903**	**29976**	**0.9**	**-0.5**	**0.0**	**-0.6**
by sector													
Industry	11827	11195	12056	12097	10873	10758	10535	10418	10205	0.2	-1.0	-0.3	-0.3
- energy intensive industries	8542	7497	8396	8887	7822	7685	7448	7314	7097	-0.2	-0.7	-0.5	-0.5
- other industrial sectors	3285	3699	3660	3209	3051	3073	3087	3104	3108	1.1	-1.8	0.1	0.1
Residential	6542	7735	7554	7302	7336	7403	7235	6848	6530	1.4	-0.3	-0.1	-1.0
Tertiary	4873	5694	5593	5166	4808	4983	4877	4813	4716	1.4	-1.5	0.1	-0.3
Transport	7276	7680	8147	8608	8633	9021	9060	8824	8526	1.1	0.6	0.5	-0.6
by fuel													
Solids	1231	1192	1141	1345	1082	843	886	907	928	-0.8	-0.5	-2.0	0.5
Oil	12007	12343	12389	11175	10006	9945	9504	8918	8397	0.3	-2.1	-0.5	-1.2
Gas	587	611	673	764	603	678	622	594	611	1.4	-1.1	0.3	-0.2
Electricity	10348	10711	11068	11382	11264	11733	11950	12344	12308	0.7	0.2	0.6	0.3
Heat (from CHP and District Heating) [A]	1706	3540	3550	4174	4762	4459	4266	3832	3670	7.6	3.0	-1.1	-1.5
Renewable energy forms	4639	3908	4529	4332	3933	4505	4478	4307	4061	-0.2	-1.4	1.3	-1.0
Other	0	0	0	0	1	1	2	2	2			8.6	-0.3
RES in Gross Final Energy Consumption [B]			**12960**	**13507**	**14566**	**16265**	**18123**	**17509**	**17079**		**1.2**	**2.2**	**-0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**71.7**		**70.8**	**68.6**	**62.7**	**58.9**	**54.6**	**54.9**	**54.0**	**-0.1**	**-1.2**	**-1.4**	**-0.1**
of which ETS sectors GHGs emissions				24.1	20.7	17.8	15.5	17.6	18.1			-2.9	1.6
CO_2 Emissions (energy related)	**50.5**	**53.3**	**50.7**	**48.6**	**43.8**	**40.6**	**36.3**	**36.3**	**35.0**	**0.0**	**-1.5**	**-1.9**	**-0.4**
Power generation/District heating	6.3	7.9	5.1	5.5	7.0	4.8	2.4	3.6	3.2	-1.9	3.2	-10.2	2.9
Energy Branch	1.5	1.8	1.9	2.1	0.9	0.9	0.2	0.7	1.2	2.3	-7.1	-13.1	18.4
Industry	11.5	11.7	11.0	12.4	8.5	7.2	7.1	6.9	6.9	-0.4	-2.6	-1.8	-0.2
Residential	4.9	4.6	3.7	1.4	1.5	1.4	1.1	0.8	0.7	-2.6	-8.8	-2.6	-4.4
Tertiary	5.6	5.4	5.6	3.1	2.2	2.0	1.6	1.3	1.2	0.0	-8.8	-3.3	-3.1
Transport	20.7	21.9	23.2	24.1	23.7	24.3	23.9	23.0	21.8	1.1	0.2	0.1	-0.9
CO_2 Emissions (non energy related)	**5.6**	**5.9**	**5.4**	**5.6**	**5.1**	**5.4**	**5.5**	**5.8**	**6.0**	**-0.3**	**-0.6**	**0.8**	**0.8**
Non-CO_2 GHGs Emissions	**15.6**		**14.7**	**14.4**	**13.8**	**12.9**	**12.8**	**12.8**	**13.0**	**-0.6**	**-0.6**	**-0.8**	**0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**98.8**	**95.7**	**87.5**	**82.2**	**76.2**	**76.6**	**75.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Sweden: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.527	8.816	8.861	9.011	9.306	9.588	9.853	10.094	10.270	0.4	0.5	0.6	0.4
GDP (in 000 M€08)	221.8	232.8	274.4	311.3	321.5	362.1	401.8	441.2	482.5	2.2	1.6	2.3	1.8
Gross Inl. Cons./GDP (toe/M€08)	212.9	216.5	174.6	166.0	154.0	138.3	122.5	110.9	98.2	-2.0	-1.2	-2.3	-2.2
Carbon intensity (t of CO_2/toe of GIC)	1.07	1.06	1.06	0.94	0.88	0.81	0.74	0.74	0.74	-0.1	-1.8	-1.8	0.0
Import Dependency %	37.7	37.7	39.2	37.6	36.2	34.5	32.0	31.9	31.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			27.1	33.8	34.5	39.6	46.2	49.2	50.3		2.7	3.7	2.2
as % of GDP			9.9	10.9	11.0	11.7	12.6	13.0	13.0				
Energy intensity indicators													
Industry (Energy on Value added)	175.0	133.3	100.0	80.6	70.8	60.6	53.6	48.4	43.4	-5.4	-3.4	-2.8	-2.1
Residential (Energy on Private Income)	102.6	120.4	100.0	87.3	91.9	80.5	71.2	62.2	54.7	-0.3	-0.8	-2.5	-2.6
Tertiary (Energy on Value added)	103.9	118.2	100.0	82.9	75.5	68.9	60.6	54.2	48.5	-0.4	-2.8	-2.2	-2.2
Passenger transport (toe/Mpkm)	40.6	41.3	39.9	40.2	38.5	35.2	33.0	29.7	26.7	-0.2	-0.4	-1.5	-2.1
Freight transport (toe/Mtkm)	41.7	43.0	45.6	45.2	44.8	44.5	42.7	40.7	38.6	0.9	-0.2	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.04	0.04	0.03	0.03	0.03	0.02	0.01	0.02	0.01	-3.1	2.0	-10.5	3.0
Final energy demand (t of CO_2/toe)	1.40	1.35	1.31	1.24	1.13	1.09	1.06	1.04	1.02	-0.7	-1.4	-0.6	-0.4
Industry	0.97	1.04	0.92	1.02	0.78	0.67	0.67	0.66	0.68	-0.6	-1.6	-1.4	0.1
Residential	0.74	0.59	0.49	0.20	0.20	0.20	0.16	0.12	0.11	-4.0	-8.6	-2.5	-3.4
Tertiary	1.15	0.95	1.00	0.61	0.46	0.40	0.33	0.27	0.24	-1.4	-7.5	-3.4	-2.8
Transport	2.85	2.85	2.85	2.79	2.74	2.69	2.64	2.60	2.56	0.0	-0.4	-0.4	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			36.8	38.8	44.0	48.2	54.4	53.7	54.0				
RES in transport (%)			1.9	4.2	6.2	8.6	11.4	12.8	14.9				
Gross Electricity generation by fuel type (in GWh)			**145524**	**158340**	**155560**	**162044**	**168068**	**174435**	**174193**		**0.7**	**0.8**	**0.4**
Nuclear energy			57306	72364	66208	65252	60243	63507	61861		1.5	-0.9	0.3
Coal and lignite			1623	1720	2264	1271	587	936	343		3.4	-12.6	-5.2
Petroleum products			1210	1277	2097	1274	1179	1146	111		5.7	-5.6	-21.1
Gas (including derived gases)			1599	1844	4242	4762	2606	4525	5597		10.2	-4.8	7.9
Biomass & waste			4759	7405	9816	13731	20704	20088	20903		7.5	7.7	0.1
Hydro			78570	72795	67600	67850	68100	68183	68267		-1.5	0.1	0.0
Wind			457	936	3328	7860	14567	15933	16958		22.0	15.9	1.5
Solar, tidal etc.			0	0	4	45	82	116	153			35.7	6.5
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**33642**	**33916**	**35778**	**38153**	**41134**	**40587**	**41650**		**0.6**	**1.4**	**0.1**
Nuclear energy			9584	9646	9685	10545	10547	10547	10547		0.1	0.9	0.0
Renewable energy			16559	16896	17939	19693	22418	23074	23525		0.8	2.3	0.5
Hydro (pumping excluded)			16347	16374	16460	16679	17012	17086	17086		0.1	0.3	0.0
Wind			209	516	1465	2966	5321	5868	6280		21.5	13.8	1.7
Solar			3	5	15	49	85	121	159		17.1	19.2	6.5
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7499	7374	8154	7915	8170	6966	7579		0.8	0.0	-0.7
of which cogeneration units			3662	3662	4319	4321	3263	3262	4038		1.7	-2.8	2.2
of which CCS units			0	0	0	0	0	0	0				
Solids fired			764	686	686	582	582	419	184		-1.1	-1.6	-10.9
Gas fired			549	405	1093	1093	1093	1110	2239		7.1	0.0	7.4
Oil fired			4606	3340	3200	2703	2050	1165	416		-3.6	-4.4	-14.7
Biomass-waste fired			1581	2943	3176	3537	4445	4271	4740		7.2	3.4	0.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			47.6	51.4	48.4	47.3	45.5	47.7	46.5				
Efficiency for thermal electricity production (%)			24.4	23.6	32.0	34.1	35.8	38.8	36.6				
CHP indicator (% of electricity from CHP)			6.2	7.1	11.8	13.0	12.3	12.2	14.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			97.0	96.9	94.5	95.5	97.4	96.2	96.5				
- nuclear			39.4	45.7	42.6	40.3	35.8	36.4	35.5				
- renewable energy forms and industrial waste			57.6	51.2	51.9	55.2	61.6	59.8	61.0				
Transport sector													
Passenger transport activity (Gpkm)	**123.7**	**124.8**	**133.4**	**138.7**	**143.5**	**158.6**	**168.0**	**177.7**	**186.4**	**0.8**	**0.7**	**1.6**	**1.0**
Public road transport	9.7	9.7	9.5	8.8	8.6	8.8	9.1	9.4	9.6	-0.2	-1.0	0.6	0.6
Private cars and motorcycles	86.9	88.1	93.5	99.6	102.0	111.8	116.8	121.4	124.9	0.7	0.9	1.4	0.7
Rail	8.6	8.8	10.2	11.0	12.6	14.3	15.4	16.3	17.1	1.7	2.1	2.0	1.1
Aviation	11.8	12.1	14.2	13.5	14.4	17.6	20.4	24.1	28.1	1.8	0.2	3.6	3.3
Inland navigation	6.7	6.2	6.1	5.8	6.0	6.2	6.4	6.5	6.6	-0.9	-0.2	0.6	0.4
Freight transport activity (Gtkm)	**53.9**	**58.9**	**62.0**	**67.3**	**69.5**	**77.3**	**82.3**	**87.3**	**92.0**	**1.4**	**1.1**	**1.7**	**1.1**
Trucks	26.5	31.6	35.6	38.6	39.6	44.4	47.1	50.0	52.9	3.0	1.1	1.8	1.2
Rail	19.1	19.4	19.5	21.7	22.9	25.5	27.2	28.8	30.3	0.2	1.7	1.7	1.1
Inland navigation	8.3	7.9	6.9	7.0	6.9	7.4	7.9	8.4	8.9	-1.8	0.1	1.4	1.1
Energy demand in transport (ktoe)	**7276**	**7680**	**8147**	**8608**	**8633**	**9021**	**9060**	**8824**	**8526**	**1.1**	**0.6**	**0.5**	**-0.6**
Public road transport	129	122	130	114	110	109	107	105	103	0.1	-1.7	-0.2	-0.4
Private cars and motorcycles	4016	4078	4108	4468	4373	4287	4125	3766	3384	0.2	0.6	-0.6	-2.0
Trucks	1974	2253	2526	2706	2768	3073	3139	3175	3172	2.5	0.9	1.3	0.1
Rail	252	273	299	332	350	372	374	377	380	1.7	1.6	0.7	0.2
Aviation	760	849	928	846	888	1028	1158	1242	1324	2.0	-0.4	2.7	1.3
Inland navigation	144	103	155	142	144	150	156	160	164	0.8	-0.7	0.8	0.5

Source: PRIMES

United Kingdom: REFERENCE SCENARIO									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**205941**	**250517**	**269601**	**203293**	**166170**	**117081**	**86718**	**82256**	**81302**	**2.7**	**-4.7**	**-6.3**	**-0.6**
Solids	54125	30516	18577	12172	10500	9000	7232	7000	6000	-10.1	-5.5	-3.7	-1.9
Oil	93246	133042	128893	86714	70000	45000	25000	20000	18000	3.3	-5.9	-9.8	-3.2
Natural gas	40925	63715	97554	79397	63000	35000	24000	18000	13000	9.1	-4.3	-9.2	-5.9
Nuclear	16574	21249	21942	21054	16098	16255	12152	17454	23960	2.8	-3.0	-2.8	7.0
Renewable energy sources	1070	1996	2635	3956	6572	11827	18334	19802	20342	9.4	9.6	10.8	1.0
Hydro	436	416	437	423	403	416	426	427	439	0.0	-0.8	0.6	0.3
Biomass & Waste	627	1539	2104	3252	4767	6097	7622	8091	7961	12.9	8.5	4.8	0.4
Wind	1	34	81	250	1315	4705	8982	9931	10350	59.3	32.1	21.2	1.4
Solar and others	5	6	11	30	86	595	1267	1297	1515	8.1	22.6	30.9	1.8
Geothermal	1	1	1	1	2	12	36	55	77	0.0	7.3	36.6	7.9
Net Imports	**5720**	**-36234**	**-39249**	**32152**	**52357**	**97584**	**116874**	**118774**	**118251**			**8.4**	**0.1**
Solids	9122	10493	14577	27459	25386	25082	18941	18740	16131	4.8	5.7	-2.9	-1.6
Oil	-10607	-48766	-45734	-2409	8108	34135	52077	55526	55889			20.4	0.7
- Crude oil and Feedstocks	-4602	-36569	-39312	4857	14113	40182	58257	61810	62288			15.2	0.7
- Oil products	-6005	-12197	-6422	-7266	-6005	-6047	-6180	-6283	-6399				
Natural gas	6178	637	-9311	5973	17510	35649	40388	40101	41354			8.7	0.2
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Gross Inland Consumption	**211304**	**218439**	**231868**	**232972**	**216529**	**212645**	**201591**	**199000**	**197472**	**0.9**	**-0.7**	**-0.7**	**-0.2**
Solids	64305	45866	36816	38387	35886	34082	26173	25740	22131	-5.4	-0.3	-3.1	-1.7
Oil	81124	82806	81857	82974	76109	77114	75076	73497	71808	0.1	-0.7	-0.1	-0.4
Natural gas	47203	65119	87399	85473	80510	70649	64388	58101	54354	6.4	-0.8	-2.2	-1.7
Nuclear	16574	21249	21942	21054	16098	16255	12152	17454	23960	2.8	-3.0	-2.8	7.0
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Renewable energy forms	1070	1996	2635	4370	7413	13777	23017	23609	24628	9.4	10.9	12.0	0.7
as % in Gross Inland Consumption													
Solids	30.4	21.0	15.9	16.5	16.6	16.0	13.0	12.9	11.2				
Oil	38.4	37.9	35.3	35.6	35.1	36.3	37.2	36.9	36.4				
Natural gas	22.3	29.8	37.7	36.7	37.2	33.2	31.9	29.2	27.5				
Nuclear	7.8	9.7	9.5	9.0	7.4	7.6	6.0	8.8	12.1				
Renewable energy forms	0.5	0.9	1.1	1.9	3.4	6.5	11.4	11.9	12.5				
Gross Electricity Generation in GWh_e	**316937**	**332435**	**374308**	**395367**	**390653**	**406119**	**420344**	**438608**	**445376**	**1.7**	**0.4**	**0.7**	**0.6**
Self consumption and grid losses	44606	46775	48358	48835	48690	51220	56049	57577	57513	0.8	0.1	1.4	0.3
Fuel Inputs for Thermal Power Generation	**56324**	**49960**	**55408**	**61068**	**60354**	**56628**	**50033**	**46943**	**40674**	**-0.2**	**0.9**	**-1.9**	**-2.0**
Solids	47267	33844	27232	30920	30066	28514	20877	20601	16904	-5.4	1.0	-3.6	-2.1
Oil (including refinery gas)	7177	3443	767	677	331	500	427	351	281	-20.0	-8.1	2.6	-4.1
Gas	1668	12054	25999	26428	26127	22328	21070	18236	15668	31.6	0.0	-2.1	-2.9
Biomass & Waste	212	620	1410	3043	3830	5276	7638	7712	7757	20.9	10.5	7.1	0.2
Geothermal heat	0	0	0	0	0	9	21	43	64				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99522**	**102761**	**100927**	**95428**	**90111**	**91454**	**91264**	**89539**	**88814**	**0.1**	**-1.1**	**0.1**	**-0.3**
Refineries	90259	94682	89873	87812	82729	84525	83044	81854	80474	0.0	-0.8	0.0	-0.3
Biofuels and hydrogen production	0	0	0	68	1051	2034	3858	3541	3935			13.9	0.2
District heating	0	0	3373	2111	1867	632	242	131	213		-5.7	-18.5	-1.2
Others	9264	8079	7682	5436	4465	4263	4121	4013	4191	-1.9	-5.3	-0.8	0.2
Energy Branch Consumption	**12823**	**14392**	**15027**	**15548**	**14408**	**13376**	**12880**	**12056**	**11344**	**1.6**	**-0.4**	**-1.1**	**-1.3**
Non-Energy Uses	**11365**	**12762**	**11323**	**11241**	**9836**	**11000**	**11884**	**12604**	**13337**	**0.0**	**-1.4**	**1.9**	**1.2**
Final Energy Demand	**137080**	**142633**	**152177**	**152272**	**144403**	**145257**	**142596**	**138472**	**136670**	**1.1**	**-0.5**	**-0.1**	**-0.4**
by sector													
Industry	34977	35146	36424	34371	32533	32931	33162	33565	33759	0.4	-1.1	0.2	0.2
- energy intensive industries	19485	19968	19231	16421	14745	14815	14976	15228	15550	-0.1	-2.6	0.2	0.4
- other industrial sectors	15492	15178	17193	17950	17788	18116	18186	18337	18208	1.0	0.3	0.2	0.0
Residential	37941	39568	43074	43519	39651	39797	38505	36461	35993	1.3	-0.8	-0.3	-0.7
Tertiary	18621	20887	20373	19176	17791	17186	16113	15174	14720	0.9	-1.3	-1.0	-0.9
Transport	45541	47032	52307	55206	54429	55343	54815	53273	52199	1.4	0.4	0.1	-0.5
by fuel													
Solids	12266	8891	5683	4418	3609	3548	3410	3300	3271	-7.4	-4.4	-0.6	-0.4
Oil	58903	60401	62950	65915	61631	61276	58723	57269	55408	0.7	-0.2	-0.5	-0.6
Gas	41893	47140	52180	50227	45772	42577	38514	35126	34121	2.2	-1.3	-1.7	-1.2
Electricity	23597	25274	28325	29792	29232	30594	31428	32697	33291	1.8	0.3	0.7	0.6
Heat (from CHP and District Heating) [A]	0	0	2439	1268	2443	4073	5123	5151	5305		0.0	7.7	0.4
Renewable energy forms	421	926	600	653	1713	3183	5392	4922	5268	3.6	11.1	12.1	-0.2
Other	0	0	0	0	3	6	7	7	7			7.8	-0.8
RES in Gross Final Energy Consumption [B]			**1432**	**2139**	**4785**	**12028**	**21371**	**21697**	**23085**		**12.8**	**16.1**	**0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**772.6**		**693.3**	**678.6**	**631.4**	**594.2**	**515.1**	**492.9**	**462.9**	**-1.1**	**-0.9**	**-2.0**	**-1.1**
of which ETS sectors GHGs emissions				311.8	287.7	267.5	216.8	209.4	187.9			-2.8	-1.4
CO_2 Emissions (energy related)	**566.4**	**532.7**	**546.6**	**559.7**	**522.9**	**492.8**	**422.7**	**399.8**	**369.6**	**-0.4**	**-0.4**	**-2.1**	**-1.3**
Power generation/District heating	214.1	173.0	181.0	192.8	185.9	168.5	118.3	110.4	88.8	-1.7	0.3	-4.4	-2.8
Energy Branch	27.1	31.3	32.2	34.2	30.3	26.5	24.4	22.0	20.5	1.7	-0.6	-2.1	-1.7
Industry	81.8	78.8	72.1	66.4	58.3	54.3	51.7	51.2	52.0	-1.3	-2.1	-1.2	0.1
Residential	77.8	77.3	81.9	80.1	70.6	68.8	63.7	57.7	55.8	0.5	-1.5	-1.0	-1.3
Tertiary	33.0	35.3	26.7	24.5	21.5	18.5	15.7	13.2	11.9	-2.1	-2.2	-3.1	-2.7
Transport	132.6	137.0	152.6	161.6	156.3	156.1	149.0	145.2	140.6	1.4	0.2	-0.5	-0.6
CO_2 Emissions (non energy related)	**22.8**	**23.4**	**20.1**	**19.8**	**18.6**	**19.6**	**20.6**	**21.3**	**22.2**	**-1.2**	**-0.8**	**1.0**	**0.8**
Non-CO_2 GHGs Emissions	**183.4**		**126.7**	**99.1**	**89.9**	**81.8**	**71.8**	**71.8**	**71.1**	**-3.6**	**-3.4**	**-2.2**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**89.7**	**87.8**	**81.7**	**76.9**	**66.7**	**63.8**	**59.9**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									United Kingdom: REFERENCE SCENARIO			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	57.157	57.943	58.785	60.060	61.984	63.792	65.683	67.543	69.224	0.3	0.5	0.6	0.5
GDP (in 000 M€08)	1334.6	1448.9	1715.5	1935.0	1988.6	2252.7	2506.8	2773.5	3066.9	2.5	1.5	2.3	2.0
Gross Inl. Cons./GDP (toe/M€08)	158.3	150.8	135.2	120.4	108.9	94.4	80.4	71.8	64.4	-1.6	-2.1	-3.0	-2.2
Carbon intensity (t of CO_2/toe of GIC)	2.68	2.44	2.36	2.40	2.41	2.32	2.10	2.01	1.87	-1.3	0.2	-1.4	-1.1
Import Dependency %	2.7	-16.4	-16.8	13.7	24.0	45.5	57.4	59.1	59.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			149.8	162.2	163.2	188.0	225.2	242.5	248.4		1.2	4.2	2.7
as % of GDP			8.7	8.4	8.5	9.1	10.1	10.7	10.8				
Energy intensity indicators													
Industry (Energy on Value added)	104.4	102.7	100.0	104.8	103.1	96.5	90.7	84.7	78.8	-0.4	0.3	-1.3	-1.4
Residential (Energy on Private Income)	116.5	113.7	100.0	87.6	82.0	71.2	61.1	52.7	47.4	-1.5	-2.0	-2.9	-2.5
Tertiary (Energy on Value added)	123.1	124.4	100.0	78.1	69.4	58.1	48.5	41.0	35.8	-2.1	-3.6	-3.5	-3.0
Passenger transport (toe/Mpkm)	45.4	45.3	47.6	47.2	44.9	41.5	39.1	35.6	33.0	0.5	-0.6	-1.4	-1.7
Freight transport (toe/Mtkm)	56.2	53.2	53.7	53.7	53.3	53.0	50.6	47.8	44.9	-0.5	-0.1	-0.5	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.68	0.52	0.45	0.47	0.44	0.36	0.24	0.22	0.17	-4.0	-0.2	-5.8	-3.3
Final energy demand (t of CO_2/toe)	2.37	2.30	2.19	2.18	2.12	2.05	1.96	1.93	1.91	-0.8	-0.3	-0.8	-0.3
Industry	2.34	2.24	1.98	1.93	1.79	1.65	1.56	1.53	1.54	-1.7	-1.0	-1.4	-0.1
Residential	2.05	1.95	1.90	1.84	1.78	1.73	1.65	1.58	1.55	-0.7	-0.7	-0.7	-0.6
Tertiary	1.77	1.69	1.31	1.28	1.21	1.08	0.97	0.87	0.81	-3.0	-0.8	-2.2	-1.8
Transport	2.91	2.91	2.92	2.93	2.87	2.82	2.72	2.73	2.69	0.0	-0.2	-0.5	-0.1
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			0.9	1.4	3.3	8.3	15.1	15.8	17.1				
RES in transport (%)			0.0	0.2	2.7	5.3	10.5	10.3	11.8				
Gross Electricity generation by fuel type (in GWh)			**374308**	**395367**	**390653**	**406119**	**420344**	**438608**	**445376**		**0.4**	**0.7**	**0.6**
Nuclear energy			85048	81603	62408	63013	48031	71330	102279		-3.0	-2.6	7.9
Coal and lignite			125076	139027	130670	123821	97722	97535	80767		0.4	-2.9	-1.9
Petroleum products			3447	3053	1511	2145	1854	1454	1108		-7.9	2.1	-5.0
Gas (including derived gases)			150451	152255	160359	136904	129300	111194	96785		0.6	-2.1	-2.9
Biomass & waste			4253	11595	15680	19950	28996	30014	30258		13.9	6.3	0.4
Hydro			5085	4921	4682	4840	4958	4964	5099		-0.8	0.6	0.3
Wind			947	2903	15295	54715	104447	115476	120354		32.1	21.2	1.4
Solar, tidal etc.			1	8	38	97	199	316	563		43.8	18.0	11.0
Geothermal and other renewables			0	0	12	633	4837	6326	8162			82.9	5.4
Net Generation Capacity in MW_e			**77225**	**79496**	**86809**	**101581**	**110024**	**115588**	**120614**		**1.2**	**2.4**	**0.9**
Nuclear energy			13038	10962	10723	9265	6012	8887	12679		-1.9	-5.6	7.7
Renewable energy			1873	3016	8089	20945	40573	43170	46241		15.8	17.5	1.3
Hydro (pumping excluded)			1462	1439	1499	1534	1617	1628	1712		0.2	0.8	0.6
Wind			408	1565	6542	18987	36256	37960	39762		32.0	18.7	0.9
Solar			2	11	41	101	204	326	570		35.3	17.4	10.8
Other renewables (tidal etc.)			0	1	6	323	2497	3257	4197			82.8	5.3
Thermal power			62315	65518	67997	71372	63438	63530	61693		0.9	-0.7	-0.3
of which cogeneration units			4015	3141	5879	8192	8711	9041	9488		3.9	4.0	0.9
of which CCS units			0	0	0	0	2334	2334	2334				0.0
Solids fired			28647	27019	26336	21374	11178	11338	9799		-0.8	-8.2	-1.3
Gas fired			26520	32734	35224	42352	43991	43582	43108		2.9	2.2	-0.2
Oil fired			5826	4093	4330	2800	1485	1463	1299		-2.9	-10.1	-1.3
Biomass-waste fired			1321	1672	2107	4844	6781	7141	7479		4.8	12.4	1.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	3	6	9				11.6
Load factor for net electric capacities (%)			52.9	54.2	49.0	43.5	41.3	41.1	40.1				
Efficiency for thermal electricity production (%)			44.0	43.1	43.9	43.0	44.3	44.0	44.2				
CHP indicator (% of electricity from CHP)			6.4	6.6	9.1	12.8	13.9	13.7	13.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	6.0	5.6	5.4				
Non fossil fuels in electricity generation (%)			25.5	25.6	25.1	35.3	45.6	52.1	59.9				
- nuclear			22.7	20.6	16.0	15.5	11.4	16.3	23.0				
- renewable energy forms and industrial waste			2.7	4.9	9.1	19.8	34.1	35.8	36.9				
Transport sector													
Passenger transport activity (Gpkm)	**740.2**	**770.7**	**823.2**	**884.5**	**909.1**	**992.2**	**1047.4**	**1112.0**	**1175.3**	**1.1**	**1.0**	**1.4**	**1.2**
Public road transport	47.7	45.8	48.5	49.5	51.6	54.9	57.4	59.4	61.2	0.2	0.6	1.1	0.6
Private cars and motorcycles	593.9	622.3	645.0	680.0	693.4	747.7	772.8	814.8	856.6	0.8	0.7	1.1	1.0
Rail	39.9	37.1	46.7	53.1	60.5	66.4	71.8	76.6	81.4	1.6	2.6	1.7	1.3
Aviation	52.2	58.8	77.4	96.7	98.2	117.7	139.8	155.3	170.0	4.0	2.4	3.6	2.0
Inland navigation	6.5	6.7	5.5	5.3	5.4	5.5	5.7	5.8	6.0	-1.6	-0.3	0.5	0.5
Freight transport activity (Gtkm)	**211.8**	**227.9**	**243.7**	**251.0**	**255.1**	**267.0**	**273.4**	**285.3**	**298.9**	**1.4**	**0.5**	**0.7**	**0.9**
Trucks	140.0	161.5	165.6	167.5	168.6	176.2	179.4	188.3	199.6	1.7	0.2	0.6	1.1
Rail	16.0	13.3	18.1	22.3	25.1	27.1	28.1	28.8	29.4	1.2	3.3	1.1	0.5
Inland navigation	55.8	53.1	60.0	61.2	61.4	63.6	65.9	68.2	69.9	0.7	0.2	0.7	0.6
Energy demand in transport (ktoe)	**45541**	**47032**	**52307**	**55206**	**54429**	**55343**	**54815**	**53273**	**52199**	**1.4**	**0.4**	**0.1**	**-0.5**
Public road transport	429	435	484	505	522	541	538	527	510	1.2	0.8	0.3	-0.5
Private cars and motorcycles	25845	25978	27091	27804	27161	26204	24968	23075	22397	0.5	0.0	-0.8	-1.1
Trucks	10141	10378	11364	11406	11453	11851	11617	11603	11595	1.1	0.1	0.1	0.0
Rail	1068	1238	1326	1405	1499	1582	1472	1290	1051	2.2	1.2	-0.2	-3.3
Aviation	6781	7879	11115	12810	12508	13843	14866	15389	15230	5.1	1.2	1.7	0.2
Inland navigation	1277	1123	926	1275	1286	1321	1354	1389	1416	-3.2	3.3	0.5	0.4

Source: PRIMES

(A) Regarding heat from CHP, there is a break in the series between 2005 and 2010. This is related to the practice of Eurostat to report the fuel consumption of on site CHP under the final demand categories of the individual fuels, even if the fuel is in reality used in industrial CHP. In order to keep comparability with Eurostat statistics, the fuel consumption data for the statistical years are presented in a Eurostat compatible format. For the projection period from 2010 onwards the modeling allocates the fuel consumption for new CHP plants to the CHP part of the power generation sector while the corresponding heat and steam is shown under industrial energy demand. Comparisons concerning steam in industry should therefore start only from 2010 onwards. Except for the knock-on effect on total steam, this break in the heat series does not affect other comparisons in PRIMES that can start from 2005 or earlier years.

(B) PRIMES does not report separately on industrial waste. In order to ensure a consistent breakdown of supply and demand quanties, industrial waste is shown as part of total waste and of renewables. Given that only biodegradable waste counts towards the renewables targets, the indicators on the share of RES in gross final energy demand have been adjusted to exclude industrial waste. RES indicators have been calculated on the basis of the methodology developed by EUROSTAT, i.e. taking into account normalised hydro and wind production, increased weight for renewable electricity in road transport and aviation cap for gross final energy demand.

(C) Costs related to the energy system (total cost of energy measuring how much the rest of the economy has to pay in order to get the required services from energy). The costs reported exclude costs for buying auctioned ETS allowances. These do not constitute a net cost given that there are corresponding auctioning revenues which can be recycled back into the economy.

Disclaimer: Energy and transport statistics reported in this publication and used for the modelling are taken mainly from EUROSTAT and from the publication "EU Energy and Transport in Figures" of the Directorate General for Energy and Transport. Energy and transport statistical concepts have developed differently in the past according to their individual purposes. Energy demand in transport reflects usually sales of fuels at the point of refuelling, which can differ from the region of consumption. This is particularly relevant for airplanes and trucks. Transport statistics deal with the transport activity within a country but may not always fully include transit shipments. These differences should be borne in mind when comparing energy and transport figures. This applies in particular to transport activity ratios, such as energy efficiency in freight transport, which is measured in tonnes of oil equivalent per million tonne-km.

Abbreviations

GIC: Gross Inland Consumption

CHP: combined heat and power

Units

toe: tonne of oil equivalent, or 10^7 kilocalories, or 41.86 GJ (Gigajoule)

ktoe: 1000 toe

MW: Megawatt or 10^6 watt

MWh: megawatt-hour or 10^6 watt-hours

GWh: gigawatt-hour or 10^9 watt-hours

t: metric tonnes, or 1000 kilogrammes

Mt: Million metric tonnes

km: kilometre

pkm: passenger-kilometre (one passenger transported a distance of one kilometre)

tkm: tonne-kilometre (one tonne transported a distance of one kilometre)

Gpkm: Giga passenger-kilometre, or 10^9 passenger-kilometre

Gtkm: Giga tonne-kilometre, or 10^9 tonne-kilometre

EU27: 25% domestic GHG reduction

Summary report
Primes Ver. 4 Energy Model

E3M Lab
National Technical University of Athens
05/05/2011

EU27: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**936047**	**950181**	**941860**	**900326**	**822993**	**785856**	**777418**	**770957**	**785523**	**0.1**	**-1.3**	**-0.6**	**0.1**
Solids	366477	277810	213423	196277	167909	149156	127961	119525	117076	-5.3	-2.4	-2.7	-0.9
Oil	129551	171052	173006	134290	102912	74119	49515	40490	36956	2.9	-5.1	-7.1	-2.9
Natural gas	162447	188965	207559	188677	164144	128786	110836	90963	74239	2.5	-2.3	-3.9	-3.9
Nuclear	202589	223028	243761	257360	239041	239156	224477	238598	253498	1.9	-0.2	-0.6	1.2
Renewable energy sources	74984	89326	104111	123722	148987	194640	264630	281381	303754	3.3	3.6	5.9	1.4
Hydro	25101	28054	30374	26395	27808	28618	29352	30151	30781	1.9	-0.9	0.5	0.5
Biomass & Waste	46473	57201	67982	85129	97359	121077	156239	157095	161625	3.9	3.7	4.8	0.3
Wind	67	350	1913	6061	13867	27618	45673	52684	60704	39.8	21.9	12.7	2.9
Solar and others	153	274	421	807	3261	9069	19447	21642	24283	10.7	22.7	19.5	2.2
Geothermal	3190	3447	3421	5331	6691	8258	13918	19810	26362	0.7	6.9	7.6	6.6
Net Imports	**756079**	**738600**	**826299**	**986048**	**993837**	**1010019**	**998167**	**976515**	**948878**	**0.9**	**1.9**	**0.0**	**-0.5**
Solids	81846	79338	98645	126639	121513	104772	95609	91470	93429	1.9	2.1	-2.4	-0.2
Oil	535645	512185	533039	599851	579974	600495	597083	585972	564194	0.0	0.8	0.3	-0.6
- Crude oil and Feedstocks	508460	494000	513725	581995	578638	605000	608335	600244	583119	0.1	1.2	0.5	-0.4
- Oil products	27185	18185	19314	17856	1336	-4505	-11253	-14273	-18925	-3.4	-23.4		
Natural gas	135121	145288	192531	257366	288828	298340	288549	286451	276596	3.6	4.1	0.0	-0.4
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Gross Inland Consumption	**1660159**	**1662517**	**1723099**	**1825989**	**1766778**	**1744005**	**1723065**	**1693802**	**1679387**	**0.4**	**0.3**	**-0.3**	**-0.3**
Solids	452940	364248	321007	319922	289422	253927	223569	210996	210505	-3.4	-1.0	-2.5	-0.6
Oil	631058	650858	658727	676859	632835	622744	594078	572791	546136	0.4	-0.4	-0.6	-0.8
Natural gas	294905	333268	393417	445998	452972	427125	399384	377415	350835	2.9	1.4	-1.3	-1.3
Nuclear	202589	223028	243761	257360	239041	239156	224477	238598	253498	1.9	-0.2	-0.6	1.2
Electricity	3323	1508	1686	971	99	-613	-1684	-1781	-1867	-6.6	-24.7		
Renewable energy forms	75343	89606	104501	124880	152410	201665	283240	295784	320280	3.3	3.8	6.4	1.2
as % in Gross Inland Consumption													
Solids	27.3	21.9	18.6	17.5	16.4	14.6	13.0	12.5	12.5				
Oil	38.0	39.1	38.2	37.1	35.8	35.7	34.5	33.8	32.5				
Natural gas	17.8	20.0	22.8	24.4	25.6	24.5	23.2	22.3	20.9				
Nuclear	12.2	13.4	14.1	14.1	13.5	13.7	13.0	14.1	15.1				
Renewable energy forms	4.5	5.4	6.1	6.8	8.6	11.6	16.4	17.5	19.1				
Gross Electricity Generation in GWh_e	**2562823**	**2712209**	**2991720**	**3274121**	**3306846**	**3435658**	**3575121**	**3785528**	**3953136**	**1.6**	**1.0**	**0.8**	**1.0**
Self consumption and grid losses	358053	383048	408040	429777	398122	403449	420752	500819	577607	1.3	-0.2	0.6	3.2
Fuel Inputs for Thermal Power Generation	**383492**	**362334**	**382613**	**424208**	**412405**	**390071**	**376184**	**374532**	**371468**	**0.0**	**0.8**	**-0.9**	**-0.1**
Solids	263837	230040	223012	229245	219185	189178	160751	152776	156804	-1.7	-0.2	-3.1	-0.2
Oil (including refinery gas)	54404	51463	39294	29780	15607	13129	10524	10142	8767	-3.2	-8.8	-3.9	-1.8
Gas	56754	67806	102408	134637	138875	134605	121853	119613	101563	6.1	3.1	-1.3	-1.8
Biomass & Waste	5724	10033	14960	25901	32852	46332	71776	74621	80289	10.1	8.2	8.1	1.1
Geothermal heat	2774	2992	2939	4645	5886	6827	11279	17380	24045	0.6	7.2	6.7	7.9
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**839073**	**814654**	**827098**	**842975**	**793851**	**793794**	**779417**	**756932**	**734546**	**-0.1**	**-0.4**	**-0.2**	**-0.6**
Refineries	679426	705954	735244	758152	716122	714487	691649	673135	651009	0.8	-0.3	-0.3	-0.6
Biofuels and hydrogen production	2	202	610	3129	11793	18882	29599	31956	35584	79.6	34.5	9.6	1.9
District heating	32960	23240	19323	16212	17429	16030	14911	12945	13112	-5.2	-1.0	-1.5	-1.3
Others	126685	85258	71921	65482	48507	44395	43258	38897	34841	-5.5	-3.9	-1.1	-2.1
Energy Branch Consumption	**82379**	**88696**	**88176**	**96033**	**92390**	**88718**	**86686**	**88979**	**90474**	**0.7**	**0.5**	**-0.6**	**0.4**
Non-Energy Uses	**97931**	**110541**	**112495**	**117477**	**111356**	**114988**	**117068**	**117751**	**118736**	**1.4**	**-0.1**	**0.5**	**0.1**
Final Energy Demand	**1068710**	**1069989**	**1112989**	**1173676**	**1169034**	**1178637**	**1182157**	**1151008**	**1127285**	**0.4**	**0.5**	**0.1**	**-0.5**
by sector													
Industry	365650	328513	326949	326308	313272	320973	327384	328317	329156	-1.1	-0.4	0.4	0.1
- energy intensive industries	234722	214526	213112	210991	193803	194922	196044	192655	189999	-1.0	-0.9	0.1	-0.3
- other industrial sectors	130928	113987	113837	115317	119469	126051	131340	135661	139158	-1.4	0.5	1.0	0.6
Residential	264307	280418	286784	308104	309176	303070	297993	278326	268421	0.8	0.8	-0.4	-1.0
Tertiary	158484	160442	159866	176859	176232	169993	166828	157628	151261	0.1	1.0	-0.5	-1.0
Transport	280269	300617	339389	362405	370354	384601	389951	386737	378446	1.9	0.9	0.5	-0.3
by fuel													
Solids	125031	84977	61454	54486	44470	40871	39924	36982	33696	-6.9	-3.2	-1.1	-1.7
Oil	444429	456959	478880	495857	475303	469772	451985	434682	414633	0.7	-0.1	-0.5	-0.9
Gas	227902	245996	265552	283524	284484	263595	246175	225010	211969	1.5	0.7	-1.4	-1.5
Electricity	184145	193367	216403	237537	240678	251825	261366	272715	280799	1.6	1.1	0.8	0.7
Heat (from CHP and District Heating) [A]	48610	44616	40061	44441	58786	68814	73141	75623	76557	-1.9	3.9	2.2	0.5
Renewable energy forms	38592	44073	50639	57830	65286	83711	109500	105929	109565	2.8	2.6	5.3	0.0
Other	0	0	0	0	27	49	66	67	65			9.5	0.0
RES in Gross Final Energy Consumption [B]			**87370**	**104626**	**133098**	**181475**	**252085**	**260804**	**280212**		**4.3**	**6.6**	**1.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5532.3**		**5063.6**	**5129.6**	**4836.4**	**4476.8**	**4154.5**	**3762.2**	**3327.6**	**-0.9**	**-0.5**	**-1.5**	**-2.2**
of which ETS sectors GHGs emissions				2438.2	2179.1	2005.5	1809.0	1548.3	1227.6			-1.8	-3.8
CO_2 Emissions (energy related)	**4030.6**	**3800.1**	**3810.6**	**3946.6**	**3740.8**	**3501.4**	**3189.5**	**2828.2**	**2427.8**	**-0.6**	**-0.2**	**-1.6**	**-2.7**
Power generation/District heating	1484.3	1321.2	1320.8	1381.1	1301.2	1158.5	964.0	723.5	439.0	-1.2	-0.1	-3.0	-7.6
Energy Branch	152.2	171.0	170.2	181.6	159.0	143.9	124.7	118.7	109.7	1.1	-0.7	-2.4	-1.3
Industry	781.4	678.1	623.0	581.9	495.3	464.3	447.0	427.0	408.2	-2.2	-2.3	-1.0	-0.9
Residential	499.4	481.6	466.2	486.7	481.1	438.3	395.4	342.6	311.9	-0.7	0.3	-1.9	-2.3
Tertiary	300.5	275.3	242.0	262.2	253.5	224.5	203.5	179.3	160.0	-2.1	0.5	-2.2	-2.4
Transport	812.7	872.9	988.5	1053.1	1050.6	1071.9	1054.8	1037.2	999.0	2.0	0.6	0.0	-0.5
CO_2 Emissions (non energy related)	**329.5**	**306.8**	**299.3**	**304.5**	**280.2**	**289.0**	**304.3**	**299.8**	**280.6**	**-1.0**	**-0.7**	**0.8**	**-0.8**
Non-CO_2 GHGs Emissions	**1172.1**		**953.7**	**878.5**	**815.4**	**686.4**	**660.8**	**634.2**	**619.3**	**-2.0**	**-1.6**	**-2.1**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**91.5**	**92.7**	**87.4**	**80.9**	**75.1**	**68.0**	**60.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									EU27: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	470.388	477.010	481.072	489.211	499.389	507.727	513.838	517.811	519.942	0.2	0.4	0.3	0.1
GDP (in 000 M€08)	8602.0	9242.0	10677.4	11687.2	12027.9	13469.6	14963.1	16378.4	17773.9	2.2	1.2	2.2	1.7
Gross Inl. Cons./GDP (toe/M€08)	193.0	179.9	161.4	156.2	146.9	129.5	115.2	103.4	94.5	-1.8	-0.9	-2.4	-2.0
Carbon intensity (t of CO_2/toe of GIC)	2.43	2.29	2.21	2.16	2.12	2.01	1.85	1.67	1.45	-0.9	-0.4	-1.3	-2.4
Import Dependency %	44.6	43.5	46.8	52.5	54.7	56.2	56.2	55.9	54.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1051.0	1226.4	1284.0	1519.4	1851.4	2060.7	2148.1		2.3	4.6	2.5
as % of GDP			9.8	10.5	11.0	12.3	13.9	14.8	15.0				
Energy intensity indicators													
Industry (Energy on Value added)	130.3	115.2	100.0	95.1	90.5	84.1	77.7	71.6	66.7	-2.6	-1.0	-1.5	-1.5
Residential (Energy on Private Income)	114.4	113.2	100.0	97.5	97.2	84.7	75.3	65.0	58.1	-1.3	-0.3	-2.5	-2.6
Tertiary (Energy on Value added)	126.5	117.0	100.0	99.4	95.3	81.3	71.6	61.5	54.2	-2.3	-0.5	-2.8	-2.8
Passenger transport (toe/Mpkm)	39.6	39.5	40.3	39.5	38.0	35.4	33.7	31.5	29.3	0.2	-0.6	-1.2	-1.4
Freight transport (toe/Mtkm)	47.1	46.8	46.3	46.5	46.1	45.7	44.2	42.4	40.1	-0.2	-0.1	-0.4	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.46	0.40	0.37	0.35	0.31	0.26	0.21	0.15	0.09	-2.1	-1.8	-4.0	-8.3
Final energy demand (t of CO_2/toe)	2.24	2.16	2.08	2.03	1.95	1.87	1.78	1.73	1.67	-0.7	-0.7	-0.9	-0.6
Industry	2.14	2.06	1.91	1.78	1.58	1.45	1.37	1.30	1.24	-1.1	-1.8	-1.5	-1.0
Residential	1.89	1.72	1.63	1.58	1.56	1.45	1.33	1.23	1.16	-1.5	-0.4	-1.6	-1.3
Tertiary	1.90	1.72	1.51	1.48	1.44	1.32	1.22	1.14	1.06	-2.2	-0.5	-1.6	-1.4
Transport	2.90	2.90	2.91	2.91	2.84	2.79	2.71	2.68	2.64	0.0	-0.3	-0.5	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			7.6	8.6	11.1	15.0	20.7	21.9	23.9				
RES in transport (%)			0.5	1.4	4.2	6.5	10.1	11.0	12.6				
Gross Electricity generation by fuel type (in GWh)			**2991720**	**3274121**	**3306846**	**3435658**	**3575121**	**3785528**	**3953136**		**1.0**	**0.8**	**1.0**
Nuclear energy			944823	997519	927024	928601	876613	952641	1023902		-0.2	-0.6	1.6
Coal and lignite			944939	980774	911491	808130	698982	715430	781337		-0.4	-2.6	1.1
Petroleum products			169709	133406	71949	59314	47697	43664	40042		-8.2	-4.0	-1.7
Gas (including derived gases)			507154	693902	767802	769467	719371	702011	584246		4.2	-0.6	-2.1
Biomass & waste			44772	84256	119686	174830	270473	293256	314867		10.3	8.5	1.5
Hydro			353183	306916	323353	332770	341302	350592	357914		-0.9	0.5	0.5
Wind			22246	70473	161246	321134	531078	612601	705863		21.9	12.7	2.9
Solar, tidal etc.			116	1447	16933	32245	69428	84740	103217		64.6	15.2	4.0
Geothermal and other renewables			4778	5427	7361	9168	20178	30593	41750		4.4	10.6	7.5
Net Generation Capacity in MW_e			**654125**	**715734**	**815787**	**916288**	**1002298**	**1037060**	**1119310**		**2.2**	**2.1**	**1.1**
Nuclear energy			133923	134409	127038	126752	123647	120783	129616		-0.5	-0.3	0.5
Renewable energy			112878	147262	209273	282435	397232	438682	488158		6.4	6.6	2.1
Hydro (pumping excluded)			99714	104505	107334	110791	114197	115750	118026		0.7	0.6	0.3
Wind			12793	40584	86417	143090	225848	252465	285482		21.0	10.1	2.4
Solar			371	2172	15272	27935	53559	65133	77569		45.0	13.4	3.8
Other renewables (tidal etc.)			0	1	249	619	3629	5334	7080			30.7	6.9
Thermal power			407324	434063	479477	507101	481419	477594	501536		1.6	0.0	0.4
of which cogeneration units			77070	84892	99257	115083	118161	128315	135127		2.6	1.8	1.4
of which CCS units			0	0	0	0	5394	29475	68818				29.0
Solids fired			194165	186620	182718	181955	156412	152656	166247		-0.6	-1.5	0.6
Gas fired			129444	167173	216079	238552	230491	231564	237586		5.3	0.6	0.3
Oil fired			71058	62082	55797	45550	36746	29042	26012		-2.4	-4.1	-3.4
Biomass-waste fired			12051	17502	24091	40133	56268	62021	68494		7.2	8.9	2.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			605	686	792	911	1501	2311	3196		2.7	6.6	7.8
Load factor for net electric capacities (%)			49.1	49.1	44.0	40.9	38.9	39.1	37.3				
Efficiency for thermal electricity production (%)			37.6	38.5	39.2	40.1	40.0	40.7	40.5				
CHP indicator (% of electricity from CHP)			11.4	11.7	14.9	19.1	19.5	20.0	18.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.6	8.4	17.6				
Non fossil fuels in electricity generation (%)			45.8	44.8	47.0	52.4	59.0	61.4	64.4				
- nuclear			31.6	30.5	28.0	27.0	24.5	25.2	25.9				
- renewable energy forms and industrial waste			14.2	14.3	19.0	25.3	34.5	36.2	38.5				
Transport sector													
Passenger transport activity (Gpkm)	**4880.7**	**5307.7**	**5892.2**	**6240.3**	**6511.3**	**7078.2**	**7506.9**	**7911.7**	**8289.1**	**1.9**	**1.0**	**1.4**	**1.0**
Public road transport	544.0	504.0	517.6	526.0	545.0	571.4	597.9	619.9	637.7	-0.5	0.5	0.9	0.6
Private cars and motorcycles	3501.1	3986.3	4428.1	4686.5	4866.1	5251.3	5494.8	5715.4	5920.4	2.4	0.9	1.2	0.7
Rail	472.5	421.7	447.9	461.0	482.5	521.3	562.0	602.2	640.0	-0.5	0.7	1.5	1.3
Aviation	317.3	351.3	456.9	527.3	576.9	692.1	808.8	929.4	1045.0	3.7	2.4	3.4	2.6
Inland navigation	45.8	44.4	41.7	39.5	40.8	42.1	43.5	44.7	45.9	-0.9	-0.2	0.6	0.5
Freight transport activity (Gtkm)	**1848.4**	**1942.4**	**2195.7**	**2494.6**	**2662.6**	**2931.9**	**3099.3**	**3251.3**	**3383.5**	**1.7**	**1.9**	**1.5**	**0.9**
Trucks	1060.4	1288.7	1518.7	1800.3	1940.3	2147.9	2261.9	2369.8	2465.9	3.7	2.5	1.5	0.9
Rail	526.3	386.1	403.7	414.1	440.5	486.9	523.7	553.0	577.3	-2.6	0.9	1.7	1.0
Inland navigation	261.6	267.6	273.3	280.2	281.9	297.1	313.7	328.5	340.2	0.4	0.3	1.1	0.8
Energy demand in transport (ktoe)	**280269**	**300617**	**339389**	**362405**	**370354**	**384601**	**389951**	**386737**	**378446**	**1.9**	**0.9**	**0.5**	**-0.3**
Public road transport	5197	4732	4914	5039	5179	5291	5272	5174	5032	-0.6	0.5	0.2	-0.5
Private cars and motorcycles	154395	166321	182974	187736	186470	183614	180799	176131	169134	1.7	0.2	-0.3	-0.7
Trucks	74969	79037	90951	105104	111595	122347	125103	126274	125268	2.0	2.1	1.1	0.0
Rail	9560	9452	9600	9436	9652	10098	9910	9592	8468	0.0	0.1	0.3	-1.6
Aviation	29038	34112	45395	49703	51992	57602	62964	63417	64221	4.6	1.4	1.9	0.2
Inland navigation	7110	6963	5555	5386	5466	5648	5903	6149	6323	-2.4	-0.2	0.8	0.7

Source: PRIMES

Austria: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**8207**	**8711**	**9820**	**9653**	**10312**	**11107**	**11764**	**11588**	**12057**	**1.8**	**0.5**	**1.3**	**0.2**
Solids	644	305	293	0	0	0	0	0	0	-7.6			
Oil	1295	1108	1116	986	957	850	620	280	230	-1.5	-1.5	-4.2	-9.4
Natural gas	1097	1261	1533	1403	1476	1270	740	670	600	3.4	-0.4	-6.7	-2.1
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	5172	6037	6879	7263	7880	8987	10404	10638	11227	2.9	1.4	2.8	0.8
Hydro	2709	3187	3598	3085	3238	3456	3592	3676	3873	2.9	-1.0	1.0	0.8
Biomass & Waste	2445	2809	3189	3937	4247	4814	5733	5810	6078	2.7	2.9	3.0	0.6
Wind	0	0	6	114	218	354	457	513	574		43.8	7.7	2.3
Solar and others	15	36	64	92	164	345	588	588	625	15.7	9.9	13.6	0.6
Geothermal	4	5	23	35	13	18	33	51	76	20.3	-5.8	10.2	8.7
Net Imports	**17306**	**18028**	**19106**	**24658**	**23645**	**22047**	**21116**	**20565**	**19582**	**1.0**	**2.2**	**-1.1**	**-0.8**
Solids	3112	2550	3019	3959	3518	3172	3069	2900	3086	-0.3	1.5	-1.4	0.1
Oil	9741	10264	11001	13322	12744	12552	11969	11397	10619	1.2	1.5	-0.6	-1.2
- Crude oil and Feedstocks	8043	8309	7975	8225	8214	8220	8171	8186	7929	-0.1	0.3	-0.1	-0.3
- Oil products	1699	1955	3026	5098	4531	4332	3799	3211	2689	5.9	4.1	-1.7	-3.4
Natural gas	4443	5404	5253	7203	7124	6212	5931	5983	5513	1.7	3.1	-1.8	-0.7
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Gross Inland Consumption	**25258**	**27054**	**29046**	**34105**	**33958**	**33154**	**32879**	**32154**	**31639**	**1.4**	**1.6**	**-0.3**	**-0.4**
Solids	4042	3344	3592	4039	3518	3172	3069	2900	3086	-1.2	-0.2	-1.4	0.1
Oil	10863	11485	12223	14455	13701	13402	12589	11677	10849	1.2	1.1	-0.8	-1.5
Natural gas	5184	6374	6519	8178	8600	7482	6671	6653	6113	2.3	2.8	-2.5	-0.9
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-40	-212	-118	229	279	38	-13	-20	-4				
Renewable energy forms	5208	6063	6829	7204	7859	9060	10563	10944	11596	2.7	1.4	3.0	0.9
as % in Gross Inland Consumption													
Solids	16.0	12.4	12.4	11.8	10.4	9.6	9.3	9.0	9.8				
Oil	43.0	42.5	42.1	42.4	40.3	40.4	38.3	36.3	34.3				
Natural gas	20.5	23.6	22.4	24.0	25.3	22.6	20.3	20.7	19.3				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	20.6	22.4	23.5	21.1	23.1	27.3	32.1	34.0	36.7				
Gross Electricity Generation in GWh_e	**49287**	**55170**	**59854**	**62963**	**63477**	**68692**	**71243**	**76276**	**80095**	**2.0**	**0.6**	**1.2**	**1.2**
Self consumption and grid losses	5257	5042	5269	7556	7668	8280	8610	9088	10339	0.0	3.8	1.2	1.8
Fuel Inputs for Thermal Power Generation	**4007**	**4309**	**3901**	**5473**	**4970**	**4981**	**5204**	**5810**	**5949**	**-0.3**	**2.5**	**0.5**	**1.3**
Solids	1510	1055	1239	1510	1379	1137	1144	1056	1161	-2.0	1.1	-1.9	0.2
Oil (including refinery gas)	488	489	279	270	155	180	245	123	155	-5.4	-5.7	4.7	-4.5
Gas	1776	2321	1961	2901	2530	1988	1425	2076	1922	1.0	2.6	-5.6	3.0
Biomass & Waste	233	444	421	790	899	1667	2372	2520	2648	6.1	7.9	10.2	1.1
Geothermal heat	0	0	0	2	7	10	19	36	62			10.5	12.8
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11637**	**11680**	**11550**	**12088**	**11902**	**11812**	**11594**	**11136**	**10720**	**-0.1**	**0.3**	**-0.3**	**-0.8**
Refineries	9317	9445	9077	9374	9172	9071	8791	8466	8160	-0.3	0.1	-0.4	-0.7
Biofuels and hydrogen production	2	5	9	42	245	381	605	732	865	17.5	39.5	9.5	3.6
District heating	347	439	554	663	753	737	684	497	269	4.8	3.1	-1.0	-8.9
Others	1971	1790	1910	2009	1732	1624	1514	1441	1427	-0.3	-1.0	-1.3	-0.6
Energy Branch Consumption	**1774**	**1883**	**1924**	**2375**	**2221**	**2052**	**1940**	**1849**	**1821**	**0.8**	**1.4**	**-1.3**	**-0.6**
Non-Energy Uses	**1554**	**1318**	**1576**	**1591**	**1526**	**1582**	**1614**	**1629**	**1648**	**0.1**	**-0.3**	**0.6**	**0.2**
Final Energy Demand	**19124**	**21062**	**23122**	**27107**	**27542**	**27720**	**27599**	**26725**	**26285**	**1.9**	**1.8**	**0.0**	**-0.5**
by sector													
Industry	6366	6684	7757	8601	8658	8552	8549	8545	8638	2.0	1.1	-0.1	0.1
- energy intensive industries	4194	4189	5033	5447	5135	4970	4910	4874	4869	1.8	0.2	-0.4	-0.1
- other industrial sectors	2172	2495	2723	3154	3524	3582	3638	3671	3769	2.3	2.6	0.3	0.4
Residential	5801	6244	5995	6657	6907	6961	6834	6382	6163	0.3	1.4	-0.1	-1.0
Tertiary	2412	2934	3290	3814	3849	3885	3901	3750	3689	3.2	1.6	0.1	-0.6
Transport	4545	5200	6081	8034	8127	8323	8316	8048	7794	3.0	2.9	0.2	-0.6
by fuel													
Solids	1785	1582	1399	1497	1225	1187	1119	1040	973	-2.4	-1.3	-0.9	-1.4
Oil	7929	8779	9465	11829	11380	11236	10562	9804	9182	1.8	1.9	-0.7	-1.4
Gas	2968	3607	4265	4788	5493	5068	4778	4173	3879	3.7	2.6	-1.4	-2.1
Electricity	3629	3952	4417	4831	4925	5079	5223	5613	5852	2.0	1.1	0.6	1.1
Heat (from CHP and District Heating) [A]	612	848	1025	1324	1455	2019	2251	2202	2165	5.3	3.6	4.5	-0.4
Renewable energy forms	2201	2294	2552	2838	3063	3129	3665	3891	4232	1.5	1.8	1.8	1.4
Other	0	0	0	0	1	1	2	2	2			9.1	-0.1
RES in Gross Final Energy Consumption [B]			**6012**	**6593**	**7032**	**8633**	**9919**	**10182**	**10734**		**1.6**	**3.5**	**0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**80.7**		**84.6**	**97.2**	**92.8**	**86.7**	**82.2**	**78.2**	**71.6**	**0.5**	**0.9**	**-1.2**	**-1.4**
of which ETS sectors GHGs emissions				37.0	32.7	29.6	28.2	28.6	25.2			-1.5	-1.1
CO_2 Emissions (energy related)	**55.7**	**58.9**	**61.3**	**74.1**	**70.8**	**65.7**	**60.9**	**57.3**	**51.6**	**1.0**	**1.4**	**-1.5**	**-1.6**
Power generation/District heating	12.8	12.3	11.5	15.0	13.1	10.9	9.6	10.4	7.9	-1.1	1.3	-3.0	-2.0
Energy Branch	4.0	4.4	4.5	5.0	4.5	3.3	2.8	2.6	2.4	1.1	0.0	-4.4	-1.7
Industry	13.1	13.9	15.6	17.4	16.8	16.0	15.2	14.0	13.2	1.8	0.7	-1.0	-1.4
Residential	9.9	9.7	8.5	9.1	9.4	8.8	7.7	6.5	6.0	-1.4	1.0	-2.0	-2.5
Tertiary	3.3	4.0	3.9	4.4	4.2	3.8	3.3	2.8	2.4	1.6	0.8	-2.3	-3.2
Transport	12.7	14.6	17.3	23.2	22.8	22.9	22.2	21.0	19.8	3.1	2.8	-0.3	-1.1
CO_2 Emissions (non energy related)	**8.0**	**7.7**	**8.1**	**9.1**	**8.5**	**8.7**	**9.2**	**9.2**	**8.6**	**0.2**	**0.5**	**0.8**	**-0.7**
Non-CO_2 GHGs Emissions	**17.0**		**15.2**	**14.0**	**13.5**	**12.3**	**12.1**	**11.7**	**11.4**	**-1.1**	**-1.1**	**-1.1**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.8**	**120.5**	**115.0**	**107.5**	**101.9**	**96.9**	**88.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)													Austria: 25% domestic GHG reduction
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	7.645	7.943	8.002	8.207	8.405	8.570	8.723	8.866	8.988	0.5	0.5	0.4	0.3
GDP (in 000 M€08)	184.3	205.2	237.7	258.2	268.8	297.8	327.9	356.8	384.0	2.6	1.2	2.0	1.6
Gross Inl. Cons./GDP (toe/M€08)	137.0	131.9	122.2	132.1	126.3	111.3	100.3	90.1	82.4	-1.1	0.3	-2.3	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.21	2.18	2.11	2.17	2.08	1.98	1.85	1.78	1.63	-0.4	-0.1	-1.2	-1.3
Import Dependency %	68.5	66.6	65.8	72.3	69.6	66.5	64.2	64.0	61.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			20.3	26.2	29.1	34.8	41.0	44.8	46.6		3.9	4.2	2.1
as % of GDP			8.5	10.1	11.1	12.5	13.8	14.5	14.5				
Energy intensity indicators													
Industry (Energy on Value added)	102.4	102.2	100.0	100.8	96.6	85.8	78.1	71.6	67.1	-0.2	-0.3	-2.1	-1.5
Residential (Energy on Private Income)	118.1	114.6	100.0	102.5	103.3	94.1	84.3	73.0	65.9	-1.7	0.3	-2.0	-2.4
Tertiary (Energy on Value added)	96.4	103.2	100.0	106.0	102.7	93.0	84.5	74.4	68.0	0.4	0.3	-1.9	-2.1
Passenger transport (toe/Mpkm)	37.1	36.2	37.9	45.8	44.3	40.7	38.1	34.7	32.2	0.2	1.6	-1.5	-1.7
Freight transport (toe/Mtkm)	44.2	46.3	45.4	59.0	57.1	56.2	53.4	50.5	47.4	0.3	2.3	-0.7	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.22	0.19	0.16	0.19	0.16	0.11	0.09	0.10	0.07	-3.5	0.1	-5.1	-2.7
Final energy demand (t of CO_2/toe)	2.04	2.01	1.96	2.00	1.93	1.86	1.75	1.66	1.57	-0.4	-0.2	-1.0	-1.1
Industry	2.06	2.08	2.02	2.02	1.94	1.87	1.77	1.64	1.53	-0.2	-0.4	-0.9	-1.5
Residential	1.70	1.55	1.42	1.36	1.37	1.27	1.13	1.02	0.98	-1.8	-0.4	-1.9	-1.5
Tertiary	1.36	1.37	1.17	1.16	1.09	0.98	0.85	0.74	0.65	-1.5	-0.7	-2.4	-2.7
Transport	2.80	2.81	2.85	2.89	2.80	2.75	2.67	2.61	2.54	0.2	-0.2	-0.5	-0.5
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			25.4	23.7	24.8	30.2	34.8	36.8	39.3				
RES in transport (%)			3.7	2.9	6.0	8.5	12.0	14.3	17.1				
Gross Electricity generation by fuel type (in GWh)			**59854**	**62963**	**63477**	**68692**	**71243**	**76276**	**80095**		**0.6**	**1.2**	**1.2**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			5924	6964	5895	5229	5249	4901	5781		0.0	-1.2	1.0
Petroleum products			1096	1130	805	943	1257	645	711		-3.0	4.6	-5.5
Gas (including derived gases)			9407	15163	13456	10939	7747	11331	10400		3.6	-5.4	3.0
Biomass & waste			1524	2494	3071	7091	9565	10128	10668		7.3	12.0	1.1
Hydro			41832	35868	37651	40188	41769	42746	45033		-1.0	1.0	0.8
Wind			67	1328	2538	4118	5317	5962	6680		43.8	7.7	2.3
Solar, tidal etc.			3	14	49	169	314	519	747		32.3	20.3	9.1
Geothermal and other renewables			0	3	11	14	25	45	75			8.3	11.8
Net Generation Capacity in MW_e			**14171**	**15139**	**16865**	**19951**	**20368**	**20059**	**20878**		**1.8**	**1.9**	**0.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			7951	8568	9814	11846	12929	13491	14392		2.1	2.8	1.1
Hydro (pumping excluded)			7892	7719	8360	9795	10302	10400	10778		0.6	2.1	0.5
Wind			54	827	1388	1908	2366	2660	3001		38.4	5.5	2.4
Solar			5	22	66	143	261	431	613		29.4	14.8	8.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6220	6571	7051	8105	7438	6568	6486		1.3	0.5	-1.4
of which cogeneration units			2284	2668	2230	3253	3407	3459	4012		-0.2	4.3	1.6
of which CCS units			0	0	0	0	0	22	518				
Solids fired			1865	1708	1618	1604	1596	730	735		-1.4	-0.1	-7.5
Gas fired			3102	3441	4132	4596	3874	3867	3853		2.9	-0.6	-0.1
Oil fired			951	950	885	558	265	189	150		-0.7	-11.4	-5.6
Biomass-waste fired			301	471	416	1345	1700	1776	1740		3.3	15.1	0.2
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			1	1	1	2	3	5	9		0.0	8.3	11.8
Load factor for net electric capacities (%)			46.8	44.8	40.5	36.9	37.5	40.8	40.8				
Efficiency for thermal electricity production (%)			39.6	40.5	40.2	41.8	39.4	40.0	39.9				
CHP indicator (% of electricity from CHP)			11.3	17.0	15.3	27.8	30.1	28.7	28.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.2	6.1				
Non fossil fuels in electricity generation (%)			72.6	63.1	68.2	75.1	80.0	77.9	78.9				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			72.6	63.1	68.2	75.1	80.0	77.9	78.9				
Transport sector													
Passenger transport activity (Gpkm)	**80.3**	**90.3**	**95.6**	**101.1**	**104.9**	**112.7**	**119.0**	**124.9**	**130.4**	**1.8**	**0.9**	**1.3**	**0.9**
Public road transport	7.9	8.7	9.2	9.3	9.9	10.5	11.1	11.6	12.0	1.5	0.6	1.2	0.7
Private cars and motorcycles	56.4	63.0	67.8	71.9	73.5	77.8	80.2	82.5	84.9	1.9	0.8	0.9	0.6
Rail	11.7	13.4	12.3	12.8	13.4	14.5	15.5	16.4	17.2	0.5	0.8	1.5	1.0
Aviation	4.2	5.0	6.1	7.0	8.1	9.9	12.0	14.3	16.3	3.9	2.8	4.0	3.0
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.5	0.9	0.6
Freight transport activity (Gtkm)	**35.4**	**41.7**	**54.2**	**57.8**	**61.0**	**66.5**	**70.9**	**73.6**	**76.0**	**4.4**	**1.2**	**1.5**	**0.7**
Trucks	21.6	26.5	35.1	37.0	37.7	40.9	43.0	44.3	45.6	5.0	0.7	1.3	0.6
Rail	12.2	13.2	16.6	19.0	21.5	23.6	25.7	27.0	28.0	3.2	2.6	1.8	0.9
Inland navigation	1.7	2.0	2.4	1.8	1.8	2.0	2.1	2.3	2.4	3.9	-3.0	1.7	1.2
Energy demand in transport (ktoe)	**4545**	**5200**	**6081**	**8034**	**8127**	**8323**	**8316**	**8048**	**7794**	**3.0**	**2.9**	**0.2**	**-0.6**
Public road transport	74	79	82	82	86	89	89	88	85	1.0	0.4	0.4	-0.5
Private cars and motorcycles	2570	2699	2922	3839	3762	3576	3421	3145	2926	1.3	2.6	-0.9	-1.6
Trucks	1301	1646	2152	3118	3160	3399	3435	3378	3284	5.2	3.9	0.8	-0.4
Rail	283	309	333	311	340	360	365	360	334	1.6	0.2	0.7	-0.9
Aviation	310	461	586	675	769	889	994	1065	1152	6.6	2.8	2.6	1.5
Inland navigation	7	6	6	9	9	10	11	11	12	-1.5	4.4	1.5	1.0

Source: PRIMES

Belgium: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**13112**	**12734**	**15509**	**15450**	**15753**	**16955**	**18803**	**10657**	**5856**	**1.7**	**0.2**	**1.8**	**-11.0**
Solids	1085	269	191	57	13	12	10	15	14	-16.0	-23.5	-2.2	3.2
Oil	0	0	0	6	0	0	0	0	0				
Natural gas	10	0	2	0	0	0	0	0	0	-14.3			
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Renewable energy sources	1310	2125	2894	3110	3358	4412	6387	5252	5841	8.2	1.5	6.6	-0.9
Hydro	23	29	39	25	31	33	35	37	38	5.6	-2.2	1.1	0.9
Biomass & Waste	1285	2093	2848	3061	3090	3777	5037	3719	4259	8.3	0.8	5.0	-1.7
Wind	1	1	1	20	217	445	880	1068	1184	7.9	67.0	15.0	3.0
Solar and others	1	1	1	3	17	152	421	419	352	2.1	32.5	37.7	-1.8
Geothermal	1	1	4	1	2	4	14	10	8	14.0	-7.6	23.2	-5.0
Net Imports	**39625**	**46863**	**50812**	**53775**	**48948**	**48808**	**47044**	**50834**	**53677**	**2.5**	**-0.4**	**-0.4**	**1.3**
Solids	9493	9343	7566	5511	4270	4333	3834	5554	8347	-2.2	-5.6	-1.1	8.1
Oil	22236	26667	29491	32623	29697	29520	28201	27214	26334	2.9	0.1	-0.5	-0.7
- Crude oil and Feedstocks	26896	26573	34067	32206	31703	31538	30370	29514	28738	2.4	-0.7	-0.4	-0.6
- Oil products	-4660	94	-4576	417	-2006	-2018	-2168	-2299	-2404				
Natural gas	8217	10418	13278	14817	14076	13842	13376	16381	17297	4.9	0.6	-0.5	2.6
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Gross Inland Consumption	**48607**	**54940**	**61461**	**61147**	**57318**	**58184**	**58173**	**53617**	**51402**	**2.4**	**-0.7**	**0.1**	**-1.2**
Solids	10244	8551	8200	5450	4283	4344	3844	5568	8361	-2.2	-6.3	-1.1	8.1
Oil	18497	22877	24100	24747	22314	21941	20528	19340	18203	2.7	-0.8	-0.8	-1.2
Natural gas	8169	10611	13369	14740	14076	13842	13376	16381	17297	5.0	0.5	-0.5	2.6
Nuclear	10707	10340	12422	12277	12382	12531	12405	5391	0	1.5	0.0	0.0	
Electricity	-320	350	372	542	672	785	997	1178	1173		6.1	4.0	1.6
Renewable energy forms	1310	2210	2998	3391	3590	4740	7024	5759	6368	8.6	1.8	6.9	-1.0
as % in Gross Inland Consumption													
Solids	21.1	15.6	13.3	8.9	7.5	7.5	6.6	10.4	16.3				
Oil	38.1	41.6	39.2	40.5	38.9	37.7	35.3	36.1	35.4				
Natural gas	16.8	19.3	21.8	24.1	24.6	23.8	23.0	30.6	33.7				
Nuclear	22.0	18.8	20.2	20.1	21.6	21.5	21.3	10.1	0.0				
Renewable energy forms	2.7	4.0	4.9	5.5	6.3	8.1	12.1	10.7	12.4				
Gross Electricity Generation in GWh_e	**70202**	**73524**	**82639**	**85695**	**84699**	**88127**	**91604**	**100050**	**106805**	**1.6**	**0.2**	**0.8**	**1.5**
Self consumption and grid losses	7382	7800	7825	8266	8114	8400	8969	13538	18252	0.6	0.4	1.0	7.4
Fuel Inputs for Thermal Power Generation	**6544**	**7182**	**7493**	**7733**	**6562**	**6626**	**6630**	**11326**	**15362**	**1.4**	**-1.3**	**0.1**	**8.8**
Solids	3875	3764	3025	1889	1624	1644	1171	3146	6055	-2.4	-6.0	-3.2	17.9
Oil (including refinery gas)	318	232	186	411	187	189	345	632	623	-5.2	0.1	6.3	6.1
Gas	1983	2721	3790	4612	3952	3787	3017	5668	6375	6.7	0.4	-2.7	7.8
Biomass & Waste	368	465	492	821	800	1006	2098	1880	2310	2.9	5.0	10.1	1.0
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**35940**	**33857**	**42146**	**40638**	**37841**	**38060**	**36973**	**35230**	**34024**	**1.6**	**-1.1**	**-0.2**	**-0.8**
Refineries	29821	29532	38492	37438	35112	34985	33509	32112	30901	2.6	-0.9	-0.5	-0.8
Biofuels and hydrogen production	0	0	0	0	174	444	868	857	958			17.4	1.0
District heating	10	5	41	27	1	1	1	0	0	15.3	-35.4	0.0	
Others	6109	4320	3612	3173	2554	2630	2595	2261	2165	-5.1	-3.4	0.2	-1.8
Energy Branch Consumption	**2307**	**2270**	**2367**	**2125**	**1882**	**1895**	**1846**	**2089**	**2406**	**0.3**	**-2.3**	**-0.2**	**2.7**
Non-Energy Uses	**2749**	**5513**	**6865**	**7495**	**6295**	**6767**	**7125**	**7107**	**7329**	**9.6**	**-0.9**	**1.2**	**0.3**
Final Energy Demand	**32071**	**36073**	**39131**	**38443**	**37098**	**37780**	**37771**	**35869**	**34935**	**2.0**	**-0.5**	**0.2**	**-0.8**
by sector													
Industry	12591	13612	15762	13563	12101	13138	13556	12877	12798	2.3	-2.6	1.1	-0.6
- energy intensive industries	9987	10689	12028	10578	8851	9402	9554	9005	8811	1.9	-3.0	0.8	-0.8
- other industrial sectors	2604	2923	3734	2986	3250	3735	4003	3872	3987	3.7	-1.4	2.1	0.0
Residential	8360	9320	9491	9938	10012	9731	9525	8802	8466	1.3	0.5	-0.5	-1.2
Tertiary	3390	4631	4167	5017	5146	5050	5005	4703	4563	2.1	2.1	-0.3	-0.9
Transport	7730	8511	9710	9926	9840	9862	9684	9488	9109	2.3	0.1	-0.2	-0.6
by fuel													
Solids	3787	3306	3378	2080	1660	1632	1626	1517	1421	-1.1	-6.9	-0.2	-1.3
Oil	14927	16434	16130	16529	15759	15239	13973	12944	12048	0.8	-0.2	-1.2	-1.5
Gas	7249	8517	10010	10009	9651	9335	9039	8952	8760	3.3	-0.4	-0.7	-0.3
Electricity	4986	5885	6667	6894	6978	7360	7828	8355	8536	2.9	0.5	1.2	0.9
Heat (from CHP and District Heating) [A]	213	220	490	427	518	973	1314	1349	1357	8.7	0.6	9.7	0.3
Renewable energy forms	909	1710	2454	2503	2531	3239	3989	2750	2811	10.4	0.3	4.7	-3.4
Other	0	0	0	0	1	1	2	2	2			9.1	-0.3
RES in Gross Final Energy Consumption [B]			**535**	**910**	**1410**	**2840**	**4923**	**4243**	**4746**		**10.2**	**13.3**	**-0.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**139.9**		**146.5**	**135.8**	**125.7**	**120.7**	**113.4**	**112.1**	**108.4**	**0.5**	**-1.5**	**-1.0**	**-0.5**
of which ETS sectors GHGs emissions				61.4	50.8	49.8	47.0	50.1	49.7			-0.8	0.5
CO_2 Emissions (energy related)	**106.4**	**112.6**	**115.0**	**107.7**	**97.8**	**95.1**	**87.0**	**86.4**	**83.1**	**0.8**	**-1.6**	**-1.2**	**-0.5**
Power generation/District heating	21.8	23.0	22.6	20.6	17.1	16.8	13.6	17.2	17.7	0.3	-2.7	-2.3	2.7
Energy Branch	5.3	5.1	5.3	4.1	2.9	2.8	2.6	2.3	2.2	0.0	-6.0	-1.0	-1.7
Industry	30.3	28.8	30.1	22.7	18.4	18.5	18.3	18.7	18.5	-0.1	-4.8	0.0	0.1
Residential	18.7	20.1	20.1	20.4	20.1	18.7	16.6	13.7	12.3	0.7	0.0	-1.9	-3.0
Tertiary	7.6	10.5	8.2	10.5	10.7	10.3	9.8	8.9	8.5	0.8	2.7	-0.9	-1.4
Transport	22.7	25.0	28.8	29.5	28.7	27.9	26.1	25.5	24.1	2.4	0.0	-0.9	-0.8
CO_2 Emissions (non energy related)	**9.0**	**10.0**	**10.2**	**9.8**	**9.1**	**10.2**	**11.0**	**10.8**	**10.5**	**1.2**	**-1.2**	**2.0**	**-0.5**
Non-CO_2 GHGs Emissions	**24.4**		**21.3**	**18.3**	**18.8**	**15.4**	**15.4**	**14.8**	**14.8**	**-1.4**	**-1.3**	**-2.0**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**104.7**	**97.1**	**89.8**	**86.3**	**81.1**	**80.1**	**77.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Belgium: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.948	10.131	10.239	10.446	10.784	11.070	11.322	11.547	11.745	0.3	0.5	0.5	0.4
GDP (in 000 M€08)	233.7	257.7	294.5	319.2	328.9	371.3	411.5	447.1	484.4	2.3	1.1	2.3	1.6
Gross Inl. Cons./GDP (toe/M€08)	208.0	213.2	208.7	191.6	174.2	156.7	141.4	119.9	106.1	0.0	-1.8	-2.1	-2.8
Carbon intensity (t of CO_2/toe of GIC)	2.19	2.05	1.87	1.76	1.71	1.63	1.50	1.61	1.62	-1.6	-0.9	-1.3	0.8
Import Dependency %	75.2	79.6	76.1	78.2	75.7	74.2	71.4	82.7	90.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.4	36.9	36.9	43.2	53.3	59.5	62.5		1.2	4.4	2.5
as % of GDP			11.3	11.6	11.5	12.4	14.1	15.1	15.3				
Energy intensity indicators													
Industry (Energy on Value added)	91.3	100.2	100.0	85.7	77.8	71.6	65.7	59.2	54.2	0.9	-2.5	-1.7	-1.9
Residential (Energy on Private Income)	109.5	110.3	100.0	99.3	99.3	88.7	80.3	69.1	62.3	-0.9	-0.1	-2.1	-2.5
Tertiary (Energy on Value added)	98.1	124.2	100.0	108.9	109.6	94.0	84.0	71.9	64.2	0.2	0.9	-2.6	-2.6
Passenger transport (toe/Mpkm)	45.4	44.2	46.5	46.4	44.4	40.7	38.1	35.3	32.0	0.3	-0.5	-1.5	-1.7
Freight transport (toe/Mtkm)	50.6	49.1	50.5	52.4	51.8	51.4	49.4	47.5	45.0	0.0	0.3	-0.5	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.30	0.30	0.25	0.22	0.18	0.16	0.12	0.15	0.14	-1.6	-3.2	-3.8	1.3
Final energy demand (t of CO_2/toe)	2.47	2.34	2.23	2.16	2.10	2.00	1.88	1.86	1.81	-1.0	-0.6	-1.1	-0.3
Industry	2.41	2.11	1.91	1.67	1.52	1.41	1.35	1.45	1.44	-2.3	-2.3	-1.2	0.6
Residential	2.24	2.16	2.11	2.05	2.01	1.92	1.74	1.56	1.45	-0.6	-0.5	-1.4	-1.8
Tertiary	2.23	2.26	1.96	2.09	2.07	2.04	1.96	1.89	1.86	-1.3	0.6	-0.6	-0.5
Transport	2.94	2.94	2.96	2.97	2.92	2.83	2.70	2.69	2.64	0.1	-0.1	-0.8	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			1.3	2.3	3.7	7.4	12.7	11.4	13.0				
RES in transport (%)			0.0	0.0	2.2	5.5	11.1	11.2	13.0				
Gross Electricity generation by fuel type (in GWh)			**82639**	**85695**	**84699**	**88127**	**91604**	**100050**	**106805**		**0.2**	**0.8**	**1.5**
Nuclear energy			48148	47586	48002	48578	48092	20899	0		0.0	0.0	
Coal and lignite			13089	7774	6129	6721	4815	18164	36495		-7.3	-2.4	22.5
Petroleum products			586	1734	1005	929	1793	3305	3253		5.5	6.0	6.1
Gas (including derived gases)			19024	25013	22800	21825	17987	35966	42135		1.8	-2.3	8.9
Biomass & waste			1317	3071	3750	4335	8042	8613	10437		11.0	7.9	2.6
Hydro			459	288	366	388	408	428	447		-2.2	1.1	0.9
Wind			15	227	2529	5180	10235	12417	13764		67.0	15.0	3.0
Solar, tidal etc.			0	1	118	172	232	258	273			7.0	1.7
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13941**	**14716**	**17322**	**18440**	**20812**	**22378**	**23406**		**2.2**	**1.9**	**1.2**
Nuclear energy			5801	5817	5941	5941	5941	2516	0		0.2	0.0	
Renewable energy			117	285	1332	2350	4053	4986	5497		27.6	11.8	3.1
Hydro (pumping excluded)			103	116	116	125	138	148	150		1.2	1.8	0.8
Wind			14	167	1063	2047	3679	4577	5069		54.2	13.2	3.3
Solar			0	2	153	178	236	262	277			4.4	1.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			8024	8615	10050	10149	10819	14876	17909		2.3	0.7	5.2
of which cogeneration units			1394	1680	2142	2888	2725	3076	2944		4.4	2.4	0.8
of which CCS units			0	0	0	0	0	1588	3927				
Solids fired			1964	1709	1476	1076	1079	2271	4252		-2.8	-3.1	14.7
Gas fired			4891	5710	7117	7078	6938	9786	10911		3.8	-0.3	4.6
Oil fired			632	639	653	649	770	834	829		0.3	1.7	0.7
Biomass-waste fired			537	556	803	1345	2032	1985	1916		4.1	9.7	-0.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			64.6	63.6	53.6	52.4	48.2	47.1	46.1				
Efficiency for thermal electricity production (%)			39.0	41.8	44.1	43.9	42.3	50.2	51.7				
CHP indicator (% of electricity from CHP)			6.8	8.8	12.4	17.6	18.1	20.2	18.2				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	16.9	36.8				
Non fossil fuels in electricity generation (%)			60.4	59.7	64.7	66.6	73.2	42.6	23.3				
- nuclear			58.3	55.5	56.7	55.1	52.5	20.9	0.0				
- renewable energy forms and industrial waste			2.2	4.2	8.0	11.4	20.7	21.7	23.3				
Transport sector													
Passenger transport activity (Gpkm)	**116.4**	**127.3**	**137.1**	**145.6**	**152.3**	**163.7**	**169.7**	**176.1**	**182.2**	**1.6**	**1.1**	**1.1**	**0.7**
Public road transport	11.4	13.1	13.3	17.5	18.9	19.9	20.6	21.1	21.4	1.6	3.6	0.9	0.3
Private cars and motorcycles	90.5	99.1	106.5	110.1	113.6	121.3	123.8	127.5	131.3	1.6	0.6	0.9	0.6
Rail	7.3	7.6	8.6	10.1	11.1	12.5	13.5	14.1	14.7	1.7	2.6	2.0	0.9
Aviation	6.6	7.0	8.4	7.6	8.3	9.6	11.4	13.0	14.6	2.4	-0.1	3.2	2.5
Inland navigation	0.7	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-7.4	-0.1	0.4	0.2
Freight transport activity (Gtkm)	**48.3**	**58.6**	**65.9**	**60.5**	**59.3**	**62.4**	**65.2**	**69.1**	**72.9**	**3.2**	**-1.1**	**0.9**	**1.1**
Trucks	34.6	45.6	51.0	43.8	42.4	44.6	46.6	49.9	53.2	4.0	-1.8	0.9	1.3
Rail	8.4	7.3	7.7	8.1	8.3	9.0	9.5	9.8	10.0	-0.9	0.8	1.4	0.4
Inland navigation	5.4	5.7	7.2	8.6	8.6	8.7	9.0	9.4	9.7	3.0	1.8	0.5	0.7
Energy demand in transport (ktoe)	**7730**	**8511**	**9710**	**9926**	**9840**	**9862**	**9684**	**9488**	**9109**	**2.3**	**0.1**	**-0.2**	**-0.6**
Public road transport	104	118	118	153	164	167	165	160	152	1.3	3.3	0.1	-0.8
Private cars and motorcycles	4157	4474	4677	5260	5209	5015	4750	4516	4186	1.2	1.1	-0.9	-1.3
Trucks	2210	2523	3065	2827	2726	2848	2856	2918	2934	3.3	-1.2	0.5	0.3
Rail	178	202	184	186	187	195	191	184	164	0.3	0.2	0.2	-1.5
Aviation	952	945	1530	1281	1334	1414	1495	1476	1432	4.9	-1.4	1.1	-0.4
Inland navigation	130	248	136	218	220	221	227	234	240	0.5	4.9	0.3	0.5

Source: PRIMES

Bulgaria: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9136**	**10191**	**9846**	**10612**	**9708**	**9993**	**10571**	**10991**	**12471**	**0.8**	**-0.1**	**0.9**	**1.7**
Solids	5121	5287	4310	4178	4376	4342	2411	949	2213	-1.7	0.2	-5.8	-0.9
Oil	60	43	43	30	26	25	24	23	22	-3.4	-4.8	-0.8	-0.9
Natural gas	11	40	12	384	237	200	169	143	122	1.3	34.4	-3.3	-3.2
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Renewable energy sources	161	369	792	1207	1277	1635	2342	2471	2710	17.2	4.9	6.3	1.5
Hydro	161	151	230	373	350	354	359	365	375	3.6	4.3	0.3	0.4
Biomass & Waste	0	219	562	801	849	1019	1489	1525	1680		4.2	5.8	1.2
Wind	0	0	0	0	35	102	180	223	244			17.8	3.1
Solar and others	0	0	0	0	3	44	95	129	162			40.8	5.4
Geothermal	0	0	0	33	41	115	220	229	250			18.4	1.3
Net Imports	**17836**	**13484**	**8718**	**9516**	**9553**	**9210**	**9071**	**9148**	**7780**	**-6.9**	**0.9**	**-0.5**	**-1.5**
Solids	3527	2424	2258	2550	2733	2219	2436	2608	1290	-4.4	1.9	-1.1	-6.2
Oil	8553	6519	4118	5186	4695	4978	4970	4906	4721	-7.0	1.3	0.6	-0.5
- Crude oil and Feedstocks	8264	8021	5389	6423	6295	6665	6662	6594	6387	-4.2	1.6	0.6	-0.4
- Oil products	289	-1502	-1271	-1237	-1600	-1687	-1692	-1688	-1666				
Natural gas	5430	4563	2742	2458	2525	2617	2667	2823	2984	-6.6	-0.8	0.5	1.1
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Gross Inland Consumption	**27981**	**23312**	**18647**	**19984**	**19148**	**19079**	**19514**	**20007**	**20114**	**-4.0**	**0.3**	**0.2**	**0.3**
Solids	8706	7673	6417	6892	7109	6560	4847	3557	3502	-3.0	1.0	-3.8	-3.2
Oil	9609	6253	4218	4947	4608	4879	4866	4797	4605	-7.9	0.9	0.5	-0.5
Natural gas	5395	4584	2932	2804	2762	2816	2835	2967	3106	-5.9	-0.6	0.3	0.9
Nuclear	3783	4453	4689	4812	3792	3792	5624	7404	7404	2.2	-2.1	4.0	2.8
Electricity	326	-14	-397	-652	-359	-536	-887	-1087	-1120				
Renewable energy forms	161	363	788	1182	1237	1568	2228	2369	2616	17.2	4.6	6.1	1.6
as % in Gross Inland Consumption													
Solids	31.1	32.9	34.4	34.5	37.1	34.4	24.8	17.8	17.4				
Oil	34.3	26.8	22.6	24.8	24.1	25.6	24.9	24.0	22.9				
Natural gas	19.3	19.7	15.7	14.0	14.4	14.8	14.5	14.8	15.4				
Nuclear	13.5	19.1	25.1	24.1	19.8	19.9	28.8	37.0	36.8				
Renewable energy forms	0.6	1.6	4.2	5.9	6.5	8.2	11.4	11.8	13.0				
Gross Electricity Generation in GWh_e	**42133**	**41219**	**40639**	**43964**	**39687**	**41998**	**46437**	**50909**	**54059**	**-0.4**	**-0.2**	**1.6**	**1.5**
Self consumption and grid losses	9435	11161	10721	9679	8132	7384	6795	6987	7991	1.3	-2.7	-1.8	1.6
Fuel Inputs for Thermal Power Generation	**10103**	**9160**	**6281**	**6520**	**6289**	**6129**	**4861**	**3798**	**3913**	**-4.6**	**0.0**	**-2.5**	**-2.1**
Solids	6800	6734	5245	5670	5612	5154	3498	2395	2444	-2.6	0.7	-4.6	-3.5
Oil (including refinery gas)	951	612	170	172	44	31	28	25	67	-15.8	-12.6	-4.4	9.2
Gas	2352	1813	863	676	575	699	689	604	454	-9.5	-4.0	1.8	-4.1
Biomass & Waste	0	0	3	2	58	218	591	665	786		33.2	26.2	2.9
Geothermal heat	0	0	0	0	0	27	54	108	163				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**13098**	**11654**	**7655**	**8936**	**7744**	**7908**	**7797**	**7592**	**7350**	**-5.2**	**0.1**	**0.1**	**-0.6**
Refineries	8358	8040	5449	6683	6474	6841	6812	6731	6509	-4.2	1.7	0.5	-0.5
Biofuels and hydrogen production	0	0	0	0	23	47	89	136	231			14.5	9.9
District heating	2781	1544	324	370	344	158	72	30	2	-19.3	0.6	-14.5	-31.0
Others	1960	2069	1882	1883	903	862	824	695	608	-0.4	-7.1	-0.9	-3.0
Energy Branch Consumption	**1357**	**1457**	**1145**	**1278**	**1324**	**1298**	**1255**	**1268**	**1332**	**-1.7**	**1.5**	**-0.5**	**0.6**
Non-Energy Uses	**1427**	**1236**	**1264**	**1067**	**928**	**1008**	**1100**	**1168**	**1198**	**-1.2**	**-3.0**	**1.7**	**0.9**
Final Energy Demand	**16102**	**11409**	**8602**	**9595**	**9803**	**10316**	**10736**	**10834**	**10888**	**-6.1**	**1.3**	**0.9**	**0.1**
by sector													
Industry	8969	6034	3652	3720	3849	4172	4398	4445	4471	-8.6	0.5	1.3	0.2
- energy intensive industries	5579	4891	2829	2851	2826	2906	2950	2882	2785	-6.6	0.0	0.4	-0.6
- other industrial sectors	3390	1143	824	870	1024	1265	1448	1563	1686	-13.2	2.2	3.5	1.5
Residential	2228	2257	2165	2145	2132	2071	2062	1970	1888	-0.3	-0.2	-0.3	-0.9
Tertiary	2382	1139	962	1130	1175	1146	1141	1104	1100	-8.7	2.0	-0.3	-0.4
Transport	2523	1980	1823	2599	2647	2927	3135	3316	3429	-3.2	3.8	1.7	0.9
by fuel													
Solids	1477	1280	860	951	1128	1062	1022	878	805	-5.3	2.8	-1.0	-2.4
Oil	4983	2900	3004	3672	3638	3931	3996	3993	3848	-4.9	1.9	0.9	-0.4
Gas	2066	1787	1231	1025	1168	1247	1272	1432	1675	-5.0	-0.5	0.9	2.8
Electricity	3033	2467	2075	2208	2264	2350	2432	2605	2760	-3.7	0.9	0.7	1.3
Heat (from CHP and District Heating) [A]	4543	2798	877	939	812	861	976	931	768	-15.2	-0.8	1.9	-2.4
Renewable energy forms	0	178	555	800	794	864	1038	994	1030		3.6	2.7	-0.1
Other	0	0	0	0	0	0	1	1	1			12.1	1.2
RES in Gross Final Energy Consumption [B]			**737**	**958**	**1108**	**1427**	**2014**	**2075**	**2275**		**4.2**	**6.2**	**1.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**111.5**		**65.4**	**67.0**	**66.6**	**61.6**	**54.5**	**48.2**	**44.5**	**-5.2**	**0.2**	**-2.0**	**-2.0**
of which ETS sectors GHGs emissions				41.2	41.0	39.0	32.2	26.2	22.6			-2.4	-3.5
CO_2 Emissions (energy related)	**72.5**	**58.0**	**42.1**	**45.1**	**45.3**	**44.0**	**36.8**	**30.8**	**27.4**	**-5.3**	**0.7**	**-2.0**	**-2.9**
Power generation/District heating	44.9	38.1	24.9	26.1	25.5	23.4	16.3	10.5	7.3	-5.7	0.2	-4.4	-7.7
Energy Branch	1.6	1.4	1.3	1.6	1.6	1.6	1.5	1.5	1.5	-2.1	2.6	-0.8	-0.4
Industry	11.2	9.4	8.3	7.5	8.2	8.5	8.3	8.0	7.9	-3.0	-0.1	0.2	-0.5
Residential	3.0	2.2	1.2	1.2	1.2	1.0	0.9	0.8	0.7	-8.9	0.3	-2.9	-2.9
Tertiary	4.8	1.4	1.2	1.1	1.1	1.1	1.0	0.8	0.8	-13.0	-0.4	-1.6	-2.3
Transport	7.1	5.6	5.2	7.6	7.6	8.4	8.8	9.2	9.3	-3.0	3.8	1.5	0.5
CO_2 Emissions (non energy related)	**7.6**	**7.0**	**4.6**	**5.1**	**5.6**	**6.1**	**6.5**	**6.6**	**6.2**	**-4.9**	**2.0**	**1.6**	**-0.6**
Non-CO_2 GHGs Emissions	**31.4**		**18.7**	**16.8**	**15.8**	**11.6**	**11.1**	**10.9**	**10.9**	**-5.0**	**-1.7**	**-3.5**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**58.7**	**60.1**	**59.8**	**55.3**	**48.9**	**43.2**	**39.9**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Bulgaria: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.767	8.427	8.191	7.761	7.564	7.382	7.188	6.974	6.753	-0.7	-0.8	-0.5	-0.6
GDP (in 000 M€08)	21.3	18.6	17.9	23.1	27.2	32.2	36.6	40.6	44.6	-1.7	4.3	3.0	2.0
Gross Inl. Cons./GDP (toe/M€08)	1316.3	1251.7	1043.7	864.5	703.9	593.1	533.1	492.6	451.4	-2.3	-3.9	-2.7	-1.6
Carbon intensity (t of CO_2/toe of GIC)	2.59	2.49	2.26	2.26	2.36	2.31	1.89	1.54	1.36	-1.4	0.5	-2.2	-3.2
Import Dependency %	63.6	57.2	46.6	47.4	49.6	48.0	46.2	45.4	38.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			5.5	7.0	7.5	9.6	12.3	14.7	15.8		3.6	6.5	3.0
as % of GDP			30.9	30.1	29.0	34.7	40.6	43.9	44.7				
Energy intensity indicators													
Industry (Energy on Value added)	140.7	112.0	100.0	72.1	61.9	51.4	44.2	38.9	35.1	-3.4	-4.7	-3.3	-2.3
Residential (Energy on Private Income)	92.4	105.2	100.0	74.2	63.2	55.1	53.0	49.3	47.4	0.8	-4.5	-1.7	-1.1
Tertiary (Energy on Value added)	201.6	112.3	100.0	93.9	84.9	68.7	61.4	54.2	49.4	-6.8	-1.6	-3.2	-2.2
Passenger transport (toe/Mpkm)	35.8	32.3	28.0	31.2	29.3	28.3	27.8	27.6	26.8	-2.4	0.4	-0.5	-0.4
Freight transport (toe/Mtkm)	34.2	44.4	50.3	55.0	50.1	49.2	48.6	47.9	46.8	3.9	0.0	-0.3	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.45	0.49	0.46	0.44	0.46	0.40	0.25	0.15	0.11	0.2	0.2	-5.9	-8.3
Final energy demand (t of CO_2/toe)	1.62	1.62	1.85	1.81	1.85	1.84	1.77	1.74	1.71	1.3	0.0	-0.4	-0.4
Industry	1.25	1.55	2.27	2.02	2.13	2.03	1.90	1.79	1.78	6.2	-0.6	-1.2	-0.7
Residential	1.35	0.97	0.55	0.56	0.57	0.48	0.44	0.40	0.36	-8.7	0.4	-2.6	-2.0
Tertiary	2.00	1.22	1.23	0.96	0.97	0.99	0.85	0.77	0.70	-4.7	-2.4	-1.3	-1.9
Transport	2.81	2.84	2.87	2.91	2.87	2.86	2.82	2.78	2.70	0.2	0.0	-0.2	-0.4
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			7.6	9.1	10.4	12.9	17.5	17.9	19.4				
RES in transport (%)			0.2	0.1	1.4	2.5	4.4	6.2	9.8				
Gross Electricity generation by fuel type (in GWh)			**40639**	**43964**	**39687**	**41998**	**46437**	**50909**	**54059**		**-0.2**	**1.6**	**1.5**
Nuclear energy			18175	18650	14700	14700	22350	30000	30000		-2.1	4.3	3.0
Coal and lignite			16820	18056	17369	16951	11111	7650	10660		0.3	-4.4	-0.4
Petroleum products			590	600	125	90	80	71	208		-14.4	-4.3	10.0
Gas (including derived gases)			2374	2312	2817	3977	3961	3227	2377		1.7	3.5	-5.0
Biomass & waste			8	5	202	918	2532	2856	3225		38.3	28.8	2.4
Hydro			2673	4336	4065	4116	4169	4242	4357		4.3	0.3	0.4
Wind			0	5	406	1190	2087	2597	2834			17.8	3.1
Solar, tidal etc.			0	0	3	24	83	140	209			38.2	9.7
Geothermal and other renewables			0	0	0	32	63	126	189				11.6
Net Generation Capacity in MW_e			**10934**	**10174**	**9634**	**10891**	**11595**	**12902**	**13171**		**-1.3**	**1.9**	**1.3**
Nuclear energy			3473	2678	1885	1910	2870	3817	3817		-5.9	4.3	2.9
Renewable energy			1908	1975	2489	3186	4125	4621	4984		2.7	5.2	1.9
Hydro (pumping excluded)			1908	1967	2097	2122	2136	2191	2340		0.9	0.2	0.9
Wind			0	8	389	1039	1916	2304	2452			17.3	2.5
Solar			0	0	3	25	73	126	192			35.8	10.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			5554	5521	5260	5795	4600	4465	4371		-0.5	-1.3	-0.5
of which cogeneration units			972	1108	1197	1628	1794	1703	1690		2.1	4.1	-0.6
of which CCS units			0	0	0	0	0	90	479				
Solids fired			4430	4376	4179	4615	3312	3184	3157		-0.6	-2.3	-0.5
Gas fired			812	834	794	758	650	606	540		-0.2	-2.0	-1.8
Oil fired			271	271	276	279	253	213	144		0.2	-0.9	-5.5
Biomass-waste fired			40	40	11	140	379	447	508		-12.2	42.7	3.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	4	7	14	22				11.6
Load factor for net electric capacities (%)			38.0	44.1	43.2	41.1	43.2	42.6	43.5				
Efficiency for thermal electricity production (%)			27.1	27.7	28.0	30.8	31.4	31.5	36.6				
CHP indicator (% of electricity from CHP)			8.5	6.8	14.7	21.7	23.0	19.9	18.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	2.1	9.8				
Non fossil fuels in electricity generation (%)			51.3	52.3	48.8	50.0	67.4	78.5	75.5				
- nuclear			44.7	42.4	37.0	35.0	48.1	58.9	55.5				
- renewable energy forms and industrial waste			6.6	9.9	11.8	15.0	19.2	19.6	20.0				
Transport sector													
Passenger transport activity (Gpkm)	**51.9**	**41.6**	**43.0**	**47.5**	**54.5**	**61.2**	**65.8**	**69.8**	**73.5**	**-1.9**	**2.4**	**1.9**	**1.1**
Public road transport	25.9	15.7	13.9	11.4	11.4	11.8	12.1	12.2	12.3	-6.0	-1.9	0.6	0.1
Private cars and motorcycles	14.8	18.6	23.6	29.7	35.6	39.9	42.2	43.7	45.4	4.8	4.2	1.7	0.8
Rail	8.1	5.0	3.9	2.8	3.0	3.1	3.4	3.7	3.9	-7.1	-2.7	1.4	1.5
Aviation	2.8	2.1	1.7	3.6	4.5	6.4	8.2	10.2	11.9	-5.3	10.5	6.2	3.8
Inland navigation	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-22.7	-1.7	0.5	0.2
Freight transport activity (Gtkm)	**19.3**	**14.3**	**12.3**	**20.3**	**21.0**	**24.3**	**26.8**	**29.0**	**31.2**	**-4.5**	**5.5**	**2.5**	**1.5**
Trucks	3.6	5.2	6.4	14.4	14.8	17.5	19.1	20.6	22.0	5.9	8.8	2.6	1.4
Rail	14.1	8.6	5.5	5.2	5.3	6.0	6.7	7.4	8.0	-8.9	-0.4	2.3	1.8
Inland navigation	1.6	0.5	0.3	0.8	0.8	0.9	1.0	1.1	1.1	-15.1	9.8	2.0	1.7
Energy demand in transport (ktoe)	**2523**	**1980**	**1823**	**2599**	**2647**	**2927**	**3135**	**3316**	**3429**	**-3.2**	**3.8**	**1.7**	**0.9**
Public road transport	293	127	108	87	85	86	85	82	77	-9.5	-2.4	0.0	-0.9
Private cars and motorcycles	1266	923	982	1186	1259	1301	1338	1375	1380	-2.5	2.5	0.6	0.3
Trucks	452	504	551	1058	993	1131	1232	1315	1394	2.0	6.1	2.2	1.2
Rail	217	144	78	65	65	70	75	77	68	-9.8	-1.8	1.4	-0.9
Aviation	276	276	101	200	243	334	402	462	505	-9.6	9.2	5.2	2.3
Inland navigation	18	6	3	4	4	4	4	5	5	-16.9	2.6	1.7	1.4

Source: PRIMES

Cyprus: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**6**	**42**	**45**	**49**	**86**	**179**	**276**	**330**	**391**	**23.2**	**6.6**	**12.4**	**3.5**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	6	42	45	49	86	179	276	330	391	23.2	6.6	12.4	3.5
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	6	11	10	7	18	37	54	73	91	5.8	6.0	12.0	5.2
Wind	0	0	0	0	0	26	65	84	95				3.8
Solar and others	0	31	35	41	68	115	157	173	205		6.7	8.7	2.7
Geothermal	0	0	0	0	0	0	0	0	0			14.2	20.8
Net Imports	**1638**	**2024**	**2547**	**2816**	**3098**	**2987**	**3025**	**3035**	**2971**	**4.5**	**2.0**	**-0.2**	**-0.2**
Solids	68	17	36	43	38	41	48	46	47	-6.3	0.6	2.5	-0.2
Oil	1570	2007	2511	2773	3060	2579	2570	2549	2483	4.8	2.0	-1.7	-0.3
- Crude oil and Feedstocks	631	797	1153	0	0	0	0	0	0	6.2	-60.7	-0.9	-0.2
- Oil products	939	1210	1358	2773	3060	2579	2570	2549	2483	3.8	8.5	-1.7	-0.3
Natural gas	0	0	0	0	0	365	386	425	421			155.0	0.9
Electricity	0	0	0	0	0	0	0	0	0				
Gross Inland Consumption	**1519**	**1976**	**2390**	**2466**	**2866**	**2833**	**2962**	**3016**	**3001**	**4.6**	**1.8**	**0.3**	**0.1**
Solids	60	13	35	36	38	41	48	46	47	-5.3	0.8	2.5	-0.2
Oil	1453	1920	2310	2382	2742	2247	2232	2199	2122	4.7	1.7	-2.0	-0.5
Natural gas	0	0	0	0	0	365	386	425	421			155.0	0.9
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	0	0	0				
Renewable energy forms	6	42	45	49	86	180	296	345	410	23.2	6.6	13.1	3.3
as % in Gross Inland Consumption													
Solids	4.0	0.7	1.5	1.4	1.3	1.4	1.6	1.5	1.6				
Oil	95.7	97.2	96.6	96.6	95.7	79.3	75.3	72.9	70.7				
Natural gas	0.0	0.0	0.0	0.0	0.0	12.9	13.0	14.1	14.0				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	0.4	2.1	1.9	2.0	3.0	6.4	10.0	11.5	13.7				
Gross Electricity Generation in GWh_e	**1974**	**2473**	**3369**	**4377**	**4709**	**5145**	**5773**	**6312**	**6802**	**5.5**	**3.4**	**2.1**	**1.7**
Self consumption and grid losses	207	236	353	417	422	386	423	454	471	5.5	1.8	0.0	1.1
Fuel Inputs for Thermal Power Generation	**516**	**641**	**884**	**1077**	**1103**	**899**	**903**	**923**	**903**	**5.5**	**2.2**	**-2.0**	**0.0**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	516	641	884	1077	1096	515	480	446	418	5.5	2.2	-7.9	-1.4
Gas	0	0	0	0	0	365	386	425	421				0.9
Biomass & Waste	0	0	0	0	7	19	38	52	64			18.1	5.5
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**643**	**828**	**1171**	**0**	**4**	**12**	**29**	**29**	**40**	**6.2**	**-44.0**	**23.6**	**3.2**
Refineries	643	828	1171	0	0	0	0	0	0	6.2	-60.7	-0.9	-0.2
Biofuels and hydrogen production	0	0	0	0	3	11	29	29	40			23.9	3.2
District heating	0	0	0	0	0	0	0	0	0				
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**41**	**43**	**54**	**22**	**21**	**16**	**16**	**16**	**15**	**2.7**	**-9.0**	**-2.5**	**-0.7**
Non-Energy Uses	**31**	**62**	**84**	**71**	**61**	**60**	**61**	**63**	**67**	**10.6**	**-3.1**	**-0.1**	**1.0**
Final Energy Demand	**1099**	**1414**	**1640**	**1809**	**2071**	**2257**	**2386**	**2434**	**2444**	**4.1**	**2.4**	**1.4**	**0.2**
by sector													
Industry	277	391	442	316	326	344	357	373	378	4.8	-3.0	0.9	0.6
- energy intensive industries	127	220	225	196	205	221	232	243	248	5.9	-0.9	1.3	0.7
- other industrial sectors	150	171	217	120	120	122	124	129	129	3.7	-5.7	0.3	0.4
Residential	110	179	215	319	363	390	426	423	429	6.9	5.4	1.6	0.1
Tertiary	82	91	129	203	314	376	415	439	444	4.6	9.3	2.8	0.7
Transport	629	752	854	972	1069	1147	1188	1200	1194	3.1	2.3	1.1	0.0
by fuel													
Solids	76	13	35	36	38	41	48	46	47	-7.5	0.8	2.5	-0.2
Oil	867	1167	1302	1385	1585	1672	1691	1690	1637	4.2	2.0	0.7	-0.3
Gas	0	0	0	0	0	0	0	0	0			8.4	0.5
Electricity	151	191	258	340	369	409	460	504	544	5.5	3.7	2.2	1.7
Heat (from CHP and District Heating) [A]	0	0	0	0	2	3	4	5	4			9.6	-0.1
Renewable energy forms	6	42	45	49	78	132	182	189	210	23.2	5.6	8.8	1.5
Other	0	0	0	0	0	0	0	0	0			9.7	-0.6
RES in Gross Final Energy Consumption [B]			**44**	**48**	**82**	**172**	**276**	**319**	**376**		**6.4**	**12.9**	**3.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**5.5**		**9.5**	**9.4**	**9.9**	**9.0**	**9.0**	**9.0**	**8.8**	**5.7**	**0.5**	**-1.0**	**-0.2**
of which ETS sectors GHGs emissions				4.9	5.1	4.3	4.4	4.5	4.5			-1.5	0.3
CO_2 Emissions (energy related)	**4.6**	**5.7**	**7.0**	**7.7**	**8.4**	**7.6**	**7.7**	**7.6**	**7.4**	**4.2**	**1.8**	**-0.9**	**-0.3**
Power generation/District heating	1.7	2.1	2.8	3.5	3.5	2.5	2.4	2.4	2.3	5.5	2.2	-3.6	-0.5
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8			
Industry	0.8	1.1	1.3	0.9	0.9	0.9	0.9	1.0	1.0	4.3	-3.7	0.7	0.4
Residential	0.2	0.2	0.2	0.5	0.5	0.5	0.4	0.3	0.3	2.4	7.9	-1.1	-4.1
Tertiary	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.4	0.4			2.0	-0.8
Transport	1.9	2.2	2.5	2.9	3.2	3.4	3.4	3.5	3.4	3.1	2.2	0.9	0.0
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.8**		**2.5**	**1.7**	**1.6**	**1.4**	**1.3**	**1.4**	**1.4**	**11.7**	**-4.5**	**-1.7**	**0.9**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**174.1**	**173.2**	**182.4**	**166.0**	**164.8**	**166.0**	**162.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Cyprus: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.573	0.645	0.690	0.749	0.821	0.888	0.955	1.017	1.072	1.9	1.7	1.5	1.2
GDP (in 000 M€08)	7.9	10.2	12.3	14.4	16.4	19.7	23.8	28.2	32.7	4.6	2.9	3.8	3.2
Gross Inl. Cons./GDP (toe/M€08)	192.7	193.5	194.1	170.9	174.4	143.5	124.5	106.8	91.8	0.1	-1.1	-3.3	-3.0
Carbon intensity (t of CO_2/toe of GIC)	3.04	2.88	2.92	3.13	2.92	2.69	2.59	2.53	2.46	-0.4	0.0	-1.2	-0.5
Import Dependency %	103.9	99.1	98.7	100.8	97.3	94.4	91.6	90.2	88.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.3	2.7	3.6	4.2	4.5		6.4	5.3	3.4
as % of GDP			10.4	13.2	14.5	15.1	16.8	17.3	17.0				
Energy intensity indicators													
Industry (Energy on Value added)	71.9	89.2	100.0	68.2	63.4	57.3	50.8	46.1	41.6	3.4	-4.4	-2.2	-2.0
Residential (Energy on Private Income)	92.3	102.4	100.0	124.2	126.1	111.8	100.7	84.2	73.5	0.8	2.3	-2.2	-3.1
Tertiary (Energy on Value added)	113.7	89.3	100.0	134.4	181.9	180.4	164.3	145.4	126.5	-1.3	6.2	-1.0	-2.6
Passenger transport (toe/Mpkm)	50.5	48.7	46.1	47.4	46.7	44.0	40.6	36.3	32.6	-0.9	0.1	-1.4	-2.2
Freight transport (toe/Mtkm)	216.8	219.8	225.2	226.3	225.8	224.5	216.4	206.3	195.2	0.4	0.0	-0.4	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.84	0.83	0.84	0.79	0.74	0.48	0.42	0.38	0.34	0.0	-1.2	-5.6	-2.1
Final energy demand (t of CO_2/toe)	2.62	2.51	2.46	2.36	2.34	2.27	2.19	2.14	2.08	-0.6	-0.5	-0.7	-0.5
Industry	3.00	2.86	2.87	2.71	2.67	2.61	2.60	2.57	2.57	-0.4	-0.7	-0.3	-0.1
Residential	1.60	1.11	1.05	1.42	1.33	1.18	1.01	0.80	0.66	-4.2	2.4	-2.7	-4.1
Tertiary	0.00	0.00	0.00	0.42	1.10	1.09	1.02	1.02	0.88			-0.8	-1.4
Transport	2.97	2.97	2.98	2.96	2.95	2.93	2.89	2.90	2.87	0.0	-0.1	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			3.1	3.0	4.5	8.7	13.2	15.1	18.0				
RES in transport (%)			0.0	0.0	0.5	1.6	3.9	4.0	5.8				
Gross Electricity generation by fuel type (in GWh)			**3369**	**4377**	**4709**	**5145**	**5773**	**6312**	**6802**		**3.4**	**2.1**	**1.7**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			3369	4376	4670	2401	2263	2130	1998		3.3	-7.0	-1.2
Gas (including derived gases)			0	0	0	2323	2456	2724	2925				1.8
Biomass & waste			0	0	28	82	164	247	310			19.2	6.6
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	304	754	979	1099				3.8
Solar, tidal etc.			0	1	11	34	137	232	471			28.2	13.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**940**	**1105**	**1439**	**1746**	**1953**	**2045**	**2474**		**4.4**	**3.1**	**2.4**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	1	7	182	433	592	782			50.2	6.1
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	161	354	454	505				3.6
Solar			0	1	7	21	79	138	277			26.7	13.4
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			940	1103	1432	1564	1520	1453	1692		4.3	0.6	1.1
of which cogeneration units			0	0	2	5	7	7	9			13.9	3.2
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	566	566	608	952				5.3
Oil fired			940	1103	1428	988	932	817	703		4.3	-4.2	-2.8
Biomass-waste fired			0	0	4	11	23	27	37			19.5	5.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			38.9	42.6	35.4	32.4	32.6	34.2	30.6				
Efficiency for thermal electricity production (%)			32.8	35.0	36.6	46.0	46.5	47.5	49.8				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.3	0.6	0.7	0.7	0.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.8	8.2	18.3	23.1	27.6				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.8	8.2	18.3	23.1	27.6				
Transport sector													
Passenger transport activity (Gpkm)	**8.6**	**10.0**	**12.1**	**13.9**	**16.4**	**18.6**	**20.9**	**23.4**	**25.8**	**3.5**	**3.1**	**2.5**	**2.1**
Public road transport	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.6	1.7	2.8	1.8	1.4	1.1
Private cars and motorcycles	3.1	3.6	4.1	4.9	6.1	6.5	6.8	7.1	7.4	2.8	4.2	1.0	0.8
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	4.7	5.4	6.9	7.7	8.9	10.6	12.6	14.7	16.7	4.0	2.5	3.5	2.9
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.9**	**1.2**	**1.3**	**1.4**	**1.3**	**1.5**	**1.6**	**1.7**	**1.8**	**3.9**	**0.3**	**1.6**	**1.4**
Trucks	0.9	1.2	1.3	1.4	1.3	1.5	1.6	1.7	1.8	3.9	0.3	1.6	1.4
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**629**	**752**	**854**	**972**	**1069**	**1147**	**1188**	**1200**	**1194**	**3.1**	**2.3**	**1.1**	**0.0**
Public road transport	18	21	24	26	28	29	30	30	30	2.6	1.6	0.6	0.0
Private cars and motorcycles	175	200	246	331	393	394	386	354	314	3.5	4.8	-0.2	-2.0
Trucks	194	264	295	315	304	330	340	349	352	4.3	0.3	1.1	0.3
Rail	0	0	0	0	0	0	0	0	0				
Aviation	242	267	290	299	344	394	433	466	499	1.8	1.7	2.3	1.4
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Czech Republic: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**40090**	**32221**	**29911**	**32845**	**30436**	**30614**	**30926**	**32207**	**33658**	**-2.9**	**0.2**	**0.2**	**0.9**
Solids	36321	27946	25049	23570	20441	19132	17308	16262	17375	-3.6	-2.0	-1.6	0.0
Oil	223	296	461	600	200	200	200	200	197	7.5	-8.0	0.0	-0.2
Natural gas	201	198	169	154	161	156	146	135	128	-1.7	-0.5	-1.0	-1.3
Nuclear	3246	3155	3506	6379	6834	7675	8841	11141	11411	0.8	6.9	2.6	2.6
Renewable energy sources	100	626	727	2142	2800	3450	4430	4469	4549	22.0	14.4	4.7	0.3
Hydro	100	172	151	205	195	198	203	206	209	4.2	2.6	0.4	0.3
Biomass & Waste	0	454	576	1933	2539	3028	3739	3784	3705		16.0	3.9	-0.1
Wind	0	0	0	2	30	61	93	108	122			12.0	2.8
Solar and others	0	0	0	2	36	162	395	371	512			27.0	2.6
Geothermal	0	0	0	0	0	0	0	0	0			8.3	-1.5
Net Imports	**7684**	**8716**	**9448**	**12896**	**14023**	**14324**	**14100**	**13220**	**12233**	**2.1**	**4.0**	**0.1**	**-1.4**
Solids	-5690	-5762	-4765	-3179	-3071	-3311	-3171	-3355	-3518				
Oil	8648	8019	7593	9813	10200	11111	11129	11121	10752	-1.3	3.0	0.9	-0.3
- Crude oil and Feedstocks	7440	7071	5655	7857	8249	8947	8959	8954	8803	-2.7	3.8	0.8	-0.2
- Oil products	1209	948	1937	1956	1950	2164	2170	2167	1950	4.8	0.1	1.1	-1.1
Natural gas	4786	6424	7482	7535	7900	7646	7159	6619	6258	4.6	0.5	-1.0	-1.3
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Gross Inland Consumption	**48992**	**41605**	**40506**	**45319**	**44459**	**44938**	**45025**	**45428**	**45891**	**-1.9**	**0.9**	**0.1**	**0.2**
Solids	31433	23062	21598	20300	17370	15821	14137	12907	13857	-3.7	-2.2	-2.0	-0.2
Oil	9025	8174	8036	10068	10400	11311	11329	11321	10949	-1.2	2.6	0.9	-0.3
Natural gas	5248	6552	7500	7703	8062	7802	7305	6754	6386	3.6	0.7	-1.0	-1.3
Nuclear	3246	3155	3506	6379	6834	7675	8841	11141	11411	0.8	6.9	2.6	2.6
Electricity	-60	36	-861	-1086	-818	-945	-839	-1019	-1152				
Renewable energy forms	100	626	727	1955	2612	3274	4252	4324	4441	22.0	13.6	5.0	0.4
as % in Gross Inland Consumption													
Solids	64.2	55.4	53.3	44.8	39.1	35.2	31.4	28.4	30.2				
Oil	18.4	19.6	19.8	22.2	23.4	25.2	25.2	24.9	23.9				
Natural gas	10.7	15.7	18.5	17.0	18.1	17.4	16.2	14.9	13.9				
Nuclear	6.6	7.6	8.7	14.1	15.4	17.1	19.6	24.5	24.9				
Renewable energy forms	0.2	1.5	1.8	4.3	5.9	7.3	9.4	9.5	9.7				
Gross Electricity Generation in GWh_e	**62260**	**60564**	**72898**	**81916**	**80357**	**88036**	**91158**	**100207**	**106720**	**1.6**	**1.0**	**1.3**	**1.6**
Self consumption and grid losses	8840	9047	10756	11776	11089	12011	12351	15621	18745	2.0	0.3	1.1	4.3
Fuel Inputs for Thermal Power Generation	**15255**	**11006**	**15753**	**15729**	**15034**	**14132**	**13000**	**12183**	**13532**	**0.3**	**-0.5**	**-1.4**	**0.4**
Solids	14213	10002	13911	14061	13405	12248	10951	10011	11349	-0.2	-0.4	-2.0	0.4
Oil (including refinery gas)	741	311	203	152	41	71	38	34	30	-12.2	-14.8	-0.7	-2.5
Gas	300	573	1270	1292	1207	1271	1314	1323	1275	15.5	-0.5	0.9	-0.3
Biomass & Waste	0	119	369	224	381	541	698	815	878		0.3	6.2	2.3
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**18077**	**14555**	**11640**	**13441**	**12140**	**12531**	**12460**	**12257**	**11964**	**-4.3**	**0.4**	**0.3**	**-0.4**
Refineries	8005	7299	6218	8278	8518	9239	9260	9258	9107	-2.5	3.2	0.8	-0.2
Biofuels and hydrogen production	0	11	0	3	237	354	592	687	758			9.6	2.5
District heating	1830	1361	966	922	770	679	564	498	449	-6.2	-2.2	-3.1	-2.3
Others	8242	5885	4456	4239	2614	2260	2044	1814	1649	-6.0	-5.2	-2.4	-2.1
Energy Branch Consumption	**2116**	**1673**	**1919**	**1944**	**2042**	**2107**	**2091**	**2293**	**2483**	**-1.0**	**0.6**	**0.2**	**1.7**
Non-Energy Uses	**1713**	**2379**	**2090**	**2939**	**2853**	**3199**	**3339**	**3510**	**3563**	**2.0**	**3.2**	**1.6**	**0.7**
Final Energy Demand	**32224**	**25067**	**23562**	**25846**	**26673**	**27829**	**28236**	**27685**	**27101**	**-3.1**	**1.2**	**0.6**	**-0.4**
by sector													
Industry	16258	12339	9723	9593	9344	9998	9973	9862	9694	-5.0	-0.4	0.7	-0.3
- energy intensive industries	6961	5795	5990	6654	6080	6342	6189	6050	5895	-1.5	0.2	0.2	-0.5
- other industrial sectors	9297	6544	3733	2939	3264	3656	3784	3812	3799	-8.7	-1.3	1.5	0.0
Residential	7848	5433	5301	6019	6265	6206	6342	5945	5841	-3.8	1.7	0.1	-0.8
Tertiary	5306	4438	4161	4070	4183	4055	4103	4035	3960	-2.4	0.1	-0.2	-0.4
Transport	2812	2857	4377	6164	6881	7570	7818	7844	7606	4.5	4.6	1.3	-0.3
by fuel													
Solids	13719	5797	4778	3636	2729	2508	2280	2082	1712	-10.0	-5.4	-1.8	-2.8
Oil	6257	5048	5397	6940	7315	7829	7742	7597	7225	-1.5	3.1	0.6	-0.7
Gas	5146	6119	6419	6581	6735	6388	5841	5249	4919	2.2	0.5	-1.4	-1.7
Electricity	4142	4129	4243	4750	4950	5413	5761	6081	6246	0.2	1.6	1.5	0.8
Heat (from CHP and District Heating) [A]	2959	3664	2624	2478	3015	3305	3444	3546	3817	-1.2	1.4	1.3	1.0
Renewable energy forms	0	308	102	1461	1928	2385	3166	3129	3181		34.2	5.1	0.0
Other	0	0	0	0	1	1	2	2	2			11.1	0.2
RES in Gross Final Energy Consumption [B]			**454**	**1663**	**2339**	**3019**	**4012**	**4098**	**4214**		**17.8**	**5.5**	**0.5**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**207.5**		**150.8**	**149.5**	**140.9**	**132.4**	**123.5**	**105.3**	**92.8**	**-3.1**	**-0.7**	**-1.3**	**-2.8**
of which ETS sectors GHGs emissions				86.5	77.9	72.7	66.6	51.8	42.4			-1.6	-4.4
CO_2 Emissions (energy related)	**158.4**	**104.2**	**117.9**	**118.5**	**111.7**	**106.4**	**98.2**	**80.9**	**69.2**	**-2.9**	**-0.5**	**-1.3**	**-3.4**
Power generation/District heating	67.0	48.0	64.0	64.2	60.4	55.5	49.8	35.3	27.2	-0.4	-0.6	-1.9	-5.9
Energy Branch	2.3	1.6	2.2	2.4	2.0	1.9	1.8	1.7	1.6	-0.4	-1.2	-1.1	-1.1
Industry	46.9	27.6	24.5	21.6	17.7	17.4	15.6	14.4	12.5	-6.3	-3.2	-1.2	-2.2
Residential	21.6	9.9	8.1	6.9	6.9	6.0	5.6	4.7	4.4	-9.3	-1.6	-2.1	-2.2
Tertiary	13.2	9.3	6.7	5.6	5.5	4.8	4.4	4.1	3.7	-6.5	-1.9	-2.2	-1.8
Transport	7.5	7.8	12.4	17.8	19.3	21.0	21.0	20.7	19.8	5.1	4.5	0.9	-0.6
CO_2 Emissions (non energy related)	**18.3**	**13.5**	**12.4**	**11.3**	**10.2**	**11.0**	**11.4**	**11.3**	**10.4**	**-3.8**	**-1.9**	**1.1**	**-0.9**
Non-CO_2 GHGs Emissions	**30.8**		**20.5**	**19.7**	**19.0**	**15.0**	**13.9**	**13.2**	**13.2**	**-4.0**	**-0.8**	**-3.0**	**-0.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**72.7**	**72.0**	**67.9**	**63.8**	**59.5**	**50.8**	**44.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									Czech Republic: 25% domestic GHG reduction				
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.362	10.333	10.278	10.221	10.394	10.497	10.543	10.516	10.420	-0.1	0.1	0.1	-0.1
GDP (in 000 M€08)	85.9	81.8	88.1	105.8	120.7	142.4	162.9	178.9	192.8	0.3	3.2	3.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	570.4	508.4	459.8	428.2	368.3	315.5	276.5	253.9	238.0	-2.1	-2.2	-2.8	-1.5
Carbon intensity (t of CO_2/toe of GIC)	3.23	2.50	2.91	2.62	2.51	2.37	2.18	1.78	1.51	-1.0	-1.5	-1.4	-3.6
Import Dependency %	15.7	21.0	23.3	28.5	31.5	31.9	31.3	29.1	26.7				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.2	19.1	21.0	26.4	33.1	37.9	40.1		2.9	5.6	2.8
as % of GDP			18.4	18.1	17.9	20.4	22.9	24.6	25.5				
Energy intensity indicators													
Industry (Energy on Value added)	196.2	170.1	100.0	73.8	61.7	56.0	49.9	45.5	42.1	-6.5	-4.7	-2.1	-1.7
Residential (Energy on Private Income)	163.9	117.2	100.0	97.2	90.2	76.3	68.3	58.4	53.5	-4.8	-1.0	-2.7	-2.4
Tertiary (Energy on Value added)	194.0	113.2	100.0	80.7	73.4	59.2	51.6	45.7	41.3	-6.4	-3.0	-3.5	-2.2
Passenger transport (toe/Mpkm)	19.6	19.5	25.5	31.2	30.7	28.6	26.9	25.5	23.5	2.6	1.9	-1.3	-1.4
Freight transport (toe/Mtkm)	18.9	18.1	31.8	45.8	46.1	45.9	44.0	41.9	39.5	5.4	3.8	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.44	0.57	0.53	0.46	0.39	0.34	0.22	0.16	-1.0	-2.1	-3.1	-7.0
Final energy demand (t of CO_2/toe)	2.77	2.18	2.19	2.01	1.85	1.76	1.65	1.59	1.49	-2.3	-1.7	-1.1	-1.0
Industry	2.88	2.24	2.52	2.25	1.89	1.74	1.56	1.46	1.29	-1.3	-2.8	-1.9	-1.9
Residential	2.75	1.83	1.53	1.15	1.10	0.96	0.88	0.79	0.76	-5.7	-3.3	-2.2	-1.4
Tertiary	2.48	2.09	1.61	1.37	1.32	1.17	1.08	1.01	0.93	-4.2	-2.0	-2.0	-1.5
Transport	2.68	2.71	2.83	2.89	2.80	2.77	2.68	2.64	2.60	0.6	-0.1	-0.4	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			1.8	6.1	8.3	10.2	13.4	13.8	14.4				
RES in transport (%)			0.2	0.2	3.9	5.3	8.5	9.9	11.4				
Gross Electricity generation by fuel type (in GWh)			**72898**	**81916**	**80357**	**88036**	**91158**	**100207**	**106720**		**1.0**	**1.3**	**1.6**
Nuclear energy			13588	24724	26495	29753	34627	44511	45686		6.9	2.7	2.8
Coal and lignite			52069	48848	43085	44979	42240	40878	47725		-1.9	-0.2	1.2
Petroleum products			421	416	181	374	201	180	148		-8.1	1.1	-3.0
Gas (including derived gases)			3893	4714	6390	7229	7309	7013	5415		5.1	1.4	-3.0
Biomass & waste			1170	814	1526	2510	3116	3711	3617		2.7	7.4	1.5
Hydro			1758	2380	2263	2306	2361	2397	2433		2.6	0.4	0.3
Wind			0	21	348	713	1078	1257	1418			12.0	2.8
Solar, tidal etc.			0	0	70	172	228	261	278			12.6	2.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**13222**	**15228**	**14760**	**16776**	**17664**	**18968**	**19972**		**1.1**	**1.8**	**1.2**
Nuclear energy			1706	3621	3636	3651	4259	5459	5602		7.9	1.6	2.8
Renewable energy			948	1045	1508	1966	2421	2666	2861		4.7	4.8	1.7
Hydro (pumping excluded)			947	1016	1045	1053	1065	1084	1090		1.0	0.2	0.2
Wind			1	29	364	734	1119	1310	1483		80.3	11.9	2.9
Solar			0	0	99	179	236	271	288			9.1	2.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10568	10563	9616	11158	10983	10843	11509		-0.9	1.3	0.5
of which cogeneration units			3510	3621	4106	5157	5738	5588	5481		1.6	3.4	-0.5
of which CCS units			0	0	0	0	0	1006	2461				
Solids fired			9090	8987	7985	9364	9021	8810	9337		-1.3	1.2	0.3
Gas fired			1207	1300	1333	1226	1228	1257	1338		1.0	-0.8	0.9
Oil fired			129	133	136	271	200	172	153		0.6	3.9	-2.6
Biomass-waste fired			143	143	162	296	534	604	682		1.3	12.7	2.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	56.5	57.7	55.7	55.0	54.9	54.2				
Efficiency for thermal electricity production (%)			31.4	30.0	29.3	33.5	35.0	36.6	36.2				
CHP indicator (% of electricity from CHP)			19.4	18.1	25.6	39.2	42.0	37.4	31.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	10.8	23.8				
Non fossil fuels in electricity generation (%)			22.7	34.1	38.2	40.3	45.4	52.0	50.1				
- nuclear			18.6	30.2	33.0	33.8	38.0	44.4	42.8				
- renewable energy forms and industrial waste			4.0	3.9	5.2	6.5	7.4	7.6	7.3				
Transport sector													
Passenger transport activity (Gpkm)	**85.3**	**96.3**	**103.4**	**111.9**	**122.0**	**138.1**	**150.0**	**158.7**	**166.0**	**1.9**	**1.7**	**2.1**	**1.0**
Public road transport	14.1	18.6	16.2	15.6	16.3	17.1	17.8	18.3	18.7	1.4	0.1	0.9	0.5
Private cars and motorcycles	45.7	58.1	66.8	71.8	79.8	91.1	97.3	100.1	103.3	3.9	1.8	2.0	0.6
Rail	20.9	15.7	15.4	14.6	14.7	15.3	16.0	16.6	17.1	-3.0	-0.4	0.8	0.7
Aviation	4.6	3.9	5.0	9.9	11.3	14.8	18.9	23.7	26.9	0.7	8.6	5.2	3.6
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**60.3**	**54.2**	**54.9**	**58.4**	**68.1**	**78.8**	**86.0**	**90.7**	**94.0**	**-0.9**	**2.2**	**2.4**	**0.9**
Trucks	18.6	31.3	37.3	43.4	51.3	59.7	65.0	68.6	71.1	7.2	3.2	2.4	0.9
Rail	38.0	22.6	17.5	14.9	16.7	19.0	20.9	22.0	22.7	-7.5	-0.4	2.2	0.9
Inland navigation	3.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-31.8	-1.0	1.7	0.4
Energy demand in transport (ktoe)	**2812**	**2857**	**4377**	**6164**	**6881**	**7570**	**7818**	**7844**	**7606**	**4.5**	**4.6**	**1.3**	**-0.3**
Public road transport	100	131	112	107	110	113	113	110	106	1.1	-0.1	0.2	-0.6
Private cars and motorcycles	1351	1518	2249	2961	3172	3283	3282	3203	3016	5.2	3.5	0.3	-0.8
Trucks	768	783	1509	2476	2915	3369	3536	3564	3508	7.0	6.8	1.9	-0.1
Rail	272	200	304	272	290	312	304	294	257	1.1	-0.5	0.5	-1.7
Aviation	174	185	197	344	388	487	577	666	711	1.3	7.0	4.0	2.1
Inland navigation	147	40	5	5	6	6	7	7	7	-28.6	1.2	1.5	0.3

Source: PRIMES

Denmark: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**10062**	**15593**	**27665**	**31280**	**25853**	**22956**	**19767**	**17739**	**15621**	**10.6**	**-0.7**	**-2.6**	**-2.3**
Solids	0	0	0	0	0	0	0	0	0				
Oil	6093	9357	18189	18942	14670	12500	9500	8500	7500	11.6	-2.1	-4.3	-2.3
Natural gas	2770	4702	7412	9383	8100	6980	6040	4800	3500	10.3	0.9	-2.9	-5.3
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	1199	1534	2065	2955	3083	3476	4227	4439	4621	5.6	4.1	3.2	0.9
Hydro	2	3	3	2	2	2	2	2	2	1.1	-0.8	0.5	-2.7
Biomass & Waste	1140	1423	1687	2371	2369	2488	2807	2847	2939	4.0	3.5	1.7	0.5
Wind	52	101	365	569	678	888	1184	1295	1357	21.4	6.4	5.7	1.4
Solar and others	2	5	8	10	33	99	233	295	322	12.9	15.3	21.5	3.3
Geothermal	2	2	3	3	0	0	0	0	0	1.9	-36.1	2.9	-0.4
Net Imports	**8621**	**7544**	**-7259**	**-10433**	**-6035**	**-3856**	**-918**	**667**	**2212**				
Solids	6216	7664	3784	3540	3221	2685	2122	1705	1323	-4.8	-1.6	-4.1	-4.6
Oil	2727	1439	-8277	-9388	-6463	-4611	-1815	-1046	-503				
- Crude oil and Feedstocks	2036	804	-9803	-11214	-7197	-5184	-2289	-1407	-638				
- Oil products	691	635	1526	1826	735	573	474	362	134	8.3	-7.1	-4.3	-11.8
Natural gas	-928	-1496	-2882	-5010	-3371	-2798	-2341	-1238	93				
Electricity	606	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Gross Inland Consumption	**17893**	**20283**	**19522**	**19702**	**19058**	**18315**	**18051**	**17588**	**16994**	**0.9**	**-0.2**	**-0.5**	**-0.6**
Solids	6088	6498	3987	3751	3221	2685	2122	1705	1323	-4.1	-2.1	-4.1	-4.6
Oil	8181	9143	8905	8171	7447	7104	6886	6636	6158	0.9	-1.8	-0.8	-1.1
Natural gas	1818	3170	4449	4399	4729	4182	3699	3562	3593	9.4	0.6	-2.4	-0.3
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	608	-68	57	118	92	118	136	185	184	-21.0	4.9	3.9	3.1
Renewable energy forms	1199	1540	2124	3262	3568	4225	5207	5500	5736	5.9	5.3	3.9	1.0
as % in Gross Inland Consumption													
Solids	34.0	32.0	20.4	19.0	16.9	14.7	11.8	9.7	7.8				
Oil	45.7	45.1	45.6	41.5	39.1	38.8	38.2	37.7	36.2				
Natural gas	10.2	15.6	22.8	22.3	24.8	22.8	20.5	20.3	21.1				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	6.7	7.6	10.9	16.6	18.7	23.1	28.8	31.3	33.8				
Gross Electricity Generation in GWh_e	**25733**	**36648**	**36043**	**36348**	**36644**	**36306**	**35461**	**36330**	**37740**	**3.4**	**0.2**	**-0.3**	**0.6**
Self consumption and grid losses	3289	4389	3708	3457	3301	3073	2883	3225	3524	1.2	-1.2	-1.3	2.0
Fuel Inputs for Thermal Power Generation	**6016**	**8423**	**7821**	**7165**	**6273**	**6028**	**5579**	**5353**	**5322**	**2.7**	**-2.2**	**-1.2**	**-0.5**
Solids	5541	6061	3667	3444	3008	2495	1936	1523	1148	-4.0	-2.0	-4.3	-5.1
Oil (including refinery gas)	237	1008	1344	344	68	55	49	40	35	19.0	-25.8	-3.2	-3.5
Gas	174	975	2112	2003	1874	1778	1569	1566	1613	28.4	-1.2	-1.8	0.3
Biomass & Waste	65	378	699	1374	1323	1699	2025	2223	2527	26.9	6.6	4.3	2.2
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9099**	**10781**	**9008**	**8362**	**8359**	**8116**	**8214**	**8084**	**7788**	**-0.1**	**-0.7**	**-0.2**	**-0.5**
Refineries	8048	9985	8472	7841	7473	7316	7211	7093	6862	0.5	-1.2	-0.4	-0.5
Biofuels and hydrogen production	0	0	0	0	134	231	386	438	491			11.1	2.4
District heating	1009	766	519	508	752	569	617	554	435	-6.4	3.8	-2.0	-3.4
Others	42	31	17	13	0	0	0	0	0	-8.4			
Energy Branch Consumption	**733**	**1010**	**1157**	**1264**	**1283**	**1140**	**1027**	**1003**	**976**	**4.7**	**1.0**	**-2.2**	**-0.5**
Non-Energy Uses	**299**	**298**	**298**	**285**	**263**	**277**	**287**	**301**	**317**	**0.0**	**-1.2**	**0.9**	**1.0**
Final Energy Demand	**13522**	**14750**	**14638**	**15457**	**15093**	**14887**	**14829**	**14507**	**14018**	**0.8**	**0.3**	**-0.2**	**-0.6**
by sector													
Industry	2715	3031	2941	2866	2640	2490	2449	2492	2525	0.8	-1.1	-0.8	0.3
- energy intensive industries	1078	1125	1149	1117	985	924	914	922	927	0.6	-1.5	-0.7	0.1
- other industrial sectors	1637	1906	1792	1749	1656	1565	1535	1569	1598	0.9	-0.8	-0.8	0.4
Residential	3954	4474	4158	4462	4519	4533	4526	4342	4265	0.5	0.8	0.0	-0.6
Tertiary	2829	2786	2807	2861	2833	2697	2674	2593	2526	-0.1	0.1	-0.6	-0.6
Transport	4024	4460	4732	5269	5100	5168	5180	5080	4703	1.6	0.8	0.2	-1.0
by fuel													
Solids	396	405	290	253	212	188	185	181	174	-3.1	-3.1	-1.4	-0.6
Oil	7127	7162	6979	7234	6617	6354	6108	5893	5453	-0.2	-0.5	-0.8	-1.1
Gas	1159	1691	1667	1702	1873	1669	1492	1397	1350	3.7	1.2	-2.2	-1.0
Electricity	2517	2655	2791	2877	2896	2915	2877	2971	3069	1.0	0.4	-0.1	0.6
Heat (from CHP and District Heating) [A]	1758	2242	2255	2444	2379	2575	2628	2495	2374	2.5	0.5	1.0	-1.0
Renewable energy forms	566	595	657	947	1116	1185	1539	1569	1598	1.5	5.4	3.3	0.4
Other	0	0	0	0	0	1	1	1	1			8.4	0.6
RES in Gross Final Energy Consumption [B]			**1812**	**2774**	**3070**	**3780**	**4738**	**5034**	**5302**		**5.4**	**4.4**	**1.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**69.5**		**69.4**	**64.5**	**60.0**	**54.0**	**49.7**	**46.4**	**42.8**	**0.0**	**-1.5**	**-1.9**	**-1.5**
of which ETS sectors GHGs emissions				29.2	25.1	22.2	19.9	18.3	15.8			-2.3	-2.3
CO_2 Emissions (energy related)	**51.7**	**59.3**	**52.3**	**48.9**	**44.8**	**40.4**	**36.4**	**33.7**	**30.3**	**0.1**	**-1.5**	**-2.0**	**-1.8**
Power generation/District heating	24.5	30.2	24.0	19.7	17.2	14.5	11.9	10.2	8.3	-0.2	-3.3	-3.6	-3.5
Energy Branch	1.5	2.0	2.4	2.5	2.5	2.2	2.0	1.9	1.8	4.9	0.7	-2.3	-1.1
Industry	5.4	5.9	5.2	4.9	4.3	3.6	3.4	3.5	3.6	-0.3	-1.9	-2.3	0.5
Residential	4.9	4.9	3.9	3.5	3.6	3.3	2.8	2.4	2.2	-2.3	-0.7	-2.7	-2.4
Tertiary	3.6	3.1	2.9	2.7	2.4	2.2	2.2	2.1	2.0	-2.0	-1.9	-1.1	-0.6
Transport	11.9	13.2	13.9	15.6	14.7	14.6	14.2	13.7	12.4	1.6	0.5	-0.3	-1.3
CO_2 Emissions (non energy related)	**1.5**	**1.9**	**2.4**	**2.2**	**2.1**	**2.1**	**2.1**	**2.1**	**2.0**	**4.8**	**-1.3**	**0.1**	**-0.5**
Non-CO_2 GHGs Emissions	**16.3**		**14.7**	**13.4**	**13.1**	**11.5**	**11.1**	**10.5**	**10.4**	**-1.0**	**-1.2**	**-1.6**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.9**	**92.7**	**86.2**	**77.7**	**71.4**	**66.7**	**61.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Denmark: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.135	5.216	5.330	5.411	5.512	5.591	5.661	5.736	5.808	0.4	0.3	0.3	0.3
GDP (in 000 M€08)	159.3	178.8	205.8	219.1	220.8	239.7	259.7	283.4	305.9	2.6	0.7	1.6	1.7
Gross Inl. Cons./GDP (toe/M€08)	112.3	113.4	94.8	89.9	86.3	76.4	69.5	62.0	55.5	-1.7	-0.9	-2.1	-2.2
Carbon intensity (t of CO_2/toe of GIC)	2.89	2.92	2.68	2.48	2.35	2.20	2.02	1.92	1.78	-0.7	-1.3	-1.5	-1.2
Import Dependency %	45.7	34.5	-34.8	-50.8	-30.5	-20.2	-4.9	3.6	12.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			17.8	19.3	19.7	22.5	26.3	29.1	30.3		1.2	3.6	2.1
as % of GDP			8.7	8.8	9.1	9.9	11.0	11.5	11.4				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	105.9	100.0	91.7	85.4	75.4	69.4	64.8	61.2	-0.5	-1.6	-2.0	-1.2
Residential (Energy on Private Income)	114.7	115.7	100.0	96.2	100.0	93.3	86.4	76.4	69.0	-1.4	0.0	-1.4	-2.2
Tertiary (Energy on Value added)	127.4	113.7	100.0	97.5	94.1	81.5	74.4	66.0	59.4	-2.4	-0.6	-2.3	-2.2
Passenger transport (toe/Mpkm)	36.5	37.6	38.1	41.0	39.7	36.9	35.6	33.1	28.7	0.4	0.4	-1.1	-2.1
Freight transport (toe/Mtkm)	69.2	66.4	66.6	74.5	74.0	73.5	70.4	66.8	61.8	-0.4	1.1	-0.5	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.48	0.43	0.35	0.27	0.24	0.19	0.16	0.14	0.11	-3.1	-3.7	-3.9	-3.3
Final energy demand (t of CO_2/toe)	1.91	1.84	1.77	1.73	1.66	1.59	1.52	1.49	1.44	-0.7	-0.7	-0.9	-0.5
Industry	1.98	1.95	1.77	1.70	1.63	1.43	1.39	1.39	1.42	-1.1	-0.8	-1.6	0.2
Residential	1.24	1.09	0.94	0.79	0.80	0.73	0.61	0.55	0.51	-2.8	-1.5	-2.7	-1.8
Tertiary	1.27	1.12	1.04	0.94	0.85	0.82	0.81	0.80	0.80	-1.9	-2.0	-0.5	-0.1
Transport	2.96	2.95	2.95	2.96	2.88	2.83	2.74	2.70	2.64	0.0	-0.2	-0.5	-0.4
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			11.7	16.9	19.2	24.0	30.5	33.3	35.9				
RES in transport (%)			0.1	0.2	3.5	6.0	10.3	12.1	14.5				
Gross Electricity generation by fuel type (in GWh)			**36043**	**36348**	**36644**	**36306**	**35461**	**36330**	**37740**		**0.2**	**-0.3**	**0.6**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15757	15052	13341	11117	7183	5870	4687		-1.7	-6.0	-4.2
Petroleum products			4920	1371	316	238	203	169	139		-24.0	-4.3	-3.7
Gas (including derived gases)			9246	9308	10211	8983	7544	7496	8023		1.0	-3.0	0.6
Biomass & waste			1849	3982	4856	5584	6627	7586	8950		10.1	3.2	3.0
Hydro			30	23	28	28	29	28	22		-0.8	0.5	-2.7
Wind			4240	6613	7886	10321	13772	15055	15782		6.4	5.7	1.4
Solar, tidal etc.			0	0	6	36	102	125	137			31.9	3.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**12431**	**13128**	**13199**	**13012**	**12655**	**12867**	**13492**		**0.6**	**-0.4**	**0.6**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2403	3143	3746	4251	5449	5879	6283		4.5	3.8	1.4
Hydro (pumping excluded)			10	11	11	11	12	12	12		1.0	0.9	0.0
Wind			2392	3129	3719	4202	5330	5737	6129		4.5	3.7	1.4
Solar			1	3	16	38	107	131	143		32.0	20.8	2.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			10028	9985	9452	8761	7206	6988	7209		-0.6	-2.7	0.0
of which cogeneration units			4488	4691	4681	5206	4870	4706	4862		0.4	0.4	0.0
of which CCS units			0	0	0	0	0	0	237				
Solids fired			6232	5752	5269	4451	3321	2863	2623		-1.7	-4.5	-2.3
Gas fired			2092	2257	2227	2276	2181	2389	2553		0.6	-0.2	1.6
Oil fired			1124	1099	1022	982	387	228	122		-0.9	-9.2	-10.9
Biomass-waste fired			581	877	934	1052	1317	1508	1911		4.9	3.5	3.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			31.6	30.0	30.3	30.7	30.9	30.9	30.5				
Efficiency for thermal electricity production (%)			34.9	35.7	39.4	37.0	33.2	33.9	35.2				
CHP indicator (% of electricity from CHP)			55.4	59.0	66.4	68.7	58.7	56.1	55.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	3.8				
Non fossil fuels in electricity generation (%)			17.0	29.2	34.9	44.0	57.9	62.7	66.0				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			17.0	29.2	34.9	44.0	57.9	62.7	66.0				
Transport sector													
Passenger transport activity (Gpkm)	**68.9**	**71.6**	**76.1**	**79.5**	**82.8**	**88.3**	**91.8**	**95.7**	**99.2**	**1.0**	**0.8**	**1.0**	**0.8**
Public road transport	6.4	7.3	7.4	7.3	7.4	7.7	8.0	8.2	8.4	1.4	0.0	0.8	0.6
Private cars and motorcycles	48.0	49.1	51.9	53.7	56.1	59.1	59.7	60.6	61.1	0.8	0.8	0.6	0.2
Rail	5.1	4.9	5.5	6.1	6.4	6.8	7.3	7.8	8.2	0.9	1.4	1.4	1.2
Aviation	5.2	6.5	7.9	9.3	9.8	11.4	13.4	15.6	17.8	4.3	2.2	3.2	2.8
Inland navigation	4.2	3.8	3.3	3.0	3.1	3.2	3.4	3.5	3.7	-2.5	-0.6	0.9	0.9
Freight transport activity (Gtkm)	**21.7**	**26.7**	**27.5**	**27.0**	**24.5**	**26.0**	**27.2**	**28.7**	**30.1**	**2.4**	**-1.1**	**1.0**	**1.0**
Trucks	18.1	22.4	24.0	23.3	21.0	22.3	23.3	24.6	25.9	2.9	-1.3	1.1	1.0
Rail	1.7	2.0	2.0	2.0	1.8	1.9	2.0	2.1	2.3	1.6	-1.2	1.0	1.3
Inland navigation	1.9	2.3	1.5	1.7	1.7	1.8	1.9	1.9	2.0	-2.4	1.5	0.7	0.7
Energy demand in transport (ktoe)	**4024**	**4460**	**4732**	**5269**	**5100**	**5168**	**5180**	**5080**	**4703**	**1.6**	**0.8**	**0.2**	**-1.0**
Public road transport	59	74	76	75	75	77	75	74	71	2.6	-0.1	0.0	-0.7
Private cars and motorcycles	1627	1776	1882	2100	2098	1980	1843	1697	1560	1.5	1.1	-1.3	-1.7
Trucks	1383	1636	1735	1908	1719	1814	1820	1826	1806	2.3	-0.1	0.6	-0.1
Rail	114	118	103	107	97	100	94	89	54	-1.0	-0.6	-0.4	-5.3
Aviation	690	675	820	943	971	1052	1197	1238	1050	1.7	1.7	2.1	-1.3
Inland navigation	150	182	116	136	139	145	151	157	162	-2.6	1.9	0.8	0.7

Source: PRIMES

Estonia: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5500**	**3354**	**3186**	**4210**	**3292**	**3803**	**3985**	**3627**	**3462**	**-5.3**	**0.3**	**1.9**	**-1.4**
Solids	5050	2868	2672	3176	2453	2637	2257	1834	1700	-6.2	-0.9	-0.8	-2.8
Oil	0	0	2	354	120	90	74	60	38		51.3	-4.7	-6.4
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	450	487	512	680	719	1075	1654	1733	1724	1.3	3.4	8.7	0.4
Hydro	0	0	0	2	1	1	2	2	2		13.2	2.3	0.4
Biomass & Waste	450	486	512	674	698	990	1455	1459	1360	1.3	3.2	7.6	-0.7
Wind	0	0	0	5	18	77	185	258	344		70.7	26.2	6.4
Solar and others	0	0	0	0	1	7	11	14	18			23.4	5.2
Geothermal	0	0	0	0	0	0	0	0	0			19.7	-0.6
Net Imports	**4470**	**1995**	**1593**	**1471**	**1715**	**1626**	**1308**	**1396**	**1475**	**-9.8**	**0.7**	**-2.7**	**1.2**
Solids	697	293	272	30	87	81	78	71	66	-9.0	-10.7	-1.2	-1.6
Oil	3153	1185	744	873	1107	1219	1224	1267	1238	-13.4	4.1	1.0	0.1
- Crude oil and Feedstocks	0	0	0	0	1	1	1	1	1			0.6	0.0
- Oil products	3153	1185	744	873	1106	1218	1223	1266	1237	-13.4	4.0	1.0	0.1
Natural gas	1222	583	662	800	811	822	819	844	893	-5.9	2.0	0.1	0.9
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Gross Inland Consumption	**9919**	**5347**	**4696**	**5559**	**4880**	**5292**	**5150**	**4873**	**4780**	**-7.2**	**0.4**	**0.5**	**-0.7**
Solids	5967	3310	2974	3191	2540	2718	2335	1905	1766	-6.7	-1.6	-0.8	-2.8
Oil	2872	1039	627	1118	1100	1172	1155	1177	1119	-14.1	5.8	0.5	-0.3
Natural gas	1222	583	662	800	811	822	819	844	893	-5.9	2.0	0.1	0.9
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	-602	-65	-80	-138	-150	-223	-296	-300	-300				
Renewable energy forms	460	481	513	589	579	803	1137	1247	1302	1.1	1.2	7.0	1.4
as % in Gross Inland Consumption													
Solids	60.2	61.9	63.3	57.4	52.1	51.4	45.3	39.1	36.9				
Oil	28.9	19.4	13.4	20.1	22.5	22.2	22.4	24.2	23.4				
Natural gas	12.3	10.9	14.1	14.4	16.6	15.5	15.9	17.3	18.7				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	4.6	9.0	10.9	10.6	11.9	15.2	22.1	25.6	27.2				
Gross Electricity Generation in GWh_e	**17178**	**8691**	**8511**	**10203**	**10693**	**12481**	**13497**	**13595**	**13983**	**-6.8**	**2.3**	**2.4**	**0.4**
Self consumption and grid losses	2879	2858	2162	2194	2256	2378	2232	1985	1845	-2.8	0.4	-0.1	-1.9
Fuel Inputs for Thermal Power Generation	**5654**	**2673**	**2439**	**2539**	**2560**	**2793**	**2572**	**2287**	**2151**	**-8.1**	**0.5**	**0.0**	**-1.8**
Solids	5085	2491	2200	2294	2382	2536	2120	1683	1543	-8.0	0.8	-1.2	-3.1
Oil (including refinery gas)	210	80	12	10	1	2	3	2	2	-25.2	-20.9	9.4	-2.9
Gas	357	100	226	227	158	143	142	239	221	-4.5	-3.5	-1.0	4.5
Biomass & Waste	2	2	2	8	19	112	307	363	384	-0.3	24.6	32.3	2.3
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1906**	**788**	**662**	**725**	**485**	**500**	**450**	**389**	**363**	**-10.0**	**-3.1**	**-0.8**	**-2.1**
Refineries	1	1	1	1	1	1	1	1	1	0.0	0.0	0.6	0.0
Biofuels and hydrogen production	0	0	0	0	18	29	45	56	68			9.3	4.3
District heating	1607	501	456	495	460	467	402	331	293	-11.8	0.1	-1.3	-3.1
Others	299	287	206	229	6	3	2	1	1	-3.7	-30.2	-10.7	-6.5
Energy Branch Consumption	**295**	**148**	**172**	**196**	**187**	**196**	**185**	**167**	**156**	**-5.3**	**0.8**	**-0.1**	**-1.6**
Non-Energy Uses	**170**	**230**	**220**	**231**	**210**	**263**	**301**	**329**	**334**	**2.6**	**-0.4**	**3.6**	**1.1**
Final Energy Demand	**6018**	**2496**	**2365**	**2783**	**2806**	**3035**	**3151**	**3200**	**3224**	**-8.9**	**1.7**	**1.2**	**0.2**
by sector													
Industry	2735	787	529	645	694	844	904	954	1014	-15.2	2.8	2.7	1.2
- energy intensive industries	666	429	200	192	189	218	230	235	238	-11.3	-0.5	2.0	0.4
- other industrial sectors	2069	358	328	453	505	626	674	718	775	-16.8	4.4	2.9	1.4
Residential	1277	966	928	889	880	888	904	889	848	-3.1	-0.5	0.3	-0.6
Tertiary	1166	252	329	479	443	467	471	459	452	-11.9	3.0	0.6	-0.4
Transport	841	492	579	769	789	836	871	898	910	-3.7	3.1	1.0	0.4
by fuel													
Solids	703	193	117	98	101	124	157	167	184	-16.4	-1.5	4.5	1.6
Oil	1808	858	750	965	968	1033	1037	1039	1022	-8.4	2.6	0.7	-0.1
Gas	439	202	134	207	237	248	254	245	257	-11.2	5.8	0.7	0.1
Electricity	585	386	427	518	546	619	646	674	720	-3.1	2.5	1.7	1.1
Heat (from CHP and District Heating) [A]	2086	593	511	547	522	545	559	598	584	-13.1	0.2	0.7	0.4
Renewable energy forms	397	265	425	447	432	465	497	477	457	0.7	0.2	1.4	-0.8
Other	0	0	0	0	0	0	0	0	0			11.2	2.8
RES in Gross Final Energy Consumption [B]			**426**	**548**	**557**	**762**	**1064**	**1164**	**1221**		**2.7**	**6.7**	**1.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**43.7**		**17.6**	**18.4**	**18.3**	**18.5**	**16.9**	**15.2**	**14.5**	**-8.7**	**0.4**	**-0.8**	**-1.5**
of which ETS sectors GHGs emissions				12.5	12.4	13.2	11.4	9.8	9.2			-0.8	-2.2
CO_2 Emissions (energy related)	**37.1**	**16.0**	**13.9**	**15.0**	**15.2**	**16.1**	**14.4**	**12.6**	**12.0**	**-9.4**	**0.9**	**-0.6**	**-1.8**
Power generation/District heating	27.3	12.1	10.7	11.1	11.2	11.8	9.9	8.1	7.4	-8.9	0.5	-1.3	-2.8
Energy Branch	0.4	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	-11.7	1.0	-0.7	-1.7
Industry	4.6	1.7	0.8	0.8	1.0	1.3	1.4	1.4	1.5	-16.1	2.0	3.6	1.1
Residential	1.2	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	-13.5	-3.2	-3.0	-2.3
Tertiary	1.2	0.3	0.3	0.5	0.4	0.4	0.4	0.4	0.4	-14.1	4.7	-0.5	-0.5
Transport	2.4	1.4	1.7	2.3	2.3	2.4	2.4	2.5	2.4	-3.6	3.0	0.7	-0.1
CO_2 Emissions (non energy related)	**0.9**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**0.8**	**0.9**	**0.9**	**-4.7**	**-0.3**	**3.7**	**1.0**
Non-CO_2 GHGs Emissions	**5.6**		**3.1**	**2.8**	**2.5**	**1.7**	**1.7**	**1.7**	**1.6**	**-5.7**	**-2.0**	**-3.7**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**40.2**	**42.2**	**42.0**	**42.4**	**38.7**	**34.8**	**33.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Estonia: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.571	1.448	1.372	1.348	1.333	1.323	1.311	1.292	1.267	-1.3	-0.3	-0.2	-0.3
GDP (in 000 M€08)	8.8	6.0	8.0	11.7	11.8	14.2	16.3	18.3	20.5	-0.9	3.9	3.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	1132.1	893.0	585.0	474.5	412.8	372.4	315.9	265.8	233.4	-6.4	-3.4	-2.6	-3.0
Carbon intensity (t of CO_2/toe of GIC)	3.74	2.99	2.96	2.70	3.12	3.04	2.79	2.59	2.51	-2.3	0.5	-1.1	-1.1
Import Dependency %	44.3	36.7	33.2	25.9	34.3	30.0	24.7	27.8	29.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.3	1.9	2.1	2.6	3.3	3.9	4.1		4.9	5.8	2.8
as % of GDP			16.7	16.2	18.3	20.4	23.3	24.7	24.4				
Energy intensity indicators													
Industry (Energy on Value added)	319.4	219.8	100.0	69.4	62.6	59.1	54.8	50.9	47.8	-11.0	-4.6	-1.3	-1.4
Residential (Energy on Private Income)	136.3	146.4	100.0	60.7	69.8	61.3	56.5	51.3	44.7	-3.1	-3.5	-2.1	-2.3
Tertiary (Energy on Value added)	402.7	106.6	100.0	104.0	106.8	89.4	78.8	68.0	59.6	-13.0	0.7	-3.0	-2.7
Passenger transport (toe/Mpkm)	37.6	42.8	33.8	32.2	31.5	29.4	28.6	27.4	25.8	-1.1	-0.7	-1.0	-1.0
Freight transport (toe/Mtkm)	40.4	26.9	19.1	19.0	22.4	22.1	22.0	21.9	21.5	-7.2	1.6	-0.2	-0.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.64	0.70	0.67	0.62	0.62	0.59	0.47	0.37	0.34	0.5	-0.8	-2.9	-3.1
Final energy demand (t of CO_2/toe)	1.56	1.55	1.28	1.36	1.38	1.38	1.39	1.37	1.38	-2.0	0.7	0.0	-0.1
Industry	1.66	2.18	1.50	1.27	1.38	1.49	1.51	1.46	1.50	-1.1	-0.8	0.9	0.0
Residential	0.93	0.48	0.30	0.25	0.23	0.16	0.17	0.14	0.14	-10.6	-2.7	-3.3	-1.6
Tertiary	1.05	1.00	0.82	0.98	0.96	0.86	0.86	0.86	0.85	-2.5	1.7	-1.1	-0.1
Transport	2.89	2.90	2.92	2.95	2.89	2.86	2.80	2.76	2.65	0.1	-0.1	-0.3	-0.5
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			16.0	17.9	18.0	22.9	31.0	33.7	35.3				
RES in transport (%)			0.0	0.0	2.5	3.9	6.0	7.7	10.9				
Gross Electricity generation by fuel type (in GWh)			**8511**	**10203**	**10693**	**12481**	**13497**	**13595**	**13983**		**2.3**	**2.4**	**0.4**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			7604	9261	9819	10447	9199	7622	6988		2.6	-0.7	-2.7
Petroleum products			37	32	4	7	13	11	10		-20.4	13.3	-2.9
Gas (including derived gases)			859	809	554	631	828	1416	1335		-4.3	4.1	4.9
Biomass & waste			6	25	87	485	1274	1507	1601		30.7	30.8	2.3
Hydro			5	22	17	17	22	22	22		13.2	2.3	0.4
Wind			1	54	210	893	2157	3003	3999		70.7	26.2	6.4
Solar, tidal etc.			0	0	1	2	4	13	28			15.8	22.8
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2575**	**2293**	**2423**	**2715**	**3238**	**3628**	**4011**		**-0.6**	**2.9**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3	36	115	458	1014	1359	1739		45.2	24.3	5.5
Hydro (pumping excluded)			2	5	5	5	6	6	6		9.6	1.9	0.0
Wind			1	31	108	451	1005	1341	1706		64.2	25.0	5.4
Solar			0	0	2	2	4	12	26			6.3	21.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2572	2257	2308	2257	2223	2268	2272		-1.1	-0.4	0.2
of which cogeneration units			486	345	374	395	462	659	664		-2.6	2.2	3.7
of which CCS units			0	0	0	0	0	0	0				
Solids fired			2348	2023	2056	1926	1798	1550	1550		-1.3	-1.3	-1.5
Gas fired			205	205	206	259	243	503	495		0.0	1.7	7.3
Oil fired			12	12	7	7	3	3	2		-5.6	-9.2	-3.5
Biomass-waste fired			7	16	39	65	180	213	225		19.5	16.4	2.3
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			33.7	45.4	44.9	47.2	43.4	39.5	37.1				
Efficiency for thermal electricity production (%)			30.0	34.3	35.2	35.6	37.8	39.7	39.7				
CHP indicator (% of electricity from CHP)			11.7	11.0	16.1	16.0	23.1	33.2	32.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.1	1.0	3.0	11.2	25.6	33.4	40.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.1	1.0	3.0	11.2	25.6	33.4	40.4				
Transport sector													
Passenger transport activity (Gpkm)	**10.0**	**8.1**	**10.3**	**14.2**	**14.4**	**15.4**	**15.9**	**16.5**	**17.1**	**0.3**	**3.4**	**1.1**	**0.7**
Public road transport	4.5	2.0	2.6	2.7	2.7	2.7	2.7	2.8	2.8	-5.1	0.1	0.3	0.3
Private cars and motorcycles	3.1	5.2	6.8	10.0	10.1	10.8	10.9	10.9	10.9	8.0	4.1	0.8	0.0
Rail	1.6	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	-13.8	-0.2	1.0	0.4
Aviation	0.4	0.1	0.2	0.7	0.8	1.1	1.5	2.0	2.5	-6.7	16.8	5.9	5.3
Inland navigation	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-1.6	-0.3	0.6	0.4
Freight transport activity (Gtkm)	**11.5**	**5.4**	**12.0**	**16.5**	**15.1**	**17.3**	**18.9**	**20.3**	**21.9**	**0.5**	**2.3**	**2.3**	**1.5**
Trucks	4.5	1.5	3.9	5.8	6.6	7.5	8.2	9.0	9.9	-1.4	5.2	2.3	1.9
Rail	7.0	3.8	8.1	10.6	8.5	9.8	10.7	11.3	12.0	1.5	0.5	2.3	1.1
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**841**	**492**	**579**	**769**	**789**	**836**	**871**	**898**	**910**	**-3.7**	**3.1**	**1.0**	**0.4**
Public road transport	59	13	15	16	16	15	15	15	14	-12.5	0.2	-0.3	-0.6
Private cars and motorcycles	267	308	305	385	375	364	352	335	305	1.4	2.1	-0.6	-1.4
Trucks	407	104	180	266	299	340	371	400	427	-7.8	5.2	2.2	1.4
Rail	66	45	52	49	39	44	45	46	43	-2.4	-2.8	1.5	-0.5
Aviation	36	18	20	42	49	61	76	90	109	-5.9	9.6	4.5	3.7
Inland navigation	7	4	7	11	11	12	12	12	12	0.0	4.9	0.5	0.2

Source: PRIMES

Finland: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**11860**	**13166**	**14991**	**16468**	**16156**	**19162**	**20428**	**20488**	**19036**	**2.4**	**0.8**	**2.4**	**-0.7**
Solids	1581	2061	1207	2129	1705	1260	1269	1235	1283	-2.7	3.5	-2.9	0.1
Oil	0	15	37	205	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	5006	4957	5799	6003	5997	8663	9131	9341	8710	1.5	0.3	4.3	-0.5
Renewable energy sources	5273	6133	7949	8131	8454	9239	10029	9913	9043	4.2	0.6	1.7	-1.0
Hydro	934	1111	1261	1185	1136	1147	1152	1167	1179	3.0	-1.0	0.1	0.2
Biomass & Waste	4338	5021	6681	6930	7265	7903	8507	8325	7440	4.4	0.8	1.6	-1.3
Wind	0	1	7	15	45	131	260	292	321		21.0	19.1	2.1
Solar and others	0	0	1	1	8	58	109	129	102	3.8	30.6	29.8	-0.6
Geothermal	0	0	0	0	0	0	0	0	0			22.0	-11.8
Net Imports	**18124**	**15650**	**18587**	**19306**	**18730**	**16644**	**15711**	**14927**	**15089**	**0.3**	**0.1**	**-1.7**	**-0.4**
Solids	4378	3774	3533	3338	4103	2821	2819	2273	2713	-2.1	1.5	-3.7	-0.4
Oil	10570	8314	10610	10985	9256	8929	8289	7996	7644	0.0	-1.4	-1.1	-0.8
- Crude oil and Feedstocks	8930	8579	12164	11068	10345	10033	9421	9138	8797	3.1	-1.6	-0.9	-0.7
- Oil products	1639	-265	-1553	-84	-1089	-1104	-1132	-1142	-1153				
Natural gas	2261	2839	3422	3598	4206	3686	3301	3212	3406	4.2	2.1	-2.4	0.3
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Gross Inland Consumption	**29046**	**29070**	**32544**	**34666**	**34414**	**35326**	**35659**	**34924**	**33622**	**1.1**	**0.6**	**0.4**	**-0.6**
Solids	5327	5950	5087	4925	5808	4081	4088	3507	3996	-0.5	1.3	-3.5	-0.2
Oil	10029	8455	9266	10625	8784	8449	7808	7505	7141	-0.8	-0.5	-1.2	-0.9
Natural gas	2261	2839	3422	3598	4206	3686	3301	3212	3406	4.2	2.1	-2.4	0.3
Nuclear	5006	4957	5799	6003	5997	8663	9131	9341	8710	1.5	0.3	4.3	-0.5
Electricity	915	723	1021	1463	1088	860	662	559	539	1.1	0.6	-4.8	-2.0
Renewable energy forms	5508	6146	7949	8053	8531	9587	10669	10800	9829	3.7	0.7	2.3	-0.8
as % in Gross Inland Consumption													
Solids	18.3	20.5	15.6	14.2	16.9	11.6	11.5	10.0	11.9				
Oil	34.5	29.1	28.5	30.7	25.5	23.9	21.9	21.5	21.2				
Natural gas	7.8	9.8	10.5	10.4	12.2	10.4	9.3	9.2	10.1				
Nuclear	17.2	17.1	17.8	17.3	17.4	24.5	25.6	26.7	25.9				
Renewable energy forms	19.0	21.1	24.4	23.2	24.8	27.1	29.9	30.9	29.2				
Gross Electricity Generation in GWh_e	**54367**	**64052**	**69976**	**70540**	**79216**	**84616**	**88590**	**89771**	**88214**	**2.6**	**1.2**	**1.1**	**0.0**
Self consumption and grid losses	5546	6510	5543	5756	6315	7088	7423	7943	7889	0.0	1.3	1.6	0.6
Fuel Inputs for Thermal Power Generation	**5451**	**6714**	**6923**	**7538**	**10552**	**8018**	**8269**	**7829**	**8000**	**2.4**	**4.3**	**-2.4**	**-0.3**
Solids	3216	3882	3168	2974	4439	2698	2712	1943	2259	-0.1	3.4	-4.8	-1.8
Oil (including refinery gas)	294	256	131	107	188	37	35	34	49	-7.8	3.7	-15.5	3.3
Gas	1015	1581	2106	2384	2941	1664	1416	1384	1459	7.6	3.4	-7.0	0.3
Biomass & Waste	926	996	1518	2073	2985	3620	4106	4468	4234	5.1	7.0	3.2	0.3
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**12101**	**14065**	**15357**	**15526**	**12966**	**13342**	**12797**	**12463**	**12116**	**2.4**	**-1.7**	**-0.1**	**-0.5**
Refineries	10735	12067	13249	13248	10747	10464	9850	9565	9217	2.1	-2.1	-0.9	-0.7
Biofuels and hydrogen production	0	0	0	0	70	178	303	341	396			15.8	2.7
District heating	573	548	803	954	1150	1767	1719	1687	1667	3.4	3.7	4.1	-0.3
Others	793	1451	1306	1325	999	934	925	870	836	5.1	-2.6	-0.8	-1.0
Energy Branch Consumption	**776**	**959**	**1281**	**1263**	**1221**	**1237**	**1195**	**1215**	**1159**	**5.1**	**-0.5**	**-0.2**	**-0.3**
Non-Energy Uses	**1492**	**1203**	**946**	**1149**	**1092**	**1156**	**1161**	**1157**	**1170**	**-4.4**	**1.4**	**0.6**	**0.1**
Final Energy Demand	**21758**	**22069**	**24176**	**25157**	**24662**	**24913**	**24758**	**23982**	**23176**	**1.1**	**0.2**	**0.0**	**-0.7**
by sector													
Industry	9620	9989	12046	11999	11306	11636	11702	11566	11362	2.3	-0.6	0.3	-0.3
- energy intensive industries	7353	7629	9446	9070	8232	8162	8107	7896	7679	2.5	-1.4	-0.2	-0.5
- other industrial sectors	2268	2360	2599	2929	3073	3475	3596	3670	3683	1.4	1.7	1.6	0.2
Residential	5333	5430	4541	4849	5071	4985	4912	4543	4297	-1.6	1.1	-0.3	-1.3
Tertiary	2483	2487	3132	3478	3565	3571	3517	3349	3167	2.3	1.3	-0.1	-1.0
Transport	4321	4162	4457	4831	4721	4720	4627	4525	4350	0.3	0.6	-0.2	-0.6
by fuel													
Solids	1621	1277	1099	966	745	765	763	969	1174	-3.8	-3.8	0.2	4.4
Oil	8131	7591	7535	7920	6725	6440	5925	5636	5303	-0.8	-1.1	-1.3	-1.1
Gas	1501	1523	1328	1156	893	1198	1112	1082	976	-1.2	-3.9	2.2	-1.3
Electricity	5068	5608	6487	6959	7284	7454	7572	7528	7382	2.5	1.2	0.4	-0.3
Heat (from CHP and District Heating) [A]	1915	2126	2780	3597	5048	4746	4628	4283	4390	3.8	6.1	-0.9	-0.5
Renewable energy forms	3522	3944	4946	4559	3967	4310	4757	4485	3951	3.5	-2.2	1.8	-1.8
Other	0	0	0	0	0	1	1	1	1			8.2	-0.1
RES in Gross Final Energy Consumption [B]			**7256**	**7401**	**7851**	**9109**	**9936**	**10077**	**9212**		**0.8**	**2.4**	**-0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**72.2**		**70.1**	**70.3**	**71.3**	**59.0**	**56.1**	**52.1**	**52.9**	**-0.3**	**0.2**	**-2.4**	**-0.6**
of which ETS sectors GHGs emissions				37.5	40.4	30.9	29.9	26.7	28.4			-3.0	-0.5
CO_2 Emissions (energy related)	**54.4**	**55.6**	**53.7**	**54.1**	**55.6**	**46.3**	**43.5**	**40.1**	**41.4**	**-0.1**	**0.3**	**-2.4**	**-0.5**
Power generation/District heating	17.8	21.8	20.2	20.5	28.0	18.9	18.2	15.0	16.9	1.3	3.4	-4.2	-0.8
Energy Branch	1.4	1.6	2.6	2.5	1.8	1.8	1.5	1.4	1.2	6.6	-3.4	-2.3	-1.8
Industry	14.0	12.3	12.5	11.8	7.3	7.7	7.3	7.9	8.5	-1.2	-5.3	0.0	1.5
Residential	6.5	5.9	2.4	2.1	2.1	2.1	1.8	1.6	1.5	-9.6	-1.2	-1.6	-1.8
Tertiary	2.1	1.8	3.0	3.0	2.7	2.4	2.1	2.0	1.8	3.8	-1.2	-2.6	-1.6
Transport	12.7	12.2	13.1	14.2	13.7	13.4	12.7	12.3	11.6	0.3	0.4	-0.7	-0.9
CO_2 Emissions (non energy related)	**3.7**	**3.3**	**3.8**	**3.9**	**3.6**	**3.7**	**3.8**	**3.7**	**3.4**	**0.4**	**-0.5**	**0.5**	**-1.2**
Non-CO_2 GHGs Emissions	**14.2**		**12.6**	**12.3**	**12.1**	**9.0**	**8.8**	**8.3**	**8.1**	**-1.2**	**-0.4**	**-3.2**	**-0.8**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**97.1**	**97.4**	**98.7**	**81.7**	**77.7**	**72.2**	**73.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Finland: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	4.974	5.099	5.171	5.237	5.337	5.429	5.501	5.549	5.569	0.4	0.3	0.3	0.1
GDP (in 000 M€08)	120.4	115.9	146.6	165.9	174.9	194.3	212.8	229.6	246.6	2.0	1.8	2.0	1.5
Gross Inl. Cons./GDP (toe/M€08)	241.3	250.9	222.0	208.9	196.8	181.8	167.6	152.1	136.3	-0.8	-1.2	-1.6	-2.0
Carbon intensity (t of CO_2/toe of GIC)	1.87	1.91	1.65	1.56	1.61	1.31	1.22	1.15	1.23	-1.3	-0.2	-2.8	0.1
Import Dependency %	61.2	53.2	56.0	54.9	53.7	46.5	43.5	42.1	44.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			16.0	18.9	20.4	24.0	28.2	30.6	31.4		2.7	3.9	1.8
as % of GDP			10.9	11.4	11.9	13.1	14.4	15.0	14.9				
Energy intensity indicators													
Industry (Energy on Value added)	134.0	126.6	100.0	82.1	73.7	67.1	62.0	57.6	53.7	-2.9	-3.0	-1.7	-1.4
Residential (Energy on Private Income)	132.1	141.3	100.0	91.2	93.9	84.5	76.8	66.2	57.9	-2.7	-0.6	-2.0	-2.8
Tertiary (Energy on Value added)	94.6	96.3	100.0	101.6	99.0	88.5	79.3	69.5	60.7	0.6	-0.1	-2.2	-2.6
Passenger transport (toe/Mpkm)	35.9	35.5	35.5	37.8	36.6	33.8	31.7	29.8	27.6	-0.1	0.3	-1.4	-1.4
Freight transport (toe/Mtkm)	46.0	45.8	38.2	36.9	35.8	35.4	33.9	32.3	30.4	-1.8	-0.7	-0.5	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.23	0.24	0.19	0.18	0.20	0.13	0.12	0.10	0.12	-1.6	0.2	-4.6	-0.6
Final energy demand (t of CO_2/toe)	1.62	1.46	1.28	1.24	1.04	1.03	0.96	0.99	1.00	-2.3	-2.0	-0.8	0.4
Industry	1.46	1.24	1.03	0.98	0.64	0.66	0.62	0.68	0.75	-3.4	-4.7	-0.3	1.8
Residential	1.21	1.09	0.52	0.43	0.41	0.42	0.36	0.35	0.34	-8.1	-2.3	-1.3	-0.5
Tertiary	0.84	0.70	0.97	0.87	0.75	0.67	0.59	0.58	0.56	1.4	-2.5	-2.4	-0.6
Transport	2.94	2.93	2.94	2.94	2.90	2.83	2.75	2.72	2.66	0.0	-0.2	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			29.2	28.5	30.7	35.3	38.7	40.4	38.2				
RES in transport (%)			0.3	0.4	2.1	4.9	8.3	9.7	11.9				
Gross Electricity generation by fuel type (in GWh)			**69976**	**70540**	**79216**	**84616**	**88590**	**89771**	**88214**		**1.2**	**1.1**	**0.0**
Nuclear energy			22475	23267	23248	34304	36244	37145	35182		0.3	4.5	-0.3
Coal and lignite			14241	11925	14257	9085	9145	7074	8119		0.0	-4.3	-1.2
Petroleum products			554	431	834	144	136	132	180		4.2	-16.6	2.8
Gas (including derived gases)			10676	11917	14022	9119	7494	7618	7784		2.8	-6.1	0.4
Biomass & waste			7292	9047	13117	17062	19065	20728	19354		6.0	3.8	0.2
Hydro			14657	13782	13206	13338	13400	13570	13715		-1.0	0.1	0.2
Wind			78	170	525	1519	3024	3391	3736		21.0	19.1	2.1
Solar, tidal etc.			2	3	7	44	81	113	144		13.8	27.3	5.9
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**16630**	**17045**	**17582**	**21232**	**21356**	**20309**	**20024**		**0.6**	**2.0**	**-0.6**
Nuclear energy			2687	2690	2691	4207	4207	4311	4079		0.0	4.6	-0.3
Renewable energy			2882	3080	3291	3764	4393	4608	4804		1.3	2.9	0.9
Hydro (pumping excluded)			2841	2994	2994	3068	3105	3129	3144		0.5	0.4	0.1
Wind			38	82	289	650	1204	1362	1511		22.5	15.3	2.3
Solar			3	4	8	46	84	117	149		10.5	26.4	5.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			11060	11275	11601	13261	12755	11389	11141		0.5	1.0	-1.3
of which cogeneration units			5965	6033	6717	6920	6597	6454	6431		1.2	-0.2	-0.3
of which CCS units			0	0	0	0	0	0	0				
Solids fired			5562	5607	5626	5216	4935	3102	2744		0.1	-1.3	-5.7
Gas fired			3042	3007	3074	3310	3087	3062	2943		0.1	0.0	-0.5
Oil fired			898	897	899	478	346	325	176		0.0	-9.1	-6.5
Biomass-waste fired			1558	1763	2001	4257	4387	4900	5278		2.5	8.2	1.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			46.1	45.4	49.4	43.4	45.2	47.9	47.7				
Efficiency for thermal electricity production (%)			40.7	38.0	34.4	38.0	37.3	39.1	38.1				
CHP indicator (% of electricity from CHP)			38.3	41.0	39.5	40.5	37.2	38.2	38.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			63.6	65.6	63.2	78.3	81.1	83.5	81.8				
- nuclear			32.1	33.0	29.3	40.5	40.9	41.4	39.9				
- renewable energy forms and industrial waste			31.5	32.6	33.9	37.8	40.2	42.1	41.9				
Transport sector													
Passenger transport activity (Gpkm)	**74.6**	**72.8**	**80.0**	**87.0**	**89.5**	**95.6**	**99.7**	**102.9**	**105.5**	**0.7**	**1.1**	**1.1**	**0.6**
Public road transport	8.5	8.0	7.7	7.5	7.6	7.6	7.9	8.0	8.2	-1.0	-0.2	0.4	0.4
Private cars and motorcycles	52.0	50.9	56.6	62.8	64.5	68.4	70.1	70.9	70.9	0.9	1.3	0.8	0.1
Rail	3.7	3.6	3.9	4.0	4.3	4.7	5.0	5.3	5.5	0.6	1.0	1.5	0.9
Aviation	6.1	5.8	7.7	8.8	9.1	10.9	12.7	14.6	16.8	2.4	1.8	3.3	2.8
Inland navigation	4.3	4.5	4.2	3.8	3.9	4.0	4.1	4.1	4.1	-0.4	-0.6	0.3	0.1
Freight transport activity (Gtkm)	**35.8**	**34.5**	**42.4**	**41.8**	**40.4**	**41.9**	**43.3**	**45.1**	**47.2**	**1.7**	**-0.5**	**0.7**	**0.9**
Trucks	26.3	24.5	32.0	31.9	29.7	30.8	31.7	33.3	35.2	2.0	-0.7	0.6	1.0
Rail	8.4	9.6	10.1	9.7	10.4	10.9	11.4	11.6	11.8	1.9	0.3	0.9	0.4
Inland navigation	1.1	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-12.2	-4.3	1.2	0.9
Energy demand in transport (ktoe)	**4321**	**4162**	**4457**	**4831**	**4721**	**4720**	**4627**	**4525**	**4350**	**0.3**	**0.6**	**-0.2**	**-0.6**
Public road transport	78	72	69	66	66	65	63	61	58	-1.3	-0.4	-0.4	-0.8
Private cars and motorcycles	2023	1967	2089	2459	2427	2308	2187	2060	1867	0.3	1.5	-1.0	-1.6
Trucks	1546	1479	1529	1448	1349	1388	1372	1374	1373	-0.1	-1.2	0.2	0.0
Rail	100	102	94	97	101	104	98	91	66	-0.6	0.7	-0.3	-3.9
Aviation	459	408	505	565	577	650	699	732	779	1.0	1.3	1.9	1.1
Inland navigation	116	134	170	196	202	205	207	207	208	3.9	1.7	0.3	0.0

Source: PRIMES

France: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**111013**	**127609**	**131920**	**136736**	**135235**	**144691**	**154676**	**161691**	**164733**	**1.7**	**0.2**	**1.4**	**0.6**
Solids	7625	5359	2267	383	335	168	0	0	0	-11.4	-17.4		
Oil	3514	3509	2897	1479	0	0	0	0	0	-1.9			
Natural gas	2516	2793	1505	909	0	0	0	0	0	-5.0			
Nuclear	81018	97308	107093	116474	114683	117571	112444	117571	118418	2.8	0.7	-0.2	0.5
Renewable energy sources	16339	18641	18160	17492	20217	26953	42232	44120	46315	1.1	1.1	7.6	0.9
Hydro	4635	6322	5822	4496	4900	4921	4932	5147	5202	2.3	-1.7	0.1	0.5
Biomass & Waste	11575	12171	12181	12761	13960	18333	29909	29487	29361	0.5	1.4	7.9	-0.2
Wind	0	0	7	83	977	2451	4425	5079	5571		64.8	16.3	2.3
Solar and others	19	15	26	22	223	937	1976	2510	3066	2.8	24.1	24.4	4.5
Geothermal	110	132	124	130	157	311	990	1898	3115	1.2	2.4	20.3	12.1
Net Imports	**120596**	**116805**	**134196**	**144346**	**137990**	**123603**	**110006**	**101082**	**94260**	**1.1**	**0.3**	**-2.2**	**-1.5**
Solids	13004	9010	13201	13504	11232	5470	5234	4783	4301	0.2	-1.6	-7.4	-1.9
Oil	87127	86307	91185	95364	89926	84752	76635	72368	67863	0.5	-0.1	-1.6	-1.2
- Crude oil and Feedstocks	76561	79689	85250	85529	84037	81624	77673	73985	70053	1.1	-0.1	-0.8	-1.0
- Oil products	10566	6619	5936	9835	5889	3129	-1038	-1617	-2190	-5.6	-0.1		
Natural gas	24371	27493	35778	40720	42010	39011	32632	28346	25722	3.9	1.6	-2.5	-2.4
Electricity	-3907	-6005	-5974	-5187	-5040	-5296	-5323	-4064	-3421				
Gross Inland Consumption	**227754**	**241418**	**259828**	**277086**	**270443**	**265386**	**261743**	**259769**	**255898**	**1.3**	**0.4**	**-0.3**	**-0.2**
Solids	19955	15287	15240	14296	11567	5637	5234	4783	4301	-2.7	-2.7	-7.6	-1.9
Oil	88316	86611	89539	92991	87145	81844	73696	69364	64768	0.1	-0.3	-1.7	-1.3
Natural gas	26032	29577	35766	41077	42010	39011	32632	28346	25722	3.2	1.6	-2.5	-2.4
Nuclear	81018	97308	107093	116474	114683	117571	112444	117571	118418	2.8	0.7	-0.2	0.5
Electricity	-3907	-6005	-5975	-5188	-5040	-5296	-5323	-4064	-3421				
Renewable energy forms	16339	18641	18165	17436	20079	26619	43060	43770	46111	1.1	1.0	7.9	0.7
as % in Gross Inland Consumption													
Solids	8.8	6.3	5.9	5.2	4.3	2.1	2.0	1.8	1.7				
Oil	38.8	35.9	34.5	33.6	32.2	30.8	28.2	26.7	25.3				
Natural gas	11.4	12.3	13.8	14.8	15.5	14.7	12.5	10.9	10.1				
Nuclear	35.6	40.3	41.2	42.0	42.4	44.3	43.0	45.3	46.3				
Renewable energy forms	7.2	7.7	7.0	6.3	7.4	10.0	16.5	16.8	18.0				
Gross Electricity Generation in GWh_e	**416667**	**490848**	**535963**	**571367**	**566603**	**588301**	**608926**	**637436**	**655451**	**2.5**	**0.6**	**0.7**	**0.7**
Self consumption and grid losses	61718	69726	72429	80428	59074	61653	64043	72836	75515	1.6	-2.0	0.8	1.7
Fuel Inputs for Thermal Power Generation	**10983**	**8553**	**13122**	**16669**	**14167**	**11418**	**14907**	**13371**	**14721**	**1.8**	**0.8**	**0.5**	**-0.1**
Solids	7334	5441	6231	6404	5176	150	0	6	5	-1.6	-1.8		
Oil (including refinery gas)	1920	605	1284	1952	202	481	0	1	0	-3.9	-16.9	-46.3	-3.3
Gas	1423	1216	4062	6288	6183	6140	4245	2361	2087	11.1	4.3	-3.7	-6.9
Biomass & Waste	306	1290	1545	2024	2597	4559	10147	9464	9818	17.6	5.3	14.6	-0.3
Geothermal heat	0	0	0	0	9	87	514	1539	2810			49.8	18.5
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**90122**	**91635**	**98266**	**95011**	**91867**	**89865**	**86813**	**83451**	**79662**	**0.9**	**-0.7**	**-0.6**	**-0.9**
Refineries	80205	83811	90956	88526	85572	83058	78956	75208	71242	1.3	-0.6	-0.8	-1.0
Biofuels and hydrogen production	0	155	328	408	1696	2642	3887	4612	5061		17.9	8.6	2.7
District heating	1019	588	312	239	206	270	270	280	262	-11.1	-4.1	2.8	-0.3
Others	8898	7081	6669	5838	4394	3895	3699	3351	3096	-2.8	-4.1	-1.7	-1.8
Energy Branch Consumption	**9413**	**10501**	**10829**	**10252**	**10563**	**9196**	**8937**	**9063**	**8627**	**1.4**	**-0.2**	**-1.7**	**-0.4**
Non-Energy Uses	**13454**	**16838**	**15903**	**16133**	**15055**	**14788**	**14522**	**14306**	**14257**	**1.7**	**-0.5**	**-0.4**	**-0.2**
Final Energy Demand	**137226**	**142756**	**152708**	**157515**	**156877**	**154671**	**153644**	**149394**	**144288**	**1.1**	**0.3**	**-0.2**	**-0.6**
by sector													
Industry	36439	37119	36887	34001	33757	34216	34522	34429	34431	0.1	-0.9	0.2	0.0
- energy intensive industries	23706	21472	22331	20150	18913	18500	18141	17579	17023	-0.6	-1.6	-0.4	-0.6
- other industrial sectors	12733	15647	14556	13850	14844	15716	16381	16850	17409	1.3	0.2	1.0	0.6
Residential	37053	37201	42587	45295	45205	44048	43446	41425	39482	1.4	0.6	-0.4	-1.0
Tertiary	21698	24144	21648	28279	28583	27431	26979	25572	24697	0.0	2.8	-0.6	-0.9
Transport	42037	44292	51586	49941	49332	48976	48697	47968	45677	2.1	-0.4	-0.1	-0.6
by fuel													
Solids	9017	6905	5775	5148	4336	3648	3543	3229	2835	-4.4	-2.8	-2.0	-2.2
Oil	67695	68410	72242	71510	68751	64208	60341	56551	52182	0.7	-0.5	-1.3	-1.4
Gas	23400	27098	30880	33744	34653	31199	26146	22538	20014	2.8	1.2	-2.8	-2.6
Electricity	25960	29456	33096	36337	36217	38739	40340	43291	45290	2.5	0.9	1.1	1.2
Heat (from CHP and District Heating) [A]	774	447	237	182	1627	2810	3821	4033	4119	-11.1	21.2	8.9	0.8
Renewable energy forms	10380	10439	10478	10594	11289	14061	19445	19744	19841	0.1	0.7	5.6	0.2
Other	0	0	0	0	3	6	8	8	8			8.6	-0.1
RES in Gross Final Energy Consumption [B]			**16831**	**17055**	**19702**	**25645**	**37912**	**39008**	**40538**		**1.6**	**6.8**	**0.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**554.8**		**553.9**	**541.3**	**510.6**	**452.0**	**408.9**	**380.7**	**354.8**	**0.0**	**-0.8**	**-2.2**	**-1.4**
of which ETS sectors GHGs emissions				158.7	130.1	104.0	86.4	81.0	75.6			-4.0	-1.3
CO_2 Emissions (energy related)	**352.9**	**344.8**	**372.9**	**379.9**	**356.0**	**311.1**	**272.5**	**248.7**	**227.2**	**0.6**	**-0.5**	**-2.6**	**-1.8**
Power generation/District heating	40.1	27.6	39.7	47.4	36.6	17.2	10.8	6.6	6.1	-0.1	-0.8	-11.5	-5.6
Energy Branch	16.8	18.7	19.1	16.1	13.1	12.3	4.0	5.8	5.6	1.3	-3.7	-11.2	3.4
Industry	78.7	75.7	69.7	60.7	54.7	47.5	38.1	34.6	33.1	-1.2	-2.4	-3.5	-1.4
Residential	55.4	52.4	61.7	65.2	66.5	58.9	52.1	44.2	37.1	1.1	0.8	-2.4	-3.3
Tertiary	39.4	41.0	32.2	44.7	45.0	39.2	36.0	30.9	27.2	-2.0	3.4	-2.2	-2.8
Transport	122.5	129.5	150.6	145.8	140.1	136.1	131.3	126.7	118.1	2.1	-0.7	-0.6	-1.1
CO_2 Emissions (non energy related)	**32.4**	**28.5**	**26.7**	**26.7**	**25.2**	**25.1**	**25.6**	**24.4**	**22.5**	**-1.9**	**-0.6**	**0.2**	**-1.3**
Non-CO_2 GHGs Emissions	**169.5**		**154.3**	**134.7**	**129.3**	**115.7**	**110.8**	**107.5**	**105.1**	**-0.9**	**-1.8**	**-1.5**	**-0.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**99.8**	**97.6**	**92.0**	**81.5**	**73.7**	**68.6**	**64.0**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										France: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.577	57.753	58.850	60.825	62.583	64.203	65.607	66.846	67.982	0.4	0.6	0.5	0.4
GDP (in 000 M€08)	1376.2	1462.8	1679.4	1823.4	1858.3	2055.4	2265.4	2474.1	2694.0	2.0	1.0	2.0	1.7
Gross Inl. Cons./GDP (toe/M€08)	165.5	165.0	154.7	152.0	145.5	129.1	115.5	105.0	95.0	-0.7	-0.6	-2.3	-1.9
Carbon intensity (t of CO_2/toe of GIC)	1.55	1.43	1.44	1.37	1.32	1.17	1.04	0.96	0.89	-0.8	-0.9	-2.3	-1.6
Import Dependency %	52.4	47.9	51.1	51.6	50.5	46.1	41.6	38.5	36.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			152.8	169.1	174.8	201.8	243.7	266.7	272.9		1.7	4.3	2.4
as % of GDP			9.1	9.3	9.7	10.7	12.1	12.9	12.9				
Energy intensity indicators													
Industry (Energy on Value added)	128.3	120.9	100.0	86.6	86.1	80.6	74.4	68.0	62.6	-2.5	-1.5	-1.4	-1.7
Residential (Energy on Private Income)	103.2	99.3	100.0	94.4	94.9	84.0	76.3	67.8	60.0	-0.3	-0.5	-2.2	-2.4
Tertiary (Energy on Value added)	124.1	128.9	100.0	120.2	117.8	101.7	90.5	78.4	69.4	-2.1	1.7	-2.6	-2.6
Passenger transport (toe/Mpkm)	40.1	40.6	45.2	42.7	40.9	37.1	34.9	32.0	28.2	1.2	-1.0	-1.6	-2.1
Freight transport (toe/Mtkm)	51.9	47.3	38.9	39.0	38.9	38.6	37.8	37.3	35.8	-2.9	0.0	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.09	0.06	0.07	0.08	0.06	0.03	0.02	0.01	0.01	-2.4	-1.9	-12.4	
Final energy demand (t of CO_2/toe)	2.16	2.09	2.06	2.01	1.95	1.82	1.68	1.58	1.49	-0.5	-0.5	-1.5	-1.1
Industry	2.16	2.04	1.89	1.78	1.62	1.39	1.10	1.00	0.96	-1.3	-1.5	-3.8	-1.4
Residential	1.50	1.41	1.45	1.44	1.47	1.34	1.20	1.07	0.94	-0.3	0.2	-2.0	-2.4
Tertiary	1.82	1.70	1.49	1.58	1.58	1.43	1.34	1.21	1.10	-2.0	0.6	-1.6	-1.9
Transport	2.91	2.92	2.92	2.92	2.84	2.78	2.70	2.64	2.59	0.0	-0.3	-0.5	-0.4
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			10.7	10.4	12.2	16.0	23.8	25.1	26.9				
RES in transport (%)			1.1	1.3	4.4	6.8	10.3	12.2	14.0				
Gross Electricity generation by fuel type (in GWh)			**535963**	**571367**	**566603**	**588301**	**608926**	**637436**	**655451**		**0.6**	**0.7**	**0.7**
Nuclear energy			415087	451448	444587	455782	435910	461650	465345		0.7	-0.2	0.7
Coal and lignite			27802	28623	21753	624	0	31	28		-2.4		
Petroleum products			5664	7913	475	1683	2	5	2		-21.9	-41.7	-3.1
Gas (including derived gases)			16069	25269	24270	28152	24474	12280	10716		4.2	0.1	-7.9
Biomass & waste			3561	4865	6038	13183	32178	31514	34548		5.4	18.2	0.7
Hydro			67698	52277	56979	57217	57354	59849	60485		-1.7	0.1	0.5
Wind			77	963	11361	28505	51451	59054	64784		64.8	16.3	2.3
Solar, tidal etc.			5	10	666	2509	5837	9123	13653		63.1	24.2	8.9
Geothermal and other renewables			0	0	473	647	1720	3930	5890			13.8	13.1
Net Generation Capacity in MW_e			**107892**	**111422**	**117609**	**132399**	**145094**	**142712**	**154248**		**0.9**	**2.1**	**0.6**
Nuclear energy			60309	63242	63242	64757	66272	57463	57929		0.5	0.5	-1.3
Renewable energy			20632	21290	27667	35964	46887	53562	60014		3.0	5.4	2.5
Hydro (pumping excluded)			20568	20551	20652	20706	20770	21141	21322		0.0	0.1	0.3
Wind			57	723	6022	12858	20941	24014	26262		59.4	13.3	2.3
Solar			7	16	753	2117	4593	7296	11069		59.7	19.8	9.2
Other renewables (tidal etc.)			0	0	240	283	582	1111	1361			9.3	8.9
Thermal power			26951	26891	26700	31679	31936	31687	36305		-0.1	1.8	1.3
of which cogeneration units			4599	5371	4353	5102	5954	6954	7205		-0.5	3.2	1.9
of which CCS units			0	0	0	0	0	372	579				
Solids fired			9942	8576	7087	5873	3846	2677	960		-3.3	-5.9	-13.0
Gas fired			4574	5523	6789	12149	13186	15537	21838		4.0	6.9	5.2
Oil fired			11028	11219	10920	10560	8425	6838	6160		-0.1	-2.6	-3.1
Biomass-waste fired			1407	1572	1903	3085	6410	6431	6974		3.1	12.9	0.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	2	12	68	204	373			46.5	18.5
Load factor for net electric capacities (%)			52.5	53.8	52.6	48.6	46.0	48.8	46.5				
Efficiency for thermal electricity production (%)			34.8	34.4	31.9	32.9	33.0	29.3	28.4				
CHP indicator (% of electricity from CHP)			3.2	3.4	3.2	4.6	5.4	5.7	5.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.5	0.5				
Non fossil fuels in electricity generation (%)			90.8	89.2	91.8	94.8	96.0	98.1	98.4				
- nuclear			77.4	79.0	78.5	77.5	71.6	72.4	71.0				
- renewable energy forms and industrial waste			13.3	10.2	13.3	17.3	24.4	25.6	27.4				
Transport sector													
Passenger transport activity (Gpkm)	**772.5**	**819.1**	**908.2**	**937.7**	**952.1**	**1016.3**	**1061.8**	**1116.3**	**1177.8**	**1.6**	**0.5**	**1.1**	**1.0**
Public road transport	41.3	41.6	43.0	43.9	47.5	50.8	54.1	57.5	61.0	0.4	1.0	1.3	1.2
Private cars and motorcycles	599.8	652.5	711.9	740.3	740.3	781.2	804.3	834.5	873.1	1.7	0.4	0.8	0.8
Rail	73.9	64.5	80.7	88.9	94.0	103.7	111.7	122.3	131.9	0.9	1.5	1.7	1.7
Aviation	53.5	56.4	69.1	61.5	66.9	77.2	88.2	98.4	108.0	2.6	-0.3	2.8	2.0
Inland navigation	3.9	4.1	3.5	3.1	3.2	3.4	3.5	3.7	3.8	-1.3	-0.7	0.8	0.9
Freight transport activity (Gtkm)	**213.6**	**233.1**	**270.8**	**254.9**	**268.2**	**291.7**	**308.4**	**328.3**	**349.5**	**2.4**	**-0.1**	**1.4**	**1.3**
Trucks	153.7	178.2	204.0	205.3	216.5	235.9	248.5	263.7	280.5	2.9	0.6	1.4	1.2
Rail	52.2	48.3	57.7	40.7	42.7	46.4	50.0	54.2	58.1	1.0	-3.0	1.6	1.5
Inland navigation	7.6	6.6	9.1	8.9	9.0	9.4	9.9	10.4	10.8	1.9	-0.1	1.0	0.9
Energy demand in transport (ktoe)	**42037**	**44292**	**51586**	**49941**	**49332**	**48976**	**48697**	**47968**	**45677**	**2.1**	**-0.4**	**-0.1**	**-0.6**
Public road transport	440	438	446	446	480	501	507	509	506	0.1	0.7	0.6	0.0
Private cars and motorcycles	25694	27178	32862	32693	31237	29541	28253	27197	25144	2.5	-0.5	-1.0	-1.2
Trucks	10192	10029	9441	8938	9405	10189	10577	11141	11501	-0.8	0.0	1.2	0.8
Rail	1153	1222	1376	1267	1297	1363	1367	1388	1323	1.8	-0.6	0.5	-0.3
Aviation	3839	4690	6683	6291	6598	7055	7653	7382	6837	5.7	-0.1	1.5	-1.1
Inland navigation	718	735	778	306	315	327	338	351	366	0.8	-8.7	0.7	0.8

Source: PRIMES

Germany: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**186681**	**141981**	**133331**	**136015**	**119215**	**108570**	**93797**	**86152**	**90982**	**-3.3**	**-1.1**	**-2.4**	**-0.3**
Solids	125125	78834	59599	56488	45793	36252	29802	29625	29345	-7.1	-2.6	-4.2	-0.2
Oil	4031	3308	3525	5746	3120	2630	2200	0	0	-1.3	-1.2	-3.4	
Natural gas	13532	15099	15800	14224	12200	11000	10000	8000	6500	1.6	-2.6	-2.0	-4.2
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Renewable energy sources	6320	7417	10656	17496	24193	32259	42876	48527	55136	5.4	8.5	5.9	2.5
Hydro	1498	1873	1869	1684	1811	1883	1922	1986	2052	2.2	-0.3	0.6	0.7
Biomass & Waste	4797	5348	7877	12980	16470	19290	22601	23404	24502	5.1	7.7	3.2	0.8
Wind	6	147	804	2341	4199	7606	11353	14597	18009	62.9	18.0	10.5	4.7
Solar and others	11	41	96	353	1300	2367	4374	4583	4891	24.3	29.8	12.9	1.1
Geothermal	7	9	10	138	413	1112	2626	3957	5682	3.4	45.5	20.3	8.0
Net Imports	**166524**	**196270**	**205682**	**215281**	**212166**	**202851**	**198411**	**185973**	**167865**	**2.1**	**0.3**	**-0.7**	**-1.7**
Solids	3182	10963	21603	26805	29141	27662	31507	29276	20692	21.1	3.0	0.8	-4.1
Oil	121527	131988	126951	123134	112338	106451	99785	93077	85091	0.4	-1.2	-1.2	-1.6
- Crude oil and Feedstocks	89820	102213	102638	113980	110076	107352	101688	96162	89156	1.3	0.7	-0.8	-1.3
- Oil products	31707	29775	24312	9154	2262	-901	-1903	-3085	-4065	-2.6	-21.1		
Natural gas	41747	52904	56865	65734	71845	68342	65536	61680	59978	3.1	2.4	-0.9	-0.9
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Gross Inland Consumption	**356271**	**339454**	**341166**	**347147**	**328810**	**308763**	**289565**	**269505**	**256238**	**-0.4**	**-0.4**	**-1.3**	**-1.2**
Solids	131521	92175	83725	82803	74934	63914	61310	58901	50038	-4.4	-1.1	-2.0	-2.0
Oil	125712	134828	130919	124323	112888	106423	99341	90457	82483	0.4	-1.5	-1.3	-1.8
Natural gas	54976	67298	71853	80856	84045	79342	75536	69680	66478	2.7	1.6	-1.1	-1.3
Nuclear	37674	37322	43750	42061	33909	26429	8919	0	0	1.5	-2.5	-12.5	
Electricity	68	415	263	-393	-1439	22	1098	1403	1475	14.5			3.0
Renewable energy forms	6320	7417	10656	17496	24474	32632	43361	49064	55764	5.4	8.7	5.9	2.5
as % in Gross Inland Consumption													
Solids	36.9	27.2	24.5	23.9	22.8	20.7	21.2	21.9	19.5				
Oil	35.3	39.7	38.4	35.8	34.3	34.5	34.3	33.6	32.2				
Natural gas	15.4	19.8	21.1	23.3	25.6	25.7	26.1	25.9	25.9				
Nuclear	10.6	11.0	12.8	12.1	10.3	8.6	3.1	0.0	0.0				
Renewable energy forms	1.8	2.2	3.1	5.0	7.4	10.6	15.0	18.2	21.8				
Gross Electricity Generation in GWh_e	**547549**	**533711**	**567219**	**613054**	**632099**	**617121**	**597600**	**626147**	**631154**	**0.4**	**1.1**	**-0.6**	**0.5**
Self consumption and grid losses	66295	62666	74161	73028	71107	65220	62569	91433	93357	1.1	-0.4	-1.3	4.1
Fuel Inputs for Thermal Power Generation	**92914**	**85884**	**85258**	**92517**	**90790**	**83145**	**83146**	**84051**	**77814**	**-0.9**	**0.6**	**-0.9**	**-0.7**
Solids	75541	69147	68066	66172	62761	52927	49891	48237	40583	-1.0	-0.8	-2.3	-2.0
Oil (including refinery gas)	2873	2090	1113	2051	671	1397	1973	1922	1143	-9.0	-4.9	11.4	-5.3
Gas	12676	11982	12906	19356	20914	21081	20576	21233	20713	0.2	4.9	-0.2	0.1
Biomass & Waste	1824	2665	3174	4938	6265	7050	8754	9448	10425	5.7	7.0	3.4	1.8
Geothermal heat	0	0	0	0	179	690	1951	3211	4949			27.0	9.8
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**165992**	**141292**	**137838**	**145413**	**136007**	**132283**	**127356**	**117918**	**111196**	**-1.8**	**-0.1**	**-0.7**	**-1.3**
Refineries	108022	117793	120748	127966	120586	117133	110583	102270	94604	1.1	0.0	-0.9	-1.5
Biofuels and hydrogen production	0	31	222	1948	3594	4509	5531	6005	6352		32.1	4.4	1.4
District heating	6392	3638	1437	868	1528	1505	1498	744	2342	-13.9	0.6	-0.2	4.6
Others	51578	19831	15431	14632	10299	9136	9743	8900	7898	-11.4	-4.0	-0.6	-2.1
Energy Branch Consumption	**15451**	**14982**	**14383**	**15267**	**14004**	**13106**	**12374**	**14046**	**13315**	**-0.7**	**-0.3**	**-1.2**	**0.7**
Non-Energy Uses	**23473**	**23323**	**25457**	**24974**	**24211**	**24139**	**23972**	**23094**	**22200**	**0.8**	**-0.5**	**-0.1**	**-0.8**
Final Energy Demand	**227197**	**222795**	**218098**	**218369**	**217481**	**212169**	**206510**	**192979**	**183011**	**-0.4**	**0.0**	**-0.5**	**-1.2**
by sector													
Industry	71457	62001	57896	55666	52490	52806	53040	51816	50213	-2.1	-1.0	0.1	-0.5
- energy intensive industries	48775	42867	39110	37592	34334	34096	34078	32658	31264	-2.2	-1.3	-0.1	-0.9
- other industrial sectors	22682	19134	18787	18074	18156	18710	18962	19158	18949	-1.9	-0.3	0.4	0.0
Residential	58417	63145	62142	67731	69446	65853	62306	55895	53171	0.6	1.1	-1.1	-1.6
Tertiary	38691	34569	31872	32823	32798	30133	28325	25640	23395	-1.9	0.3	-1.5	-1.9
Transport	58631	63080	66188	62149	62747	63376	62838	59628	56231	1.2	-0.5	0.0	-1.1
by fuel													
Solids	37141	14915	10949	9829	7364	6608	6625	6165	5326	-11.5	-3.9	-1.1	-2.2
Oil	96799	104905	98462	88706	81426	76184	70544	63591	58078	0.2	-1.9	-1.4	-1.9
Gas	42724	52595	56064	59821	61184	55499	51559	45564	41176	2.8	0.9	-1.7	-2.2
Electricity	38391	38912	41496	44497	45398	46145	45796	46139	46562	0.8	0.9	0.1	0.2
Heat (from CHP and District Heating) [A]	9150	8737	6323	7428	11040	13771	14983	14394	14522	-3.6	5.7	3.1	-0.3
Renewable energy forms	2991	2731	4804	8088	11062	13954	16992	17115	17337	4.9	8.7	4.4	0.2
Other	0	0	0	0	5	8	10	10	10			7.9	-0.7
RES in Gross Final Energy Consumption [B]			**8852**	**14393**	**22758**	**30371**	**40161**	**44112**	**49505**		**9.9**	**5.8**	**2.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**1210.3**		**1025.5**	**997.3**	**931.9**	**838.1**	**792.5**	**635.5**	**529.0**	**-1.6**	**-1.0**	**-1.6**	**-4.0**
of which ETS sectors GHGs emissions				544.6	485.1	439.9	427.1	307.6	234.8			-1.3	-5.8
CO_2 Emissions (energy related)	**943.1**	**858.6**	**817.9**	**803.4**	**756.7**	**683.1**	**639.2**	**491.0**	**397.7**	**-1.4**	**-0.8**	**-1.7**	**-4.6**
Power generation/District heating	373.3	328.6	315.8	325.0	311.0	273.7	256.9	147.7	86.8	-1.7	-0.2	-1.9	-10.3
Energy Branch	25.9	27.2	26.6	28.3	25.5	21.7	20.2	18.4	16.7	0.3	-0.5	-2.3	-1.9
Industry	165.4	129.6	113.0	101.0	78.5	69.9	68.0	63.0	56.5	-3.7	-3.6	-1.4	-1.8
Residential	127.3	126.8	117.8	122.2	120.1	104.6	90.3	74.6	67.2	-0.8	0.2	-2.8	-2.9
Tertiary	81.9	63.9	53.2	52.0	49.6	42.1	37.2	31.7	26.4	-4.2	-0.7	-2.8	-3.4
Transport	169.4	182.4	191.5	174.8	171.9	171.1	166.5	155.5	144.1	1.2	-1.1	-0.3	-1.4
CO_2 Emissions (non energy related)	**84.2**	**80.6**	**82.8**	**77.7**	**68.2**	**67.8**	**71.8**	**68.6**	**61.7**	**-0.2**	**-1.9**	**0.5**	**-1.5**
Non-CO_2 GHGs Emissions	**183.0**		**124.8**	**116.2**	**107.0**	**87.2**	**81.6**	**75.9**	**69.5**	**-3.8**	**-1.5**	**-2.7**	**-1.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**84.7**	**82.4**	**77.0**	**69.3**	**65.5**	**52.5**	**43.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									Germany: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	79.113	81.539	82.163	82.501	82.145	81.858	81.472	80.907	80.152	0.4	0.0	-0.1	-0.2
GDP (in 000 M€08)	1933.6	2082.5	2300.1	2369.7	2410.3	2652.3	2877.2	3028.8	3178.6	1.8	0.5	1.8	1.0
Gross Inl. Cons./GDP (toe/M€08)	184.3	163.0	148.3	146.5	136.4	116.4	100.6	89.0	80.6	-2.1	-0.8	-3.0	-2.2
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.53	2.40	2.31	2.30	2.21	2.21	1.82	1.55	-1.0	-0.4	-0.4	-3.5
Import Dependency %	46.4	57.5	59.9	61.6	64.0	65.1	67.9	68.3	64.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			212.3	254.0	268.0	307.5	363.4	394.4	399.6		2.6	3.9	1.8
as % of GDP			9.2	10.7	11.4	12.6	14.0	15.1	15.2				
Energy intensity indicators													
Industry (Energy on Value added)	132.8	118.3	100.0	89.5	83.1	77.5	71.5	66.7	62.1	-2.8	-1.8	-1.5	-1.4
Residential (Energy on Private Income)	113.2	111.0	100.0	107.4	110.1	94.9	83.4	71.3	64.5	-1.2	1.0	-2.7	-2.5
Tertiary (Energy on Value added)	156.4	123.5	100.0	98.2	95.3	79.7	69.0	59.2	51.3	-4.4	-0.5	-3.2	-2.9
Passenger transport (toe/Mpkm)	49.7	45.4	45.0	40.5	39.2	35.9	34.2	31.6	29.1	-1.0	-1.4	-1.4	-1.6
Freight transport (toe/Mtkm)	43.7	43.4	42.5	37.7	37.8	37.2	35.4	33.5	31.2	-0.3	-1.2	-0.7	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.51	0.48	0.45	0.40	0.34	0.32	0.18	0.11	-1.4	-1.9	-2.1	-10.5
Final energy demand (t of CO_2/toe)	2.39	2.26	2.18	2.06	1.93	1.83	1.75	1.68	1.61	-0.9	-1.2	-1.0	-0.9
Industry	2.31	2.09	1.95	1.81	1.50	1.32	1.28	1.22	1.13	-1.7	-2.6	-1.5	-1.3
Residential	2.18	2.01	1.90	1.80	1.73	1.59	1.45	1.34	1.26	-1.4	-0.9	-1.8	-1.4
Tertiary	2.12	1.85	1.67	1.58	1.51	1.40	1.31	1.24	1.13	-2.4	-1.0	-1.4	-1.5
Transport	2.89	2.89	2.89	2.81	2.74	2.70	2.65	2.61	2.56	0.0	-0.5	-0.3	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			3.9	6.4	10.1	13.8	18.8	21.8	25.7				
RES in transport (%)			0.6	3.9	7.1	9.1	11.7	13.5	15.7				
Gross Electricity generation by fuel type (in GWh)			**567219**	**613054**	**632099**	**617121**	**597600**	**626147**	**631154**		**1.1**	**-0.6**	**0.5**
Nuclear energy			169575	163026	131452	102456	34576	0	0		-2.5	-12.5	
Coal and lignite			292440	285286	276209	231848	218000	230660	195822		-0.6	-2.3	-1.1
Petroleum products			4733	8811	3471	6503	8569	8287	4993		-3.1	9.5	-5.3
Gas (including derived gases)			59321	91860	118318	121399	118371	122241	116273		7.1	0.0	-0.2
Biomass & waste			10011	15988	24414	29942	36745	39975	43296		9.3	4.2	1.7
Hydro			21728	19577	21054	21893	22349	23094	23856		-0.3	0.6	0.7
Wind			9350	27224	48827	88445	132007	169728	209409		18.0	10.5	4.7
Solar, tidal etc.			60	1282	8146	13833	24714	28429	31750		63.4	11.7	2.5
Geothermal and other renewables			0	0	208	802	2269	3734	5755			27.0	9.8
Net Generation Capacity in MW_e			**112510**	**121873**	**141033**	**162785**	**181293**	**190713**	**203036**		**2.3**	**2.5**	**1.1**
Nuclear energy			21301	20680	15521	12031	4049	0	0		-3.1	-12.6	
Renewable energy			10477	24021	40427	59342	89005	101067	116690		14.5	8.2	2.7
Hydro (pumping excluded)			4268	4081	4246	4310	4427	4616	4694		-0.1	0.4	0.6
Wind			6095	18433	27723	40672	59738	67757	79856		16.4	8.0	2.9
Solar			114	1508	8458	14360	24839	28695	32141		53.8	11.4	2.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			80731	77172	85085	91412	88239	89646	86345		0.5	0.4	-0.2
of which cogeneration units			13526	16773	21035	23000	23283	25086	28649		4.5	1.0	2.1
of which CCS units			0	0	0	0	646	12369	17503				39.1
Solids fired			51482	48960	47684	48066	44488	46051	42540		-0.8	-0.7	-0.4
Gas fired			20674	19428	27009	30921	29496	29271	29594		2.7	0.9	0.0
Oil fired			6659	6354	5356	5713	6219	5072	4076		-2.2	1.5	-4.1
Biomass-waste fired			1916	2430	5006	6621	7776	8826	9479		10.1	4.5	2.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	30	92	259	426	657			24.2	9.8
Load factor for net electric capacities (%)			53.7	53.6	48.1	41.1	35.8	34.1	32.2				
Efficiency for thermal electricity production (%)			37.0	37.4	40.0	40.4	39.7	41.4	40.5				
CHP indicator (% of electricity from CHP)			11.7	13.9	19.3	24.1	25.7	25.5	24.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.2	21.3	28.3				
Non fossil fuels in electricity generation (%)			37.2	37.0	37.0	41.7	42.3	42.3	49.8				
- nuclear			29.9	26.6	20.8	16.6	5.8	0.0	0.0				
- renewable energy forms and industrial waste			7.3	10.5	16.2	25.1	36.5	42.3	49.8				
Transport sector													
Passenger transport activity (Gpkm)	**888.1**	**1033.4**	**1065.5**	**1098.9**	**1112.3**	**1200.6**	**1255.2**	**1283.6**	**1314.0**	**1.8**	**0.4**	**1.2**	**0.5**
Public road transport	73.1	68.5	69.0	67.1	68.5	72.9	76.5	78.5	80.1	-0.6	-0.1	1.1	0.5
Private cars and motorcycles	698.4	830.5	849.6	875.7	881.4	943.6	973.2	980.6	992.1	2.0	0.4	1.0	0.2
Rail	76.1	85.4	90.0	92.3	93.4	101.3	108.8	113.9	118.7	1.7	0.4	1.5	0.9
Aviation	37.4	46.3	54.7	61.7	66.9	80.6	94.4	108.3	120.7	3.9	2.0	3.5	2.5
Inland navigation	3.1	2.7	2.2	2.0	2.1	2.2	2.3	2.3	2.4	-3.1	-0.7	0.9	0.3
Freight transport activity (Gtkm)	**331.7**	**372.3**	**429.8**	**469.6**	**507.7**	**546.2**	**564.1**	**571.1**	**576.3**	**2.6**	**1.7**	**1.1**	**0.2**
Trucks	175.2	237.8	280.7	310.1	338.9	362.3	369.7	371.5	373.2	4.8	1.9	0.9	0.1
Rail	101.7	70.5	82.7	95.4	103.6	113.1	119.7	122.8	124.8	-2.0	2.3	1.5	0.4
Inland navigation	54.8	64.0	66.5	64.1	65.2	70.8	74.7	76.7	78.3	1.9	-0.2	1.4	0.5
Energy demand in transport (ktoe)	**58631**	**63080**	**66188**	**62149**	**62747**	**63376**	**62838**	**59628**	**56231**	**1.2**	**-0.5**	**0.0**	**-1.1**
Public road transport	779	721	716	682	690	713	711	688	658	-0.8	-0.4	0.3	-0.8
Private cars and motorcycles	37559	39747	39405	35052	33748	32219	30870	28968	26379	0.5	-1.5	-0.9	-1.6
Trucks	12208	13949	16490	15960	17381	18373	18046	17262	16332	3.1	0.5	0.4	-1.0
Rail	2118	2131	1950	1830	1887	1953	1920	1846	1627	-0.8	-0.3	0.2	-1.6
Aviation	5307	5975	7345	8304	8714	9767	10926	10492	10857	3.3	1.7	2.3	-0.1
Inland navigation	660	558	281	321	327	351	366	373	378	-8.2	1.5	1.1	0.3

Source: PRIMES

Greece: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**9155**	**9741**	**10011**	**10316**	**9808**	**9716**	**9320**	**9761**	**10728**	**0.9**	**-0.2**	**-0.5**	**1.4**
Solids	7077	7911	8222	8538	7948	6745	5030	5345	5737	1.5	-0.3	-4.5	1.3
Oil	835	460	281	101	82	60	40	0	0	-10.3	-11.6	-6.9	
Natural gas	138	44	42	18	24	0	0	0	0	-11.2	-5.5		
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	1105	1326	1466	1659	1753	2912	4250	4416	4991	2.9	1.8	9.3	1.6
Hydro	152	303	318	431	344	356	376	397	418	7.6	0.8	0.9	1.1
Biomass & Waste	893	935	1010	1015	998	1265	1680	1459	1575	1.2	-0.1	5.3	-0.6
Wind	0	3	39	109	272	764	1290	1479	1674	74.7	21.5	16.8	2.6
Solar and others	56	82	99	102	138	462	672	732	783	5.8	3.4	17.1	1.5
Geothermal	3	3	2	1	1	65	233	349	541	-4.7	-4.1	71.5	8.8
Net Imports	**15473**	**18268**	**22065**	**23448**	**23670**	**23929**	**24256**	**24435**	**23785**	**3.6**	**0.7**	**0.2**	**-0.2**
Solids	988	925	768	371	208	206	230	238	243	-2.5	-12.2	1.0	0.6
Oil	14424	17275	19610	20419	19818	19348	18614	18239	17431	3.1	0.1	-0.6	-0.7
- Crude oil and Feedstocks	14802	16997	20508	19443	20129	19722	19083	18758	18049	3.3	-0.2	-0.5	-0.6
- Oil products	-378	277	-898	977	-311	-374	-469	-519	-617				
Natural gas	0	0	1689	2332	3168	3666	4329	4987	5113		6.5	3.2	1.7
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Gross Inland Consumption	**22338**	**24228**	**28217**	**31352**	**30866**	**30916**	**30750**	**31248**	**31455**	**2.4**	**0.9**	**0.0**	**0.2**
Solids	8091	8783	9040	8952	8157	6950	5260	5583	5980	1.1	-1.0	-4.3	1.3
Oil	12942	14006	16007	18063	17288	16679	15827	15291	14374	2.1	0.8	-0.9	-1.0
Natural gas	138	44	1705	2354	3192	3666	4329	4987	5113	28.6	6.5	3.1	1.7
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	61	69	-1	325	401	436	404	390	385			0.1	-0.5
Renewable energy forms	1105	1326	1466	1659	1828	3185	4928	4998	5604	2.9	2.2	10.4	1.3
as % in Gross Inland Consumption													
Solids	36.2	36.3	32.0	28.6	26.4	22.5	17.1	17.9	19.0				
Oil	57.9	57.8	56.7	57.6	56.0	53.9	51.5	48.9	45.7				
Natural gas	0.6	0.2	6.0	7.5	10.3	11.9	14.1	16.0	16.3				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	4.9	5.5	5.2	5.3	5.9	10.3	16.0	16.0	17.8				
Gross Electricity Generation in GWh_e	**34767**	**41291**	**53415**	**59416**	**61337**	**64174**	**68690**	**79904**	**83618**	**4.4**	**1.4**	**1.1**	**2.0**
Self consumption and grid losses	5818	6451	8430	10124	10129	9989	9937	16827	17166	3.8	1.9	-0.2	5.6
Fuel Inputs for Thermal Power Generation	**8619**	**9938**	**11693**	**12405**	**11524**	**10688**	**9793**	**10527**	**10955**	**3.1**	**-0.1**	**-1.6**	**1.1**
Solids	6890	7810	8234	8693	7894	6713	5005	5331	5723	1.8	-0.4	-4.5	1.3
Oil (including refinery gas)	1711	2076	2114	2055	1542	1348	987	661	395	2.1	-3.1	-4.4	-8.8
Gas	18	14	1280	1605	2053	2514	3006	3569	3552	53.1	4.8	3.9	1.7
Biomass & Waste	0	38	64	52	34	50	563	618	746		-6.0	32.2	2.8
Geothermal heat	0	0	0	0	0	63	231	348	539				8.8
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**16747**	**17954**	**22504**	**21602**	**20672**	**20397**	**20016**	**19667**	**19021**	**3.0**	**-0.8**	**-0.3**	**-0.5**
Refineries	16670	17901	22473	21510	20525	20124	19490	19147	18442	3.0	-0.9	-0.5	-0.6
Biofuels and hydrogen production	0	0	0	0	144	271	524	517	576			13.8	1.0
District heating	0	0	0	0	0	0	0	0	0				
Others	77	52	30	93	3	3	2	2	2	-8.8	-21.0	-2.5	-2.2
Energy Branch Consumption	**1194**	**1172**	**1558**	**1755**	**1731**	**1627**	**1583**	**2122**	**2018**	**2.7**	**1.1**	**-0.9**	**2.5**
Non-Energy Uses	**672**	**456**	**719**	**761**	**771**	**831**	**902**	**941**	**970**	**0.7**	**0.7**	**1.6**	**0.7**
Final Energy Demand	**14541**	**15838**	**18560**	**20800**	**21205**	**21892**	**22369**	**22277**	**22145**	**2.5**	**1.3**	**0.5**	**-0.1**
by sector													
Industry	3945	4114	4445	4143	4039	4136	4299	4333	4362	1.2	-1.0	0.6	0.1
- energy intensive industries	2535	2493	2727	2573	2399	2477	2598	2631	2644	0.7	-1.3	0.8	0.2
- other industrial sectors	1410	1621	1718	1570	1640	1660	1701	1702	1718	2.0	-0.5	0.4	0.1
Residential	3057	3332	4486	5489	5703	6006	6162	5965	5862	3.9	2.4	0.8	-0.5
Tertiary	1718	1947	2417	3083	3163	3210	3259	3219	3211	3.5	2.7	0.3	-0.1
Transport	5821	6445	7212	8085	8300	8540	8648	8759	8710	2.2	1.4	0.4	0.1
by fuel													
Solids	1053	1074	888	446	262	236	254	251	256	-1.7	-11.5	-0.3	0.1
Oil	10073	10837	12631	14278	14247	14153	13734	13438	12990	2.3	1.2	-0.4	-0.6
Gas	15	14	257	585	676	512	609	618	604	33.0	10.1	-1.0	-0.1
Electricity	2448	2931	3710	4377	4644	4936	5293	5651	5937	4.2	2.3	1.3	1.2
Heat (from CHP and District Heating) [A]	0	0	28	49	207	321	441	513	522		22.1	7.9	1.7
Renewable energy forms	952	982	1046	1066	1169	1732	2036	1805	1834	0.9	1.1	5.7	-1.0
Other	0	0	0	0	1	1	1	1	1			9.3	-0.4
RES in Gross Final Energy Consumption [B]			**1370**	**1507**	**1817**	**2975**	**4447**	**4531**	**4970**			**2.9**	**9.4**	**1.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**101.4**		**120.5**	**127.5**	**117.6**	**109.5**	**102.1**	**81.7**	**78.0**	**1.7**	**-0.2**	**-1.4**	**-2.7**
of which ETS sectors GHGs emissions				67.9	61.9	57.7	51.9	33.0	31.2			-1.7	-5.0
CO_2 Emissions (energy related)	**71.1**	**78.0**	**88.9**	**95.8**	**90.7**	**84.8**	**76.5**	**55.9**	**52.3**	**2.3**	**0.2**	**-1.7**	**-3.7**
Power generation/District heating	34.1	39.0	43.9	46.3	42.4	37.9	30.9	10.8	8.8	2.6	-0.3	-3.1	-11.8
Energy Branch	2.4	2.2	3.1	3.5	3.0	2.4	2.1	2.4	2.2	2.3	-0.1	-3.6	0.4
Industry	9.3	9.8	9.9	8.2	7.1	6.5	6.6	6.3	6.3	0.6	-3.3	-0.8	-0.4
Residential	4.6	4.8	7.5	9.7	10.2	10.2	9.8	9.2	8.5	4.9	3.2	-0.4	-1.4
Tertiary	3.4	3.2	3.4	4.2	4.0	3.4	3.2	2.9	2.6	0.1	1.6	-2.0	-2.3
Transport	17.2	19.1	21.3	23.9	24.0	24.4	24.0	24.4	24.1	2.1	1.2	0.0	0.0
CO_2 Emissions (non energy related)	**7.2**	**7.7**	**8.1**	**8.3**	**8.2**	**8.8**	**9.8**	**10.2**	**10.1**	**1.2**	**0.1**	**1.8**	**0.3**
Non-CO_2 GHGs Emissions	**23.1**		**23.5**	**23.5**	**18.7**	**15.9**	**15.8**	**15.6**	**15.6**	**0.1**	**-2.3**	**-1.7**	**-0.1**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**118.9**	**125.8**	**115.9**	**108.0**	**100.7**	**80.6**	**76.9**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Greece: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.121	10.595	10.904	11.083	11.307	11.476	11.556	11.575	11.573	0.7	0.4	0.2	0.0
GDP (in 000 M€08)	134.8	143.5	170.0	208.8	231.8	266.1	307.0	341.4	371.4	2.3	3.2	2.9	1.9
Gross Inl. Cons./GDP (toe/M€08)	165.7	168.9	166.0	150.2	133.1	116.2	100.2	91.5	84.7	0.0	-2.2	-2.8	-1.7
Carbon intensity (t of CO_2/toe of GIC)	3.18	3.22	3.15	3.05	2.94	2.74	2.49	1.79	1.66	-0.1	-0.7	-1.6	-4.0
Import Dependency %	62.2	65.8	69.4	68.6	70.7	71.1	72.2	71.5	68.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			18.2	22.3	24.0	28.9	36.6	42.1	44.7		3.2	5.2	2.7
as % of GDP			10.7	10.7	10.7	11.9	13.4	14.1	14.4				
Energy intensity indicators													
Industry (Energy on Value added)	84.1	92.5	100.0	74.3	68.0	61.9	56.6	52.7	49.4	1.7	-3.8	-1.8	-1.3
Residential (Energy on Private Income)	79.7	79.3	100.0	99.6	95.7	87.5	78.7	69.2	62.8	2.3	-0.4	-1.9	-2.2
Tertiary (Energy on Value added)	99.0	104.6	100.0	102.6	95.5	83.6	73.2	64.7	59.1	0.1	-0.5	-2.6	-2.1
Passenger transport (toe/Mpkm)	41.7	39.9	36.3	35.0	34.3	31.9	30.1	28.6	26.9	-1.4	-0.6	-1.3	-1.1
Freight transport (toe/Mtkm)	79.8	79.3	66.6	63.2	61.1	60.8	58.5	56.1	53.5	-1.8	-0.9	-0.4	-0.9
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.98	0.94	0.82	0.77	0.65	0.55	0.41	0.12	0.10	-1.8	-2.3	-4.5	-13.5
Final energy demand (t of CO_2/toe)	2.38	2.32	2.26	2.21	2.14	2.03	1.95	1.92	1.87	-0.5	-0.6	-0.9	-0.4
Industry	2.36	2.37	2.22	1.98	1.75	1.58	1.53	1.46	1.44	-0.6	-2.3	-1.4	-0.6
Residential	1.51	1.43	1.66	1.77	1.79	1.70	1.59	1.54	1.45	0.9	0.8	-1.2	-1.0
Tertiary	1.96	1.65	1.40	1.37	1.25	1.07	0.99	0.89	0.80	-3.3	-1.1	-2.3	-2.2
Transport	2.96	2.96	2.95	2.95	2.90	2.86	2.77	2.78	2.76	0.0	-0.2	-0.4	0.0
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			7.2	7.0	8.2	13.1	19.4	19.4	21.5				
RES in transport (%)			0.0	0.0	2.2	4.1	7.9	7.9	9.1				
Gross Electricity generation by fuel type (in GWh)			**53415**	**59416**	**61337**	**64174**	**68690**	**79904**	**83618**		**1.4**	**1.1**	**2.0**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			33585	35610	33543	28545	21395	27282	28342		0.0	-4.4	2.9
Petroleum products			9354	9188	8109	6362	4697	2903	2186		-1.4	-5.3	-7.4
Gas (including derived gases)			6149	8154	12273	15020	18033	21584	20924		7.2	3.9	1.5
Biomass & waste			183	182	151	205	2202	2423	2967		-1.9	30.7	3.0
Hydro			3692	5016	3999	4142	4367	4622	4865		0.8	0.9	1.1
Wind			451	1266	3167	8885	15002	17198	19461		21.5	16.8	2.6
Solar, tidal etc.			0	1	94	941	2726	3489	4246			40.0	4.5
Geothermal and other renewables			0	0	0	74	269	404	627				8.8
Net Generation Capacity in MW_e			**10288**	**11926**	**14978**	**19624**	**23914**	**26926**	**29833**		**3.8**	**4.8**	**2.2**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			2585	2887	3855	6800	10327	12036	13787		4.1	10.4	2.9
Hydro (pumping excluded)			2359	2395	2395	2597	2886	3138	3418		0.2	1.9	1.7
Wind			226	491	1383	3521	5824	6823	7873		19.9	15.5	3.1
Solar			0	1	76	682	1617	2075	2496			35.8	4.4
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7703	9039	11124	12824	13586	14889	16047		3.7	2.0	1.7
of which cogeneration units			200	361	574	768	1041	1108	1125		11.1	6.1	0.8
of which CCS units			0	0	0	0	0	2323	2714				
Solids fired			4507	4799	4799	4241	4375	5879	6109		0.6	-0.9	3.4
Gas fired			1114	1899	3618	6198	6743	6751	7410		12.5	6.4	0.9
Oil fired			2054	2282	2622	2293	1898	1607	1736		2.5	-3.2	-0.9
Biomass-waste fired			28	59	85	85	539	607	720		11.8	20.3	2.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	8	31	46	72				8.8
Load factor for net electric capacities (%)			54.9	52.8	43.8	35.4	31.4	29.9	28.5				
Efficiency for thermal electricity production (%)			36.2	36.8	40.4	40.4	40.9	44.6	43.2				
CHP indicator (% of electricity from CHP)			1.6	1.9	5.0	6.3	7.7	7.0	6.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	33.7	36.0				
Non fossil fuels in electricity generation (%)			8.1	10.9	12.1	22.2	35.8	35.2	38.5				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			8.1	10.9	12.1	22.2	35.8	35.2	38.5				
Transport sector													
Passenger transport activity (Gpkm)	**85.8**	**99.2**	**128.7**	**152.9**	**170.2**	**184.2**	**195.9**	**205.3**	**214.8**	**4.1**	**2.8**	**1.4**	**0.9**
Public road transport	17.7	20.2	21.7	21.7	22.2	22.5	23.0	23.2	23.2	2.0	0.2	0.4	0.1
Private cars and motorcycles	37.5	47.5	66.7	89.7	102.7	107.9	109.9	109.1	108.9	5.9	4.4	0.7	-0.1
Rail	2.8	2.3	3.1	3.4	3.7	4.1	4.5	4.8	5.0	0.9	2.0	1.9	0.9
Aviation	22.1	22.8	29.9	31.1	34.1	42.0	50.6	60.1	69.5	3.1	1.3	4.0	3.2
Inland navigation	5.7	6.3	7.3	7.1	7.4	7.6	7.9	8.1	8.2	2.6	0.1	0.6	0.4
Freight transport activity (Gtkm)	**28.0**	**31.4**	**38.1**	**43.2**	**40.3**	**43.7**	**47.2**	**51.4**	**54.9**	**3.1**	**0.6**	**1.6**	**1.5**
Trucks	20.8	24.0	29.0	32.5	28.7	31.1	33.5	36.6	39.2	3.4	-0.1	1.5	1.6
Rail	0.6	0.3	0.4	0.6	0.9	1.0	1.1	1.2	1.2	-3.5	7.4	2.3	1.1
Inland navigation	6.6	7.1	8.7	10.1	10.7	11.5	12.6	13.6	14.5	2.8	2.1	1.7	1.4
Energy demand in transport (ktoe)	**5821**	**6445**	**7212**	**8085**	**8300**	**8540**	**8648**	**8759**	**8710**	**2.2**	**1.4**	**0.4**	**0.1**
Public road transport	190	214	225	220	222	220	214	204	193	1.7	-0.1	-0.4	-1.0
Private cars and motorcycles	1657	2092	2729	3464	3816	3621	3446	3275	3013	5.1	3.4	-1.0	-1.3
Trucks	2066	2309	2380	2517	2223	2395	2482	2588	2636	1.4	-0.7	1.1	0.6
Rail	75	57	60	58	76	84	87	88	82	-2.2	2.4	1.3	-0.6
Aviation	1264	1226	1325	1181	1284	1516	1687	1847	2010	0.5	-0.3	2.8	1.8
Inland navigation	568	546	493	645	678	702	733	758	775	-1.4	3.2	0.8	0.6

Source: PRIMES

Hungary: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**14157**	**13466**	**11215**	**10644**	**10561**	**10834**	**11270**	**11888**	**12306**	**-2.3**	**-0.6**	**0.7**	**0.9**
Solids	3948	3095	2893	1748	1720	1156	687	371	191	-3.1	-5.1	-8.8	-12.0
Oil	2330	2339	1673	1780	1200	1000	1000	900	800	-3.3	-3.3	-1.8	-2.2
Natural gas	3812	3788	2475	2331	2200	2000	1840	1687	1587	-4.2	-1.2	-1.8	-1.5
Nuclear	3544	3618	3658	3569	3787	4465	4497	4948	4948	0.3	0.3	1.7	1.0
Renewable energy sources	523	626	516	1217	1654	2213	3247	3982	4780	-0.1	12.4	7.0	3.9
Hydro	15	14	15	17	13	21	90	198	202	0.0	-1.9	21.6	8.4
Biomass & Waste	422	526	415	1110	1552	2033	2602	2933	3351	-0.2	14.1	5.3	2.6
Wind	0	0	0	1	15	26	47	59	69			11.9	3.9
Solar and others	0	0	0	2	10	30	226	247	301			37.3	2.9
Geothermal	86	86	86	87	65	103	281	544	858	0.0	-2.8	15.8	11.8
Net Imports	**14465**	**12652**	**14026**	**17519**	**17736**	**18260**	**17761**	**16640**	**15897**	**-0.3**	**2.4**	**0.0**	**-1.1**
Solids	1686	1395	1081	1303	1324	1232	1238	1081	1023	-4.3	2.0	-0.7	-1.9
Oil	6651	5519	5366	5872	6505	7297	7365	7369	7165	-2.1	1.9	1.2	-0.3
- Crude oil and Feedstocks	6505	5962	5893	6334	6607	7372	7437	7455	7299	-1.0	1.1	1.2	-0.2
- Oil products	145	-444	-527	-462	-101	-75	-72	-86	-134				
Natural gas	5170	5532	7283	9807	9488	9342	8594	7882	7415	3.5	2.7	-1.0	-1.5
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Gross Inland Consumption	**28681**	**25896**	**25016**	**28006**	**28297**	**29094**	**29030**	**28527**	**28203**	**-1.4**	**1.2**	**0.3**	**-0.3**
Solids	5969	4549	3967	3054	3045	2388	1925	1452	1214	-4.0	-2.6	-4.5	-4.5
Oil	8774	7721	6923	7537	7705	8297	8365	8269	7965	-2.3	1.1	0.8	-0.5
Natural gas	8913	9175	9657	12094	11688	11342	10433	9569	9003	0.8	1.9	-1.1	-1.5
Nuclear	3544	3618	3658	3569	3787	4465	4497	4948	4948	0.3	0.3	1.7	1.0
Electricity	958	207	296	535	396	356	283	248	218	-11.1	3.0	-3.3	-2.6
Renewable energy forms	523	626	516	1217	1677	2246	3528	4042	4855	-0.1	12.5	7.7	3.2
as % in Gross Inland Consumption													
Solids	20.8	17.6	15.9	10.9	10.8	8.2	6.6	5.1	4.3				
Oil	30.6	29.8	27.7	26.9	27.2	28.5	28.8	29.0	28.2				
Natural gas	31.1	35.4	38.6	43.2	41.3	39.0	35.9	33.5	31.9				
Nuclear	12.4	14.0	14.6	12.7	13.4	15.3	15.5	17.3	17.5				
Renewable energy forms	1.8	2.4	2.1	4.3	5.9	7.7	12.2	14.2	17.2				
Gross Electricity Generation in GWh_e	**28431**	**34011**	**35185**	**35749**	**37697**	**40852**	**42923**	**46047**	**49259**	**2.2**	**0.7**	**1.3**	**1.4**
Self consumption and grid losses	6572	7502	7991	6769	6105	6164	6244	6780	7745	2.0	-2.7	0.2	2.2
Fuel Inputs for Thermal Power Generation	**4970**	**6113**	**6107**	**5659**	**5275**	**5133**	**5424**	**5254**	**5863**	**2.1**	**-1.5**	**0.3**	**0.8**
Solids	2871	2977	2853	1924	1983	1364	929	574	397	-0.1	-3.6	-7.3	-8.2
Oil (including refinery gas)	440	1447	1052	122	55	49	152	111	46	9.1	-25.5	10.6	-11.2
Gas	1636	1634	2140	3078	2491	2703	2469	2350	2418	2.7	1.5	-0.1	-0.2
Biomass & Waste	24	55	62	534	745	1002	1707	1804	2271	10.2	28.2	8.6	2.9
Geothermal heat	0	0	0	0	0	15	166	414	731				15.9
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11720**	**10716**	**9261**	**10031**	**10479**	**11191**	**11142**	**10994**	**10654**	**-2.3**	**1.2**	**0.6**	**-0.4**
Refineries	8870	8536	7622	8584	8835	9459	9533	9442	9139	-1.5	1.5	0.8	-0.4
Biofuels and hydrogen production	0	0	0	5	162	242	373	433	469			8.7	2.3
District heating	1146	789	471	629	710	700	454	399	379	-8.5	4.2	-4.4	-1.8
Others	1704	1392	1168	813	771	789	783	720	667	-3.7	-4.1	0.2	-1.6
Energy Branch Consumption	**1459**	**1390**	**1243**	**1657**	**1693**	**1764**	**1756**	**1741**	**1720**	**-1.6**	**3.1**	**0.4**	**-0.2**
Non-Energy Uses	**1584**	**1631**	**1596**	**2326**	**2288**	**2381**	**2452**	**2458**	**2462**	**0.1**	**3.7**	**0.7**	**0.0**
Final Energy Demand	**19184**	**15711**	**15759**	**18080**	**18686**	**19187**	**19227**	**18645**	**18129**	**-1.9**	**1.7**	**0.3**	**-0.6**
by sector													
Industry	6525	3808	3461	3430	3400	3469	3431	3346	3278	-6.1	-0.2	0.1	-0.5
- energy intensive industries	4160	2691	2536	2314	2250	2279	2245	2156	2083	-4.8	-1.2	0.0	-0.7
- other industrial sectors	2365	1117	925	1116	1149	1190	1187	1190	1195	-9.0	2.2	0.3	0.1
Residential	6377	5833	5276	6381	6335	6252	6175	5808	5595	-1.9	1.8	-0.3	-1.0
Tertiary	3251	3411	3759	4073	4035	3948	3837	3653	3505	1.5	0.7	-0.5	-0.9
Transport	3031	2660	3263	4196	4916	5518	5784	5839	5751	0.7	4.2	1.6	-0.1
by fuel													
Solids	2502	965	668	692	654	621	627	580	541	-12.4	-0.2	-0.4	-1.5
Oil	6029	4158	4186	4812	5289	5841	5915	5855	5685	-3.6	2.4	1.1	-0.4
Gas	5941	6370	6503	7852	7766	7128	6532	5834	5239	0.9	1.8	-1.7	-2.2
Electricity	2717	2385	2531	2780	2837	3056	3152	3344	3518	-0.7	1.1	1.1	1.1
Heat (from CHP and District Heating) [A]	1570	1287	1440	1297	1262	1388	1506	1487	1590	-0.9	-1.3	1.8	0.5
Renewable energy forms	425	545	430	647	877	1152	1494	1544	1556	0.1	7.4	5.5	0.4
Other	0	0	0	0	1	1	1	1	1			10.9	-0.2
RES in Gross Final Energy Consumption [B]			**469**	**798**	**1285**	**1732**	**2748**	**3087**	**3737**		**10.6**	**7.9**	**3.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**96.9**		**76.3**	**77.5**	**75.4**	**70.8**	**66.7**	**61.3**	**55.8**	**-2.4**	**-0.1**	**-1.2**	**-1.8**
of which ETS sectors GHGs emissions				29.6	27.7	25.4	22.8	19.8	16.7			-2.0	-3.0
CO_2 Emissions (energy related)	**65.7**	**57.0**	**53.7**	**55.0**	**55.1**	**53.1**	**49.2**	**44.4**	**39.5**	**-2.0**	**0.3**	**-1.1**	**-2.2**
Power generation/District heating	20.5	23.0	21.5	17.3	16.1	14.0	11.3	8.6	6.0	0.5	-2.9	-3.4	-6.1
Energy Branch	2.6	2.4	1.6	2.0	2.2	2.3	2.2	2.1	1.9	-4.7	3.4	-0.1	-1.5
Industry	14.7	8.7	6.3	6.2	6.0	5.8	5.3	4.8	4.3	-8.1	-0.6	-1.2	-2.0
Residential	13.7	9.9	8.6	10.5	10.2	9.4	8.8	7.8	7.2	-4.6	1.8	-1.4	-2.1
Tertiary	5.6	5.5	6.2	6.7	6.7	6.1	5.6	5.1	4.6	1.1	0.7	-1.7	-1.9
Transport	8.6	7.6	9.5	12.2	14.0	15.5	15.9	15.8	15.4	0.9	4.0	1.3	-0.3
CO_2 Emissions (non energy related)	**5.3**	**3.7**	**3.7**	**3.8**	**3.7**	**3.9**	**4.2**	**4.1**	**3.9**	**-3.5**	**-0.1**	**1.1**	**-0.7**
Non-CO_2 GHGs Emissions	**25.9**		**18.8**	**18.8**	**16.5**	**13.7**	**13.3**	**12.8**	**12.4**	**-3.1**	**-1.3**	**-2.2**	**-0.7**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**78.7**	**80.0**	**77.8**	**73.0**	**68.8**	**63.2**	**57.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Hungary: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	10.375	10.337	10.222	10.098	10.023	9.964	9.893	9.790	9.651	-0.1	-0.2	-0.1	-0.2
GDP (in 000 M€08)	69.8	62.5	76.1	93.7	92.5	106.8	121.2	134.8	149.2	0.9	2.0	2.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	411.1	414.5	328.9	298.9	305.8	272.3	239.4	211.6	189.1	-2.2	-0.7	-2.4	-2.3
Carbon intensity (t of CO_2/toe of GIC)	2.29	2.20	2.15	1.96	1.95	1.83	1.70	1.55	1.40	-0.6	-1.0	-1.4	-1.9
Import Dependency %	50.4	48.9	56.1	62.6	62.7	62.8	61.2	58.3	56.4				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			13.7	15.4	16.9	20.9	25.8	29.5	31.3		2.4	5.3	2.9
as % of GDP			18.0	16.4	18.8	21.3	24.0	25.6	26.0				
Energy intensity indicators													
Industry (Energy on Value added)	248.3	156.7	100.0	79.0	81.5	75.3	68.5	62.0	57.2	-8.7	-2.0	-1.7	-1.8
Residential (Energy on Private Income)	123.0	126.8	100.0	89.6	93.8	77.1	66.8	56.6	48.5	-2.1	-0.6	-3.3	-3.1
Tertiary (Energy on Value added)	81.4	103.5	100.0	86.0	86.8	71.8	61.0	51.8	44.5	2.1	-1.4	-3.5	-3.1
Passenger transport (toe/Mpkm)	25.9	25.3	24.2	24.9	25.2	25.1	25.3	24.7	23.6	-0.7	0.4	0.0	-0.7
Freight transport (toe/Mtkm)	26.1	32.6	45.9	59.7	63.0	63.3	60.5	57.1	52.9	5.8	3.2	-0.4	-1.3
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.45	0.40	0.33	0.28	0.23	0.17	0.13	0.08	-0.6	-3.3	-4.8	-7.1
Final energy demand (t of CO_2/toe)	2.22	2.02	1.94	1.97	1.97	1.92	1.85	1.80	1.74	-1.3	0.2	-0.6	-0.6
Industry	2.25	2.28	1.83	1.81	1.76	1.67	1.55	1.45	1.32	-2.1	-0.4	-1.3	-1.6
Residential	2.15	1.70	1.62	1.65	1.61	1.50	1.43	1.35	1.28	-2.8	-0.1	-1.2	-1.1
Tertiary	1.71	1.60	1.66	1.65	1.65	1.56	1.46	1.40	1.32	-0.3	0.0	-1.2	-1.0
Transport	2.84	2.85	2.90	2.91	2.84	2.81	2.75	2.71	2.68	0.2	-0.2	-0.3	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			2.9	4.3	6.7	8.8	13.9	16.1	19.9				
RES in transport (%)			0.0	0.2	3.7	4.9	7.3	8.4	9.5				
Gross Electricity generation by fuel type (in GWh)			**35185**	**35749**	**37697**	**40852**	**42923**	**46047**	**49259**		**0.7**	**1.3**	**1.4**
Nuclear energy			14177	13832	14681	17308	17432	19371	19371		0.3	1.7	1.1
Coal and lignite			9924	6910	7208	4787	2996	2343	2149		-3.1	-8.4	-3.3
Petroleum products			3901	505	281	215	687	519	259		-23.1	9.3	-9.3
Gas (including derived gases)			6885	12572	12033	13860	12855	12735	14087		5.7	0.7	0.9
Biomass & waste			120	1717	3166	4089	7095	7469	9156		38.7	8.4	2.6
Hydro			178	203	147	241	1043	2297	2345		-1.9	21.6	8.4
Wind			0	10	177	306	545	685	802			11.9	3.9
Solar, tidal etc.			0	0	3	29	77	147	241			38.3	12.1
Geothermal and other renewables			0	0	0	18	194	481	850				15.9
Net Generation Capacity in MW_e			**7956**	**8749**	**9388**	**9833**	**9342**	**9067**	**10019**		**1.7**	**0.0**	**0.7**
Nuclear energy			1804	1827	1854	2161	2174	2419	2419		0.3	1.6	1.1
Renewable energy			44	64	256	441	1139	1396	1674		19.2	16.1	3.9
Hydro (pumping excluded)			44	47	47	61	437	461	509		0.7	25.0	1.5
Wind			0	17	205	349	622	781	915			11.8	3.9
Solar			0	0	4	30	80	153	250			34.9	12.1
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			6109	6859	7279	7232	6029	5253	5926		1.8	-1.9	-0.2
of which cogeneration units			1125	1339	1710	2052	2822	3037	3396		4.3	5.1	1.9
of which CCS units			0	0	0	0	0	145	627				
Solids fired			1664	1475	1511	1130	473	428	328		-1.0	-11.0	-3.6
Gas fired			3599	4648	5024	5287	4331	3436	3800		3.4	-1.5	-1.3
Oil fired			762	309	317	256	155	119	106		-8.4	-6.9	-3.7
Biomass-waste fired			84	427	427	557	1049	1215	1595		17.6	9.4	4.3
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	2	22	55	97				15.9
Load factor for net electric capacities (%)			46.0	43.0	43.3	45.2	50.1	55.0	52.5				
Efficiency for thermal electricity production (%)			29.3	33.0	37.0	38.5	37.8	38.5	38.9				
CHP indicator (% of electricity from CHP)			14.3	20.0	29.6	33.6	40.5	39.9	38.7				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	3.2	11.7				
Non fossil fuels in electricity generation (%)			41.1	44.1	48.2	53.8	61.5	66.1	66.5				
- nuclear			40.3	38.7	38.9	42.4	40.6	42.1	39.3				
- renewable energy forms and industrial waste			0.8	5.4	9.3	11.5	20.9	24.1	27.2				
Transport sector													
Passenger transport activity (Gpkm)	**82.7**	**75.1**	**80.1**	**81.4**	**79.4**	**91.2**	**100.1**	**107.7**	**115.6**	**-0.3**	**-0.1**	**2.3**	**1.4**
Public road transport	19.3	16.6	18.7	17.8	17.0	17.1	17.3	17.6	17.9	-0.3	-0.9	0.2	0.3
Private cars and motorcycles	47.6	46.2	47.0	47.7	47.1	57.4	63.8	68.4	73.4	-0.1	0.0	3.1	1.4
Rail	13.9	10.9	12.3	12.2	11.0	11.3	12.0	13.0	14.0	-1.2	-1.1	0.9	1.6
Aviation	1.9	1.4	2.1	3.7	4.2	5.4	6.9	8.6	10.3	0.6	7.3	5.2	4.0
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**34.0**	**23.4**	**28.8**	**36.4**	**46.3**	**51.1**	**53.8**	**55.6**	**57.2**	**-1.6**	**4.8**	**1.5**	**0.6**
Trucks	15.2	13.8	19.1	25.2	34.4	38.6	40.3	41.4	42.3	2.4	6.0	1.6	0.5
Rail	16.8	8.4	8.8	9.1	9.8	10.3	11.0	11.6	12.2	-6.3	1.1	1.2	1.1
Inland navigation	2.0	1.2	0.9	2.1	2.1	2.3	2.4	2.6	2.7	-7.9	9.0	1.5	1.1
Energy demand in transport (ktoe)	**3031**	**2660**	**3263**	**4196**	**4916**	**5518**	**5784**	**5839**	**5751**	**0.7**	**4.2**	**1.6**	**-0.1**
Public road transport	123	141	156	184	174	169	164	158	152	2.3	1.1	-0.6	-0.8
Private cars and motorcycles	1825	1546	1532	1583	1545	1777	1969	2056	2072	-1.7	0.1	2.5	0.5
Trucks	637	595	1181	2040	2782	3096	3119	3048	2927	6.4	8.9	1.2	-0.6
Rail	272	191	176	159	156	161	157	151	121	-4.3	-1.1	0.1	-2.6
Aviation	164	182	219	230	258	314	373	424	478	2.9	1.7	3.8	2.5
Inland navigation	9	5	1	1	1	1	1	1	1	-24.1	5.8	1.3	0.9

Source: PRIMES

Ireland: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3353**	**4010**	**2152**	**1616**	**1636**	**1944**	**2724**	**2830**	**3138**	**-4.3**	**-2.7**	**5.2**	**1.4**
Solids	1312	1606	959	789	617	602	590	588	594	-3.1	-4.3	-0.4	0.1
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	1873	2249	958	461	410	435	341	388	438	-6.5	-8.1	-1.8	2.5
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	168	155	235	367	609	907	1793	1855	2106	3.4	10.0	11.4	1.6
Hydro	60	61	73	54	59	61	61	61	61	2.0	-2.0	0.2	0.0
Biomass & Waste	108	92	141	216	248	330	506	527	606	2.7	5.8	7.4	1.8
Wind	0	1	21	96	286	436	951	991	1071		29.9	12.8	1.2
Solar and others	0	0	0	0	13	74	253	253	339	14.9	52.1	34.9	3.0
Geothermal	0	0	0	0	2	6	22	23	30	0.0	48.3	24.5	3.2
Net Imports	**7093**	**7631**	**12266**	**13657**	**13996**	**14425**	**13684**	**13904**	**13655**	**5.6**	**1.3**	**-0.2**	**0.0**
Solids	2064	1823	1789	1969	1716	1543	1331	1291	665	-1.4	-0.4	-2.5	-6.7
Oil	5029	5725	7991	8503	8680	8936	8826	8849	8842	4.7	0.8	0.2	0.0
- Crude oil and Feedstocks	2023	2269	3008	3305	3156	3225	3181	3169	3148	4.0	0.5	0.1	-0.1
- Oil products	3006	3456	4982	5198	5524	5711	5646	5680	5694	5.2	1.0	0.2	0.1
Natural gas	0	85	2478	3010	3375	3582	2806	3190	3609		3.1	-1.8	2.5
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Gross Inland Consumption	**10246**	**10861**	**14328**	**15123**	**15533**	**16261**	**16295**	**16615**	**16669**	**3.4**	**0.8**	**0.5**	**0.2**
Solids	3416	2775	2711	2685	2333	2145	1922	1879	1259	-2.3	-1.5	-1.9	-4.1
Oil	4789	5598	7938	8426	8581	8828	8714	8730	8717	5.2	0.8	0.2	0.0
Natural gas	1873	2334	3436	3470	3785	4017	3147	3577	4047	6.3	1.0	-1.8	2.5
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	-1	8	176	156	163	172	162	153		33.9	1.0	-1.1
Renewable energy forms	168	155	235	367	679	1108	2341	2267	2493	3.4	11.2	13.2	0.6
as % in Gross Inland Consumption													
Solids	33.3	25.6	18.9	17.8	15.0	13.2	11.8	11.3	7.6				
Oil	46.7	51.5	55.4	55.7	55.2	54.3	53.5	52.5	52.3				
Natural gas	18.3	21.5	24.0	22.9	24.4	24.7	19.3	21.5	24.3				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	1.6	1.4	1.6	2.4	4.4	6.8	14.4	13.6	15.0				
Gross Electricity Generation in GWh_e	**14232**	**17622**	**23695**	**25008**	**26600**	**29183**	**30159**	**33108**	**36157**	**5.2**	**1.2**	**1.3**	**1.8**
Self consumption and grid losses	2261	2658	3457	3869	3626	3871	3788	4109	5292	4.3	0.5	0.4	3.4
Fuel Inputs for Thermal Power Generation	**3019**	**3711**	**4792**	**4747**	**4179**	**4285**	**3369**	**3693**	**3623**	**4.7**	**-1.4**	**-2.1**	**0.7**
Solids	1839	2028	1925	1903	1735	1653	1455	1461	892	0.5	-1.0	-1.7	-4.8
Oil (including refinery gas)	339	622	1019	775	369	317	288	237	229	11.6	-9.7	-2.4	-2.3
Gas	841	1060	1825	2040	2010	2185	1356	1718	2191	8.1	1.0	-3.9	4.9
Biomass & Waste	0	0	24	30	65	129	270	277	311		10.7	15.2	1.4
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**1943**	**2439**	**3488**	**3479**	**3336**	**3481**	**3654**	**3593**	**3622**	**6.0**	**-0.4**	**0.9**	**-0.1**
Refineries	1746	2272	3317	3343	3156	3225	3181	3169	3148	6.6	-0.5	0.1	-0.1
Biofuels and hydrogen production	0	0	0	1	93	191	416	379	439			16.1	0.5
District heating	0	0	0	0	0	0	0	0	0				
Others	197	167	171	135	87	65	58	45	35	-1.4	-6.5	-4.1	-4.8
Energy Branch Consumption	**168**	**185**	**245**	**379**	**338**	**344**	**332**	**335**	**418**	**3.9**	**3.3**	**-0.2**	**2.3**
Non-Energy Uses	**624**	**552**	**552**	**308**	**177**	**208**	**220**	**230**	**242**	**-1.2**	**-10.8**	**2.2**	**0.9**
Final Energy Demand	**7368**	**7910**	**10681**	**12340**	**12506**	**13208**	**13727**	**13904**	**14169**	**3.8**	**1.6**	**0.9**	**0.3**
by sector													
Industry	1745	1854	2348	2481	2283	2488	2660	2793	2898	3.0	-0.3	1.5	0.9
- energy intensive industries	870	881	1174	1237	1024	1048	1075	1100	1115	3.0	-1.4	0.5	0.4
- other industrial sectors	876	973	1174	1244	1259	1439	1585	1693	1783	3.0	0.7	2.3	1.2
Residential	2406	2200	2489	2895	3257	3310	3388	3272	3305	0.3	2.7	0.4	-0.2
Tertiary	1227	1507	1826	1967	1965	1993	1967	1917	1862	4.1	0.7	0.0	-0.5
Transport	1989	2349	4018	4997	5000	5417	5712	5922	6103	7.3	2.2	1.3	0.7
by fuel													
Solids	1784	933	699	704	585	480	456	407	357	-9.0	-1.8	-2.5	-2.4
Oil	3887	4813	6919	8020	7709	7996	7924	8013	8045	5.9	1.1	0.3	0.2
Gas	568	796	1201	1337	1697	1754	1731	1794	1770	7.8	3.5	0.2	0.2
Electricity	1020	1277	1744	2094	2118	2327	2427	2644	2796	5.5	2.0	1.4	1.4
Heat (from CHP and District Heating) [A]	0	0	0	0	128	171	175	183	286			3.2	5.0
Renewable energy forms	108	92	118	184	268	480	1013	863	915	0.9	8.6	14.2	-1.0
Other	0	0	0	0	0	1	1	1	1			10.2	1.6
RES in Gross Final Energy Consumption [B]			**218**	**349**	**528**	**1066**	**2292**	**2217**	**2440**		**9.3**	**15.8**	**0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**56.0**		**69.0**	**70.7**	**66.3**	**65.8**	**62.4**	**63.1**	**57.5**	**2.1**	**-0.4**	**-0.6**	**-0.8**
of which ETS sectors GHGs emissions				24.6	19.9	20.4	17.9	18.8	13.6			-1.1	-2.7
CO_2 Emissions (energy related)	**30.8**	**32.9**	**41.9**	**45.5**	**42.8**	**43.4**	**40.2**	**41.1**	**35.6**	**3.1**	**0.2**	**-0.6**	**-1.2**
Power generation/District heating	10.4	12.6	15.2	14.8	12.8	12.7	9.9	10.6	5.3	3.9	-1.7	-2.5	-6.1
Energy Branch	0.2	0.2	0.3	0.6	0.6	0.6	0.6	0.6	0.6	4.0	5.6	0.6	-0.5
Industry	4.0	3.8	4.6	4.9	3.9	4.0	3.9	4.2	4.1	1.5	-1.7	-0.1	0.5
Residential	7.5	6.0	6.0	6.8	7.6	7.2	7.0	6.5	6.4	-2.1	2.3	-0.8	-0.9
Tertiary	2.9	3.4	3.8	3.4	3.3	3.2	3.0	2.7	2.4	2.8	-1.3	-1.0	-2.3
Transport	5.9	6.9	12.0	14.9	14.6	15.6	15.7	16.5	16.8	7.4	2.0	0.8	0.7
CO_2 Emissions (non energy related)	**2.3**	**2.3**	**2.9**	**2.7**	**1.5**	**1.6**	**1.7**	**1.7**	**1.7**	**2.4**	**-6.5**	**1.3**	**0.0**
Non-CO_2 GHGs Emissions	**22.8**		**24.1**	**22.6**	**22.0**	**20.8**	**20.5**	**20.3**	**20.1**	**0.5**	**-0.9**	**-0.7**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**123.2**	**126.4**	**118.4**	**117.5**	**111.5**	**112.8**	**102.6**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Ireland: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.507	3.598	3.778	4.109	4.614	5.052	5.404	5.673	5.881	0.7	2.0	1.6	0.8
GDP (in 000 M€08)	64.6	82.0	130.7	171.3	167.7	201.0	234.2	267.7	302.0	7.3	2.5	3.4	2.6
Gross Inl. Cons./GDP (toe/M€08)	158.5	132.4	109.6	88.3	92.6	80.9	69.6	62.1	55.2	-3.6	-1.7	-2.8	-2.3
Carbon intensity (t of CO_2/toe of GIC)	3.01	3.03	2.93	3.01	2.76	2.67	2.47	2.47	2.14	-0.3	-0.6	-1.1	-1.4
Import Dependency %	69.1	69.5	84.7	89.7	89.5	88.1	83.4	83.1	81.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			10.8	13.7	13.6	16.1	20.8	23.5	25.4		2.5	5.0	3.1
as % of GDP			8.3	8.0	8.3	8.6	9.7	10.1	10.2				
Energy intensity indicators													
Industry (Energy on Value added)	222.5	150.3	100.0	80.1	68.8	64.1	59.3	55.6	51.8	-7.7	-3.7	-1.5	-1.3
Residential (Energy on Private Income)	167.3	129.6	100.0	93.3	99.0	90.4	80.9	70.9	65.8	-5.0	-0.1	-2.0	-2.0
Tertiary (Energy on Value added)	111.3	119.2	100.0	81.9	80.3	67.7	57.0	48.1	41.1	-1.1	-2.2	-3.4	-3.2
Passenger transport (toe/Mpkm)	48.7	45.2	51.0	48.5	47.4	44.0	41.1	37.5	34.7	0.5	-0.7	-1.4	-1.7
Freight transport (toe/Mtkm)	95.9	115.5	121.2	116.0	115.6	114.3	110.0	105.0	99.3	2.4	-0.5	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.73	0.71	0.64	0.59	0.46	0.41	0.31	0.30	0.13	-1.3	-3.3	-3.8	-8.0
Final energy demand (t of CO_2/toe)	2.74	2.55	2.47	2.43	2.35	2.27	2.16	2.15	2.10	-1.0	-0.5	-0.9	-0.3
Industry	2.28	2.05	1.98	1.99	1.72	1.63	1.46	1.49	1.40	-1.4	-1.4	-1.7	-0.4
Residential	3.10	2.71	2.42	2.34	2.33	2.19	2.07	2.00	1.94	-2.4	-0.4	-1.2	-0.7
Tertiary	2.34	2.28	2.07	1.74	1.70	1.60	1.53	1.41	1.29	-1.2	-2.0	-1.0	-1.7
Transport	2.96	2.96	2.97	2.98	2.92	2.87	2.76	2.78	2.76	0.1	-0.2	-0.6	0.0
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			2.0	2.8	4.2	8.0	16.7	15.9	17.1				
RES in transport (%)			0.0	0.0	2.3	4.5	9.3	8.2	9.3				
Gross Electricity generation by fuel type (in GWh)			**23695**	**25008**	**26600**	**29183**	**30159**	**33108**	**36157**		**1.2**	**1.3**	**1.8**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			8830	8822	8322	7939	6989	7018	5148		-0.6	-1.7	-3.0
Petroleum products			4387	3389	1728	1535	1384	1148	1274		-8.9	-2.2	-0.8
Gas (including derived gases)			9311	10959	12317	13482	8515	10783	13811		2.8	-3.6	5.0
Biomass & waste			76	95	213	439	980	1070	1204		10.9	16.5	2.1
Hydro			846	631	691	708	707	704	705		-2.0	0.2	0.0
Wind			244	1112	3327	5066	11062	11522	12453		29.9	12.8	1.2
Solar, tidal etc.			0	0	2	14	29	45	62			31.4	7.8
Geothermal and other renewables			0	0	0	0	492	819	1499				11.8
Net Generation Capacity in MW_e			**4399**	**5718**	**9589**	**9586**	**11573**	**11371**	**12543**		**8.1**	**1.9**	**0.8**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			346	743	1590	2085	4307	4641	5319		16.5	10.5	2.1
Hydro (pumping excluded)			230	225	225	229	230	230	230		-0.2	0.2	0.0
Wind			116	517	1360	1842	3791	3940	4246		27.9	10.8	1.1
Solar			0	0	5	14	30	46	64			19.7	7.8
Other renewables (tidal etc.)			0	0	0	0	255	425	778				11.8
Thermal power			4053	4976	7999	7501	7266	6730	7224		7.0	-1.0	-0.1
of which cogeneration units			133	127	273	390	365	401	648		7.4	3.0	5.9
of which CCS units			0	0	0	0	0	0	609				
Solids fired			1276	1229	1230	1204	1181	1179	1680		-0.4	-0.4	3.6
Gas fired			1966	2927	5903	6115	5853	5317	5129		11.6	-0.1	-1.3
Oil fired			783	772	781	53	25	11	154		0.0	-29.2	20.0
Biomass-waste fired			27	49	85	129	207	222	262		12.0	9.3	2.4
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			58.1	46.6	30.1	33.2	28.6	32.0	30.9				
Efficiency for thermal electricity production (%)			40.6	42.2	46.5	47.0	45.6	46.6	50.9				
CHP indicator (% of electricity from CHP)			2.6	2.6	3.3	5.5	5.3	5.2	9.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	17.3				
Non fossil fuels in electricity generation (%)			4.9	7.3	15.9	21.3	44.0	42.8	44.0				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			4.9	7.3	15.9	21.3	44.0	42.8	44.0				
Transport sector													
Passenger transport activity (Gpkm)	**29.2**	**35.6**	**47.1**	**58.1**	**62.9**	**70.8**	**79.7**	**89.3**	**99.1**	**4.9**	**2.9**	**2.4**	**2.2**
Public road transport	3.9	5.2	6.1	6.7	7.2	7.6	8.1	8.6	9.1	4.7	1.6	1.2	1.2
Private cars and motorcycles	21.3	25.3	32.4	38.4	40.8	45.6	51.1	57.6	64.1	4.3	2.3	2.3	2.3
Rail	1.2	1.3	1.4	1.9	2.1	2.4	2.7	3.1	3.5	1.3	4.1	2.7	2.4
Aviation	2.0	3.0	6.3	10.1	11.9	14.1	16.7	18.9	21.1	12.3	6.6	3.5	2.4
Inland navigation	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	0.5	0.6	1.6	1.3
Freight transport activity (Gtkm)	**5.9**	**6.4**	**13.3**	**18.8**	**17.4**	**20.2**	**22.1**	**24.5**	**26.8**	**8.5**	**2.7**	**2.4**	**1.9**
Trucks	5.1	5.5	12.3	17.9	16.7	19.3	21.2	23.4	25.7	9.2	3.1	2.4	1.9
Rail	0.6	0.6	0.5	0.3	0.1	0.2	0.2	0.2	0.3	-1.8	-12.5	4.3	3.0
Inland navigation	0.2	0.3	0.6	0.6	0.6	0.7	0.7	0.8	0.8	9.3	0.3	2.4	1.4
Energy demand in transport (ktoe)	**1989**	**2349**	**4018**	**4997**	**5000**	**5417**	**5712**	**5922**	**6103**	**7.3**	**2.2**	**1.3**	**0.7**
Public road transport	31	41	48	51	54	57	57	57	57	4.4	1.3	0.5	0.0
Private cars and motorcycles	994	1146	1713	1897	1935	1938	2015	2060	2070	5.6	1.2	0.4	0.3
Trucks	525	694	1577	2150	1999	2287	2412	2548	2641	11.6	2.4	1.9	0.9
Rail	48	50	42	45	28	30	25	27	24	-1.4	-4.0	-1.1	-0.3
Aviation	365	390	613	836	966	1087	1181	1208	1287	5.3	4.6	2.0	0.9
Inland navigation	26	28	25	18	18	20	21	23	24	-0.5	-3.2	1.7	1.2

Source: PRIMES

Italy: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**25558**	**29435**	**27128**	**28111**	**29172**	**31905**	**40622**	**50545**	**63414**	**0.6**	**0.7**	**3.4**	**4.6**
Solids	218	44	4	60	0	0	0	0	0	-33.8			
Oil	4766	5405	4811	6520	5429	5157	4942	4864	4755	0.1	1.2	-0.9	-0.4
Natural gas	14030	16347	13622	9886	8500	7900	7300	6700	6000	-0.3	-4.6	-1.5	-1.9
Nuclear	0	0	0	0	0	0	3277	12707	24532				22.3
Renewable energy sources	6544	7640	8691	11645	15243	18848	25103	26274	28127	2.9	5.8	5.1	1.1
Hydro	2719	3249	3812	3101	3300	3308	3329	3329	3353	3.4	-1.4	0.1	0.1
Biomass & Waste	849	1215	1716	3521	5401	6595	8438	7797	7910	7.3	12.2	4.6	-0.6
Wind	0	1	48	202	528	1484	3270	3409	3535	73.3	27.0	20.0	0.8
Solar and others	5	8	12	30	246	1399	3535	4074	4456	9.2	34.8	30.6	2.3
Geothermal	2971	3167	3103	4791	5769	6062	6531	7665	8872	0.4	6.4	1.2	3.1
Net Imports	**132454**	**135059**	**153428**	**160955**	**154620**	**152244**	**148838**	**141549**	**134131**	**1.5**	**0.1**	**-0.4**	**-1.0**
Solids	13792	12987	13188	16366	16233	16140	15005	13382	12292	-0.4	2.1	-0.8	-2.0
Oil	90279	90092	88933	79901	70166	66574	63286	62136	60499	-0.2	-2.3	-1.0	-0.4
- Crude oil and Feedstocks	84617	82939	90784	95053	82755	79191	75899	74741	73086	0.7	-0.9	-0.9	-0.4
- Oil products	5662	7153	-1852	-15153	-12589	-12616	-12613	-12605	-12587				
Natural gas	25311	28530	47008	59840	63123	63757	61606	58321	52999	6.4	3.0	-0.2	-1.5
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Gross Inland Consumption	**153512**	**161674**	**172955**	**187312**	**180719**	**180942**	**186194**	**188734**	**194067**	**1.2**	**0.4**	**0.3**	**0.4**
Solids	14621	12272	12659	16477	16233	16140	15005	13382	12292	-1.4	2.5	-0.8	-2.0
Oil	90274	93660	89365	83691	72522	68525	64962	63641	61775	-0.1	-2.1	-1.1	-0.5
Natural gas	39001	44652	57940	70651	71623	71657	68906	65021	58999	4.0	2.1	-0.4	-1.5
Nuclear	0	0	0	0	0	0	3277	12707	24532				22.3
Electricity	2980	3218	3813	4227	3630	3333	2914	2512	2126	2.5	-0.5	-2.2	-3.1
Renewable energy forms	6636	7871	9177	12266	16712	21287	31130	31472	34342	3.3	6.2	6.4	1.0
as % in Gross Inland Consumption													
Solids	9.5	7.6	7.3	8.8	9.0	8.9	8.1	7.1	6.3				
Oil	58.8	57.9	51.7	44.7	40.1	37.9	34.9	33.7	31.8				
Natural gas	25.4	27.6	33.5	37.7	39.6	39.6	37.0	34.5	30.4				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	1.8	6.7	12.6				
Renewable energy forms	4.3	4.9	5.3	6.5	9.2	11.8	16.7	16.7	17.7				
Gross Electricity Generation in GWh_e	**213400**	**237312**	**270016**	**296786**	**299335**	**318563**	**347367**	**369355**	**392155**	**2.4**	**1.0**	**1.5**	**1.2**
Self consumption and grid losses	29388	31368	35087	36142	33455	35435	38908	42439	50109	1.8	-0.5	1.5	2.6
Fuel Inputs for Thermal Power Generation	**40328**	**43578**	**47763**	**54689**	**52708**	**53265**	**50251**	**48389**	**43279**	**1.7**	**1.0**	**-0.5**	**-1.5**
Solids	7017	5287	5836	10001	10924	10834	9632	8292	7893	-1.8	6.5	-1.3	-2.0
Oil (including refinery gas)	21531	25009	18954	9640	3264	1319	352	1103	1274	-1.3	-16.1	-20.0	13.7
Gas	8971	10234	19665	28200	29673	31041	26558	24205	17859	8.2	4.2	-1.1	-3.9
Biomass & Waste	39	94	419	2270	3307	4368	7784	7605	7808	26.8	23.0	8.9	0.0
Geothermal heat	2770	2954	2890	4578	5540	5703	5925	7185	8445	0.4	6.7	0.7	3.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99583**	**99070**	**103125**	**107857**	**95728**	**92464**	**90326**	**89041**	**87044**	**0.4**	**-0.7**	**-0.6**	**-0.4**
Refineries	91895	92690	97315	102905	90240	86224	82624	81320	79503	0.6	-0.8	-0.9	-0.4
Biofuels and hydrogen production	0	0	0	179	1281	2011	3471	3779	4308			10.5	2.2
District heating	0	0	0	0	0	0	0	0	0				
Others	7688	6380	5811	4773	4207	4229	4230	3941	3232	-2.8	-3.2	0.1	-2.7
Energy Branch Consumption	**7028**	**7345**	**7289**	**10110**	**9399**	**9299**	**9277**	**9230**	**9406**	**0.4**	**2.6**	**-0.1**	**0.1**
Non-Energy Uses	**10095**	**13807**	**11039**	**11267**	**10606**	**10797**	**11121**	**11312**	**11517**	**0.9**	**-0.4**	**0.5**	**0.3**
Final Energy Demand	**107380**	**113897**	**123465**	**135679**	**131883**	**133589**	**137147**	**135882**	**135732**	**1.4**	**0.7**	**0.4**	**-0.1**
by sector													
Industry	36259	36459	39526	41924	39852	39921	41625	42264	43359	0.9	0.1	0.4	0.4
- energy intensive industries	25255	24765	24933	26667	24739	24612	25199	24979	24921	-0.1	-0.1	0.2	-0.1
- other industrial sectors	11004	11694	14593	15257	15113	15309	16426	17285	18439	2.9	0.4	0.8	1.2
Residential	26334	26707	28361	32040	32617	33089	33845	32655	32087	0.7	1.4	0.4	-0.5
Tertiary	11271	12990	14190	17934	16856	16349	16572	15642	15179	2.3	1.7	-0.2	-0.9
Transport	33514	37741	41388	43782	42558	44229	45105	45322	45107	2.1	0.3	0.6	0.0
by fuel													
Solids	4209	4012	3681	4220	3467	3453	3512	3310	2812	-1.3	-0.6	0.1	-2.2
Oil	53841	53287	56357	58458	53382	51794	50260	49602	48351	0.5	-0.5	-0.6	-0.4
Gas	29813	34652	37984	41979	41434	39675	40275	37391	36962	2.5	0.9	-0.3	-0.9
Electricity	18409	20442	23435	25828	25716	26911	28673	29871	30824	2.4	0.9	1.1	0.7
Heat (from CHP and District Heating) [A]	0	0	0	3082	3995	5641	4431	6831	6930			1.0	4.6
Renewable energy forms	1107	1505	2007	2112	3887	6109	9990	8871	9848	6.1	6.8	9.9	-0.1
Other	0	0	0	0	2	5	6	7	6			9.9	-0.2
RES in Gross Final Energy Consumption [B]			**6180**	**7829**	**10190**	**15138**	**24079**	**23511**	**25311**		**5.1**	**9.0**	**0.5**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**499.0**		**532.3**	**561.6**	**514.5**	**492.6**	**465.4**	**437.6**	**392.6**	**0.6**	**-0.3**	**-1.0**	**-1.7**
of which ETS sectors GHGs emissions				254.4	218.1	211.4	191.0	174.9	137.8			-1.3	-3.2
CO_2 Emissions (energy related)	**384.7**	**399.5**	**418.8**	**447.6**	**413.0**	**400.0**	**374.0**	**349.9**	**307.3**	**0.9**	**-0.1**	**-1.0**	**-1.9**
Power generation/District heating	118.8	125.9	130.5	137.8	123.8	120.7	98.9	85.7	52.2	0.9	-0.5	-2.2	-6.2
Energy Branch	16.0	16.4	15.9	19.1	17.5	17.0	15.6	14.3	13.1	-0.1	1.0	-1.2	-1.7
Industry	77.6	73.8	75.5	74.9	64.5	57.7	61.6	57.7	55.8	-0.3	-1.6	-0.5	-1.0
Residential	55.7	52.9	54.8	61.4	62.7	61.1	58.4	54.9	52.4	-0.2	1.4	-0.7	-1.1
Tertiary	19.1	21.2	22.0	27.2	24.4	20.8	18.7	16.7	15.6	1.4	1.0	-2.6	-1.8
Transport	97.5	109.2	120.1	127.3	120.1	122.8	120.9	120.6	118.3	2.1	0.0	0.1	-0.2
CO_2 Emissions (non energy related)	**32.7**	**30.6**	**28.2**	**30.5**	**27.8**	**28.2**	**29.0**	**28.8**	**27.4**	**-1.5**	**-0.2**	**0.4**	**-0.6**
Non-CO_2 GHGs Emissions	**81.5**		**85.2**	**83.5**	**73.7**	**64.4**	**62.4**	**59.0**	**57.8**	**0.4**	**-1.4**	**-1.6**	**-0.8**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**106.7**	**112.6**	**103.1**	**98.7**	**93.3**	**87.7**	**78.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Italy: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	56.694	56.844	56.924	58.462	60.017	60.929	61.421	61.683	61.868	0.0	0.5	0.2	0.1
GDP (in 000 M€08)	1234.6	1315.1	1444.9	1510.1	1482.7	1612.2	1773.4	1936.3	2085.4	1.6	0.3	1.8	1.6
Gross Inl. Cons./GDP (toe/M€08)	124.3	122.9	119.7	124.0	121.9	112.2	105.0	97.5	93.1	-0.4	0.2	-1.5	-1.2
Carbon intensity (t of CO_2/toe of GIC)	2.51	2.47	2.42	2.39	2.29	2.21	2.01	1.85	1.58	-0.3	-0.6	-1.3	-2.3
Import Dependency %	84.8	82.3	87.3	84.4	84.1	82.7	78.6	73.7	67.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			145.0	167.0	167.3	199.3	243.4	275.4	289.9		1.8	4.7	2.9
as % of GDP			10.0	11.1	11.7	13.6	15.5	17.0	17.6				
Energy intensity indicators													
Industry (Energy on Value added)	105.9	98.6	100.0	110.7	111.8	105.2	99.1	89.9	83.7	-0.6	1.1	-1.2	-1.7
Residential (Energy on Private Income)	109.6	106.6	100.0	108.8	110.4	100.6	93.6	83.5	77.1	-0.9	1.0	-1.6	-1.9
Tertiary (Energy on Value added)	93.4	101.2	100.0	119.0	111.8	98.6	90.4	78.1	70.3	0.7	1.1	-2.1	-2.5
Passenger transport (toe/Mpkm)	33.5	32.5	31.3	32.3	31.6	30.9	30.2	28.9	27.6	-0.7	0.1	-0.5	-0.9
Freight transport (toe/Mtkm)	48.4	44.6	45.2	47.5	46.4	46.5	45.6	44.0	41.9	-0.7	0.3	-0.2	-0.8
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.53	0.48	0.39	0.34	0.30	0.24	0.18	0.11	-1.4	-3.4	-3.5	-7.7
Final energy demand (t of CO_2/toe)	2.33	2.26	2.21	2.14	2.06	1.96	1.89	1.84	1.78	-0.5	-0.7	-0.8	-0.6
Industry	2.14	2.03	1.91	1.79	1.62	1.44	1.48	1.37	1.29	-1.1	-1.6	-0.9	-1.4
Residential	2.12	1.98	1.93	1.92	1.92	1.85	1.72	1.68	1.63	-0.9	0.0	-1.1	-0.5
Tertiary	1.70	1.63	1.55	1.51	1.45	1.27	1.13	1.07	1.03	-0.9	-0.7	-2.5	-0.9
Transport	2.91	2.89	2.90	2.91	2.82	2.78	2.68	2.66	2.62	0.0	-0.3	-0.5	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			4.9	5.6	7.6	11.1	17.1	16.9	18.1				
RES in transport (%)			0.3	0.9	4.0	5.8	9.8	10.6	12.1				
Gross Electricity generation by fuel type (in GWh)			**270016**	**296786**	**299335**	**318563**	**347367**	**369355**	**392155**		**1.0**	**1.5**	**1.2**
Nuclear energy			0	0	0	0	13681	54205	105751				22.7
Coal and lignite			27603	46304	48891	51932	47446	42058	42750		5.9	-0.3	-1.0
Petroleum products			85749	45284	15657	5841	1680	4232	5622		-15.6	-20.0	12.8
Gas (including derived gases)			105453	152542	168671	179371	164270	141515	102446		4.8	-0.3	-4.6
Biomass & waste			1604	8901	13456	15467	27063	28245	30008		23.7	7.2	1.0
Hydro			44328	36061	38369	38468	38710	38707	38992		-1.4	0.1	0.1
Wind			563	2344	6138	17258	38019	39642	41102		27.0	20.0	0.8
Solar, tidal etc.			18	31	1711	3594	9609	12397	15665		57.7	18.8	5.0
Geothermal and other renewables			4698	5320	6442	6632	6889	8354	9819		3.2	0.7	3.6
Net Generation Capacity in MW_e			**67747**	**81560**	**96802**	**103463**	**117215**	**123041**	**135776**		**3.6**	**1.9**	**1.5**
Nuclear energy			0	0	0	0	1579	6257	12208				22.7
Renewable energy			13784	19213	22856	30569	46843	49437	52022		5.2	7.4	1.1
Hydro (pumping excluded)			13212	17095	17095	17440	17440	17440	17440		2.6	0.2	0.0
Wind			363	1635	4507	10605	23462	24595	25617		28.6	17.9	0.9
Solar			209	483	1254	2524	5941	7402	8965		19.6	16.8	4.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			53963	62347	73946	72894	68793	67346	71546		3.2	-0.7	0.4
of which cogeneration units			3956	5817	7500	9698	8086	11841	13061		6.6	0.8	4.9
of which CCS units			0	0	0	0	460	1070	3943				24.0
Solids fired			8719	8816	9772	11776	10248	9651	12237		1.1	0.5	1.8
Gas fired			23805	34917	50453	49845	47896	46308	45992		7.8	-0.5	-0.4
Oil fired			20261	16623	10546	6041	3526	2661	3052		-6.3	-10.4	-1.4
Biomass-waste fired			588	1322	2440	4474	6336	7773	9144		15.3	10.0	3.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			590	671	735	757	786	954	1121		2.2	0.7	3.6
Load factor for net electric capacities (%)			43.3	39.7	34.1	33.9	32.6	32.8	31.1				
Efficiency for thermal electricity production (%)			40.5	40.6	41.3	41.9	42.3	39.9	37.9				
CHP indicator (% of electricity from CHP)			9.1	9.7	13.5	17.5	14.0	17.1	17.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.4	3.1	10.2				
Non fossil fuels in electricity generation (%)			19.0	17.7	22.1	25.6	38.6	49.2	61.5				
- nuclear			0.0	0.0	0.0	0.0	3.9	14.7	27.0				
- renewable energy forms and industrial waste			19.0	17.7	22.1	25.6	34.6	34.5	34.6				
Transport sector													
Passenger transport activity (Gpkm)	**739.1**	**842.8**	**980.7**	**968.1**	**1001.0**	**1048.0**	**1089.1**	**1132.6**	**1172.5**	**2.9**	**0.2**	**0.8**	**0.7**
Public road transport	84.0	87.1	93.6	101.2	103.7	105.8	108.5	111.3	113.6	1.1	1.0	0.5	0.5
Private cars and motorcycles	582.7	674.6	793.5	763.0	788.1	824.7	850.6	878.0	902.7	3.1	-0.1	0.8	0.6
Rail	48.9	51.9	55.2	56.5	55.7	56.7	60.4	64.7	69.4	1.2	0.1	0.8	1.4
Aviation	18.4	24.3	33.5	42.7	48.6	55.9	64.5	73.4	81.3	6.2	3.8	2.9	2.3
Inland navigation	5.1	4.9	5.0	4.7	4.8	4.9	5.0	5.2	5.4	-0.4	-0.3	0.4	0.7
Freight transport activity (Gtkm)	**180.7**	**231.6**	**237.6**	**262.6**	**235.8**	**254.2**	**269.2**	**286.4**	**305.0**	**2.8**	**-0.1**	**1.3**	**1.3**
Trucks	125.5	174.4	184.7	211.8	184.0	199.9	212.5	227.5	243.9	3.9	0.0	1.4	1.4
Rail	19.4	21.7	22.8	22.8	24.6	25.7	26.8	27.6	28.4	1.7	0.7	0.9	0.6
Inland navigation	35.8	35.4	30.2	28.0	27.2	28.7	29.9	31.3	32.6	-1.7	-1.0	1.0	0.9
Energy demand in transport (ktoe)	**33514**	**37741**	**41388**	**43782**	**42558**	**44229**	**45105**	**45322**	**45107**	**2.1**	**0.3**	**0.6**	**0.0**
Public road transport	739	706	793	932	945	936	913	887	857	0.7	1.8	-0.3	-0.6
Private cars and motorcycles	21620	23735	25970	26093	25971	26471	26620	26324	25850	1.8	0.0	0.2	-0.3
Trucks	8154	9612	10097	11738	10175	11031	11492	11846	12055	2.2	0.1	1.2	0.5
Rail	739	821	835	908	931	916	894	878	840	1.2	1.1	-0.4	-0.6
Aviation	1872	2418	3491	3863	4289	4620	4923	5114	5224	6.4	2.1	1.4	0.6
Inland navigation	391	450	203	249	248	255	263	272	281	-6.3	2.0	0.6	0.7

Source: PRIMES

Latvia: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**1124**	**1432**	**1409**	**1870**	**1911**	**2238**	**2639**	**2659**	**2763**	**2.3**	**3.1**	**3.3**	**0.5**
Solids	61	78	16	3	1	1	0	0	0	-12.3	-21.7	-10.6	
Oil	1	0	0	10	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	1062	1354	1393	1858	1909	2237	2638	2659	2763	2.8	3.2	3.3	0.5
Hydro	387	253	242	286	248	250	254	274	310	-4.6	0.2	0.2	2.0
Biomass & Waste	675	1101	1150	1568	1648	1947	2288	2261	2306	5.5	3.7	3.3	0.1
Wind	0	0	0	4	14	38	93	118	139		44.4	21.2	4.1
Solar and others	0	0	0	0	0	1	4	6	8			32.5	7.6
Geothermal	0	0	0	0	0	0	0	0	0			4.7	0.8
Net Imports	**7468**	**3366**	**2245**	**2994**	**3151**	**3127**	**2731**	**2561**	**2340**	**-11.3**	**3.5**	**-1.4**	**-1.5**
Solids	627	170	63	77	51	38	30	16	21	-20.5	-2.1	-5.2	-3.7
Oil	3972	2094	1116	1676	1945	2134	2118	2075	2052	-11.9	5.7	0.9	-0.3
- Crude oil and Feedstocks	1	2	94	4	1	1	1	1	1	55.9	-35.0	0.9	-0.7
- Oil products	3971	2092	1022	1672	1943	2133	2117	2074	2050	-12.7	6.6	0.9	-0.3
Natural gas	2561	999	1113	1434	1414	1325	1020	856	694	-8.0	2.4	-3.2	-3.8
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Gross Inland Consumption	**7931**	**4628**	**3746**	**4491**	**4748**	**5020**	**5012**	**4854**	**4731**	**-7.2**	**2.4**	**0.5**	**-0.6**
Solids	711	273	135	82	53	39	31	16	21	-15.3	-8.9	-5.3	-3.8
Oil	3487	1893	1175	1382	1631	1790	1762	1710	1680	-10.3	3.3	0.8	-0.5
Natural gas	2380	1010	1092	1358	1414	1325	1020	856	694	-7.5	2.6	-3.2	-3.8
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	308	194	154	185	121	43	20	21	20	-6.7	-2.3	-16.4	-0.2
Renewable energy forms	1045	1258	1191	1485	1529	1823	2180	2251	2317	1.3	2.5	3.6	0.6
as % in Gross Inland Consumption													
Solids	9.0	5.9	3.6	1.8	1.1	0.8	0.6	0.3	0.4				
Oil	44.0	40.9	31.4	30.8	34.3	35.7	35.1	35.2	35.5				
Natural gas	30.0	21.8	29.2	30.2	29.8	26.4	20.3	17.6	14.7				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	13.2	27.2	31.8	33.1	32.2	36.3	43.5	46.4	49.0				
Gross Electricity Generation in GWh_e	**6647**	**3978**	**4135**	**4904**	**5819**	**7558**	**8358**	**8772**	**9223**	**-4.6**	**3.5**	**3.7**	**1.0**
Self consumption and grid losses	1445	1428	1148	1027	1072	1144	1211	1199	1171	-2.3	-0.7	1.2	-0.3
Fuel Inputs for Thermal Power Generation	**887**	**592**	**513**	**576**	**756**	**946**	**989**	**1006**	**936**	**-5.3**	**4.0**	**2.7**	**-0.5**
Solids	20	65	47	0	0	0	0	0	6	9.2			
Oil (including refinery gas)	177	242	77	13	11	12	14	10	10	-8.0	-17.5	2.1	-3.0
Gas	690	286	388	541	642	673	437	345	163	-5.6	5.2	-3.8	-9.4
Biomass & Waste	0	0	0	21	102	261	538	651	757			18.1	3.5
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**2570**	**892**	**562**	**476**	**444**	**412**	**373**	**324**	**319**	**-14.1**	**-2.3**	**-1.7**	**-1.5**
Refineries	1	1	1	1	1	1	1	1	1	0.0	1.3	0.9	-0.7
Biofuels and hydrogen production	0	0	0	2	32	52	80	99	114			9.4	3.6
District heating	2542	881	560	473	410	358	291	223	204	-14.0	-3.1	-3.4	-3.5
Others	27	9	1	0	0	0	0	0	0	-28.3			
Energy Branch Consumption	**126**	**127**	**147**	**100**	**128**	**129**	**129**	**122**	**117**	**1.5**	**-1.4**	**0.1**	**-1.0**
Non-Energy Uses	**78**	**46**	**79**	**93**	**56**	**58**	**59**	**56**	**55**	**0.2**	**-3.5**	**0.7**	**-0.8**
Final Energy Demand	**6389**	**3814**	**3239**	**4029**	**4161**	**4359**	**4369**	**4261**	**4212**	**-6.6**	**2.5**	**0.5**	**-0.4**
by sector													
Industry	1980	692	573	705	655	652	619	596	595	-11.7	1.3	-0.6	-0.4
- energy intensive industries	712	308	224	287	259	234	212	197	188	-10.9	1.4	-2.0	-1.2
- other industrial sectors	1267	384	349	419	396	418	407	399	407	-12.1	1.3	0.3	0.0
Residential	1586	1603	1327	1514	1504	1514	1523	1463	1419	-1.8	1.3	0.1	-0.7
Tertiary	1727	806	592	743	705	708	694	657	637	-10.1	1.8	-0.2	-0.9
Transport	1097	714	747	1066	1297	1486	1533	1546	1560	-3.8	5.7	1.7	0.2
by fuel													
Solids	316	124	57	73	46	34	28	16	14	-15.7	-2.1	-4.9	-6.5
Oil	2062	1157	1057	1331	1548	1712	1682	1637	1599	-6.5	3.9	0.8	-0.5
Gas	672	366	329	508	491	444	446	444	443	-6.9	4.1	-1.0	-0.1
Electricity	711	381	382	490	506	573	614	655	696	-6.0	2.9	2.0	1.3
Heat (from CHP and District Heating) [A]	2013	905	590	598	542	490	473	471	468	-11.5	-0.8	-1.4	-0.1
Renewable energy forms	616	881	824	1028	1027	1105	1127	1038	992	3.0	2.2	0.9	-1.3
Other	0	0	0	0	0	0	0	0	0			12.8	3.4
RES in Gross Final Energy Consumption [B]			**1178**	**1387**	**1463**	**1697**	**1980**	**2034**	**2135**		**2.2**	**3.1**	**0.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**26.9**		**10.0**	**11.4**	**11.7**	**11.6**	**10.6**	**9.9**	**9.4**	**-9.5**	**1.6**	**-0.9**	**-1.2**
of which ETS sectors GHGs emissions				3.0	3.0	2.9	2.2	1.9	1.6			-3.0	-3.2
CO_2 Emissions (energy related)	**18.8**	**8.8**	**6.7**	**7.6**	**8.2**	**8.4**	**7.6**	**7.0**	**6.5**	**-9.9**	**2.2**	**-0.8**	**-1.5**
Power generation/District heating	9.7	3.9	2.4	2.1	2.2	2.1	1.4	1.0	0.6	-13.1	-0.8	-4.7	-7.5
Energy Branch	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	5.0	-10.3	-2.8	-3.3
Industry	2.5	1.3	0.9	1.1	1.0	1.0	0.8	0.8	0.7	-9.5	1.0	-1.9	-2.1
Residential	1.2	0.5	0.3	0.4	0.5	0.4	0.5	0.5	0.5	-13.3	4.7	0.4	1.4
Tertiary	2.1	0.9	0.7	0.8	0.7	0.6	0.6	0.5	0.5	-10.8	1.1	-2.5	-2.4
Transport	3.2	2.1	2.2	3.1	3.7	4.3	4.3	4.2	4.2	-3.7	5.6	1.4	-0.3
CO_2 Emissions (non energy related)	**0.6**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.2**	**-8.5**	**1.4**	**0.2**	**-1.3**
Non-CO_2 GHGs Emissions	**7.5**		**3.1**	**3.5**	**3.2**	**2.9**	**2.7**	**2.6**	**2.6**	**-8.6**	**0.3**	**-1.4**	**-0.5**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**37.0**	**42.4**	**43.3**	**43.1**	**39.4**	**36.9**	**34.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Latvia: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	2.668	2.501	2.382	2.306	2.247	2.200	2.151	2.095	2.033	-1.1	-0.6	-0.4	-0.6
GDP (in 000 M€08)	13.2	7.1	9.3	13.7	13.6	16.3	18.4	20.3	22.2	-3.5	3.9	3.0	1.9
Gross Inl. Cons./GDP (toe/M€08)	598.6	648.1	403.9	326.7	348.3	307.9	272.4	239.6	213.0	-3.9	-1.5	-2.4	-2.4
Carbon intensity (t of CO_2/toe of GIC)	2.37	1.91	1.78	1.70	1.73	1.68	1.52	1.45	1.38	-2.9	-0.2	-1.3	-0.9
Import Dependency %	88.9	70.5	59.8	63.0	62.3	58.3	50.9	49.1	45.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			1.9	2.9	3.2	4.3	5.3	6.1	6.4		5.7	6.2	2.4
as % of GDP			20.8	21.0	24.6	29.0	33.1	35.1	34.9				
Energy intensity indicators													
Industry (Energy on Value added)	157.6	153.2	100.0	84.9	84.4	76.3	69.2	64.4	60.3	-4.4	-1.7	-2.0	-1.4
Residential (Energy on Private Income)	84.9	156.2	100.0	75.0	80.6	66.2	57.1	49.2	43.1	1.7	-2.1	-3.4	-2.8
Tertiary (Energy on Value added)	322.8	180.2	100.0	84.3	80.7	65.5	56.3	47.8	42.0	-11.1	-2.1	-3.5	-2.9
Passenger transport (toe/Mpkm)	19.6	37.3	26.2	26.1	27.0	27.2	27.0	26.7	26.4	2.9	0.3	0.0	-0.2
Freight transport (toe/Mtkm)	27.8	24.9	19.0	19.6	24.8	24.7	23.0	21.1	19.6	-3.7	2.7	-0.8	-1.6
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.28	0.23	0.18	0.16	0.16	0.14	0.09	0.06	0.04	-4.3	-1.6	-5.6	-7.8
Final energy demand (t of CO_2/toe)	1.41	1.26	1.26	1.35	1.44	1.45	1.42	1.41	1.40	-1.2	1.3	-0.1	-0.2
Industry	1.28	1.92	1.63	1.52	1.57	1.49	1.37	1.32	1.16	2.4	-0.4	-1.3	-1.7
Residential	0.76	0.33	0.22	0.28	0.30	0.29	0.31	0.34	0.39	-11.7	3.3	0.3	2.1
Tertiary	1.21	1.12	1.13	1.09	1.05	0.92	0.83	0.76	0.71	-0.7	-0.7	-2.3	-1.6
Transport	2.90	2.89	2.92	2.95	2.89	2.86	2.80	2.73	2.68	0.1	-0.1	-0.3	-0.4
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			33.7	32.6	33.5	37.3	43.4	45.8	48.7				
RES in transport (%)			0.7	0.7	3.1	4.3	6.7	9.2	11.3				
Gross Electricity generation by fuel type (in GWh)			**4135**	**4904**	**5819**	**7558**	**8358**	**8772**	**9223**		**3.5**	**3.7**	**1.0**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			78	0	0	0	0	0	37				
Petroleum products			107	26	45	46	55	38	40		-8.2	2.0	-3.2
Gas (including derived gases)			1128	1465	2368	3277	2192	1640	811		7.7	-0.8	-9.5
Biomass & waste			0	42	365	873	2076	2522	3093			19.0	4.1
Hydro			2818	3324	2881	2911	2948	3181	3606		0.2	0.2	2.0
Wind			4	47	158	445	1077	1377	1613		44.4	21.2	4.1
Solar, tidal etc.			0	0	1	5	10	15	23			26.6	9.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**2079**	**2171**	**2359**	**2785**	**3061**	**3353**	**3781**		**1.3**	**2.6**	**2.1**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			1499	1544	1616	1782	2047	2263	2513		0.8	2.4	2.1
Hydro (pumping excluded)			1497	1518	1520	1522	1532	1611	1753		0.2	0.1	1.4
Wind			2	26	94	254	505	637	737		46.9	18.4	3.8
Solar			0	0	2	5	10	15	24			17.5	9.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			581	627	743	1003	1014	1090	1268		2.5	3.2	2.3
of which cogeneration units			354	386	442	507	533	595	710		2.2	1.9	2.9
of which CCS units			0	0	0	0	0	0	4				
Solids fired			29	0	0	0	0	0	4				
Gas fired			449	548	608	816	633	633	633		3.1	0.4	0.0
Oil fired			91	53	54	54	54	54	45		-5.1	0.1	-1.8
Biomass-waste fired			11	26	81	134	327	403	586		22.2	15.0	6.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			21.8	24.8	27.1	30.1	30.1	28.8	27.0				
Efficiency for thermal electricity production (%)			22.0	22.9	31.6	38.1	37.6	35.9	36.6				
CHP indicator (% of electricity from CHP)			39.8	33.1	37.9	34.8	37.9	39.6	39.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.4				
Non fossil fuels in electricity generation (%)			68.3	69.6	58.5	56.0	73.1	80.9	90.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			68.3	69.6	58.5	56.0	73.1	80.9	90.4				
Transport sector													
Passenger transport activity (Gpkm)	**21.1**	**11.4**	**15.4**	**19.7**	**21.5**	**24.4**	**25.8**	**27.0**	**28.2**	**-3.1**	**3.4**	**1.8**	**0.9**
Public road transport	5.9	1.8	2.3	2.9	2.5	2.7	2.9	3.0	3.2	-8.7	0.8	1.1	1.2
Private cars and motorcycles	6.6	7.7	11.8	14.8	16.6	18.7	19.3	19.5	19.6	6.0	3.5	1.5	0.2
Rail	6.1	1.7	1.0	1.2	1.2	1.3	1.5	1.5	1.6	-16.7	2.0	1.9	1.1
Aviation	2.5	0.2	0.3	0.8	1.2	1.7	2.2	2.9	3.7	-18.7	14.9	6.1	5.3
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**24.5**	**11.6**	**18.1**	**28.2**	**28.8**	**33.3**	**36.3**	**39.0**	**41.7**	**-3.0**	**4.8**	**2.3**	**1.4**
Trucks	5.9	1.8	4.8	8.4	11.6	13.5	14.3	14.8	15.3	-2.0	9.3	2.1	0.7
Rail	18.5	9.8	13.3	19.8	17.2	19.8	22.1	24.1	26.4	-3.3	2.6	2.5	1.8
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1097**	**714**	**747**	**1066**	**1297**	**1486**	**1533**	**1546**	**1560**	**-3.8**	**5.7**	**1.7**	**0.2**
Public road transport	46	15	17	21	18	19	19	20	21	-9.3	0.6	0.5	0.9
Private cars and motorcycles	242	378	356	433	476	535	542	536	523	4.0	2.9	1.3	-0.4
Trucks	512	205	270	460	637	735	750	766	778	-6.2	9.0	1.6	0.4
Rail	189	90	76	94	81	90	87	60	42	-8.7	0.6	0.8	-7.1
Aviation	73	26	27	59	85	107	134	163	197	-9.6	12.2	4.7	3.9
Inland navigation	35	0	0	0	0	0	0	0	0				

Source: PRIMES

Lithuania: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**4740**	**3695**	**3188**	**3702**	**1007**	**1428**	**3334**	**5020**	**5149**	**-3.9**	**-10.9**	**12.7**	**4.4**
Solids	14	15	12	20	4	2	2	1	1	-1.8	-11.0	-8.0	-4.8
Oil	12	130	349	240	155	130	100	85	70	40.0	-7.8	-4.3	-3.5
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	4394	3050	2172	2666	0	0	1572	3099	2970	-6.8			6.6
Renewable energy sources	321	501	656	776	848	1296	1660	1834	2108	7.4	2.6	6.9	2.4
Hydro	36	32	29	39	36	37	39	39	40	-2.0	2.1	0.7	0.4
Biomass & Waste	285	469	627	734	798	1228	1538	1688	1939	8.2	2.4	6.8	2.3
Wind	0	0	0	0	14	29	75	92	107			18.3	3.6
Solar and others	0	0	0	0	0	2	8	14	22			36.5	10.1
Geothermal	0	0	0	3	0	0	0	0	0			7.6	-2.0
Net Imports	**11688**	**5650**	**4343**	**5120**	**6557**	**6640**	**5843**	**5130**	**4948**	**-9.4**	**4.2**	**-1.1**	**-1.6**
Solids	758	157	87	190	117	92	82	65	52	-19.5	3.0	-3.5	-4.4
Oil	7281	3693	2313	2700	2530	2778	2873	2884	2953	-10.8	0.9	1.3	0.3
- Crude oil and Feedstocks	9560	3619	4846	9093	8830	9617	9889	9907	10103	-6.6	6.2	1.1	0.2
- Oil products	-2279	74	-2533	-6393	-6299	-6839	-7016	-7023	-7150				
Natural gas	4678	2029	2065	2492	3561	3390	2967	2619	2406	-7.9	5.6	-1.8	-2.1
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Gross Inland Consumption	**16059**	**8672**	**7070**	**8616**	**7408**	**7897**	**9001**	**9972**	**9917**	**-7.9**	**0.5**	**2.0**	**1.0**
Solids	797	246	98	201	120	95	84	66	53	-18.9	2.0	-3.6	-4.4
Oil	6899	3085	2203	2769	2529	2737	2797	2790	2843	-10.8	1.4	1.0	0.2
Natural gas	4678	2029	2064	2476	3561	3390	2967	2619	2406	-7.9	5.6	-1.8	-2.1
Nuclear	4394	3050	2172	2666	0	0	1572	3099	2970	-6.8			6.6
Electricity	-1030	-230	-115	-255	366	412	-31	-372	-361				
Renewable energy forms	320	493	649	758	832	1263	1613	1769	2007	7.3	2.5	6.8	2.2
as % in Gross Inland Consumption													
Solids	5.0	2.8	1.4	2.3	1.6	1.2	0.9	0.7	0.5				
Oil	43.0	35.6	31.2	32.1	34.1	34.7	31.1	28.0	28.7				
Natural gas	29.1	23.4	29.2	28.7	48.1	42.9	33.0	26.3	24.3				
Nuclear	27.4	35.2	30.7	30.9	0.0	0.0	17.5	31.1	29.9				
Renewable energy forms	2.0	5.7	9.2	8.8	11.2	16.0	17.9	17.7	20.2				
Gross Electricity Generation in GWh_e	**28400**	**13518**	**11118**	**14412**	**6416**	**6854**	**13254**	**18118**	**17815**	**-9.0**	**-5.3**	**7.5**	**3.0**
Self consumption and grid losses	3959	4152	3075	2782	1759	1729	2022	2252	2099	-2.5	-5.4	1.4	0.4
Fuel Inputs for Thermal Power Generation	**2610**	**950**	**912**	**1221**	**1926**	**1815**	**1548**	**1325**	**1468**	**-10.0**	**7.8**	**-2.2**	**-0.5**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	1067	517	196	172	72	64	57	26	73	-15.6	-9.5	-2.4	2.6
Gas	1543	433	716	1044	1772	1574	1197	947	958	-7.4	9.5	-3.8	-2.2
Biomass & Waste	0	0	0	5	82	177	294	353	436			13.7	4.0
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11418**	**4482**	**5762**	**9984**	**9516**	**10324**	**10645**	**10607**	**10809**	**-6.6**	**5.1**	**1.1**	**0.2**
Refineries	9591	3402	5105	9458	8935	9717	9975	9985	10169	-6.1	5.8	1.1	0.2
Biofuels and hydrogen production	0	0	0	3	11	40	106	136	160			24.9	4.3
District heating	1819	1074	653	519	567	566	563	485	479	-9.7	-1.4	-0.1	-1.6
Others	8	6	4	4	3	2	2	1	1	-7.0	-4.4	-4.4	-9.8
Energy Branch Consumption	**996**	**600**	**670**	**958**	**848**	**903**	**966**	**1020**	**1017**	**-3.9**	**2.4**	**1.3**	**0.5**
Non-Energy Uses	**864**	**544**	**657**	**795**	**1007**	**1102**	**1100**	**1092**	**1072**	**-2.7**	**4.4**	**0.9**	**-0.3**
Final Energy Demand	**9679**	**4592**	**3740**	**4465**	**4634**	**5072**	**5295**	**5357**	**5370**	**-9.1**	**2.2**	**1.3**	**0.1**
by sector													
Industry	3327	1017	780	995	972	1106	1116	1130	1104	-13.5	2.2	1.4	-0.1
- energy intensive industries	1670	473	361	442	436	486	484	493	485	-14.2	1.9	1.1	0.0
- other industrial sectors	1657	544	419	552	537	621	632	637	619	-12.8	2.5	1.6	-0.2
Residential	1843	1641	1342	1384	1365	1444	1502	1445	1416	-3.1	0.2	1.0	-0.6
Tertiary	2512	894	566	678	678	692	700	661	634	-13.8	1.8	0.3	-1.0
Transport	1996	1040	1051	1408	1618	1830	1977	2120	2215	-6.2	4.4	2.0	1.1
by fuel													
Solids	748	225	87	190	116	92	84	65	52	-19.4	2.9	-3.3	-4.6
Oil	4064	1670	1352	1610	1792	1993	2064	2152	2211	-10.4	2.9	1.4	0.7
Gas	1483	510	363	503	405	411	394	362	352	-13.1	1.1	-0.3	-1.1
Electricity	1033	546	531	682	699	781	848	892	891	-6.4	2.8	1.9	0.5
Heat (from CHP and District Heating) [A]	2078	1193	828	905	1083	1035	1008	963	1049	-8.8	2.7	-0.7	0.4
Renewable energy forms	272	448	579	574	538	759	897	922	813	7.9	-0.7	5.2	-1.0
Other	0	0	0	0	0	0	0	0	0			12.7	0.2
RES in Gross Final Energy Consumption [B]			**642**	**727**	**767**	**1102**	**1409**	**1395**	**1491**		**1.8**	**6.3**	**0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**48.8**		**18.9**	**22.5**	**23.7**	**21.4**	**20.4**	**19.0**	**18.6**	**-9.0**	**2.3**	**-1.5**	**-0.9**
of which ETS sectors GHGs emissions				10.1	11.1	9.3	8.5	7.7	7.3			-2.7	-1.6
CO_2 Emissions (energy related)	**32.4**	**13.5**	**10.2**	**12.5**	**13.6**	**13.4**	**12.5**	**11.7**	**11.3**	**-10.9**	**2.8**	**-0.8**	**-1.0**
Power generation/District heating	12.0	5.6	3.9	3.9	5.3	4.8	3.9	3.4	3.1	-10.6	3.1	-3.0	-2.3
Energy Branch	1.6	0.8	1.1	1.9	1.5	1.4	1.3	0.9	0.7	-3.5	3.1	-1.8	-6.6
Industry	6.1	1.7	1.1	1.3	0.9	0.9	0.8	0.8	0.7	-15.9	-2.0	-0.5	-1.5
Residential	2.3	0.8	0.5	0.6	0.6	0.6	0.6	0.5	0.5	-13.6	1.1	-0.1	-1.6
Tertiary	4.5	1.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	-19.8	-0.2	-1.8	-2.3
Transport	5.8	3.0	3.1	4.1	4.7	5.3	5.5	5.8	6.0	-6.2	4.4	1.5	0.9
CO_2 Emissions (non energy related)	**3.5**	**1.5**	**1.6**	**1.7**	**1.9**	**2.1**	**2.2**	**2.3**	**2.2**	**-7.7**	**1.9**	**1.5**	**0.0**
Non-CO_2 GHGs Emissions	**12.9**		**7.1**	**8.3**	**8.3**	**5.9**	**5.6**	**5.1**	**5.1**	**-5.8**	**1.5**	**-3.8**	**-1.0**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**38.8**	**46.1**	**48.6**	**43.9**	**41.7**	**38.9**	**38.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Lithuania: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	3.694	3.643	3.512	3.425	3.337	3.275	3.220	3.158	3.083	-0.5	-0.5	-0.4	-0.4
GDP (in 000 M€08)	20.4	12.0	15.2	22.0	22.7	27.7	32.1	35.4	38.3	-3.0	4.1	3.5	1.8
Gross Inl. Cons./GDP (toe/M€08)	785.3	720.4	466.7	390.8	326.8	284.8	280.7	281.4	258.7	-5.1	-3.5	-1.5	-0.8
Carbon intensity (t of CO_2/toe of GIC)	2.02	1.55	1.45	1.45	1.83	1.70	1.39	1.17	1.14	-3.3	2.4	-2.7	-2.0
Import Dependency %	72.4	64.1	60.6	58.5	86.7	82.3	63.7	50.5	49.0				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.4	3.6	4.1	5.3	7.0	8.3	9.2		5.9	6.8	3.2
as % of GDP			16.1	16.2	19.0	22.2	25.8	28.4	29.7				
Energy intensity indicators													
Industry (Energy on Value added)	258.4	180.8	100.0	78.3	68.7	63.8	56.7	54.0	50.9	-9.1	-3.7	-1.9	-1.1
Residential (Energy on Private Income)	103.1	158.3	100.0	67.4	68.6	59.3	54.4	47.7	43.3	-0.3	-3.7	-2.3	-2.3
Tertiary (Energy on Value added)	452.0	203.3	100.0	87.1	86.4	71.9	62.2	52.0	45.2	-14.0	-1.5	-3.2	-3.1
Passenger transport (toe/Mpkm)	30.8	26.6	20.7	18.0	18.1	18.5	20.4	22.9	24.6	-3.9	-1.3	1.2	1.9
Freight transport (toe/Mtkm)	46.9	37.1	25.8	24.2	24.9	24.9	24.1	23.4	22.7	-5.8	-0.3	-0.3	-0.6
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.21	0.17	0.16	0.14	0.23	0.21	0.13	0.10	0.09	-2.8	3.6	-5.2	-3.7
Final energy demand (t of CO_2/toe)	1.94	1.54	1.39	1.49	1.44	1.42	1.38	1.39	1.40	-3.3	0.4	-0.4	0.1
Industry	1.83	1.69	1.37	1.35	0.90	0.83	0.75	0.67	0.65	-2.8	-4.1	-1.8	-1.4
Residential	1.27	0.48	0.40	0.46	0.44	0.41	0.40	0.37	0.36	-10.8	0.9	-1.0	-1.0
Tertiary	1.80	1.73	0.88	0.85	0.72	0.63	0.59	0.53	0.51	-6.9	-2.0	-2.1	-1.3
Transport	2.93	2.91	2.93	2.93	2.91	2.87	2.77	2.73	2.70	0.0	-0.1	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			15.1	14.8	15.4	20.4	24.9	24.5	26.2				
RES in transport (%)			0.0	0.3	0.9	2.8	6.9	8.4	9.5				
Gross Electricity generation by fuel type (in GWh)			**11118**	**14412**	**6416**	**6854**	**13254**	**18118**	**17815**		**-5.3**	**7.5**	**3.0**
Nuclear energy			8417	10335	0	0	6563	13127	12586				6.7
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			405	476	207	189	168	59	167		-6.5	-2.1	-0.1
Gas (including derived gases)			1957	3136	5409	5285	4091	2287	2213		10.7	-2.8	-6.0
Biomass & waste			0	12	216	610	1071	1045	1025			17.3	-0.4
Hydro			339	451	419	425	449	457	466		2.1	0.7	0.4
Wind			0	2	162	338	873	1075	1246			18.3	3.6
Solar, tidal etc.			0	0	2	9	39	68	112			36.8	11.1
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**4586**	**3692**	**2756**	**3037**	**4554**	**5149**	**5188**		**-5.0**	**5.2**	**1.3**
Nuclear energy			2291	1200	0	0	758	1515	1515				7.2
Renewable energy			100	115	299	498	1125	1376	1602		11.6	14.2	3.6
Hydro (pumping excluded)			100	114	122	123	148	155	159		2.0	1.9	0.7
Wind			0	1	175	366	939	1154	1332			18.3	3.6
Solar			0	0	2	9	38	67	111			34.2	11.3
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2196	2377	2457	2539	2671	2258	2071		1.1	0.8	-2.5
of which cogeneration units			873	824	873	962	1024	844	867		0.0	1.6	-1.6
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			1661	2057	2124	2158	2179	1873	1758		2.5	0.3	-2.1
Oil fired			528	303	315	308	314	173	58		-5.0	0.0	-15.5
Biomass-waste fired			7	17	18	73	178	212	255		9.6	26.1	3.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			23.5	40.2	24.9	24.5	31.7	38.3	37.4				
Efficiency for thermal electricity production (%)			22.3	25.5	26.0	28.8	29.6	22.0	19.9				
CHP indicator (% of electricity from CHP)			18.3	17.8	62.6	65.9	36.8	18.7	19.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			78.8	74.9	12.5	20.2	67.9	87.1	86.6				
- nuclear			75.7	71.7	0.0	0.0	49.5	72.5	70.7				
- renewable energy forms and industrial waste			3.0	3.2	12.5	20.2	18.3	14.6	16.0				
Transport sector													
Passenger transport activity (Gpkm)	**24.1**	**21.7**	**30.0**	**40.1**	**44.9**	**48.5**	**49.2**	**49.3**	**49.3**	**2.2**	**4.1**	**0.9**	**0.0**
Public road transport	7.9	4.2	2.8	3.7	3.6	3.9	4.1	4.2	4.2	-10.0	2.7	1.4	0.3
Private cars and motorcycles	11.3	16.2	26.3	35.1	39.8	42.7	42.7	42.0	41.2	8.8	4.2	0.7	-0.4
Rail	3.6	1.1	0.6	0.4	0.4	0.4	0.5	0.5	0.5	-16.3	-4.0	1.6	1.3
Aviation	1.0	0.2	0.3	0.8	1.0	1.4	1.9	2.5	3.3	-10.3	12.4	6.0	5.8
Inland navigation	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-12.8	0.2	0.7	0.6
Freight transport activity (Gtkm)	**26.8**	**12.4**	**16.7**	**28.4**	**32.3**	**37.4**	**40.4**	**42.4**	**44.2**	**-4.6**	**6.8**	**2.3**	**0.9**
Trucks	7.3	5.2	7.8	15.9	19.0	22.1	23.6	24.4	25.0	0.6	9.3	2.2	0.6
Rail	19.3	7.2	8.9	12.5	13.4	15.3	16.8	18.0	19.2	-7.4	4.1	2.3	1.3
Inland navigation	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**1996**	**1040**	**1051**	**1408**	**1618**	**1830**	**1977**	**2120**	**2215**	**-6.2**	**4.4**	**2.0**	**1.1**
Public road transport	46	25	16	21	21	23	24	25	26	-9.8	2.5	1.5	0.5
Private cars and motorcycles	539	504	572	648	725	794	876	978	1038	0.6	2.4	1.9	1.7
Trucks	1139	383	358	608	723	837	877	892	894	-10.9	7.3	1.9	0.2
Rail	133	87	76	79	84	93	98	103	108	-5.5	1.0	1.6	0.9
Aviation	135	41	27	46	60	77	96	117	143	-14.9	8.5	4.7	4.1
Inland navigation	5	1	3	5	5	5	5	6	6	-5.0	5.3	0.7	0.4

Source: PRIMES

Luxembourg: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**47**	**47**	**57**	**74**	**99**	**169**	**247**	**285**	**303**	**1.9**	**5.7**	**9.6**	**2.1**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	47	47	57	74	99	169	247	285	303	1.9	5.7	9.6	2.1
Hydro	6	7	10	8	8	7	8	8	8	5.8	-2.9	0.2	0.2
Biomass & Waste	41	39	44	59	79	111	139	174	185	0.7	6.0	5.9	2.9
Wind	0	0	2	5	6	15	27	30	34		10.8	15.2	2.3
Solar and others	0	0	0	2	6	35	73	73	76			28.5	0.4
Geothermal	0	0	0	0	0	0	0	0	0			16.7	-8.2
Net Imports	**3526**	**3264**	**3630**	**4622**	**4695**	**4967**	**4905**	**4805**	**4666**	**0.3**	**2.6**	**0.4**	**-0.5**
Solids	1134	514	125	82	37	30	25	16	11	-19.8	-11.5	-3.9	-7.7
Oil	1626	1763	2342	3081	3068	3200	3046	2922	2747	3.7	2.7	-0.1	-1.0
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	1626	1763	2342	3081	3068	3200	3046	2922	2747	3.7	2.7	-0.1	-1.0
Natural gas	430	557	670	1179	1246	1321	1338	1416	1431	4.6	6.4	0.7	0.7
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Gross Inland Consumption	**3561**	**3342**	**3637**	**4714**	**4794**	**5136**	**5152**	**5090**	**4969**	**0.2**	**2.8**	**0.7**	**-0.4**
Solids	1134	514	125	82	37	30	25	16	11	-19.8	-11.5	-3.9	-7.7
Oil	1614	1794	2292	3100	3068	3200	3046	2922	2747	3.6	3.0	-0.1	-1.0
Natural gas	430	557	670	1179	1246	1321	1338	1416	1431	4.6	6.4	0.7	0.7
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	336	430	492	280	318	327	300	274	284	3.9	-4.3	-0.6	-0.6
Renewable energy forms	47	47	57	74	125	258	443	463	496	1.9	8.3	13.5	1.1
as % in Gross Inland Consumption													
Solids	31.9	15.4	3.4	1.7	0.8	0.6	0.5	0.3	0.2				
Oil	45.3	53.7	63.0	65.8	64.0	62.3	59.1	57.4	55.3				
Natural gas	12.1	16.7	18.4	25.0	26.0	25.7	26.0	27.8	28.8				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	1.3	1.4	1.6	1.6	2.6	5.0	8.6	9.1	10.0				
Gross Electricity Generation in GWh_e	**627**	**498**	**433**	**3344**	**3459**	**4273**	**5054**	**5876**	**6024**	**-3.6**	**23.1**	**3.9**	**1.8**
Self consumption and grid losses	410	497	439	448	543	633	682	735	763	0.7	2.1	2.3	1.1
Fuel Inputs for Thermal Power Generation	**190**	**132**	**75**	**568**	**571**	**690**	**777**	**894**	**911**	**-8.8**	**22.5**	**3.1**	**1.6**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	3	2	0	0	0	1	1	1	1				2.5
Gas	162	106	47	525	534	633	683	800	810	-11.6	27.5	2.5	1.7
Biomass & Waste	25	24	28	43	37	57	93	93	100	1.0	2.8	9.7	0.7
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**378**	**144**	**0**	**1**	**55**	**130**	**227**	**242**	**257**			**15.3**	**1.2**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	1	55	130	227	242	257			15.3	1.2
District heating	0	0	0	0	0	0	0	0	0				
Others	378	144	0	0	0	0	0	0	0				
Energy Branch Consumption	**31**	**30**	**26**	**30**	**37**	**43**	**47**	**50**	**52**	**-1.8**	**3.7**	**2.4**	**1.0**
Non-Energy Uses	**20**	**23**	**14**	**20**	**22**	**27**	**29**	**31**	**33**	**-3.9**	**5.0**	**2.7**	**1.3**
Final Energy Demand	**3335**	**3171**	**3558**	**4439**	**4492**	**4773**	**4765**	**4650**	**4523**	**0.7**	**2.4**	**0.6**	**-0.5**
by sector													
Industry	1729	1197	958	938	899	991	1022	1045	1070	-5.7	-0.6	1.3	0.5
- energy intensive industries	1525	901	506	461	431	465	475	479	479	-10.5	-1.6	1.0	0.1
- other industrial sectors	204	296	453	477	468	526	547	566	591	8.3	0.3	1.6	0.8
Residential	521	565	598	651	676	667	664	619	618	1.4	1.2	-0.2	-0.7
Tertiary	74	99	118	130	137	140	141	129	129	4.7	1.5	0.3	-0.9
Transport	1010	1311	1884	2721	2780	2975	2938	2857	2706	6.4	4.0	0.6	-0.8
by fuel													
Solids	756	369	125	82	37	30	25	16	11	-16.5	-11.5	-3.9	-7.7
Oil	1587	1758	2276	3080	3045	3172	3016	2890	2712	3.7	3.0	-0.1	-1.1
Gas	622	585	623	678	712	688	654	616	621	0.0	1.3	-0.8	-0.5
Electricity	355	430	491	529	569	640	676	716	736	3.3	1.5	1.7	0.9
Heat (from CHP and District Heating) [A]	0	14	27	55	59	69	85	89	96		8.1	3.8	1.3
Renewable energy forms	15	15	16	16	70	174	308	323	345	0.4	16.0	15.9	1.1
Other	0	0	0	0	0	0	1	1	1			7.4	0.5
RES in Gross Final Energy Consumption [B]			**32**	**41**	**111**	**240**	**426**	**447**	**480**		**13.4**	**14.4**	**1.2**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**13.1**		**10.5**	**14.3**	**14.1**	**14.7**	**14.2**	**13.9**	**13.3**	**-2.2**	**3.0**	**0.1**	**-0.7**
of which ETS sectors GHGs emissions				4.0	3.8	4.2	4.2	4.4	4.3			1.2	0.0
CO_2 Emissions (energy related)	**10.7**	**8.7**	**8.9**	**12.4**	**12.3**	**12.8**	**12.4**	**12.1**	**11.6**	**-1.8**	**3.3**	**0.1**	**-0.6**
Power generation/District heating	0.7	0.4	0.1	1.2	1.2	1.5	1.6	1.9	1.9	-17.0	27.5	2.5	1.7
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	5.7	3.1	1.7	1.5	1.3	1.4	1.4	1.3	1.3	-11.5	-2.5	0.4	-0.4
Residential	1.3	1.3	1.4	1.4	1.5	1.3	1.2	1.0	1.0	1.1	0.2	-2.0	-1.8
Tertiary	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	17.3	-2.9	-1.5	-2.4
Transport	3.0	3.9	5.6	8.2	8.2	8.6	8.2	7.9	7.4	6.5	3.9	0.0	-1.0
CO_2 Emissions (non energy related)	**1.6**	**1.0**	**0.7**	**0.8**	**0.7**	**0.8**	**0.8**	**0.8**	**0.7**	**-7.6**	**0.2**	**1.5**	**-1.6**
Non-CO_2 GHGs Emissions	**0.9**		**0.9**	**1.1**	**1.1**	**1.1**	**1.0**	**1.0**	**1.0**	**0.4**	**2.0**	**-0.9**	**-0.7**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**80.2**	**109.1**	**107.5**	**111.7**	**108.4**	**106.0**	**101.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									Luxembourg: 25% domestic GHG reduction				
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.379	0.406	0.434	0.461	0.494	0.523	0.551	0.579	0.607	1.3	1.3	1.1	1.0
GDP (in 000 M€08)	14.3	19.9	26.8	31.9	34.4	42.8	50.0	56.4	62.8	6.5	2.5	3.8	2.3
Gross Inl. Cons./GDP (toe/M€08)	248.3	167.9	135.7	147.6	139.3	119.9	103.0	90.2	79.2	-5.9	0.3	-3.0	-2.6
Carbon intensity (t of CO_2/toe of GIC)	2.99	2.62	2.44	2.64	2.56	2.49	2.40	2.38	2.33	-2.0	0.5	-0.6	-0.3
Import Dependency %	99.0	97.7	99.8	98.0	97.9	96.7	95.2	94.4	93.9				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			2.9	3.9	4.1	5.0	6.2	6.8	6.9		3.7	4.7	1.7
as % of GDP			10.8	12.3	12.1	12.2	13.2	13.3	12.5				
Energy intensity indicators													
Industry (Energy on Value added)	259.7	159.1	100.0	93.6	86.3	78.5	71.2	66.2	62.7	-9.1	-1.5	-1.9	-1.3
Residential (Energy on Private Income)	125.3	116.2	100.0	100.4	98.2	77.1	65.3	54.0	48.3	-2.2	-0.2	-4.0	-3.0
Tertiary (Energy on Value added)	103.2	111.6	100.0	91.5	88.8	72.8	62.7	50.6	45.2	-0.3	-1.2	-3.4	-3.2
Passenger transport (toe/Mpkm)	119.7	125.6	136.5	150.7	143.3	132.1	119.2	106.7	95.9	1.3	0.5	-1.8	-2.2
Freight transport (toe/Mtkm)	92.1	84.1	102.9	156.5	154.7	151.0	145.9	138.6	126.6	1.1	4.2	-0.6	-1.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.13	0.59	0.15	0.31	0.30	0.29	0.26	0.27	0.27	-18.4	7.4	-1.3	0.0
Final energy demand (t of CO_2/toe)	2.98	2.63	2.46	2.52	2.45	2.37	2.26	2.20	2.14	-1.9	-0.1	-0.8	-0.5
Industry	3.28	2.58	1.74	1.63	1.45	1.41	1.33	1.24	1.22	-6.1	-1.8	-0.9	-0.8
Residential	2.45	2.39	2.37	2.21	2.15	1.96	1.78	1.67	1.59	-0.3	-1.0	-1.9	-1.1
Tertiary	0.21	0.35	0.65	0.48	0.42	0.38	0.35	0.34	0.30	12.0	-4.3	-1.8	-1.5
Transport	2.96	2.96	2.97	3.00	2.95	2.88	2.78	2.76	2.72	0.1	-0.1	-0.6	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			0.9	0.9	2.5	5.2	9.1	9.8	10.8				
RES in transport (%)			0.0	0.1	2.3	5.2	9.2	10.1	11.3				
Gross Electricity generation by fuel type (in GWh)			**433**	**3344**	**3459**	**4273**	**5054**	**5876**	**6024**		**23.1**	**3.9**	**1.8**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			0	0	0	3	3	4	4				2.5
Gas (including derived gases)			231	3050	3133	3799	4207	4973	5035		29.8	3.0	1.8
Biomass & waste			55	130	121	156	362	362	393		8.2	11.5	0.8
Hydro			120	93	90	84	92	93	94		-2.9	0.2	0.2
Wind			27	53	75	173	311	354	391		10.8	15.2	2.3
Solar, tidal etc.			0	18	40	59	79	91	107			7.2	3.0
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**165**	**609**	**607**	**829**	**1073**	**1229**	**1287**		**13.9**	**5.9**	**1.8**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			54	101	131	234	331	376	419		9.3	9.8	2.4
Hydro (pumping excluded)			39	40	40	40	40	41	41		0.2	0.0	0.2
Wind			14	35	50	134	210	242	271		13.5	15.5	2.6
Solar			1	26	41	61	81	93	108		45.1	7.0	2.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			111	509	477	595	742	853	868		15.7	4.5	1.6
of which cogeneration units			37	54	96	112	164	190	205		10.0	5.5	2.3
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			95	483	452	568	679	789	797		16.8	4.2	1.6
Oil fired			0	0	0	1	1	1	1				2.5
Biomass-waste fired			16	25	25	25	62	63	70		4.5	9.6	1.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			28.0	62.2	63.4	57.2	52.3	53.2	52.1				
Efficiency for thermal electricity production (%)			32.7	48.1	49.0	49.3	50.6	51.4	51.3				
CHP indicator (% of electricity from CHP)			52.7	12.6	15.7	11.7	17.1	16.7	17.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			46.7	8.8	9.4	11.0	16.7	15.3	16.4				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			46.7	8.8	9.4	11.0	16.7	15.3	16.4				
Transport sector													
Passenger transport activity (Gpkm)	**5.2**	**6.2**	**7.3**	**8.1**	**8.6**	**9.4**	**9.7**	**10.0**	**10.5**	**3.4**	**1.6**	**1.2**	**0.8**
Public road transport	0.5	0.5	0.6	0.8	0.9	0.9	0.9	1.0	1.0	2.6	3.3	1.0	0.9
Private cars and motorcycles	4.0	4.8	5.7	6.5	6.7	7.3	7.4	7.6	7.8	3.6	1.6	1.0	0.6
Rail	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	4.8	-0.5	1.8	1.0
Aviation	0.5	0.5	0.6	0.6	0.7	0.8	0.9	1.1	1.2	2.2	0.7	3.5	2.4
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**4.2**	**6.4**	**8.6**	**9.5**	**10.0**	**11.5**	**12.2**	**12.9**	**13.4**	**7.5**	**1.5**	**2.0**	**0.9**
Trucks	3.2	5.5	7.6	8.8	9.3	10.7	11.4	12.0	12.5	9.0	2.0	2.1	0.9
Rail	0.6	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.3	-4.1	1.8	0.4
Inland navigation	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	-1.0	0.8	0.9
Energy demand in transport (ktoe)	**1010**	**1311**	**1884**	**2721**	**2780**	**2975**	**2938**	**2857**	**2706**	**6.4**	**4.0**	**0.6**	**-0.8**
Public road transport	10	11	13	17	18	18	18	18	18	2.3	3.2	0.2	-0.1
Private cars and motorcycles	483	574	662	779	769	745	663	590	558	3.2	1.5	-1.5	-1.7
Trucks	364	520	866	1479	1540	1722	1771	1770	1684	9.1	5.9	1.4	-0.5
Rail	13	9	15	9	10	11	11	10	10	2.0	-4.5	0.8	-0.5
Aviation	131	189	320	431	438	474	469	463	429	9.3	3.2	0.7	-0.9
Inland navigation	9	8	7	6	6	6	6	6	7	-2.4	-1.5	0.7	0.8

Source: PRIMES

Malta: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**0**	**0**	**0**	**0**	**5**	**28**	**49**	**66**	**88**			**27.0**	**5.9**
Solids	0	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	0	0	0	0	5	28	49	66	88			27.0	5.9
Hydro	0	0	0	0	0	0	0	0	0				
Biomass & Waste	0	0	0	0	0	3	4	5	7			50.7	4.8
Wind	0	0	0	0	0	3	11	25	41				14.5
Solar and others	0	0	0	0	4	22	34	36	39			22.8	1.4
Geothermal	0	0	0	0	0	0	0	0	0			19.0	-0.2
Net Imports	**612**	**891**	**822**	**958**	**911**	**776**	**731**	**707**	**663**	**3.0**	**1.0**	**-2.2**	**-1.0**
Solids	0	0	0	0	0	0	0	0	0				
Oil	612	891	822	958	911	629	553	509	445	3.0	1.0	-4.9	-2.1
- Crude oil and Feedstocks	0	0	0	0	0	0	0	0	0				
- Oil products	612	891	822	958	911	629	553	509	445	3.0	1.0	-4.9	-2.1
Natural gas	0	0	0	0	0	142	146	166	182			137.8	2.2
Electricity	0	0	0	0	0	0	22	24	26				1.7
Gross Inland Consumption	**582**	**809**	**773**	**958**	**916**	**803**	**780**	**773**	**751**	**2.9**	**1.7**	**-1.6**	**-0.4**
Solids	0	0	0	0	0	0	0	0	0				
Oil	582	809	773	958	911	629	553	509	445	2.9	1.7	-4.9	-2.1
Natural gas	0	0	0	0	0	142	146	166	182			137.8	2.2
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	0	0	0	0	0	0	22	24	26				1.7
Renewable energy forms	0	0	0	0	5	32	58	74	97			28.1	5.2
as % in Gross Inland Consumption													
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Oil	100.0	100.0	100.0	100.0	99.5	78.3	70.9	65.9	59.3				
Natural gas	0.0	0.0	0.0	0.0	0.0	17.7	18.8	21.4	24.2				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	0.0	0.0	0.0	0.0	0.5	4.0	7.5	9.6	12.9				
Gross Electricity Generation in GWh_e	**1100**	**1632**	**1917**	**2240**	**2165**	**2155**	**1946**	**1966**	**1962**	**5.7**	**1.2**	**-1.1**	**0.1**
Self consumption and grid losses	190	373	350	396	382	348	313	280	241	6.3	0.9	-2.0	-2.6
Fuel Inputs for Thermal Power Generation	**322**	**463**	**495**	**580**	**539**	**394**	**320**	**282**	**229**	**4.4**	**0.9**	**-5.1**	**-3.3**
Solids	0	0	0	0	0	0	0	0	0				
Oil (including refinery gas)	322	463	495	580	539	250	174	134	81	4.4	0.9	-10.7	-7.3
Gas	0	0	0	0	0	140	139	140	139				0.0
Biomass & Waste	0	0	0	0	0	4	6	8	9				3.8
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**0**	**0**	**0**	**0**	**0**	**3**	**7**	**5**	**7**			**32.3**	**0.2**
Refineries	0	0	0	0	0	0	0	0	0				
Biofuels and hydrogen production	0	0	0	0	0	3	7	5	7			34.5	0.2
District heating	0	0	0	0	0	0	0	0	0			3.0	2.2
Others	0	0	0	0	0	0	0	0	0				
Energy Branch Consumption	**8**	**19**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**2.5**	**-2.3**	**-3.3**	**-3.6**
Non-Energy Uses	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**				
Final Energy Demand	**333**	**451**	**412**	**526**	**529**	**559**	**583**	**601**	**614**	**2.2**	**2.5**	**1.0**	**0.5**
by sector													
Industry	0	42	43	46	46	50	51	54	56		0.7	1.0	0.9
- energy intensive industries	0	0	0	0	0	0	0	0	0				
- other industrial sectors	0	42	43	46	46	50	51	54	56		0.7	1.0	0.9
Residential	55	73	76	89	92	97	104	107	110	3.2	2.0	1.2	0.5
Tertiary	56	32	55	63	66	70	76	80	83	-0.2	1.9	1.3	0.9
Transport	222	305	238	329	324	343	352	360	365	0.7	3.1	0.8	0.4
by fuel													
Solids	0	0	0	0	0	0	0	0	0				
Oil	255	343	277	378	371	379	379	375	364	0.9	3.0	0.2	-0.4
Gas	0	0	0	0	0	2	7	26	43			75.9	19.6
Electricity	78	108	135	148	153	155	163	169	174	5.6	1.3	0.6	0.7
Heat (from CHP and District Heating) [A]	0	0	0	0	0	0	0	0	0			3.0	2.2
Renewable energy forms	0	0	0	0	4	23	34	31	32			23.5	-0.6
Other	0	0	0	0	0	0	0	0	0			9.7	-0.6
RES in Gross Final Energy Consumption [B]			**0**	**0**	**5**	**29**	**54**	**69**	**91**			**27.3**	**5.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**2.0**		**2.7**	**3.3**	**3.1**	**2.5**	**2.2**	**2.1**	**2.0**	**3.1**	**1.6**	**-3.3**	**-1.3**
of which ETS sectors GHGs emissions				2.1	2.0	1.5	1.3	1.2	1.1			-4.4	-1.9
CO_2 Emissions (energy related)	**1.8**	**2.5**	**2.4**	**3.0**	**2.8**	**2.3**	**2.0**	**1.9**	**1.8**	**3.0**	**1.7**	**-3.3**	**-1.3**
Power generation/District heating	1.0	1.5	1.6	1.9	1.7	1.1	0.9	0.8	0.6	4.4	0.9	-6.5	-4.0
Energy Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Residential	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.8	2.0	-2.2	-0.7
Tertiary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		2.4	-0.2	3.1
Transport	0.7	0.9	0.7	1.0	1.0	1.0	1.0	1.1	1.1	0.7	3.2	0.6	0.3
CO_2 Emissions (non energy related)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**				
Non-CO_2 GHGs Emissions	**0.2**		**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**3.4**	**0.6**	**-3.2**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.1**	**168.0**	**158.3**	**127.4**	**113.5**	**108.8**	**100.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Malta: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	0.352	0.369	0.380	0.403	0.414	0.421	0.427	0.431	0.432	0.8	0.8	0.3	0.1
GDP (in 000 M€08)	3.1	3.9	4.8	5.1	5.5	6.2	7.2	8.0	8.8	4.6	1.3	2.7	2.0
Gross Inl. Cons./GDP (toe/M€08)	189.6	206.3	161.2	189.0	167.5	129.2	108.9	96.5	85.6	-1.6	0.4	-4.2	-2.4
Carbon intensity (t of CO_2/toe of GIC)	3.06	3.08	3.10	3.12	3.10	2.82	2.61	2.51	2.37	0.1	0.0	-1.7	-1.0
Import Dependency %	100.0	104.5	100.8	100.0	99.5	96.6	93.7	91.4	88.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			0.4	0.6	0.7	0.8	1.0	1.2	1.3		5.1	5.3	2.6
as % of GDP			8.9	12.6	12.8	14.4	16.4	17.6	17.4				
Energy intensity indicators													
Industry (Energy on Value added)	0.0	122.2	100.0	133.5	125.2	118.3	105.8	99.5	95.2		2.3	-1.7	-1.1
Residential (Energy on Private Income)	115.3	114.5	100.0	108.5	106.3	97.0	90.3	82.8	77.5	-1.4	0.6	-1.6	-1.5
Tertiary (Energy on Value added)	158.1	70.7	100.0	103.0	100.8	92.9	87.6	82.5	78.3	-4.5	0.1	-1.4	-1.1
Passenger transport (toe/Mpkm)	47.2	56.2	41.7	57.4	51.3	47.8	44.2	41.3	38.4	-1.2	2.1	-1.5	-1.4
Freight transport (toe/Mtkm)	211.4	232.0	156.0	212.1	192.7	183.3	179.0	175.4	170.1	-3.0	2.1	-0.7	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.93	0.91	0.82	0.83	0.80	0.52	0.45	0.38	0.30	-1.3	-0.3	-5.5	-4.1
Final energy demand (t of CO_2/toe)	2.26	2.24	1.99	2.14	2.10	2.03	1.98	1.97	1.94	-1.3	0.5	-0.6	-0.2
Industry		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Residential	1.66	1.47	1.01	1.10	1.01	0.82	0.71	0.64	0.63	-4.9	0.0	-3.4	-1.2
Tertiary	0.00	0.00	0.64	0.69	0.67	0.52	0.57	0.67	0.70		0.5	-1.5	2.1
Transport	2.97	2.96	2.98	3.00	3.00	2.98	2.94	2.95	2.92	0.0	0.1	-0.2	-0.1
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			0.0	0.0	1.0	6.0	11.0	13.9	18.4				
RES in transport (%)			0.0	0.0	0.1	1.2	3.3	2.4	3.7				
Gross Electricity generation by fuel type (in GWh)			**1917**	**2240**	**2165**	**2155**	**1946**	**1966**	**1962**		**1.2**	**-1.1**	**0.1**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			0	0	0	0	0	0	0				
Petroleum products			1917	2240	2158	1188	824	631	390		1.2	-9.2	-7.2
Gas (including derived gases)			0	0	0	893	887	893	884				0.0
Biomass & waste			0	0	0	18	28	35	41				4.0
Hydro			0	0	0	0	0	0	0				
Wind			0	0	0	32	125	289	482				14.5
Solar, tidal etc.			0	0	8	25	82	119	165			26.8	7.2
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**484**	**544**	**550**	**836**	**674**	**763**	**863**		**1.3**	**2.1**	**2.5**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			0	0	5	31	99	188	288			34.8	11.2
Hydro (pumping excluded)			0	0	0	0	0	0	0				
Wind			0	0	0	15	51	115	185				13.8
Solar			0	0	5	16	49	72	102			25.5	7.7
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			484	544	545	805	575	575	576		1.2	0.5	0.0
of which cogeneration units			0	0	0	0	0	0	0				
of which CCS units			0	0	0	0	0	0	0				
Solids fired			0	0	0	0	0	0	0				
Gas fired			0	0	0	124	124	124	124				0.0
Oil fired			484	544	545	678	447	446	446		1.2	-2.0	0.0
Biomass-waste fired			0	0	0	3	4	5	6				4.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			42.5	44.9	43.0	28.3	31.8	28.6	25.3				
Efficiency for thermal electricity production (%)			33.3	33.2	34.4	45.8	46.8	47.5	49.3				
CHP indicator (% of electricity from CHP)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			0.0	0.0	0.4	3.5	12.1	22.5	35.1				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			0.0	0.0	0.4	3.5	12.1	22.5	35.1				
Transport sector													
Passenger transport activity (Gpkm)	**3.9**	**4.4**	**4.8**	**4.8**	**5.4**	**6.1**	**6.8**	**7.4**	**8.0**	**1.9**	**1.2**	**2.3**	**1.7**
Public road transport	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.2	1.2	0.4	0.2
Private cars and motorcycles	1.5	1.8	1.9	2.1	2.2	2.2	2.2	2.2	2.1	1.9	1.7	0.0	-0.2
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Aviation	2.0	2.2	2.5	2.3	2.7	3.4	4.0	4.7	5.3	2.1	0.8	4.2	2.8
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**4.1**	**0.0**	**1.7**	**1.2**
Trucks	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.1	0.0	1.7	1.2
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**222**	**305**	**238**	**329**	**324**	**343**	**352**	**360**	**365**	**0.7**	**3.1**	**0.8**	**0.4**
Public road transport	9	9	7	10	11	11	10	10	10	-1.9	3.7	-0.2	-0.7
Private cars and motorcycles	105	164	105	175	164	159	149	141	133	0.0	4.6	-1.0	-1.1
Trucks	35	58	39	53	48	50	53	56	57	1.0	2.1	1.0	0.7
Rail	0	0	0	0	0	0	0	0	0				
Aviation	72	74	86	90	101	124	139	154	165	1.8	1.6	3.3	1.7
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Netherlands: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**60563**	**66301**	**57430**	**61899**	**60221**	**58140**	**56954**	**49558**	**43284**	**-0.5**	**0.5**	**-0.6**	**-2.7**
Solids	0	0	0	0	2	2	2	1	1			0.5	-6.3
Oil	4114	3625	2472	2346	1240	530	0	0	0	-5.0	-6.7		
Natural gas	54613	60456	51904	56265	54900	51980	49180	40100	32670	-0.5	0.6	-1.1	-4.0
Nuclear	881	1036	1013	1031	1017	1023	1024	2216	2614	1.4	0.0	0.1	9.8
Renewable energy sources	956	1184	2040	2257	3062	4605	6748	7241	7999	7.9	4.1	8.2	1.7
Hydro	7	8	12	8	8	9	9	9	9	5.3	-3.6	0.0	0.0
Biomass & Waste	942	1144	1945	2050	2358	2925	3389	3427	3797	7.5	1.9	3.7	1.1
Wind	5	27	71	178	616	1448	2882	3094	3264	30.9	24.1	16.7	1.3
Solar and others	2	5	12	22	80	186	363	503	615	18.5	21.3	16.4	5.4
Geothermal	0	0	0	0	0	37	105	210	315			134.4	11.6
Net Imports	**18273**	**17142**	**35442**	**38390**	**34235**	**35381**	**33900**	**38889**	**44072**	**6.8**	**-0.3**	**-0.1**	**2.7**
Solids	9574	8921	8222	8313	7280	8109	7166	6827	6966	-1.5	-1.2	-0.2	-0.3
Oil	31704	33609	42777	48868	46273	46863	46352	45364	43600	3.0	0.8	0.0	-0.6
- Crude oil and Feedstocks	48979	60332	62222	62643	60525	61115	60525	59480	57620	2.4	-0.3	0.0	-0.5
- Oil products	-17275	-26723	-19446	-13775	-14252	-14252	-14173	-14116	-14020				
Natural gas	-23799	-26370	-17191	-20941	-21504	-20998	-20926	-14644	-7936				
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Gross Inland Consumption	**67955**	**74528**	**77042**	**82479**	**78366**	**77273**	**74732**	**72093**	**70587**	**1.3**	**0.2**	**-0.5**	**-0.6**
Solids	9206	9098	8035	8190	7281	8111	7168	6828	6967	-1.4	-1.0	-0.2	-0.3
Oil	25308	28142	29610	33527	31423	31144	30230	29010	26831	1.6	0.6	-0.4	-1.2
Natural gas	30810	34085	34711	35324	33396	30982	28254	25456	24734	1.2	-0.4	-1.7	-1.3
Nuclear	881	1036	1013	1031	1017	1023	1024	2216	2614	1.4	0.0	0.1	9.8
Electricity	792	980	1626	1573	1389	325	-89	-176	-196	7.5	-1.6		
Renewable energy forms	959	1187	2048	2834	3859	5686	8145	8759	9637	7.9	6.5	7.8	1.7
as % in Gross Inland Consumption													
Solids	13.5	12.2	10.4	9.9	9.3	10.5	9.6	9.5	9.9				
Oil	37.2	37.8	38.4	40.6	40.1	40.3	40.5	40.2	38.0				
Natural gas	45.3	45.7	45.1	42.8	42.6	40.1	37.8	35.3	35.0				
Nuclear	1.3	1.4	1.3	1.3	1.3	1.3	1.4	3.1	3.7				
Renewable energy forms	1.4	1.6	2.7	3.4	4.9	7.4	10.9	12.1	13.7				
Gross Electricity Generation in GWh_e	**71824**	**81054**	**89599**	**100235**	**104202**	**121881**	**131295**	**132334**	**136396**	**2.2**	**1.5**	**2.3**	**0.4**
Self consumption and grid losses	5556	6855	7754	8521	8796	9935	12538	12179	16198	3.4	1.3	3.6	2.6
Fuel Inputs for Thermal Power Generation	**14646**	**17053**	**18277**	**19614**	**19036**	**20275**	**18993**	**17991**	**18536**	**2.2**	**0.4**	**0.0**	**-0.2**
Solids	5698	5900	5114	4958	4760	5710	4819	4640	4867	-1.1	-0.7	0.1	0.1
Oil (including refinery gas)	727	917	671	691	587	559	544	615	512	-0.8	-1.3	-0.8	-0.6
Gas	7651	9466	11071	11913	11336	11016	10170	8858	8937	3.8	0.2	-1.1	-1.3
Biomass & Waste	570	770	1421	2052	2353	2953	3355	3668	3905	9.6	5.2	3.6	1.5
Geothermal heat	0	0	0	0	0	37	105	210	315				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**73390**	**84833**	**86509**	**91301**	**84021**	**84078**	**82035**	**80355**	**78042**	**1.7**	**-0.3**	**-0.2**	**-0.5**
Refineries	69876	81133	83485	87803	80994	80996	78698	77193	74949	1.8	-0.3	-0.3	-0.5
Biofuels and hydrogen production	0	0	0	0	255	493	838	779	842			12.6	0.0
District heating	0	11	153	436	494	494	494	455	388		12.4	0.0	-2.4
Others	3514	3689	2870	3062	2278	2094	2004	1928	1863	-2.0	-2.3	-1.3	-0.7
Energy Branch Consumption	**5462**	**6320**	**5600**	**6665**	**5809**	**5691**	**5719**	**5490**	**5652**	**0.2**	**0.4**	**-0.2**	**-0.1**
Non-Energy Uses	**9775**	**9892**	**10307**	**13031**	**12947**	**12826**	**12342**	**12169**	**12157**	**0.5**	**2.3**	**-0.5**	**-0.2**
Final Energy Demand	**42876**	**47727**	**50174**	**51639**	**50682**	**49444**	**48237**	**45951**	**43917**	**1.6**	**0.1**	**-0.5**	**-0.9**
by sector													
Industry	12542	12675	13753	14929	14520	14421	13862	13361	12992	0.9	0.5	-0.5	-0.6
- energy intensive industries	9531	8686	9823	10639	10053	9930	9507	9077	8790	0.3	0.2	-0.6	-0.8
- other industrial sectors	3010	3989	3930	4291	4467	4491	4355	4283	4202	2.7	1.3	-0.3	-0.4
Residential	9938	11152	10333	10101	10171	9840	9493	8801	8316	0.4	-0.2	-0.7	-1.3
Tertiary	10012	11463	12229	11495	11305	10593	10095	9201	8549	2.0	-0.8	-1.1	-1.6
Transport	10385	12436	13858	15114	14687	14591	14787	14589	14061	2.9	0.6	0.1	-0.5
by fuel													
Solids	1651	1415	1295	1515	1151	1166	1173	1019	941	-2.4	-1.2	0.2	-2.2
Oil	12851	14721	16512	17406	16693	16352	16048	15073	13637	2.5	0.1	-0.4	-1.6
Gas	21244	22515	21008	20335	19364	17761	15954	14541	13283	-0.1	-0.8	-1.9	-1.8
Electricity	6322	7143	8421	8989	9154	9513	9686	9731	9724	2.9	0.8	0.6	0.0
Heat (from CHP and District Heating) [A]	439	1568	2558	2981	3651	3628	3807	4008	4333	19.3	3.6	0.4	1.3
Renewable energy forms	370	364	380	413	668	1022	1567	1578	1996	0.3	5.8	8.9	2.4
Other	0	0	0	0	1	2	2	2	2			8.4	0.0
RES in Gross Final Energy Consumption [B]			**814**	**1169**	**3242**	**5120**	**7469**	**7979**	**8748**		**14.8**	**8.7**	**1.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**214.2**		**219.2**	**217.8**	**197.4**	**192.5**	**173.7**	**162.0**	**142.0**	**0.2**	**-1.0**	**-1.3**	**-2.0**
of which ETS sectors GHGs emissions				107.3	91.4	93.5	80.8	74.8	59.9			-1.2	-2.9
CO_2 Emissions (energy related)	**152.1**	**167.6**	**166.2**	**172.1**	**159.6**	**156.8**	**138.6**	**127.9**	**108.3**	**0.9**	**-0.4**	**-1.4**	**-2.4**
Power generation/District heating	43.4	49.2	49.1	51.2	48.4	51.3	38.9	35.4	23.7	1.2	-0.1	-2.2	-4.8
Energy Branch	13.8	16.0	13.5	15.0	11.3	10.4	9.8	9.3	8.7	-0.3	-1.7	-1.4	-1.2
Industry	26.6	24.8	24.6	25.4	22.1	21.6	19.7	17.3	14.5	-0.8	-1.1	-1.1	-3.0
Residential	19.2	20.6	18.9	17.8	17.9	16.6	15.2	13.5	12.4	-0.2	-0.5	-1.6	-2.1
Tertiary	18.9	20.7	19.5	18.1	17.4	15.4	14.0	11.8	10.1	0.3	-1.2	-2.2	-3.2
Transport	30.2	36.3	40.6	44.5	42.5	41.5	41.1	40.7	38.9	3.0	0.5	-0.3	-0.5
CO_2 Emissions (non energy related)	**9.4**	**9.1**	**8.2**	**8.6**	**7.9**	**8.0**	**7.9**	**7.7**	**7.2**	**-1.4**	**-0.4**	**0.0**	**-1.0**
Non-CO_2 GHGs Emissions	**52.6**		**44.8**	**37.0**	**29.9**	**27.8**	**27.1**	**26.4**	**26.5**	**-1.6**	**-4.0**	**-1.0**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.3**	**101.7**	**92.2**	**89.9**	**81.1**	**75.6**	**66.3**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Netherlands: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	14.893	15.424	15.864	16.306	16.503	16.717	16.896	17.069	17.208	0.6	0.4	0.2	0.2
GDP (in 000 M€08)	367.1	416.6	508.0	542.4	569.9	622.3	673.9	720.9	767.3	3.3	1.2	1.7	1.3
Gross Inl. Cons./GDP (toe/M€08)	185.1	178.9	151.7	152.1	137.5	124.2	110.9	100.0	92.0	-2.0	-1.0	-2.1	-1.9
Carbon intensity (t of CO_2/toe of GIC)	2.24	2.25	2.16	2.09	2.04	2.03	1.86	1.77	1.53	-0.4	-0.6	-0.9	-1.9
Import Dependency %	23.2	20.0	39.2	38.7	36.2	37.8	37.3	44.0	50.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			48.2	56.0	56.9	66.4	80.1	88.1	91.2		1.9	4.1	2.1
as % of GDP			9.5	10.3	10.2	11.3	12.9	13.8	14.0				
Energy intensity indicators													
Industry (Energy on Value added)	105.2	107.3	100.0	108.1	104.1	97.3	89.5	82.7	77.4	-0.5	0.4	-1.5	-1.4
Residential (Energy on Private Income)	133.0	133.8	100.0	93.4	91.5	79.7	70.2	60.8	53.8	-2.8	-0.9	-2.6	-2.6
Tertiary (Energy on Value added)	117.5	115.7	100.0	86.8	80.6	68.1	59.4	50.3	43.7	-1.6	-2.1	-3.0	-3.0
Passenger transport (toe/Mpkm)	41.4	49.0	49.3	52.8	50.8	46.4	45.1	41.8	37.6	1.8	0.3	-1.2	-1.8
Freight transport (toe/Mtkm)	34.9	37.8	38.1	36.6	35.8	35.6	34.0	32.4	30.6	0.9	-0.6	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.56	0.48	0.39	0.35	0.30	0.28	0.20	0.18	0.12	-3.4	-2.8	-3.9	-5.4
Final energy demand (t of CO_2/toe)	2.21	2.15	2.07	2.05	1.97	1.92	1.86	1.81	1.73	-0.7	-0.5	-0.6	-0.8
Industry	2.12	1.96	1.79	1.70	1.52	1.50	1.42	1.30	1.11	-1.7	-1.6	-0.7	-2.4
Residential	1.93	1.85	1.83	1.76	1.76	1.68	1.60	1.53	1.49	-0.5	-0.4	-0.9	-0.7
Tertiary	1.89	1.81	1.60	1.58	1.54	1.46	1.38	1.28	1.18	-1.7	-0.4	-1.1	-1.5
Transport	2.91	2.92	2.93	2.95	2.89	2.85	2.78	2.79	2.77	0.1	-0.1	-0.4	0.0
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			1.6	2.2	6.3	10.2	15.3	17.2	19.5				
RES in transport (%)			0.1	0.1	2.6	5.0	8.8	8.3	9.2				
Gross Electricity generation by fuel type (in GWh)			**89599**	**100235**	**104202**	**121881**	**131295**	**132334**	**136396**		**1.5**	**2.3**	**0.4**
Nuclear energy			3925	3996	3942	3967	3971	9525	11257		0.0	0.1	11.0
Coal and lignite			23513	22687	21513	27833	24566	23027	24532		-0.9	1.3	0.0
Petroleum products			2380	2698	2910	2926	2847	1908	1599		2.0	-0.2	-5.6
Gas (including derived gases)			55301	62203	59542	59150	54029	47295	47019		0.7	-1.0	-1.4
Biomass & waste			3500	6463	8948	10904	11915	13882	13032		9.8	2.9	0.9
Hydro			142	88	99	99	99	99	99		-3.6	0.0	0.0
Wind			829	2067	7160	16842	33515	35972	37953		24.1	16.7	1.3
Solar, tidal etc.			8	34	87	117	149	206	249		27.0	5.5	5.3
Geothermal and other renewables			0	0	0	43	205	421	657				12.4
Net Generation Capacity in MW_e			**20559**	**23096**	**26283**	**31529**	**35706**	**37078**	**39687**		**2.5**	**3.1**	**1.1**
Nuclear energy			504	504	504	504	504	1100	1300		0.0	0.0	9.9
Renewable energy			494	1331	3212	6141	11310	12203	12951		20.6	13.4	1.4
Hydro (pumping excluded)			39	37	37	37	37	37	37		-0.5	0.0	0.0
Wind			442	1243	3078	5978	11095	11903	12571		21.4	13.7	1.3
Solar			13	51	96	126	151	206	249		22.2	4.6	5.1
Other renewables (tidal etc.)			0	0	0	0	27	58	95				13.4
Thermal power			19561	21261	22566	24884	23892	23774	25436		1.4	0.6	0.6
of which cogeneration units			6017	5905	8227	8312	8203	8548	8654		3.2	0.0	0.5
of which CCS units			0	0	0	0	1005	1005	3714				14.0
Solids fired			4200	4200	4186	8133	8534	8534	9544		0.0	7.4	1.1
Gas fired			13732	14827	15935	13936	12432	11916	12393		1.5	-2.5	0.0
Oil fired			776	762	995	787	786	914	865		2.5	-2.3	1.0
Biomass-waste fired			853	1473	1451	2023	2126	2383	2591		5.4	3.9	2.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	5	14	28	42				11.6
Load factor for net electric capacities (%)			47.7	47.5	43.4	42.3	39.6	38.5	36.0				
Efficiency for thermal electricity production (%)			39.9	41.2	42.0	42.8	42.3	41.3	40.2				
CHP indicator (% of electricity from CHP)			39.1	30.8	42.8	36.7	34.3	34.8	32.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	8.3	8.0	25.8				
Non fossil fuels in electricity generation (%)			9.4	12.6	19.4	26.2	38.0	45.4	46.4				
- nuclear			4.4	4.0	3.8	3.3	3.0	7.2	8.3				
- renewable energy forms and industrial waste			5.0	8.6	15.6	23.0	34.9	38.2	38.1				
Transport sector													
Passenger transport activity (Gpkm)	**172.2**	**172.3**	**184.4**	**194.8**	**197.9**	**212.3**	**224.3**	**237.6**	**251.1**	**0.7**	**0.7**	**1.3**	**1.1**
Public road transport	13.0	12.0	11.3	11.8	12.4	13.1	13.6	13.9	14.1	-1.4	0.9	1.0	0.3
Private cars and motorcycles	138.6	133.0	143.3	151.5	151.7	160.9	167.1	175.4	184.5	0.3	0.6	1.0	1.0
Rail	12.3	17.7	16.1	16.7	18.1	19.6	21.1	22.5	23.9	2.7	1.2	1.6	1.2
Aviation	7.0	8.5	13.0	14.2	15.1	17.9	21.6	24.9	27.8	6.3	1.5	3.7	2.5
Inland navigation	1.2	1.0	0.7	0.7	0.7	0.8	0.8	0.8	0.8	-5.0	0.2	0.5	0.5
Freight transport activity (Gtkm)	**93.2**	**105.7**	**125.4**	**132.3**	**129.2**	**133.2**	**137.3**	**144.1**	**151.2**	**3.0**	**0.3**	**0.6**	**1.0**
Trucks	54.5	67.1	79.6	84.2	80.0	82.7	84.9	89.4	94.5	3.9	0.1	0.6	1.1
Rail	3.1	3.1	4.5	5.9	7.4	7.7	7.9	8.0	8.1	3.9	5.0	0.7	0.2
Inland navigation	35.7	35.5	41.3	42.2	41.8	42.8	44.6	46.6	48.6	1.5	0.1	0.6	0.9
Energy demand in transport (ktoe)	**10385**	**12436**	**13858**	**15114**	**14687**	**14591**	**14787**	**14589**	**14061**	**2.9**	**0.6**	**0.1**	**-0.5**
Public road transport	166	151	140	144	150	154	152	147	141	-1.7	0.7	0.1	-0.7
Private cars and motorcycles	5237	5553	5491	6371	6117	5826	5620	5484	5209	0.5	1.1	-0.8	-0.8
Trucks	2666	3278	4037	4552	4319	4424	4365	4368	4331	4.2	0.7	0.1	-0.1
Rail	147	163	176	172	197	200	183	171	166	1.8	1.2	-0.7	-1.0
Aviation	1608	2589	3343	3670	3699	3779	4253	4197	3984	7.6	1.0	1.4	-0.6
Inland navigation	560	702	672	206	204	208	215	222	230	1.8	-11.2	0.5	0.7

Source: PRIMES

Poland: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**99385**	**99403**	**80300**	**79260**	**69105**	**67531**	**70195**	**70507**	**68671**	**-2.1**	**-1.5**	**0.2**	**-0.2**
Solids	94459	91104	71298	68876	59068	55605	51410	49038	46042	-2.8	-1.9	-1.4	-1.1
Oil	179	367	1433	1498	750	700	691	650	600	23.1	-6.3	-0.8	-1.4
Natural gas	2378	3169	3313	3884	3865	3440	3100	2800	2671	3.4	1.6	-2.2	-1.5
Nuclear	0	0	0	0	0	0	2817	5094	6738				9.1
Renewable energy sources	2369	4763	4256	5002	5421	7787	12178	12925	12620	6.0	2.4	8.4	0.4
Hydro	139	162	181	189	195	205	221	231	246	2.7	0.7	1.3	1.1
Biomass & Waste	2230	4600	4072	4792	5111	7307	11231	11873	11373	6.2	2.3	8.2	0.1
Wind	0	0	0	12	87	145	248	312	378		70.0	11.1	4.3
Solar and others	0	0	0	0	1	32	93	164	263			51.9	11.0
Geothermal	0	0	3	9	28	98	385	345	361		25.1	30.0	-0.6
Net Imports	**2306**	**-11**	**10262**	**16911**	**32442**	**36478**	**35436**	**34064**	**38038**	**16.1**	**12.2**	**0.9**	**0.7**
Solids	-18913	-21202	-16309	-12755	-5341	-4251	-4927	-5488	-761				
Oil	14536	15622	20512	22155	27304	30290	29942	30173	29933	3.5	2.9	0.9	0.0
- Crude oil and Feedstocks	13196	14112	18949	18362	22666	25001	24757	24910	24732	3.7	1.8	0.9	0.0
- Oil products	1340	1510	1563	3793	4638	5289	5185	5263	5200	1.5	11.5	1.1	0.0
Natural gas	6773	5810	6607	8531	11165	11093	10566	10334	9859	-0.2	5.4	-0.5	-0.7
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Gross Inland Consumption	**100083**	**100165**	**90907**	**93870**	**101127**	**103540**	**105157**	**104096**	**106239**	**-1.0**	**1.1**	**0.4**	**0.1**
Solids	75405	70500	56358	54918	53727	51354	46483	43550	45281	-2.9	-0.5	-1.4	-0.3
Oil	13461	16149	20889	22734	27634	30521	30159	30348	30062	4.5	2.8	0.9	0.0
Natural gas	8938	8995	9960	12235	15030	14533	13666	13134	12530	1.1	4.2	-0.9	-0.9
Nuclear	0	0	0	0	0	0	2817	5094	6738				9.1
Electricity	-90	-241	-548	-962	-576	-442	-449	-498	-528				
Renewable energy forms	2369	4763	4249	4946	5311	7574	12482	12468	12156	6.0	2.3	8.9	-0.3
as % in Gross Inland Consumption													
Solids	75.3	70.4	62.0	58.5	53.1	49.6	44.2	41.8	42.6				
Oil	13.4	16.1	23.0	24.2	27.3	29.5	28.7	29.2	28.3				
Natural gas	8.9	9.0	11.0	13.0	14.9	14.0	13.0	12.6	11.8				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	2.7	4.9	6.3				
Renewable energy forms	2.4	4.8	4.7	5.3	5.3	7.3	11.9	12.0	11.4				
Gross Electricity Generation in GWh_e	**134591**	**137017**	**143148**	**155331**	**162472**	**169668**	**179879**	**191955**	**223830**	**0.6**	**1.3**	**1.0**	**2.2**
Self consumption and grid losses	24377	30428	27978	28523	30102	30557	32816	36971	58867	1.4	0.7	0.9	6.0
Fuel Inputs for Thermal Power Generation	**43419**	**36847**	**35960**	**38149**	**41016**	**40234**	**38989**	**37411**	**39495**	**-1.9**	**1.3**	**-0.5**	**0.1**
Solids	41138	35842	34793	35942	37698	37001	33407	31406	33854	-1.7	0.8	-1.2	0.1
Oil (including refinery gas)	1235	405	228	179	200	183	79	80	86	-15.6	-1.3	-8.9	0.8
Gas	673	488	783	1483	1448	1332	1347	1317	1284	1.5	6.3	-0.7	-0.5
Biomass & Waste	372	114	157	546	1669	1718	4038	4483	4139	-8.3	26.7	9.2	0.2
Geothermal heat	0	0	0	0	0	0	118	125	133				1.2
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**37964**	**33093**	**34029**	**32016**	**34268**	**35887**	**35049**	**34537**	**33919**	**-1.1**	**0.1**	**0.2**	**-0.3**
Refineries	13269	15062	20074	19789	23580	25877	25606	25709	25472	4.2	1.6	0.8	-0.1
Biofuels and hydrogen production	0	0	0	47	363	711	1333	1548	1840			13.9	3.3
District heating	9949	5985	4320	3640	3556	3389	3002	3107	3206	-8.0	-1.9	-1.7	0.7
Others	14746	12045	9635	8541	6769	5910	5107	4174	3401	-4.2	-3.5	-2.8	-4.0
Energy Branch Consumption	**6808**	**7653**	**7263**	**7151**	**8587**	**8712**	**8658**	**8744**	**10299**	**0.6**	**1.7**	**0.1**	**1.8**
Non-Energy Uses	**4218**	**3720**	**4319**	**4471**	**4707**	**5006**	**5069**	**5216**	**5416**	**0.2**	**0.9**	**0.7**	**0.7**
Final Energy Demand	**59652**	**63525**	**55323**	**57854**	**64841**	**68700**	**70131**	**69405**	**68932**	**-0.8**	**1.6**	**0.8**	**-0.2**
by sector													
Industry	25258	22722	18886	16462	17488	18578	18558	18413	18194	-2.9	-0.8	0.6	-0.2
- energy intensive industries	16252	15428	13373	11186	11387	11731	11482	11138	11033	-1.9	-1.6	0.1	-0.4
- other industrial sectors	9006	7294	5513	5276	6101	6847	7076	7276	7161	-4.8	1.0	1.5	0.1
Residential	18126	23284	17519	18377	18767	18480	18703	17673	17276	-0.3	0.7	0.0	-0.8
Tertiary	8906	9244	9714	10932	11848	12201	12499	12209	11840	0.9	2.0	0.5	-0.5
Transport	7362	8275	9204	12083	16738	19441	20370	21109	21622	2.3	6.2	2.0	0.6
by fuel													
Solids	17066	23299	13728	11350	10322	8981	8387	7815	7366	-2.2	-2.8	-2.1	-1.3
Oil	9143	11618	14917	17874	21961	24630	24627	24784	24669	5.0	3.9	1.2	0.0
Gas	7987	7735	7447	8400	11524	11223	10287	9673	8748	-0.7	4.5	-1.1	-1.6
Electricity	8262	7703	8454	9028	9903	10660	11354	12038	12921	0.2	1.6	1.4	1.3
Heat (from CHP and District Heating) [A]	15563	8763	6886	7056	7915	7725	7664	7841	8010	-7.8	1.4	-0.3	0.4
Renewable energy forms	1631	4408	3889	4146	3215	5479	7808	7250	7213	9.1	-1.9	9.3	-0.8
Other	0	0	0	0	1	3	4	4	4			12.3	0.5
RES in Gross Final Energy Consumption [B]			**3766**	**4290**	**4951**	**6787**	**11199**	**11141**	**10915**		**2.8**	**8.5**	**-0.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**440.8**		**374.8**	**375.2**	**396.5**	**381.8**	**354.5**	**330.3**	**256.4**	**-1.6**	**0.6**	**-1.1**	**-3.2**
of which ETS sectors GHGs emissions				218.9	221.1	216.1	194.9	174.4	108.1			-1.3	-5.7
CO_2 Emissions (energy related)	**332.3**	**330.9**	**288.6**	**291.2**	**312.3**	**310.1**	**283.5**	**259.6**	**188.9**	**-1.4**	**0.8**	**-1.0**	**-4.0**
Power generation/District heating	209.3	169.9	158.8	162.1	168.0	164.8	143.9	124.0	58.2	-2.7	0.6	-1.5	-8.7
Energy Branch	5.8	12.7	11.3	10.6	10.3	9.6	8.8	8.2	7.9	6.9	-1.0	-1.6	-1.1
Industry	44.0	59.9	46.3	33.5	33.8	33.8	32.2	32.0	32.2	0.5	-3.1	-0.5	0.0
Residential	33.1	44.4	27.9	30.2	31.2	27.2	24.4	20.8	17.6	-1.7	1.1	-2.4	-3.2
Tertiary	19.4	20.8	18.4	20.5	21.8	20.6	19.4	18.3	16.3	-0.5	1.7	-1.2	-1.7
Transport	20.6	23.2	25.8	34.4	47.1	54.0	54.8	56.3	56.8	2.3	6.2	1.5	0.3
CO_2 Emissions (non energy related)	**17.7**	**18.0**	**17.6**	**16.8**	**18.7**	**20.7**	**22.3**	**22.5**	**21.8**	**-0.1**	**0.6**	**1.8**	**-0.2**
Non-CO_2 GHGs Emissions	**90.8**		**68.6**	**67.2**	**65.6**	**51.0**	**48.7**	**48.2**	**45.7**	**-2.8**	**-0.5**	**-2.9**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**85.0**	**85.1**	**90.0**	**86.6**	**80.4**	**74.9**	**58.2**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Poland: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.038	38.581	38.654	38.174	38.092	38.068	37.960	37.612	36.975	0.2	-0.1	0.0	-0.3
GDP (in 000 M€08)	152.9	170.4	221.8	258.2	314.9	373.9	429.0	490.8	544.9	3.8	3.6	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	654.7	587.7	409.8	363.5	321.1	276.9	245.1	212.1	195.0	-4.6	-2.4	-2.7	-2.3
Carbon intensity (t of CO_2/toe of GIC)	3.32	3.30	3.17	3.10	3.09	2.99	2.70	2.49	1.78	-0.4	-0.3	-1.3	-4.1
Import Dependency %	2.3	0.0	11.3	18.0	31.9	35.1	33.5	32.6	35.6				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			33.3	42.0	50.3	63.2	82.0	95.9	107.6		4.7	6.5	3.5
as % of GDP			15.0	16.3	16.7	19.5	23.0	24.5	25.4				
Energy intensity indicators													
Industry (Energy on Value added)	200.8	177.4	100.0	67.2	56.3	49.4	44.1	39.9	37.8	-6.7	-5.6	-2.4	-1.5
Residential (Energy on Private Income)	182.3	177.4	100.0	91.0	79.4	66.3	57.5	47.3	41.1	-5.8	-2.3	-3.2	-3.3
Tertiary (Energy on Value added)	130.3	119.8	100.0	98.0	88.9	75.0	66.0	55.3	47.3	-2.6	-1.2	-2.9	-3.3
Passenger transport (toe/Mpkm)	22.8	27.4	24.9	26.7	27.6	27.1	26.8	26.4	26.9	0.9	1.1	-0.3	0.0
Freight transport (toe/Mtkm)	25.3	27.2	29.2	32.1	34.1	34.0	33.2	32.6	31.5	1.4	1.6	-0.3	-0.5
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.62	0.67	0.67	0.65	0.58	0.55	0.47	0.39	0.16	0.8	-1.3	-2.2	-9.9
Final energy demand (t of CO_2/toe)	1.96	2.33	2.14	2.05	2.07	1.98	1.87	1.84	1.78	0.9	-0.4	-1.0	-0.5
Industry	1.74	2.64	2.45	2.03	1.93	1.82	1.73	1.74	1.77	3.5	-2.4	-1.1	0.2
Residential	1.83	1.90	1.59	1.64	1.66	1.47	1.31	1.18	1.02	-1.3	0.4	-2.4	-2.5
Tertiary	2.18	2.25	1.89	1.87	1.84	1.69	1.55	1.50	1.38	-1.4	-0.3	-1.7	-1.2
Transport	2.80	2.80	2.81	2.85	2.81	2.78	2.69	2.67	2.63	0.0	0.0	-0.4	-0.2
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			6.5	7.1	7.3	9.5	15.4	15.3	14.8				
RES in transport (%)			0.1	0.5	2.7	4.6	8.2	9.2	10.6				
Gross Electricity generation by fuel type (in GWh)			**143148**	**155331**	**162472**	**169668**	**179879**	**191955**	**223830**		**1.3**	**1.0**	**2.2**
Nuclear energy			0	0	0	0	11760	21546	28710				9.3
Coal and lignite			137226	145736	148828	154512	143042	140171	166548		0.8	-0.4	1.5
Petroleum products			911	759	1046	752	238	223	179		1.4	-13.8	-2.8
Gas (including derived gases)			2450	4990	4883	5259	5926	6473	5726		7.1	2.0	-0.3
Biomass & waste			451	1510	4443	5066	13306	17044	15188		25.7	11.6	1.3
Hydro			2106	2201	2263	2379	2568	2682	2856		0.7	1.3	1.1
Wind			5	135	1008	1692	2884	3633	4393		70.0	11.1	4.3
Solar, tidal etc.			0	0	1	8	18	39	76			31.0	15.1
Geothermal and other renewables			0	0	0	0	137	145	154				1.2
Net Generation Capacity in MW_e			**29565**	**30959**	**32471**	**33512**	**34913**	**36661**	**45743**		**0.9**	**0.7**	**2.7**
Nuclear energy			0	0	0	0	1515	2776	3699				9.3
Renewable energy			813	1028	1687	2137	2920	3442	3978		7.6	5.6	3.1
Hydro (pumping excluded)			809	907	1014	1098	1187	1203	1203		2.3	1.6	0.1
Wind			4	121	672	1031	1714	2200	2701		66.9	9.8	4.6
Solar			0	0	1	8	18	39	74			29.8	15.2
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			28752	29931	30784	31375	30479	30443	38066		0.7	-0.1	2.2
of which cogeneration units			9348	9606	9771	9322	10368	10907	11060		0.4	0.6	0.6
of which CCS units			0	0	0	0	610	2083	12317				35.1
Solids fired			27462	28152	28873	28439	26089	25674	32966		0.5	-1.0	2.4
Gas fired			847	1291	1205	1552	1749	1743	1678		3.6	3.8	-0.4
Oil fired			429	430	430	437	382	268	208		0.0	-1.2	-5.9
Biomass-waste fired			14	59	276	947	2244	2741	3197		34.6	23.3	3.6
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	16	17	18				1.2
Load factor for net electric capacities (%)			50.3	52.4	52.2	53.1	53.7	53.7	45.6				
Efficiency for thermal electricity production (%)			33.7	34.5	33.4	35.4	35.9	37.7	40.9				
CHP indicator (% of electricity from CHP)			17.6	18.3	17.8	26.9	30.5	34.5	26.5				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	3.7	11.7	56.6				
Non fossil fuels in electricity generation (%)			1.8	2.5	4.7	5.4	17.1	23.5	23.0				
- nuclear			0.0	0.0	0.0	0.0	6.5	11.2	12.8				
- renewable energy forms and industrial waste			1.8	2.5	4.7	5.4	10.5	12.3	10.1				
Transport sector													
Passenger transport activity (Gpkm)	**186.5**	**182.3**	**217.1**	**257.8**	**323.6**	**374.6**	**406.7**	**435.8**	**456.0**	**1.5**	**4.1**	**2.3**	**1.2**
Public road transport	46.3	34.0	31.7	29.3	28.3	29.4	31.3	33.5	35.2	-3.7	-1.1	1.0	1.2
Private cars and motorcycles	83.4	115.2	153.6	201.2	262.6	307.0	333.1	354.4	367.2	6.3	5.5	2.4	1.0
Rail	55.4	31.6	28.8	22.3	24.8	27.4	29.4	31.5	33.1	-6.3	-1.5	1.7	1.2
Aviation	0.9	1.2	2.8	4.8	7.6	10.7	12.7	16.1	20.3	12.4	10.7	5.2	4.8
Inland navigation	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	-6.3	-0.6	1.3	0.7
Freight transport activity (Gtkm)	**122.9**	**120.3**	**130.2**	**162.1**	**228.4**	**273.5**	**285.2**	**294.2**	**296.7**	**0.6**	**5.8**	**2.2**	**0.4**
Trucks	40.3	51.2	75.0	111.8	172.5	207.6	214.2	218.1	216.7	6.4	8.7	2.2	0.1
Rail	81.6	68.2	54.0	50.0	55.5	65.5	70.6	75.6	79.4	-4.0	0.3	2.4	1.2
Inland navigation	1.0	0.9	1.2	0.3	0.4	0.4	0.4	0.5	0.5	1.3	-11.4	2.5	1.4
Energy demand in transport (ktoe)	**7362**	**8275**	**9204**	**12083**	**16738**	**19441**	**20370**	**21109**	**21622**	**2.3**	**6.2**	**2.0**	**0.6**
Public road transport	421	307	276	254	244	248	252	256	260	-4.1	-1.3	0.4	0.3
Private cars and motorcycles	3435	4241	4687	6248	8146	9173	9841	10380	10955	3.2	5.7	1.9	1.1
Trucks	2111	2659	3326	4792	7343	8776	8943	9089	8925	4.6	8.2	2.0	0.0
Rail	1099	669	540	468	506	581	569	555	470	-6.9	-0.6	1.2	-1.9
Aviation	196	371	369	319	497	661	762	826	1010	6.5	3.0	4.4	2.9
Inland navigation	99	29	6	2	2	2	3	3	3	-24.3	-9.9	1.6	0.8

Source: PRIMES

Portugal: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**3396**	**3321**	**3826**	**3583**	**4597**	**5363**	**6503**	**7029**	**7643**	**1.2**	**1.9**	**3.5**	**1.6**
Solids	115	0	0	0	0	0	0	0	0				
Oil	0	0	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	0	0	0	0	0	0	0	0	0				
Renewable energy sources	3281	3321	3826	3583	4597	5363	6503	7029	7643	1.5	1.9	3.5	1.6
Hydro	787	717	974	407	892	937	954	971	988	2.1	-0.9	0.7	0.4
Biomass & Waste	2479	2550	2770	2936	2895	3293	3544	3741	3932	1.1	0.4	2.0	1.0
Wind	0	1	14	152	589	753	1190	1326	1447	66.9	44.9	7.3	2.0
Solar and others	11	15	18	23	66	224	579	753	958	5.4	13.6	24.2	5.2
Geothermal	3	37	49	66	154	156	237	237	317	31.4	12.1	4.4	3.0
Net Imports	**15122**	**18012**	**21881**	**24414**	**20962**	**19798**	**17544**	**16791**	**16374**	**3.8**	**-0.4**	**-1.8**	**-0.7**
Solids	2789	3797	3913	3223	2320	1446	4	3	3	3.4	-5.1	-47.4	-3.9
Oil	12329	14137	15848	16711	13753	13543	13153	12613	12446	2.5	-1.4	-0.4	-0.6
- Crude oil and Feedstocks	11319	13603	12231	13637	12417	12333	12163	11920	11845	0.8	0.2	-0.2	-0.3
- Oil products	1011	534	3618	3073	1336	1210	990	693	601	13.6	-9.5	-3.0	-4.9
Natural gas	0	0	2039	3893	4204	3819	3209	2831	2556		7.5	-2.7	-2.2
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Gross Inland Consumption	**17508**	**20469**	**25078**	**27035**	**24976**	**24555**	**23428**	**23188**	**23366**	**3.7**	**0.0**	**-0.6**	**0.0**
Solids	2580	3493	3803	3347	2320	1446	4	3	3	4.0	-4.8	-47.4	-3.9
Oil	11644	13576	15335	15768	13170	12937	12534	11981	11795	2.8	-1.5	-0.5	-0.6
Natural gas	0	0	2034	3751	4204	3819	3209	2831	2556		7.5	-2.7	-2.2
Nuclear	0	0	0	0	0	0	0	0	0				
Electricity	3	79	80	587	542	564	626	709	692	38.1	21.1	1.4	1.0
Renewable energy forms	3281	3321	3826	3583	4739	5789	7056	7664	8320	1.5	2.2	4.1	1.7
as % in Gross Inland Consumption													
Solids	14.7	17.1	15.2	12.4	9.3	5.9	0.0	0.0	0.0				
Oil	66.5	66.3	61.1	58.3	52.7	52.7	53.5	51.7	50.5				
Natural gas	0.0	0.0	8.1	13.9	16.8	15.6	13.7	12.2	10.9				
Nuclear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Renewable energy forms	18.7	16.2	15.3	13.3	19.0	23.6	30.1	33.1	35.6				
Gross Electricity Generation in GWh_e	**28350**	**33148**	**43364**	**46180**	**46330**	**48235**	**50292**	**52112**	**55433**	**4.3**	**0.7**	**0.8**	**1.0**
Self consumption and grid losses	4441	4776	5363	5983	5685	6036	6253	6484	6791	1.9	0.6	1.0	0.8
Fuel Inputs for Thermal Power Generation	**4304**	**5493**	**6508**	**8007**	**6135**	**5634**	**4318**	**4026**	**3986**	**4.2**	**-0.6**	**-3.5**	**-0.8**
Solids	2027	2919	3198	3319	2314	1441	0	0	0	4.7	-3.2		
Oil (including refinery gas)	2105	2371	1671	1885	611	633	506	90	0	-2.3	-9.6	-1.9	-61.1
Gas	19	18	1234	2309	2459	2211	1789	1631	1352	51.6	7.1	-3.1	-2.8
Biomass & Waste	149	148	356	430	601	1198	1796	2077	2328	9.1	5.4	11.6	2.6
Geothermal heat	3	37	49	65	151	151	228	228	307	31.4	11.8	4.2	3.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**11443**	**14111**	**12911**	**13785**	**12853**	**12878**	**12835**	**12672**	**12640**	**1.2**	**0.0**	**0.0**	**-0.2**
Refineries	11111	13635	12462	13785	12700	12594	12406	12144	12060	1.2	0.2	-0.2	-0.3
Biofuels and hydrogen production	0	0	0	0	154	284	429	529	580			10.8	3.1
District heating	0	16	0	0	0	0	0	0	0				
Others	332	460	449	0	0	0	0	0	0	3.1			
Energy Branch Consumption	**655**	**960**	**1025**	**1101**	**896**	**862**	**815**	**765**	**733**	**4.6**	**-1.3**	**-0.9**	**-1.1**
Non-Energy Uses	**2113**	**1891**	**2364**	**2429**	**2182**	**2228**	**2266**	**2293**	**2393**	**1.1**	**-0.8**	**0.4**	**0.5**
Final Energy Demand	**11813**	**13789**	**17694**	**18723**	**18119**	**18199**	**18398**	**18381**	**18469**	**4.1**	**0.2**	**0.2**	**0.0**
by sector													
Industry	4728	4974	6244	5689	4997	4805	4815	4911	5152	2.8	-2.2	-0.4	0.7
- energy intensive industries	3073	3350	4092	3767	3002	2837	2781	2766	2834	2.9	-3.1	-0.8	0.2
- other industrial sectors	1656	1625	2151	1922	1996	1968	2034	2145	2318	2.7	-0.7	0.2	1.3
Residential	2290	2569	2804	3206	3192	3264	3346	3246	3173	2.0	1.3	0.5	-0.5
Tertiary	1055	1377	2105	2773	2622	2598	2562	2500	2483	7.1	2.2	-0.2	-0.3
Transport	3740	4869	6542	7055	7307	7532	7675	7724	7661	5.8	1.1	0.5	0.0
by fuel													
Solids	617	546	465	16	6	5	4	3	3	-2.8	-35.5	-4.1	-3.9
Oil	6700	8215	10509	10561	9593	9418	9150	8954	8791	4.6	-0.9	-0.5	-0.4
Gas	103	97	853	1307	1685	1475	1298	1166	1177	23.6	7.0	-2.6	-1.0
Electricity	2024	2477	3299	3983	3979	4135	4355	4577	4821	5.0	1.9	0.9	1.0
Heat (from CHP and District Heating) [A]	28	36	134	328	366	524	1044	1142	1155	16.8	10.5	11.1	1.0
Renewable energy forms	2341	2417	2433	2529	2489	2640	2545	2537	2522	0.4	0.2	0.2	-0.1
Other	0	0	0	0	1	1	1	1	1			10.0	-0.4
RES in Gross Final Energy Consumption [B]			**3559**	**3886**	**4525**	**5387**	**6609**	**7203**	**7809**		**2.4**	**3.9**	**1.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**59.3**		**83.4**	**89.3**	**74.2**	**66.8**	**57.9**	**55.0**	**53.2**	**3.5**	**-1.2**	**-2.5**	**-0.8**
of which ETS sectors GHGs emissions				42.1	31.4	27.0	19.9	18.2	17.4			-4.5	-1.3
CO_2 Emissions (energy related)	**39.1**	**48.6**	**58.7**	**61.8**	**51.6**	**46.4**	**38.0**	**35.4**	**33.9**	**4.2**	**-1.3**	**-3.0**	**-1.2**
Power generation/District heating	14.8	19.2	20.9	24.5	16.8	12.9	5.8	4.1	3.2	3.5	-2.2	-10.1	-5.9
Energy Branch	1.5	2.4	2.5	2.6	2.2	2.0	1.9	1.8	1.7	5.3	-1.4	-1.6	-1.0
Industry	8.2	8.4	10.7	7.1	5.5	4.6	4.0	3.8	4.1	2.6	-6.5	-3.0	0.2
Residential	1.6	1.9	2.0	2.3	2.2	2.1	1.9	1.8	1.7	2.0	1.1	-1.4	-1.3
Tertiary	1.9	2.2	3.2	4.3	3.6	3.2	2.8	2.4	2.2	5.4	1.2	-2.5	-2.5
Transport	11.1	14.4	19.4	21.0	21.3	21.6	21.6	21.5	21.1	5.8	0.9	0.1	-0.3
CO_2 Emissions (non energy related)	**4.4**	**5.9**	**6.6**	**7.8**	**6.6**	**6.6**	**6.6**	**6.5**	**6.3**	**4.1**	**0.1**	**-0.1**	**-0.4**
Non-CO_2 GHGs Emissions	**15.8**		**18.1**	**19.7**	**16.0**	**13.8**	**13.3**	**13.1**	**13.0**	**1.4**	**-1.2**	**-1.8**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**140.7**	**150.5**	**125.2**	**112.7**	**97.6**	**92.7**	**89.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Portugal: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	9.996	10.018	10.195	10.529	10.723	10.947	11.108	11.224	11.317	0.2	0.5	0.4	0.2
GDP (in 000 M€08)	107.7	123.5	150.8	157.5	156.2	171.5	189.8	209.9	234.0	3.4	0.4	2.0	2.1
Gross Inl. Cons./GDP (toe/M€08)	162.5	165.8	166.3	171.6	159.9	143.1	123.5	110.5	99.9	0.2	-0.4	-2.6	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.23	2.37	2.34	2.29	2.07	1.89	1.62	1.52	1.45	0.5	-1.2	-2.4	-1.1
Import Dependency %	83.5	86.0	85.0	88.4	82.0	78.7	73.0	70.5	68.2				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			19.0	22.0	23.5	27.9	34.1	38.5	40.7		2.5	4.7	2.8
as % of GDP			12.6	14.0	15.5	17.7	20.2	21.5	21.7				
Energy intensity indicators													
Industry (Energy on Value added)	82.1	95.7	100.0	93.4	88.4	80.9	75.4	70.0	66.7	2.0	-1.2	-1.6	-1.2
Residential (Energy on Private Income)	121.8	112.4	100.0	106.5	109.0	101.0	92.7	82.1	72.8	-2.0	0.9	-1.6	-2.4
Tertiary (Energy on Value added)	70.3	77.9	100.0	121.4	111.3	98.6	86.4	75.0	65.9	3.6	1.1	-2.5	-2.7
Passenger transport (toe/Mpkm)	40.1	44.2	40.9	40.3	39.3	36.3	34.4	32.3	29.6	0.2	-0.4	-1.3	-1.5
Freight transport (toe/Mtkm)	45.1	53.4	66.8	61.4	61.3	60.9	58.5	55.5	52.1	4.0	-0.9	-0.5	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.52	0.57	0.47	0.49	0.33	0.24	0.09	0.06	0.05	-1.0	-3.3	-12.0	-6.8
Final energy demand (t of CO_2/toe)	1.93	1.95	1.99	1.85	1.80	1.73	1.65	1.60	1.57	0.3	-1.0	-0.9	-0.5
Industry	1.74	1.68	1.71	1.25	1.10	0.96	0.84	0.78	0.80	-0.2	-4.4	-2.6	-0.5
Residential	0.71	0.74	0.71	0.70	0.70	0.64	0.58	0.54	0.53	0.0	-0.2	-1.9	-0.8
Tertiary	1.77	1.62	1.51	1.53	1.36	1.24	1.08	0.98	0.87	-1.6	-1.0	-2.3	-2.2
Transport	2.96	2.96	2.97	2.98	2.92	2.87	2.82	2.78	2.75	0.1	-0.2	-0.4	-0.2
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			19.6	20.2	24.3	28.8	35.0	38.3	41.4				
RES in transport (%)			0.2	0.2	2.7	4.8	7.2	8.8	10.0				
Gross Electricity generation by fuel type (in GWh)			**43364**	**46180**	**46330**	**48235**	**50292**	**52112**	**55433**		**0.7**	**0.8**	**1.0**
Nuclear energy			0	0	0	0	0	0	0				
Coal and lignite			15643	15647	10758	6701	0	0	0		-3.7		
Petroleum products			7769	8912	3199	3296	2619	428	0		-8.5	-2.0	-61.6
Gas (including derived gases)			7229	13599	12853	12174	10440	9463	7771		5.9	-2.1	-2.9
Biomass & waste			1153	1410	1888	4942	8021	9122	10491		5.1	15.6	2.7
Hydro			11321	4730	10371	10892	11092	11292	11491		-0.9	0.7	0.4
Wind			168	1773	6853	8758	13837	15421	16828		44.9	7.3	2.0
Solar, tidal etc.			1	3	194	1239	3469	5154	7208		69.3	33.4	7.6
Geothermal and other renewables			80	105	215	233	814	1232	1643		10.4	14.3	7.3
Net Generation Capacity in MW_e			**10360**	**13096**	**17403**	**20680**	**23636**	**24557**	**25745**		**5.3**	**3.1**	**0.9**
Nuclear energy			0	0	0	0	0	0	0				
Renewable energy			3967	5488	8490	10292	13697	15404	17419		7.9	4.9	2.4
Hydro (pumping excluded)			3883	4422	4499	4622	4731	4731	5077		1.5	0.5	0.7
Wind			83	1064	3832	4803	6725	7423	8012		46.7	5.8	1.8
Solar			1	2	156	854	1975	2766	3680		65.7	28.9	6.4
Other renewables (tidal etc.)			0	0	2	12	267	484	649			61.2	9.3
Thermal power			6393	7607	8913	10389	9939	9153	8326		3.4	1.1	-1.8
of which cogeneration units			1640	1845	2269	2250	2303	2633	2725		3.3	0.1	1.7
of which CCS units			0	0	0	0	0	0	0				
Solids fired			1889	1903	1855	1807	1807	1421	568		-0.2	-0.3	-10.9
Gas fired			1383	2589	3921	5510	5253	5234	5234		11.0	3.0	0.0
Oil fired			2795	2730	2727	2181	1420	882	774		-0.2	-6.3	-5.9
Biomass-waste fired			312	372	387	867	1424	1582	1705		2.2	13.9	1.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			14	14	24	24	34	34	45		5.5	3.6	2.7
Load factor for net electric capacities (%)			46.1	38.9	29.6	25.9	23.7	23.6	24.0				
Efficiency for thermal electricity production (%)			42.1	42.6	40.5	41.7	42.6	41.3	40.2				
CHP indicator (% of electricity from CHP)			10.6	12.2	21.5	26.5	30.8	29.5	27.9				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			29.3	17.4	42.1	54.0	74.0	81.0	86.0				
- nuclear			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
- renewable energy forms and industrial waste			29.3	17.4	42.1	54.0	74.0	81.0	86.0				
Transport sector													
Passenger transport activity (Gpkm)	**56.9**	**67.3**	**91.5**	**105.0**	**110.8**	**120.1**	**129.2**	**139.1**	**149.8**	**4.9**	**1.9**	**1.5**	**1.5**
Public road transport	10.3	11.3	11.8	11.1	10.8	11.2	11.7	12.2	12.7	1.4	-0.9	0.8	0.8
Private cars and motorcycles	33.3	41.9	59.2	72.0	75.4	80.2	85.0	89.6	94.8	5.9	2.4	1.2	1.1
Rail	6.3	5.3	4.6	4.7	5.0	5.4	5.9	6.5	7.0	-3.2	1.0	1.7	1.7
Aviation	6.7	8.5	15.7	17.0	19.2	23.1	26.2	30.5	35.0	8.9	2.1	3.1	2.9
Inland navigation	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	1.0	0.5	0.4
Freight transport activity (Gtkm)	**32.3**	**35.4**	**41.9**	**46.0**	**48.2**	**52.0**	**55.2**	**58.3**	**61.9**	**2.6**	**1.4**	**1.4**	**1.1**
Trucks	28.9	32.0	38.9	42.6	44.7	48.3	51.1	54.0	57.3	3.0	1.4	1.3	1.1
Rail	1.5	2.0	2.2	2.4	2.5	2.8	3.0	3.2	3.4	4.1	1.5	1.7	1.2
Inland navigation	1.9	1.4	0.8	1.0	1.0	1.0	1.1	1.2	1.2	-7.9	1.4	1.5	1.1
Energy demand in transport (ktoe)	**3740**	**4869**	**6542**	**7055**	**7307**	**7532**	**7675**	**7724**	**7661**	**5.8**	**1.1**	**0.5**	**0.0**
Public road transport	82	95	114	113	109	110	109	107	106	3.3	-0.4	0.0	-0.3
Private cars and motorcycles	1573	2209	2788	3200	3219	3087	3055	3035	2920	5.9	1.4	-0.5	-0.5
Trucks	1384	1817	2718	2769	2899	3109	3170	3173	3175	7.0	0.6	0.9	0.0
Rail	83	81	88	66	66	67	66	65	55	0.6	-2.9	0.1	-1.9
Aviation	574	620	790	881	987	1131	1245	1313	1374	3.2	2.3	2.4	1.0
Inland navigation	44	47	44	26	27	28	29	30	31	0.0	-4.9	0.8	0.6

Source: PRIMES

Romania: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**41415**	**32618**	**28816**	**28180**	**27520**	**28418**	**29722**	**30340**	**30064**	**-3.6**	**-0.5**	**0.8**	**0.1**
Solids	7935	7886	5875	5793	5744	5873	4668	3769	3109	-3.0	-0.2	-2.1	-4.0
Oil	7963	7124	6434	6183	4790	5100	5000	4889	4707	-2.1	-2.9	0.4	-0.6
Natural gas	22911	14446	10968	9701	8874	8254	7863	7427	6907	-7.1	-2.1	-1.2	-1.3
Nuclear	0	0	1407	1433	2906	2906	4365	5975	5975		7.5	4.2	3.2
Renewable energy sources	2606	3162	4131	5070	5206	6284	7827	8280	9366	4.7	2.3	4.2	1.8
Hydro	1460	1435	1271	1737	1548	1784	2053	2149	2191	-1.4	2.0	2.9	0.7
Biomass & Waste	1146	1726	2854	3314	3587	4178	5009	5124	6041	9.5	2.3	3.4	1.9
Wind	0	0	0	0	34	130	201	267	320			19.5	4.8
Solar and others	0	0	0	0	6	83	376	465	487			50.9	2.6
Geothermal	0	0	7	18	31	108	189	275	326		16.5	19.8	5.6
Net Imports	**22567**	**14552**	**8116**	**10814**	**11619**	**11636**	**11278**	**10641**	**9768**	**-9.7**	**3.7**	**-0.3**	**-1.4**
Solids	4615	2870	1905	2904	1937	1816	1750	1492	1220	-8.5	0.2	-1.0	-3.5
Oil	11209	6862	3560	3970	6198	6867	6851	6685	6405	-10.8	5.7	1.0	-0.7
- Crude oil and Feedstocks	16126	8760	4870	8851	10981	12004	11963	11737	11352	-11.3	8.5	0.9	-0.5
- Oil products	-4917	-1898	-1311	-4882	-4784	-5137	-5112	-5051	-4947				
Natural gas	5928	4794	2712	4190	3879	3608	3437	3247	3019	-7.5	3.6	-1.2	-1.3
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Gross Inland Consumption	**63714**	**47138**	**37131**	**39242**	**39139**	**40054**	**41000**	**40981**	**39832**	**-5.3**	**0.5**	**0.5**	**-0.3**
Solids	12318	10793	7753	8769	7681	7690	6417	5261	4329	-4.5	-0.1	-1.8	-3.9
Oil	19136	13917	10214	10321	10988	11967	11851	11574	11112	-6.1	0.7	0.8	-0.6
Natural gas	28838	19240	13680	13942	12754	11862	11300	10674	9927	-7.2	-0.7	-1.2	-1.3
Nuclear	0	0	1407	1433	2906	2906	4365	5975	5975		7.5	4.2	3.2
Electricity	815	26	-60	-250	-342	-573	-652	-663	-671				
Renewable energy forms	2606	3162	4137	5026	5153	6202	7719	8159	9160	4.7	2.2	4.1	1.7
as % in Gross Inland Consumption													
Solids	19.3	22.9	20.9	22.3	19.6	19.2	15.7	12.8	10.9				
Oil	30.0	29.5	27.5	26.3	28.1	29.9	28.9	28.2	27.9				
Natural gas	45.3	40.8	36.8	35.5	32.6	29.6	27.6	26.0	24.9				
Nuclear	0.0	0.0	3.8	3.7	7.4	7.3	10.6	14.6	15.0				
Renewable energy forms	4.1	6.7	11.1	12.8	13.2	15.5	18.8	19.9	23.0				
Gross Electricity Generation in GWh_e	**63398**	**59255**	**51925**	**59402**	**61476**	**69417**	**74806**	**80049**	**81935**	**-2.0**	**1.7**	**2.0**	**0.9**
Self consumption and grid losses	14858	13101	9963	9773	9830	10200	10070	10469	10562	-3.9	-0.1	0.2	0.5
Fuel Inputs for Thermal Power Generation	**23517**	**16474**	**10637**	**10103**	**9109**	**8847**	**7341**	**6274**	**6223**	**-7.6**	**-1.5**	**-2.1**	**-1.6**
Solids	8166	7352	5442	5982	5786	5624	4217	3337	2623	-4.0	0.6	-3.1	-4.6
Oil (including refinery gas)	6202	2996	1683	775	464	451	398	298	390	-12.2	-12.1	-1.5	-0.2
Gas	9113	6090	3507	3343	2511	2325	1760	1601	2086	-9.1	-3.3	-3.5	1.7
Biomass & Waste	36	37	4	3	349	425	920	947	988	-19.0	55.0	10.2	0.7
Geothermal heat	0	0	0	0	0	23	45	91	136				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**25114**	**21082**	**14984**	**18111**	**18324**	**19762**	**19707**	**19157**	**18348**	**-5.0**	**2.0**	**0.7**	**-0.7**
Refineries	23765	15691	11396	15142	15771	17104	16963	16625	16059	-7.1	3.3	0.7	-0.5
Biofuels and hydrogen production	0	0	0	0	59	130	248	357	557			15.5	8.4
District heating	496	1902	1739	825	975	1151	1151	1080	841	13.4	-5.6	1.7	-3.1
Others	853	3489	1850	2144	1518	1377	1344	1095	892	8.0	-2.0	-1.2	-4.0
Energy Branch Consumption	**3579**	**5328**	**4163**	**4205**	**4115**	**4181**	**4084**	**3944**	**3767**	**1.5**	**-0.1**	**-0.1**	**-0.8**
Non-Energy Uses	**922**	**1401**	**2048**	**2469**	**2399**	**2203**	**2047**	**1850**	**1636**	**8.3**	**1.6**	**-1.6**	**-2.2**
Final Energy Demand	**37257**	**26634**	**22460**	**24613**	**24903**	**26495**	**27809**	**27840**	**27385**	**-4.9**	**1.0**	**1.1**	**-0.2**
by sector													
Industry	25111	14854	9051	9904	9051	9417	10004	10171	9790	-9.7	0.0	1.0	-0.2
- energy intensive industries	15699	10577	6223	7109	6187	6059	6217	6020	5457	-8.8	-0.1	0.0	-1.3
- other industrial sectors	9412	4278	2828	2795	2864	3358	3787	4151	4333	-11.3	0.1	2.8	1.4
Residential	4548	6353	8426	7964	7893	7848	7793	7290	6854	6.4	-0.7	-0.1	-1.3
Tertiary	3181	2358	1587	2524	2911	3147	3229	3166	3123	-6.7	6.3	1.0	-0.3
Transport	4416	3069	3396	4221	5047	6083	6782	7213	7618	-2.6	4.0	3.0	1.2
by fuel													
Solids	3026	1586	977	1569	1127	1363	1549	1386	1270	-10.7	1.4	3.2	-2.0
Oil	8055	5519	5310	6606	7171	8115	8227	8284	8311	-4.1	3.0	1.4	0.1
Gas	20495	10249	6885	7721	7544	6959	7053	6693	5474	-10.3	0.9	-0.7	-2.5
Electricity	4690	3126	2916	3337	3517	3941	4327	4773	4955	-4.6	1.9	2.1	1.4
Heat (from CHP and District Heating) [A]	377	4679	3570	2135	2323	2282	2166	2019	1876	25.2	-4.2	-0.7	-1.4
Renewable energy forms	612	1476	2802	3244	3221	3834	4485	4684	5498	16.4	1.4	3.4	2.1
Other	0	0	0	0	0	1	1	2	2		7.1	13.3	1.5
RES in Gross Final Energy Consumption [B]			**4118**	**4599**	**4916**	**5835**	**7239**	**7647**	**8652**		**1.8**	**3.9**	**1.8**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**262.9**		**138.2**	**150.5**	**140.9**	**130.4**	**124.0**	**114.3**	**103.8**	**-6.2**	**0.2**	**-1.3**	**-1.8**
of which ETS sectors GHGs emissions				79.5	68.9	66.0	59.8	52.6	42.8			-1.4	-3.3
CO_2 Emissions (energy related)	**168.7**	**115.1**	**84.8**	**90.3**	**85.8**	**87.4**	**81.0**	**73.5**	**64.8**	**-6.6**	**0.1**	**-0.6**	**-2.2**
Power generation/District heating	76.4	59.2	40.6	37.2	33.7	32.9	25.6	19.9	15.2	-6.1	-1.8	-2.7	-5.1
Energy Branch	6.2	7.6	7.4	7.9	7.7	7.7	7.3	6.9	6.3	1.7	0.5	-0.5	-1.5
Industry	58.1	31.3	18.8	21.5	17.2	17.6	18.4	17.0	13.6	-10.7	-0.8	0.7	-3.0
Residential	8.8	5.2	6.6	7.2	7.3	6.4	6.1	5.6	5.4	-2.9	1.0	-1.8	-1.2
Tertiary	6.8	3.1	1.9	4.4	5.4	5.5	4.6	4.1	3.8	-12.2	11.3	-1.6	-1.8
Transport	12.3	8.6	9.7	12.2	14.5	17.3	19.0	19.9	20.4	-2.4	4.1	2.7	0.7
CO_2 Emissions (non energy related)	**23.2**	**18.5**	**13.1**	**16.3**	**14.2**	**13.9**	**15.2**	**15.3**	**13.4**	**-5.5**	**0.8**	**0.7**	**-1.3**
Non-CO_2 GHGs Emissions	**71.0**		**40.3**	**43.9**	**40.9**	**29.1**	**27.7**	**25.5**	**25.6**	**-5.5**	**0.2**	**-3.8**	**-0.8**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**52.5**	**57.2**	**53.6**	**49.6**	**47.2**	**43.5**	**39.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Romania: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	23.211	22.712	22.455	21.659	21.334	21.103	20.834	20.484	20.049	-0.3	-0.5	-0.2	-0.4
GDP (in 000 M€08)	75.7	68.1	63.8	84.3	99.1	121.9	142.6	160.2	175.5	-1.7	4.5	3.7	2.1
Gross Inl. Cons./GDP (toe/M€08)	841.9	692.3	581.6	465.5	394.8	328.5	287.4	255.8	226.9	-3.6	-3.8	-3.1	-2.3
Carbon intensity (t of CO_2/toe of GIC)	2.65	2.44	2.28	2.30	2.19	2.18	1.98	1.79	1.63	-1.5	-0.4	-1.0	-1.9
Import Dependency %	35.4	30.9	21.9	27.6	29.7	29.1	27.5	26.0	24.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			11.7	16.7	18.4	24.3	32.0	37.2	40.5		4.9	6.8	3.2
as % of GDP			18.3	19.8	19.1	22.1	25.7	27.5	28.5				
Energy intensity indicators													
Industry (Energy on Value added)	200.0	171.9	100.0	81.4	71.1	60.6	53.4	46.7	41.1	-6.7	-3.4	-2.8	-2.6
Residential (Energy on Private Income)	50.5	69.0	100.0	58.9	48.8	39.7	34.6	29.3	25.8	7.1	-6.9	-3.4	-2.9
Tertiary (Energy on Value added)	186.9	138.7	100.0	121.7	110.4	94.9	80.8	68.0	58.6	-6.1	1.0	-3.1	-3.2
Passenger transport (toe/Mpkm)	16.3	20.1	28.4	21.4	22.0	22.3	22.5	22.2	22.0	5.7	-2.5	0.2	-0.2
Freight transport (toe/Mtkm)	37.3	36.8	34.8	30.6	31.5	31.9	31.3	30.5	30.1	-0.7	-1.0	-0.1	-0.4
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	1.12	0.43	0.39	0.39	0.33	0.30	0.23	0.17	0.13	-10.1	-1.4	-3.8	-5.3
Final energy demand (t of CO_2/toe)	2.31	1.81	1.64	1.84	1.78	1.77	1.73	1.67	1.58	-3.4	0.8	-0.3	-0.9
Industry	2.32	2.11	2.07	2.17	1.90	1.87	1.84	1.67	1.39	-1.1	-0.8	-0.3	-2.8
Residential	1.94	0.83	0.78	0.90	0.92	0.81	0.78	0.77	0.78	-8.7	1.7	-1.7	0.1
Tertiary	2.13	1.33	1.17	1.73	1.86	1.73	1.43	1.29	1.23	-5.8	4.7	-2.6	-1.5
Transport	2.79	2.81	2.85	2.89	2.87	2.85	2.80	2.75	2.68	0.2	0.1	-0.3	-0.4
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			17.0	17.6	18.6	20.9	24.8	26.2	30.1				
RES in transport (%)			1.5	1.0	2.2	3.2	5.1	6.5	9.1				
Gross Electricity generation by fuel type (in GWh)			**51925**	**59402**	**61476**	**69417**	**74806**	**80049**	**81935**		**1.7**	**2.0**	**0.9**
Nuclear energy			5455	5554	11592	11592	17684	24602	24602		7.8	4.3	3.4
Coal and lignite			18913	21922	21483	21106	16011	12731	10941		1.3	-2.9	-3.7
Petroleum products			3398	1894	1139	1112	973	1035	1496		-10.4	-1.6	4.4
Gas (including derived gases)			9373	9822	7830	12004	10426	9799	11754		-1.8	2.9	1.2
Biomass & waste			10	7	1031	1260	3303	3448	3480		59.0	12.3	0.5
Hydro			14775	20203	18003	20748	23869	24992	25477		2.0	2.9	0.7
Wind			0	0	394	1511	2333	3099	3722			19.5	4.8
Solar, tidal etc.			0	0	5	58	155	237	306			41.5	7.0
Geothermal and other renewables			0	0	0	26	53	105	158				11.6
Net Generation Capacity in MW_e			**21880**	**18732**	**20396**	**22422**	**24513**	**21948**	**21343**		**-0.7**	**1.9**	**-1.4**
Nuclear energy			667	663	1357	1368	2109	2944	2944		7.4	4.5	3.4
Renewable energy			6154	6161	6563	7777	9168	9761	10142		0.6	3.4	1.0
Hydro (pumping excluded)			6154	6160	6312	6783	7585	7677	7677		0.3	1.9	0.1
Wind			0	1	246	934	1422	1841	2150			19.2	4.2
Solar			0	0	5	60	161	243	315			41.5	7.0
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			15058	11908	12476	13277	13236	9243	8257		-1.9	0.6	-4.6
of which cogeneration units			3742	3305	3216	3745	3441	3254	3326		-1.5	0.7	-0.3
of which CCS units			0	0	0	0	0	136	506				
Solids fired			8144	6483	6640	7729	7879	5037	3495		-2.0	1.7	-7.8
Gas fired			4299	3584	4029	4258	3773	3228	3722		-0.6	-0.7	-0.1
Oil fired			2384	1583	1550	1016	975	316	349		-4.2	-4.5	-9.8
Biomass-waste fired			231	257	258	271	603	650	674		1.1	8.9	1.1
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	3	6	12	18				11.6
Load factor for net electric capacities (%)			25.4	33.8	32.3	33.5	33.2	39.5	41.4				
Efficiency for thermal electricity production (%)			25.6	28.6	29.7	34.5	36.0	37.2	38.5				
CHP indicator (% of electricity from CHP)			35.2	28.6	24.6	26.8	24.6	24.4	25.8				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	2.0	6.5				
Non fossil fuels in electricity generation (%)			39.0	43.4	50.5	50.7	63.4	70.6	70.5				
- nuclear			10.5	9.3	18.9	16.7	23.6	30.7	30.0				
- renewable energy forms and industrial waste			28.5	34.0	31.6	34.0	39.7	39.8	40.4				
Transport sector													
Passenger transport activity (Gpkm)	**87.7**	**78.1**	**78.9**	**87.7**	**100.6**	**118.8**	**135.0**	**148.0**	**159.0**	**-1.1**	**2.5**	**3.0**	**1.6**
Public road transport	24.0	12.3	12.0	11.8	12.6	13.7	15.0	16.0	16.8	-6.7	0.5	1.8	1.1
Private cars and motorcycles	24.3	39.0	47.6	58.4	67.3	82.4	95.3	105.5	114.3	7.0	3.5	3.5	1.8
Rail	36.6	24.9	17.6	14.6	14.8	15.5	16.5	17.4	18.1	-7.0	-1.7	1.1	1.0
Aviation	2.8	1.8	1.7	3.0	5.9	7.2	8.3	9.1	9.8	-5.1	13.4	3.4	1.7
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7	-2.2	0.7	0.1
Freight transport activity (Gtkm)	**80.0**	**40.7**	**33.3**	**76.5**	**89.8**	**107.7**	**119.6**	**128.9**	**136.8**	**-8.4**	**10.4**	**2.9**	**1.4**
Trucks	29.0	19.7	14.3	51.5	63.3	77.8	86.0	92.2	97.7	-6.8	16.1	3.1	1.3
Rail	48.9	17.9	16.4	16.6	17.0	19.1	21.5	23.5	25.1	-10.4	0.4	2.3	1.6
Inland navigation	2.1	3.1	2.6	8.4	9.4	10.8	12.2	13.2	14.0	2.3	13.6	2.6	1.4
Energy demand in transport (ktoe)	**4416**	**3069**	**3396**	**4221**	**5047**	**6083**	**6782**	**7213**	**7618**	**-2.6**	**4.0**	**3.0**	**1.2**
Public road transport	241	130	120	97	103	110	115	116	115	-6.7	-1.5	1.1	0.0
Private cars and motorcycles	843	1133	1893	1610	1832	2216	2572	2816	3036	8.4	-0.3	3.5	1.7
Trucks	2463	1039	688	2140	2624	3204	3497	3656	3835	-12.0	14.3	2.9	0.9
Rail	282	472	451	209	207	217	230	246	252	4.8	-7.5	1.0	0.9
Aviation	275	192	128	113	224	270	296	301	299	-7.3	5.7	2.8	0.1
Inland navigation	312	103	115	51	57	65	72	77	82	-9.5	-6.8	2.4	1.2

Source: PRIMES

Slovak Republic: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**5249**	**4862**	**6074**	**6634**	**5975**	**8133**	**9319**	**10370**	**10618**	**1.5**	**-0.2**	**4.5**	**1.3**
Solids	1397	1017	1018	637	931	764	736	791	732	-3.1	-0.9	-2.3	0.0
Oil	81	128	162	384	38	40	39	39	37	7.2	-13.5	0.2	-0.5
Natural gas	338	264	133	126	123	126	117	113	114	-8.9	-0.8	-0.5	-0.3
Nuclear	3105	2950	4255	4573	3610	5139	5857	6490	6608	3.2	-1.6	5.0	1.2
Renewable energy sources	328	503	506	914	1272	2065	2569	2938	3126	4.4	9.7	7.3	2.0
Hydro	162	427	406	399	403	436	440	443	446	9.7	-0.1	0.9	0.1
Biomass & Waste	166	76	100	507	857	1548	1935	2232	2333	-5.0	24.0	8.5	1.9
Wind	0	0	0	1	7	31	55	76	97			23.3	5.8
Solar and others	0	0	0	0	4	37	64	86	109			33.2	5.5
Geothermal	0	0	0	8	2	13	76	101	141			46.1	6.4
Net Imports	**16102**	**12344**	**11586**	**12488**	**12741**	**12533**	**12070**	**11126**	**10745**	**-3.2**	**1.0**	**-0.5**	**-1.2**
Solids	6055	4131	3437	3737	3275	3078	2778	2610	2455	-5.5	-0.5	-1.6	-1.2
Oil	4246	3565	2674	3320	4165	4295	4180	4158	3936	-4.5	4.5	0.0	-0.6
- Crude oil and Feedstocks	5916	5293	5310	5433	6491	6695	6559	6531	6239	-1.1	2.0	0.1	-0.5
- Oil products	-1670	-1728	-2636	-2114	-2326	-2400	-2379	-2374	-2303				
Natural gas	5353	4528	5707	5754	5651	5762	5385	5185	5244	0.6	-0.1	-0.5	-0.3
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Gross Inland Consumption	**20994**	**17748**	**17550**	**19061**	**18716**	**20665**	**21389**	**21497**	**21363**	**-1.8**	**0.6**	**1.3**	**0.0**
Solids	7771	5414	4261	4231	4207	3841	3514	3401	3187	-5.8	-0.1	-1.8	-1.0
Oil	4255	3543	2992	3758	4203	4334	4220	4197	3973	-3.5	3.5	0.0	-0.6
Natural gas	5088	5217	5776	5921	5775	5888	5503	5298	5358	1.3	0.0	-0.5	-0.3
Nuclear	3105	2950	4255	4573	3610	5139	5857	6490	6608	3.2	-1.6	5.0	1.2
Electricity	447	119	-232	-281	-166	-174	-215	-340	-424				
Renewable energy forms	328	504	498	858	1087	1637	2511	2452	2660	4.3	8.1	8.7	0.6
as % in Gross Inland Consumption													
Solids	37.0	30.5	24.3	22.2	22.5	18.6	16.4	15.8	14.9				
Oil	20.3	20.0	17.0	19.7	22.5	21.0	19.7	19.5	18.6				
Natural gas	24.2	29.4	32.9	31.1	30.9	28.5	25.7	24.6	25.1				
Nuclear	14.8	16.6	24.2	24.0	19.3	24.9	27.4	30.2	30.9				
Renewable energy forms	1.6	2.8	2.8	4.5	5.8	7.9	11.7	11.4	12.4				
Gross Electricity Generation in GWh_e	**23428**	**26036**	**30431**	**31346**	**31951**	**36561**	**40812**	**45702**	**48874**	**2.6**	**0.5**	**2.5**	**1.8**
Self consumption and grid losses	5213	5190	5246	3910	3845	4051	4319	4987	6100	0.1	-3.1	1.2	3.5
Fuel Inputs for Thermal Power Generation	**3178**	**3113**	**2551**	**2478**	**3498**	**2890**	**3096**	**3351**	**3532**	**-2.2**	**3.2**	**-1.2**	**1.3**
Solids	2054	1835	1617	1638	2061	1671	1460	1509	1461	-2.4	2.5	-3.4	0.0
Oil (including refinery gas)	243	119	30	99	166	117	142	10	7	-19.0	18.8	-1.6	-26.5
Gas	882	1158	905	701	962	743	665	861	1008	0.3	0.6	-3.6	4.3
Biomass & Waste	0	0	0	40	309	351	777	878	922			9.7	1.7
Geothermal heat	0	0	0	0	0	8	52	93	134				10.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**9061**	**8065**	**8153**	**9349**	**9439**	**9942**	**9882**	**9686**	**9202**	**-1.1**	**1.5**	**0.5**	**-0.7**
Refineries	6339	5263	5541	6388	6974	7222	7123	7097	6778	-1.3	2.3	0.2	-0.5
Biofuels and hydrogen production	0	0	0	11	47	99	211	195	219			16.2	0.4
District heating	265	743	586	717	533	787	787	776	716	8.3	-0.9	4.0	-1.0
Others	2458	2060	2026	2233	1885	1835	1761	1618	1488	-1.9	-0.7	-0.7	-1.7
Energy Branch Consumption	**1153**	**994**	**915**	**2194**	**2280**	**2303**	**2239**	**2158**	**2102**	**-2.3**	**9.6**	**-0.2**	**-0.6**
Non-Energy Uses	**1375**	**886**	**1263**	**1244**	**1219**	**1454**	**1642**	**1701**	**1740**	**-0.8**	**-0.4**	**3.0**	**0.6**
Final Energy Demand	**14791**	**10460**	**10285**	**10613**	**10918**	**11928**	**12217**	**11881**	**11618**	**-3.6**	**0.6**	**1.1**	**-0.5**
by sector													
Industry	6728	4088	3816	4470	4123	4545	4541	4387	4275	-5.5	0.8	1.0	-0.6
- energy intensive industries	3162	2966	3026	3645	3106	3329	3270	3122	3020	-0.4	0.3	0.5	-0.8
- other industrial sectors	3566	1122	790	825	1017	1216	1271	1265	1255	-14.0	2.6	2.3	-0.1
Residential	2233	1976	2586	2533	2542	2569	2601	2460	2397	1.5	-0.2	0.2	-0.8
Tertiary	4384	2980	2424	1815	2011	2251	2405	2366	2355	-5.8	-1.9	1.8	-0.2
Transport	1446	1415	1459	1796	2242	2563	2670	2668	2591	0.1	4.4	1.8	-0.3
by fuel													
Solids	4319	2322	1511	1511	1248	1293	1205	1081	957	-10.0	-1.9	-0.3	-2.3
Oil	3324	1636	1725	2191	2478	2736	2682	2660	2525	-6.4	3.7	0.8	-0.6
Gas	4319	3907	4537	3651	3525	3513	3348	2934	2755	0.5	-2.5	-0.5	-1.9
Electricity	2013	1868	1893	1965	2127	2488	2787	3029	3130	-0.6	1.2	2.7	1.2
Heat (from CHP and District Heating) [A]	648	722	619	951	1173	1311	1566	1598	1463	-0.5	6.6	2.9	-0.7
Renewable energy forms	166	4	1	344	368	588	626	580	788	-42.8	89.4	5.5	2.3
Other	0	0	0	0	0	0	1	1	1			11.5	-0.6
RES in Gross Final Energy Consumption [B]			**291**	**722**	**930**	**1346**	**1807**	**1935**	**2217**		**12.3**	**6.9**	**2.1**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**68.0**		**45.8**	**49.3**	**50.5**	**47.3**	**45.3**	**43.9**	**39.0**	**-3.9**	**1.0**	**-1.1**	**-1.5**
of which ETS sectors GHGs emissions				29.1	29.0	26.3	24.5	24.3	20.5			-1.7	-1.8
CO_2 Emissions (energy related)	**53.1**	**38.5**	**34.3**	**36.9**	**38.5**	**37.0**	**34.1**	**32.8**	**28.3**	**-4.3**	**1.2**	**-1.2**	**-1.9**
Power generation/District heating	12.0	12.8	10.3	10.2	12.5	10.7	9.7	9.6	6.5	-1.5	2.0	-2.5	-3.9
Energy Branch	2.4	1.7	1.6	4.9	4.9	4.4	3.4	3.7	3.7	-4.3	12.1	-3.8	0.9
Industry	17.7	11.1	9.7	10.6	8.7	8.9	8.2	7.3	6.6	-5.8	-1.0	-0.7	-2.1
Residential	4.4	2.9	4.1	3.5	3.3	3.2	3.1	2.8	2.6	-0.6	-2.1	-0.8	-1.7
Tertiary	12.5	6.1	4.5	2.5	2.6	2.7	2.6	2.2	2.0	-9.8	-5.5	0.1	-2.5
Transport	4.0	3.9	4.1	5.2	6.4	7.2	7.2	7.2	6.9	0.1	4.6	1.1	-0.4
CO_2 Emissions (non energy related)	**3.5**	**2.8**	**3.3**	**3.7**	**3.9**	**4.8**	**5.8**	**5.8**	**5.5**	**-0.7**	**1.8**	**3.9**	**-0.5**
Non-CO_2 GHGs Emissions	**11.4**		**8.2**	**8.6**	**8.0**	**5.4**	**5.4**	**5.4**	**5.3**	**-3.2**	**-0.2**	**-3.9**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**67.3**	**72.4**	**74.2**	**69.5**	**66.6**	**64.6**	**57.4**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Slovak Republic: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	5.288	5.356	5.399	5.385	5.407	5.427	5.432	5.402	5.332	0.2	0.0	0.0	-0.2
GDP (in 000 M€08)	27.7	27.1	32.0	40.7	50.9	64.5	77.4	87.4	97.1	1.5	4.8	4.3	2.3
Gross Inl. Cons./GDP (toe/M€08)	758.6	655.4	548.6	468.8	367.7	320.5	276.3	245.8	220.1	-3.2	-3.9	-2.8	-2.2
Carbon intensity (t of CO_2/toe of GIC)	2.53	2.17	1.95	1.94	2.06	1.79	1.59	1.53	1.32	-2.6	0.5	-2.5	-1.8
Import Dependency %	76.7	69.6	66.0	65.5	68.1	60.6	56.4	51.8	50.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			6.8	7.9	8.5	11.4	15.1	17.3	18.6		2.5	6.7	2.9
as % of GDP			21.2	19.4	17.1	19.0	21.4	22.4	22.8				
Energy intensity indicators													
Industry (Energy on Value added)	201.8	135.7	100.0	69.1	50.4	41.5	34.5	30.6	28.7	-6.8	-6.6	-3.7	-1.8
Residential (Energy on Private Income)	87.6	95.0	100.0	77.6	70.3	56.2	48.7	41.0	35.9	1.3	-3.5	-3.6	-3.0
Tertiary (Energy on Value added)	206.5	152.1	100.0	61.4	56.9	47.7	41.9	35.5	30.8	-7.0	-5.5	-3.0	-3.0
Passenger transport (toe/Mpkm)	16.3	19.2	22.0	21.9	22.2	22.3	22.3	21.9	20.6	3.1	0.1	0.1	-0.8
Freight transport (toe/Mtkm)	19.9	22.2	23.8	28.7	31.1	31.9	30.7	29.0	27.4	1.8	2.7	-0.1	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.37	0.34	0.25	0.22	0.25	0.19	0.15	0.14	0.09	-3.6	-0.2	-4.9	-4.8
Final energy demand (t of CO_2/toe)	2.61	2.29	2.18	2.05	1.93	1.84	1.72	1.64	1.56	-1.8	-1.2	-1.1	-1.0
Industry	2.63	2.72	2.54	2.37	2.12	1.97	1.80	1.66	1.55	-0.3	-1.8	-1.6	-1.5
Residential	1.96	1.47	1.59	1.39	1.31	1.23	1.18	1.12	1.08	-2.1	-1.9	-1.0	-0.9
Tertiary	2.86	2.04	1.85	1.36	1.27	1.18	1.08	0.93	0.86	-4.3	-3.7	-1.6	-2.3
Transport	2.80	2.74	2.81	2.89	2.86	2.82	2.69	2.70	2.66	0.0	0.2	-0.6	-0.1
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			2.7	6.5	8.1	10.8	14.1	15.5	18.0				
RES in transport (%)			0.7	1.0	2.6	4.4	8.7	8.1	9.5				
Gross Electricity generation by fuel type (in GWh)			**30431**	**31346**	**31951**	**36561**	**40812**	**45702**	**48874**		**0.5**	**2.5**	**1.8**
Nuclear energy			16491	17724	13996	20330	23329	26769	27285		-1.6	5.2	1.6
Coal and lignite			5591	5514	6407	5483	4436	4583	6436		1.4	-3.6	3.8
Petroleum products			126	441	846	617	747	45	27		20.9	-1.2	-28.4
Gas (including derived gases)			3498	2929	4965	3373	3504	4736	4919		3.6	-3.4	3.4
Biomass & waste			0	95	970	1301	2954	3366	3650			11.8	2.1
Hydro			4725	4637	4685	5069	5115	5151	5189		-0.1	0.9	0.1
Wind			0	7	78	365	637	888	1123			23.3	5.8
Solar, tidal etc.			0	0	4	13	30	54	90			22.8	11.6
Geothermal and other renewables			0	0	0	9	60	108	156				10.0
Net Generation Capacity in MW_e			**6775**	**7153**	**6628**	**8222**	**8293**	**8880**	**9628**		**-0.2**	**2.3**	**1.5**
Nuclear energy			2484	2605	1859	2721	3090	3468	3534		-2.9	5.2	1.4
Renewable energy			1620	1583	1759	2143	2476	2739	3000		0.8	3.5	1.9
Hydro (pumping excluded)			1620	1578	1686	1805	1870	1870	1870		0.4	1.0	0.0
Wind			0	5	69	325	575	812	1036			23.6	6.1
Solar			0	0	4	14	31	56	93			22.8	11.6
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			2671	2965	3010	3358	2727	2673	3095		1.2	-1.0	1.3
of which cogeneration units			491	1043	1296	1416	1792	1721	1705		10.2	3.3	-0.5
of which CCS units			0	0	0	0	0	18	425				
Solids fired			1453	1541	1492	1650	1243	943	988		0.3	-1.8	-2.3
Gas fired			1138	1191	1284	1294	801	988	1383		1.2	-4.6	5.6
Oil fired			81	182	184	185	185	162	115		8.6	0.1	-4.7
Biomass-waste fired			0	50	50	228	491	568	592			25.7	1.9
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	7	12	18				10.0
Load factor for net electric capacities (%)			45.6	46.6	51.7	48.3	53.7	55.9	54.1				
Efficiency for thermal electricity production (%)			31.1	31.2	32.4	32.1	32.5	33.0	37.0				
CHP indicator (% of electricity from CHP)			21.6	17.0	24.0	22.0	25.3	23.4	22.3				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.4	9.0				
Non fossil fuels in electricity generation (%)			69.7	71.7	61.8	74.1	78.7	79.5	76.7				
- nuclear			54.2	56.5	43.8	55.6	57.2	58.6	55.8				
- renewable energy forms and industrial waste			15.5	15.1	18.0	18.5	21.6	20.9	20.9				
Transport sector													
Passenger transport activity (Gpkm)	**42.7**	**37.6**	**37.2**	**39.0**	**42.9**	**47.2**	**50.7**	**53.7**	**56.3**	**-1.4**	**1.5**	**1.7**	**1.1**
Public road transport	19.8	14.4	9.3	8.5	8.8	9.0	9.2	9.3	9.4	-7.3	-0.6	0.4	0.3
Private cars and motorcycles	16.0	18.4	24.4	26.4	29.9	33.3	35.8	37.8	39.5	4.3	2.1	1.8	1.0
Rail	6.8	4.6	3.2	2.6	2.6	2.6	2.8	2.9	3.0	-7.3	-2.2	0.7	0.9
Aviation	0.0	0.1	0.2	1.5	1.7	2.2	2.9	3.7	4.4		22.1	5.8	4.2
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**37.7**	**31.2**	**27.0**	**32.8**	**41.4**	**47.4**	**50.1**	**51.4**	**52.3**	**-3.3**	**4.4**	**1.9**	**0.4**
Trucks	15.6	15.9	14.3	22.6	30.7	35.7	37.1	37.4	37.4	-0.8	7.9	1.9	0.1
Rail	21.4	13.8	11.2	9.5	9.9	10.9	12.1	13.1	13.9	-6.2	-1.2	2.0	1.4
Inland navigation	0.7	1.5	1.4	0.7	0.8	0.8	0.9	0.9	1.0	6.6	-5.8	1.5	0.9
Energy demand in transport (ktoe)	**1446**	**1415**	**1459**	**1796**	**2242**	**2563**	**2670**	**2668**	**2591**	**0.1**	**4.4**	**1.8**	**-0.3**
Public road transport	123	88	57	51	52	52	51	50	50	-7.4	-0.9	-0.2	-0.2
Private cars and motorcycles	558	579	724	759	852	937	1007	1040	1014	2.6	1.6	1.7	0.1
Trucks	652	566	552	888	1235	1455	1476	1427	1364	-1.7	8.4	1.8	-0.8
Rail	100	119	83	49	51	53	57	61	63	-1.9	-4.8	1.2	1.0
Aviation	0	40	27	39	43	56	68	79	88		4.8	4.8	2.6
Inland navigation	12	24	16	9	9	10	10	11	11	3.1	-5.8	1.4	0.8

Source: PRIMES

Slovenia: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**2902**	**3020**	**3085**	**3492**	**3657**	**4163**	**4458**	**5030**	**5055**	**0.6**	**1.7**	**2.0**	**1.3**
Solids	1432	1216	1062	1184	1252	1441	1072	229	221	-2.9	1.7	-1.5	-14.6
Oil	3	2	1	0	0	0	0	0	0	-10.4			
Natural gas	20	16	6	3	4	0	0	0	0	-11.4	-4.9		
Nuclear	1192	1245	1228	1518	1557	1557	1692	3024	3039	0.3	2.4	0.8	6.0
Renewable energy sources	254	542	788	787	845	1166	1694	1777	1795	12.0	0.7	7.2	0.6
Hydro	254	279	330	298	338	358	373	373	376	2.7	0.2	1.0	0.1
Biomass & Waste	0	263	458	489	502	719	1147	1194	1187		0.9	8.6	0.3
Wind	0	0	0	0	0	6	19	25	29				4.1
Solar and others	0	0	0	0	6	78	127	156	174			36.6	3.2
Geothermal	0	0	0	0	0	6	29	30	30			79.8	0.3
Net Imports	**2572**	**3063**	**3381**	**3825**	**4277**	**4582**	**4728**	**4146**	**3863**	**2.8**	**2.4**	**1.0**	**-2.0**
Solids	130	186	245	323	270	249	248	68	59	6.5	1.0	-0.8	-13.3
Oil	1804	2239	2430	2604	3074	3431	3446	3325	3094	3.0	2.4	1.1	-1.1
- Crude oil and Feedstocks	598	589	151	0	1	1	1	1	1	-12.8	-38.2	1.1	-0.5
- Oil products	1206	1650	2278	2604	3073	3429	3445	3324	3093	6.6	3.0	1.1	-1.1
Natural gas	723	750	820	925	981	985	1069	893	867	1.3	1.8	0.9	-2.1
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Gross Inland Consumption	**5523**	**6111**	**6427**	**7299**	**7905**	**8711**	**9149**	**9137**	**8878**	**1.5**	**2.1**	**1.5**	**-0.3**
Solids	1645	1402	1306	1539	1522	1689	1320	296	280	-2.3	1.5	-1.4	-14.4
Oil	1754	2290	2393	2554	3045	3396	3409	3286	3054	3.2	2.4	1.1	-1.1
Natural gas	763	746	826	929	985	985	1069	893	867	0.8	1.8	0.8	-2.1
Nuclear	1192	1245	1228	1518	1557	1557	1692	3024	3039	0.3	2.4	0.8	6.0
Electricity	-85	-142	-114	-28	-58	-115	-135	-246	-270				
Renewable energy forms	254	571	788	787	855	1199	1795	1883	1908	12.0	0.8	7.7	0.6
as % in Gross Inland Consumption													
Solids	29.8	22.9	20.3	21.1	19.2	19.4	14.4	3.2	3.2				
Oil	31.8	37.5	37.2	35.0	38.5	39.0	37.3	36.0	34.4				
Natural gas	13.8	12.2	12.8	12.7	12.5	11.3	11.7	9.8	9.8				
Nuclear	21.6	20.4	19.1	20.8	19.7	17.9	18.5	33.1	34.2				
Renewable energy forms	4.6	9.3	12.3	10.8	10.8	13.8	19.6	20.6	21.5				
Gross Electricity Generation in GWh_e	**12440**	**12652**	**13622**	**15114**	**16183**	**18042**	**19276**	**21473**	**21843**	**0.9**	**1.7**	**1.8**	**1.3**
Self consumption and grid losses	1584	1497	1662	1943	1963	2136	2180	2174	2200	0.5	1.7	1.1	0.1
Fuel Inputs for Thermal Power Generation	**1543**	**1523**	**1342**	**1507**	**1622**	**1917**	**1931**	**1005**	**1034**	**-1.4**	**1.9**	**1.8**	**-6.1**
Solids	1296	1315	1253	1411	1431	1595	1227	229	221	-0.3	1.3	-1.5	-15.8
Oil (including refinery gas)	155	119	12	9	2	2	2	0	1	-22.8	-15.5	-0.9	-4.4
Gas	92	90	62	58	147	138	165	129	175	-3.8	9.0	1.2	0.6
Biomass & Waste	0	0	15	30	41	177	510	621	610		10.4	28.5	1.8
Geothermal heat	0	0	0	0	0	5	27	27	27				0.0
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**596**	**582**	**253**	**90**	**93**	**168**	**313**	**357**	**399**	**-8.2**	**-9.5**	**12.9**	**2.5**
Refineries	542	505	170	1	1	1	1	1	1	-11.0	-38.9	1.1	-0.5
Biofuels and hydrogen production	0	0	0	0	39	118	258	285	330			20.8	2.5
District heating	53	76	83	89	53	49	54	71	68	4.7	-4.5	0.2	2.3
Others	1	1	0	0	0	0	0	0	0				
Energy Branch Consumption	**122**	**121**	**112**	**104**	**112**	**126**	**127**	**122**	**120**	**-0.9**	**-0.1**	**1.3**	**-0.5**
Non-Energy Uses	**6**	**122**	**238**	**310**	**351**	**406**	**446**	**465**	**468**	**43.8**	**4.0**	**2.4**	**0.5**
Final Energy Demand	**3373**	**3948**	**4440**	**4892**	**5448**	**6075**	**6412**	**6251**	**5981**	**2.8**	**2.1**	**1.6**	**-0.7**
by sector													
Industry	1469	1180	1424	1657	1694	1836	1923	1834	1745	-0.3	1.8	1.3	-1.0
- energy intensive industries	729	587	840	1038	1047	1152	1223	1168	1108	1.4	2.2	1.6	-1.0
- other industrial sectors	740	593	585	619	647	684	700	667	638	-2.3	1.0	0.8	-0.9
Residential	853	1180	1124	1186	1205	1286	1344	1278	1238	2.8	0.7	1.1	-0.8
Tertiary	122	259	580	575	569	560	546	510	473	16.9	-0.2	-0.4	-1.4
Transport	930	1329	1312	1475	1981	2394	2600	2629	2525	3.5	4.2	2.8	-0.3
by fuel													
Solids	243	115	97	80	61	60	59	36	31	-8.8	-4.6	-0.3	-6.1
Oil	1513	2106	2239	2404	2856	3172	3161	3022	2780	4.0	2.5	1.0	-1.3
Gas	603	468	569	665	656	652	689	530	460	-0.6	1.4	0.5	-4.0
Electricity	837	807	905	1096	1153	1241	1323	1400	1406	0.8	2.5	1.4	0.6
Heat (from CHP and District Heating) [A]	177	192	195	196	256	305	328	441	454	1.0	2.7	2.5	3.3
Renewable energy forms	0	260	435	452	466	643	852	821	850		0.7	6.2	0.0
Other	0	0	0	0	0	0	1	1	1			12.3	0.3
RES in Gross Final Energy Consumption [B]			**768**	**810**	**832**	**1148**	**1680**	**1756**	**1782**		**0.8**	**7.3**	**0.6**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**18.1**		**18.6**	**20.1**	**21.3**	**22.6**	**21.1**	**15.9**	**14.9**	**0.3**	**1.4**	**-0.1**	**-3.4**
of which ETS sectors GHGs emissions				9.0	8.8	9.6	8.3	3.8	3.6			-0.6	-7.9
CO_2 Emissions (energy related)	**13.2**	**14.1**	**14.0**	**15.3**	**16.7**	**18.3**	**16.9**	**11.9**	**11.1**	**0.6**	**1.8**	**0.1**	**-4.2**
Power generation/District heating	6.2	6.2	5.5	6.2	6.4	7.0	5.6	1.4	1.5	-1.1	1.4	-1.3	-12.4
Energy Branch	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.9			
Industry	2.5	1.8	2.3	2.3	2.2	2.2	2.2	1.6	1.3	-0.7	-0.8	0.2	-4.8
Residential	1.7	2.1	1.3	1.4	1.5	1.4	1.4	1.3	1.1	-2.5	1.3	-0.7	-1.9
Tertiary	0.0	0.0	1.0	1.0	0.9	0.9	0.8	0.7	0.6	47.0	-0.1	-1.6	-3.4
Transport	2.7	3.9	3.8	4.3	5.8	6.8	7.0	7.0	6.5	3.5	4.3	1.9	-0.7
CO_2 Emissions (non energy related)	**1.1**	**0.9**	**0.9**	**1.1**	**1.1**	**1.2**	**1.3**	**1.3**	**1.2**	**-1.9**	**1.8**	**1.9**	**-0.8**
Non-CO_2 GHGs Emissions	**3.8**		**3.7**	**3.7**	**3.5**	**3.0**	**2.8**	**2.7**	**2.7**	**-0.4**	**-0.6**	**-2.0**	**-0.6**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**102.8**	**110.8**	**117.6**	**124.7**	**116.5**	**87.9**	**82.5**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)									Slovenia: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	1.996	1.989	1.988	1.998	2.034	2.053	2.058	2.047	2.023	0.0	0.2	0.1	-0.2
GDP (in 000 M€08)	21.1	20.5	25.3	30.3	34.6	40.6	46.5	50.9	53.6	1.9	3.1	3.0	1.4
Gross Inl. Cons./GDP (toe/M€08)	261.9	298.4	253.6	240.6	228.7	214.8	196.8	179.6	165.7	-0.3	-1.0	-1.5	-1.7
Carbon intensity (t of CO_2/toe of GIC)	2.39	2.30	2.18	2.09	2.12	2.11	1.85	1.30	1.25	-0.9	-0.3	-1.3	-3.9
Import Dependency %	46.6	50.1	52.6	52.3	53.9	52.4	51.5	45.2	43.3				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			3.8	4.1	5.1	6.6	8.6	9.6	9.9		3.3	6.3	2.7
as % of GDP			15.0	13.6	15.2	17.7	20.9	22.7	23.6				
Energy intensity indicators													
Industry (Energy on Value added)	109.1	109.6	100.0	92.4	82.8	76.8	71.2	64.5	60.7	-0.9	-1.9	-1.5	-1.6
Residential (Energy on Private Income)	99.0	123.5	100.0	92.2	85.2	78.1	70.9	60.9	55.0	0.1	-1.6	-1.8	-2.5
Tertiary (Energy on Value added)	27.6	54.1	100.0	82.4	72.6	60.2	51.1	43.1	37.5	13.7	-3.2	-3.4	-3.0
Passenger transport (toe/Mpkm)	33.4	45.5	38.5	32.6	32.1	31.2	30.5	27.6	24.6	1.4	-1.8	-0.5	-2.1
Freight transport (toe/Mtkm)	22.8	56.0	42.7	41.9	46.1	47.0	45.1	43.0	40.4	6.5	0.8	-0.2	-1.1
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.34	0.34	0.32	0.31	0.23	0.05	0.05	-2.0	-0.7	-3.1	-13.8
Final energy demand (t of CO_2/toe)	2.05	1.99	1.89	1.86	1.90	1.86	1.77	1.68	1.60	-0.8	0.0	-0.7	-1.0
Industry	1.72	1.55	1.65	1.39	1.28	1.21	1.15	0.86	0.77	-0.4	-2.5	-1.1	-3.9
Residential	1.98	1.81	1.17	1.21	1.24	1.12	1.03	0.98	0.92	-5.2	0.6	-1.8	-1.1
Tertiary	0.17	0.13	1.65	1.76	1.66	1.58	1.47	1.36	1.20	25.7	0.0	-1.2	-2.0
Transport	2.88	2.91	2.89	2.94	2.91	2.83	2.68	2.65	2.58	0.0	0.1	-0.8	-0.4
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			16.7	15.9	14.7	18.2	25.3	27.1	28.6				
RES in transport (%)			0.5	0.3	2.3	5.3	10.5	11.4	13.8				
Gross Electricity generation by fuel type (in GWh)			**13622**	**15114**	**16183**	**18042**	**19276**	**21473**	**21843**		**1.7**	**1.8**	**1.3**
Nuclear energy			4760	5883	6035	6035	6600	12983	13045		2.4	0.9	7.1
Coal and lignite			4630	5314	5171	6112	4915	536	520		1.1	-0.5	-20.1
Petroleum products			40	34	9	7	7	0	3		-14.0	-2.1	-8.3
Gas (including derived gases)			313	324	869	817	978	645	885		10.8	1.2	-1.0
Biomass & waste			45	100	169	821	2139	2561	2521		14.1	28.9	1.7
Hydro			3833	3460	3927	4157	4332	4338	4367		0.2	1.0	0.1
Wind			0	0	0	66	226	293	337				4.1
Solar, tidal etc.			0	0	3	20	48	86	135			32.5	10.9
Geothermal and other renewables			0	0	0	6	31	31	31				0.0
Net Generation Capacity in MW_e			**2748**	**3084**	**3286**	**3830**	**4031**	**4597**	**4736**		**1.8**	**2.1**	**1.6**
Nuclear energy			696	696	706	706	775	1584	1584		0.1	0.9	7.4
Renewable energy			846	963	1041	1198	1490	1608	1725		2.1	3.7	1.5
Hydro (pumping excluded)			846	963	1038	1102	1182	1184	1201		2.1	1.3	0.2
Wind			0	0	0	75	258	334	384				4.1
Solar			0	0	3	21	50	90	140			32.5	10.9
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			1206	1424	1540	1926	1766	1406	1427		2.5	1.4	-2.1
of which cogeneration units			453	389	449	551	498	603	639		-0.1	1.0	2.5
of which CCS units			0	0	0	0	0	0	0				
Solids fired			948	947	894	1169	969	564	548		-0.6	0.8	-5.5
Gas fired			223	446	617	619	480	476	513		10.7	-2.5	0.7
Oil fired			17	10	10	10	2	0	0		-5.2	-15.9	-14.8
Biomass-waste fired			17	21	19	127	312	362	362		1.4	32.2	1.5
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	4	4	4				0.0
Load factor for net electric capacities (%)			53.1	52.3	52.9	50.5	51.5	50.7	50.1				
Efficiency for thermal electricity production (%)			32.2	32.9	33.0	34.8	35.9	32.3	32.9				
CHP indicator (% of electricity from CHP)			7.2	8.2	12.4	17.1	17.8	17.4	18.0				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			63.4	62.5	62.6	61.6	69.4	94.5	93.6				
- nuclear			34.9	38.9	37.3	33.5	34.2	60.5	59.7				
- renewable energy forms and industrial waste			28.5	23.6	25.3	28.1	35.1	34.0	33.8				
Transport sector													
Passenger transport activity (Gpkm)	**21.6**	**21.4**	**25.0**	**26.9**	**29.5**	**32.5**	**35.0**	**36.6**	**37.3**	**1.5**	**1.7**	**1.7**	**0.6**
Public road transport	6.5	4.1	3.5	3.1	3.3	3.5	3.6	3.7	3.8	-6.0	-0.6	1.0	0.4
Private cars and motorcycles	13.5	16.5	20.5	22.7	24.9	27.5	29.6	30.9	31.4	4.3	2.0	1.7	0.6
Rail	1.4	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	-6.8	1.7	1.9	1.1
Aviation	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.9	1.0	3.7	4.9	4.6	3.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Freight transport activity (Gtkm)	**9.1**	**6.4**	**8.2**	**14.3**	**22.4**	**29.3**	**34.0**	**37.6**	**39.7**	**-1.1**	**10.6**	**4.2**	**1.6**
Trucks	4.9	3.3	5.3	11.0	18.4	24.7	28.5	31.6	33.5	0.8	13.3	4.4	1.6
Rail	4.2	3.1	2.9	3.2	4.0	4.6	5.5	6.0	6.3	-3.8	3.4	3.3	1.3
Inland navigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Energy demand in transport (ktoe)	**930**	**1329**	**1312**	**1475**	**1981**	**2394**	**2600**	**2629**	**2525**	**3.5**	**4.2**	**2.8**	**-0.3**
Public road transport	51	33	27	23	25	26	26	25	25	-6.2	-0.9	0.2	-0.2
Private cars and motorcycles	642	918	909	829	892	952	1000	939	844	3.5	-0.2	1.2	-1.7
Trucks	181	329	316	570	1000	1342	1492	1578	1577	5.8	12.2	4.1	0.6
Rail	29	29	34	29	35	39	42	42	31	1.4	0.3	2.0	-3.2
Aviation	27	20	25	23	29	35	40	44	48	-0.8	1.6	3.3	1.9
Inland navigation	0	0	0	0	0	0	0	0	0				

Source: PRIMES

Spain: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**33731**	**31366**	**31335**	**30127**	**32857**	**38237**	**45454**	**43680**	**48785**	**-0.7**	**0.5**	**3.3**	**0.7**
Solids	11679	10170	7740	6265	4744	4504	4184	3015	2519	-4.0	-4.8	-1.2	-4.9
Oil	801	790	229	168	135	107	85	0	0	-11.8	-5.1	-4.5	
Natural gas	1273	379	148	144	70	45	0	0	0	-19.4	-7.2		
Nuclear	13701	14305	16046	14842	15121	15267	15267	10531	10531	1.6	-0.6	0.1	-3.6
Renewable energy sources	6276	5722	7172	8709	12786	18314	25918	30135	35735	1.3	6.0	7.3	3.3
Hydro	2184	1987	2534	1681	2537	2603	2665	2783	2884	1.5	0.0	0.5	0.8
Biomass & Waste	4067	3684	4191	5131	6133	9423	12025	13011	14372	0.3	3.9	7.0	1.8
Wind	1	23	406	1825	3379	4785	6041	7123	9431	79.0	23.6	6.0	4.6
Solar and others	21	25	33	65	724	1475	3278	3388	3690	4.5	36.3	16.3	1.2
Geothermal	2	3	8	8	12	28	1909	3830	5360	12.3	4.9	65.5	10.9
Net Imports	**60168**	**76165**	**99334**	**123972**	**117250**	**118790**	**119665**	**125742**	**122429**	**5.1**	**1.7**	**0.2**	**0.2**
Solids	7038	9146	12636	14418	9499	9246	7767	10062	9693	6.0	-2.8	-2.0	2.2
Oil	49476	59112	70849	79421	75097	77650	78517	78603	76460	3.7	0.6	0.4	-0.3
- Crude oil and Feedstocks	53717	56145	59233	60834	59813	61699	62329	62398	61518	1.0	0.1	0.4	-0.1
- Oil products	-4240	2968	11616	18587	15285	15952	16188	16204	14942		2.8	0.6	-0.8
Natural gas	3690	7521	15467	30248	32841	31710	32702	36573	35581	15.4	7.8	0.0	0.8
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Gross Inland Consumption	**89717**	**102950**	**123652**	**144589**	**141873**	**148136**	**155819**	**159831**	**161449**	**3.3**	**1.4**	**0.9**	**0.4**
Solids	18942	19515	20643	20698	14243	13751	11951	13077	12212	0.9	-3.6	-1.7	0.2
Oil	45863	55298	64191	70610	66998	68866	69302	69011	66695	3.4	0.4	0.3	-0.4
Natural gas	4970	7722	15219	29844	32911	31755	32702	36573	35581	11.8	8.0	-0.1	0.8
Nuclear	13701	14305	16046	14842	15121	15267	15267	10531	10531	1.6	-0.6	0.1	-3.6
Electricity	-36	386	382	-115	-377	-312	-361	-400	-387				
Renewable energy forms	6276	5723	7172	8710	12976	18810	26957	31039	36817	1.3	6.1	7.6	3.2
as % in Gross Inland Consumption													
Solids	21.1	19.0	16.7	14.3	10.0	9.3	7.7	8.2	7.6				
Oil	51.1	53.7	51.9	48.8	47.2	46.5	44.5	43.2	41.3				
Natural gas	5.5	7.5	12.3	20.6	23.2	21.4	21.0	22.9	22.0				
Nuclear	15.3	13.9	13.0	10.3	10.7	10.3	9.8	6.6	6.5				
Renewable energy forms	7.0	5.6	5.8	6.0	9.1	12.7	17.3	19.4	22.8				
Gross Electricity Generation in GWh_e	**150944**	**165585**	**222776**	**290518**	**295580**	**318931**	**342466**	**369573**	**397550**	**4.0**	**2.9**	**1.5**	**1.5**
Self consumption and grid losses	21386	24594	32562	40810	39057	41645	44584	49393	61755	4.3	1.8	1.3	3.3
Fuel Inputs for Thermal Power Generation	**16683**	**18604**	**26463**	**35421**	**31013**	**31337**	**32139**	**38297**	**37867**	**4.7**	**1.6**	**0.4**	**1.7**
Solids	13881	13585	18249	17641	12180	11899	10038	11217	10415	2.8	-4.0	-1.9	0.4
Oil (including refinery gas)	2171	3654	4445	5249	4334	4031	2892	2543	2495	7.4	-0.3	-4.0	-1.5
Gas	486	987	3075	11140	13030	11615	12263	15210	13014	20.3	15.5	-0.6	0.6
Biomass & Waste	145	377	694	1391	1469	3792	5124	5603	6711	16.9	7.8	13.3	2.7
Geothermal heat	0	0	0	0	0	0	1823	3724	5231				11.1
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**58344**	**59752**	**63964**	**64825**	**63007**	**65991**	**67881**	**68390**	**67813**	**0.9**	**-0.2**	**0.7**	**0.0**
Refineries	54213	56829	60882	61490	59602	61665	62394	62443	61598	1.2	-0.2	0.5	-0.1
Biofuels and hydrogen production	0	0	51	259	1557	2788	3869	4440	4745		40.7	9.5	2.1
District heating	0	0	0	0	0	0	0	0	0				
Others	4131	2924	3031	3077	1848	1537	1618	1507	1471	-3.0	-4.8	-1.3	-1.0
Energy Branch Consumption	**4745**	**5505**	**6119**	**6708**	**5994**	**6120**	**6273**	**6370**	**7046**	**2.6**	**-0.2**	**0.5**	**1.2**
Non-Energy Uses	**6027**	**8358**	**9467**	**8349**	**7851**	**8684**	**9439**	**10144**	**10613**	**4.6**	**-1.9**	**1.9**	**1.2**
Final Energy Demand	**56801**	**63691**	**79631**	**97456**	**99882**	**106621**	**112630**	**115805**	**116865**	**3.4**	**2.3**	**1.2**	**0.4**
by sector													
Industry	20070	20508	25528	31098	30694	32986	36094	39093	41562	2.4	1.9	1.6	1.4
- energy intensive industries	13093	13648	17306	20472	19174	20255	21782	23011	24054	2.8	1.0	1.3	1.0
- other industrial sectors	6977	6860	8221	10626	11520	12731	14312	16082	17508	1.7	3.4	2.2	2.0
Residential	9275	9998	11886	15168	16087	16911	17087	16344	15780	2.5	3.1	0.6	-0.8
Tertiary	5054	7024	9241	11580	11859	11932	12095	12107	12099	6.2	2.5	0.2	0.0
Transport	22401	26162	32977	39609	41242	44792	47355	48262	47423	3.9	2.3	1.4	0.0
by fuel													
Solids	3524	2235	1671	1782	1180	1131	1157	1122	1056	-7.2	-3.4	-0.2	-0.9
Oil	33612	39125	46007	53066	51358	53520	54111	53689	51920	3.2	1.1	0.5	-0.4
Gas	4903	6841	12141	17978	18813	18392	18902	19702	20203	9.5	4.5	0.0	0.7
Electricity	10817	12116	16205	20824	21165	22998	24709	26597	27973	4.1	2.7	1.6	1.2
Heat (from CHP and District Heating) [A]	0	39	74	0	2263	3723	4236	4854	5391		40.8	6.5	2.4
Renewable energy forms	3945	3335	3533	3805	5100	6851	9507	9832	10312	-1.1	3.7	6.4	0.8
Other	0	0	0	1	3	6	9	9	9		61.8	11.6	0.1
RES in Gross Final Energy Consumption [B]			**6612**	**8524**	**12459**	**17951**	**24343**	**26657**	**30864**		**6.5**	**6.9**	**2.4**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**285.1**		**386.1**	**440.6**	**407.0**	**399.7**	**392.5**	**401.9**	**347.1**	**3.1**	**0.5**	**-0.4**	**-1.2**
of which ETS sectors GHGs emissions				207.1	171.4	166.1	157.8	170.0	121.5			-0.8	-2.6
CO_2 Emissions (energy related)	**202.4**	**224.6**	**281.1**	**336.8**	**308.5**	**307.1**	**298.3**	**308.8**	**254.8**	**3.3**	**0.9**	**-0.3**	**-1.6**
Power generation/District heating	63.6	68.2	94.1	113.0	92.7	87.0	75.0	85.3	36.9	4.0	-0.1	-2.1	-6.8
Energy Branch	11.5	13.1	13.4	14.4	12.3	11.3	11.5	11.2	10.2	1.5	-0.8	-0.7	-1.2
Industry	40.7	41.9	46.4	55.4	47.0	46.5	48.5	51.5	53.5	1.3	0.1	0.3	1.0
Residential	12.9	13.6	16.5	20.4	21.5	21.0	18.5	15.6	13.6	2.5	2.7	-1.5	-3.0
Tertiary	7.7	10.6	13.0	16.3	16.4	15.6	14.9	14.5	14.1	5.3	2.4	-1.0	-0.5
Transport	65.9	77.2	97.7	117.3	118.6	125.6	129.9	130.6	126.5	4.0	2.0	0.9	-0.3
CO_2 Emissions (non energy related)	**23.1**	**22.3**	**27.0**	**30.4**	**27.1**	**28.3**	**29.7**	**30.1**	**29.1**	**1.6**	**0.0**	**0.9**	**-0.2**
Non-CO_2 GHGs Emissions	**59.6**		**78.0**	**73.4**	**71.4**	**64.4**	**64.4**	**62.9**	**63.2**	**2.7**	**-0.9**	**-1.0**	**-0.2**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**135.4**	**154.6**	**142.8**	**140.2**	**137.7**	**141.0**	**121.8**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Spain: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	38.826	39.343	40.050	43.038	46.673	49.381	51.109	52.101	52.661	0.3	1.5	0.9	0.3
GDP (in 000 M€08)	607.4	668.6	817.6	960.1	1003.0	1161.4	1357.7	1557.2	1728.1	3.0	2.1	3.1	2.4
Gross Inl. Cons./GDP (toe/M€08)	147.7	154.0	151.2	150.6	141.4	127.5	114.8	102.6	93.4	0.2	-0.7	-2.1	-2.0
Carbon intensity (t of CO_2/toe of GIC)	2.26	2.18	2.27	2.33	2.17	2.07	1.91	1.93	1.58	0.1	-0.4	-1.3	-1.9
Import Dependency %	64.3	71.8	76.7	81.3	78.1	75.6	72.5	74.2	71.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			78.8	97.8	107.8	133.2	170.3	196.6	206.9		3.5	5.7	3.1
as % of GDP			9.6	10.2	11.0	12.5	14.2	15.0	15.1				
Energy intensity indicators													
Industry (Energy on Value added)	98.8	100.1	100.0	115.5	111.3	102.1	93.6	86.2	81.6	0.1	1.1	-1.7	-1.4
Residential (Energy on Private Income)	103.7	102.8	100.0	107.4	111.0	101.5	90.6	78.3	69.7	-0.4	1.1	-2.0	-2.6
Tertiary (Energy on Value added)	70.9	90.3	100.0	107.4	104.8	89.9	78.4	68.7	61.9	3.5	0.5	-2.9	-2.3
Passenger transport (toe/Mpkm)	37.4	38.0	40.9	40.1	38.6	35.7	33.7	31.2	28.8	0.9	-0.6	-1.3	-1.5
Freight transport (toe/Mtkm)	89.2	76.3	70.6	65.5	65.4	65.3	62.8	59.7	55.7	-2.3	-0.8	-0.4	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.42	0.41	0.42	0.39	0.29	0.24	0.19	0.20	0.08	0.0	-3.7	-4.1	-8.3
Final energy demand (t of CO_2/toe)	2.24	2.25	2.18	2.15	2.04	1.96	1.88	1.83	1.78	-0.3	-0.7	-0.8	-0.6
Industry	2.03	2.04	1.82	1.78	1.53	1.41	1.34	1.32	1.29	-1.1	-1.7	-1.3	-0.4
Residential	1.39	1.36	1.39	1.35	1.34	1.24	1.08	0.96	0.86	0.0	-0.4	-2.1	-2.3
Tertiary	1.53	1.51	1.41	1.41	1.39	1.31	1.23	1.20	1.17	-0.9	-0.1	-1.2	-0.5
Transport	2.94	2.95	2.96	2.96	2.87	2.80	2.74	2.71	2.67	0.1	-0.3	-0.5	-0.3
Indicators for renewables (excluding industrial waste) (%) [B]													
RES in gross final energy demand (%)			8.0	8.5	12.1	16.3	20.9	22.2	25.3				
RES in transport (%)			0.4	1.0	4.7	7.7	10.1	11.5	12.9				
Gross Electricity generation by fuel type (in GWh)			**222776**	**290518**	**295580**	**318931**	**342466**	**369573**	**397550**		**2.9**	**1.5**	**1.5**
Nuclear energy			62195	57529	58619	59185	59185	41478	41478		-0.6	0.1	-3.5
Coal and lignite			86960	93772	58688	57683	48922	54424	58697		-3.9	-1.8	1.8
Petroleum products			22636	26417	19103	18300	12838	11284	12288		-1.7	-3.9	-0.4
Gas (including derived gases)			14956	67692	80768	75237	79424	98611	84328		18.4	-0.2	0.6
Biomass & waste			1824	4303	3950	13646	17945	21410	25453		8.0	16.3	3.6
Hydro			29465	19549	29499	30267	30991	32359	33530		0.0	0.5	0.8
Wind			4723	21215	39295	55636	70240	82825	109661		23.6	6.0	4.6
Solar, tidal etc.			18	41	5658	8976	20799	22850	26031		77.7	13.9	2.3
Geothermal and other renewables			0	0	1	1	2121	4332	6084			118.2	11.1
Net Generation Capacity in MW_e			**48421**	**69109**	**97751**	**105219**	**116710**	**120971**	**137050**		**7.3**	**1.8**	**1.6**
Nuclear energy			7579	7579	7434	6986	6986	4907	4907		-0.2	-0.6	-3.5
Renewable energy			14819	22686	39490	45955	58140	64555	75331		10.3	3.9	2.6
Hydro (pumping excluded)			12533	12731	13819	13923	14299	14464	15012		1.0	0.3	0.5
Wind			2274	9918	21674	25779	31402	36298	45411		25.3	3.8	3.8
Solar			12	37	3996	6253	12438	13793	14907		78.7	12.0	1.8
Other renewables (tidal etc.)			0	0	0	0	1	1	1			5.1	0.0
Thermal power			26024	38845	50827	52277	51584	51508	56812		6.9	0.1	1.0
of which cogeneration units			3800	4796	5477	8159	8854	11027	10895		3.7	4.9	2.1
of which CCS units			0	0	0	0	340	340	6103				33.5
Solids fired			11549	11674	11466	10531	10530	9886	14513		-0.1	-0.8	3.3
Gas fired			7466	20921	31823	33204	31791	32371	32175		15.6	0.0	0.1
Oil fired			6536	5386	5609	5066	4809	3933	3931		-1.5	-1.5	-2.0
Biomass-waste fired			472	864	1929	3476	4212	4824	5499		15.1	8.1	2.7
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	242	494	694				11.1
Load factor for net electric capacities (%)			50.2	46.0	33.5	33.6	32.5	33.7	31.1				
Efficiency for thermal electricity production (%)			41.1	46.7	45.1	45.2	43.1	42.7	42.4				
CHP indicator (% of electricity from CHP)			9.7	8.2	8.2	14.6	14.4	17.4	16.4				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	1.1	1.0	15.7				
Non fossil fuels in electricity generation (%)			44.1	35.3	46.4	52.6	58.8	55.5	60.9				
- nuclear			27.9	19.8	19.8	18.6	17.3	11.2	10.4				
- renewable energy forms and industrial waste			16.2	15.5	26.5	34.0	41.5	44.3	50.5				
Transport sector													
Passenger transport activity (Gpkm)	**301.3**	**386.4**	**476.1**	**535.4**	**558.5**	**635.4**	**713.4**	**785.7**	**843.0**	**4.7**	**1.6**	**2.5**	**1.7**
Public road transport	33.4	39.6	50.3	53.2	59.7	64.6	69.5	73.3	75.8	4.2	1.7	1.5	0.9
Private cars and motorcycles	186.8	257.3	310.2	346.4	353.7	399.1	450.8	491.7	518.8	5.2	1.3	2.5	1.4
Rail	19.9	20.8	25.4	27.6	28.3	30.8	35.0	39.4	43.6	2.5	1.1	2.2	2.2
Aviation	59.6	67.0	88.6	106.5	115.1	139.0	156.1	179.2	202.6	4.0	2.6	3.1	2.6
Inland navigation	1.6	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	-0.2	0.9	1.2	0.8
Freight transport activity (Gtkm)	**124.7**	**150.5**	**191.3**	**276.9**	**300.9**	**338.6**	**371.2**	**397.8**	**414.8**	**4.4**	**4.6**	**2.1**	**1.1**
Trucks	80.5	101.6	148.7	233.2	258.1	293.9	322.2	344.2	358.2	6.3	5.7	2.2	1.1
Rail	11.2	11.0	11.6	11.6	10.9	11.6	13.0	14.5	15.7	0.4	-0.7	1.8	1.9
Inland navigation	33.0	38.0	31.0	32.0	32.0	33.1	36.0	39.1	40.9	-0.6	0.3	1.2	1.3
Energy demand in transport (ktoe)	**22401**	**26162**	**32977**	**39609**	**41242**	**44792**	**47355**	**48262**	**47423**	**3.9**	**2.3**	**1.4**	**0.0**
Public road transport	356	417	522	541	602	635	652	650	635	3.9	1.4	0.8	-0.3
Private cars and motorcycles	8092	10704	14024	15106	14798	15076	15797	16058	15537	5.7	0.5	0.7	-0.2
Trucks	9305	9427	11708	15923	17572	19885	20998	21347	20961	2.3	4.1	1.8	0.0
Rail	529	629	850	1171	1072	1127	1138	1131	845	4.9	2.3	0.6	-2.9
Aviation	2456	3105	4486	5323	5650	6470	7050	7234	7530	6.2	2.3	2.2	0.7
Inland navigation	1664	1881	1386	1544	1548	1600	1720	1843	1916	-1.8	1.1	1.1	1.1

Source: PRIMES

Sweden: 25% domestic GHG reduction										SUMMARY ENERGY BALANCE AND INDICATORS (A)			
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**29665**	**31344**	**30008**	**34207**	**33041**	**33000**	**33770**	**33093**	**32473**	**0.1**	**1.0**	**0.2**	**-0.4**
Solids	152	225	162	211	261	158	114	0	0	0.6	4.9	-7.9	
Oil	3	4	0	0	0	0	0	0	0				
Natural gas	0	0	0	0	0	0	0	0	0				
Nuclear	17764	18040	14781	18670	17348	15885	14591	14683	14036	-1.8	1.6	-1.7	-0.4
Renewable energy sources	11745	13075	15065	15325	15432	16957	19065	18409	18437	2.5	0.2	2.1	-0.3
Hydro	6234	5856	6757	6260	5814	5835	5857	5864	5871	0.8	-1.5	0.1	0.0
Biomass & Waste	5507	7206	8264	8978	9314	10394	11812	11005	10912	4.1	1.2	2.4	-0.8
Wind	1	9	39	80	286	676	1253	1370	1458	54.2	22.0	15.9	1.5
Solar and others	3	5	5	6	18	51	144	169	196	5.3	12.9	23.2	3.1
Geothermal	0	0	0	0	0	0	0	0	0			24.4	0.1
Net Imports	**18035**	**19405**	**19291**	**20179**	**18563**	**17639**	**15932**	**15383**	**14426**	**0.7**	**-0.4**	**-1.5**	**-1.0**
Solids	2399	2750	2409	2556	2013	1446	1335	1262	1110	0.0	-1.8	-4.0	-1.8
Oil	15211	16044	15703	17416	15821	15450	14730	14030	13731	0.3	0.1	-0.7	-0.7
- Crude oil and Feedstocks	17071	17892	20449	20071	18431	18060	17340	16635	16334	1.8	-1.0	-0.6	-0.6
- Oil products	-1861	-1848	-4745	-2655	-2610	-2611	-2610	-2605	-2603				
Natural gas	577	755	776	843	1221	1154	443	702	407	3.0	4.6	-9.6	-0.9
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Gross Inland Consumption	**47213**	**50401**	**47896**	**51689**	**49683**	**48602**	**47613**	**46335**	**44704**	**0.1**	**0.4**	**-0.4**	**-0.6**
Solids	2683	2890	2442	2629	2274	1604	1449	1262	1110	-0.9	-0.7	-4.4	-2.6
Oil	14596	15786	14429	14858	13900	13412	12640	11889	11536	-0.1	-0.4	-0.9	-0.9
Natural gas	577	755	776	843	1221	1154	443	702	407	3.0	4.6	-9.6	-0.9
Nuclear	17764	18040	14781	18670	17348	15885	14591	14683	14036	-1.8	1.6	-1.7	-0.4
Electricity	-152	-145	402	-636	-535	-548	-811	-858	-898				
Renewable energy forms	11745	13075	15065	15325	15474	17094	19300	18657	18514	2.5	0.3	2.2	-0.4
as % in Gross Inland Consumption													
Solids	5.7	5.7	5.1	5.1	4.6	3.3	3.0	2.7	2.5				
Oil	30.9	31.3	30.1	28.7	28.0	27.6	26.5	25.7	25.8				
Natural gas	1.2	1.5	1.6	1.6	2.5	2.4	0.9	1.5	0.9				
Nuclear	37.6	35.8	30.9	36.1	34.9	32.7	30.6	31.7	31.4				
Renewable energy forms	24.9	25.9	31.5	29.6	31.1	35.2	40.5	40.3	41.4				
Gross Electricity Generation in GWh_e	**145958**	**148264**	**145524**	**158340**	**156762**	**157866**	**163825**	**166746**	**165654**	**0.0**	**0.7**	**0.4**	**0.1**
Self consumption and grid losses	15140	15969	16250	17365	15633	15791	16331	16930	16766	0.7	-0.4	0.4	0.3
Fuel Inputs for Thermal Power Generation	**1491**	**3246**	**3239**	**4458**	**4911**	**5257**	**5830**	**5870**	**6070**	**8.1**	**4.2**	**1.7**	**0.4**
Solids	558	705	467	494	566	272	114	0	0	-1.8	2.0	-14.8	-50.0
Oil (including refinery gas)	253	737	276	317	404	273	250	205	134	0.9	3.9	-4.7	-6.0
Gas	253	406	414	490	953	815	147	448	27	5.0	8.7	-17.0	-15.6
Biomass & Waste	427	1398	2083	3158	2988	3896	5319	5216	5909	17.2	3.7	5.9	1.1
Geothermal heat	0	0	0	0	0	0	0	0	0				
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**20664**	**23542**	**25372**	**24500**	**22272**	**21762**	**21178**	**20124**	**18931**	**2.1**	**-1.3**	**-0.5**	**-1.1**
Refineries	18125	19553	21694	20789	18427	18058	17339	16634	16333	1.8	-1.6	-0.6	-0.6
Biofuels and hydrogen production	0	0	0	152	292	469	641	733	840			8.2	2.7
District heating	1123	2373	1973	1728	2297	2082	2082	1703	946	5.8	1.5	-1.0	-7.6
Others	1416	1616	1705	1832	1256	1152	1116	1054	812	1.9	-3.0	-1.2	-3.1
Energy Branch Consumption	**1758**	**1629**	**1532**	**1371**	**1308**	**1304**	**1291**	**1293**	**1248**	**-1.4**	**-1.6**	**-0.1**	**-0.3**
Non-Energy Uses	**1826**	**2051**	**1808**	**2425**	**2444**	**2537**	**2566**	**2523**	**2543**	**-0.1**	**3.1**	**0.5**	**-0.1**
Final Energy Demand	**30518**	**32305**	**33350**	**33173**	**31646**	**31426**	**30910**	**29798**	**28883**	**0.9**	**-0.5**	**-0.2**	**-0.7**
by sector													
Industry	11827	11195	12056	12097	10871	10636	10427	10243	10151	0.2	-1.0	-0.4	-0.3
- energy intensive industries	8542	7497	8396	8887	7820	7589	7382	7191	7063	-0.2	-0.7	-0.6	-0.4
- other industrial sectors	3285	3699	3660	3209	3052	3047	3046	3052	3088	1.1	-1.8	0.0	0.1
Residential	6542	7735	7554	7302	7321	7118	6893	6369	5917	1.4	-0.3	-0.6	-1.5
Tertiary	4873	5694	5593	5166	4820	4710	4575	4339	4168	1.4	-1.5	-0.5	-0.9
Transport	7276	7680	8147	8608	8634	8963	9015	8848	8647	1.1	0.6	0.4	-0.4
by fuel													
Solids	1231	1192	1141	1345	1064	797	824	769	742	-0.8	-0.7	-2.5	-1.0
Oil	12007	12343	12389	11175	10014	9833	9412	8875	8449	0.3	-2.1	-0.6	-1.1
Gas	587	611	673	764	597	663	602	551	574	1.4	-1.2	0.1	-0.5
Electricity	10348	10711	11068	11382	11354	11434	11649	11804	11694	0.7	0.3	0.3	0.0
Heat (from CHP and District Heating) [A]	1706	3540	3550	4174	4671	4485	4235	3881	3416	7.6	2.8	-1.0	-2.1
Renewable energy forms	4639	3908	4529	4332	3946	4212	4186	3916	4005	-0.2	-1.4	0.6	-0.4
Other	0	0	0	0	1	1	2	2	2			8.6	0.1
RES in Gross Final Energy Consumption [B]			**12960**	**13507**	**14559**	**16091**	**17905**	**17346**	**17364**		**1.2**	**2.1**	**-0.3**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**71.7**		**70.8**	**68.6**	**62.4**	**57.0**	**52.9**	**50.5**	**48.1**	**-0.1**	**-1.3**	**-1.6**	**-0.9**
of which ETS sectors GHGs emissions				24.1	20.4	16.9	14.5	14.5	13.7			-3.3	-0.6
CO_2 Emissions (energy related)	**50.5**	**53.3**	**50.7**	**48.6**	**43.5**	**39.2**	**35.1**	**33.2**	**31.1**	**0.0**	**-1.5**	**-2.1**	**-1.2**
Power generation/District heating	6.3	7.9	5.1	5.5	6.8	4.0	1.7	1.8	0.4	-1.9	2.8	-12.7	-13.2
Energy Branch	1.5	1.8	1.9	2.1	0.9	0.9	0.2	0.2	0.8	2.3	-7.2	-13.1	14.2
Industry	11.5	11.7	11.0	12.4	8.3	7.1	6.8	6.2	6.1	-0.4	-2.8	-2.0	-1.1
Residential	4.9	4.6	3.7	1.4	1.5	1.3	1.0	0.7	0.6	-2.6	-8.8	-3.5	-5.2
Tertiary	5.6	5.4	5.6	3.1	2.3	1.8	1.5	1.2	1.0	0.0	-8.7	-4.1	-3.7
Transport	20.7	21.9	23.2	24.1	23.7	24.1	23.8	23.0	22.1	1.1	0.2	0.0	-0.7
CO_2 Emissions (non energy related)	**5.6**	**5.9**	**5.4**	**5.6**	**5.1**	**5.3**	**5.3**	**5.3**	**4.9**	**-0.3**	**-0.6**	**0.5**	**-0.7**
Non-CO_2 GHGs Emissions	**15.6**		**14.7**	**14.4**	**13.8**	**12.5**	**12.5**	**12.1**	**12.0**	**-0.6**	**-0.6**	**-1.0**	**-0.4**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**98.8**	**95.7**	**87.0**	**79.6**	**73.8**	**70.5**	**67.1**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										Sweden: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	8.527	8.816	8.861	9.011	9.306	9.588	9.853	10.094	10.270	0.4	0.5	0.6	0.4
GDP (in 000 M€08)	221.8	232.8	274.4	311.3	321.5	362.1	401.8	441.2	482.5	2.2	1.6	2.3	1.8
Gross Inl. Cons./GDP (toe/M€08)	212.9	216.5	174.6	166.0	154.5	134.2	118.5	105.0	92.7	-2.0	-1.2	-2.6	-2.4
Carbon intensity (t of CO_2/toe of GIC)	1.07	1.06	1.06	0.94	0.88	0.81	0.74	0.72	0.70	-0.1	-1.9	-1.7	-0.6
Import Dependency %	37.7	37.7	39.2	37.6	36.0	34.8	32.1	31.7	30.8				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			27.1	33.8	34.5	40.0	46.6	50.3	52.0		2.7	3.8	2.0
as % of GDP			9.9	10.9	11.0	11.8	12.7	13.0	12.9				
Energy intensity indicators													
Industry (Energy on Value added)	175.0	133.3	100.0	80.6	70.8	59.9	53.0	47.6	43.1	-5.4	-3.4	-2.9	-2.0
Residential (Energy on Private Income)	102.6	120.4	100.0	87.3	91.7	77.4	67.8	57.8	49.5	-0.3	-0.9	-3.0	-3.1
Tertiary (Energy on Value added)	103.9	118.2	100.0	82.9	75.6	65.1	56.8	48.9	42.8	-0.4	-2.8	-2.8	-2.8
Passenger transport (toe/Mpkm)	40.6	41.3	39.9	40.2	38.5	35.2	33.1	30.3	27.9	-0.2	-0.4	-1.5	-1.7
Freight transport (toe/Mtkm)	41.7	43.0	45.6	45.2	44.8	44.5	42.6	40.5	38.4	0.9	-0.2	-0.5	-1.0
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.04	0.04	0.03	0.03	0.03	0.02	0.01	0.01	0.00	-3.1	1.6		
Final energy demand (t of CO_2/toe)	1.40	1.35	1.31	1.24	1.13	1.09	1.07	1.05	1.03	-0.7	-1.4	-0.5	-0.4
Industry	0.97	1.04	0.92	1.02	0.77	0.67	0.65	0.61	0.60	-0.6	-1.8	-1.6	-0.8
Residential	0.74	0.59	0.49	0.20	0.20	0.19	0.15	0.12	0.10	-4.0	-8.5	-2.9	-3.7
Tertiary	1.15	0.95	1.00	0.61	0.47	0.39	0.32	0.27	0.24	-1.4	-7.3	-3.6	-2.8
Transport	2.85	2.85	2.85	2.79	2.74	2.69	2.64	2.60	2.56	0.0	-0.4	-0.4	-0.3
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			36.8	38.8	43.9	48.9	55.2	55.3	57.1				
RES in transport (%)			1.9	4.2	6.2	8.7	11.5	13.1	15.3				
Gross Electricity generation by fuel type (in GWh)			**145524**	**158340**	**156762**	**157866**	**163825**	**166746**	**165654**		**0.7**	**0.4**	**0.1**
Nuclear energy			57306	72364	67268	61597	56577	56936	54426		1.6	-1.7	-0.4
Coal and lignite			1623	1720	2154	1076	586	2	1		2.9	-12.2	-50.6
Petroleum products			1210	1277	2114	1207	1293	997	703		5.7	-4.8	-5.9
Gas (including derived gases)			1599	1844	4470	4353	705	2590	129		10.8	-16.9	-15.7
Biomass & waste			4759	7405	9822	13878	21915	21988	25018		7.5	8.4	1.3
Hydro			78570	72795	67600	67850	68100	68183	68267		-1.5	0.1	0.0
Wind			457	936	3328	7860	14567	15933	16958		22.0	15.9	1.5
Solar, tidal etc.			0	0	4	45	82	116	153			35.7	6.5
Geothermal and other renewables			0	0	0	0	0	0	0				
Net Generation Capacity in MW_e			**33642**	**33916**	**35778**	**38236**	**41373**	**40889**	**40507**		**0.6**	**1.5**	**-0.2**
Nuclear energy			9584	9646	9685	10545	10547	10547	10547		0.1	0.9	0.0
Renewable energy			16559	16896	17939	19693	22418	23074	23525		0.8	2.3	0.5
Hydro (pumping excluded)			16347	16374	16460	16679	17012	17086	17086		0.1	0.3	0.0
Wind			209	516	1465	2966	5321	5868	6280		21.5	13.8	1.7
Solar			3	5	15	49	85	121	159		17.1	19.2	6.5
Other renewables (tidal etc.)			0	0	0	0	0	0	0				
Thermal power			7499	7374	8154	7998	8409	7268	6436		0.8	0.3	-2.6
of which cogeneration units			3662	3662	4319	4278	3368	3467	3703		1.7	-2.5	1.0
of which CCS units			0	0	0	0	0	0	0				
Solids fired			764	686	686	582	582	419	130		-1.1	-1.6	-13.9
Gas fired			549	405	1093	1093	1093	1071	1018		7.1	0.0	-0.7
Oil fired			4606	3340	3200	2703	2050	1151	221		-3.6	-4.4	-20.0
Biomass-waste fired			1581	2943	3176	3620	4684	4627	5067		7.2	4.0	0.8
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	0	0	0	0				
Load factor for net electric capacities (%)			47.6	51.4	48.8	46.0	44.1	45.3	45.4				
Efficiency for thermal electricity production (%)			24.4	23.6	32.5	33.6	36.1	37.5	36.6				
CHP indicator (% of electricity from CHP)			6.2	7.1	11.8	13.0	13.4	13.8	15.1				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Non fossil fuels in electricity generation (%)			97.0	96.9	94.4	95.8	98.4	97.8	99.5				
- nuclear			39.4	45.7	42.9	39.0	34.5	34.1	32.9				
- renewable energy forms and industrial waste			57.6	51.2	51.5	56.8	63.9	63.7	66.6				
Transport sector													
Passenger transport activity (Gpkm)	**123.7**	**124.8**	**133.4**	**138.7**	**143.5**	**157.7**	**167.2**	**176.3**	**184.5**	**0.8**	**0.7**	**1.5**	**1.0**
Public road transport	9.7	9.7	9.5	8.8	8.6	8.8	9.0	9.3	9.6	-0.2	-1.0	0.5	0.6
Private cars and motorcycles	86.9	88.1	93.5	99.6	102.0	111.1	116.1	120.2	123.3	0.7	0.9	1.3	0.6
Rail	8.6	8.8	10.2	11.0	12.6	14.2	15.3	16.3	17.1	1.7	2.1	2.0	1.1
Aviation	11.8	12.1	14.2	13.5	14.4	17.5	20.3	24.0	27.9	1.8	0.2	3.5	3.2
Inland navigation	6.7	6.2	6.1	5.8	6.0	6.2	6.4	6.5	6.6	-0.9	-0.2	0.6	0.4
Freight transport activity (Gtkm)	**53.9**	**58.9**	**62.0**	**67.3**	**69.5**	**76.8**	**81.9**	**86.5**	**90.9**	**1.4**	**1.1**	**1.7**	**1.1**
Trucks	26.5	31.6	35.6	38.6	39.6	44.0	46.7	49.3	51.9	3.0	1.1	1.7	1.1
Rail	19.1	19.4	19.5	21.7	22.9	25.4	27.2	28.8	30.2	0.2	1.7	1.7	1.0
Inland navigation	8.3	7.9	6.9	7.0	6.9	7.4	7.9	8.4	8.9	-1.8	0.1	1.3	1.1
Energy demand in transport (ktoe)	**7276**	**7680**	**8147**	**8608**	**8634**	**8963**	**9015**	**8848**	**8647**	**1.1**	**0.6**	**0.4**	**-0.4**
Public road transport	129	122	130	114	110	109	107	104	102	0.1	-1.7	-0.2	-0.5
Private cars and motorcycles	4016	4078	4108	4468	4373	4263	4112	3860	3586	0.2	0.6	-0.6	-1.4
Trucks	1974	2253	2526	2706	2768	3047	3114	3131	3113	2.5	0.9	1.2	0.0
Rail	252	273	299	332	350	371	374	376	379	1.7	1.6	0.7	0.1
Aviation	760	849	928	846	888	1023	1152	1216	1304	2.0	-0.4	2.6	1.2
Inland navigation	144	103	155	142	144	150	155	160	163	0.8	-0.7	0.7	0.5

Source: PRIMES

United Kingdom: 25% domestic GHG reduction									SUMMARY ENERGY BALANCE AND INDICATORS (A)				
ktoe	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**'90-'00**	**'00-'10**	**'10-'20**	**'20-'30**
										Annual % Change			
Production	**205941**	**250517**	**269601**	**203293**	**165778**	**116581**	**85845**	**82824**	**82773**	**2.7**	**-4.7**	**-6.4**	**-0.4**
Solids	54125	30516	18577	12172	10500	8500	6409	6460	6000	-10.1	-5.5	-4.8	-0.7
Oil	93246	133042	128893	86714	70000	45000	25000	20000	18000	3.3	-5.9	-9.8	-3.2
Natural gas	40925	63715	97554	79397	63000	35000	24000	18000	13000	9.1	-4.3	-9.2	-5.9
Nuclear	16574	21249	21942	21054	16098	16255	12152	18982	25564	2.8	-3.0	-2.8	7.7
Renewable energy sources	1070	1996	2635	3956	6180	11826	18284	19382	20210	9.4	8.9	11.5	1.0
Hydro	436	416	437	423	403	416	427	435	447	0.0	-0.8	0.6	0.5
Biomass & Waste	627	1539	2104	3252	4374	6097	7622	8210	8383	12.9	7.6	5.7	1.0
Wind	1	34	81	250	1315	4705	8939	9370	9790	59.3	32.1	21.1	0.9
Solar and others	5	6	11	30	86	594	1260	1311	1513	8.1	22.5	30.8	1.8
Geothermal	1	1	1	1	2	13	37	56	77	0.0	7.3	36.8	7.8
Net Imports	**5720**	**-36234**	**-39249**	**32152**	**52580**	**90570**	**109991**	**109154**	**111935**			**7.7**	**0.2**
Solids	9122	10493	14577	27459	25303	19180	13569	12685	20031	4.8	5.7	-6.0	4.0
Oil	-10607	-48766	-45734	-2409	8107	33730	50272	55187	56215			20.0	1.1
- Crude oil and Feedstocks	-4602	-36569	-39312	4857	14112	39768	56554	61474	62566			14.9	1.0
- Oil products	-6005	-12197	-6422	-7266	-6005	-6038	-6282	-6287	-6351				
Natural gas	6178	637	-9311	5973	17887	34937	40393	36819	30585			8.5	-2.7
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Gross Inland Consumption	**211304**	**218439**	**231868**	**232972**	**216359**	**205131**	**193840**	**189950**	**192629**	**0.9**	**-0.7**	**-1.1**	**-0.1**
Solids	64305	45866	36816	38387	35803	27680	19978	19145	26031	-5.4	-0.3	-5.7	2.7
Oil	81124	82806	81857	82974	76109	76709	73276	73159	72135	0.1	-0.7	-0.4	-0.2
Natural gas	47203	65119	87399	85473	80887	69937	64393	54819	43585	6.4	-0.8	-2.3	-3.8
Nuclear	16574	21249	21942	21054	16098	16255	12152	18982	25564	2.8	-3.0	-2.8	7.7
Electricity	1027	1403	1219	715	512	768	784	598	591	1.7	-8.3	4.4	-2.8
Renewable energy forms	1070	1996	2635	4370	6951	13783	23257	23246	24724	9.4	10.2	12.8	0.6
as % in Gross Inland Consumption													
Solids	30.4	21.0	15.9	16.5	16.5	13.5	10.3	10.1	13.5				
Oil	38.4	37.9	35.3	35.6	35.2	37.4	37.8	38.5	37.4				
Natural gas	22.3	29.8	37.7	36.7	37.4	34.1	33.2	28.9	22.6				
Nuclear	7.8	9.7	9.5	9.0	7.4	7.9	6.3	10.0	13.3				
Renewable energy forms	0.5	0.9	1.1	1.9	3.2	6.7	12.0	12.2	12.8				
Gross Electricity Generation in GWh_e	**316937**	**332435**	**374308**	**395367**	**390879**	**390622**	**404431**	**425405**	**444389**	**1.7**	**0.4**	**0.3**	**0.9**
Self consumption and grid losses	44606	46775	48358	48835	48661	47911	52257	63499	75855	0.8	0.1	0.7	3.8
Fuel Inputs for Thermal Power Generation	**56324**	**49960**	**55408**	**61068**	**60285**	**52294**	**46005**	**42006**	**39792**	**-0.2**	**0.8**	**-2.7**	**-1.4**
Solids	47267	33844	27232	30920	30066	22412	15023	14779	21904	-5.4	1.0	-6.7	3.8
Oil (including refinery gas)	7177	3443	767	677	331	561	492	759	511	-20.0	-8.1	4.0	0.4
Gas	1668	12054	25999	26428	26521	24031	22921	18604	9048	31.6	0.2	-1.4	-8.9
Biomass & Waste	212	620	1410	3043	3368	5281	7547	7822	8264	20.9	9.1	8.4	0.9
Geothermal heat	0	0	0	0	0	9	21	43	64				11.6
Hydrogen - Methanol	0	0	0	0	0	0	0	0	0				
Fuel Input in other transformation proc.	**99522**	**102761**	**100927**	**95428**	**90027**	**90493**	**89664**	**88630**	**88296**	**0.1**	**-1.1**	**0.0**	**-0.2**
Refineries	90259	94682	89873	87812	82728	84111	81341	81519	80752	0.0	-0.8	-0.2	-0.1
Biofuels and hydrogen production	0	0	0	68	1051	2023	4232	3610	4081			14.9	-0.4
District heating	0	0	3373	2111	1869	303	205	25	166		-5.7	-19.8	-2.1
Others	9264	8079	7682	5436	4379	4057	3887	3477	3297	-1.9	-5.5	-1.2	-1.6
Energy Branch Consumption	**12823**	**14392**	**15027**	**15548**	**14361**	**13059**	**12518**	**12459**	**12465**	**1.6**	**-0.5**	**-1.4**	**0.0**
Non-Energy Uses	**11365**	**12762**	**11323**	**11241**	**9837**	**11000**	**11886**	**12605**	**13336**	**0.0**	**-1.4**	**1.9**	**1.2**
Final Energy Demand	**137080**	**142633**	**152177**	**152272**	**144392**	**141532**	**138312**	**132510**	**130972**	**1.1**	**-0.5**	**-0.4**	**-0.5**
by sector													
Industry	34977	35146	36424	34371	32523	32743	32886	32986	33047	0.4	-1.1	0.1	0.0
- energy intensive industries	19485	19968	19231	16421	14740	14697	14807	14784	14985	-0.1	-2.6	0.0	0.1
- other industrial sectors	15492	15178	17193	17950	17783	18046	18079	18202	18063	1.0	0.3	0.2	0.0
Residential	37941	39568	43074	43519	39648	37711	36086	32918	32207	1.3	-0.8	-0.9	-1.1
Tertiary	18621	20887	20373	19176	17792	16079	15047	13629	12938	0.9	-1.3	-1.7	-1.5
Transport	45541	47032	52307	55206	54429	54999	54294	52977	52780	1.4	0.4	0.0	-0.3
by fuel													
Solids	12266	8891	5683	4418	3607	3366	3213	2834	2635	-7.4	-4.4	-1.2	-2.0
Oil	58903	60401	62950	65915	61629	60828	57675	56641	55616	0.7	-0.2	-0.7	-0.4
Gas	41893	47140	52180	50227	45709	40489	35901	31504	30257	2.2	-1.3	-2.4	-1.7
Electricity	23597	25274	28325	29792	29254	29553	30394	31063	31641	1.8	0.3	0.4	0.4
Heat (from CHP and District Heating) [A]	0	0	2439	1268	2476	4107	5365	5468	5416		0.2	8.0	0.1
Renewable energy forms	421	926	600	653	1713	3183	5757	4993	5399	3.6	11.1	12.9	-0.6
Other	0	0	0	0	3	6	7	7	7			7.8	-0.4
RES in Gross Final Energy Consumption [B]			**1432**	**2139**	**4609**	**12071**	**21445**	**21538**	**23084**		**12.4**	**16.6**	**0.7**
TOTAL GHGs Emissions (Mt of CO_2 eq.)	**772.6**		**693.3**	**678.6**	**632.0**	**557.7**	**482.1**	**417.0**	**375.9**	**-1.1**	**-0.9**	**-2.7**	**-2.5**
of which ETS sectors GHGs emissions				311.8	288.6	245.8	195.7	149.4	118.4			-3.8	-4.9
CO_2 Emissions (energy related)	**566.4**	**532.7**	**546.6**	**559.7**	**523.6**	**464.9**	**393.0**	**331.9**	**293.3**	**-0.4**	**-0.4**	**-2.8**	**-2.9**
Power generation/District heating	214.1	173.0	181.0	192.8	186.8	147.9	99.6	55.7	26.8	-1.7	0.3	-6.1	-12.3
Energy Branch	27.1	31.3	32.2	34.2	30.3	26.2	23.4	21.3	18.9	1.7	-0.6	-2.5	-2.1
Industry	81.8	78.8	72.1	66.4	58.2	53.5	50.1	48.0	46.9	-1.3	-2.1	-1.5	-0.7
Residential	77.8	77.3	81.9	80.1	70.6	64.9	59.0	51.0	48.7	0.5	-1.5	-1.8	-1.9
Tertiary	33.0	35.3	26.7	24.5	21.5	17.3	14.5	11.8	10.2	-2.1	-2.2	-3.8	-3.5
Transport	132.6	137.0	152.6	161.6	156.3	155.1	146.3	144.1	141.8	1.4	0.2	-0.7	-0.3
CO_2 Emissions (non energy related)	**22.8**	**23.4**	**20.1**	**19.8**	**18.5**	**19.0**	**19.9**	**19.6**	**18.7**	**-1.2**	**-0.8**	**0.7**	**-0.6**
Non-CO_2 GHGs Emissions	**183.4**		**126.7**	**99.1**	**89.9**	**73.8**	**69.3**	**65.5**	**63.8**	**-3.6**	**-3.4**	**-2.6**	**-0.8**
TOTAL GHGs Emissions Index (1990=100)	**100.0**		**89.7**	**87.8**	**81.8**	**72.2**	**62.4**	**54.0**	**48.7**				

Source: PRIMES

SUMMARY ENERGY BALANCE AND INDICATORS (B)										United Kingdom: 25% domestic GHG reduction			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	'90-'00	'00-'10	'10-'20	'20-'30
										Annual % Change			
Main Energy System Indicators													
Population (Million)	57.157	57.943	58.785	60.060	61.984	63.792	65.683	67.543	69.224	0.3	0.5	0.6	0.5
GDP (in 000 M€08)	1334.6	1448.9	1715.5	1935.0	1988.6	2252.7	2506.8	2773.5	3066.9	2.5	1.5	2.3	2.0
Gross Inl. Cons./GDP (toe/M€08)	158.3	150.8	135.2	120.4	108.8	91.1	77.3	68.5	62.8	-1.6	-2.1	-3.4	-2.1
Carbon intensity (t of CO_2/toe of GIC)	2.68	2.44	2.36	2.40	2.42	2.27	2.03	1.75	1.52	-1.3	0.3	-1.8	-2.8
Import Dependency %	2.7	-16.4	-16.8	13.7	24.1	43.7	56.2	56.9	57.5				
Total energy-rel. and non-CO2 Costs (C) (in 000 M€08)			149.8	162.2	163.1	190.7	228.5	248.5	257.6		1.2	4.3	2.4
as % of GDP			8.7	8.4	8.4	9.2	10.2	10.7	10.6				
Energy intensity indicators													
Industry (Energy on Value added)	104.4	102.7	100.0	104.8	103.1	95.9	90.0	83.3	77.2	-0.4	0.3	-1.4	-1.5
Residential (Energy on Private Income)	116.5	113.7	100.0	87.6	82.0	67.5	57.2	47.5	42.4	-1.5	-2.0	-3.5	-3.0
Tertiary (Energy on Value added)	123.1	124.4	100.0	78.1	69.4	54.4	45.3	36.8	31.4	-2.1	-3.6	-4.2	-3.6
Passenger transport (toe/Mpkm)	45.4	45.3	47.6	47.2	44.9	41.5	39.1	35.8	34.0	0.5	-0.6	-1.4	-1.4
Freight transport (toe/Mtkm)	56.2	53.2	53.7	53.7	53.3	52.9	50.4	47.7	44.8	-0.5	-0.1	-0.6	-1.2
Carbon Intensity indicators													
Electricity and Steam production (t of CO_2/MWh)	0.68	0.52	0.45	0.47	0.44	0.33	0.21	0.11	0.05	-4.0	-0.2	-7.2	-13.0
Final energy demand (t of CO_2/toe)	2.37	2.30	2.19	2.18	2.12	2.05	1.95	1.92	1.89	-0.8	-0.3	-0.8	-0.3
Industry	2.34	2.24	1.98	1.93	1.79	1.63	1.52	1.46	1.42	-1.7	-1.0	-1.6	-0.7
Residential	2.05	1.95	1.90	1.84	1.78	1.72	1.64	1.55	1.51	-0.7	-0.7	-0.8	-0.8
Tertiary	1.77	1.69	1.31	1.28	1.21	1.08	0.97	0.86	0.79	-3.0	-0.8	-2.2	-2.0
Transport	2.91	2.91	2.92	2.93	2.87	2.82	2.70	2.72	2.69	0.0	-0.2	-0.6	0.0
Indicators for renewables (excluding industrial waste) (%) (B)													
RES in gross final energy demand (%)			0.9	1.4	3.2	8.6	15.7	16.3	17.6				
RES in transport (%)			0.0	0.2	2.7	5.4	11.6	10.4	11.8				
Gross Electricity generation by fuel type (in GWh)			**374308**	**395367**	**390879**	**390622**	**404431**	**425405**	**444389**		**0.4**	**0.3**	**0.9**
Nuclear energy			85048	81603	62408	63013	48031	77895	109177		-3.0	-2.6	8.6
Coal and lignite			125076	139027	130670	97419	70736	78405	118933		0.4	-6.0	5.3
Petroleum products			3447	3053	1511	2406	2119	3275	2165		-7.9	3.4	0.2
Gas (including derived gases)			150451	152255	162577	147537	140721	114678	54121		0.8	-1.4	-9.1
Biomass & waste			4253	11595	13688	19961	28791	30397	32143		12.4	7.7	1.1
Hydro			5085	4921	4682	4840	4960	5060	5196		-0.8	0.6	0.5
Wind			947	2903	15295	54715	103942	108955	113833		32.1	21.1	0.9
Solar, tidal etc.			1	8	38	97	295	413	659		43.8	22.8	8.4
Geothermal and other renewables			0	0	12	633	4837	6326	8162			82.9	5.4
Net Generation Capacity in MW_e			**77225**	**79496**	**86895**	**102698**	**105689**	**114000**	**120868**		**1.2**	**2.0**	**1.4**
Nuclear energy			13038	10962	10723	9265	6012	9700	13533		-1.9	-5.6	8.5
Renewable energy			1873	3016	8089	21351	38685	41350	44418		15.8	16.9	1.4
Hydro (pumping excluded)			1462	1439	1499	1534	1618	1696	1779		0.2	0.8	1.0
Wind			408	1565	6542	19393	34279	35983	37785		32.0	18.0	1.0
Solar			2	11	41	101	292	414	657		35.3	21.6	8.4
Other renewables (tidal etc.)			0	1	6	323	2497	3257	4197			82.8	5.3
Thermal power			62315	65518	68083	72083	60992	62950	62916		0.9	-1.1	0.3
of which cogeneration units			4015	3141	5929	9006	10463	10448	10460		4.0	5.8	0.0
of which CCS units			0	0	0	0	2334	6910	12152				17.9
Solids fired			28647	27019	26336	21374	9106	11803	15240		-0.8	-10.1	5.3
Gas fired			26520	32734	35310	42836	43234	42421	38814		2.9	2.0	-1.1
Oil fired			5826	4093	4330	2996	1918	1653	1435		-2.9	-7.8	-2.9
Biomass-waste fired			1321	1672	2107	4876	6731	7068	7418		4.8	12.3	1.0
Fuel Cells			0	0	0	0	0	0	0				
Geothermal heat			0	0	0	1	3	6	9				11.8
Load factor for net electric capacities (%)			52.9	54.2	49.0	41.5	41.5	39.5	38.0				
Efficiency for thermal electricity production (%)			44.0	43.1	44.0	44.0	45.3	46.4	44.8				
CHP indicator (% of electricity from CHP)			6.4	6.6	9.2	14.9	16.4	16.1	13.6				
CCS indicator (% of electricity from CCS)			0.0	0.0	0.0	0.0	6.3	17.1	27.6				
Non fossil fuels in electricity generation (%)			25.5	25.6	24.6	36.7	47.2	53.8	60.6				
- nuclear			22.7	20.6	16.0	16.1	11.9	18.3	24.6				
- renewable energy forms and industrial waste			2.7	4.9	8.6	20.5	35.3	35.5	36.0				
Transport sector													
Passenger transport activity (Gpkm)	**740.2**	**770.7**	**823.2**	**884.5**	**909.1**	**986.5**	**1039.5**	**1102.5**	**1162.6**	**1.1**	**1.0**	**1.3**	**1.1**
Public road transport	47.7	45.8	48.5	49.5	51.6	54.7	57.2	59.2	60.9	0.2	0.6	1.0	0.6
Private cars and motorcycles	593.9	622.3	645.0	680.0	693.4	743.4	766.4	807.3	846.3	0.8	0.7	1.0	1.0
Rail	39.9	37.1	46.7	53.1	60.5	66.1	71.5	76.2	81.2	1.6	2.6	1.7	1.3
Aviation	52.2	58.8	77.4	96.7	98.2	116.8	138.8	154.0	168.3	4.0	2.4	3.5	1.9
Inland navigation	6.5	6.7	5.5	5.3	5.4	5.5	5.6	5.8	5.9	-1.6	-0.3	0.4	0.5
Freight transport activity (Gtkm)	**211.8**	**227.9**	**243.7**	**251.0**	**255.1**	**265.0**	**270.9**	**282.3**	**294.9**	**1.4**	**0.5**	**0.6**	**0.9**
Trucks	140.0	161.5	165.6	167.5	168.6	174.8	177.5	186.0	196.4	1.7	0.2	0.5	1.0
Rail	16.0	13.3	18.1	22.3	25.1	27.0	27.9	28.6	29.2	1.2	3.3	1.1	0.5
Inland navigation	55.8	53.1	60.0	61.2	61.4	63.3	65.5	67.7	69.3	0.7	0.2	0.6	0.6
Energy demand in transport (ktoe)	**45541**	**47032**	**52307**	**55206**	**54429**	**54999**	**54294**	**52977**	**52780**	**1.4**	**0.4**	**0.0**	**-0.3**
Public road transport	429	435	484	505	522	540	536	524	507	1.2	0.8	0.3	-0.5
Private cars and motorcycles	25845	25978	27091	27804	27161	26065	24834	23710	23699	0.5	0.0	-0.9	-0.5
Trucks	10141	10378	11364	11406	11453	11769	11505	11463	11403	1.1	0.1	0.0	-0.1
Rail	1068	1238	1326	1405	1499	1556	1430	1254	1045	2.2	1.2	-0.5	-3.1
Aviation	6781	7879	11115	12810	12508	13755	14644	14648	14720	5.1	1.2	1.6	0.1
Inland navigation	1277	1123	926	1275	1286	1314	1345	1380	1405	-3.2	3.3	0.4	0.4

Source: PRIMES

(A) Regarding heat from CHP, there is a break in the series between 2005 and 2010. This is related to the practice of Eurostat to report the fuel consumption of on site CHP under the final demand categories of the individual fuels, even if the fuel is in reality used in industrial CHP. In order to keep comparability with Eurostat statistics, the fuel consumption data for the statistical years are presented in a Eurostat compatible format. For the projection period from 2010 onwards the modeling allocates the fuel consumption for new CHP plants to the CHP part of the power generation sector while the corresponding heat and steam is shown under industrial energy demand. Comparisons concerning steam in industry should therefore start only from 2010 onwards. Except for the knock-on effect on total steam, this break in the heat series does not affect other comparisons in PRIMES that can start from 2005 or earlier years.

(B) PRIMES does not report separately on industrial waste. In order to ensure a consistent breakdown of supply and demand quanties, industrial waste is shown as part of total waste and of renewables. Given that only biodegradable waste counts towards the renewables targets, the indicators on the share of RES in gross final energy demand have been adjusted to exclude industrial waste. RES indicators have been calculated on the basis of the methodology developed by EUROSTAT, i.e. taking into account normalised hydro and wind production, increased weight for renewable electricity in road transport and aviation cap for gross final energy demand.

(C) Costs related to the energy system (total cost of energy measuring how much the rest of the economy has to pay in order to get the required services from energy). The costs reported exclude costs for buying auctioned ETS allowances. These do not constitute a net cost given that there are corresponding auctioning revenues which can be recycled back into the economy.

Disclaimer: Energy and transport statistics reported in this publication and used for the modelling are taken mainly from EUROSTAT and from the publication "EU Energy and Transport in Figures" of the Directorate General for Energy and Transport. Energy and transport statistical concepts have developed differently in the past according to their individual purposes. Energy demand in transport reflects usually sales of fuels at the point of refuelling, which can differ from the region of consumption. This is particularly relevant for airplanes and trucks. Transport statistics deal with the transport activity within a country but may not always fully include transit shipments. These differences should be borne in mind when comparing energy and transport figures. This applies in particular to transport activity ratios, such as energy efficiency in freight transport, which is measured in tonnes of oil equivalent per million tonne-km.

Abbreviations

GIC: Gross Inland Consumption

CHP: combined heat and power

Units

toe: tonne of oil equivalent, or 10^7 kilocalories, or 41.86 GJ (Gigajoule)

ktoe: 1000 toe

MW: Megawatt or 10^6 watt

MWh: megawatt-hour or 10^6 watt-hours

GWh: gigawatt-hour or 10^9 watt-hours

t: metric tonnes, or 1000 kilogrammes

Mt: Million metric tonnes

km: kilometre

pkm: passenger-kilometre (one passenger transported a distance of one kilometre)

tkm: tonne-kilometre (one tonne transported a distance of one kilometre)

Gpkm: Giga passenger-kilometre, or 10^9 passenger-kilometre

Gtkm: Giga tonne-kilometre, or 10^9 tonne-kilometre

Endnotes on Member State cost results both for the Reference and the D25 scenario

Estonia

(a) Overall energy system costs increase in the reference scenario by 5.4% compared to the baseline. In the Reference scenario the cost estimations reflect additional capital costs of investments in new power plants, in particular to comply with the RES target, which are assumed to be fully recovered via higher electricity prices, and which are likely to be more expensive compared to currently experienced low power prices from domestic oil shale power plants reflected in the baseline.

(b) Total energy system and non-CO2 related costs of a step up to 25% decrease by 0.8% compared to Reference. These lower costs are mainly due to lower energy demand, with cost savings overcompensating for the related loss of utility. It should be noted that the exclusion of auctioning payments matters here: without taking account of auction revenues, the costs would increase by 2.1%.

Latvia

(a) The reason for energy system cost decreases between baseline and reference is to be found in the specific country circumstances of Latvia and the decrease in ETS carbon prices between the Base and the Reference scenarios. Latvia is a country with a high percentage of RES already in the baseline scenario and the achievement of the RES target imposed in the Reference scenario does not prove difficult for the country. The benefits from the lower ETS carbon prices are therefore greater than the costs induced by the RES target.

Romania

(a) The reason for energy system cost decreases between baseline and reference is to be found in the scenario construction and its consequences. The Baseline scenario is projecting past trends without considering efficiency in power and steam supply as an objective. In the Reference scenario where efficiency improvement matters the model finds economic to replace old power and CHP plants instead of extending their lifetime making the overall energy system more efficient, especially regarding CHP production costs. Under Reference scenario assumptions this leads to more efficient combination of newer power plants and district heating, in the place of older inefficient mainly oil and gas (open cycle) fired power plants and consequently cost savings are found possible.