

EU Emissions Trading Scheme
Directive 2003/87/EC

**NATIONAL ALLOCATION PLAN FOR CYPRUS
(REVISED FINAL DRAFT)**

2008 - 2012

For Submission to the European Commission by 26th February 2007

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INTRODUCTION

The National Allocation Plan (NAP)

This National Allocation Plan (NAP) for Cyprus is prepared pursuant to obligations under Directive 2003/87/EC¹, which establishes an emissions trading scheme (ETS) for greenhouse gas (GHG) emissions within the European Union (EU). All Member States prepared a first NAP to cover emissions trading to be undertaken in the EU for the three-year period from January 2005 to December 2007. They are now required to prepare a second NAP for the five-year period from January 2008 to December 2012. Further guidance on the preparation of NAPs for this second trading period has been provided in a Communication from the Commission (COM(2005)703 final).

The European Community undertook to cut its overall greenhouse gas emissions by 8% of 1990 levels over the first Kyoto Protocol (KP) commitment period (2008-2012). In 2002, a burden sharing agreement was agreed by the (then) EU-15 Member States which allocated specific reduction targets to individual Member States, thus ensuring that the overall reduction target was met. Respective emission levels were set for each Member State². The ETS is one of the measures implemented by the EU to achieve its overall objective.

This National Allocation Plan (NAP) has been prepared by the Environment Service of the Ministry of Agriculture, Natural Resources and Environment (MANRE) of the Republic of Cyprus. Support in the preparation of the NAP has been provided by Enviro-Markets International (UK) and the National Observatory of Athens (NOA).

The Draft National Allocation Plan was submitted to the European Commission on 31st July 2006. Consultation with stakeholders and the public took place during the following weeks. The NAP was then revised and formally approved by the Minister of Agriculture, Natural Resources and Environment, in order to submit the approved version to the EC by 30th September 2006. On the 16th of January 2007, Cyprus withdrew its NAP in order to be revised, taking into account new data. With this document Cyprus submits its revised final draft National Allocation Plan.

¹ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. OJ L275, 25.10.2003, pg. 32.

² Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments there under. OJ L130, 15.5.2002, pg.1

Box 1 : Criteria to be Used by the EC to Evaluate NAPs

1. The total quantity of allowances to be allocated for the relevant period shall be consistent with the Member State's obligation to limit its emissions pursuant to Decision 2002/358/EC and the Kyoto Protocol, taking into account, on the one hand, the proportion of overall emissions that these allowances represent in comparison with emissions from sources not covered by this Directive and, on the other hand, national energy policies, and should be consistent with the national climate change programme. The total quantity of allowances to be allocated shall not be more than is likely to be needed for the strict application of the criteria of this Annex. Prior to 2008, the quantity shall be consistent with a path towards achieving or over-achieving each Member State's target under Decision 2002/358/ EC and the Kyoto Protocol.
2. The total quantity of allowances to be allocated shall be consistent with assessments of actual and projected progress towards fulfilling the Member States' contributions to the Community's commitments made pursuant to Decision 93/389/EEC ³ .
3. Quantities of allowances to be allocated shall be consistent with the potential, including the technological potential, of activities covered by this scheme to reduce emissions. Member States may base their distribution of allowances on average emissions of greenhouse gases by product in each activity and achievable progress in each activity.
4. The plan shall be consistent with other Community legislative and policy instruments. Account should be taken of unavoidable increases in emissions resulting from new legislative requirements.
5. The plan shall not discriminate between companies or sectors in such a way as to unduly favor certain undertakings or activities in accordance with the requirements of the Treaty, in particular Articles 87 and 88 thereof.
6. The plan shall contain information on the manner in which new entrants will be able to begin participating in the Community scheme in the Member State concerned.
7. The plan may accommodate early action and shall contain information on the manner in which early action is taken into account. Benchmarks derived from reference documents concerning the best available technologies may be employed by Member States in developing their National Allocation Plans, and these benchmarks can incorporate an element of accommodating early action.
8. The plan shall contain information on the manner in which clean technology, including energy efficient technologies, are taken into account.
9. The plan shall include provisions for comments to be expressed by the public, and contain information on the arrangements by which due account will be taken of these comments before a decision on the allocation of allowances is taken.
10. The plan shall contain a list of the installations covered by this Directive with the quantities of allowances intended to be allocated to each.
11. The plan may contain information on the manner in which the existence of competition from countries or entities outside the Union will be taken into account.
12. The plan shall specify the maximum amount of CERs and ERUs which may be used by operators in the Community scheme as a percentage of the allocation of the allowances to each installation. The percentage should be consistent with the Member State's supplementary obligations under the Kyoto Protocol and decisions adopted pursuant to the UNFCCC or the Kyoto Protocol.

However, the NAP remains a draft until formally approved by the European Commission (EC). After its submission, each National Allocation Plan is considered by the Commission. The criteria set by the EC to evaluate the NAPs from all Member

³ Council Decision 93/389/EEC of 24 June 1993 for a monitoring mechanism of Community CO₂ and other greenhouse gas emissions has been repealed by Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

States are identified in Box 1. The Commission may reject any aspect of any NAP on the basis that it is incompatible with the Directive, giving reasons, and may propose amendments.

Once accepted by the European Commission, the National Allocation Plan of Cyprus will form the basis for the final decisions to be made on the total quantity of allowances to be issued and their distribution to installations subject to the EU ETS under Article 11 of the Directive for the second trading period from January 2008 to December 2012.

The Situation of Cyprus

The European Union, representing the 15 pre-May 2004 Member States, is an Annex I signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and an Annex B signatory to its Kyoto Protocol. The Kyoto Protocol (KP) sets quantified targets for reducing greenhouse gas emissions for those signatories that are included in its Annex B. Cyprus ratified the UNFCCC as a *non-Annex I* party on 15th October 1997, and on the same basis, subsequently ratified the Kyoto Protocol on 16th July 1999.

It follows that Cyprus has no emissions limitation commitments under the KP. Indeed, out of 27 EU Member States, only Cyprus and Malta have no commitments. All the other 25 Member States are individually Annex I Parties to the Convention (Annex B to the Kyoto Protocol), and so have quantified emission limitation commitments. Thus, for the time being, Cyprus and Malta have exceptional status within the EU.

Although Cyprus does not have any individual reduction limitation commitments, the country fully supports the European Commission in leading all 27 Member States towards ambitious reductions in greenhouse gas emissions, together with the EU's leading role in the international action on climate change. Also, as a Member State of the European Union, Cyprus is now bound by the obligations set out in European Union legislation, including the Emissions Trading Directive.

Another issue that is unique to Cyprus and Malta is their isolation as energy markets. At present neither country is connected to any other country in energy terms, whether through gas or oil pipelines or through interconnection between the electricity grids. It follows that both countries rely almost exclusively on imported oil (plus, in the case of Cyprus, small quantities of coal and other fuels that are used in the cement industry). The small size of both countries also makes it difficult for them to benefit from economies of scale in the energy sector.

One further issue that is unique to Cyprus is the fact that part of the country has been under occupation since 1974. This National Allocation Plan only covers installations in the area of the Republic of Cyprus under government control, and does not therefore include any installations in the occupied area. In the case of a solution to the Cyprus problem in advance of, or during, the period under consideration (2008-2012), a revised NAP would have to be prepared and submitted to the EC for approval.

Strategic Approach to the Preparation of the Cyprus NAP

As in the first trading period the National Allocation Plan for Cyprus covers a total of 13 installations. Three of these are power plants run by one operator, the Electricity Authority of Cyprus (EAC), two are cement works, and the remaining eight are ceramics factories producing bricks or tiles. The allocations to these installations for the period 2005 to 2007 were based on "business as usual".

For this second trading period our approach is still based on a "business as usual" scenario. However, the need to start to decouple emissions from economic growth has been recognised. In all three sectors, greater emphasis was therefore placed on securing improvements in efficiency (in terms of tonnes of CO₂ emitted per tonne of product or per unit of electricity generated) - while still recognising that the overall demand for electricity, cement, or ceramics continues to increase in Cyprus's developing economy.

One important issue for Cyprus is the situation regarding new entrants. This is particularly relevant in the energy sector, where market liberalisation is opening up EAC to competition and promoting wider developments within the Cyprus electricity market. In particular, the following are noted:

- Plans by EAC to construct additional Combined Cycle Gas Turbine (CCGT) units (unit 4 and 5).
- Plans by other companies to construct generation plants that would compete with EAC.

A significant new entrants reserve will therefore need to be set aside to facilitate these developments without hindering market liberalisation. However, this should not result in an overall increase in CO₂ emissions, because new units (inside or outside EAC) will effectively replace older units with higher specific emissions.

The situation in the cement and the ceramics' sectors is different. The rapid growth experienced in Cyprus' construction sector in recent years is expected to continue, and demand for cement, bricks and tiles is therefore expected to continue to grow. Although the companies will become more efficient, there are other factors to be

taken into account. In the cement sector, both companies have plans to increase capacity by installing new, larger and (in CO₂ terms) more efficient kilns (units), both to meet growing national demand and to provide scope for exporting. In the brick industry output (in tonnes) will need to increase significantly in order to provide heavier bricks that will be needed to meet new building standards linked to the requirement for improved energy efficiency (COM 2002/91/EC: Directive on the Energy Performance of Buildings), and also provide for exports in areas such as Lebanon (reconstruction in Lebanon as a significant factor here).

There is therefore the potential for a significant increase in capacity and emissions from this sector, despite the achievement of improved efficiency and tighter environmental standards. The new cement kilns (units) are covered under the New Entrants' Reserve. Most of the changes in the bricks & tiles sector are included in the NAP allowances as they will be accommodated by working more shifts with the existing kilns. The new installations producing bricks and tiles are also covered under the New Entrants Reserve.

A key issue in the preparation of the NAP has been the uncertainty relating to the nature, scale and timing of these future developments. There is therefore no alternative other than to cater for most of them through an enlarged New Entrants' Reserve.

SUMMARY OF NATIONAL ALLOCATION PLAN

1	Cyprus (uniquely with Malta in the EU) is not an Annex I country under the Kyoto Protocol, and it therefore has no formal obligations to reduce its CO ₂ emissions.
2	The government of Cyprus is required under the EU Emissions Trading Directive (2003/87/EC) to prepare a National Allocation Plan (NAP) setting out allocations of carbon dioxide emissions for the period 2008 to 2012.
3	The government has determined that allowances totalling 35,61 million tonnes of (CO ₂), of which 29,67 should be made available over this second trading period to the 13 installations covered by the directive, 4,78 to the New Entrants Reserve and 1,15 to the Set-Asides for Renewables.
4	Reductions due to Renewables have been taken into account, and shall be achieved primarily through wind projects. It is therefore proposed to reduce the EAC allocation of 21.624 million tonnes of CO ₂ to 20.475 million tonnes of CO ₂ . The difference (1.149 million tonnes of CO ₂) will be allocated in appropriate set-asides.
5	20,47 million tonnes of CO ₂ emissions (57,50% of the total) are allocated to the three installations in the power sector over the 5-year period taking account of the increased use of more efficient generation unit by the Electricity Authority of Cyprus (EAC).
6	The allocation to the power sector will be reduced during the trading period to take account reductions in demand resulting from renewable source.
7	A further 7,83 million tonnes of CO ₂ emissions (21,99% of the total) has been allocated to the two cement manufacturing installations, based on the use of the existing kilns only: this will not provide sufficient capacity to meet local (national) demand beyond 2008.
8	The remaining 1,37 million tonnes of CO ₂ emissions (3,84%) has been allocated to eight installations manufacturing bricks and tiles, again taking into account the need to increase capacity to meet increasing demand from the Cyprus construction sector and to provide a limited additional capacity for export.
9	A further allocation of 4,78 million tonnes of CO ₂ emissions has been placed in a New Entrants' Reserve (NER), and will be made available mainly to companies that either enter the Cyprus energy market (in competition to EAC) or set up new industrial installations that fall within the scope of the directive: this includes known projects.
11	All allocations (including those from the NER) will be provided free of charge. The 'banking' (carry over) of unused allowances at the end of the first trading period (2007) is not allowed. Any unused allowances in the new entrants reserve at the end of a particular year of the trading period are transferred to the new entrants' reserve of the next year and/or are put into auction.
12	The average total CO ₂ emissions per annum allocated to the 13 existing installations during the first trading period (2005-2007) was 5,66 million tonnes. On the basis proposed, the increase between the first and the second trading period, comparing the average annual emissions, is 4,61%, while the (average) GDP of Cyprus is expected to increase by 18,3% over the same period.

NATIONAL ALLOCATION PLAN FOR CYPRUS FOR 2008-2012.

Cyprus's National Allocation Plan for the ETS trading period from January 2008 to December 2012 is presented in the format suggested in the Communication of the Commission COM(2003)830 on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC. Additional guidance was issued in December 2005, namely "Further Guidance on Allocation Plans for the 2008 to 2012 Trading Period of the EU Emission Trading Scheme" (COM(2005)703 final).

1. DETERMINATION OF THE TOTAL QUANTITY OF ALLOWANCES

1.1 <i>What is the Member State's emission limitation or reduction obligation under Decision 2002/358/EC or under the Kyoto Protocol (as applicable)?</i>

Cyprus is a signatory to the UNFCCC and has signed and ratified the Kyoto Protocol. However, at present Cyprus has no legal obligations, either under Decision 2002/358/EC or under the Kyoto Protocol, to limit or reduce its greenhouse gas emissions. Therefore, Table I is not fully completed for Cyprus since it refers to NAP summary table - target calculation for the period 2008-2012.

1.2 <i>What principles, assumptions and data have been applied to determine the contribution of the installations covered by the emissions trading Directive to the Member State's emission limitation or reduction obligation (total and sector historical emissions, total and sector forecast emissions, least-cost approach)? If forecast emissions were used, please describe the methodology and assumptions used to develop the forecasts.</i>

General Approach

At present a total of 13 installations in Cyprus fall within the scope of the Emissions Trading Directive (ETD). These are listed in Table 1 (note that Reference numbers have been changed from the first NAP). A number of other companies in the foundries (2), lime (2), refineries (2) and ceramics sectors were investigated. These are not included in Table 1 because either:

- They have closed, or
- they are not involved in primary production (e.g. fuel depot rather than refinery), or
- they remain below the threshold set for the sector in question in the ETD.

The three sectors that fall within the scope of the ETD in Cyprus are now considered separately. In each case the approach is based on "business as usual" for demand, together with reductions in GHG emissions linked to improvements in efficiency. In

the case of the energy sector, provision is made for taking account of the actual contribution of renewable energy sources (RES) and energy efficiency measures (rational use of energy, or RUE) towards reducing the demand for electricity that needs to be met using fossil fuels.

Table 1: Installations Covered by ETS Directive in Cyprus

Ref.	Sector	Operator	Installation	Main Activity
ET01	Energy	Electricity Authority of Cyprus (EAC)	Vassilikos	Electricity generation
ET02	Energy	Electricity Authority of Cyprus (EAC)	Moni	Electricity generation
ET03	Energy	Electricity Authority of Cyprus (EAC)	Dhekelia	Electricity generation
ET04	Cement	Cyprus Cement Company Ltd	Moni	Cement production
ET05	Cement	Vassiliko Cement Ltd	Vassilikos	Cement production
ET06	Ceramics	United Brickworks Ltd	Lefkosia	Brick production
ET07	Ceramics	Chrysafis Ceramics Ltd	Larnaca	Brick production
ET08	Ceramics	Kakoyiannis Ceramics Ltd	Lefkosia	Brick production
ET09	Ceramics	Melios & Paphitis Enterprises Ltd	Lefkosia	Brick production
ET10	Ceramics	Ledra Ceramics Ltd	Lefkosia	Brick production
ET11	Ceramics	Palekythro Ceramics Ltd (KAPA)	Lefkosia	Brick and Tiles production
ET12	Ceramics	GIGAS Palekythro Brick Factories Ltd	Lefkosia	Brick production
ET13	Ceramics	GIGAS Palekythro Tile Factories Ltd	Lefkosia	Tile production

Energy Sector

Determination of the formula for the projection of the energy demand

The demand for electricity in Cyprus continues to rise. The Cyprus Energy Regulatory Authority (CERA) and the Transmission System Operator (TSO) have provided data for historic demand and made estimates of future demand up to and beyond the end of the second trading period. Their projections are based on an analysis of maximum demand on an hourly basis and at different times of the year. A strong correlation between actual electricity demand and gross domestic product (GDP) was identified for the period 1995 to 2005, despite the fact that GDP was not taken into account in the CERA/TSO analysis. This was then projected based on Ministry of Finance GDP projections to 2009, and beyond to 2012 assuming the same rate of increase in GDP. The projected annual electricity demand over the trading period correlated very closely with CERA/TSO projections (Figure 1).

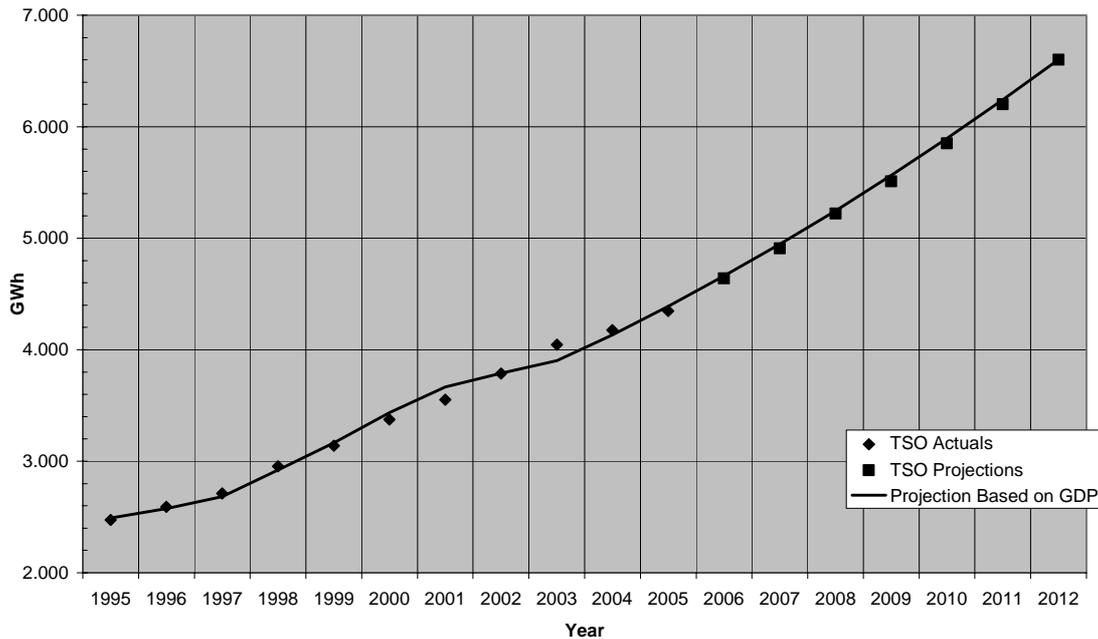


Figure 1: Cyprus Annual Electricity Demand

For the purposes of the preparation of the NAP, the GDP approach was chosen to be applied. Thus the correlation used is based on the equation below, that it is deduced from the figure above (Figure 1):

$$D = 1,1191 \times G - 2.151,8$$

Where

D = Gross Annual Electricity Demand (GWh)

G = Gross Domestic Product (GDP) in Cyprus Pounds (CYP) at 1995 prices

Projections used in the NAP are based on the above formula, not on any maximum demand. However, the results are comparable with estimates by the (independent) Transmission System Operator (TSO) based on their own analysis of maximum demand. The predicted gross electricity demand for each year of the second trading period is summarized in Table 2 below. Gross demand is expected to increase from 5.248 MWh in 2008 to 6.604 MWh in 2012, an average increase of 5,2% per annum.

Table 2: Projected Gross Electricity Demand

Year	2008	2009	2010	2011	2012	Total
GDP	6.612,6	6.895,5	7.192,0	7.501,3	7.823,8	36.025,2
	GWh	GWh	GWh	GWh	GWh	GWh
TSO Projection	5.220,0	5.510,0	5.850,0	6.200,0	6.600,0	29.380,0
Projection Based on GDP (Gross Demand)	5.248,1	5.564,7	5.896,5	6.242,6	6.603,6	29.555,6

Further to the above projections of the electricity demand, additional demand has to be considered, to incorporate the new decisions already taken. Cyprus has been meeting new challenges regarding water supply in order to face the demand for the country, due to the extreme climate situation during the recent years. Very low precipitation and high temperatures have caused severe water shortages which have let the government announce new water saving and supply measures early this year. Within this context, the Cyprus Competent Authority, the Minister of Agriculture, Natural Resources and Environment announced the decision to go ahead with the construction of new desalination plants and the expansion of the two existing desalination plants.

As a result of the above decision, the additional energy demand is summarised in Table 3.

Table 3: Projected Gross Electricity Demand including additional energy demand due to desalination plants

Year	2008	2009	2010	2011	2012	Total
GDP	6.612,6	6.895,5	7.192,0	7.501,3	7.823,8	36.025,2
Projection Based on GDP (Gross Demand) (GWh)	5.248,1	5.564,7	5.896,5	6.242,6	6.603,6	29.555,6
Additional Energy Demand due to desalination Plants (GWh)	0	0	181,3	181,3	181,3	544,0
TOTAL Energy Demand (incl. the additional demand) (GWh)	5.248,1	5.564,7	6.077,8	6.423,9	6.184,9	30.099,6

Based on the above, the new formula used (to include energy demand by desalination plants) is differentiated from 2010 as follows:

$$D = 1,1191 \times G - 2.151,8 + K$$

Where

D = Gross Annual Electricity Demand (GWh)

G = Gross Domestic Product (GDP) in Cyprus Pounds (CYP) at 1995 prices

K = Additional Annual Energy Demand due to desalination plants (GWh) - fixed value of 181,3 GWh/ year from 2010 to 2012

Estimation of CO₂ emissions

Emissions of CO₂ from the power plants have been calculated using an emission factor (E) that is defined as follows:

$$E = C \times M \times F$$

Where

- E = Emission Factor
- C = Carbon content of fuel
- M = Molecular factor CO₂/C (44/12)
- F = Factor (0,995)

For heavy fuel oil (HFO), the carbon content of the fuel (C) is 80,00% and the Emission Factor (E) is 3,1843. For light fuel oil (diesel), the carbon content of the fuel (C) is 88,00% and the Emission Factor (E) is 3,1376.

Taking into account the new formula used (above) for the projection of the electricity demand, the formula used for the estimation of the CO₂ emissions, as well as data from the EAC existing installations, the CO₂ emissions have been calculated. Table 4 presents Electricity Generations, Plants Capacities, Fuel consumptions and Carbon Dioxide Emissions from the existing EAC installations (units).

Table 4: Electricity Generations, Plants Capacities, Fuel consumptions and Carbon Dioxide Emissions from the existing EAC installations (units)

	Year	Vasilikos (VPS)	Dhekelia (DPS)	Moni		TOTAL
				MPS	GAST	
Generation (MWh)	2008	2.649.639	1.894.952	614.455	64.728	5.223.774
	2009	2.658.284	1.932.922	650.548	54.891	5.296.645
	2010	2.642.198	1.992.748	682.975	44.982	5.362.903
	2011	2.670.422	2.057.182	667.380	52.859	5.447.843
	2012	2.679.377	2.086.493	705.284	62.620	5.533.774
TOTAL (MWh)						26.864.939
Plant Capacity Factor (%)	2008	77,6	60,1	41,8	4,6	
	2009	77,8	61,3	44,2	3,9	
	2010	77,3	63,2	46,4	3,2	
	2011	78,2	65,2	45,3	3,8	
	2012	78,4	66,2	47,9	4,5	
Fuel Consumption (M. tn)	2008	561.585	522.897	199.063	23.415	1.306.960
	2009	563.277	532.108	210.632	20.791	1.326.808
	2010	560.188	547.766	221.031	18.085	1.347.070
	2011	565.705	563.560	215.740	20.255	1.365.260
	2012	567.470	570.960	227.814	23.002	1.389.246
CO₂ emissions (tn)	2008	1.802.988	1.678.778	639.099	75.176	4.196.041
	2009	1.808.420	1.708.351	676.240	66.751	4.259.762
	2010	1.798.504	1.758.622	709.628	58.063	4.324.817
	2011	1.816.214	1.809.329	692.639	65.029	4.383.211
	2012	1.821.883	1.833.085	731.405	73.850	4.460.223
TOTAL CO₂ emissions (tn)						21.624.054

where VSP, DSP, MPS and GAST are the code names for the installations of the energy production units.

The shortfall between the total energy demand presented in the Table 3 (30.100 GWh) and the energy production from the existing installations presented in Table 4 (26.865 GWh) will be covered by new entrants in the energy sector.

Impact of Renewable Energy Sources on Energy Demand

The potential contributions of Renewable Energy Sources (RES) have already been defined by the Cyprus Energy Service⁴. These figures are consistent with the report that Cyprus has submitted to the EC on the implementation of the Directive on the Promotion of Electricity from Renewable Energy Sources (2001/77/EC) up to 2010, indicates a target of 6,0% for the contribution of RES to electricity demand in 2010. However, this target (which is not mandatory) is based on the most optimistic of three scenarios prepared by the Energy Service. Achievement of the targets is heavily dependent on securing rapid market penetration of generation using (onshore) wind. Although incentives are in place and there is already considerable interest in wind projects, at the present time there is not a single project that has secured the necessary planning consent - far less progressed to construction.

The impact of renewable energy based on achievement of the notional target of 6% by 2010 (Table 5) has been identified. This indicates a total contribution from renewable energy of 1.149.259 tonnes of CO₂ (4,8% of the total) over the 5-year Trading Period.

Table 5: Impact of Renewable Energy on Electricity Generation (Sector)

Electricity Sector	2008 te CO ₂	2009 te CO ₂	2010 te CO ₂	2011 te CO ₂	2012 te CO ₂	Total te CO ₂
Total projected electricity production without renewable contribution (incl. production from installations/units from NER)	4.196.041	4.384.585	4.711.280	4.931.627	5.189.679	23.413.212
<i>Reduction in Energy demand due to Renewable Contribution</i>	2% 83.921	4% 175.383	6% 282.677	6% 295.898	6% 311.381	4,8% 1.149.259
Total projected electricity production with renewable contribution	4.112.120	4.209.202	4.428.603	4.635.729	4.878.298	22.263.953
Electricity production without Renewable Contribution from EAC existing installations (excl. production from installations/units from NER)	4.196.041	4.259.762	4.324.817	4.383.211	4.460.223	21.624.054
Electricity production with Renewable Contribution from EAC existing installations	4.112.120	4.084.379	4.042.140	4.087.313	4.148.842	20.474.795

⁴ Towards a White Paper for RES and RUE Strategy and Action Plan for the Republic of Cyprus (2004)

These reductions will be achieved primarily through wind projects utilizing the CDM mechanism. It is therefore proposed to reduce the EAC allocation of 21.624.054 tonnes of CO₂ to 20.474.795 tonnes of CO₂. The difference (1.149.259 tonnes of CO₂) will be allocated in appropriate set-asides of allowances presented in the following tables (Table 6 and 7) according to the requirements of the Commission Decision 2006/780/EC, which correspond to the Annex I and II respectively.

The CDM projects described above are to be registered in future as Certified Emission Reductions and the Commission Decision C(2006)5362 of 13th November 2006 on the avoidance of double counting and Linking Directive 2004/101/EC will be applied. It is clarified that in case reductions due to RES do not materialize, the quantity of allowances in the set-aside will be returned to New Entrants Reserve (see 5.2.1. and 5.2.2.).

Table 6: Set-aside I according to the requirements of the Commission Decision 2006/780/EC, corresponding to Annex I of the Decision

		Project Activity 1	Project Activity 2	...	Total quantity of allowances in set-aside
I/a	Title of project activity (1)	Mari Windfarm Project (12 MW)	Alexigros Windfarm Project (34,5MW)		344.240
I/b	Project identification code of project activity (2)	CDM0635	CDM0636		
I/c	Date of letter of approval for the project activity	7/11/2006	7/11/2006		
II	Total quantity of GHG to be reduced or limited (in tons for 2008-2012)	84.965	259.275		
III	% of total reductions that the government issues as ERUs or CERs	100%	100%		
IV	Description of baseline (3)				
	Total Annual Emissions in the absence of the project activity:	See attached relevant Project Design Document (PDF File)	See attached relevant Project Design Document (PDF File)		
	Group of Installations where emissions are expected to occur:	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)		
	Short Description of the Baseline Applied:	See attached relevant Project Design Document (PDF File)	See attached relevant Project Design Document (PDF File)		
V	% of emissions of installations	100,00%	100,00%		

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	covered by Directive 2003/87/EC in the total emissions included in the baseline (in case of indirect reductions or limitations, an estimate is to be provided) (4)				
VI	Planned trading sector project-reduction quantity (II*III*V)	84.965	259.275		344.240
VII/a	For direct reductions and limitations, the name the installation where the trading sector project-reduction will occur (5)	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)		
VII/b	For direct reductions and limitations, the installation ID of the installation where the trading sector project-reduction will occur (5)	ET01/1	ET01/1		
VIII/a	Quantity of ERUs or CERs that represent trading sector project-reductions issued 2008	16.993	37.039		
VIII/b	Quantity of ERUs or CERs that represent trading sector project-reductions issued 2009	16.993	55.559		
VIII/c	Quantity of ERUs or CERs that represent trading sector project-reductions issued 2010	16.993	55.559		
VIII/d	Quantity of ERUs or CERs that represent trading sector project-reductions issued 2011	16.993	55.559		
VIII/e	Quantity of ERUs or CERs that represent trading sector project-reductions issued 2012	16.993	55.559		

- (1) List all project activities approved by Member State.
- (2) Use the code assigned according to ANNEX VI, point 19 of Regulation (EC) No 2216/2004. Give the total annual emissions that are expected to occur in the absence of the project activity, and the group of installations where these emissions are expected to occur. Attach a short description of the baseline applied. If more than one baseline is applied in the project activity, each baseline (with the corresponding total annual emissions expected in the absence of that part of the project activity) needs to be entered on a separate line in the set-aside table.
- (3) Provide a brief description of the method and data used for the estimate.
- (4) If more than one installation is to be listed in rows VII/a and VII/b, use separate rows. The share of each installation in the allowances in the set-aside is to be calculated separately.

Table 7: Set-aside II according to the requirements of the Commission Decision 2006/780/EC, corresponding to Annex II of the Decision

		Project Activity X	Project Activity Y	...	Total quantity of allowances in set-aside
I/a	Title of planned project activity (1)	Wind Farms			805.019
I/b	Project identification code of planned project activity (2)	n/a			
I/c	Projected date of letter of endorsement for the planned project activity	n/a			
II	Planned total quantity of GHG	805.019			805.019

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	to be reduced or limited (in tons for 2008-2012) by the planned project activity.				
III	% of total reductions that the government issues as ERUs or CERs for the planned project activity.	100%			
IV	Description of baseline (3)				
	Total Annual Emissions in the absence of the project activity:	n/a			
	Group of Installations where emissions are expected to occur:	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)			
	Short Description of the Baseline Applied:	n/a			
V	Estimate of the % of emissions of installations covered by Directive 2003/87/EC within the total emissions included in the baseline (4)	100%			
VI	Planned trading sector project-reduction quantity (II*III*V)	805.019			805.019
VII/a	For direct reductions and limitations, the name the installation(s) where the planned trading sector project-reduction is to occur (5)	Electricity Authority of Cyprus (Dhekelia/ Moni/ Vassilikos)			
VII/b	For direct reductions and limitations, the installation ID of the installation(s) where the planned trading sector project-reduction is to occur (5)	ET01/1			
VII/c	For indirect reductions and limitations, the activity category where the planned trading sector project-reduction is to occur (6)				
VIII	The quantity of allowances deducted from the allocation of the installations/activity category indicated under rows VII/a-VII/c to fill the set-aside (5) (6)	805.019			805.019

- (1) This information only needs to be provided if already available by the time of the submission of the national allocation plan. If no letter of endorsement was issued yet for a project activity, more project activities using the same methodology to reduce emissions may be grouped together under one column.
- (2) Use the code assigned according to ANNEX VI, point 19 of Regulation (EC) No 2216/2004. Give the total annual emissions that are expected to occur in the absence of the project activity, and the group of installations where these emissions are expected to occur. Attach a short description of the baseline applied. If more than one baseline is applied in the project activity, each baseline (with the corresponding total annual emissions expected in the absence of that part of the project activity) needs to be entered on a separate line in the set-aside table.
- (3) Provide a brief description of the method and data used for the estimate.
- (4) If more than one item is to be listed in rows VII/a, VII/b and VIII, use separate rows. The share of the allowances provided by each installation for the set-aside is to be indicated separately.
- (5) Use the categories of activities defined in ANNEX I of Directive 2003/87/EC.

On this basis, the estimated CO₂ emissions from the power sector rise from 4,1 million tonnes in 2008 to 4,9 million tonnes in 2012. Total emissions over the trading period are estimated at 22,3 million tonnes, or an average of 4,4 million tonnes per annum. The average allowance in the first trading period was 3,91 million tonnes, so the figure for the second trading period is 11,4% higher – roughly the same as the increase of 18% in GDP between the mid-points of the two trading periods (2006 and 2010). However, it is important to remember that these figures take into account the contribution of RES in reducing the demand for fossil-fuel generated electricity and, resulting in a significant decoupling of CO₂ emissions in the energy sector from GDP as presented in Figure 2.

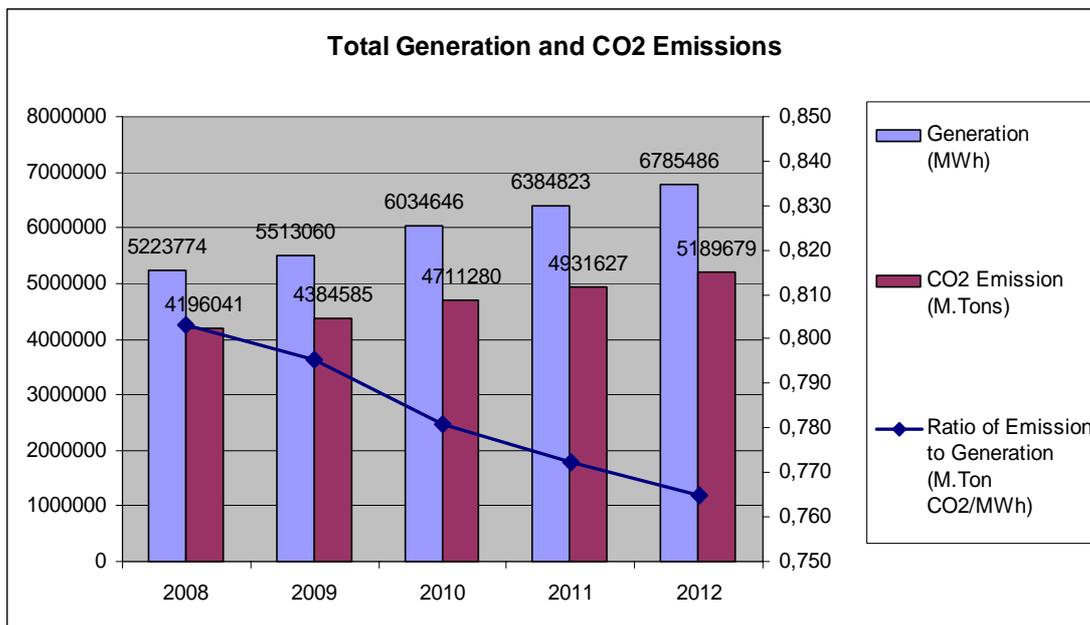


Figure 2: Total electricity generation and CO₂ emission

Cement Sector

Demand for cement in Cyprus has risen as a result of increased activity in the construction sector, related mainly to growth in the tourism sector and other commercial developments. Projections of GDP for the construction sector show that this growth is likely to continue. At present, the demand is met almost exclusively by the two cement plants operated by the Cyprus Cement Company at Moni and by the Vassiliko Cement Works at Vassilikos.

The Moni plant uses the dry process with a two-stage preheater, and has a maximum capacity of 375.000 tonnes per annum of clinker (clinker production is by far the main contributor to CO₂ emissions). Additional clinker has been purchased from other sources (including Vassiliko Cement Works) to give a maximum capacity of 480.000 tonnes per annum of cement. Over the period 1998 to 2004 actual clinker

production averaged 356.690 tonnes, while total CO₂ emissions averaged 342.113 tonnes (an average of 0,9591 tonnes of CO₂ per tonne of clinker). Around 56% of total CO₂ emissions are produced directly by the calcination process (process emissions), with combustion emissions accounting for the remaining 44% (around 99% of this from kiln heating). It should be noted that in 2005 technical problems at the plant resulted in a number of unforeseen shut-downs, which reduced output and CO₂ emissions but also increased CO₂ emissions per tonne of product: these problems have now been overcome, and the plant is expected to operate at full capacity (without any shutdowns) through 2006.

The Vassilikos plant uses the less efficient semi-dry process, and has a maximum capacity 1.200.000 tonnes per annum of clinker. In 2005, the plant produced 1.142.984 tonnes of clinker and 1.145.699 tonnes of CO₂ (0,9785 tonnes of CO₂ per tonne of clinker). Around 53% of total CO₂ emissions are produced directly by the calcination process (process emissions), with combustion emissions accounting for the remaining 47%. However, at the Vassilikos plant kiln heating accounts for only 83% of combustion emissions (compared to 99% at the Moni plant). This difference is accounted for mainly by two factors. The Vassilikos plant produces much greater emissions through the drying of raw materials (12,7% of combustion emissions), and also through electricity production (cogeneration) which accounts for 3,5%.

Both plants are (or should be) operating close to their maximum capacity. This is reflected in their emission allocations for the first trading period, which are constant at 1.200.000 tonnes of CO₂ each year for Vassilikos and 360.000 tonnes of CO₂ each year for Moni. However, the limitation on capacity does not allow the plants to respond to the further increases in demand that are expected in Cyprus, or to consider exporting production. For these reasons, both plants are proposing to increase capacity.

The Vassiliko Cement Company proposes to increase capacity and meet environmental standards by installing a new dry process kiln (new unit) which will give an additional capacity of 400.000 tonnes per annum of clinker. The new kiln (unit) is expected to start its operation in 2010. As a result of the use of the new unit CO₂ emissions per tonne (of clinker or cement) are expected to reduce significantly (to 0,92 tonnes of CO₂ per tonne of clinker), although overall emissions may increase as a result of increased output.

The Cyprus Cement Company also proposes to increase the capacity and improve the environmental performance of its plant at Moni. They will install a new kiln (unit) of additional capacity 625.000 tonnes of clinker per annum, with more effective heat recovery and specific emissions of 0,865 tonnes of CO₂ per tonne of clinker. The new kiln (unit) is expected to be operating in 2011.

However, there is clearly some uncertainty regarding the precise nature and timing of the implementation of the new kilns (units). We have therefore based the allocations in this NAP on the existing kilns. Allowances for the new kilns (units) are included in the New Entrants' Reserve.

It follows that total clinker capacity in Cyprus will rise from 1.575.000 tonnes in 2008 to 1.975.000 tonnes in 2010, and to 2.600.000 from 2011. This will not only meet local (national) demand, but also provide additional capacity for export (see below).

Total clinker demand (as indicated by the total output from the two plants) has been correlated against the GDP for the construction sector over the period from 1995 to 2004 (Figure 3), 2005 data being omitted from this correlation because of the problems at the Moni plant. Projections of demand indicate continued growth, reflecting the projections that have been provided for the Gross Domestic Product (GDP) of the construction sector over the period to 2009 (the same rate of increase has been assumed for the period to from 2010 to 2012).

The relevant equation is:

$$C = 965.315 + (1.349,6 \times G)$$

Where:

C = Clinker production (tonnes)

G = Construction Sector GDP (CYP at 1995 prices)

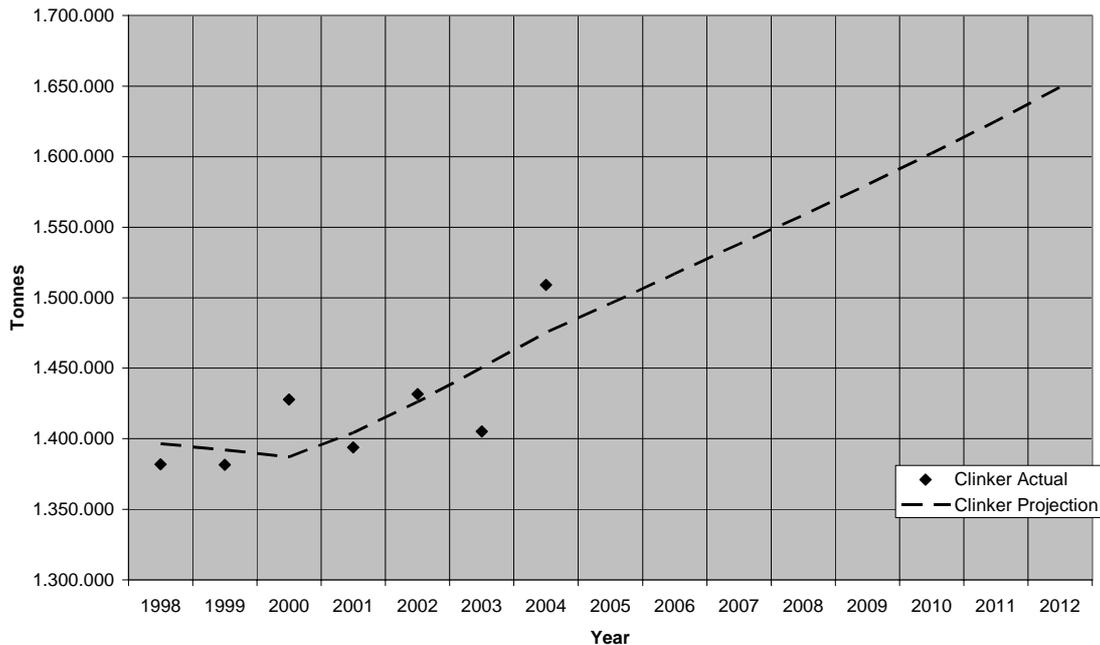


Figure 3: Projections of Clinker Demand

It is assumed that, in order to meet this demand, the Moni plant will operate at full capacity (375.000 tonnes of clinker per annum), as is almost the case at present. The Vasilikos plant will meet the balance of the national demand for clinker in 2008, with the surplus being potentially available for export, but from 2009 it will be operating at full capacity to meet national demand (Figure 4).

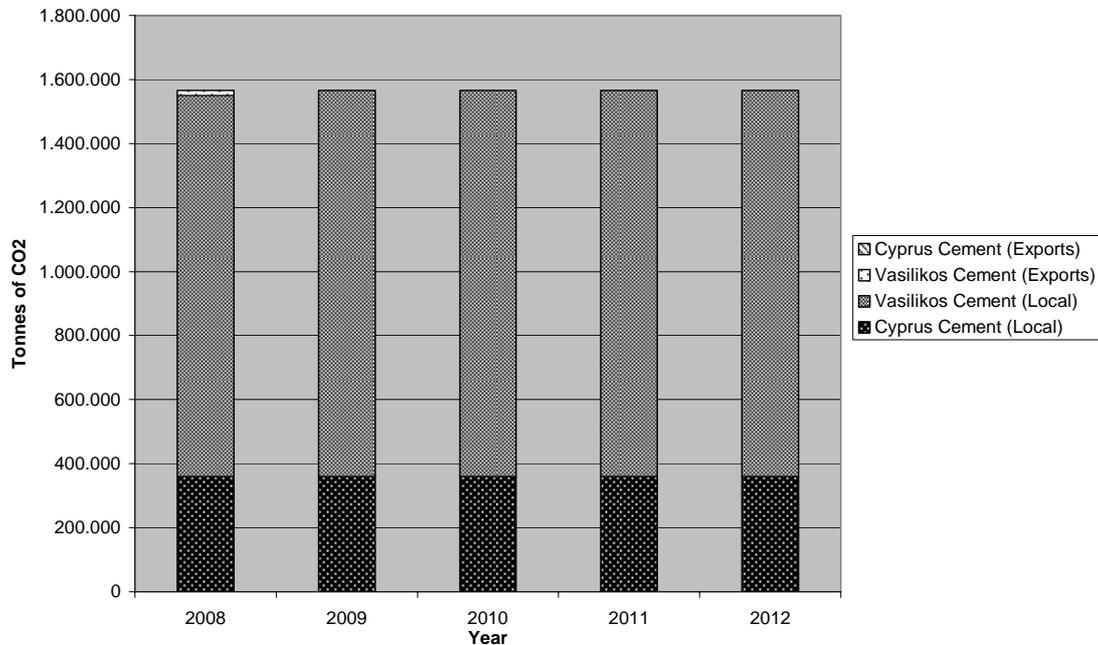


Figure 4: Emissions from Cement Sector

By 2012, the shortfall (national demand minus national capacity) will have risen to 74.081 tonnes per annum if no new capacity is available. There is also a belief that any excess production from Cyprus can be exported, based on the following factors:

- The cement produced in Cyprus is of a high quality, and as such is in demand
- The amount available for export will be small relative to the size of the main export markets
- There is a shortage of cement production capacity in the Eastern Mediterranean region
- Demand will increase for reconstruction in Lebanon
- Less exports will be available from Turkey, which has been a major exporter but is now experiencing rapid growth in its domestic demand.

Owing to the greater efficiency of the proposed new kilns (units) at both plants, CO₂ specific emissions to meet national consumption are reduced. However, total emissions would increase as a result of the increased capacity and output needed to provide the assumed level of export capacity.

Carbon dioxide emissions from cement production are summarized in Table 8. As noted above, this is based on the operation of the existing kilns only. On this basis the average allocation per year during the second Trading Period, would be 1.566.099 tonnes of CO₂, compared to an average of 1.560.000 during the first Trading Period. This increase of less than 1% compares to an increase of 15,5% in the sector GDP in Cyprus (between 2006 and 2010).

Table 8: CO₂ emissions from cement production (t CO₂)

	2008	2009	2010	2011	2012	Total	Average
Cyprus Cement	359.675	359.675	359.675	359.675	359.675	1.798.375	359.675
Vasilikos Cement	1.190.250	1.206.424	1.206.424	1.206.424	1.206.424	6.015.947	1.203.189
Total Local	1.549.925	1.566.099	1.566.099	1.566.099	1.566.099	7.814.322	1.562.864
Cyprus Cement	0	0	0	0	0	0	0
Vasilikos Cement	16.174	0	0	0	0	16.174	3.235
Total Exports	16.174	0	0	0	0	16.174	3.235
TOTAL	1.566.099	1.566.099	1.566.099	1.566.099	1.566.099	7.830.497	1.566.099

Ceramics (Brick & Tile) Sector

The ceramics sector comprises eight companies manufacturing bricks (7 installations) and tiles (1 installation). As in the cement sector, demand has increased with the GDP of the construction sector, and production has risen to meet that demand. Historically there have been minimal imports or exports of bricks and some imports of tiles, but there are now expected to be more significant exports which would be met largely by the existing installations operating additional shifts. Production has been correlated against sector GDP over the period 2001 to 2005 for each of the eight companies, and this has allowed demand to be projected (again for each company) for the period 2006 to 2012 - after correcting anomalous data at one installation and making a small allowance for lost output resulting from technical problems at two installations. An increase averaging 11,3% (varying between 8% and 20% at different installations) has been added from 2008 to account for planned exports (Figure 5). The increase in production (tonnes of product) is accounted for not only by an increase in demand for the number of bricks, but also by a recent increase in the average weight of a brick (5,2 in 2005 compared to 2,9 in preceding years): the reason for this increase is the introduction of new building standards with stricter thermal insulation requirements demanding the use of heavier bricks (COM 2002/91/EC: Directive on the Energy Performance of Buildings), as well as the implementation of the quality standards for bricks (CE Marking system).

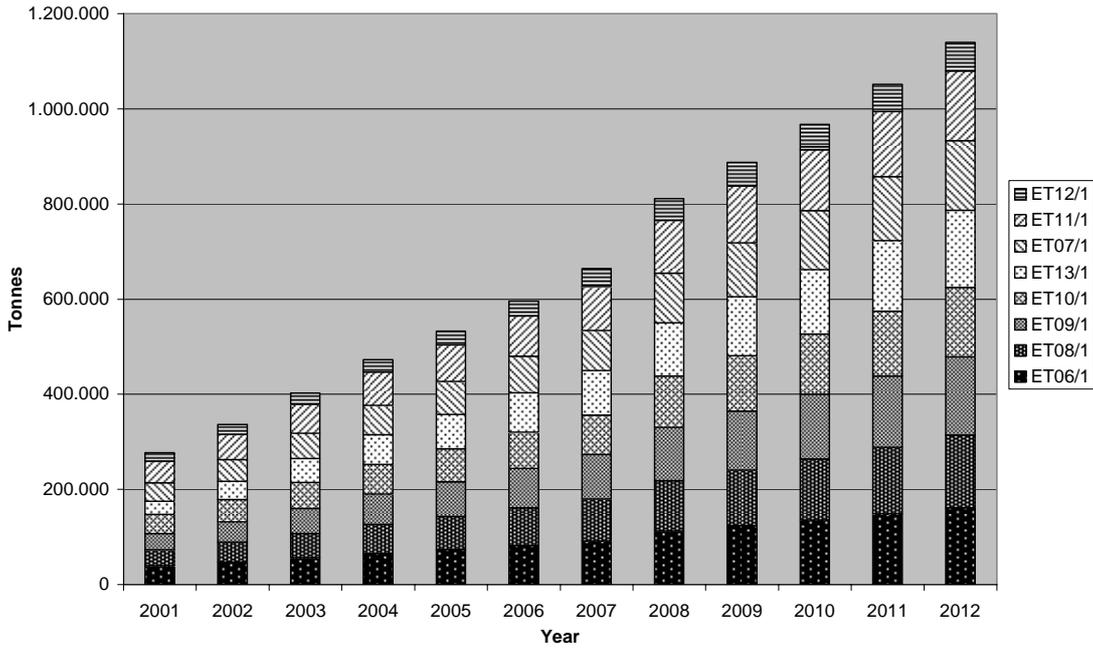


Figure 5: Projections of ceramics Production

As in the cement sector, CO₂ emissions come both from the process itself (on average 46,3%) and from the combustion of fuels (53,7%), the latter again being mainly in kilns and dryers. Actual specific emissions (in tonnes of CO₂ per tonne of product) are presented in Figure 6. The average specific emissions from the process were 0,1329 tonnes of CO₂ per tonne of product while the average combustion emissions were 0,1483 tonnes of CO₂ per tonne of product, giving an average total of 0,2812 tonnes of CO₂ per tonne of product.

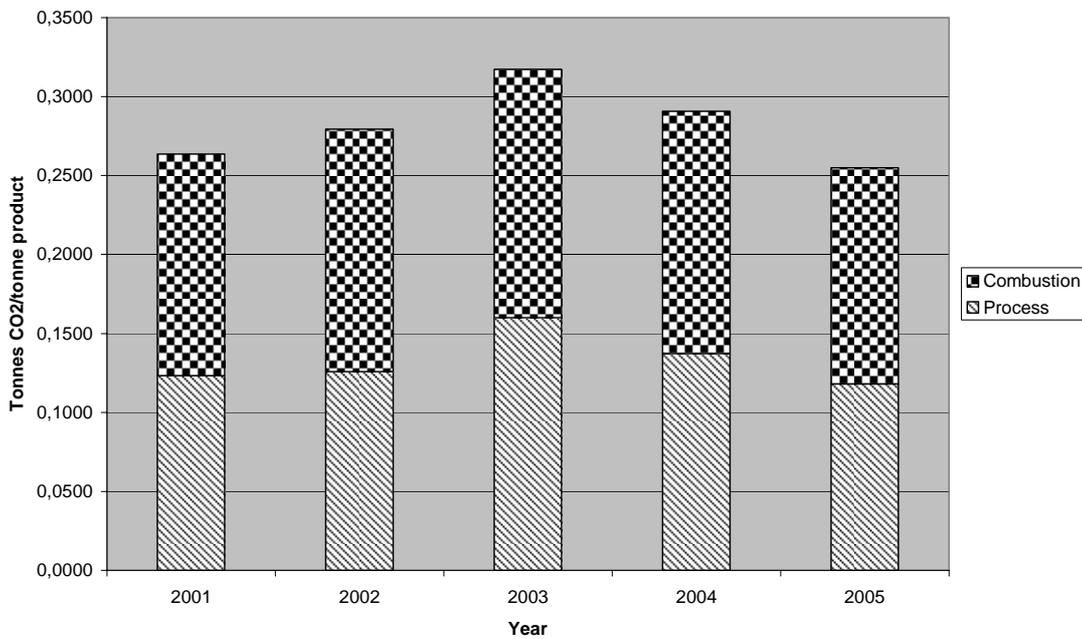


Figure 6: Specific Emissions from the Production of ceramics

Similar specific emissions figures for each of the installations were used to project emissions for the period to 2012, based on the output projections for each installation. On this basis, the total CO₂ emissions over the trading period from 2008 to 2012 will be 1.368.586 tonnes of CO₂ or an average of 273.717 tonnes of CO₂ each year (Table 9). This is 46% higher than the average for the first trading period as a result of the expected increase in production (62,4% between the mid years 2006 and 2010).

Table 9: Projected CO₂ emissions from Ceramics production (t CO₂)

		2008	2009	2010	2011	2012	Total	Average
ET06/1	United Brickworks Ltd	29.181	32.052	35.105	38.347	41.788	176.473	35.295
ET07/1	Chrysafis Ceramics Ltd	30.589	33.732	37.055	40.566	44.274	186.216	37.243
ET08/1	Kakogiannis Ceramics Ltd	31.077	34.393	37.908	41.633	45.575	190.586	38.117
ET09/1	Melios & Pafitis Enterprises Ltd	31.800	34.428	37.186	40.079	43.112	186.605	37.321
ET10/1	Ledra Ceramics Ltd	34.194	37.760	41.473	45.341	49.368	208.135	41.627
ET11/1	Palaikythro Ceramics (KAPA) Ltd	30.099	32.909	35.889	39.047	42.393	180.337	36.067
ET12/1	Palaikythro Ceramics GIGAS Ltd	28.123	30.256	32.465	34.755	37.127	162.727	32.545
ET13/1	Palaikythro Tiles GIGAS Ltd	13.454	14.424	15.447	16.525	17.660	77.509	15.502
Total		228.515	249.953	272.528	296.293	321.297	1.368.586	273.717

Total Emissions from Existing Installations

On this basis, the total allowance for the 13 existing installations is **29.673.878** tonnes of CO₂ over the five year period from 2008 to 2012, or an average of **5.934.775** tonnes of CO₂ per annum (Table 10). The average total CO₂ emissions per annum allocated to these installations during the first trading period (2005-2007) was 5,661,075 tonnes. It follows that, on the basis proposed, the increase between the first trading period and the second trading period, comparing the average annual emissions, is 4%, while the (average) GDP of Cyprus is expected to increase by 18,3% over the same period. During the second trading period, the largest amount of emissions is allocated to the energy sector (57,50%), with 21,99% to the cement sector and only 3,84% across the eight installations in the ceramics sector. These proportions are similar to those in the first trading period.

Table 10 also presents the New Entrants Reserve, as well as the set-asides for Renewable Energy Sources (RES), while further detailed description and presentation, is given in later sections.

Table 10: Total Emissions of CO₂ from Existing Facilities

	Trading Period 1			Trading Period 2					Trading Period 1				Trading Period 2				
	2005	2006	2007	2008	2009	2010	2011	2012	Total	Average	%	%	Total	Average	%	%	
1. ENERGY SECTOR																	
ET01/1 Vasiliko	1.707.319	2.204.253	2.307.550	1.766.928	1.731.090	1.667.406	1.674.336	1.668.803	6.219.122	2.073.041	52,97%		8.508.563	1.701.713	41,56%		
ET02/1 Moni	837.213	494.445	597.414	699.990	713.271	721.630	712.208	756.940	1.929.072	643.024	16,43%		3.604.038	720.808	17,60%		
ET03/1 Dhekelia	1.207.708	1.167.519	1.216.721	1.645.202	1.640.017	1.653.105	1.700.769	1.723.100	3.591.948	1.197.316	30,60%		8.362.193	1.672.439	40,84%		
Total	3.752.240	3.866.217	4.121.685	4.112.120	4.084.379	4.042.140	4.087.313	4.148.842	11.740.142	3.913.381	100,00%	68,64%	20.474.795	4.094.959	100,00%	57,50%	
2. CEMENT SECTOR																	
ET04/1 Moni	360.000	360.000	360.000	359.675	359.675	359.675	359.675	359.675	1.080.000	360.000	23,08%		1.798.375	359.675	22,97%		
ET05/1 Vasiliko	1.200.000	1.200.000	1.200.000	1.206.424	1.206.424	1.206.424	1.206.424	1.206.424	3.600.000	1.200.000	76,92%		6.032.122	1.206.424	77,03%		
Total	1.560.000	1.560.000	1.560.000	1.566.099	1.566.099	1.566.099	1.566.099	1.566.099	4.680.000	1.560.000	100,00%	27,36%	7.830.497	1.566.099	100,00%	21,99%	
3. CERAMICS SECTOR																	
ET06/1 United Brickworks Ltd	21.285	24.904	29.137	29.181	32.052	35.105	38.347	41.788	75.326	25.109	13,40%		176.473	35.295	12,89%		
ET07/1 Chrysafis Ceramics Ltd	22.019	25.762	30.141	30.589	33.732	37.055	40.566	44.274	77.922	25.974	13,80%		186.216	37.243	13,61%		
ET08/1 Kakogiannis Ceramics Ltd	20.513	24.000	28.081	31.077	34.393	37.908	41.633	45.575	72.594	24.198	12,90%		190.586	38.117	13,93%		
ET09/1 Melios & Pafitis Enterprises Ltd	22.880	26.770	31.321	31.800	34.428	37.186	40.079	43.112	80.971	26.990	14,40%		186.605	37.321	13,63%		
ET10/1 Ledra Ceramics Ltd	23.728	27.762	32.481	34.194	37.760	41.473	45.341	49.368	83.971	27.990	14,90%		208.135	41.627	15,21%		
ET11/1 Palaikythro Ceramics (KAPA) Ltd	22.324	26.119	30.559	30.099	32.909	35.889	39.047	42.393	79.002	26.334	14,00%		180.337	36.067	13,18%		
ET12/1 Palaikythro Ceramics GIGAS Ltd	16.474	19.274	22.550	28.123	30.256	32.465	34.755	37.127	58.298	19.433	10,40%		162.727	32.545	11,89%		
ET13/1 Palaikythro Tiles GIGAS Ltd	9.890	11.571	13.538	13.454	14.424	15.447	16.525	17.660	34.999	11.666	6,20%		77.509	15.502	5,66%		
Total	159.113	186.162	217.808	228.515	249.953	272.528	296.293	321.297	563.083	187.694	100,00%	3,29%	1.368.586	273.717	100,00%	3,84%	
TOTAL ALLOCATED	5.471.353	5.612.379	5.899.493	5.906.734	5.900.431	5.880.767	5.949.705	6.036.238	16.983.225	5.661.075		99,30%	29.673.878	5.934.775		83,34%	
<i>Set-asides (Annex I) for RES</i>				54.032	72.552	72.552	72.552	72.552					344.240	68.848		0,97%	
<i>Set-asides (Annex II) for RES</i>				161.004	161.004	161.004	161.004	161.004					805.019	161.004		2,26%	
<i>New Entrants Reserve</i>	0	60.000	60.000	130.000	367.896	876.778	1.590.838	1.818.845	120.000	40.000		0,70%	4.784.357	956.871		13,44%	
TOTAL ALLOCATION	5.471.353	5.672.379	5.959.493	6.251.770	6.501.882	6.991.101	7.774.099	8.088.639	17.103.225	5.701.075		100,00%	35.607.494	7.121.498		100,00%	

1.3 *What is the total quantity of allowances to be allocated (for free and by auctioning), and what is the proportion of overall emissions that these allowances represent in comparison with emissions from sources not covered by the emissions trading Directive? Does this proportion deviate from the current proportion of emissions from covered installations? If so, please give reasons for this deviation with reference to one or more criteria in Annex III to the Directive and/or to one or more other objective and transparent criteria.*

Cyprus' proposed total quantity of allocation for the period 2008 to 2012, based on the methodology and assumptions outlined above, is therefore **35.461.983** tonnes of CO₂. A total of **29.673.878** tonnes of CO₂ would be allocated to the thirteen existing installations and **4.784.357** tonnes of CO₂ would held in reserve for new entrants. Also **1.149.259** tonnes of CO₂ will be held in the set-asides for CDM. As already noted, the reserve figure is high to cover the likelihood of new entrants both in the energy sector and in heavy industry, including known new entrants in the cement & brick sectors.

As in the first trading period, it is proposed that the allowances for all existing installations and for new entrants should be allocated for free, in order to minimize the immediate impact on electricity and product prices, and to encourage new entrants and inward investment.

1.4 *What policies and measures will be applied to the sources not covered by the emissions trading Directive? Will use be made of the flexible mechanisms of the Kyoto Protocol? If so, to what extent and what steps have been taken so far (e.g. advancement of relevant legislation, budgetary resources foreseen)?*

Policies and Measures

Energy Sector

Policy objectives associated with the topic of energy can be distinguished in two sections: energy sources and energy efficiency. The aim is to increase the amount of energy originating from renewable energy sources, thus reducing the amount of carbon dioxide emissions. At the same time, the improvement of the energy efficiency of the systems implemented (renewable or non-renewable) will further decrease the amounts of carbon dioxide released to the atmosphere. A sustainable energy policy does not only depend on the environmentally friendly technology to be used, but also on the efficiency and cost-effectiveness provided by the technology. The strategic goals set for energy, include security of energy supply; promotion the use of Renewable Energy Sources.

Energy Sources/ Energy Conservation

The indicative targets set for the following years include:

- An increase of electricity generation from RES, to reach 6% of the total electricity consumption in 2010.
- The reduction of GHG emissions caused by RUE in energy consumption to reach 5% by 2010.

Support measures have been set and applied for RES (wind energy, biomass, and solar collectors) as measures of RES promotion.

The new 2004 grant scheme includes two categories: Energy conservation and Renewable energy sources. The Category A: Energy conservation refers to investments which aim at energy conservation as well as the installation of combined heat and power. Energy conservation investments are defined as investments on energy conservation systems which can achieve at least 10% energy saving out of the total energy consumption. The Category B: Renewable Energy Sources (RES) refers to investments which are related to the utilization of wind energy systems, solar thermal and photovoltaic systems, biomass, hydro and desalination systems using RES.

Natural Gas

One important issue for Cyprus is the market liberalization, opening up Electricity Authority of Cyprus to competition and promoting wider developments within the Cyprus electricity market. In particular, the following are currently studied:

- Plans to construct an Energy Centre that would allow the import of liquefied natural gas (LNG). The planned Energy Centre (through which liquefied natural gas will be available to the energy sector and more widely) may result in a significant reduction in CO₂ emissions, but these developments are too uncertain to quantify at present.
- Plans by Electricity Authority of Cyprus to construct additional combined cycle gas turbine (CCGT) units to also accept natural gas as fuel;
- Plans by other companies to construct generation plants that would compete with Electricity Authority of Cyprus, again using natural gas as a fuel.

The construction of a receiving / re-gasification terminal for the Liquefied Natural Gas (LNG) would make possible the importation of natural gas.

Biomass

The promotion of utilization of biomass is included in the National Action Plan for the promotion of RES (2002-2010). For the promotion of biomass for heating /cooling and electricity production, Cyprus has introduced the following measures:

1. A Support Scheme for the promotion of RES and Energy Conservation, which includes the provision of grants on the investment for production of biofuels, utilization of biomass for heating/cooling, tele-heating/ tele-cooling and the co-generation from biomass.
2. A new support scheme for electricity generation from biomass has just been approved. The scheme for electricity generation from biomass is more generous and provides operational grant (Feed-in purchase price per KWh) up to 12,38 euro cents per KWh depending upon the technology used and raw biomass.

Residential and tertiary sector

The energy consumption in the residential and tertiary sector is expected to increase significantly (approximately 3% annually in the residential sector and 4.5% annually in the tertiary sector, for the period 2007 - 2020). The high increase in the tertiary sector is due mainly to the high development of the sector of services, commerce and tourism. Similarly, the contribution of these sectors in CO₂ emissions is significant and exceeds 45% (with the allocation of electricity consumption in end-users).

The main measures for eliminating greenhouse gas emissions are the following:

- Improvement of the thermal behaviour of buildings in the residential sector. This measure implies: (a) formulation and mandatory - after 2007 - implementation of a space heating regulation for all new buildings in the residential sector and (b) roof insulation in buildings constructed before 2007, so that 50% of those buildings in 2010 and 100% of those buildings in 2020 end-up in having such an insulation.
- Improvement of the thermal behaviour of buildings in the tertiary sector. This measure implies formulation and mandatory - after 2007 - implementation of a space heating regulation for all new buildings in the tertiary sector and the insulation of roof/openings in buildings constructed before 2007. The penetration rate of the measure is 60% of buildings in the public sector and 50% of buildings in the sector of services by 2010, while in 2020 the measure will cover all buildings.
- Maintenance of central heating boilers. The maintenance of central heating boilers on an annual basis could lead to an improvement of their performance up to 10%, depending on the boiler's condition before its maintenance. The penetration rate of the measure is 60% (in 2010) and 100% (in 2020) of the existing boilers of the residential and tertiary sector.
- Replacement of central heating boilers. Replacement of old boilers with new ones with a high-energy performance. The penetration rate of the measure is 25% for 2010 and to 50% for 2020 of the existing central heating boilers in the residential sector, while the penetration rate in the public sector is 50% and 75% respectively.

- Use of high efficiency air conditioning systems. The energy conservation by unit is estimated approximately to 20%. The penetration rate of new, energy-efficient units, is 75% in 2010 and 100% in 2020 of the total installed units in the residential and tertiary sector.
- Use of high efficiency electric appliances. The penetration of energy-efficient electric appliances (note: this measure applies to the residential sector only) is 75% in 2010 and 100% in 2020 of the total appliances.
- Use of energy-efficient lighting bulbs. The penetration rate is 80% (in 2010) and 100% (in 2020) of the conventional lighting bulbs in the residential and tertiary sector.
- Automations in lighting. The conservation of electricity that can be achieved through this measure is on the order of 20% per automation installation, and the penetration rate is 50% (in 2010) and 80% (in 2020) of the total buildings of the tertiary sector.
- Solar collectors for water heating. Use of solar collectors for water heating. The target set is covering 50% of the energy demand for water heating in the tertiary sector from solar collectors in 2010 and 75% in 2020.
- Roof-top photovoltaic systems connected to the electricity grid. Installation of roof-top systems with total capacity of 3 MW (in 2020).

Industry

The main measures promoted for the sector of industry regarding industry are:

- Promotion of co-generation.
- Promotion of natural gas for thermal uses.
- Promotion of solar energy. Substitution of crude oil and diesel by solar collectors for production of steam of low temperatures and mean temperatures.
- Various energy conservation measures. Moderate energy conservation interventions aiming at the reduction of losses from the steam production system and the exploitation of the rejected heat from furnaces. Interventions for the improvement of performance of the space heating and lighting installations.
- Future and existing installations are obliged to apply all the appropriate preventing measures against pollution (Best Available Techniques), under the IPPC Directive 96/61/EC.

Transport

Transport Policy

The main aims for the transport policy are (1) to reduce the use of the private vehicles with the simultaneous increase of the means for public transport; and (2) the reduction of the traffic in the towns for improvement of the urban environment. For

the implementation of these aims, a complete policy on transport is needed and cooperation of all the public and local authorities, stakeholders and private sector for the accomplishment of the strategic goals. The main measures to be taken for the accomplishment of the strategic goals are:

- (a) motivation for the recovery or replacement of old vehicles;
- (b) development of economically viable means of urban public transport, providing easy access to all (maximum distance from a bus stop to be at approximately 300 metres, access to accurate information etc.);
- (c) reduction of the operational cost of public transport with reduction in delays and the routes' duration;
- (d) creation of bus lanes;
- (e) renewal or the flied and modernisation of the means of public transport (modern, comfortable vehicles with low or no exhaust emissions);
- (f) development of means promoting and prioritising public transport;
- (g) construction of parking places outside urban areas, and connection of these with city centres with public transport (Park & Ride Facilities);
- (h) developed and improve the urban pedestrians and cyclists routes;

Transport Measures

Measures concerning vehicles:

- Maintenance of cars and trucks.
- Promotion of small cars in urban transport.
- Fuel switching from diesel to LPG in taxis.
- Significant reduction of the excised duty in small and middle class volume vehicles.

Measures concerning the management of transport:

- Promotion of public transport.
- Development of non-urban public transport.
- Improvements in road signalling.

Measures concerning the use of alternative fuels:

- Use of natural gas in urban public transport.
- Promotion of the use of biofuels through the imposition of 0% duty on biofuels.

Agriculture and Forestation

The agricultural sector is the main contributor to ammonia emissions in Cyprus. Existing installations for the intensive rearing of poultry or pigs are obliged to apply all the appropriate preventive measures against pollution (Best Available Techniques - BATs).

The main pollutant emitted from the agricultural sector in relation to the NEC Directive is ammonia. The agricultural sector is responsible for more than 90% of ammonia emissions in Europe. If farmyard manure is handled in the wrong way, more than half the ammonia content can escape into the air before the manure is spread into the soil. It is very important that the manure is spread at the right time and in the right weather conditions and that it is injected in the soil or quickly ploughed down. In general, measures applied to cut ammonia emissions are alternative livestock feeding strategies, low - emission manure spreading and storage, low - emission animal housing systems and measures connected to the use of mineral fertilizers, including their restriction.

According to Integrated Pollution Prevention and Control Directive (IPPC, 96/61/EC) all existing installations for the intensive rearing of poultry or pigs with more than: 40,000 places for poultry, 2,000 places for production pigs (> 30 Kg) or 750 places for sows, have to apply by October 2007 all the appropriate preventive measures against pollution and in particular through application of the Best Available Techniques (BATs). The application by October 2007 of the Best Available Techniques in existing IPPC pig and poultry farms will significantly minimize ammonia and methane emissions to the atmosphere of Cyprus.

The measures proposed for the agricultural policy among others promote forestation, biological cultivations, and changes in land use. This shall be accomplished by:

- professional training of the farmers;
- consultation services for the farmers: especially where technical support is required, consulting can prove vital for guiding the farmers to the right decisions;
- modernisation of the methods utilised by farmers, especially for environmental upgrade;
- financial support for waste management from agricultural activities: especially for farming, where large amounts of gasses are emitted from the improper management of wastes;
- creation and modernisation of agricultural production units, through which funding promotes the investment in new equipment and know-how; thus increasing the efficiency of the process, reducing the greenhouse gases emissions;

Part of biomass exploitation in the energy sector, is the promotion of methane recovery from the wastes produced from intensive animal breeding. Through the guidelines prepared for the farmers, the environment service promotes anaerobic digestion and therefore methane production, collection and use. This will not only reduce the methane emissions to the atmosphere, but will exploit the methane released by the animal wastes through anaerobic digestion. Methane will be recovered and used onsite for energy production.

Waste

A Waste Management Strategy was adopted by the Council of Ministers in April 2004. The strategy covers all waste streams and the requisite environmental infrastructure; the tendering of a major initiative to establish packaging waste management; appropriate pricing; and awareness-raising to reduce waste production. The implementation of the Waste Management Strategy is to be completed by 2009. Concerning the Urban Wastewater Treatment, Cyprus was granted a transitional period, until 2012, to meet all requirements of the Directive 91/271/EEC, on Urban Wastewater, i.e. to serve all communities with a population of more than 2000 inhabitants, with sewerage networks and sewage treatment.

The main measures introduced concerning the elimination of greenhouse gas emissions from the waste sector are:

- Recycling. Recycling of paper and reuse of the materials collected in the printing industry.
- Methane recovery. Collection of methane generated from managed disposal sites and conversion into CO₂ through combustion in flares. The penetration rate is 25% of methane generated from these sites in 2010 and 50% in 2020.

Education

The effective implementation of the national plan for the reduction of greenhouse gases emissions requires activities in the area of education, training and public awareness.

Flexible mechanisms of the Kyoto Protocol

As a non Annex I country, Cyprus does not have any Assigned Amount Units under the Kyoto Protocol regime. Should this situation remain unchanged, Cyprus will not be in a position to trade during the period 2008-2012. Cyprus (and Malta) has made a request to the European Commission to address this situation, and at the time of writing it is understood that steps are being taken by the EC to resolve it. This is all the more important for Cyprus in that the EU legislation covering emissions trading (ETD) and the use of project based Kyoto mechanisms ('Linking' Directive 2004/101/EC) have been transposed into national law, and that operators therefore have a statutory right to trading and to using the project based mechanisms to fulfill their obligations set by the National Allocations Plan.

As a non Annex I country, Cyprus can host projects under the Clean Development Mechanism (CDM). Two such project (for installing wind energy) are in the pipeline and will soon be put to the UNFCCC's CDM Board for formal approval.

The CDM projects described above are to be registered in future as Certified Emission Reductions and the Commission Decision C(2006)5362 of 13th November 2006 on the avoidance of double counting and Linking Directive 2004/101/EC will be applied.

For the purposes of the CDM projects, allowances have been placed to appropriate set-asides according to the requirements of the Commission Decision 2006/780/EC, and are presented in Tables 6 and 7.

Moreover, the total amount of emission reduction units and certified emission reduction units from the Kyoto Protocol flexible mechanisms that can be used by operators in the scheme for the period 2008 - 2012 shall not exceed 10% of the allocation to each installation. This limit is to apply on an aggregated basis to both emission reduction units and certified emission reduction units.

<p>1.5 <i>How has the national energy policy been taken into account when establishing the total quantity of allowances to be allocated? How is it ensured that the total quantity of allowances intended to be allocated is consistent with a path towards achieving or overachieving the Member State's target under Decision 2002/358/EC or under the Kyoto Protocol (as applicable)?</i></p>
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The relevant strategy document ("Towards a White Paper for RES and RUE Strategy and Action Plan for the Republic of Cyprus") has been taken into account as far as practicable in preparing the NAP. This document and more recent policy statements set out targets for the contribution of renewable energy to energy demand, and also identify measures that are being taken to promote the rational use of energy (energy efficiency). However, there remains a great deal of uncertainty about the timing and magnitude of the contribution that these measures will have to the reduction in the demand for electricity generated using fossil fuels.

Cyprus is not an Annex I country, and it does not yet have targets under Decision 2002/358/EC or under the Kyoto Protocol. For this second trading period, the quantities of allowances to be allocated have again been determined using a 'business as usual' scenario (see 1.2).

<p>1.6 <i>How is it ensured that the total quantity of allowances to be allocated is not more than is likely to be needed for the strict application of the criteria of Annex III? How is consistency with the assessment of actual and projected emissions pursuant to Decision 280/2004/EC (which has repealed Decision 93/389/EEC) ensured?</i></p>
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The total quantity of allowances to be allocated to all existing installations for this trading period are based on reasonable projections of CO₂ emissions arising from net electricity demand (Energy Sector) and product demand (Cement and Ceramics

Sectors) during this period (see 1.2). An assumption that the overall efficiency of the installations will continue to improve through the trading period is implicit in the ‘business as usual’ scenario.

1.7 Please explain how the potential, including the technological potential, of activities to reduce emissions was taken into account in determining the total quantity of allowances.

The potential, including the technical potential, to reduce emissions has been partially taken into account in determining the total quantity of allowances for this second trading period. Although Cyprus has at present no obligation to reduce its emissions, the allowances for the energy sector are based not simply on a ‘business as usual’ scenario but rather on net electricity demand after allowing for the impact of energy efficiency and renewable energy initiatives (section 1.2). While these do not yet reflect the full technical potential of these measures, at least a start has been made in decoupling CO₂ emissions from economic growth, as illustrated in Figure 7. Furthermore, the approach used also incorporates an assumption that improvements in the overall efficiency of power generation will continue to be achieved through the period covered by the NAP - partly but not exclusively through the increased use of the more efficient combined cycle gas turbine (CCGT) units.

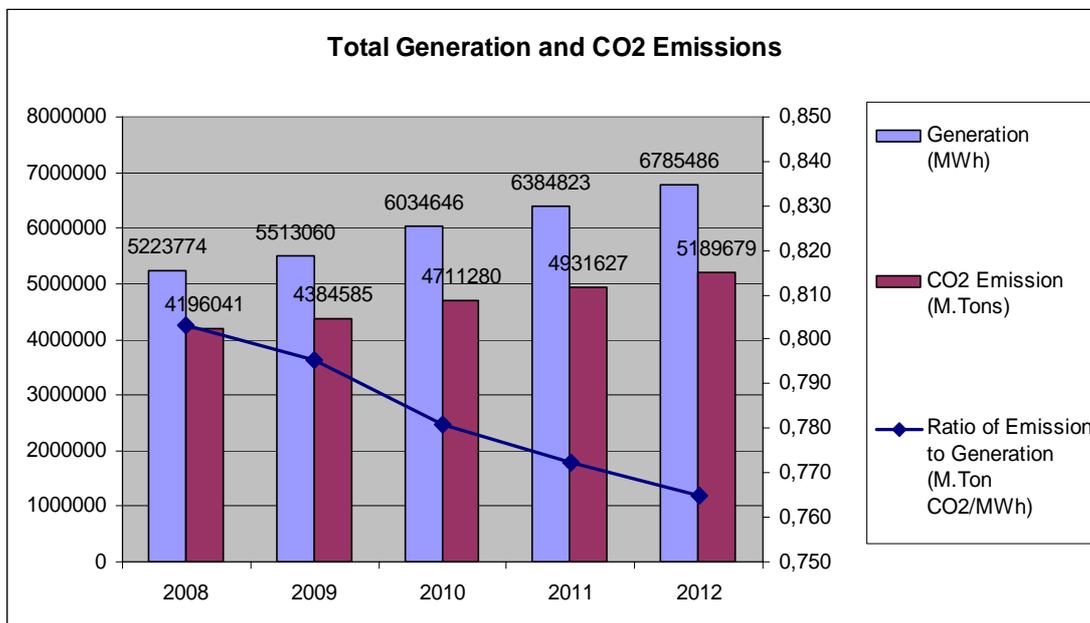


Figure 7: Total electricity generation and CO₂ emission

In both the industrial sectors covered by the ETS (Cement and Ceramics) increased demand is expected to lead to increased emissions over the trading period. In the cement sector, this is exacerbated by the prospect of exports (mainly to countries outside the EU). The need to meet this increased demand is implicit in the ‘business as usual’ scenario, but it is clearly important to minimize emissions through the use

of technologies that will cut specific emissions (emissions of CO₂ per tonne of product) even though in absolute terms total emissions will inevitably increase.

The specific emissions from the two cement installations are illustrated in the following figures (Figures 8 and 9).

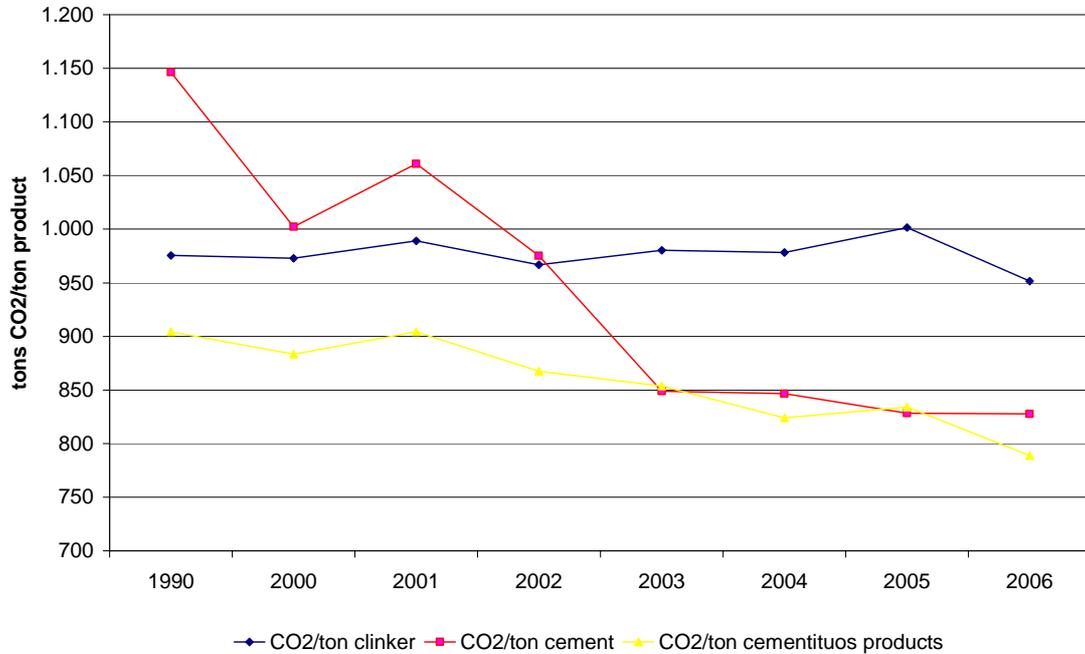


Figure 8: Specific CO₂ emissions for Vassiliko Cement Works

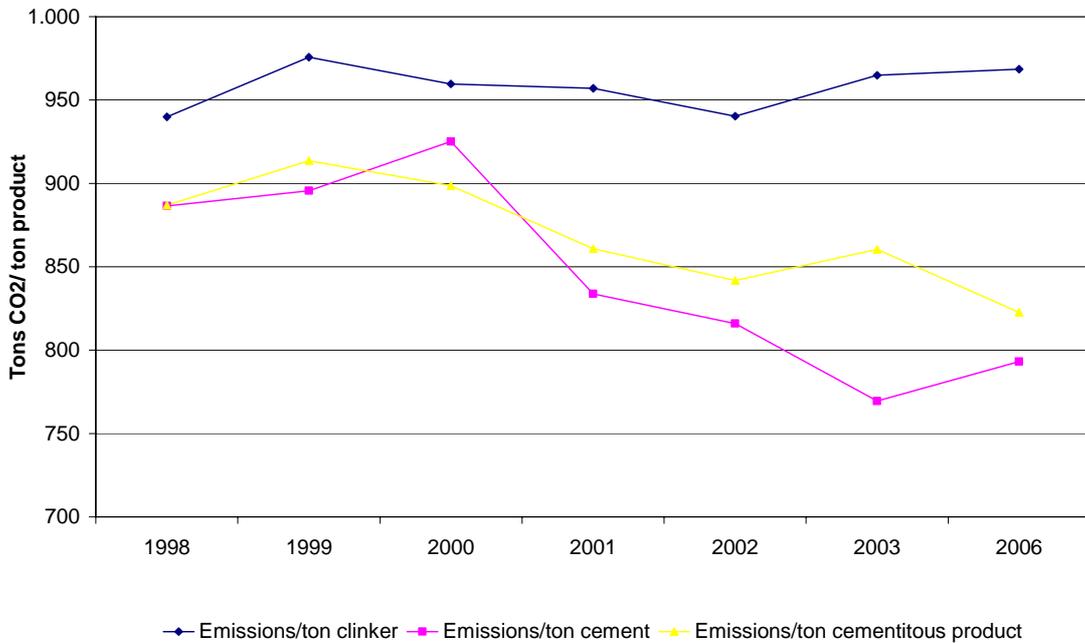


Figure 9: Specific CO₂ emissions for Cyprus Cement Company

It should be noted that the ceramics sector units have invested approximately 6,850,000 million CYP during the last four years in order to achieve optimum production levels, thus managing to decrease specific emissions and at the same time increasing their production. The new technologies that have been installed to the eight units fall under the requirements of the IPPC Directive (96/61/EC) and can be characterized as Best Available Techniques (Integrated Pollution Prevention and Control, Draft Reference Document on Best Available Techniques in the Ceramic Manufacturing Industry, Final Draft Document, September 2006). Namely, some of the new techniques that have been installed are as follows:

- Installation of fully automatic oil fired kilns.
- Installation of fully automatic dryers.
- Substitution of heavy fuel oil with low sulphur content oil.
- Recovery of excess heat from the kilns and use for drying processes.
- Calibration of major machinery every two years.
- Use of energy saving devices such as inverters.
- Minimization of the distance between the tunnel kiln and the dryer in order to prevent heat losses, hence excess fuel demand.

The above mentioned techniques have improved the specific emissions level to a percentage of approximately 14%, as it is presented in Table 11 and Figure 10.

Table 11: Specific Emissions for the years 2004 and 2005

Reference	Installation Name	Specific Emissions (tCO ₂ /t of product)	
		2004	2005
ET 06/1	United Brickworks Ltd	0.24	0.20
ET 07/1	Chrysafis Ceramics Ltd	0.30	0.25
ET 08/1	Kakogiannis Ceramics Ltd	0.28	0.24
ET 09/1	Melios & Pafitis Enterprises Ltd	0.32	0.27
ET 10/1	Ledra Ceramics Ltd	0.31	0.28
ET 11/1	Palaikythro Ceramics (KAPA) Ltd	0.33	0.24
ET 12/1	Palaikythro Ceramics GIGAS Ltd	0.28	0.25
ET 13/1	Palaikythro Tiles GIGAS Ltd	0.32	0.30
Mean average		0.299	0.251

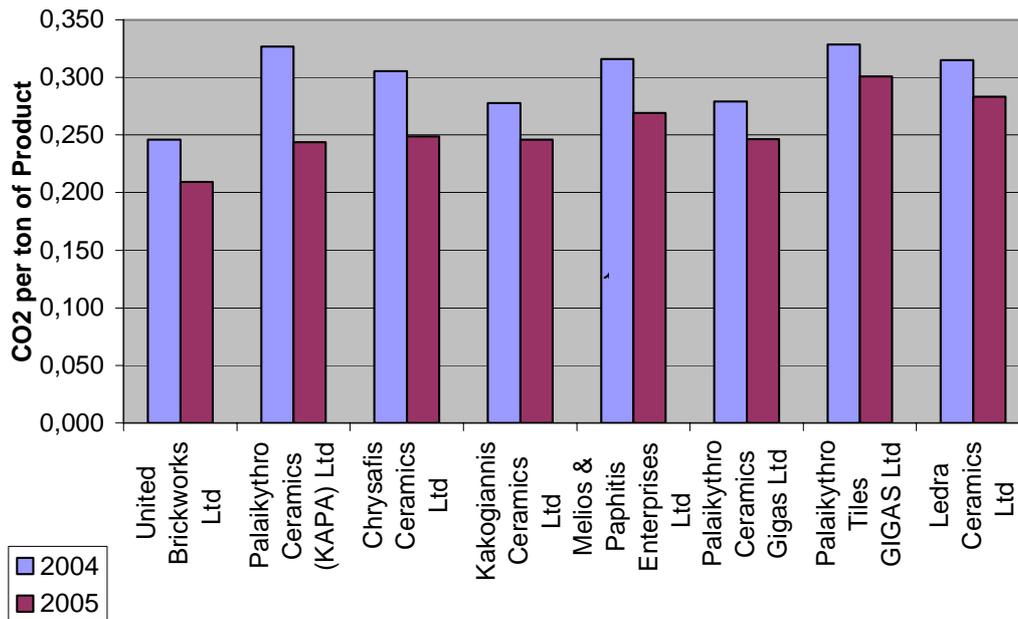


Figure 10: Specific Emissions for the years 2004 and 2005 for the Ceramics Installations

1.8 Please list in Section 5.3 below the Community legislative and policy instruments that were considered in determining the total quantity of allowances and state which ones have been taken into account and how.

All the installations covered by the ETD also fall under the *Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC)*, and the *Large Combustion Plants Directive (2001/80/EC)* also applies to some installations. These Directives impose strict emission standards, particularly in relation to particulates, sulphur dioxide (SO₂) and nitrogen oxide (NO_x) emissions. The Directive on *National Emission Ceilings for Certain Atmospheric Pollutants (2001/81/EC)* may also have an impact on some of these the installations, since it sets overall ceilings on these emissions at national level.

In the energy sector, the potential problem areas are SO₂ and NO_x emissions. Constraints on SO₂ emissions are already being addressed (where this is an issue) by using fuels with a lower sulphur content (typically 1% for HFO and 0,2% for LFO). This is also an issue for the (new) unit 3 at Vassilikos, which has not yet been accepted from the contractors because it does not perform to specification in terms of certain emissions. NO_x emissions are somewhat higher than the (new) emission limit values for several units, and investment may be needed to achieve the limits consistently.

In the cement sector the main issues are particulates and NO_x emissions, since any SO₂ that is created in the combustion process is absorbed in the kiln. New filters and

better management practices have consistently reduced particulate emissions. Emissions of NO_x depend strongly on the nature of the fuels used. Both plants are installing (or expecting to install) continuous monitoring systems: this is mandatory under the Waste Incineration Directive, since both plants use some wastes as fuels.

Particulates (PM₁₀), NO_x and SO₂ are also the most relevant emissions in the ceramics sector. Constraints on SO₂ emissions are already being addressed by using fuels with lower sulphur content (2%). Also, the Competent Authorities set limits on particulates emissions, therefore the companies are in the process of installing filters for decreasing dust levels within the facilities

The *Directive on the Promotion of Renewable Energy (2001/77/EC)* is also relevant here. Cyprus's indicative target under this Directive is to generate 6% of its electricity from renewable energy sources by 2010. Although the targets under this directive are not mandatory, they are incorporated in Cyprus' energy policy and a number of measures and incentives are in place to promote investment in renewable energy technologies including wind power, biomass and solar photovoltaic. These measures are already generating substantial interest, and it is clear that the contribution of renewables is expected to continue to increase both through this second trading period and beyond it.

The *Directive on Energy End-Use Efficiency and Energy Services (2006/32/EC)* provides a framework for the implementation of energy saving measures. This is a particularly significant issue in Cyprus, where electricity accounts for the major part of energy consumption in houses and in non-domestic buildings.

1.9	<i>If the Member State intends to auction allowances, please state the percentage of the total quantity of allowances that will be auctioned, and how the auction will be implemented.</i>
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The allowances to all existing installations will be provided free of charge. The allowances in reserve for new entrants will also be provided free of charge, but only if individual new entrants have installations ready to operate within the trading period.

The Republic of Cyprus intends to auction surplus allowances remaining in the NER and from closures. The auctioning procedure will be determined by the Competent Authority before the end of 2007.

2. DETERMINATION OF THE QUANTITY OF ALLOWANCES AT ACTIVITY LEVEL

2.1 *By what methodology has the allocation been determined at activity level? Has the same methodology been used for all activities? If not, explain why a differentiation depending on activity was considered necessary, how the differentiation was done, in detail, and why this is considered not to unduly favour certain undertakings or activities within the Member State.*

This National Allocation Plan only covers the energy sector and two industrial sectors (cement and ceramics). The methodology used to identify the allocation has already been described (1.2).

Different reference periods were used to reflect the availability of consistent and credible data sets for each of the three sectors. For the electricity sector, reliable data was available from the (independent) TSO for the period from 1995. In the cement sector, consistent data from one of the companies (Cyprus Cement Company) was only available from 1998 at the time that the NAP was prepared. For the ceramics sector, a consultant has prepared a detailed site-by-site analysis but only for the period from 2001.

Furthermore, verified emissions data for 2005 were taken into account in two ways. Firstly, projections of 'demand' were based on actual historic data that include the verified data from 2005. Secondly, the verified data for fuel consumption and CO₂ emissions were incorporated in historic data for the carbon intensity of the operation, in terms of CO₂ emissions per unit of output. Both sets of historic data were then used to project (a) future demand and (b) future intensity, in order to arrive at projections of CO₂ emissions that provide a valid basis for defining allocations for individual installations.

For example, projections of electricity demand are based on a correlation (regression analysis) using actual data for the period 1995 to 2005. This equation links demand to GDP and time, and projects demand at 4.389 GWh for 2005 compared to an actual demand of 4.348 GWh based on the verified data for that year.

Comparison data are provided in Table 12. These data are provided on a like-for-like basis (i.e. they do not include the New Entrants' Reserve).

Table 12: Comparison of Average & Actual Allocations

<i>Sector</i>	<i>Average Allocation for 1st Trading Period (te CO₂ p.a.)</i>	<i>Actual Verified Emissions for 2005 (te CO₂ p.a.)</i>	<i>Average Allocation for 2nd Trading Period (te CO₂ p.a.)</i>
Electricity Sector	3.913.381	3.471.844	4.094.959
Cement Sector	1.560.000	1.481.320	1.566.099
Ceramics Sector	187.694	125.715	273.717
Total	5.661.075	5.078.879	5.934.775
Change from 1 st TP	n/a	-10,3%	4,8%
Change from 2005	n/a	n/a	16,8%

In the electricity sector, the average allocation for the 2nd Trading Period is greater than the verified emissions for 2005, reflecting projected increases in electricity demand as a function of time and GDP and which are comparable with those projected by the Transmission System Operator (TSO). Over the period from 2005 to 2010 (for example), electricity demand is projected to increase from 4.348 GWh to 6.034 GWh (i.e. by 38,8%).

In the cement sector, both plants are already operating at close to maximum capacity and only limited potential for improving carbon intensity remains. This is reflected in the fact that the average allowances for the first and second trading period are virtually identical. However, the figures for 2005 are anomalous because the Cyprus Cement plant at Moni was shut down for a period as a result of technical problems. As a result, production of clinker in 2005 at Moni in 2005 was 333.964 tonnes, while clinker consumption was 390.864 tonnes (the difference being accounted for by stock changes and bought in clinker). If all the clinker used had been produced on site, emissions of CO₂ from Moni would have increased from 335.599 tonnes to 392.857 tonnes and total emissions for sector from 1.481.320 tonnes to 1.538.517 tonnes. This is only 1,4% less than the sector allowance of 1,560,000 allocated for 2005.

In the ceramics sector, total production increased from 470.379 tonnes in 2004 to 493.153 tonnes in 2005 (up 4,8%). Over the same period emissions of CO₂ fell from 136.669 tonnes to 125.715 tonnes (verified), so carbon intensity (tonnes CO₂ per tonne of output) improved from 0,291 to 0,255 (i.e. by 12,3%). In practice there were production shortfalls due to additional down-time (in addition to normal maintenance and repair periods) at two plants (out of eight), without which production would have been 521.992 tonnes and CO₂ emissions would have been around 133.067 tonnes. Increases during the second trading period are based on sector growth in Cyprus (linked to GDP for the construction sector) and estimates of likely levels of exports (averaging 11,3%).

The possibility of activities in other sectors falling within the scope of the ETS at some point in the future rests solely with new entrants. This possibility has been foreseen through the provision of a significant reserve allocation. Each case would be

judged on its merits, based on the application of BAT and best practice in relation to energy efficiency. It would also take into account both the fuel used and the hours of operation.

The independence of the data used needs to be considered separately for each of the three sectors. The NAP was drafted by our own (independent) consultants, who used verified and/or independent data as far as possible and practicable. The scope of the exercise did not permit the more detailed *ex post* evaluation of historic data or the *ex ante* evaluation of projections such as those relating to future exports.

In the Electricity Sector historic demand data were provided by the (independent) TSO rather than the Electricity Authority itself, and therefore are independent. As noted above, projections of future electricity demand were based on a correlation based on GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. In addition, comparable independent forecasts for electricity demand were provided by the TSO. The only significant input provided by the Electricity Authority of Cyprus was the strategy for meeting future demand: this strategy could only be validated in general terms, but the estimates of the quantitative implications of the strategy in terms of the balance of demand (and thus CO₂ emissions) between the different units was made by our own consultant. There is a significant improvement in carbon intensity in this sector over the trading period.

In the Cement Sector, projections of demand were based on Construction Sector GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. Although output data for the period 1998 to 2004 are not strictly independent, they were used in the preparation of the NAP for the 1st Trading Period and are broadly consistent with the verified data for 2005. They were produced using the same methodology as the (verified) figures for 2005, and were audited by the companies' own auditors. The anomaly is the Cyprus Cement Company's output for 2005, which was clearly lower than expected as a result of unexpectedly high levels of down time: these problems have now been resolved, and they expect to compensate by producing higher than expected outputs of clinker in 2006. As already noted growth in demand in 2006 will be around 3% and this is expected to continue at least through 2007 (the NAP assumes growth in demand of 1.4%). Assumptions in this sector are not critical for the allocation to the existing installations because (a) they will progressively fail to meet projected demand even if they can operate at full capacity and (b) carbon intensity (tonnes of CO₂ per tonne of clinker) has been relatively stable in recent years. In practice, our consultant used the average carbon intensity over the reference period rather than projections based on correlations because the latter would have provided an increasing (i.e. worsening) trend.

In the Ceramics Sector, projections of demand were based on Construction Sector GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. Output data for the period 2001 to 2004 were provided by the sector's consultant and reviewed by our own consultant. They were broadly consistent with the verified data for 2005. Again, average figures for each site over the reference period were used for carbon intensity (tonnes of CO₂ per tonne of product) with separate figures for process emissions and combustion emissions.

2.2 *If the potential, including the technological potential, of activities to reduce emissions was taken into account at this level, please state so here and give details in Section 4.1 below.*

In Cyprus the potential to reduce emissions was limited for the 1st trading period. However, for this 2nd trading period a number of measures intended to reduce emissions have been taken into account. These include:

- Energy efficiency programmes that should reduce electricity demand
- Renewable energy programmes that should further reduce the amount of electricity that needs to be supplied from installations falling under the ETS
- Measures taken by the individual operators to reduce the specific emissions (tonnes of CO₂ per unit of output) of each installation.

2.3 *If Community legislative and policy instruments have been considered in determining separate quantities per activity, please list the instruments considered in Section 5.3 and state which ones have been taken into account and how.*

The impact of Community legislative and policy instruments has already been outlined (1.8 above). Direct account has been taken of the targets set in the Renewables Directive (2001/77/EC) and the Energy End-Use Directive (2006/32/EC).

2.4 *If the existence of competition from countries or entities outside the Union has been taken into account, please explain how.*

Competition from countries or entities outside the European Union is only an issue for Cyprus in three respects:

1. Competition in the market for cement, where Cyprus is increasing production in the hope that it will be able to compete in export markets.
2. Competition in the newly-liberalised energy market, where it may be that companies from outside the EU may want to participate as New Entrants.

3. Competition in the market of bricks and tiles, where various products such as the Ytong bricks are imported from countries outside the EU (Israel), which seem to be increasing their sales in the local market.
4. Potential New Entrants from outside the EU, through inwards investment in new facilities that may fall within the scope of the ETS.

The first of these is reflected directly in the NAP, while the second and third would draw on the New Entrants' Reserve.

3. DETERMINATION OF THE QUANTITY OF ALLOWANCES AT INSTALLATION LEVEL

3.1 *By what methodology has the allocation been determined at installation level? Has the same methodology been used for all installations? If not, please explain why a differentiation between installations belonging to the same activity was considered necessary, how the differentiation by installation was done, in detail, and why this is considered not to unduly favour certain undertakings within the Member State.*

In each sector covered by the NAP, the allocation between installations has been decided by applying a 'business as usual' scenario at installation level, and then using those figures to determine the total allocation for Cyprus. This 'bottom up' approach takes into account the different characteristics of the different installations, including their historic performance (output and efficiency), as well as the likely changes in demand/output over the trading period.

Different reference periods were used to reflect the availability of consistent and credible data sets for each of the three sectors. For the electricity sector, reliable data was available from the (independent) TSO for the period from 1995. In the cement sector, consistent data from one of the companies (Cyprus Cement Company) was only available from 1998 at the time that the NAP was prepared. For the ceramics sector, a consultant has prepared a detailed site-by-site analysis for the period from 2001.

It should be recognized that, in the energy sector, the allowances between the three installations operated by EAC will be managed as a *de facto* EAC 'pool'. Thus allowances will inevitably be transferred between the three installations in response to operational constraints.

3.2 *If historical emissions data were used, please state whether they have been determined in accordance with the Commission's monitoring and reporting guidelines pursuant to Article 14 of the Directive or any other set of established guidelines, and/or whether they have been subject to independent verification.*

The emissions data used have been obtained from the operators of the individual installations. The data for 2005 have all been independently verified, and in no case was there a major discrepancy between the reported and verified data.

Projections as to future demand for electricity, cement or ceramics have been based primarily on correlations linked to (national or sectoral) GDP. This provides the most appropriate basis for estimating future demand over the trading period 2008 to 2012.

The independence of the data used needs to be considered separately for each of the three sectors. The NAP was drafted by our own (independent) consultants, who used verified and/or independent data as far as possible and practicable. The scope of the exercise did not permit the more detailed ex post evaluation of historic data or the ex ante evaluation of projections such as those relating to future exports.

In the Electricity Sector historic demand data were provided by the (independent) TSO rather than the Electricity Authority itself, and therefore are independent. As noted above, projections of future electricity demand were based on a correlation based on GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. In addition, comparable independent forecasts for electricity demand were provided by the TSO. The only significant input provided by the Electricity Authority of Cyprus was the strategy for meeting future demand: this strategy could only be validated in general terms, but the estimates of the quantitative implications of the strategy in terms of the balance of demand (and thus CO₂ emissions) between the different units was made by our own consultant. There is a significant improvement in carbon intensity in this sector over the trading period.

In the Cement Sector, projections of demand were based on Construction Sector GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. Although output data for the period 1998 to 2004 are not strictly independent, they were used in the preparation of the NAP for the 1st Trading Period and are broadly consistent with the verified data for 2005. They were produced using the same methodology as the (verified) figures for 2005, and were audited by the companies' own auditors. The anomaly is the Cyprus Cement Company's output for 2005, which was clearly lower than expected as a result of unexpectedly high levels of down time: these problems have now been resolved, and they expect to compensate by producing higher than expected outputs of clinker in 2006. As already noted growth in demand in 2006 will be around 3% and this is expected to continue at least through 2007 (the NAP assumes growth in demand of 1.4%). Assumptions in this sector are not critical for the allocation to the existing installations because (a) they will progressively fail to meet projected demand even if they can operate at full capacity and (b) carbon intensity (tonnes of CO₂ per tonne of clinker) has been relatively stable in recent years. In practice, our consultant used the average carbon intensity over the reference period rather than projections based on correlations because the latter would have provided an increasing (i.e. worsening) trend.

In the Ceramics Sector, projections of demand were based on Construction Sector GDP projections (to 2010) provided by the Ministry of Finance and extrapolated beyond that period by our own consultants. Output data for the period 2001 to 2004

were provided by the sector's consultant and reviewed by our own consultant. They were broadly consistent with the verified data for 2005, although (as noted in (3)f) some corrections to output levels were accepted. Again, average figures for each site over the reference period were used for carbon intensity (tonnes of CO₂ per tonne of product) with separate figures for process emissions and combustion emissions.

Output (Production) projections were based on site-by-site correlations of output against sector GDP. Corrections to actual output data were made to reflect unusually high levels of down-time at two of the eight sites. These were verified by reference to detailed site level data that was reviewed by our own (independent) consultant, not all of the proposed changes being accepted. The increases accepted totalled 105,697 tonnes (5.5%) over the 5-year reference period.

The high level of growth reflected not only the increase in demand for bricks and tiles in this very active sector, but also changes in the nature of the product. Demand is usually expressed as the number of units required/produced, but CO₂ emissions reflect not the number of units but their total weight (tonnes). However the weight per unit has also increased, primarily because of new energy efficiency standards for building that require thicker (and therefore heavier) bricks to be produced. Some of the corrections referred to in the preceding paragraph reflected this change, in the sense that earlier 'standards' in terms of the average weight of a brick could no longer be applied.

Estimates of increased output to provide capacity for export were made by the sector. It is likely that there will be some exports, particularly of "premium" products, but the quantitative estimates provided could not practically be verified at this stage, as the sector representatives are in direct contact with foreign Authorities for this matter.

3.3	<i>If early action or clean technology were taken into account at this level, please state so here and give details in Sections 4.2 and/or 4.3 below.</i>
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No account has been taken of 'early action' and 'clean technology' in the determination of allowances for this trading period.

3.4	<i>If the Member State intends to include unilaterally installations carrying out activities listed in Annex I below the capacity limits referred to in that Annex, please explain why, and address, in particular, the effects on the internal market, potential distortions of competition and the environmental integrity of the scheme.</i>
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Cyprus does not intend at this stage to include any installations carrying out activities referred to in the first section of Annex I but which are below the capacity limits set out in the Annex.

3.5 *If the Member State intends temporarily to exclude certain installations from the scheme until 31 December 2007 at the latest, please explain in detail how the requirements set out in Article 27(2)(a)-(c) of Directive 2003/87/EC are fulfilled.*

Cyprus does not intend to exclude any installation specified in Annex I from the emissions trading scheme.

4. TECHNICAL ASPECTS

4.1. Potential, including technological potential

4.1.1 *Has criterion (3) been used to determine only the total quantity of allowances, or also the distribution of allowances between activities covered by the scheme?*

The allowances have been determined using a 'business as usual' scenario, reflecting Cyprus' position as a non-Annex I country. This scenario takes some account of the technical potential to improve the efficiency of operation of the installations based on the existing plant and planned investment programmes. In the case of one cement installation, this includes conversion from the semi-dry process to the dry process (which is BAT for the sector). More generally, the plants that fall under the IPPC and LCP directives will need to achieve BAT by the appropriate deadlines for the sector in question (e.g. on or before 1st January 2008 for the power plants).

4.1.2 *Please describe the methodology (including major assumptions made) and any sources used to assess the potential of activities to reduce emissions. What are the results obtained? How is it ensured that the total quantity of allowances allocated is consistent with the potential?*

In general, the approach used assumes that the historic rate of improvement (in the efficiency of the installation in question) will be maintained up to and through this trading period (see 1.2).

Estimates have also been made of the impact of specific energy efficiency and renewable energy programmes on the net demand for electricity (to be provided by EAC and/or its competitors). These projections are based on individual targets and timescales, which although formally indicative, are believed to be realistic. However, it is clear that the ultimate (technical) potential in both areas is much greater.

4.1.3 *Please explain the method or formula (e) used to determine the quantity of allowances to allocate at the total level and/or activity level taking the potential of activities to reduce emissions into account.*

The relevant formulae are set out in 1.2 above.

4.1.4 *If benchmarking was used as a basis for determining the intended allocation to individual installations, please explain the type of benchmark used, and the formula(e) used to arrive at the intended allocation in relation to the benchmark. What benchmark was chosen, and why is it considered to be the best estimate to incorporate achievable progress? Why is the output forecast used considered to be the most likely development? Please substantiate the answers.*

No benchmarking was used in determining the allowances to be allocated. These were determined on the basis of reasonable projections of electrical power requirements and of the demand for cement and ceramics in the period from 2008 to 2012.

4.2. Early action (if applicable)

4.2.1 *If early action has been taken into account in the allocation to individual installations, please describe in which manner it is accommodated. Please list and explain in some detail the measures that were accepted as early action and what the criteria for accepting them were. Please demonstrate that the investments/actions to be accommodated led to a reduction of covered emissions beyond what followed from any Community or national legislation in force at the time the action was taken.*

No early action has been taken into account in preparing this NAP.

4.2.2 *If benchmarks are used, please describe on what basis the grouping of installations to which the benchmarks are applied was made and why the respective benchmarks were chosen. Please also indicate the output values applied and justify why they are considered appropriate.*

No benchmarks have been used in the preparation of the NAP.

4.3. Clean technology

4.3.1 *How has clean technology, including energy efficient technologies, been taken into account in the allocation process?*

Clean technologies *per se* have not been taken into account in the allocation process. However, all the installations will need to comply with BAT under the IPPC Directive and/or the Large Combustion Plants Directive.

It should be noted that the ceramics sector installations have already installed various clean technology equipments in order to increase their energy efficiency, and also minimize the levels of emitted carbon dioxide. The new technologies that have been installed to the eight units fall under the requirements of the IPPC Directive (96/61/EC) and can be characterized as Best Available Techniques (Integrated Pollution Prevention and Control, Draft Reference Document on Best Available Techniques in the Ceramic Manufacturing Industry, Final Draft Document, September 2006). Namely, some of the new techniques that have been installed are as follows:

- Installation of fully automatic oil fired kilns.
- Installation of fully automatic dryers.

- Substitution of heavy fuel oil with low sulfur content oil.
- Recovery of excess heat from the kilns ad use for drying processes.
- Calibration of major machinery every two years.
- Use of energy saving devices such as inverters.
- Minimization of the distance between the tunnel kiln and the dryer in order to prevent heat losses, hence excess fuel demand.

4.3.2 *If at all, which clean technology has been taken into account, and on what basis does it qualify as such? Have any energy production technologies intended to be taken into account been in receipt of approved State aid for environmental protection in any Member State? Please state whether any other industrial technologies intended to be taken into account constitute "best available techniques" as defined in Council Directive 96/61/EC, and explain in what way it is particularly performing in limiting emissions of covered greenhouse gases.*

Not applicable in this case (see 4.3.1 above).

5. COMMUNITY LEGISLATION AND POLICY

5.1. Competition policy (Articles 81-82 and 87-88 of the Treaty)

5.1 *If the competent authority has received an application from operators wishing to form a pool and if it is intended to allow it, please attach a copy of that application to the National Allocation Plan. What percentage of the total allocation will the pool represent? What percentage of the relevant sector's allocation will the pool represent?*

The competent authority has not received any application from operators wishing to form a pool. It should be recognized that, in the energy sector, the allowances between the three installations operated by EAC will be managed as a *de facto* EAC 'pool'. Thus allowances will inevitably be transferred between the three installations in response to operational constraints.

The Cyprus government decided not to allow the 'banking' of allowances at the end of the first trading period in December 2007. Banking at the end of the second (and subsequent) trading periods must be allowed (Article 13(3) of directive 2003/87/EC).

5.2. Internal market policy - new entrants (Article 43 of the Treaty)

5.2.1 *How will new entrants be able to begin participating in the EU emissions trading scheme?*

New Entrants' Reserve (NER)

Definition of New Entrant

Following the Emissions Trading Directive 2003/87, the installations defined as new entrants are:

- (1) Every *existing installation according to the relevant legislation and the specific requirements set for each activity*, which according to its activity and capacity should have obtained a greenhouse gas emissions permit according to Annex I of the Directive, but was not identified, which consequently meant that it was not included in the list of installations of the NAP-II as notified to the European Commission.
- (2) Every *new installation* (where "new" is the installation whose permit is dated later than the date that the NAP-II was notified to the EC) whose activity falls under Annex I of the Directive 2003/87.
- (3) Every *existing installation*, which at the time the NAP-II was notified to the EC was not covered under the field of application of the Directive 2003/87 according

to Annex I, but changed legally the nature of its activity in such manner that is thereafter covered under the provisions of the Directive 2003/87 according to Annex I.

- (4) Every *existing installation*, which at the time the NAP-II was notified to the EC was not covered under the provisions of the Directive 2003/87 according to Annex I, but expanded legally the nature of its activity in such manner that its total production activity (or nominal thermal power in cases where the installation includes combustion activity) is thereafter covered under the provisions of Directive 2003/87, according to Annex I.
- (5) Every *existing installation* which is covered in the provisions of Directive 2003/87 according to Annex I, included in the NAP-II notified to the EC, and expanded legally the nature of its activity (by new unit(s)) in such manner that its total production activity (or nominal thermal power in cases where the installation includes combustion activity) exceeds the respective capacity by more than 10%.
- (6) Every *new electricity production installation and/or unit* used as non-permanent installation and/ or unit to cover peaks in electric energy demands.

Moreover, for an installation and/or unit to be included in the regulatory framework for the new entrants, it should receive from the Competent Authority relevant permit or update of its existing permit for greenhouse gas emissions (for cases 1-4 and 5-6 respectively).

It should be clarified that in case (5), i.e. expansion of existing installation by new unit(s), the emissions' permit is renewed for the whole installation (existing installation and expansion-new unit(s)-), while for the emissions' permit as new entry only the expansion (new unit(s)) is considered.

Eligibility for allowances and calculating the allocation

The allocation to a new entrant will be determined on receipt of an application for a relevant permit (which may be in advance of commencing operation) and allowances will be issued shortly after the issuance of the permit and of the first emissions. A new entrant will receive a pro-rata allocation of allowances from the NER for the calendar year in which operations commence, and a full annual allocation for subsequent years.

The analytical methodology for the allocation of the emissions allowances for any new entrant will be determined in detail by the Competent Authority before the end of 2007.

Furthermore, the following rules are applied regarding closures and transfers of allowances in the installations.

Closure

An installation is considered to have closed when the Directive Annex I activity at the installation has ceased operating; or the capacity of the Directive Annex I activity at the installation has dropped below the thresholds contained in Directive Annex I.

An installation that is closing is required to notify the relevant Competent Authority in order to surrender its permit.

An operator must also notify the Competent Authority if an installation temporarily ceases a Directive Annex I activity and this temporary closure is intended to be, or becomes, 50 days or longer.

Installations that close in accordance with the above paragraphs will retain allowances for the year in which closure occurs but the allowances will not be issued to such installations for the years after closure. Allowances will not be issued in respect of an installation which has closed in the previous calendar year and, as a consequence, the permit has been (or should have been) revoked or surrendered.

The registry administrator is obliged to issue a proportion of allowances to installations by 28 February each year. At the time it does so, it may not always be apparent which installations have closed in the previous year. In order to address this, the registry administrator may delay the issuing of allowances to a particular installation until it is clear that it did not close in the previous year

Where a closure has taken place, this will be reflected by making a correction to the Cyprus' National Allocation Plan table to reflect the fact that no allowances shall be issued to the installation in the years after that in which it closed.

What is a closed installation?

An installation is considered as being closed for the purposes of Directive 2003/87/EC establishing a scheme for greenhouse gas emissions allowance trading within the Community when:

- the Annex I activity at the installation for which a greenhouse gas emission permit has been issued has ceased operation; or
- the capacity of the Annex I activity at the installation for which a greenhouse gas emission permit has been issued has dropped to a level below the thresholds contained in Annex I of the Directive.

The operator shall notify the competent authority that the Annex I activity at the installation has ceased operation and the greenhouse gas emissions permit is surrendered.

An operator of an installation in which more than one Annex I activity takes place and where one or more of these activities, but not all activities, cease to operate, shall notify the competent authority and the greenhouse gas emissions permit shall be amended to reflect the cessation of operation of the Annex I activities.

The competent authority may also at any time revoke a greenhouse gas emissions permit, in whole or in part, by serving a notice on the operator, in the case that the operator is not abiding by the conditions set out in the permit.

Full closure

There is full closure when an installation carrying out an Annex I activity or more than one Annex I activities permanently ceases operation of all Annex I activities and the greenhouse gas emission permit for all Annex I activities is surrendered.

An operator of an installation that permanently ceases to carry out all Annex I activities shall retain the allowances issued for the year during which cessation occurs, but no further allowances will be issued to the operator for subsequent years of the trading period during which cessation of operation has occurred.

Allowances that are not issued to an operator because of full cessation of operations at an installation will be added to the new entrant reserve for that particular trading period.

Partial closure

An installation that carried out more than one Annex I activity may permanently cease operation of one or more of the activities, but not all activities. In such a case, the operator of the installation shall retain the allowances issued for the year during which partial cessation occurs. In the years following the partial cessation, the issue of allowances to the operator will be reduced as appropriate to reflect the true scope of the Annex I activities being carried out at the installation.

Allowances that are not issued to an operator because of partial cessation will be added to the new entrant reserve for that particular trading period.

Temporary closure

An installation may temporarily cease to carry out an Annex I activity, and re-start operation of that Annex I activity after some time. Such a situation may be considered as a temporary closure. It is the right of the competent authority to decide whether a closure may be deemed temporary (therefore the greenhouse gas emissions permit is not surrendered or revoked for the period when the activity is not carried out) or permanent (therefore the greenhouse gas emission permit is surrendered).

In the case of a temporary closure, the operator shall retain the allowances issued for that installation for the year during which the temporary closure takes place, however no further allowances will be issued for years during which the installation does not carry out the Annex I activity. When operation of the Annex I activity resumes at the installation, allowances are issued for the years of the trading period during which the Annex I activity will be carried out. However, for the first year of recommencement of operation of the activity, the issue of allowances will be reduced as appropriate to reflect the time for which the activity takes place.

Allowances that are not issued to an operator because of temporary closure will be added to the new entrant reserve for that particular period.

Transfer of allowances to a new installation

The transfer of allowances from an existing installation that closes to a new installation (a new installation also includes an extension of another existing installation that would fall within the scope of the definition for new entrant) may be possible only in the case that the two installations carry out the same Annex I activity and are operated by the same operator.

It is the right of the competent authority to decide what constitutes a transfer of allowances between installations.

If the capacity of the new installation is greater than the capacity of the closing installation, an additional allocation of allowances from the new entrant reserve will be added to the allowances transferred to the new installation. The allocation of allowances from the new entrant reserve will be made according to the rules that govern the allocation of allowances for new entrants.

If the capacity of the new installation is lower than the capacity of the closing installation the part of the allowances of the old installation that is transferred to the new installation is calculated according to the rules for the calculation of allowances for new entrants.

After the permanent closure of the old installation, no more allowances will be issued to it. Allowances will be issued to the new installation as soon as it starts operation. The quantity of allowances to be transferred from the old installation to the new installation will be reduced proportionally to reflect the time between the closure of the old installation and the start of operations in the new installation, during which no operation of the Annex I activity has taken place.

5.2.2 *In the case that there will be a reserve for new entrants, how has the total quantity of allowances to set aside been determined and on what basis will the quantity of allowances be determined for each new entrant? How does the formula to be applied to new entrants compare to the formula applied to incumbents of the relevant activity? Please also explain what will happen to any allowances remaining in the reserve at the end of the trading period. What will apply in case the demand for allowances from the reserve exceeds the available quantity of allowances?*

Setup and Size of New Entrants' Reserve

The New Entrants' Reserve is separated into two sections; the energy section (Section A) and the others section (Section B). According to the activity of the new entrant, this shall be allocated to one of the two sections; i.e. allowances for any new electricity production installation and/ or unit shall be allocated from the energy section of the New Entrants' Reserve, while any allowances for any other activity apart from electricity production will be allocated from the others section.

The size of the New Entrants' Reserve has been defined by taking into account known and potential developments in a number of different areas, as follows:

- Developments by the energy company EAC beyond those that are identified above (additional CCGT capacity to meet growing demand, by the new units 4 and 5);
- Developments by actual and potential competitors to EAC in the Cyprus electricity market;
- Developments in industrial sectors, including (but not restricted to) those that are already covered by the NAP (cement and ceramics).

The first potential 'new entrant' would be EAC investing in new units. It is clear that such changes would reduce CO₂ emissions compared to the current situation.

A number of new entrants in the energy sector have already been identified by CERA (Cyprus Energy Regulatory Authority), which processes (and publicises) applications for licenses. In addition to the EAC power plants, licenses have already been issued to Vassilikos Cement Works (existing generator, already included in the NAP), Hellenic Copper Mines (7 MW self-generation unit: not covered by ETD) and

Vouros Power Industries (49,9 MW power plant at Larnaca Free Industrial Zone). There are also applications under consideration for a number of further conventional generation plants, of which the only one (outside EAC) that is relevant in the ETD context is a proposal from Golar Ltd for a 240 MW floating CCGT unit operating on natural gas.

Five potential developments in other sectors apart from energy will, if and when they go ahead, produce emissions falling within the scope of the ETS. These are:

- The new kiln (unit) at Vasilikos Cement Company, which is expected to be operational from 2010 with an additional annual capacity of 0,4 million tonnes of clinker and to produce additional 200.000 tonnes per annum of CO₂ at full capacity.
- The new kiln (unit) at Cyprus Cement Company, which is expected to be operational from 2011 with an annual additional capacity of 675.000 tonnes of clinker and to produce additional 505.000 tonnes per annum of CO₂.
- Three new installations in the ceramics sector that are expected to increase emissions starting from 2008 for Gigas Bricks Ltd and mid-2009 for Palekythro Ceramics (KAPA) Ltd and Melios & Paphitis Enterprises Ltd. The three new installations in the ceramics sector are expected to increase emissions by the total of 385.199 tonnes CO₂ for the period 2008-2012.

According to the information and data collected during the preparation of NAP-II, the total size of the new entrants reserve for the period 2008-2012 is estimated to be **4.784.357 t CO₂**, corresponding to 13,44% of the total emissions allowance. The reserve is separated into two sections: (a) the energy section corresponding to **2.789.158 t CO₂** and (b) the other section to **1.995.199 t CO₂**.

The total quantity of allowances in NER separated in each section, as well as an indicative allocation to the future new entrants is defined in Table 13. It should be clarified that, the contributions of individual installations to the reserve are intended simply as a means of calculating the total size of the reserve. There will be *no prior allocation* of the reserve to individual sector, while the total NER allocation being available to each or any sector.

Table 13: Total quantity of allowances in NER separated in each section; an indicative allocation to the future new entrants

		2008	2009	2010	2011	2012	Total	Section Total
ENERGY	EAC(4&5)	0	124.823	386.463	548.416	729.456	1.789.158	
	Other	100.000	150.000	200.000	250.000	300.000	1.000.000	2.789.158
OTHER	VCW	0	0	200.000	200.000	200.000	600.000	
	CCC	0	0	0	505.000	505.000	1.010.000	
	GIGAS	30.000	55.000	55.000	55.000	55.000	250.000	
	KAPA	0	26.278	26.278	26.278	26.278	105.112	
	Melios & Pafitis	0	11.795	9.037	6.144	3.111	30.087	1.995.199
	TOTAL	130.000	367.896	876.778	1.590.838	1.818.845	4.784.357	

New Entrants' Reserve; General Comments

The following rules shall be implemented:

- All allocations will be provided free of charge.
- The new entrants reserve is distinguished into two sections, the energy section (A) and the others section (B) whose total allowances is presented above (Table 12).
- According to the activity of the new entrant, this shall be allocated to one of the two sections; i.e. allowances for any new electricity production installation and/or unit shall be allocated from the energy section of the New Entrants' Reserve, while any allowances for any other activity apart from electricity production will be allocated from the others section.
- Any unused allowances in the new entrants reserve at the end of a particular year of the trading period are transferred to the new entrants' reserve of the next year and/or are put into auction.

The analytical methodology for the allocation of the emissions allowances for any new entrant will be determined in detail by the Competent Authority before the end of 2007.

Allocation process

The Role of the Competent Authority

The Competent Authority for the EU ETS in Cyprus is the Ministry of Agriculture, Natural Resources and Environment. The Competent Authority is responsible for issuing and varying permits in respect of the installations covered by the EU ETS and for processing all new entrant and closure applications.

The operator of an installation requesting free allowances from the NER, or carrying out a closure, needs to apply to the Competent Authority. The Competent Authority will decide whether the application should receive free allowances from the NER and what the size of this allocation should be. The rules setting out the allocation methodology from the NER will be prepared by the Competent Authority.

The Competent Authority will reject any application for allocations from the NER which it considers to be speculative, unrealistic or false. The purpose of this approach is to ensure that the allowances from the NER are not committed to developments that are unlikely to take place within the time frame of NAP-II (2008-2012).

Disposal of surplus allowances

Three types of surplus allowances may arise in the NER:

- allowances which have not been issued due to application of the closure rules;
- allowances that have not been allocated from the NER; and
- allowances which have not been materialised due to RES and are presented in the set-asides Annex I and II.

The Republic of Cyprus intends to have an auction of surplus allowances remaining in the NER and from closures.

5.2.3 Is information already available on the number of new entrants to expect (through applications for purchase of land, construction permits, other environmental permits etc.)? Have new or updated greenhouse gas emission permits been granted to operators whose installations are still under construction, but whose intention it is to start a relevant activity during the period 2005 to 2007?

No 'new entrant' is yet present in the process of establishing an installation, but applications for permits are in hand. The installations concerned are not expected to be operating before the start of the second Trading Period.

5.3. Other legislation or policy instruments

5.3.1 Please list other Community legislation or policy instruments that were considered in the establishment of the National Allocation Plan and explain how each one has influenced the intended allocation and for which activities.

As already noted (1.8), the IPPC Directive, the LCP Directive, the Emission Ceilings Directive, the Renewables Directive and the Energy End-Use Efficiency and Energy Services Directive have all been considered in preparing the NAP.

5.3.2 *Has any particular new Community legislation been considered to lead to an unavoidable decrease or increase in emissions? If yes, please explain why the change in emissions is considered to be unavoidable, and how this has been taken into account.*

No. As noted above, the impact of the IPPC and LCP directives is not expected to be large.

6. PUBLIC CONSULTATION

6.1 How is this national allocation plan made available to the public for comments?

The Draft National Allocation Plan was submitted to the European Commission on 31st July 2006. Consultation with stakeholders and the public took place during the following weeks. The NAP was then revised and formally approved by the Minister of Agriculture, Natural Resources and Environment, in order to submit the approved version to the EC by 30th September 2006. On the 16th of January 2007, Cyprus withdrew its NAP in order to be revised, taking into account new data. With this document Cyprus submits its revised final draft National Allocation Plan.

The Draft NAP was published on the Environment Service website in English and in Greek. A public consultation meeting was held after the completion of the first Draft. This meeting was publicized in the local press, as well as on the Environment Service website. Presentations were given on Climate Change, on the Emission Trading Scheme and on the National Allocation Plan itself. Comments were invited, both during the meeting and afterwards through the Environment Service website.

The present, Revised Final Draft National Allocation Plan has been prepared using as basis the first Final Draft submitted to the Commission on 30th September 2006, the answers given by the Ministry to the given questions (December 2006) and the new data available since January 2007.

The above public consultation procedure refers only to the preparation of the first, withdrawn, Draft National Allocation Plan.

Public consultation procedure is now in place to the present revised NAP and the comments that will be received shall be presented during the presentation of the NAP to the WG3 and CCC meetings.

The Revised Final Draft National Allocation Plan has already been uploaded to the website of the Environment Service (www.moa.gov.cy).

6.2 How does the Member State provide for due account to be taken of any comments received before a decision on the allocation of allowances is taken?

The National Allocation Plan was substantially revised following the public meeting and prior to formal submission to the European Commission.

6.3 *If any comments from the public received during the first round of consultation have had significant influence on the national allocation plan, the Member State should summarize those comments and explain how they have been taken into account.*

The following issues were raised during the first consultation meeting or in other ways, and the plan was amended where appropriate as indicated (Action Taken).

Commentator	Comment	Action Taken
Various commentators	Several attendees at the meeting asked for clarification on a number of procedural points.	These questions were addressed by Mr Mesimeris. None had implications for the content of the NAP.
Various commentators	It was important for the NAP to reflect Cyprus' commitment to renewable energy, which was now having some effect	It was agreed that this should be done in some way, even if the arrangements set out in the Draft NAP are not appropriate (see below).
Mr Economides (Ministry of Industry & Trade)	The government was particularly keen to promote wind energy, and there was already a lot of interest. However, no projects existed "on the ground" and it remained to be seen whether targets were realistic.	This further emphasized the need to include REAS in some way, but to reduce the level of risk (of failure to achieve targets) as far as practicable (see below)
Electricity Authority of Cyprus	EAC does not manage or control the government's RUE and RES programmes, and should not be penalized of those programmes which do not meet their stated targets.	It was subsequently agreed that corrections (reductions) for actual RUE and RES impacts would be made at the end of each year
Electricity Authority of Cyprus	Data used for the NAP assumes a fixed carbon content of 86% for all oils. A more detailed analysis for HFO is now available.	The revised HFO data were used in the final version of the NAP
Mr Nikolaides (Consultant)	The Draft NAP should a reduction for the ceramics sector compared to the first Trading Period. There was now evidence that production could be increased for exports (e.g. to Lebanon).	NAP adjusted to allow the sector limited capacity for export. Some errors in the source data were also corrected.
Mr Nikolaides (Consultant)	Some brick companies were planning new installations: could these be included.	These installations could draw on the New Entrants' Reserve, and would be included there if data was provided.
Mr Psaras (Cyprus Cement)	It was now permissible to reveal their proposed project within the NAP (it was confidential in the Draft NAP).	Both new kiln projects were now included in the New Entrants' Reserve as net figures (after allowing for closure of old kilns)

REVISED FINAL DRAFT

Vassilikos Cement Company	VSC should have an additional allowance for the additional CO2 that would be generated by its new cogeneration unit, which was much more efficient than the conventional generation (EAC) that it replaced.	Agreed. An additional allowance of 32.000 tonnes/year was added.
Mr Mesimeris (Environment Service)	Mr Mesimeris concluded the meeting by stating that comments needed to be received on Monday 26 th September at the latest.	

7. CRITERIA OTHER THAN THOSE IN ANNEX III TO THE DIRECTIVE

7.1 *Have any criteria other than those listed in Annex III to the Directive been applied for the establishment of the notified National Allocation Plan? If yes, please specify which ones and how they have been implemented. Please also justify why any such criteria are not considered to be discriminatory.*

No other criteria have been applied.

8. LIST OF INSTALLATIONS

N.B. Names in the Greek version of the NAP are definitive

N.B. Some References (ETnn) have been changed from first NAP

Table 14: Allowances for Second Trading Period in tonnes of CO₂

			2008	2009	2010	2011	2012	TOTAL
ET01	EAC> Vasilikos Power Plant	Vasiliko, PO Box 52924, 3722, Limassol	1.766.928	1.731.090	1.667.406	1.674.336	1.668.803	8.508.563
ET02	EAC> Moni Power Plant	Moni, PO Box 50471, 3605, Limassol	699.990	713.271	721.630	712.208	756.940	3.604.038
ET03	EAC> Dhekelia Power Plant	Dhekelia, PO Box 40113, 6301, Larnaka	1.645.202	1.640.017	1.653.105	1.700.769	1.723.100	8.362.193
ET04	Cyprus Cement Company Ltd	Moni, 3605, Limassol	359.675	359.675	359.675	359.675	359.675	1.798.375
ET05	Vasiliko Cement Company Ltd	Vasiliko, 3722, Limassol	1.206.424	1.206.424	1.206.424	1.206.424	1.206.424	6.032.122
ET06	United Brickworks Ltd	PO Box 24992, 1306, Nicosia	29.181	32.052	35.105	38.347	41.778	176.473
ET07	Chrysafis Bricks Ltd	Limassol Avenue, 6042, Larnaca	30.589	33.732	37.055	40.566	44.274	186.216
ET08	Kakogiannis Bricks Ltd	Nissou Industrial Area, PO Box 27365, 1644 Nicosia	31.077	34.393	37.908	41.633	45.575	190.586
ET09	Melios & Pafitis Enterprises Ltd	PO Box 27365, 2250, Latsia	31.800	34.428	37.186	40.079	43.122	186.605
ET10	Ledra Bricks Ltd	PO Box 23986, 1687, Nicosia	34.194	37.760	41.473	45.341	49.368	208.135
ET11	Palaikythro Ceramics (KAPA) Ltd	Geri Industrial Area, PO Box 12503, Nicosia	30.099	32.909	35.889	39.047	42.393	180.337
ET12	Palaikythro Ceramics GIGAS Ltd	Enomenon Ethnon 61, 2548 Dhali, Nicosia	28.123	30.256	32.465	34.755	37.127	162.727
ET13	Palaikythro Tiles GIGAS Ltd	Ermou 8, 2540 Dhali, Nicosia	13.454	14.424	15.447	16.525	17.660	77.509

9. NATIONAL ALLOCATION PLAN: TABLES

I. NAP summary table – target calculation
(Grey fields are filled out automatically)

Row	Data table no.		Emissions (Mt CO ₂ eq)
A		Target under Kyoto Protocol or Burden Sharing Agreement (avg. annual GHG emissions 2008-12)	n/a
B	III	Total GHG emissions 2003 (excluding LULUCF emissions and removals)	
C		Difference +/- (row A - row B) (negative means need to reduce)	#VALUE!
D	III	Av. annual projected total GHG emissions 2008-2012 ('with measures' projection)	12,5
E		Difference +/- (row A - row D) (negative means need to reduce)	#VALUE!
Reduction measures (where relevant)			
F	V	EU emissions trading scheme [1], [2]	6%
G	VI	Additional policies and measures (other than emissions trading), including LULUCF	
H	VII	Government purchase of Kyoto mechanisms	0,000
I		Total reduction measures (row F + row G + row H)	0,060

Note 1

[1] Please insert average annual contribution to reduction (in negative figure)

[2] Please insert the figure in Table V, Line L, Column iv minus the annual average emissions in 2008-2012 in the

Notes:

1. Cyprus, as a non-Annex I Party to the UNFCCC and Annex B Party to the Kyoto Protocol has no emission limitation obligations or reduction target under the Protocol or Decision 2002/358/EC.

2. Effect of contribution of demand reduction from renewables over business-as-usual have been applied by 6%.

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Ila		NAP Summary table – Basic data (Grey fields are filled out automatically)												
		1,000 CYP= 573 Euro												
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
A	Real GDP [1] (in billion Euros 2002)	Absolute	5,63	5,67	6,20	6,24	6,61	7,24	7,37	7,54	7,91	8,29	8,71	9,07
		Trend index 2003=100	59,62	60,03	65,67	66,13	70,03	76,67	78,05	79,84	83,81	87,84	92,27	96,06
B	Emissions [1] (Mt of CO2) [2]	Absolute	4,62	4,69	5,20	5,50	5,50	5,50	5,78	5,73	6,27	7,11	7,40	6,58
		Trend index 2003=100	60,39	61,31	67,97	71,90	71,90	71,90	75,56	74,90	81,96	92,94	96,73	86,07
C	Carbon intensity [1] (million tonnes CO2 / billion Euros)	Absolute	0,82	0,83	0,84	0,88	0,83	0,76	0,78	0,76	0,79	0,86	0,85	0,73
		Trend index 2003=100	101,29	102,13	103,51	108,72	102,66	93,77	96,81	93,81	97,79	105,81	104,84	89,59
Year														Annual average 2008-2012
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
A	Real GDP [1] (in billion Euros 2002)	Absolute	9,26	9,44	9,80	10,20	10,62	11,07	11,54	12,03	12,55	13,09	13,65	12,57
		Trend index 2003=100	98,09	100,00	103,80	108,03	112,51	117,26	122,22	127,44	132,92	138,64	144,60	133,17
B	Emissions [1] (Mt of CO2) [2]	Absolute	7,30	7,65	7,87	8,21	9,11	10,01	10,91	11,81	12,71	13,61	14,51	12,71
		Trend index 2003=100	95,42	100,00	102,88	107,32	119,08	130,85	142,61	154,38	166,14	177,91	189,67	166,14
C	Carbon intensity [1] (million tonnes CO2 / billion Euros)	Absolute	0,79	0,81	0,80	0,80	0,86	0,90	0,95	0,98	1,01	1,04	1,06	1,01
		Trend index 2003=100	97,28	100,00	99,11	99,35	105,84	111,59	116,69	121,13	124,99	128,32	131,17	124,46

[1] Indicate data source(s), separately per year where relevant.

[2] Please note that contrary to the explanation of Table Ila on page 34 of the English version of the NAP2 guidance communication, we are requesting here only CO2 and not total greenhouse gas emissions.

Notes

1. GDP data from Ministry of Finance (2006). Data 2010 to 2012 extrapolated from MoF data.
2. Emissions data from Inventory and Projection submitted under Report for Decision No. 280/2004/EC, in January 2007.

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lib.		NAP Summary table – Basic data on electricity sector [1] (Grey fields are filled out automatically)												
	Year	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average 2008-2012	
A	Total domestic electricity production (TWh)	3,37	4,16	4,44	4,73	4,66	4,95	5,25	5,56	6,08	6,42	6,78	6,02	Notes 1, 2
B	Total Imports (TWh)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	Note 1
	B/a Country 1													
	B/b Country n													
	B/c Other countries	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
C	Total Exports (TWh)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	Note 1
	C/a Country 1													
	C/b Country n													
	C/c Other countries	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
D	Electricity trade balance (TWh, total row B - total row C)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	Note 1
E	Share of gas in total domestic electricity production (%)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
F	Share of oil in total domestic electricity production (%)	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	Note 2
G	Share of coal in total domestic electricity production (%)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
H	Share of nuclear energy in total domestic electricity production (%)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
I	Share of renewable energy, including biomass, in total domestic electricity production (%) [2]	0,00	0,00	0,00	0,00	0,00	0,00	2,00	4,00	6,00	6,00	6,00	4,80	

[1] Indicate data source(s), separately per year where relevant.
 [2] The cell in row I for the year 2010 should also include (in footnote) the target pursuant to Directive 2001/77/EC.

Notes

1. Cyprus is an isolated system in terms of electricity supply and is not at present able to either import or export electricity.
2. All Cyprus' electricity is currently generated from oil, except for the very small contribution of renewables

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III NAP Summary table – Recent and projected greenhouse gas emissions per common reporting format sector (without taking into account additional policies and measures in Table VI) (Grey fields are filled out automatically)												
in Mt CO ₂ eq			Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Average annual projected emissions 2008-2012
Row ref.	CRF subsector		2003	2004	2005	2008	2009	2010	2011	2012		
A	1.A.1	Energy generation	GHG	7,34	7,61	8,08	8,67	9,10	9,67	9,90	10,17	9,50
B			CO ₂ in ETS	3,10	3,61	3,79	4,20	4,38	4,71	4,93	5,19	4,68
C	1.A.3	Transport	GHG	1,87	2,05	2,4	2,60	2,80	3,00	3,00	3,00	2,88
D	1.A.4.a + b + c	Commercial and institutional, Residential, and Agricultural energy use	GHG	n/a								
E			CO ₂ in ETS	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
F	2	Industrial processes	GHG	1,38	1,48	1,75	1,79	1,82	1,84	1,86	1,89	1,84
G			CO ₂ in ETS	1,38	1,48	1,55	1,79	1,82	1,84	1,86	1,89	1,84
I	4	Agriculture	GHG	0,72	0,67	0,65	0,65	0,65	0,65	0,65	0,65	0,65
J	5	Land-Use Change and Forestry	GHG	-0,12	-0,12	-0,12	-0,12	-0,12	-0,12	-0,12	-0,12	-0,12
K	6	Waste	GHG	0,61	0,63	0,65	0,67	0,67	0,67	0,67	0,67	0,67
L	1.A.2 + 1.A.4 + 1.A.5 + 1.B + 3 + 7	All other sectors	GHG	n/a								
M			CO ₂ in ETS	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
		Total (A+C+D+F+I+J+K+L)	GHG	9,93	10,27	11,01	11,66	12,12	12,71	12,96	13,26	12,54
N		Total in ETS (B + E + G + M)	CO ₂ in ETS	4,48	5,09	5,34	5,99	6,20	6,55	6,79	7,08	6,52
O												

Notes:

1. Emissions data from Inventory and Projection submitted under Report for Decision No. 280/2004/EC, in January 2007.

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IV NAP Summary table – Recent and projected CO₂ emissions in sectors covered by the EU emissions trading scheme

(Grey fields are filled out automatically)

	Emissions in Mt CO ₂ eq	i	ii	iii [3]	iv	v	vi	vii	viii	ix	x	xi
	Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average annual projected emissions 2008 – 2012 [1]
A	combustion installations total (excluding installations covered under rows B-J)	3,10	3,61	3,75	3,86	4,12	4,20	4,38	4,71	4,93	5,19	4,68
	Electricity Generation Sector	3,10	3,61	3,75	3,86	4,12	4,20	4,38	4,71	4,93	5,19	4,68
B	mineral oil refineries	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
C	coke ovens	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
D	metal ore roasting, sintering, pig	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
E	cement producing installations	1,40	1,48	1,48	1,56	1,56	1,57	1,57	1,57	1,57	1,57	1,57
F	lime producing installations	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
G	glass and glass fibre producing installations	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
H	ceramics producing installations	0,12	0,14	0,13	0,17	0,19	0,23	0,25	0,27	0,30	0,32	0,27
I	pulp, paper and board producing installations	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
J	Total (ΣRows A and B to I) [2]	4,61	5,23	5,36	5,59	5,87	5,99	6,20	6,55	6,79	7,08	6,52
K	Share of EU ETS CO₂ in total GHG emissions (%) (Row J / Row N in table III)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

[1] Numbers to be used in last two columns of Table V.

[2] Row J must be equal to 4,48 5,09 5,34 5,99 6,20 6,55 6,79 7,08 6,52
Row O in Table III:

[3] Please insert figures equal to the registry data on the surrendered amount of allowances (note that this is not the allocation data).

Notes:

1. Actual data for 2003 & 2004
2. Verified emissions data for 2005
3. NAP II projections for 2006-2012

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V NAP Summary table – Proposed allocation in relation to first period allocation (without additional policies and measures) in the sectors covered by the EU emissions trading scheme

(Grey fields are filled out automatically)

		i	ii	iii	iv	v
		2003 actual CO ₂ emissions (Mt CO ₂)	2004 actual CO ₂ emissions (Mt CO ₂)	Average annual allocation 2005 - 2007	Proposed average annual allocation in 2008-2012	Proposed ETS allocation as a percentage of first period ETS allocation
A	combustion installations total (excluding installations covered under rows B-J)	3,10		3,91	4,09	104,60
	Electricity Generation Sector	3,10	3,61	3,91	4,09	104,60
B	mineral oil refineries	0,00		n/a	n/a	#VALUE!
C	coke ovens	0,00		n/a	n/a	#VALUE!
D	metal ore roasting, sintering, pig iron and steel producing installations	0,00		n/a	n/a	#VALUE!
F	cement producing installations	1,40	1,48	1,56	1,57	100,38
G	lime producing installations	0,00		n/a	n/a	#VALUE!
H	glass and glass fibre producing installations	0,00		n/a	n/a	#VALUE!
I	ceramics producing installations	0,12	0,14	0,19	0,27	146,52
J	pulp, paper and board producing installations	0,00		n/a	n/a	#VALUE!
K	New entrants (total, without sectoral breakdown)	n.a.	n.a.	0,76	0,96	125,98
L	Total	4,61	1,62	5,66	5,93	104,83

[1] Please quantify in footnotes, for rows where relevant, how much is due to a change in scope from the first to the second phase

Notes:

1. Increases linked to expected increases in output, linked in turn to Cyprus GDP

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VI

NAP Summary table – Reductions expected by policies and measures other than the EU emissions trading scheme and which have not been taken into account for the "with measures" projection presented in Table III (Mt CO₂e)

	Measures	Commission	ii	iii	iv	v	vi	vii	viii	ix
		Under implementation [1]			Adopted [2]			Planned [3]		
		Expected average annual reduction (2008-12)		Full effects expected as from year	Expected average annual reduction (2008-12)		Full effects expected as from year	Expected average annual reduction (2008-12)		Full effects expected as from year
		In ETS sectors	In non-ETS sectors		In ETS sectors	In non-ETS sectors		In ETS sectors	In non-ETS sectors	
A	Renewable Energy Projects	4,8% (Note 1)								
B										
C										
D										
E										
F										
G										
H										
I										
...										
X	Subtotal	0,000	0,000		0,000	0,000		0,000	0,000	
	Total (equal to row G in Table I)					0,000				

[1] Implementation is ongoing, and the measure is not taken into account for the "with measures" projections presented in Table III. As regards the year, Member States should indicate the year where the full or a substantial part of the effects can be expected, not the first year of implementation.

[2] The measure has been adopted by the final instance at the relevant local, regional or national level, but it is not yet implemented.

[3] The measure is at least mentioned in a formal government document.

Note

1. The allocation to the power sector will be reduced during the trading period to take account reductions in demand resulting from renewable source.

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VII

NAP Summary table – Government's planned use of Kyoto units (Mt CO₂eq) and status of implementation

(Grey fields are filled out automatically)

		ERUs	CERs	AAUs and others	Total	
A	Planned purchase	Total 2008-2012	0	0	0	0,00
B		Annual average	0	0	0	0,00
C	Quantity of units already paid for		0	0	0	0,00
D	Quantity of units contracted, but yet unpaid (delivery pending start of UN ITL) [1]		0	0	0	0,00
E	Neither bought nor contracted by date of notification (A - C - D)		0	0	0	0,00
F	Full budget appropriated to first commitment period (2008-12)	Currently available for 2006 (M EUR)	0	0	0	0,00
G		Committed for the future (M EUR) [2]	0	0	0	0,00
H	Implied future price M EUR/Mt CO ₂ eq ((F+G)/E)					

[1] Units partially paid for should be proportionally distributed between lines C and D

[2] Row G should not include the sums intended to cover payments for units represented in row D

Note

1. Not at present applicable to Cyprus

VIII

NAP Summary table – Details on new entrants, closures and auctioning

Issues with respect to new entrants	Description of NAP provisions
Does the plan contain a new entrants' reserve?	Yes, the plan contains a new entrant reserve.
What is its size in absolute terms and as a percentage of the total quantity of allowances for the period?	The absolute size of the reserve over five years is of 4.784.357 tonnes CO ₂ . This represents 13,4 % of the total allocation.
What use is made of allowances left over in the reserve at the end of the trading period? (cancellation, sold)	Allowances left over in the reserve will be auctioned.
How will new entrants be treated in case the reserve runs out of allowances before the end of the trading period? (reserve replenished, further new entrants buy in the market)	If the reserve runs out before the end of the trading period, further new entrants would need to acquire allowances from the market.
Does the allocation to the new entrant depend on the actual choice of fuel?	Rules on allocation of allowances from new entrant reserve, will be determined by an analytical methodology that will be in place before the end of 2007.
Does the allocation to the new entrant depend on the actual choice of technology?	Rules on allocation of allowances from new entrant reserve, will be determined by an analytical methodology that will be in place before the end of 2007.
Does the allocation to the new entrant depend on the estimated or actual number of operating hours or does the allocation use a standard number of operating hours?	Rules on allocation of allowances from new entrant reserve, will be determined by an analytical methodology that will be in place before the end of 2007.
Auctioning	
Will any allowances be auctioned?	Yes.
What share of the total quantity of allowances will be auctioned?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
Who can participate in the auction?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
What auctioning method will be used?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
When/at what intervals will the auction(s) be held?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
What quantity of allowances will be auctioned each time?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
What use will be made of the revenues?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
Will the auctions be coordinated with any auctions in other Member States?	Rules on auctioning, will be determined by an analytical methodology that will be in place before the end of 2007.
Closures	
Do operators have to report to the competent authority when an installation closes, and on what conditions is an installation considered to be closed?	Yes.
Does the operator continue to be issued allowances for a closed installation in the remaining years of the trading period? If the reply depends on whether the operator sets up a new entrant installation replacing the closed installation, please briefly describe the provision.	Refer to section 5.2.1. for rules on closures.
What happens to any allowances that were intended for an installation, which will not receive them after closure? (cancellation, fed into a new entrants' reserve, auctioning)	Refer to section 5.2.1. for rules on closures.

IX

NAP Summary table – Further details on selected new entrants

	Vasiliko Cement Company (New Kiln)	Cyprus Cement Company (new kiln)
Maximum capacity of the actual installation	400 million tonnes clinker	675 million tonnes clinker
Fuel (s) used	Various solid & liquid fuels (as at present)	Various solid & liquid fuels (as at present)
Forecast number of operating hours/year in the period 2008 to 2012	Average 6.640 hours (total 33.200 hours over 4 years 2009-2012)	Average 4.980 hours (total 24.900 over 3 years 2010-2012)
Annual allowance allocation in 2008 to 2012	Average 200.000 tonnes CO2 from 2009	Average 505.000 tonnes CO2 from 2011

Notes:

1. Also (a) three known new entrants (new installations with existing operators) in ceramics (bricks) sector : total allowance 239.688 tonnes CO2 for the period 2008 to 2012, (b) five know new entrants in energy sector: total allowances 2.789.158 tonnes CO2 for the period 2008 to 2012. No more detailed information is yet available on the above new entrants.

X

NAP Summary table - Important assumptions on annual averages

prices in real 2005

Fav Coal

Year	EU Allowance price (in Euro)	Crude oil price (Brent) [\$/bbl]	Natural gas price	Coal price [Euros/tonne]	Exchange rate [CYP/Euro]	Other
2005	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2006	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2007	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2008	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2009	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2010	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2011	Note 1	Note 1	Note 1	Note 1	1,745	Note 1
2012	Note 1	Note 1	Note 1	Note 1	1,745	Note 1

[1] Use common market standard and specify, including the currency used; indicate in detail sources of data and methodologies

[2] For those Member States outside the Euro-zone

Notes:

1. At present the projections in Table X are of limited relevance to the situation in Cyprus. Unfortunately, these data are not available either from public or private sources within Cyprus. We would ask the Commission to consider the relevant data from a neighbouring Member State such as Greece. Alternatively, the Cyprus Energy Service will commission a study that will provide the relevant data in due course