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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 4.06.2007

COMMISSION DECISION

of 4 June 2007

concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Finland in accordance with Directive 2003/87/EC of the European Parliament and of the Council

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(Only the Finnish and Swedish texts are authentic)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to 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/EC¹, and in particular Article 9(3) thereof,

Whereas:

- (1) The national allocation plan of Finland for the period 2008-2012, developed under Article 9(1) of Directive 2003/87/EC (hereinafter "the Directive"), was notified to the Commission in its preliminary version by letter dated 24 October 2006, registered by the Commission on 26 October 2006, and in its final version by letter dated 9 March 2007, registered by the Commission on 12 March 2007. Finland submitted additional information on the notified plan by letter dated 25 January 2007, registered on 29 January 2007, in reply to questions from the Commission, and by communications dated 21 and 22 May 2007, registered on 25 May 2007.
- (2) The Climate Change Committee² considered the national allocation plan and called on the Commission to assess all national allocation plans on a consistent, coherent and robust basis. In this context, the Climate Change Committee underlined the importance of using the 2005 verified emissions figures as a significant element for the assessment of second period national allocation plans. The Climate Change Committee also, *inter alia*, noted with concern that the proposed cap exceeds 2005 verified emissions. The Committee called on the Commission to closely scrutinise the

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 L 275, 25.10.2003, p. 32, as amended by Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004, amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms, OJ L 338, 13.11.2004, p. 18.

² Decision 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, OJ L 49, 19.02.2004, p. 1, established under Article 9 thereof.

substantiation of measures to reduce greenhouse gases in the non-trading sectors and to closely examine available data on hydro power production in the Nordic power system and its influence on 2005 verified emissions. Further, the Committee called on the Commission to examine the substantiation of the expected increase in condensing power production and its consistency with expected developments in other Nordic countries. Moreover, the Climate Change Committee called on the Commission to closely examine Finland's ability to substantiate its intended use of the Kyoto mechanisms to reach its target under Decision 2002/358/EC and noted that the Commission should examine the admissibility under criterion 12 of Annex III to the Directive of the intended maximum amount of CERs and ERUs which may be used by operators as a percentage of the allocation of allowances to each installation. The views of the Climate Change Committee have been taken into account.

- (3) The Commission notes that Finland's annual Kyoto commitment for the period from 2008 to 2012 is 71.1 million tonnes CO₂ equivalent (hereinafter "million tonnes"), while the most recent available figure for its annual total greenhouse gas emissions is 81.4 million tonnes for the year 2004³. The remaining gap between these two annual figures to be bridged by Finland is therefore 10.3 million tonnes.
- (4) The national allocation plan, including the total annual average quantity of allowances of 39.6 million tonnes stated therein, has been evaluated against the criteria contained in Annex III to and Article 10 of the Directive, taking into account the Commission's guidance to Member States on the implementation of these criteria⁴. Certain aspects of the national allocation plan have been found incompatible with those criteria, and in particular with criteria 1, 2, 3, 10 and 12 in Annex III to the Directive.
- (5) The national allocation plan contravenes criteria 1, 2 and 3 of Annex III to the Directive because the total quantity of allowances intended to be allocated is more than would be consistent with assessments of actual and projected progress made pursuant to Decision 280/2004/EC and more than would be consistent with the potential, including the technological potential, of activities covered by the Community scheme to reduce emissions. Criteria 2 and 3 provide for a methodology using the most representative emissions figures, taking into account economic growth and carbon intensity improvements. Pursuant to criterion 1, 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 Annex III.

³ Commission Decision 2006/944/EC of 14 December 2006 determining the respective emission levels allocated to the Community and each of its Member States under the Kyoto Protocol pursuant to Council Decision 2002/358/EC, OJ L 358, 16.12.2006, p. 87; Progress Report COM(2006)658 final of 27 October 2006, Table 1 in the Annex SEC(2006) 1412 of 27 October 2006. The annual Kyoto commitment for the period from 2008 to 2012 expressed in absolute figures is obtained by dividing by a factor of five the definitive emission level allocated to Finland equivalent for the first quantified emission limitation and reduction commitment period under the Kyoto Protocol contained in the Annex to Commission Decision 2006/944/EC, which gives 71.1 million tonnes (=355.5/5). Annual total greenhouse gas emissions for the year 2004 are indicated in the third column of Table 1 in the Annex to the Progress Report SEC(2006) 1412 of 27 October 2006.

⁴ Commission Communication on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC (COM(2003)830 final) and Commission Communication on further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trading Scheme (COM(2005)703 final).

- (6) With respect to criterion 2, in the Commission's most recent assessment⁵ made pursuant to Decision 280/2004/EC, the actual greenhouse gas emissions of the sectors covered by the Community Scheme in Finland in 2005 are reported as being 33.1 million tonnes CO₂ equivalent (hereinafter "million tonnes")⁶. These emission figures are the most reliable and accurate emissions figures for the Commission to use as a starting point for the assessment under criteria 2 and 3 because they have been reported by individual installations in Finland falling under the Community scheme and have been independently verified pursuant to Article 15 of Directive 2003/87/EC. Emissions figures given by Finland in respect of earlier years have not been independently and consistently verified with a comparably high degree of accuracy and it is not clear that they correspond precisely to the scope of installations included by Finland in the Community scheme, and thus they are less reliable. Therefore, it cannot be excluded that emissions figures reported by Finland in respect of earlier years overstate actual emissions. A starting point, which would be calculated as the average of independently verified emissions figures from 2005 and other figures proposed by Finland, would be likely to overstate actual emissions and would not ensure that overall allocation would not be more than is needed. As a matter of fact, the Commission takes into account in its assessment that the expansion in the scope of activities covered by Directive 2003/87/EC from the first to the second phase as applied by Finland in line with the Commission's guidance⁷ may lead to an increase to the total quantity of allowances.
- (7) The Commission is aware of the opinion brought forward by some Member States, but not endorsed by the Climate Change Committee, in favour of averaging independently verified emissions figures with Member States' estimates of emissions over other years in order to smooth out singular events in one particular year. However, in each year there are several factors influencing aggregate emissions that generally balance each other out over one year in their effects on total annual emissions. The Commission has examined the availability and quality of other data concerning emissions and energy use prior to 2005.
- (8) The Commission has sufficient indications that exceptional circumstances⁸ existed in relation to unusually large net-imports of electricity and Finnish hydro power production in 2005, which had significant impacts on emissions from Finnish condensing power plants. Taking into account that Finnish hydro power production and imported power are important components of Finland's electricity consumption, the Commission has closely assessed the relationship between Finnish condensing power emissions on the one side and Finnish hydro power production and electricity import-export patterns on the other side. In years with large hydro power production Finland has significant net-imports from the Nordel integrated market, whereas Finland is a significant net-exporter to the same market in years with low hydro power production in this market. Increases in Finnish net-exports of power are mainly provided by an increase in Finnish condensing power production, whereas net-imports are linked to a decrease in the electricity production in Finnish condensing power

⁵ COM(2006)658 final of 27 October 2006 and Annex SEC(2006)1412 of 27 October 2006.

⁶ Chapter 3.3. of COM(2006)658 final of 27 October 2006 and Table 5 in the Annex SEC(2006)1412 of 27 October 2006. The exact figure is 33.099605 million tonnes as indicated in the Community Independent Transaction Log on 31 October 2006.

⁷ Point 36 of COM(2005)703 final, as clarified by the "co-ordinated definitions" of additional combustion installations contained in the minutes of the Climate Change Committee of 31 May 2006.

⁸ Chapter 2.1. of COM(2006)725 final of 29 November 2006.

plants. A regression analysis of the statistical relationship between these two factors - total hydro power production in the integrated Nordel electricity market and Finnish condensing power emissions in the period 1994-2005^{9 10} - indicates that an increase in hydro power production in the integrated Nordel electricity market by 1 TWh would normally lead to a decrease of Finnish condensing power emissions of 0.16 million tonnes^{11 12}. –The Nordel hydro power production based on average precipitation in 2005 was 197.8 TWh¹³, whereas the actual hydro power production was 222.2 TWh. Inserting the "normal" hydro power production in the regression formula provides "normal" Finnish condensing power emissions of 9.095524 million tonnes for 2005¹⁴. The actual emissions were 3.3 million tonnes – and the difference between "normal" and actual emissions is 5.795524 million tonnes. This constitutes a significant deviation from 2005 verified emissions in Finland, which the Commission deems to be due to exceptional circumstances. Consequently, 2005 verified emissions figures need to be adjusted by adding 5.795524 million tonnes to independently verified emissions.

- (9) The Commission underlines that this approach is also compatible with the Commission's guidance that allocations to individual installations should not be based on changes in the emissions of those installations within the first phase¹⁵. The determination of the total quantity of allowances, on the one hand, and the distribution of the total quantity to individual installations, on the other hand, are separate issues and subject to different considerations. Similarly, the Commission's guidance concerning the reward for early action relates to sector and installation level allocations, but not the total quantity of allowances, as is clear from the heading of the relevant chapter¹⁶.
- (10) With respect to criterion 3, the Commission notes that for a national allocation plan to be consistent with the potential, including the technological potential, of activities covered by the scheme to reduce emissions requires a rigorous assessment of total allocations in accordance in particular with projections of economic growth and improvements in carbon intensity¹⁷. The Commission has assessed the figures at its disposal, including those in the public domain, with a view to calculating Finland's projected emissions. In order to derive the total quantity of allowances that is consistent with the potential, including the technological potential, of activities covered by the Community scheme to reduce emissions, the 2005 aggregate independently verified emission figures of installations in the Community scheme

⁹ The Commission considers the period 1994 to 2005 as the most representative period in this regard, as both hydro power production capacity in the integrated Nordel electricity market and the Finnish condensing power production capacity was relatively stable over this period.

¹⁰ Hydro-production in the Nordel area, see Nordel Annual Statistics table S 11 at: <http://www.nordel.org/Content/Default.asp?PageID=157>. Finnish condensing power emissions: See Finnish Proposal for a National Allocation Plan, figure 2, page 17.

¹¹ The regression formula is $Y = 40.54643 - 0,158664X$, where $Y = \text{CO}_2$ emissions from Finnish condensing power stations, and $X = \text{hydro power production in the integrated Nordel electricity market}$.
¹² The correlation factor - R^2 – at 0.67 indicates a relatively strong statistical relationship between the two factors.

¹³ The Nordel organisation publishes each year a figure for "normal year hydro power production", see Nordel Annual Statistics table S 2 at: <http://www.nordel.org/Content/Default.asp?PageID=157>

¹⁴ "Normal" year emissions from Finnish condensing power plants 2005 = $40.87123 - 0.160643 \cdot 197.803 = 9.095524 \text{ Mt}$

¹⁵ Chapter 3.7, point 27 of COM(2005)703 final.

¹⁶ Chapter 3.7, point 28 of COM(2005)703 final.

¹⁷ See in particular point 11 of COM(2005) 703 final.

have been multiplied with two factors: firstly, the projected gross domestic product (thereafter "GDP") growth rate and, secondly, the rate for carbon intensity improvement, each in the period from those independently 2005 verified figures to 2010. The Commission considers 2010 to constitute a representative average of the relevant five-year period from 2008 to 2012 because 2010 is the year in the middle of this period and, in the Commission's view, it is appropriate from an *ex-ante*-perspective to assume a linear trend over this five-year period. The resulting figures are compared with Finland's proposed allocation so as to determine to what extent it is in line with criterion 3, taking into account the expansion in the scope of activities covered by Directive 2003/87/EC from the first to the second phase as applied by Finland in line with the Commission's further guidance¹⁸. Of all data at its disposal, including those in the public domain, the Commission considers the data indicated in the PRIMES model¹⁹ as the most accurate and reliable estimations of both GDP growth²⁰ and carbon intensity improvement rates. The PRIMES model has been used for analysis of energy and climate policy for a long time and the baseline assumptions²¹ are updated on a regular basis to reflect the most likely future trend. Furthermore, baseline assumptions are validated with the involvement of experts from Member States. The most recent baseline was published in 2006. There is no other data source at the disposal of the Commission, which offers a comparable degree of consistency and uniform accuracy across all Member States, thus ensuring equal treatment amongst Member States.

- (11) The PRIMES model has been concretely applied on the basis of a coherent set of assumptions and methodologies for the publication "*European Energy and Transport Trends*" of the Commission's Directorate-General for Transport and Energy²² and for

¹⁸ Point 36 of COM(2005) 703 final, as clarified by the "co-ordinated definitions" of additional combustion installations contained in the minutes of the Climate Change Committee of 31 May 2006.

¹⁹ PRIMES is a modelling system that simulates a market equilibrium solution for energy supply and demand in the EU Member States. The model determines the equilibrium by finding the prices of each energy form such that the quantity producers find best to supply match the quantity consumers wish to use. The equilibrium is static (within each time period) but repeated in a time-forward path, under dynamic relationships. The model is behavioural but also represents in an explicit and detailed way the available energy demand and supply technologies and pollution abatement technologies. The system reflects considerations about market economics, industry structure, energy/environmental policies and regulation. These are conceived so as to influence market behaviour of energy system agents. The modular structure of PRIMES reflects a distribution of decision making among agents that decide individually about their supply, demand, combined supply and demand, and prices. Then the market integrating part of PRIMES simulates market clearing. PRIMES is a general purpose model. It is conceived for forecasting, scenario construction and policy impact analysis. It covers a medium to long-term horizon. It is modular and allows either for a unified model use or for partial use of modules to support specific energy studies. More information can be found on the following website: <http://www.e3mlab.ntua.gr/>.

²⁰ The GDP growth assumptions are based on the Commission's Economic and Financial Affairs Directorate-General's forecasts of April 2005 for the short term (2004-2006) as well as the long term (2005-2030). More specifically, short terms forecasts are taken from European Commission Economic Forecasts, Spring 2005 (EUROPEAN ECONOMY. No. 2/ 2005. Office for Official Publications of the EC. ISBN92-894-8881-6), also published on the website: http://europa.eu.int/comm/economy_finance/publications/european_economy/2005/ee205en.pdf. Long-term forecasts are taken from European Commission, DG ECFIN "Long Run Labour Productivity and Potential Growth Rate Projections For the EU25 countries up to 2050 (information note for Members of the EPC's working group on ageing populations)", ECFIN/50485/04-EN.

²¹ Examples for baseline assumptions are future developments in population, fuel prices, etc.

²² European Energy and Transport, Trends to 2030 – update 2005, European Commission, Directorate-General for Energy and Transport, 2006, prepared by the Institute of Communication and Computer Systems of National Technical University of Athens (ICCS-NTUA), E3M-Lab, Greece, Authors: Dr. L.

the publication of its Environment Directorate-General containing the calculation of baseline scenarios for the revision of the National Emission Ceilings Directive²³. The figures for GDP and 2005 carbon intensity are identical in both publications, while for 2010 the figure for carbon intensity²⁴ differs²⁵. Where there is a low carbon constraint instead of an even less stringent one, carbon intensity will improve more over time due to the stronger incentive for operators to reduce emissions.

- (12) The introduction of the Community scheme in 2005 and the strong commitments by the EU and Member States to combat climate change provide a clear and sustained signal to installations covered by the Community scheme that there is an economic cost to emitting greenhouse gases, which will become even more important in the future. This reinforces long-term economic incentives to reduce emissions. As a consequence, carbon intensity will improve over time at least at a rate as indicated in the "low carbon constraint / no CCS"-case²⁶.
- (13) The Commission considers that this level of carbon intensity improvement does not appropriately reflect most likely future trends because it does not take account of all relevant factors, including recent developments. In addition to the economic incentives created by the Community scheme, operators will be likely to increasingly invest in energy efficient technologies in order to lower their fuel and electricity costs. Moreover, they will increasingly be encouraged by policies and measures of the EU and Member States as well as public opinion to accelerate efforts with regard to innovation in energy saving production methods and thus take effective action against climate change. At EU level, collective efforts to reduce dependency of energy imports as well as measures identified in the new Energy Efficiency Action Plan²⁷ with a view to realising the EU's energy saving potential, will further spur efforts to achieve better energy efficiencies, reducing in general also carbon intensity.
- (14) The Commission considers that the combined effect of reinforced energy efficiency measures identified in the Energy Efficiency Action Plan and the existence of a carbon

Mantzos and Prof. P. Capros, published on the Commission's website under the following hyperlink: http://ec.europa.eu/dgs/energy_transport/figures/trends_2030_update_2005/energy_transport_trends_2030_update_2005_en.pdf

²³ Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants. The baseline scenarios are published on the Commission's website under the following hyperlink: <http://ec.europa.eu/environment/air/baseline.htm>

²⁴ "Carbon intensity" can be defined in various ways and is for the purpose of this Decision understood as the relationship between CO₂ emissions and a unit of GDP (see below for precise definition).

²⁵ Due to the effect of the introduction of a low carbon constraint, the carbon intensity in 2010 is improved in the "low carbon constraint"-scenario in the publication containing the calculation of baseline scenarios for the revision of the National Emission Ceilings Directive, whereas the scenario established in the publication "European Energy and Transport Trends" is based on an even less stringent carbon constraint.

²⁶ Taking into account that carbon capture and sequestration ("CCS") is highly unlikely to already be available to a significant extent during the period 2008-12. The "low carbon constraint / no CCS"-scenario for the respective Member State is published on the Commission's website under the following hyperlink: <http://ec.europa.eu/environment/air/baseline.htm>. Both relevant figures are indicated for the respective Member State on the sheet "Summary Energy Balance and Indicators (B)" under "Main Energy System Indicators". Under this heading, the figures for "GDP (in 000 MEUR'00)" are indicated in the second row, and the figures for "CO₂ emissions to GDP (t of CO₂/MEUR'00)", which the Commission considers the adequate expression of carbon intensity for its assessment, are indicated in the second last row.

²⁷ Commission Communication on an Action Plan for Energy Efficiency: Realising the Potential (COM(2006)545 final).

constraint due to the Community scheme will lead to an annual improvement rate in carbon intensity for each Member State in excess of the rate reflected in the "low carbon constraint"-case. Consequently, the Commission considers it necessary to further improve the absolute value of carbon intensity arising from the "low carbon constraint"-case. While the "low carbon constraint" under the Community scheme leads at EU level to an average annual improvement rate in carbon intensity of 2.37%²⁸, the Commission considers that the magnitude and importance of additional measures identified in the new Energy Efficiency Action Plan justifies in principle assuming a similar quantitative effect for the latter. Recognising however the potential partial overlaps between both policy instruments and also that not all the measures identified in the Energy Efficiency Action Plan may be fully implemented by 2010, the Commission considers that the corresponding additional average annual rate for carbon intensity improvements should be adjusted downwards. More specifically, in order to exclude any potential overestimation of the total effects, the Commission takes a conservative estimate of an additional average annual rate of 0.5% for carbon intensity to improve further, which corresponds to a total additional carbon intensity improvement of 2.5%²⁹ over the entire period from 2005 to 2010 compared to the "low carbon constraint"-case. Therefore, in order to appropriately reflect reality, the Commission considers it necessary to base the assessment under criterion 3 in Annex III to the Directive on a rate of carbon intensity improvement exceeding the "low carbon constraint"-case by 2.5% during the five-year period from 2005 to 2010.

- (15) The Commission takes also note that whereas in the PRIMES 2005 baseline scenario, "low carbon constraint/no CCS" run (hereafter "2005 baseline run") it is assumed that a planned new nuclear power plant in Finland will be operating at full capacity already in 2010 the planned start of operation of a nuclear power plant will be delayed by a year. Therefore, the Commission has conducted an alternative PRIMES run on Finland in which the new nuclear plant is delayed (hereinafter "delayed nuclear run") to reflect the impact the delay has on the Finnish 2010 CO₂/GDP ratio. The two PRIMES runs for 2010 (the 2005 baseline run including the new power plant and the "delayed nuclear run" with the new power plant being delayed) have been used to estimate the change in carbon intensity resulting from the delay in operating the plant.
- (16) Consequently, the Commission used the PRIMES "2005 baseline run" scenario as the starting point and compared it to the "delayed nuclear run" scenario. In the latter the nuclear capacity is 1600 MWe and the nuclear electricity production is 11.188 TWh lower but other thermal electricity production is 5.992 TWh higher than in the baseline and the remaining shortfall is imported. Compared to the "2005 baseline run" scenario total CO₂ emissions are in the "delayed nuclear run" scenario 65.8 million tonnes or 4.4 million tonnes higher in 2010 than the 61.4 million tonnes in the baseline in 2010. It is necessary to divide these extra emissions by a factor of 5 in order to get a figure representing the average increase in CO₂ emissions resulting from a 12 month delay from domestic power production for the 2008-2012 period – which is equal to 0.88

²⁸ As indicated in the "low carbon constraint"-case for "EU25" in the baseline scenarios for the revision of the National Emission Ceilings Directive under <http://ec.europa.eu/environment/air/baseline.htm>, the absolute figure for the EU's absolute carbon intensity in 2005 is 391.0 tonnes per million Euro GDP (in year 2000 value). For 2010, the corresponding figure is 346.8 tonnes per million Euro GDP. Therefore, the total improvement in the period from 2005 to 2010 can be calculated as 346.8/391, which gives 0.887 or 11.3%. The EU's annual average carbon intensity improvement rate is calculated as (346.8/391)^{1/5}, which gives 0.9763 or 2.37%.

²⁹ 1.005^{1/5}=1.02525, which corresponds to 2.5% (after rounding).

million tonnes per year on average. To derive a revised figure for total average CO₂ emissions in the period 2008-12 these extra average annual emissions of 0.88 million tonnes are added to the total 2010 emissions stated in the "2005 base line run" of 61.4 million tonnes, which gives 62.28 million tonnes³⁰. On the basis of this revised figure for average CO₂ emissions the Commission calculated a revised 2010 carbon intensity by dividing total emissions with the 2010 GDP of 163.9 billion €³¹. Accordingly, the effect of a nuclear delay of one year results in a change of carbon intensity from 374.6 as stated in the "2005 base-line run" to 380.0 in the one-year nuclear delay scenario, the latter figure being used in the overall cap calculation for Finland.

- (17) In the light of the above, the following table indicates the data for the developments from 2005 to 2010 of both GDP and carbon intensity in Finland in absolute terms. The corresponding relative development factors and growth rates from 2005 to 2010 are also indicated:

Calculation element	2005	2010	Relative development factor 2005-2010	Growth rate 2005-2010
GDP ³²	147.40	170.5 ³³	1.156716 ³⁴	15.6716% ³⁵
Carbon intensity ³⁶ under the "low carbon constraint"-case	448.6	380.0 ³⁷		

³⁰ 61.4+0.88.

³¹ As taken from the PRIMES model.

³² This figure is expressed in thousand million Euro value year 2000.

³³ The Commission's Economic and Financial Affairs Directorate-General released in November 2006 its "Economic Forecasts Autumn 2006", published in EUROPEAN ECONOMY. No. 5/2006, Office for Official Publications of the EC, ISSN 0379-0991, and on the Commission's website under the following hyperlink: http://ec.europa.eu/economy_finance/publications/european_economy/2006/ee506en.pdf. The publication of the spring economic forecasts of its Economic and Financial Affairs Directorate-General on 7 May 2007 shall not affect the Commission's assessment. The time horizon provided by the Directive for the assessment of national allocation plans is the second half of 2006. The deadline for notifying the plans was 30 June 2006. The final deadline foreseen by the Directive for the total quantity to be fixed by a Member State was 31 December 2006. This deadline determines the end of the relevant time horizon for the use of economic growth projections. In addition, the EU ETS is a common system for all Member States. This creates a need to treat all Member States equally for the Commission's assessment of second phase national allocation plans in order to avoid undue distortions as much as possible. Equal treatment is in particular ensured by using the same time horizon for the establishment of GDP growth forecasts. Using this data for the few remaining decisions adopted after 7 May 2007 would create unequal treatment with respect to the majority of Member States already decided upon, which notified and/or completed their plans in better respect of the timelines provided by the Directive. Thus the Commission continues to make use of the GDP growth data released in November 2006.

In order to take into account the 2006 figures available to the Commission, the GDP figure for 2010 indicated in the above-mentioned publications "European Energy and Transport Trends" and the one for the calculation of baseline scenarios for the revision of the National Emission Ceilings Directive has been adapted as follows: In a first step, the average annual GDP development factor from 2005 to 2010 is calculated on the basis of the figures contained in the publication "European Energy and Transport Trends", i.e. $(163.9/147.4)^{(1/5)}$, which gives 1.021448. In a second step, this annual average development factor is replaced by the more recent development factors from the "Economic Forecasts Autumn 2006" for those years, for which they are available (see p. 102 therein), i.e. the years 2006 (factor of 1.049), 2007 (factor of 1.03) and 2008 (1.026). For the years 2009 and 2010, the average annual development factor as calculated in the first step is taken. In a third step, the overall development factor from 2005 to 2010 is calculated by multiplying the indicated annual development factors, i.e. $1.049*1.03*1.026*1.021448*1.021448$.

³⁴ 170.5/147.4.

³⁵ $((170.5/147.4)-1)\%$.

Carbon intensity with additional improvement of 2.5%		370.5 ³⁸	0.825903 ³⁹	-17.4097% ⁴⁰
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On the basis of this, the following table shows the calculation of the annual excess allocation for the period from 2008 to 2012, i.e. the difference between the annual average allocation proposed by Finland and the allocation resulting from the strict application of criteria 2 and 3. Concretely, the latter is calculated as the product of the total 2005 verified emissions figure and the relative development factors of GDP and carbon intensity from 2005 to 2010, as indicated in the above table. In addition, the resulting amount is increased to take into account the effect from the increase in scope from the first to the second trading phase in line with the Commission's guidance, while using the overall figure envisaged by Finland to be allocated to these additional installations concerned:

Calculation of the annual excess allocation for the period from 2008 to 2012 (all figures in million tonnes CO ₂ eq.)					
Adjusted 2005 verified emissions	2005 verified emissions multiplied by relative development factors 2005-2010 for GDP and carbon intensity	Effect from increase in scope from 1 st to 2 nd phase	Resulting allowed annual average total quantity from 2008-2012	Annual average allocation on basis of proposed national allocation plan	Annual average excess allocation
38.895129 ⁴¹	37.157891 ⁴²	0.4	37.557891 ⁴³	39.6	2.042109 ⁴⁴

Accordingly, given that in the years 2008 to 2012 proposed allocations exceed emissions taking into account GDP growth, carbon-intensity improvements and the effect from the increase in scope as indicated in the table, the Commission finds that the annual average excess allocation by Finland in the period 2008 to 2012 amounts to 2.042109 million tonnes, which contravenes criteria 1, 2 and 3.

- (18) Finland has proposed to include 0.4 million tonnes of allowances in the total quantity in respect of emissions of these additional combustion installations annually, which have not been included in the first period plan. Allocations to these installations need to take place in accordance with the general methodologies stated in the national allocation plan, and only take place to the extent that the emissions of these installations have been substantiated and verified.

³⁶ This figure is expressed in terms of CO₂ Emissions to GDP (tonne of CO₂/million Euro value year 2000).

³⁷ For the calculation method, see recitals 15 and 16.

³⁸ $380 \times (1 - 0.025)$.

³⁹ $380 \times (1 - 0.025) / 448.6$.

⁴⁰ $((380 \times (1 - 0.025) / 448.6) - 1)\%$. The negative figure indicates an improvement in carbon intensity, meaning that the amount of CO₂ emitted to produce one unit of GDP decreases over time.

⁴¹ $33.099605 + 5.795524 = 38.895129$.

⁴² $38.895129 \times 1.156716 \times 0.825903$.

⁴³ $(38.895129 \times 1.156716 \times 0.825903) + 0.4$.

⁴⁴ $39.6 - 37.557891$.

- (19) Pursuant to criterion 5 of Annex III to the Directive, the Commission has also examined compliance of the national allocation plan of Finland with the provisions of the Treaty, and in particular Articles 87 and 88 thereof. The Commission considers that the allocation of allowances free of charge to certain activities confers a selective economic advantage to undertakings which has the potential to distort competition and affect intra Community trade. The allocation of allowances for free appears to be imputable to the Member State and to entail the use of State resources to the extent that more than 90% of allowances are given for free. The aspects of imputability and State resources are further strengthened in the second trading period as the participation as of 2008 in international emissions trading and in the other flexible mechanisms, the Joint Implementation and the Clean Development Mechanism, enables the Member States to take further discretionary decisions influencing their budgets and the number of EU allowances granted to industry. In particular, as all allocations must as from the start of the second trading period be covered by Assigned Amount Units⁴⁵, which are tradable between contracting parties, any allocation directly reduces the quantity of Assigned Amount Units that the Member State can sell to other contracting parties or increases the need to buy such Assigned Amount Units. The Commission therefore at this stage considers that the plan could potentially imply State aid pursuant to Article 87(1) of the Treaty. On the basis of information provided by Finland, the Commission at this stage cannot consider with certainty that any potential aid granted under the national allocation plan is consistent with and is necessary to achieve the overall environmental objective of the Directive. Non-compliance with criteria 1, 2 and 3 fundamentally jeopardises the overall environmental objective of the emission trading scheme. The Commission considers that in such a case the environmental benefit of any aid included in the allowances may not be sufficient to outweigh the distortion of competition referred to above. The Commission notes in particular that an allocation exceeding projected emissions will not require beneficiaries to deliver an environmental counterpart for the benefit they receive. The Commission at this stage therefore cannot exclude that any aid involved would be found incompatible with the common market should it be assessed in accordance with Articles 87 and 88 of the Treaty.
- (20) Pursuant to criterion 5 of Annex III to the Directive, the Commission has also examined the methodology by which Finland intends to allocate allowances at sector, branch, and installation level. The plan provides that allocations to existing installations are to be calculated on the basis of average emission coefficients calculated for the industrial process concerned. Using an average emission coefficient could create a situation in which installations that are more efficient than the average receive an allocation beyond expected needs. On the basis of the information available the Commission cannot exclude that certain installations will receive such an allocation beyond expected needs. For this reason the Commission cannot exclude that the State aid involved in such allocations may partially be found incompatible with the common market should it be assessed in accordance with Articles 87 and 88 of the Treaty.

⁴⁵ Article 45 of the Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council, OJ L 386, 29.12.2004, p. 1.

- (21) The list of installations set out in the national allocation plan is incomplete and therefore contravenes criterion 10 since it does not include the quantities of allowances intended to be allocated to each installation situated within the territory of the Åland Islands, to which Directive 2003/87/EC applies. These quantities need to be determined in accordance with the general methodologies stated in the national allocation plan.
- (22) The intention of Finland to adjust the allocation of allowances to installations listed in the national allocation plan and operating in its territory in application of the procedures provided in the plan, as outlined in the below recitals, contravenes criterion 10 in Annex III to the Directive which requires the quantity of allowances to be allocated to each installation to be stated *ex-ante* in the national allocation plan covering the period referred to in Article 11(2) of the Directive and not to adjust the allocation of allowances set out in the national allocation plan after the adoption of the decision referred to in Article 11(2) of the Directive. Following the final allocation decision the number of allowances to be allocated and issued for each installation is fixed and may not be changed, except in the case of full closure and withdrawal of the greenhouse gas permit of that same installation.
- (23) In this respect, the Commission has examined the provisions in the proposed plan relating to the envisaged allocation of allowances from the new entrants' reserve for an increase in production and corresponding emissions whereby the capacity of the relevant emission-related activity carried out in that installation and covered by the Directive remains the same. The Commission finds that any such production increase subsequent to the notification to the Commission of the national allocation plan cannot be subsumed under the definition of "new entrant" pursuant to Article 3(h) of the Directive according to which a "new entrant" means any "installation carrying out one or more of the activities indicated in Annex I, which has obtained a greenhouse gas emissions permit or an update of its greenhouse gas emissions permit because of a change in the nature of functioning or an extension of the installation, subsequent to the notification to the Commission of the national allocation plan". The Commission interprets this definition in the light of the objective of the Directive "to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner" and its rationale. Accordingly, any "extension of the installation" can only relate to extensions of capacities of activities in an installation which have a direct bearing on emissions and which would require a new or an update of the respective greenhouse gas emission permit pursuant to the Directive. As the Directive applies to installations carrying out the various activities set out in Annex I of the Directive, any "change in the nature of functioning or an extension of the installation" needs to occur strictly with regard to the activity by virtue of which the particular installation is falling under the Directive, regardless of any other activities that may be carried out in that installation. Therefore, if an activity is not defined in Annex I to the Directive by referring to its final product (e.g. steel), but rather to the process (e.g. combustion of a fuel) that is taking place in the installation (as is the case for "combustion installation"), the extension of an installation's production capacity that is not accompanied by the extension of the relevant activity indicated in Annex I to the Directive cannot be considered a new entrant. In other words, it is decisive that the emission-relevant activity of the installation covered by the Directive is extended, since for mere extensions of production capacity, in particular productions not covered by the Directive, a new greenhouse gas permit or update of an existing greenhouse gas permit is not mandatory.

- (24) Consequently, the Commission finds that the provisions contained in chapter 6.4.2 of the proposed plan relating to "*New entrants in the emissions trading period 2008–2012*", except when relating to a court decision of ultimate resort, the provisions in chapter 6.4.4 relating to "*Changes in the production capacity of pulp and paper factories*", the provisions contained in chapter 6.4.5 relating to "*Changes in oil refineries*", the provisions contained in chapter 6.5 relating to "*Making equitable of the amount of emission allowances*" and chapter 6.6 relating to "*Adapting calculatory emission allowances to emission allowances to be allocated*" and leading to a reduction or an increase of allowances allocated after the allocation decision has been taken, constitute an ex-post adjustment that contravenes criterion 10 in Annex III to the Directive.
- (25) Such ex-post adjustments contradict the essential concept of a "cap-and-trade" system as conceived by the Directive. Under the Community scheme, each installation is allocated a certain amount of allowances in the decision referred to in Article 11(2) of the Directive, whose value it can freely dispose of with a view to taking optimal economic decisions. Three major alternatives exist, which are equally legitimate: investing in emissions reductions and selling freed allowances, reducing production volume and selling freed allowances, or maintaining/expanding production volume while buying additional allowances needed.
- (26) The Commission considers that there is no administrative need or any other justification for ex-post adjustments. Member States are required to use the best data available when deciding on allocations up-front. As a matter of fact, the use of prognoses always requires to a certain degree an ex-ante estimation of emissions the actual volume thereof may eventually deviate in reality. This is an inherent feature of any "cap-and-trade" scheme and can thus certainly not justify a retroactive change to the allocation already decided upon up-front. Moreover, the reasons for such a deviation cannot be reliably identified and may well be the result of emissions reductions due to real investments having been carried out by operators in line with the economic incentives created by the scheme.
- (27) The Directive allows only for two adjustments following the decision referred to in its Article 11(2) where such retroactive change does not occur or does not have a detrimental impact on the functioning of the Community scheme: firstly, where an installation is closed during the trading period, that Member States determine that there is no longer an operator to whom allowances will be issued; and, secondly, where allocation takes place to new entrants from the reserve, that Member States determine the exact allocation to each new entrant.
- (28) Pursuant to criterion 12 of Annex III to the Directive, the Commission has assessed 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 that is consistent with Finland's supplementarity obligations under the Kyoto Protocol and decisions adopted pursuant to the UNFCCC or the Kyoto Protocol. Decision 2/CMP.1⁴⁶ requires that use of the mechanisms be supplemental to domestic action, with a view to narrowing per capita differences in emissions between

⁴⁶ Decision 2/CMP.1 of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol "Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol" of December 2005, FCCC/KP/CMP/2005/8/Add. 1, page 4.

developed and developing countries. In the absence of a quantified figure for complementarity, the Commission applies a formula which takes into account the effort undertaken by each Member State, which is expressed in terms of the difference between actual emissions and the absolute Kyoto commitment, and the intended government purchase of Kyoto units to the extent that it is sufficiently substantiated. The effort undertaken by each Member State is calculated by taking the highest figure out of the following three conceivable alternatives: deducting the absolute Kyoto commitment from, first, total base year greenhouse gas emissions; second, the most recent total greenhouse gas emissions, i.e. the year 2004; or, third, projected 2010 total greenhouse gas emissions, representing the average actual emissions in the first Kyoto commitment period. The Commission holds that the notion of complementarity implies in any event that use by operators may not lead to a situation where more than half of the effort undertaken by a Member State, taking into account government purchase, is made through Kyoto flexible mechanisms. In order to ensure this, the Commission divides the effort undertaken by each Member State by a factor of two and calculates the permitted maximum absolute amount for use by operators by deducting the volume of substantiated government purchases from this figure. Finally, the respective relative figure is obtained by dividing the permitted maximum absolute amount by the allowed total quantity of allowances.

- (29) In application of this method, the effort undertaken by Finland is 10.3 million tonnes⁴⁷. Taking into account that 100% of the intended government purchases is recognised as sufficiently substantiated, 2.75 million tonnes constitutes the maximum absolute amount for use by operators per year permitted for Finland. The relative maximum figure for use by operators is obtained by dividing the absolute amount by the allowed total quantity of allowances of 37.557891 million tonnes, which gives 7.322%⁴⁸. However, the Commission recognises the general importance of promoting the international carbon market so that every Member State should be entitled to allow its operators at least a certain limit in order to facilitate their involvement in international transactions. Therefore, the Commission considers that, irrespective of the effort undertaken and the volume of government purchases, every Member State may allow its operators to use CER's and ERU's up to a maximum relative threshold of 10%. Consequently, the maximum amount of CERs and ERUs of 15%, as indicated in Finland's national allocation plan, which may be used by operators in the Community scheme as a percentage of the allocation of the allowances to each installation is inconsistent with Finland's complementarity obligations under the Kyoto Protocol and decisions adopted pursuant to the UNFCCC or the Kyoto Protocol, to the extent that it exceeds 10%.
- (30) In order to bring the national allocation plan in conformity with the criteria listed in Annex III to Directive 2003/87/EC, the plan should be amended. The Commission should be notified of the amendments made to the plan in accordance with this

⁴⁷ Finland's Kyoto commitment, expressed in absolute figures, is 71.1 million tonnes. Base year emissions are 71.1 million tonnes, 2004 emissions are 81.4 million tonnes and 2010 projected emissions with existing policies and measures are 78.5 million tonnes according to the Progress Report COM(2006)658 final of 27 October 2006, Tables 1 and 2 in the Annex SEC(2006) 1412 of 27 October 2006. The 2004 emissions figure being the highest of these three alternatives, the relevant effort with respect to the Kyoto commitment is 10.3 million tonnes. Dividing this effort by two ($10.3/2=5.15$ million tonnes) and deducting 2.4 million tonnes of substantiated government purchase gives 2.75 million tonnes and represents the maximum absolute amount, up to which Finland's operators may use CERs and ERUs.

⁴⁸ $2.75/37.557891$.

Decision by Finland as soon as possible, taking into account the time-scale necessary to carry out the national procedures without undue delay. Were Finland to amend its national allocation plan in a non-discriminatory manner in accordance with Article 2 of this Decision and duly taking into account the Commission's observations in recital 20, the Commission considers that any potential aid is likely to be compatible with the common market should it be assessed in accordance with Articles 87 and 88 of the Treaty.

- (31) Information in the national allocation plan not relevant for the allocation of allowances for the period referred to in Article 11(2) of Directive 2003/87/EC has not been taken into account for the purposes of this Decision.
- (32) The reports on the implementation of policies and measures and the use of the Kyoto Protocol's mechanisms submitted by Member States pursuant to Decision 280/2004/EC are important sources of information for the evaluation of the national allocation plans pursuant to criterion 2 of Annex III to Directive 2003/87/EC.
- (33) Pursuant to Article 9(3), second sentence, of the Directive, the Member State shall only take a decision under Article 11(2) of the Directive if proposed amendments are accepted by the Commission. The Commission accepts all modifications of the allocation of allowances to individual installations within the total quantity to be allocated to installations listed therein resulting from technical improvements to data quality. No further prior assessment and acceptance by the Commission is necessary because the allocation methodology and the total quantity of allowances remain unchanged. As the modification is limited to mechanically adjusting the result from the use of data of higher quality having become available more recently to the intended allocation, any such modification cannot be conceived to be incompatible with the criteria of Annex III to or Article 10 of the Directive. Similarly, decreasing the share of allocation of allowances free of charge within the limits set in Article 10 of the Directive is accepted, since it requires no prior assessment by the Commission. The Commission considers that such a decrease cannot *per se* be conceived to discriminate between companies or sectors in such a way as to unduly favour certain undertakings or activities in the light of criterion 5 or contravene any other criteria of Annex III to the Directive.
- (34) The whole procedure comprising the notification to, assessment and possible rejection by the Commission of the national allocation plans and the final allocation decisions to be taken by Member States is foreseen by the Directive in a short schedule and implemented by the decisions taken pursuant to its Article 9(3) so as to ensure that the system operates effectively with a minimum of uncertainty for market participants.
- (35) Accordingly, Member States are not entitled to propose any amendments to national allocation plans, including to the total quantity of allowances stated therein, given that the deadline of 31 December 2006 specified in Article 11(2) of the Directive has expired, other than those made to correct the incompatibilities indicated in the respective Commission decision on a national allocation plan⁴⁹. The interpretation of

⁴⁹ See Court of First Instance, ruling of 23 November 2005 in case T-178/05, OJ C 22, 28.1.2006, p. 14, full text <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:62005A0178:EN:HTML>; point 7 of the Commission Communication on further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trading Scheme, COM(2005)703 final, published under http://ec.europa.eu/environment/climat/pdf/nap_2_guidance_en.pdf; Commission Decision of 22

the deadline of 31 December 2006 specified in Article 11(2) as a "cut-off deadline" is proportionate in balancing the interest of a Member State to exert its discretion on substantive issues and the interest of the Community to ensure the functioning of the emissions trading scheme,

HAS ADOPTED THIS DECISION:

Article 1

The following aspects of the national allocation plan of Finland for the first five-year period mentioned in Article 11(2) of Directive 2003/87/EC are incompatible respectively with:

1. criteria 1, 2 and 3 of Annex III to the Directive: the part of the intended total quantity of allowances, amounting to 2.042109 million tonnes CO₂eq per year, that is not consistent with assessments made pursuant to Decision 280/2004/EC and not consistent with the potential, including the technological potential, of activities to reduce emissions; in addition, the part of the total quantity potentially amounting to 0.4 million tonnes of allowances in respect of additional emissions of combustion installations annually to the extent that this is not justified in accordance with the general methodologies stated in the national allocation plan and on the basis of substantiated and verified emission figures;
2. criterion 10 of Annex III to the Directive: the lack of a complete list of all installations with the quantities of allowances intended to be allocated to each installation situated within the territory of the Åland Islands;
3. criterion 10 of Annex III to the Directive: the provisions of the national allocation plan contained in:
 - chapter 6.4.2, except when relating to a court decision of ultimate resort;
 - chapter 6.4.4;
 - chapter 6.4.5;
 - chapter 6.5;
 - chapter 6.6;to adjust the allocation of allowances to an installation listed in the national allocation plan and operating in its territory after the decision pursuant to Article 11(2) of the Directive has been taken;
4. criterion 12 of Annex III to the Directive: the maximum overall amount of CERs and ERUs of 15% which may be used by operators in the Community scheme as a percentage of the allocation of the allowances to each installation that is inconsistent with Finland's supplementarity obligations under the Kyoto Protocol and decisions adopted pursuant to the UNFCCC or the Kyoto Protocol, to the extent that it exceeds 10%.

February 2006 concerning the proposed amendment to the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the European Parliament and of the Council, C (2006) 426 final, published under http://ec.europa.eu/environment/climat/pdf/uk_final_2006_en.pdf.

Article 2

No objections shall be raised to the national allocation plan, provided that the following amendments to the national allocation plan are made in a non-discriminatory manner and notified to the Commission as soon as possible, taking into account the time-scale necessary to carry out the national procedures without undue delay:

1. the total quantity to be allocated for the Community scheme is reduced by 2.042109 million tonnes CO₂eq of allowances per year; and the quantities allocated to additional combustion installations are determined in accordance with the general methodologies stated in the national allocation plan and on the basis of substantiated and verified emission figures, with the total quantity being further reduced by any difference between the allocations to these installations and the 0.4 million tonnes set aside annually for these installations;
2. the quantities of allowances intended to be allocated to each installation situated within the territory of Åland Islands are included in the list of installations; those quantities being determined in accordance with the general methodologies stated in the national allocation plan;
3. the allocation of allowances to an installation listed in the national allocation plan and operating in its territory, contrary to what is provided by the plan in:
 - chapter 6.4.2;
 - chapter 6.4.4;
 - chapter 6.4.5;
 - chapter 6.5;
 - chapter 6.6;is not adjusted after the decision pursuant to Article 11(2) of the Directive has been taken;
4. the overall 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 is reduced to no more than 10%.

Article 3

1. The total annual average quantity of allowances of 37.557891 million tonnes, reduced by any difference between the allocations to additional combustion installations and the 0.4 million tonnes set aside annually for these installations, to be allocated by Finland according to its national allocation plan to installations listed therein and to new entrants shall not be exceeded.
2. The national allocation plan may be amended without prior acceptance by the Commission if the amendment consists in modifications of the allocation of allowances to individual installations within the total quantity to be allocated to installations listed therein resulting from improvements to data quality or to reduce the share of the allocation of allowances free of charge within the limits set in Article 10 of the Directive.
3. Any amendments of the national allocation plan made to correct the incompatibilities indicated in Article 1 of this Decision but deviating from those referred to in Article

2 must be notified as soon as possible, taking into account the time-scale necessary to carry out the national procedures without undue delay, and require prior acceptance by the Commission pursuant to Article 9(3) of the Directive. Any other amendments of the national allocation plan, apart from those made to comply with Article 2 of this Decision, are inadmissible.

Article 4

This Decision is addressed to the Republic of Finland.

Done at Brussels, 4 June 2007

For the Commission