



# Ireland's National Allocation Plan 2008 – 2012

As Notified to the Commission

12 July 2006

## INTRODUCTION

### Background

The European Union (EU) and its Member States are signatories to the Kyoto Protocol, which requires reductions in emissions of greenhouse gases by specific amounts over the period from 2008 to 2012 and beyond. The EU committed to an average reduction of greenhouse gas emissions by 8% below 1990 levels for the then 15 Member States. Similar reductions are required for the 10 new Member States. Decision 2002/358/EC apportioned this 8% reduction among the 15 and requires Ireland to limit the growth in emissions for the period 2008-2012 to 13% above base year emissions. **The EU Emissions Trading Directive (Directive 2003/87/EC) has been implemented to assist in achieving these targets.** The Directive establishes an EU wide allowance-trading scheme to promote reductions of greenhouse gas emissions, in particular carbon dioxide, initially for a pilot phase 2005-2007, and continuing into the first Kyoto phase 2008-2012.

The Directive has been transposed into Irish law by the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004 (S.I. 437 of 2004)<sup>1</sup> under which the Environmental Protection Agency (EPA) has been assigned responsibility for its implementation in Ireland. The remit involves the design and implementation, in accordance with the direction of the Minister for Environment, Heritage and Local Government, of a **National Allocation Plan** for the trading period which will indicate

- (i) what proportion of national emissions will be assigned to emissions trading; and
- (ii) how the portion assigned to emissions trading will be distributed among those covered by the scheme.

The first National Allocation Plan (NAP1) covering the period 2005-2007 was forwarded to the EU Commission on 31 March 2004 and subsequently approved on 7 July 2004. The second National Allocation Plan covers the period 2008-2012 and was due to be forwarded to the EU Commission by 30 June 2006.

(Directive 2003/87/EC was subsequently amended by Directive 2004/101/EC and this has been transposed into Irish law by the European Communities (Greenhouse Gas Emissions Trading) (Amendment) Regulations 2005, S.I. 706 of 2005)

The EPA was required to establish the National Emissions Trading Registry to track the holding and transfer of allowances. In addition the EPA has been designated the Competent Authority for issuing greenhouse gas emissions permits and for overseeing the monitoring, reporting and verification of emissions from participating companies.

The EPA had previously appointed *Indecon International Economic Consultants* and *ENVIROS Consulting* to assist it in determining the distribution of national greenhouse gas emissions to the various industrial sectors and participants involved for NAP1. They were asked to update the previous report to cover the 2008-2012 period. Parts 2-8 of this document essentially relate to this aspect. The original and updated reports are available on the EPA website at <http://www.epa.ie/Licensing/EmissionsTrading/NAP22008-2012/>

A National Allocation Advisory Group (NAAG) was appointed by Government to advise the EPA on how best to discharge its obligations in formulating the National Allocation Plan. The Group comprises the Chief Executives (or their senior nominees) of the Commission for Energy Regulation, Forfás, the National Treasury Management Agency and Sustainable Energy Ireland, together with the Director General of the EPA, under the chairmanship of Dr. E. Walsh.

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<sup>1</sup> Hereinafter referred to as the "Regulations"

The Government has decided what proportion of national greenhouse gas emissions to assign to the trading sector. This issue was the subject of a separate study led by the Department of the Environment, Heritage and Local Government (the *ICF Consulting/Byrne Ó Cléirigh (ICF/BOC)* report which is available on the EPA website at <http://www.epa.ie/Licensing/EmissionsTrading> and Part 1 of this document essentially relates to this aspect. On 10 April 2006 the Government conveyed its decision to the EPA (see Appendix 1), which includes a number of additional items to be taken into account in making the allocations to sectors and to individual installations.

In reaching its conclusions on this National Allocation Plan for 2008-2012 the EPA has taken into account the many submissions made to it concerning the issues involved as well as the recommendations of the *ICF/BOC* reports 2004 and 2006, the *Indecon/Enviros* report 2004 and update 2006, the NAAG and the Government Decision conveyed to EPA on 10 April 2006. Input to the draft National Allocation Plan was also sought from the public (including operators of installations covered by the requirements of the Directive) in a public consultation on the draft plan from 12 May – 12 June, 2006.

### **Process**

The National Allocation Plan 2008-2012 (NAP2), contained in this document, has been prepared by the Environmental Protection Agency and the Department of the Environment, Heritage and Local Government (DEHLG) in accordance with Articles 9 and 10 and Annex III of the EU Emissions Trading Directive.

Article 9 of the Directive requires that the Plan, based on objective and transparent criteria including those listed in Annex III, be submitted to the Commission by 30/06/2006. Article 10 requires that at least 90% of the allowances be issued free of charge. Annex III of the Directive lists the criteria (some mandatory; some optional) to be considered in the development of the National Allocation Plan.

A Communication from the Commission [COM(2003) 830], issued on 7 January 2004, contained guidance, pursuant to Article 9 of Directive 2003/87/EC, on the completion of National Allocation Plans by Member States, and in particular on the application of the criteria listed in Schedule 3 of the Regulations. This guidance document is available from the EPA website at <http://www.epa.ie/Licensing/EmissionsTrading>. This document outlined the Commission's interpretation of the Schedule 3 criteria and suggested a common format for National Allocation Plans. This common format, which has been applied in the preparation of this National Allocation Plan, takes the form of a series of questions addressing the fulfilment of the mandatory criteria and the application of the optional criteria. The answers to these questions describe how the EPA considers the criteria have been met.

A further Communication from the Commission [COM(2005)703 final] was issued on 22 December 2005 supplementing the previous guidance, in particular in relation to ensuring increased harmonisation among Member States in the interpretation of various issues as well as incorporating a twelfth criterion requiring NAP2 to specify the maximum amount of allowances from the project mechanisms which may be used by operators. This further guidance is also available on the EPA website at: <http://www.epa.ie/Licensing/EmissionsTrading>

Developing the NAP2 has been a challenging task involving the consideration of many complex issues. The EPA and DEHLG have endeavoured to do this in the fairest and most transparent manner taking into account the environmental integrity of the scheme and the potential effects on the economy.

<b>Summary of Basis on Which Allocations will be Made</b>	
1.	Under the National Allocation Plan 113.19 million allowances <sup>2</sup> will be allocated to Emissions Trading for the Commitment Period 2008-2012.
2.	Allocations of allowances will be made in a two-stage approach that allocates allowances at sector level in the first instance and subsequently allocates to installations within each sector (after due adjustments have been made for New Entrants as described below). The sectors to be used are General; Cement; and Powergen.
3.	Allocations at sector level will be made on the basis of historic emissions in 2003 adjusted for National Energy Policy and relevant legislation, and taking into account the Government Decision conveyed to EPA on 10 April 2006.
4.	<p>Allocations at installation level will be issued annually and will be made on the basis of average historic emissions in 2003 and 2004 except where this is less than 90% of the average of the emissions in the four years of 2001-2004. In this case the average of the emissions in the four years of 2001-2004 will be applied.</p> <p>In the case of installations covered by the Regulations<sup>3</sup> that first produced emissions in 2000 or 2001 the allocation will be based on the highest emissions in any year 2001-2004.</p> <p>Where any installation (or part thereof) covered by the Regulations only commenced operations after 1 January 2002, an allocation for the installation (or part thereof) will be based on either:</p> <ul style="list-style-type: none"> <li>a) a <i>pro rata</i> approach based on emissions during the appropriate month(s) since start-up<sup>4</sup>;</li> <li><b>or (and only in situations where the EPA considers it appropriate),</b></li> <li>b) agreed projected emissions where the installation has not completed initial ramp-up<sup>5</sup>.</li> </ul>
5.	<p>Allocations will be made to new entrants, as defined in the Regulations, on a free-of-charge basis from one of four separate set-asides as follows:</p> <ul style="list-style-type: none"> <li>(i) For the General sector: A separate New Entrant Set-Aside of 748,000 allowances will be established by taking this amount from the General Sector allocation as determined at 3 above. No individual installation will be entitled to secure more than 50,000 allowances of this amount in any year, except for applications received in the final year.</li> <li>(ii) For the Powergen sector: A separate New Entrant Set-Aside of 3,996,000 allowances will be established by taking this amount from the Powergen sector allocation as determined at 3 above.</li> <li>(iii) For the Cement sector: A separate New Entrant Set-Aside of 500,000 allowances will be established by taking this amount from the Cement sector allocation as determined at 3 above. No individual installation will be entitled to secure more than 100,000 allowances in any year, except for applications received in the final year.</li> <li>(iv) For CHP: A set-aside for new (high efficiency) CHP of 450,000 allowances will be established by taking this amount from the Powergen sector allocation as determined at 3 above. Where the thermal output from a new CHP plant is: <ul style="list-style-type: none"> <li>a) displacing energy plant previously in receipt of an allocation, additional allowances for installations with such CHP plants will be calculated by the EPA from agreed emissions associated with its anticipated electricity generation as if it were a best new entrant CCGT gas fired power plant; or</li> <li>b) in cases other than (a) above, agreed projected increased emissions will be used with a fraction assigned to electricity generation and a fraction calculated for thermal energy production both coming from the CHP set-aside of 450,000 allowances.</li> </ul> </li> </ul> <p>For (i), (ii) and (iii) above, no allocation will be proportionately greater (adjusted for period of operation) than that which the existing installations in the same sector were allocated, nor will an allocation be greater than 88% of projected emissions. Any allowances remaining unused in the set-asides at the end of the period will be cancelled.</p>
6.	For existing CHP plants up to 20 MW electrical, allocations will be determined as part of the total installation allocation as at 4 above. Existing CHP plants greater than this size will receive part of their allocation from their own sector based on thermal output and the remainder from the Powergen sector based on electricity generation as for a best new entrant CCGT gas fired power plant.
7.	A total of 0.5% of allowances will be sold by EPA to defray the expense of administering the Emissions Trading Scheme (as per paragraph 3 (c) of the Government Decision conveyed to EPA on 10 April 2006).
8.	<p>Allowances allocated in respect of "existing installations" shall be issued by 28 February each year. The issuing of such allowances shall be subject to holding of a valid Greenhouse Gas Permit on 01 January of the year of issue.</p> <p>Allowances allocated in respect of "new entrants" shall be issued within one month after commencement has been completed to the satisfaction of the EPA.</p>
9.	Where an installation is deemed by the EPA to have closed in the years 2008 - 2011, allowances in respect of future years will be withheld and issued in the same manner as at 5 above (by adding them to the appropriate set-aside), subject to allowing installations that close retain 75% of their annual allocation, up to a maximum of 25,000 allowances per annum, for the remainder of the period.
10.	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 50% 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.

<sup>2</sup> The original total allocation of 115.07 million allowances has been reduced by 1.88 million allowances to reflect the exclusion of calciners used in the production of alumina.

<sup>3</sup> European Communities (Emissions Trading) Regulations 2004 (S.I. 437 of 2004) and amendments.

<sup>4</sup> This may include use of 2005 emission data when considered appropriate by EPA.

<sup>5</sup> This condition is specifically for installations which have recently commenced and are still in an initial start-up phase and where application of (a) would unfairly discriminate against them.

**The questions on the development of the NAP in Ireland, as set out in the EU Guidance, are listed in the boxes below with relevant responses shown underneath.**

## **1. DETERMINATION OF THE TOTAL QUANTITY OF ALLOWANCES**

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

Ireland is required by Decision 2002/358/EC to limit greenhouse gas emissions to an average of 13% above base year emissions in the period 2008-2012. Base year emissions for Ireland reflect emissions of carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) in 1990 and emissions of industrial greenhouse gases (perfluorocarbons, hydrofluorocarbons, and sulphur hexafluoride) in 1995. The latest estimate of base year emissions for Ireland (EPA 2006) is 55.780 Mt of CO<sub>2</sub> equivalent (CO<sub>2</sub>e). Emissions in the period 2008-2012 must therefore be limited to 315.158 Mt: an average of 63.032 Mt per annum. Recent data (EPA 2006) shows emissions for Ireland in 2004 at 123% of base year.

*1.2 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.*

In determining the total quantity of allowances to allocate to those installations covered by Schedule 1 of the Regulations, Ireland has used a combination of forecasted total and sector emissions and an assessment of the costs of emission reductions in each sector. The methodology employed for emissions' forecasts was a combination of top-down macroeconomic assessment, bottom-up surveys and detailed modelling of the Irish electricity market. Each key emission source used in the compilation of Ireland's national greenhouse gas inventory has been identified and projected to 2012 on a comparable basis. The annual projections (2005-2012) by sector are included at Appendix 5. A detailed description of the forecasting methodology is contained in the 2006 ICF/BOC report and the key methods are detailed below on a sector-by-sector basis.

### **Energy**

Future emissions from electricity generation are derived from the ICF Consulting Integrated Power Model (IPM), which is a full model of the European electricity market including data on all generating units and transmission systems in the EU. The projections are the result of both the IPM and the imposition of the following exogenous variables:

- a) Base case electricity demand is imposed, to ensure consistency with projections for all other sectors. This demand is modelled by the ESRI as part of their Medium Term Review of the Irish economy and predicts annual demand increases of 3.4% until 2009 and 2.3% thereafter, derived from ESRI projected economic growth rates. These are the same projections used to underpin the Transmission System Operator's Generation Adequacy Report,
- b) The three peat-fired power stations, supported by a Public Service Obligation Levy for security of supply purposes, are imposed as "must-run" generating units,
- c) The achievement of Ireland's target under the RES-E Directive (2001/77/EC) of 13.2% of gross national electricity consumption being supplied by renewable sources by 2010.
- d) Capacity on the electricity inter-connector between Northern Ireland and Ireland increasing from 330 MW to 600 MW by 2011.

Emissions from mineral oil refining, peat briquetting and natural gas production were derived from detailed discussions with the individual installations all of which are or will be included within the Emissions Trading Scheme. Projections include the commencement of natural gas production from the Corrib gas field in 2009.

Fugitive emissions from the distribution of natural gas are based on consumption in the industrial, commercial and residential sectors. The leakage rate is assumed to reduce from 0.25% currently to 0.15% by 2012 due to the replacement of old cast iron pipelines.

### ***Industry (including commercial and services sector)***

The majority of emissions from manufacturing industry are accounted for by installations covered by the EU-ETS. Projections for these sources are based on detailed bottom up analysis at the individual installation and / or sector level. For those emissions not covered by the Emissions Trading Scheme, projections are based on the ESRI economy-wide model of energy demand.

Future emissions from the use of solvents and 'F' gases are projected to remain at the present level throughout the period to 2012.

Emissions in the commercial and services sector are projected in accordance with the ESRI economy-wide model of energy demand.

### ***Agriculture***

Full decoupling of agricultural subsidies from production has taken place in Ireland from 1 January 2005. Teagasc, the national agricultural research and advisory body, have estimated the effects of this policy on agricultural activity projections, which formed the basis for the calculation of emission projections.

### ***Residential***

Emissions from the residential sector are projected in accordance with the ESRI economy-wide model of energy demand. Although the number of households is forecast to increase from 1.33 million in 2003 to 1.74 million by 2012 due to demographic change and projected population growth to 4.55m by 2012, this is counteracted by improved thermal performance of new and existing buildings and continued fuel switching from solid fuels to natural gas. Average emissions over the 2008-2012 period are projected to be 6.833 Mt CO<sub>2</sub>e, or 7% below the 1990 level.

### ***Transport***

Emissions are reported on the basis of national fuel sales rather than on the basis of national fuel consumption. This is of major significance for Ireland in relation to road transport emissions. Because of the differential in levels of excise duty on road transport fuel, approximately 25% of diesel and 10% of petrol sold in Ireland is consumed outside the State, mainly in Northern Ireland. The projections assume that this excise differential and consequent level of retail exports will continue through the Kyoto commitment period.

Emissions are projected based on total fuel sales, which are then split between those for domestic consumption and those for retail export. Using 2003 as a base year, the level of petrol exports were held constant while diesel exports were assumed to grow at 2% per annum. Domestic consumption was forecast to grow in line with current National Roads Authority projections for total car and HGV kilometres travelled to 2040. Separate projections were applied for passenger cars / light goods vehicles and for heavy goods vehicles. The impact of the following policies and measures on the projections were then taken into account:

- Agreements between the European Commission and the ACEA (European Automobile Manufacturers Association) to reduce carbon dioxide emissions per km travelled.
- Infrastructure improvements, in line with the National Development Plan, to primary routes such as the Dublin Port Tunnel.
- Road tax rebalancing for private cars.
- Exemption from excise duties for biofuels.

Emissions from rail, domestic civil aviation, navigation and gas transmission were projected on the basis of a bottom-up analysis of railways, ESRI projections of aviation growth, recent trends in navigation and future gas consumption forecasts respectively.

### **Waste**

The volume of waste arising is projected to grow as a result of both population and economic growth. However, this growth will be mitigated by the National Waste Prevention Programme and associated initiatives. In addition the volume being sent to landfill will be reduced through, amongst other measures, recycling, biological treatment and alternative treatment of residual wastes. The extent and timing of these alternative treatments has been informed by the preparation of the National Biodegradable Waste Management Strategy and an assessment of the targets contained in the Waste Management Plans for the various Regions / Counties which have been adopted by Local Authorities. Finally, not all methane generated from landfill is lost to the atmosphere: a proportion will be used for power generation or flared to reduce its climate change effect. The effect of these two measures has been estimated for the 2008-2012 period.

### **Forestry**

The production of removal units (RMUs) in Ireland under Articles 3.3 and 3.4 of the Kyoto Protocol have been modelled by the Irish Forestry Research and Development Council (COFORD) using the CARBIWARE model based on extensive Irish research and consistent with IPCC good practice guidelines.

### **Distance to target**

The base case described above, i.e. the absence of additional policies and measures, would result in Ireland exceeding its Kyoto obligations by an average 7.174 Mt CO<sub>2</sub>e per annum, compared to 9.225 Mt per annum as described in the National Allocation Plan for the pilot phase of the Emissions Trading Scheme. Based on updated analysis by ICF/BOC, a carbon price of €15 per tonne is now assumed, at which level, ICF/BOC estimate that the emissions trading sector will deliver abatement of 0.98 Mt per annum and the non-trading sector of the economy will deliver additional abatement of 0.514 Mt per annum. The remaining distance to target, 5.680 Mt per annum, would be met through use of the flexible mechanisms by the State or by purchase of allowances by ETS participants. A *pro rata* split of the required purchases between ETS participants and the remainder of the economy has been considered to be the most equitable. In the period 2008-2012 the State will therefore purchase 3.607 Mt per annum of the distance to target on behalf of the non-trading sectors of the economy, while ETS participants will be expected to purchase 2.040 Mt per annum (or find additional low cost abatement options not identified by ICF/BOC).

The allocation requires Irish ETS participants to avail of all abatement options costing up to €15 per tonne, and is ~12% lower than base case projections.

Figure 1.1 Based on: ICF/BOC Report

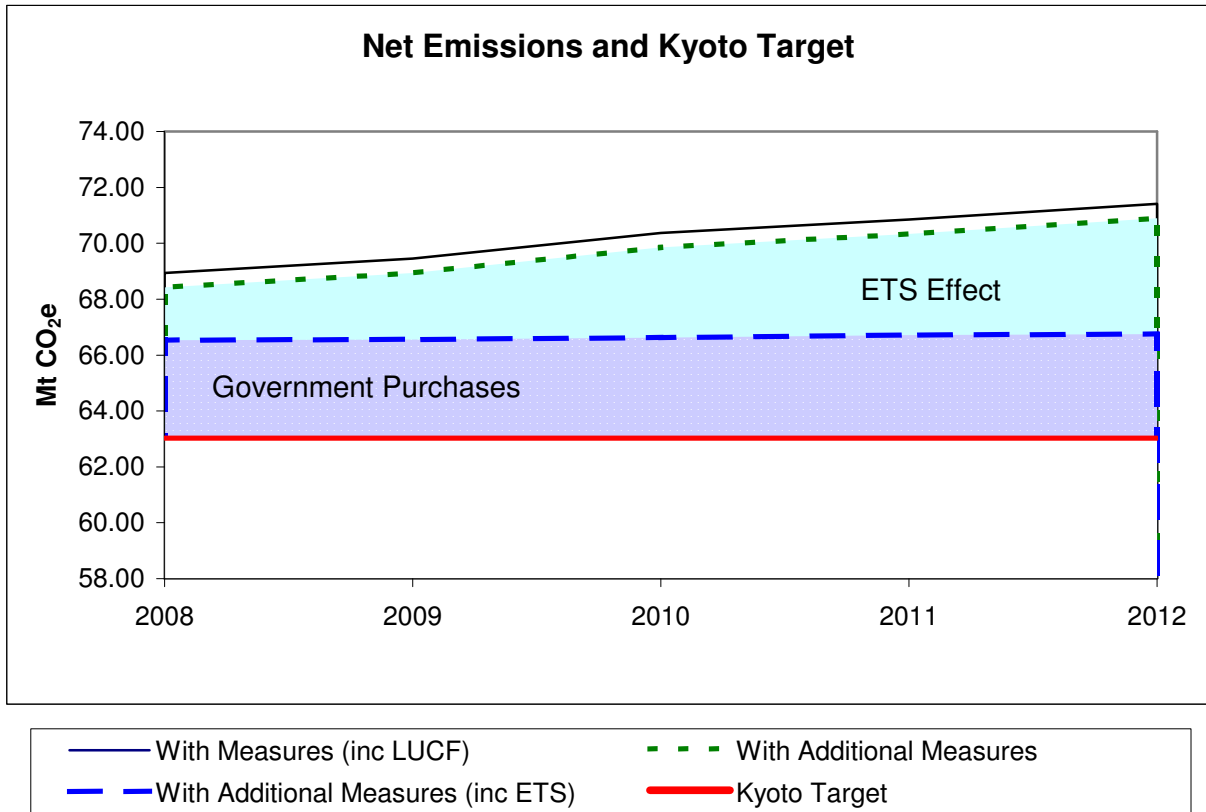


Figure 1.1 above shows the national emission projections, as estimated in the 2006 ICF/BOC report, and the pathway to meeting Ireland's commitment under Decision 2002/353/EC.

- With measures* incorporates all existing policies and measures, including Ireland's renewable energy obligations, reform of the Common Agricultural Policy, certain public transport measures and vehicle efficiency improvements, fiscal measures to promote the use of biofuels and the estimated impacts arising from eligible land use change and forestry activities in Ireland.
- With additional measures* indicates the effect of additional abatement identified by ICF/BOC that is cost-effective up to €15 per tonne of CO<sub>2</sub>.
- With additional measures, including ETS* indicates the combined effect of the ETS, and all the other measures referred to above, on Irish emissions. This is to be achieved by a combination of emission reductions and allowance purchases.
- This level of emissions reduction leaves Ireland with a remaining distance to target of 3.607 Mt CO<sub>2</sub>e per annum, which Government has indicated it will close by the purchase of allowances through the Kyoto Protocol's flexible mechanisms as discussed in section 1.4 below.



*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.*

The total quantity of allowances to be allocated to the trading sector in the period 2008-2012 is 22,638,000 per annum; 0.5% of these allowances will be made available for purchase. Total national greenhouse gas emissions in the period are projected to be 70.206 Mt per annum with existing measures. The allocation therefore represents 32.2% of projected national emissions over the period. Emissions from participants in 2003 were 32.1% of total national emissions. The allocation does not deviate from the current proportion of emissions from installations covered by Emissions Trading.

*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)?*

With existing policies and measures, emissions (net of removals from Land Use Change and Forestry) from non-ETS sectors and gases are projected to average 44.548 Mt CO<sub>2</sub>e per annum over the period 2008-2012. The precise mix of additional policies required to achieve this reduction is still to be finalised in the review of the National Climate Change Strategy. The Irish Government has announced its intention to purchase a maximum of 18.035 million allowances through the flexible mechanisms of the Kyoto Protocol (see Government Decision at Appendix 1). This figure is in line with that indicated in Ireland's first National Allocation Plan of 18.5 million allowances. In Budget 2006 the Minister for Finance announced the creation of a multi-annual Carbon Fund, with an initial allocation of €20 million, to be administered by the National Treasury Management Agency for purchasing carbon allowances through the Kyoto flexible mechanisms. The Government is currently preparing the necessary primary legislation to establish this Fund.

A full list of adopted and implemented policies and measures in the 'with measures' projections are described in the ICF / Byrne O Cléirigh report, 'Determining the Share of National Greenhouse Gas Emissions for Emissions Trading in Ireland 2008-2012,' published in March 2006. This report presents a "with measures" scenario for projections of greenhouse gas emissions in the period 2008-2012, taking into account the emission reductions likely to be achieved by policies and measures already implemented or adopted that directly and indirectly impact Ireland's emissions profile. The 'with measures' scenario does not consider possible GHG emission reductions under the EU ETS or measures adopted by the Government since the finalisation of these projections.

#### **Contribution of existing measures to emission reductions**

The estimated annual contribution of significant policies and measures in the 'with measures' projections, derived from the ICF – Byrne O Cléirigh report, are shown in Table 1.1 below.

**Table 1.1:** Significant measures in the 'with measures' projections

Measure	Average annual reduction 2008-2012 Mt
CAP Reform – full decoupling	2.40
Afforestation	2.08
Renewable Energy Directive <sup>6</sup>	1.30
Landfill Gas power generation or flaring	0.70
EU/ carmakers voluntary agreement	0.48
Building Regulations Part L & EPBD <sup>7</sup>	0.30
Dublin traffic measures (e.g. Port Tunnel)	0.27
Biofuel excise relief	0.25
Implementation of Landfill Directive	0.06
Modernisation of natural gas network	0.06
Motor taxation / fuel labelling	0.05
<b>Total</b>	<b>7.95</b>

A number of sectoral framework policies will indirectly contribute to the achievement of greenhouse gas emissions reductions in the 'with measures' scenario. Where relevant, these have been set out in Section 1.2 above. Assumptions and methodologies used for the quantification of the effects of policies and measures in the 'with measures' projections are set out in the ICF – Byrne O Cléirigh report.

A list of additional policies and measures, not included in the 'with measures' projections are set out in Table VI of the NAP summary tables. These are set out in Table 1.2 below for ease of reference.

**Table 1.2:** Summary contribution of additional measures

Measure	Average annual reduction 2008-2012 Mt
F-Gases Regulation	0.024
Leakage reduction at large surface sites on natural gas distribution network	0.027
Landfill anaerobic digestion with methane decomposition	0.267
Landfill Methane capture with usage as fuel	0.197
Commercial BioHeat Boiler Deployment Programme	0.160
Greener Homes Scheme	0.020
Integration of land-use planning and transport investment	0.075
Promotion of eco-driving in road transport	0.130
<b>Total</b>	<b>0.900</b>

<sup>6</sup> Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market, which requires Ireland to generate 13.2% of its electricity from renewable sources by 2010.

<sup>7</sup> Directive 2002/91/EC on the energy performance of buildings.

The ICF - Byrne Ó Cléirigh report indicated that 0.514 million tonnes of abatement would be cost-effective, i.e. under €15 per tonne<sup>8</sup>, in the sectors of the economy outside the emissions trading scheme. Of this, 0.491 million tonnes have an abatement cost of less than zero and it can be expected that existing structures and incentives will deliver these reductions without additional measures. The measures in this category are 1) leakage reduction at large surface sites on natural gas distribution network; 2) landfill anaerobic digestion with methane decomposition; and 3) landfill methane capture with usage as fuel.

The remaining portion of the 0.514 million tonne abatement potential relates to leakage repairs in the commercial refrigeration sector. The Regulation on Fluorinated Greenhouse Gases<sup>9</sup> is calculated to deliver 0.024 Mt abatement from this sector.

Quantified reductions in emissions are also available for certain measures that have been adopted by the Government since the completion of the ICF – Byrne O Cléirigh report. These relevant measures are 1) the Greener Homes Scheme and 2) the Commercial Bioheat Scheme. Both measures have been adopted by the Government and are currently being implemented by Sustainable Energy Ireland.<sup>10</sup>

The Greener Homes Scheme, launched in March 2006, provides grant assistance to householders to purchase a new renewable energy heating system for either new or existing homes. The scheme aims to increase the use of sustainable energy technologies within Irish homes over the next five years. It is estimated the full uptake of the funding available under the scheme (€27 million in 2006) will reduce emissions by 20,500 tonnes annually.

The Commercial Bioheat Scheme, launched in June 2006, will provide grant aid totalling €22 million for the installation of wood chip and wood pellet boilers in large buildings and commercial enterprises. The scheme will support the conversion to renewable energy in up to 600 premises. When fully implemented, approximately 600,000 megawatt hours of wood fuel will be used annually to displace in the region of 60 million litres of heating oil per year. This will result in the reduction in CO<sub>2e</sub> emissions of about 160,000 tonnes each year.

In the transport sector, estimates of CO<sub>2</sub> abatement are available for measures that have been adopted or are planned but were not included in the 'with measures' projections. The integration of land-use planning and transport investment is under implementation arising from the adoption of the National Spatial Strategy in 2002, which is being given effect through the Regional Planning Guidelines and Local Authority Development Plans. Transport investment is currently funded under the National Development Plan 2000-2006, which is due to be replaced by a successor National Development Plan for the period to 2013. The transport elements of the new Plan were adopted by Government in November 2005 and are set out in the Transport 21 investment programme<sup>11</sup>.

It is estimated that a 2.5% reduction<sup>12</sup> in passenger kilometres travelled on implementation of the National Spatial Strategy<sup>13</sup> will contribute to an annual saving of approximately 0.075 million tonnes of CO<sub>2</sub> emissions over the period 2008 – 2012. This reduction in emissions will

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<sup>8</sup> The report's assessed average price of allowances during the 2008-2012 period.

<sup>9</sup> Regulation 842/2006/EC on certain fluorinated greenhouse gases

<sup>10</sup> See <http://www.sei.ie>

<sup>11</sup> <http://www.transport.ie/viewitem.asp?id=7048&lang=ENG&loc=1850>

<sup>12</sup> Based on a study commissioned by the UK Department of Transport, *Visioning and Backcasting for UK Transport Policy (VIBAT) 2006* which estimates a 2 – 10% reduction in passenger kilometres travelled as a result of a range of measures to make urban areas more attractive by using strategic and local urban design to reduce dependence on car travel.

<sup>13</sup> <http://www.irishspatialstrategy.ie/>

arise because of shorter commuting distances and a shift to public transport, cycling and walking.

As an integral part of the Transport 21 programme, the Government is planning a public awareness campaign to promote the benefits of eco-driving and its potential to deliver major results in terms of CO<sub>2</sub> emissions while also benefiting the consumer in terms of fuel savings. In addition, *Transport 21* provides funding for a range of sustainable transport initiatives which includes pilot projects to test the feasibility of eco-driving as a means of increasing fuel efficiency and decreasing CO<sub>2</sub> emissions in the public transport, road haulage and taxi sectors. The results of these pilot projects will then be assessed as an input to policy development in this area. It is estimated that a major public awareness campaign, sustained over a period of time, could deliver CO<sub>2</sub> reductions of approximately 0.13 Mt of CO<sub>2</sub> per annum over the period 2008 – 2012.

Pursuant to Article 9(1a) of the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004 to 2005, the use of emissions reduction units and certified emissions reduction units is limited to 50% of the allocation to each installation. This limit is to apply on an aggregate basis to both emission reduction units and certified emission reduction units.

*1.5 How has 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)?*

The forecasted emissions for the energy sector are consistent with national energy policy and assume a contribution of 13.2% of electricity production from renewable sources by 2010 in line with Ireland's commitment under the RES-E Directive (2001/77/EC). The forecasted emissions also assume the entry of new gas-fired generation capacity in the period to ensure generation adequacy.

The assessment of emissions and emission reductions for the sector are also consistent with the continuing liberalisation of the Irish electricity market and the introduction of the new All-Island Single Electricity Market in 2007.

*1.6 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 93/389/EEC ensured?*

The total quantity of allowances to be allocated in the period 2008-2012 is 88% of forecasted emissions with existing measures. All assessments of emissions, both projected and actual, are consistent with Decision 280/2004/EC.

*1.7 Please explain in Section 4.1 below how the potential, including the technological potential, of activities to reduce emissions was taken into account in determining the total quantity of allowances.*

See Section 4.1 below.

*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.*

See Section 5.3 below.

*1.9 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.*

The Government decision of 10 April 2006 stated that up to a maximum of 0.5% of the total allowances might be sold to defray the costs of administering the emissions trading scheme. The EPA has determined that 0.5% is the appropriate amount based on expected costs and trading prices, though some element of uncertainty is attached to this estimate. It is proposed that such sales will be open to all (i.e. EU wide). Unused allowances from the new entrants set-aside will be cancelled rather than sold.

## 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.*

The EPA proposes to allocate allowances to participants based on a two-stage approach. First, an allocation is determined at the sector level. Subsequently allocations are calculated for all of the installations within each sector.

The following sectors, taking into account the Government Decision of 10 April 2006, have been used in this National Allocation Plan: *General, Cement, and Powergen.*

The sector allocation is determined based on recent historical emissions. An emissions based approach has been selected because it has the advantage of utilising a common measurement across all sectors and installations. Recent emissions data were selected for their overall accuracy and availability. Annual emissions for the year 2003 from installations permitted on or before 30 June 2006 were used for the sector allocation. The use of 2003 data means that recent emissions data are being used while action taken after 2003 is not unduly penalised. The EPA verified 2003 emissions data in the preparation of NAP 1.

The historical emissions used to calculate the sector allocations have been adjusted with respect to national energy policy, which assumes achievement of Ireland's target under the RES-E Directive (2001/77/EC), in order to implement the requirements of the Government Decision (see Appendix 1) regarding the special characteristics of the Power Generation sector including its ability to recoup costs. The pathway towards achievement of this target has been applied in determining the total quantity of allowances to be allocated and therefore in calculating the sector allocations.

The *Sector Allocation* (SA) is calculated as follows:

- a) For each permitted installation that has not notified the EPA of closure a *Historical Baseline* (HB) is calculated for 2003 using actual 2003 emissions.
- b) For each sector a *Historical Sector Total* (HST) is calculated as the sum of all HBs.
- c) For the Powergen sector an *Adjusted Sector Total* (AST) is calculated from the HST in line with changes to reflect national energy policy. For all other sectors AST equals HST.
- d) A total for all sectors combined, the *Combined Adjusted Sector Total* (CAST), is calculated as a sum of all ASTs.

The *Sector Allocation* is then calculated as follows:

$$SA = AST * NTA / CAST$$

Where NTA is the *Net Trading Allocation* calculated from the total amount assigned by Government to emissions trading less the set-aside for sale.

The Sector Allocation available to incumbent installations (IA) is calculated as:

$$IA = SA - SSNESA$$

Where SSNESA is the sector specific new entrant set-aside (See Section 5.2.1).

Table 2.1 contains the proposed average annual allocations for each of the three sectors for the period 2008 - 2012.

**Table 2.1 Proposed Average Annual Sector Allocations**

<b>Sector</b>	<i>Trading Participants Historic Sector Total (HST)</i>	<i>Adjusted Sector Total (AST)</i>	<i>Sector Allocation (SA)</i>	<i>Incumbent Allocation (IA)</i>
<b>General</b>	2,766,870	2,766,870	3,405,700	3,256,100
<b>Cement</b>	3,504,074	3,504,074	4,313,114	4,213,114
<b>Powergen</b>	13,419,111	12,028,735	14,805,996	13,916,796
<b>Sector total</b>	<b>19,690,055</b>	<b>18,299,679</b>	<b>22,524,810</b>	<b>21,386,010</b>
<i>Sale</i>	-	-	-	113,190
<i>CHP Set-Aside</i>	-	-	-	90,000
<i>General SSNESA</i>	-	-	-	149,600
<i>Cement SSNESA</i>	-	-	-	100,000
<i>Powergen SSNESA</i>	-	-	-	799,200
<b>Overall Total</b>	-	-	-	<b>22,638,000</b>

*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.*

The potential of activities to reduce emissions was taken into account in determining the total quantity to allocate (ICF/BOC report) but not taken into account in determining sector level allocation. Further information is contained in section 4.1 below.

*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.*

Achievement of Ireland's targets under Directive 2001/77/EC<sup>14</sup> has been assumed in calculating the sector allocations.

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

In accordance with criterion 11 of Schedule 3 of the Regulations the relevance of competition from outside the European Union was assessed to determine its likely impact on the competitive position of Irish companies in the sectors covered. A detailed analysis is included in both the Indecon/Enviros and ICF/BOC reports.

<sup>14</sup> See Appendix 6.

### 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.*

Following the Government's determination of the total quantity of allowances to be made available to the ETS, the EPA has decided to allocate allowances to participants based on a two-stage approach. The calculation of the sector allocation has been described in Section 2 above. This section describes the methodology used to determine the allocation at the installation level.

Allocations at installation level will be made on the basis of average emissions in 2003 and 2004 (the *Relevant Emission*) except where this equals less than 90% of the average of the emissions in 2001-2004 inclusive. In this case, the average of the emissions in the four-year period 2001-2004 will be the *Relevant Emission (RE)*. In the case of installations that first produced emissions in 2000 or 2001, the RE will be based on the highest emissions in any year 2001–2004 inclusive. Where any permitted installation (or part thereof) only commenced operations on or after 1 January 2002 the *Relevant Emission* for the installation (or part thereof) will be based on either:

a) a *pro rata* approach based on emissions during the appropriate month(s) since start-up

**or (and only in situations where the EPA considers it appropriate),**

b) agreed projected emissions where the installation has not completed initial ramp-up<sup>15</sup>

The *Allocation to Installations (AI)* is calculated from the *Relevant Emission* for each permitted installation within each sector by first calculating the *Sector Total of Relevant Emissions (STRE)* for all the installations in that sector:

$$AI = RE * IA / STRE$$

STRE is calculated as the sum of all REs within each sector. This figure will differ from the Adjusted Sector Total (AST) given in Table 2.1 above as the STRE is based on the average of 2003 and 2004 emissions and accounts for recent entrants, installations in ramp-up and anomalous years of activity. These variables are accounted for at the installation rather than the sector level. **Provisional allocations** for each installation are listed in Appendix 7. The data on which these are based is subject to verification and **the allocations will change prior to the final decision.**

**Table 3.1 Proposed STRE for each sector<sup>16</sup>**

Sector	<i>Incumbent Allocation (IA)</i>	<i>Sector Total Relevant Emissions (STRE)</i>
<b>General</b>	3,256,100	3,194,610
<b>Cement</b>	4,213,114	3,898,345
<b>Powergen</b>	13,916,796	18,873,537

<sup>15</sup> This condition is specifically for installations which have recently commenced and are still in an initial start-up phase and where application of (a) would unfairly discriminate against them. No allocation will be proportionately greater (adjusted for period of operation) than that which the existing installations in the same sector were allocated, nor will allocations be greater than 88% of agreed projected emissions.

<sup>16</sup> The values in this table are not final and are subject to change following baseline verification over the coming months.



Once the allocation of allowances for each installation has been calculated for the entirety of the initial period, it will be divided into five equal parts and issued to the relevant operator(s) by February 28<sup>th</sup> in each year of the scheme<sup>17</sup>. The issuing of such allowances will be subject to holding of a valid Greenhouse Gas Permit on January 1st of the year of issue. The issue of allowances will only be carried out provided the installation is considered to be operational and is not deemed to have closed. Where an installation is deemed by the EPA to have closed in the years 2008 - 2011, allowances in respect of future years will be withheld, subject to allowing installations that close retain 75% of their annual allocation, up to a maximum of 25,000 allowances per annum, for the remainder of the period. Unused allowances arising from installation closure will be transferred into the relevant sector specific new entrant set-aside.

*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.*

All existing permitted installations have an approved monitoring and reporting plan in place. This plan is based on the Commission Decision on Monitoring and Reporting (2004/156/EC). All new applicants for greenhouse gas permits are asked to determine their historical emissions where applicable in accordance with the monitoring and reporting guidelines. This historical data has been used in compiling the national allocation plan. A detailed site-by-site verification of this baseline data will be made over the coming months. It should be noted that the quantity of allowances to be allocated to each operator as per Appendix 7 is indicative and is subject to change as a result of the verification of data, prior to a final decision being taken under Article 11 of the Regulations.

*3.3 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.*

Subject to the explanations in Sections 4.2 and 4.3, neither early action nor clean technology have been explicitly taken into account in determining the allocation at installation level.

*3.4 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.*

Ireland does not propose to unilaterally include installations carrying out activities listed in Schedule 1 of the Regulations below the capacity limits referred to in that Schedule as provided for in Article 22 of the Regulations.

*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 2003/87EC are fulfilled.*

This does not apply in the 2008-2012 period.

<sup>17</sup> Except in certain cases where projections have been used. In the event of an installation not commencing any installed capacity (on which associated allocations in Appendix 7 have been based) by the expected start date contained in the permit, the allocation will be recalculated and a revised NAP Table submitted to the Commission. Unused allowances arising in this way will be added to the sector specific new entrant set aside.

#### 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?*

This criterion has been applied in the updating of 'Determining The Share of National Greenhouse Gas Emissions for Emissions Trading in Ireland 2008-12' (ICF/BOC March 2006) and consequently in determining the total quantity of allowances allocated for the ETS.

*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?*

Following projections of emissions under existing policies and measures and quantification of Ireland's distance to target, an assessment was made of the potential for emissions reductions from all sources. This included an identification of all greenhouse gas emission reduction options proposed in international studies and an assessment of their technical applicability to Ireland. These were then ranked on a cost effectiveness basis, with all sectors expected to undertake reduction action with a marginal cost per tonne of less than the expected market price for allowances of €15.00. The remaining distance to target is to be achieved through access to international emissions trading markets (directly, by ETS participants, and indirectly, by Government on behalf of non-participants). The total quantity allocated for the 2008-2012 phase is based on an assessment of the technical and economic potential of participants to reduce CO<sub>2</sub> emissions during this phase.

*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.*

This matter is examined in detail in the ICF/BOC report.

*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.*

Benchmarking was not used to decide on the allowances to be allocated to installations with historical emissions. However for installations in some sectors benchmarks were taken into account in agreeing projections for new or recently commenced plant. Examples of this are in lime manufacture and power generation.

## 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.*

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.*

According to Schedule 3 of the Regulations early action may be taken into account. The Commission's guidance document [COM(2003) 830] stated in relation to this criterion:

*"Early action' is to be understood as actions undertaken in covered installations to reduce covered emissions before the national allocation plan is published and notified to the Commission. In line with criterion 4, only measures that operators undertook beyond requirements arising from Community legislation can qualify as early action. More stringent national legislation, applying to all covered installations in total or carrying out an activity, will be reflected in the potential to reduce emissions (cf. criterion 3). Thus, early action is limited to reductions of covered emissions beyond reductions made pursuant to Community or national legislation, or to actions undertaken in the absence of any such legislation."*

The guidance also stated that early action, if used, should be applied in determining the quantity of allowances to be allocated to individual installations.

As discussed in the first National Allocation Plan it is difficult to identify clear cases of early action and then to devise a defensible mechanism within the NAP to reward this early action.

In relation to the first of these issues it is evident from the Commission's guidance that the justification of credit for early action is dependent on the motivation behind the emission reduction action. Any action undertaken for involuntary reasons, such as compliance with legislation, is excluded. Where a reduction has been achieved accruing a net economic benefit, which would arise even in the absence of future carbon constraints, there would appear to be little justification for rewarding early action. It is difficult to identify any significant early action that was not related to one or both of these two factors.

In December 2004 the Commission published "*Further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trading Scheme*". This suggested that allocation metrics should be as simple as possible to allow for greater transparency and in relation to early action stated:

*"By not relying on first phase emissions or other first phase data, early action is adequately recognised, which substitutes therefore for the set-up of an early action set-aside or any other means of accommodating early action."*

This NAP does not use data later than 2004 (except in some cases where emissions were first produced after 1/1/2002) and is therefore in line with this most recent guidance from the Commission.

Furthermore, the metric used implicitly takes early action into account at an installation level, by using the four-year average for 2001-2004 to determine the allocation whenever 2003/2004 average emissions for any installation is less than 90% of average 2001-2004.

In conclusion, while this NAP does not specifically purport to reward early action, the use of earlier years for historical emissions, where there has been a significant decrease in emissions, provides some reward for early action during that period.

#### **4.3 Clean technology (if applicable)**

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

*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 96/61EC, and explain in what way it is particularly performing in limiting emissions of covered greenhouse gases.*

Criterion 8 effectively extends criterion 3 to the installation level and states that a National Allocation Plan shall contain information on the manner in which clean technologies, including energy efficient technologies, are taken into account. As in the case of criterion 7, the Commission has stated in its guidance document that applying this criterion is optional.

According to the Commission, this criterion will be deemed to be fulfilled if a Member State clearly explains in its NAP whether it intends to take clean technologies into account and, if so, how.

While a clear definition of what constitutes clean technologies is not provided in the Regulations, in its guidance document, the Commission states that clean or energy efficient technologies are those that have resulted in a lower level of direct emissions covered by the Regulations than the alternative technologies that could realistically have been deployed by installations.

The EPA considers that one of the main results of implementing Directive 2003/87/EC, by putting a cost on emissions of greenhouse gases, will be an automatic incentive, or driver, for the use of clean, energy efficient technologies. Therefore it is not considered necessary to further promote the use of clean technologies in the allocation process to existing installations.

#### *Future high efficiency Combined Heat and Power plants (CHP<sup>18</sup>)*

In regard to CHP, a set-aside is to be taken from the Powergen sector allocation (on the basis of 450,000 allowances for the five year trading period<sup>19</sup>) to be used for high efficiency CHP plants which qualify as new entrants for the second phase of the scheme. Allocations for installations with such CHP plants will be calculated as described under 5.2.1 (iv) below.

<sup>18</sup> The definition of “High efficiency CHP” will take into account the requirements of Directive 2004/8/EC

<sup>19</sup> This set-aside is sufficient for new CHP capacity of around 10 MW electrical/a for each of the five years.

The creation of this set-aside of free allowances (from the Powergen sector allocation) for future high efficiency CHP conversions/installations will ensure that this technology is incentivised rather than face possible disadvantages through the introduction of the trading scheme. This is also in accordance with the Government's Decision as conveyed to EPA on 10 April 2006.

#### *Existing CHP*

For existing CHP plants up to 20 MW electrical, allocations will be determined as part of the total allocation as described in Section 3. Existing CHP plants greater than this size will receive part of their allocation from their own sector based on thermal output and the remainder from the Powergen sector based on electricity generation as for a best new entrant CCGT gas fired power plant.

Since the use of an historical emissions approach will automatically include the additional emissions associated with previously installed on-site CHP systems, it is not proposed to incentivise existing CHP in any other way.

## 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?*

No application has been made by any operator or group of operators wishing to form a pool.

### 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?*

Allocations will be made to new entrants, as defined in the European Communities (Emissions Trading) Regulations 2004 (S.I. 437 of 2004), on a free-of-charge basis from one of four separate set-asides as follows:

- (i) For the General sector: A separate New Entrant Set-Aside of 748,000 allowances will be established by taking this amount from the General Sector allocation. No individual installation will be entitled to secure more than 50,000 allowances of this amount in any year, except for applications received in the final year.
- (ii) For the Powergen sector: A separate New Entrant Set-Aside of 3,996,000 allowances will be established by taking this amount from the Powergen sector allocation.
- (iii) For the Cement sector: A separate New Entrant Set-Aside of 500,000 allowances will be established by taking this amount from the Cement sector allocation. No individual installation will be entitled to secure more than 100,000 allowances in any year, except for applications received in the final year.
- (iv) For CHP: A set-aside for new (high efficiency) CHP of 450,000 allowances will be established by taking this amount from the Powergen sector allocation. Where the thermal output from a new CHP plant is:
  - a) displacing energy plant previously in receipt of an allocation, additional allowances for installations with such CHP plants will be calculated by the EPA from agreed emissions associated with its anticipated electricity generation as if it were a best new entrant CCGT gas fired power plant; or
  - b) in cases other than (a) above, agreed projected increased emissions will be used with a fraction assigned to electricity generation and a fraction calculated for thermal energy production both coming from the CHP set-aside of 450,000 allowances.

For (i), (ii) and (iii) above, no allocation will be proportionately greater (adjusted for period of operation) than that which the existing installations in the same sector were allocated, nor will an allocation be greater than 88% of projected emissions. Any allowances remaining unused in the set-asides at the end of the period will be cancelled.

*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?*

Allocations will be made to new entrants, as defined in the Regulations, on a free-of-charge basis from the relevant sector new entrant set-aside. (See section 5.2.3 for estimation of this quantity). Applications for allowances from the relevant new entrant set-aside will be restricted to installations which receive a new or updated GHG permit in accordance with the Regulations. Decommissioned plant which is re-commissioned may qualify for an allocation from the new entrant set-aside provided it results in an overall increase in the capacity of the installation. Allowances may only be allocated based on BAT regardless of the age and technology of the plant.

All New Entrant set-asides will be established and maintained on the following basis:

- i) If there are any surplus allowances in the set-aside at the end of 2012 these will be cancelled in accordance with the Government Decision (Appendix 1).
- ii) Allocations made on the basis of projections but not issued due to delay, cancellation or non-development will be returned to the relevant set-aside.
- iii) Allowances retained by the EPA due to closure of installations will be added to the relevant sector specific set-asides.

*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 2008 to 2012?*

In their report for the 2008-2012 period *Indecon/Enviros* identify a need for between 100,000 and 500,000 tonnes of CO<sub>2</sub> emissions per annum to meet the needs of Enterprise Ireland, IDA clients and other installations included in the *General* sector. This is consistent with the findings of the ICF/BOC report submitted to the DEHLG. Following consultation with the National Allocation Advisory Group (NAAG) the EPA will reserve 748,000 allowances for the General Sector New Entrant Set-Aside.

In addition, the ICF/BOC report and the NAAG have identified the need for some increased capacity in the Cement sector. A specific set-aside of 500,000 allowances will be created for this sector for the 2008-2012 period.

In the Powergen sector, *Indecon/Enviros* assessed that plans to replace plant with 400 MW baseload and a new 400 MW plant were relevant. Considering the return of unused allowances due to closure to the relevant set-aside (as outlined in section 3.1 above) a total of 3,996,000 allowances will be reserved for the Powergen Sector New Entrant Set-Aside.

A separate set-aside for new (high efficiency) CHP of 450,000 allowances will be established based on approximately 10 MW additional electrical output per annum for each of the five years. These allowances will also be taken from the Powergen sector.

### 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.*

*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.*

Relevant legislative requirements were factored into the assessment of the total number of allowances for the Emissions Trading sector carried out by ICF/BOC. A list of legislation considered in this regard is given in Appendix 4.

The Commission's guidance document of January 2004 states that only significant increases or decreases should be considered and suggests that a change of 10% should be considered as significant. In particular they state in relation to this criterion:

*“Criterion 4 concerns the relationship between allocations under Directive 2003/87/EC and other Community legislative and policy instruments. Consistency between allowance allocations and other legislation is introduced as a requirement in order to ensure that the allocation does not contravene the provisions of other legislation. In principle, no allowances should be allocated in cases where other legislation implies that covered emissions had or will have to be reduced even without the introduction of the emissions trading scheme. Similarly, consistency implies that if other legislation results in increased emissions or limits the scope for decreasing emissions covered by the Directive account should be taken of this increase.”*

In the pilot phase NAP (2005-2007) it was found that no legislative requirements were expected to result in a change in emissions above 10%. It was therefore considered that no special provisions needed to be made for legislative requirements.

As part of the public consultation on the second National Allocation Plan (12 May 2006 to 12 June 2006) operators were requested to make a submission if they knew of changes to installations which would occur in the period 2008-2012 as a result of EU legislation and which would cause an unavoidable increase of 10% or more in CO<sub>2</sub> emissions, giving full details of the projected increase. Two submissions were received which made reference to this Annex III criterion but neither gave any data on increases in emissions. The EPA did not consider it appropriate in the absence of actual emissions data to make any change. The list of community legislation considered by the EPA is contained in Appendix 4.

It should be noted that where additional permissible capacity is installed in order to meet legislative requirements the operator of the installation will be eligible to apply to the relevant sector specific new entrant set-aside for allowances and will not in such a case be eligible for allowances from any special legislative set-aside.



## 6. PUBLIC CONSULTATION

- 6.1 *How is this national allocation plan made available to the public for comments?*
- 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?*
- 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 summarise those comments and explain how they have been taken into account.*

The total quantity of allowances to be allocated and a number of high level allocation principles have been determined by Government. These decisions were made by Government in line with national climate change policy and the criteria laid out in the Directive, and following consideration of the reports prepared by ICF/BOC.

ICF/BOC engaged in consultations with various industry groups and undertook a number of site visits in one key sector. In addition they consulted with the Industrial Development Authority on possible future growth in the PharmaChem and ICT sectors. An Interim Report and a consultation paper were published (advertised in the national press in early October 2005), and the main interest groups were invited to an information seminar which was well attended by a wide-ranging representation. The DEHLG received 20 submissions through the consultation which were subsequently published on their website.

The public was invited by way of national newspaper advertisements to make any comments they wished to the EPA's consultants *Indecon/Enviros* during the preparation of their reports. A participant's workshop was held in December 2005 followed by individual meetings for all sector groups with both Indecon Consultants and EPA in attendance.

The draft National Allocation Plan was made available to participants and the public for comment over a period of one month from 12 May to 12 June, 2006. National newspaper advertisements together with a press release alerted the public, and each known participant was e-mailed. A participant's workshop to present the draft NAP was also held on 29 May.

The 32 submissions arising from this consultation have been placed on the EPA web site. Each submission has been assessed and the relevant points made were considered either by the Board of EPA or by the Government parties as appropriate. No significant changes to the draft NAP2 resulted from this examination of the submissions many of which requested changes in one direction which were in turn contradicted by other submissions requesting movement in the opposite direction.

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

*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

*Please submit a matrix containing the following information:*

- Identification (e.g. name, address) of each installation*
- The name of the operator of each installation*
- The number of the greenhouse gas emissions permit*
- The unique (EPER) identifier of the installation*
- The main activity, and, if applicable, other activities carried out at the installation*
- Total quantity of allowances to be allocated for the period, and the annual breakdown, for each installation*
- Whether the installation has been unilaterally included or temporarily excluded and whether it is part of a pool*
- Annual data per installation, including emission factors if emissions data are used, which have been used in the allocation formula(e)*
- A subtotal per activity of data used and number of allowances allocated*

The above information, where applicable, is contained in Appendices 7 and 8.

## **Appendix 1 Government Decision conveyed to EPA on 10 April 2006**

- 1) Pursuant to national obligations under Directive 2003/87/EC, the Government has decided to make available 115.07 million allowances for allocation by your Agency through the National Allocation Plan (NAP) to participants in the EU Emissions Trading Scheme (ETS) in the commitment period 2008-2012 inclusive, an average of 23.014 million per year.
- 2) In the allocation process, the Government considers that the following matters are relevant to the Agency's consideration:
  - a) the need to endeavour to ensure the protection of competitiveness in those sectors exposed to global competition is reflected in the allocation to such sectors and, in this regard, take into account of the characteristics of the powergen and the cement sectors and the extent of their capacity to recoup the marginal cost increases arising. The Agency shall ensure that the requirements of the Directive, in particular Annex III Criterion 5, are strictly observed.
  - b) in the context of (a) and generally, the need to have regard to the ICF Consulting/Byrne O'Cléirigh 2004 and 2006 reports on Determining the Share of Greenhouse Gas Emissions for Emissions Trading in Ireland which were prepared for Government and which informed the Government's decision.
- 3) Government has directed that:
  - a) at least 89.5% of the total allowances made available by Government be allocated free of charge to installations to which you have issued greenhouse gas emissions permits by 30 June 2006;
  - b) you are to provide an appropriate quantity, not greater than 10%, of the allowances at (1), for issue free of charge to installations which obtain a greenhouse gas emissions permit after 30 June 2006 and to cancel any allowances unused for this purpose at the end of the commitment period;
  - c) you are to make available for sale not greater than 0.5% of the allowances at (1) sufficient to defray the expense of administering the emissions trading scheme;
  - d) you are to withhold the issue of allowances in respect of future years to installations that close in the years 2008 to 2011 and to issue allowances withheld on this basis in the same manner as at b) above, subject to allowing installations that close to retain 75% of their annual allocation, up to a maximum of 25,000 allowances per annum, for the remainder of the commitment period;
  - e) you are to have due regard, in respect of power generation, to Government policy on fuel diversity in constructing the National Allocation Plan; and
  - f) you are to exclude calciners used in the production of alumina pending clarification which the Minister will seek from the European Commission on the treatment of such equipment across the EU; the allocation which would be due to Aughinish Alumina, in this regard, shall be set aside and retained by the Agency pending further direction from the Minister.
- 4) Government has agreed that the Minister for the Environment, Heritage and Local Government, following consultation with the Agency, will decide on the total amount of credits from the Kyoto Protocol flexible mechanisms, expressed as a percentage of the allocation to each installation, that can be used by operators in the Scheme for the period 2008-2012. The amount to be specified shall not exceed 50% of the allocation to each installation.
- 5) Government has decided, having regard to obligations under the EU Directive and the Kyoto Protocol, to announce an indication of intent to purchase allowances on the international market to ensure that Ireland is in possession of sufficient allowances to comply with Kyoto commitments for those sectors of the economy not directly engaged in emissions trading. A total quantity of 18.035 million allowances (3.607 million per annum) is estimated to be sufficient for this purpose.

**Appendix 2**  
**NAP Summary Tables I-VII**

<b>Table I</b>		<b>NAP summary table – target calculation</b>	
<i>(Grey fields are filled out automatically)</i>			
Row	Data table no.		Emissions (Mt CO <sub>2</sub> eq)
A		Target under Kyoto Protocol or Burden Sharing Agreement (avg. annual GHG emissions 2008-12)	63.032
B	III	<i>Total GHG emissions 2003 (excluding LULUCF emissions and removals)</i>	68.36
C		<b>Difference +/-</b> (row A - row B) (negative means need to reduce)	-5.328
D	III	<i>Av. annual projected total GHG emissions 2008-2012 ('with measures' projection)</i>	70.20
E		<b>Difference +/-</b> (row A - row D) (negative means need to reduce)	-7.17
<b>Reduction measures (where relevant)</b>			
F	V	EU emissions trading scheme [1], [2]	-3.02
G	VI	Additional policies and measures (other than emissions trading), including LULUCF	-0.77
H	VII	Government purchase of Kyoto mechanisms	0.00
I		<b>Total reduction measures</b> (row F + row G + row H)	-3.79
[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 ETS sector under the business as usual scenario		

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<b>Table IIa</b>		<b>NAP Summary table – Basic data</b>												
		<i>(Grey fields are filled out automatically)</i>												
			<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
A	<b>Real GDP [1]</b> (in billion €2000)	Absolute	40.447	41.228	42.606	43.753	46.272	52.614	56.882	63.044	68.642	76.262	83.823	88.859
		Trend index 2003=100	41.04	41.84	43.23	44.40	46.95	53.39	57.72	63.97	69.65	77.39	85.06	90.17
B	<b>Emissions [1]</b> (Mt of CO <sub>2</sub> ) [2]	Absolute	32.479	32.474	33.005	32.618	34.031	34.696	35.995	38.416	40.217	42.013	44.161	46.569
		Trend index 2003=100	73.08	73.07	74.26	73.39	76.57	78.07	80.99	86.44	90.49	94.53	99.36	104.78
C	<b>Carbon intensity [1]</b> (million tonnes CO <sub>2</sub> / billion €)	Absolute	0.80	0.79	0.77	0.75	0.74	0.66	0.63	0.61	0.59	0.55	0.53	0.52
		Trend index 2003=100	0.80	0.79	0.77	0.75	0.74	0.66	0.63	0.61	0.59	0.55	0.53	0.52
Year			<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Annual average 2008-2012</b>
A	<b>Real GDP [1]</b> (in billion €2000)	Absolute	94.309	98.547	103.020	108.847	114.221	121.313	128.535	135.647	143.287	149.983	156.193	142.73
		Trend index 2003=100	95.70	100	104.54	110.45	115.91	123.10	130.43	137.65	145.40	152.19	158.50	144.83
B	<b>Emissions [1]</b> (Mt of CO <sub>2</sub> ) [2]	Absolute	45.623	44.444	45.192	47.778	47.408	48.137	49.377	50.047	51.114	51.726	52.460	50.94
		Trend index 2003=100	102.65	100	101.68	107.50	106.67	108.31	111.10	112.61	115.01	116.38	118.04	114.63
C	<b>Carbon intensity [1]</b> (million tonnes CO <sub>2</sub> / billion €)	Absolute	0.48	0.45	0.44	0.44	0.42	0.40	0.38	0.37	0.36	0.34	0.34	0.36
		Trend index 2003=100	0.48	100	0.44	0.44	0.42	0.40	0.38	0.37	0.36	0.34	0.34	0.36
[1] Indicate data source(s), separately per year where relevant.														
[2] Please note that contrary to the explanation of Table IIa on page 34 of the English version of the NAP2 guidance communication, we are requesting here only CO <sub>2</sub> and not total greenhouse gas emissions.														
<b>Irish NAP2 Notes:</b>		Row A: All GDP (Market Prices) data at 1995 Constant Prices 2004-12 ESRI Mid Term Review Oct 2005 High Growth scenario												
		Row B: 1990-2004 from CRF 2006 2005-12 from 4NC excludes LUCF												

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<b>Table IIb.</b>		<b>NAP Summary table – Basic data on electricity sector [1]</b>											
		<i>(Grey fields are filled out automatically)</i>											
Year		2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average 2008-2012
A	<b>Total domestic electricity production (TWh)</b>				2,631	2,750	2,868	2,990	3,105	3,246	3,308	3,431	3,216.00
B	<b>Total Imports (TWh)</b>	0.00	0.00	0.00	90.00	87.00	70.00	78.00	83.00	63.00	103.00	62.00	77.80
	B/a <b>United Kingdom</b>				90.00	87.00	70.00	78.00	83.00	63.00	103.00	62.00	77.80
	B/b <b>Country n</b>												
	B/c <b>Other countries</b>												
C	<b>Total Exports (TWh)</b>	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/a <b>Country 1</b>				0.00	0.00	0.00						
	C/b <b>Country n</b>												
	C/c <b>Other countries</b>												
D	<b>Electricity trade balance (TWh, total row B - total row C)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>90.00</b>	<b>87.00</b>	<b>70.00</b>	<b>78.00</b>	<b>83.00</b>	<b>63.00</b>	<b>103.00</b>	<b>62.00</b>	77.80
E	<b>Share of gas in total domestic electricity production (%)</b>				0.49	0.55	0.53	0.51	0.51	0.52	0.52	0.53	0.52
F	<b>Share of oil in total domestic electricity production (%)</b>				0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
G	<b>Share of coal in total domestic electricity production (%)</b>				0.34	0.27	0.29	0.31	0.29	0.28	0.27	0.27	0.28
H	<b>Share of nuclear energy in total domestic electricity production (%)</b>				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I	<b>Share of renewable energy, including biomass, in total domestic electricity production (%) [2]</b>				0.08	0.09	0.10	0.11	0.13	0.13	0.14	0.14	0.13
[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.													
<b>Irish NAP2 Notes:</b>													
Row A 2005-12 data from ICF Consulting IPM Model													
Row G Data is for all solid fuel, i.e. coal and peat													

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<b>Table 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)</b>												
<i>(Grey fields are filled out automatically)</i>												
			in Mt CO <sub>2</sub> eq									
Row ref.	CRF subsector		2003	2004	2005	2008	2009	2010	2011	2012	Average annual projected emissions 2008-2012	
A	1.A.1	Energy generation	GHG	16.151	15.754	17.257	17.929	18.243	18.651	18.845	19.17	18.57
B			CO <sub>2</sub> in ETS	15.599	15.219	15.662	17.271	17.584	17.992	18.186	18.511	17.91
C	1.A.3	Transport	GHG	11.851	12.579	12.295	12.578	12.822	13.063	13.259	13.421	13.03
D	1.A.4.a + b + c	Commercial and institutional, Residential, and Agricultural energy use	GHG	10.706	11.047	11.89	11.87	11.761	11.718	11.717	11.727	11.76
E			CO <sub>2</sub> in ETS	0.077	0.084	0.077	0.097	0.099	0.101	0.102	0.103	0.10
F	2	Industrial processes	GHG	3.051	3.17	3.327	3.848	3.884	4.065	4.153	4.25	4.04
G			CO <sub>2</sub> in ETS	2.346	2.504	2.627	3.148	3.184	3.365	3.453	3.55	3.34
I	4	Agriculture	GHG	19.137	18.982	18.755	17.174	17.014	16.855	16.711	16.576	16.87
J	5	Land-Use Change and Forestry	GHG	0	0	0	-2.074	-2.074	-2.074	-2.074	-2.074	-2.07
K	6	Waste	GHG	1.75	1.834	1.974	1.843	1.845	1.84	1.834	1.79	1.83
L	1.A.2 + 1.A.4 + 1.A.5 + 1.B + 3 + 7	All other sectors	GHG	5.714	5.096	5.614	5.764	5.96	6.254	6.403	6.553	6.19
M			CO <sub>2</sub> in ETS	3.916	4.282	4.035	3.972	4.127	4.377	4.487	4.591	4.31
N		Total (A+C+D+F+I+J+K+L)	GHG	68.36	68.462	71.112	68.932	69.455	70.372	70.848	71.413	70.20
O		Total in ETS (B + E + G + M)	CO <sub>2</sub> in ETS	21.938	22.089	22.401	24.488	24.994	25.835	26.228	26.755	25.66



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<b>Table IV NAP Summary table – Recent and projected CO<sub>2</sub> emissions in sectors covered by the EU emissions trading scheme</b>												
<i>(Grey fields are filled out automatically)</i>												
	Emissions in Mt CO <sub>2</sub> eq	i	ii	iii [3]	iv	v	vi	vii	viii	ix	x	xi
	Year	2003	2004 [6]	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)	17.88	17.73	18.02	18.28	18.83	19.10	19.54	20.07	20.31	20.67	19.94
	powergen	15.11	14.74	15.140	15.48	16.04	16.70	17.01	17.40	17.59	17.90	17.32
	other combustion	2.766	2.99	2.880	2.81	2.78	2.40	2.53	2.67	2.72	2.77	2.62
	flaring											
	furnaces [4, 5]											
B	mineral oil refineries	0.37	0.37	0.411	0.42	0.43	0.44	0.45	0.46	0.48	0.49	0.46
C	coke ovens	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	metal ore roasting, sintering, pig iron and steel producing installations	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	cement producing installations	3.50	3.81	3.812	4.03	4.10	4.68	4.73	5.02	5.16	5.31	4.98
F	lime producing installations	0.11	0.11	0.102	0.11	0.18	0.20	0.21	0.21	0.21	0.22	0.21
G	glass and glass fibre producing installations	0.03	0.03	0.024	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
H	ceramics producing installations	0.03	0.03	0.030	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
I [7]	pulp, paper and board producing installations	0.02	0.02	0.002	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]	21.94	22.09	22.401	22.91	23.60	24.49	24.99	25.84	26.23	26.76	25.66
K	Share of EU ETS CO <sub>2</sub> in total GHG emissions (%) (Row J / Row N in table III)	32.09%	32.26%	31.50%			35.52%	35.99%	36.71%	37.02%	37.47%	36.54%
	[1] Numbers to be used in last two columns of Table V.											
	[2] Row J must be equal to Row O in Table III:	21.94	22.09	22.401			24.49	24.99	25.84	26.23	26.76	25.66
	[3] Please insert figures equal to the registry data on the surrendered amount of allowances (note that this is not the allocation data).											
Irish NAP2 Notes:	[4] Emissions from furnaces included under "other combustion" as they are part of installations with other combustion equipment.											
	[5] Calciners in alumina production are not included in NAP2											
	[6] For 2004:Where possible CRF 2006 figures used Otherwise ICF=BOC figures used which in turn are based on 2003 EPA Emissions Data											
	[7] Row I: Only one paper and board manufacturer, which closed mid 2005											

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<b>Table V NAP Summary table – Proposed allocation in relation to first period allocation (without additional policies and measures) in the sectors covered by the EU ETS</b>						
<i>(Grey fields are filled out automatically)</i>						
		i	ii	iii	iv	v
		2003 actual CO <sub>2</sub> emissions (Mt CO <sub>2</sub> )	2004 actual CO <sub>2</sub> emissions (Mt CO <sub>2</sub> )	Average annual allocation 2005 - 2007	Proposed average annual allocation in 2008-2012 [Note 2]	Proposed ETS allocation as a percentage of first period ETS allocation
A	<b>combustion installations total (excluding installations covered under rows B-J)</b>	17.88	17.73	17.267449	17.172896	99.45%
	powergen	15.11	14.74	14.3675	13.917	96.86%
	other combustion/general	2.77	2.99	2.8999	3.256	112.28%
	flaring	0.00	0.00			
	integrated steelworks	0.00	0.00			
	crackers	0.00	0.00			
	furnaces <sup>Note 1</sup>	0.00	0.00			
	main activity n	0.00	0.00			
B	<b>mineral oil refineries</b>	0.37	0.37	0.4048		0.00%
C	<b>coke ovens</b>	0.00	0.00	0.0000	0.000	
D	<b>metal ore roasting, sintering, pig iron and steel producing installations</b>	0.00	0.00	0.0000	0.000	
F	<b>cement producing installations</b>	3.50	3.81	3.6240	4.213	116.26%
G	<b>lime producing installations</b>	0.11	0.11	0.2915		0.00%
H	<b>glass and glass fibre producing installations</b>	0.03	0.03	0.0315		0.00%
I	<b>ceramics producing installations</b>	0.03	0.03	0.0326		0.00%
J	<b>pulp, paper and board producing installations</b>	0.02	0.02	0.0174	0.000	0.00%
L	<b>Total</b>	<b>21.94</b>	<b>22.09</b>	<b>21.67</b>	<b>21.38601</b>	<b>98.69%</b>
Irish NAP2 Notes:	<p>Note 1: Other combustion includes furnaces but does not include calciners used in alumina production</p> <p>Note 2: For the period 2008-12 it is planned to include in a "general" sector all of the following: oil refining, lime, glass and glass fibre, ceramics and any combustion other than powergen. The "general" sector allocation is shown here under other combustion. Cement sector includes combustion at a cement installation.</p>					

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<b>Table VI</b>		<b>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 CO<sub>2</sub>eq)</b>								
		i	ii	iii	iv	v	vi	vii	viii	ix
Measures	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	F-Gases Regulation	0.000	0.000		0.000	0.024	2008	0.000	0.000	
B	Enhanced DI&M system to reduce leaks at large surface site on gas distribution network	0.000	0.000		0.000	0.027	2008	0.000	0.000	
C	Landfill Anaerobic digestion with methane decomposition	0.000	0.000		0.000	0.267	2008	0.000	0.000	
D	Landfill Methane capture with usage as fuel	0.000	0.000		0.000	0.197	2008	0.000	0.000	
E	Greener Homes Grant Scheme (Administered by Sustainable Energy Ireland)	0.000	0.020	2010	0.000	0.000		0.000	0.000	
F	Commercial Bioheat Grant Scheme (Administered by Sustainable Energy Ireland)	0.000	0.160	2010						
G	Integration of land-use planning and transport investment	0.000	0.075	2008	0.000	0.000		0.000	0.000	
H	Promotion of eco-driving in road transport	0.000	0.000		0.000	0.000		0.000	0.130	2010
X	<b>Subtotal</b>	0.00	0.255		0.00	0.515		0.00	0.13	
	<b>Total (equal to row G in Table I)</b>					0.77				
	<p>[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.</p> <p>[2] The measure has been adopted by the final instance at the relevant local, regional or national level, but it is not yet implemented.</p> <p>[3] The measure is at least mentioned in a formal government document.</p>									

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<b>Table VII NAP Summary table – Government's planned use of Kyoto units (Mt CO<sub>2</sub>eq) and status of implementation</b>					
<i>(Grey fields are filled out automatically)</i>					
		ERUs	CERs	AAUs and others	Total
A	Planned purchase	Total 2008-2012			18.035
B		Annual average	0	0	3.607
C	Quantity of units already paid for				0.00
D	Quantity of units contracted, but yet unpaid (delivery pending start of UN ITL) [1]				0.00
E	Neither bought nor contracted by date of notification (A - C - D)	0	0	0	18.035
F	Full budget appropriated to first commitment period (2008-12)	Currently available for 2006 (M EUR)			20.00
G		Committed for the future (M EUR) [2]			0.00
H	Implied future price M EUR/Mt CO <sub>2</sub> 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			

**Appendix 3**  
**NAP Summary Tables VIII-X**

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<b>Table VIII NAP Summary table – Details on new entrants, closures and auctioning</b>	
<b>Issues with respect to new entrants</b>	<b>Description of NAP provisions</b>
Does the plan contain a new entrants' reserve?	Yes
What is its size in absolute terms and as a percentage of the total quantity of allowances for the period?	Powergen Set Aside = 3,996,000 (5 years) CHP Set Aside = 450,000 Cement set Aside = 500,000 General Set Aside = 748,000 Total Set Aside = 5,694,000 = 5.03 % of Total allowances
What use is made of allowances left over in the reserve at the end of the trading period? (cancellation, sold)	They will be cancelled.
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)	New entrants will buy in the open market if no further allowances are available to them.
Does the allocation to the new entrant depend on the actual choice of fuel?	Yes, provided this is BAT for the site.
Does the allocation to the new entrant depend on the actual choice of technology?	BAT will be applied but assessed on a site specific basis.
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?	To be decided on a site specific basis depending on verifiable information available
<b>Auctioning</b>	
Will any allowances be auctioned?	Allowances will be made available for purchase this may be through an auction.
What share of the total quantity of allowances will be auctioned?	0.5% of the total allowances will be made available for sale.
Who can participate in the auction?	Sales will be EU wide.
What auctioning method will be used?	Not yet decided
When/at what intervals will the auction(s) be held?	Not yet decided
What quantity of allowances will be auctioned each time?	Not yet decided
What use will be made of the revenues?	Revenue from sales of allowances will be used by the EPA to defray the administrative costs of the scheme. Revenue is not generated through permitting fees etc.
Will the auctions be coordinated with any auctions in other Member States?	Not yet decided
<b>Closures</b>	
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, operators must notify the CA when the activity ceases.
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.	Where an installation is deemed by the EPA to have closed in the years 2008 - 2011, allowances in respect of future years will be withheld and added to the appropriate sector specific set-aside, subject to allowing installations that close retain 75% of their annual allocation, up to a maximum of 25,000 allowances per annum, for the remainder of the trading period.
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)	Added into the new entrants reserve for that sector.



<b>Table X NAP Summary table - Important assumptions on annual averages</b>						
<b>Year</b>	<b>EU Allowance price (in Euro)</b>	<b>Crude oil price (Brent) [1]</b>	<b>Natural gas price [1]</b>	<b>Coal price [1]</b>	<b>Exchange rate [2]</b>	<b>Other</b>
<b>2005</b>	<b>15</b>	<b>44.54</b>	<b>6.2</b>	<b>64.49</b>	<b>N/A</b>	
<b>2006</b>	<b>15</b>	<b>61.65</b>	<b>8.9</b>	<b>64.27</b>		
<b>2007</b>	<b>15</b>	<b>52.82</b>	<b>8.52</b>	<b>58.97</b>		
<b>2008</b>	<b>15</b>	<b>38.69</b>	<b>7.16</b>	<b>54.35</b>		
<b>2009</b>	<b>15</b>	<b>35.45</b>	<b>6.6</b>	<b>54.35</b>		
<b>2010</b>	<b>15</b>	<b>31.07</b>	<b>6.3</b>	<b>54.35</b>		
<b>2011</b>	<b>15</b>	<b>27.92</b>	<b>5.6</b>	<b>54.35</b>		
<b>2012</b>	<b>15</b>	<b>26.64</b>	<b>5.2</b>	<b>54.35</b>		
<p>[1] Use common market standard and specify, including the currency used; indicate in detail sources of data and methodologies Source: ICF - BOC Consulting (March 2006)</p>						
<p>[2] For those Member States outside the Euro-zone</p>						



## Appendix 4 Legislative and Policy Instruments

Policy Instrument/Legislation used in calculating the total for Emissions Trading
<p><b>Agriculture</b></p> <p>CAP reform (Luxembourg Agreement) <i>pp 42-43</i></p> <p>Nitrates Directive (91/676/EEC) <i>page 44</i></p>
<p><b>Energy</b></p> <p>RES-Directive (2001/77/EC)</p> <p>Large Combustion Plants Directive (2001/80/EC)</p> <p>National Emissions Ceiling Directive (2000/60/EC)</p> <p>Community legislation opening up the electricity market would be implicitly taken into account, See <a href="http://europa.eu.int/comm/energy/electricity/legislation/index_en.htm">http://europa.eu.int/comm/energy/electricity/legislation/index_en.htm</a></p> <p>Sulphur content of fuels Directive 2003/17/EC</p>
<p><b>Industry, Commercial and Services</b></p> <p>F-Gases Regulation (Adopted by Council on 25 April, but not published in Official Journal yet, so no reference)</p>
<p><b>Waste</b></p> <p>Landfill Directive (99/31/EC)</p>
<p><b>Transport</b></p> <p>Biofuels Directive (2003/30/EC)</p> <p>EU voluntary agreement with European, Korean and Japanese car manufacturers (ACEA/JAMA/KAMA)</p> <p>Car Labelling Directive (1999/94/EC)</p> <p>Community legislation to encourage the development of Trans-European Transport Networks - framework under which transport investments such as the Dublin Port Tunnel and other National Development Plan infrastructure measures were developed</p>
<p><b>Residential</b></p> <p>Energy Performance in Buildings Directive (2002/91/EC)</p>
<p><b>Sinks</b></p> <p>Co-funding of afforestation grants under EU forestry policy</p>

<b>Potential List of Legislation to be considered for sector/ installation level allocations</b>	
<b>Legislative or policy instrument</b>	<b>Summary</b>
Directive 96/61/EC concerning Integrated Pollution Prevention and Control	Minimising pollution from industrial point sources.
Directive 2003/96/EC on the restructuring of the Community framework for the taxation of energy products and electricity	Widens the scope of the EU's minimum rate system for energy products, previously limited to mineral oils, to all energy products including coal, natural gas and electricity
Directive 2003/17/EC on the quality of petrol and diesel fuels (amending directive 98/70/EC)	The Directive introduces “zero” sulphur fuels to the European market from 1 January 2005 with complete market availability from 1 January 2009.
Directive 2002/91/EC on the energy performance of buildings	Sets minimum requirements for the energy performance of all new buildings and existing large buildings subject to major renovation. Provides for energy certification of all buildings and for regular mandatory inspection of boilers and air conditioning systems in buildings.
Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market	The purpose of this Directive is to promote an increase of the contribution of renewable energy sources to electricity production in the internal market for electricity and to create a basis for a future Community framework.
Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants	Limits pollutant emissions from large combustion plants, i.e. those with a rated thermal input equal to or greater than 50 MW, irrespective of the type of fuel used. In order to gradually reduce the annual emissions of sulphur dioxide and oxides of nitrogen from existing plants and to lay down emission limit values for sulphur dioxide, nitrogen oxides and dust in the case of new plants.
The Solvents Directive: (Council Directive 1999/13/EC)	This Directive limits the emission of volatile organic compounds (VOCs) from the use of organic solvents, and is intended to reduce air pollution and protect human health.
Directive 2001/81/EC on national emission ceilings for certain atmospheric pollutants.	Sets national emission ceilings for pollutants causing acidification and eutrophication and for ozone precursors in order to provide fuller protection for the environment and human health against their adverse effects.

**Appendix 5 - Projected Greenhouse Gas Emissions by Sector (million tonnes CO<sub>2</sub>e)**

	2005	2006	2007	2008	2009	2010	2011	2012
<b>Energy Sub-total</b>	17.407	16.822	17.397	18.064	18.432	18.841	19.039	19.365
<i>Electricity Generation</i>	16.713	16.122	16.688	17.351	17.654	18.051	18.233	18.547
<i>Oil Refining</i>	0.420	0.433	0.443	0.454	0.465	0.476	0.488	0.499
<i>Solid Fuel Production</i>	0.124	0.124	0.124	0.124	0.124	0.124	0.124	0.124
<i>Gas Production</i>	0.089	0.079	0.074	0.074	0.124	0.124	0.124	0.124
<i>Fugitive</i>	0.061	0.064	0.068	0.061	0.065	0.066	0.070	0.071
<b>Industry Sub-total</b>	12.517	12.522	12.771	13.505	13.747	14.284	14.570	14.862
<i>Manufacturing Industry</i>	5.353	5.149	5.217	5.518	5.660	5.953	6.098	6.247
<i>Process</i>	2.627	2.703	2.787	3.148	3.184	3.365	3.453	3.550
<i>Commercial</i>	3.726	3.859	3.956	4.028	4.092	4.155	4.208	4.254
<i>Industrial Solvents</i>	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111
<i>F-Gases: Other</i>	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
<b>Agriculture Sub-total</b>	19.595	18.837	18.294	17.976	17.801	17.630	17.477	17.336
<i>Combustion</i>	0.840	0.841	0.821	0.802	0.787	0.775	0.766	0.760
<i>Enteric Fermentation</i>	9.153	8.758	8.493	8.341	8.251	8.156	8.070	7.987
<i>Manure Management</i>	2.170	2.087	2.023	1.988	1.969	1.950	1.932	1.914
<i>Soils</i>	7.432	7.151	6.957	6.845	6.794	6.749	6.709	6.675
<b>Residential Sub-total</b>	7.324	7.457	7.271	7.040	6.882	6.788	6.743	6.713
<b>Waste Sub-total</b>	1.974	1.923	1.852	1.843	1.845	1.840	1.834	1.790
<i>Landfill</i>	1.841	1.788	1.715	1.704	1.703	1.696	1.688	1.642
<i>Wastewater</i>	0.133	0.135	0.137	0.139	0.142	0.144	0.146	0.148
<b>Transport Sub-total</b>	12.295	12.377	12.490	12.578	12.822	13.063	13.259	13.421
<i>Civil Aviation</i>	0.116	0.118	0.122	0.126	0.130	0.132	0.139	0.143
<i>Road</i>	11.809	11.876	11.976	12.050	12.279	12.506	12.686	12.837
<i>Railways</i>	0.147	0.151	0.155	0.158	0.162	0.166	0.171	0.175
<i>Navigation</i>	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
<i>Gas</i>	0.157	0.166	0.171	0.178	0.185	0.193	0.197	0.200
<b>Gross National Emissions</b>	71.112	69.938	70.075	71.006	71.529	72.446	72.922	73.487
<i>Domestic LULUCF</i>	-	-	-	2.074	2.074	2.074	2.074	2.074
<b>Net National Emissions</b>	71.112	69.938	70.075	68.932	69.455	70.372	70.848	71.413
<i>Of which:</i>								
ETS Powergen	15.140	15.475	16.041	16.704	17.007	17.404	17.586	17.900
ETS Cement	3.812	4.033	4.101	4.683	4.728	5.019	5.162	5.313
ETS General	3.449	3.398	3.458	3.101	3.259	3.412	3.480	3.542
<b>ETS Emissions</b>	22.401	22.906	23.600	24.488	24.994	25.835	26.228	26.755
<b>Non-ETS emissions</b>	48.711	47.032	46.475	44.035	44.052	44.128	44.211	44.249

Source: DEHLG

## Appendix 6 Methodology for Adjustment of Sector Totals

The EPA is employing an historical approach for the determination of allocations to sectors and installations, as recommended by the EPA's consultants Indecon/Enviros. One of the primary advantages of using an historic emissions based approach is the overall accuracy, availability and potential for verification of the data and therefore it treats all sectors equally.

However as the top-down total allocation determined by Government is based on emissions forecasts it is necessary to adjust sector historic emissions where implementation of a legislative or policy requirement during the pilot phase has been used in determination of the base case emissions.

Assessment of the sectors and the ICF/BOC forecasting methodology indicates that national energy policy, in particular that on renewable energy sources, is the only such factor likely to have a significant impact on emissions trends. A base case adjustment (BCA) has therefore been calculated for the powergen sector, which takes account of the requirement to increase the penetration of renewable energy sources.

In the relevant historic period (2003) renewables contributed<sup>20</sup> 4.3% of gross national electricity consumption in an average of 26,037 GWh/a. National energy policy and Directive 2001/77/EC will result in a contribution of 13.2% by 2010 (taken as an average for the 2008-2012 period) and current trends indicate that this will be achieved. Using a displacement factor of 0.6 tonnes of carbon dioxide per MWh of electricity produced by renewable sources, the required adjustment for powergen is therefore calculated as:

$$[26,037*(1-0.043) - 26,037*(1-0.132)]*0.6*1,000$$

which equals 1.39Mt.

Failure to take this adjustment into account before final allocation would result in an over allocation to the powergen sector.

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<sup>20</sup> SEI communication.

**Appendix 7 Provisional allocation to installations.**

**THESE ARE INDICATIVE ONLY AND WILL BE CHANGED FOLLOWING BASELINE VERIFICATION TO BE CARRIED OUT BETWEEN NOW AND THE AUTUMN.**

<b>Permit Register Number</b>	<b>Sector</b>	<b>Provisional Annual Allocation (2008-2012)</b>
<b>GHG001</b>	General	13,385
<b>GHG002</b>	General	43,431
<b>GHG003</b>	General	23,383
<b>GHG004</b>	General	6,189
<b>GHG005</b>	General	25,952
<b>GHG007</b>	Powergen	664,033
<b>GHG008</b>	General	80,295
<b>GHG009</b>	General	50,163
<b>GHG011</b>	General	13,110
<b>GHG012</b>	General	12,477
<b>GHG013</b>	General	370,111
<b>GHG014</b>	General	52,336
<b>GHG015</b>	General	17,490
<b>GHG016</b>	Powergen	834,089
<b>GHG017</b>	General	7,124
<b>GHG018</b>	General	11,801
<b>GHG019</b>	General	8,894
<b>GHG020</b>	General	68,960
<b>GHG021</b>	General	2,996
<b>GHG022</b>	General	4,597
<b>GHG023</b>	General	12,910
<b>GHG024</b>	General	72,028
<b>GHG025</b>	General	18,666
<b>GHG026</b>	General	22,778
<b>GHG027</b>	General	8,394
<b>GHG028</b>	General	6,657
<b>GHG031</b>	General	7,829
<b>GHG032</b>	General	24,032
<b>GHG035</b>	General	9,122
<b>GHG037</b>	General	6,051
<b>GHG038</b>	General / Powergen	1,165,938
<b>GHG041</b>	General	8,480
<b>GHG042</b>	Cement	931,845
<b>GHG043</b>	Cement	1,564,060
<b>GHG044</b>	General	106,637
<b>GHG045</b>	General	262,324

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Permit Register Number	Sector	Provisional Annual Allocation (2008-2012)
GHG047	General	8,997
GHG048	General	8,945
GHG049	General	28,325
GHG050	General	57,226
GHG051	General	31,042
GHG054	General	7,750
GHG057	General	36,437
GHG058	General	37,059
GHG059	General	2,427
GHG061	General	5,104
GHG062	Cement	509,865
GHG063	Powergen	572,352
GHG066	Powergen	380,699
GHG068	Powergen	451,783
GHG069	Powergen	287,115
GHG070	Powergen	4,026,570
GHG071	Powergen	352,990
GHG072	Powergen	1,663,514
GHG075	Powergen	1,083,874
GHG076	Powergen	10,553
GHG077	Powergen	654,864
GHG078	General	10,911
GHG079	General	16,405
GHG080	Powergen	782,586
GHG081	General	3,771
GHG082	General	3,795
GHG083	General	8,091
GHG085	General	17,914
GHG086	General	21,527
GHG088	General	18,708
GHG089	General	352
GHG090	General	4,706
GHG091	Powergen	892,727
GHG093	Cement	1,207,344
GHG094	General	22,604
GHG095	General	5,119
GHG096	General	5,909
GHG097	General	7,103

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<b>Permit Register Number</b>	<b>Sector</b>	<b>Provisional Annual Allocation (2008-2012)</b>
<b>GHG098</b>	General	12,105
<b>GHG099</b>	General	34,044
<b>GHG101</b>	General	83,554
<b>GHG102</b>	General	6,320
<b>GHG103</b>	General	23,847
<b>GHG105</b>	General	65,780
<b>GHG106</b>	General	64,524
<b>GHG108</b>	General	2,909
<b>GHG109</b>	General	38,588
<b>GHG123</b>	General	21,256
<b>GHG126</b>	General	5,700
<b>GHG127</b>	General	9,864
<b>GHG128</b>	General	8,865
<b>GHG129</b>	General	24,223
<b>GHG130</b>	General	9,260
<b>GHG131</b>	General	5,115
<b>GHG132</b>	General	15,016
<b>GHG133</b>	General	19,418
<b>GHG134</b>	General	3,395
<b>GHG136</b>	General	4,052
<b>GHG137</b>	General	13,549
<b>GHG138</b>	General	5,913
<b>GHG139</b>	General	4,340
<b>GHG140</b>	General	17,883
<b>GHG141</b>	General	16,610
<b>GHG142</b>	General	15,169
<b>GHG143</b>	General	14,338
<b>GHG144</b>	Powergen	21,553
<b>GHG145</b>	General	93,033
<b>GHG146</b>	General	8,874
<b>GHG148</b>	General	1,161
<b>GHG149</b>	General	8,554
<b>GHG150</b>	General	5,822
<b>GHG151</b>	General	3,318
<b>GHG152</b>	Powergen	872,699
<b>GHG153</b>	General	8,188
<b>GHG154</b>	General	24,620
<b>GHG155</b>	General	6,924
<b>Total</b>		<b>21,386,010</b>

## Appendix 8: Installation Details and Associated Operator

Permit Register Number	Site Name	Site Location	Operator Name
<b>GHG001</b>	Kingscourt Bricks	Drumgill, Kingscourt, County Cavan	Kingscourt Bricks Limited
<b>GHG002</b>	Kingscourt Works	Gypsum Industries Limited, Kingscourt, County Cavan	Gypsum Industries Limited
<b>GHG003</b>	Arrabawn Cooperative Society Limited	Stafford Street, Nenagh, County Tipperary	Arrabawn Cooperative Society
<b>GHG004</b>	Weyerhaeuser Europe Limited	Redmondstown, Clonmel, County Tipperary	Weyerhaeuser Europe Limited
<b>GHG005</b>	Midleton Distilleries	Irish Distillers Limited, Midleton, County Cork	Irish Distillers Limited
<b>GHG007</b>	Edenderry Power Plant	Edenderry Power Ltd., Ballykilleen, Edenderry, County Offaly	Edenderry Power Limited
<b>GHG008</b>	Kerry Ingredients (Listowel)	Tralee Road, Listowel, County Kerry	Kerry Ingredients Ireland Limited
<b>GHG009</b>	Carbery Milk Products	Ballineen, County Cork	Carbery Milk Products Limited
<b>GHG011</b>	Elan	Monksland, Athlone, County Westmeath	Elan Corporation plc
<b>GHG012</b>	Merck Sharp & Dohme (Ireland) Ltd.	Ballydine, Kilsheelan, Clonmel, County Tipperary	Merck Sharp & Dohme (Ireland) Ltd.
<b>GHG013</b>	ConocoPhillips Whitegate Refinery	Whitegate, Midleton, County Cork	ConocoPhillips Whitegate Refinery Ltd.
<b>GHG014</b>	Wyeth Nutritionals Ireland	Askeaton, County Limerick	AHP Manufacturing B.V. t/a Wyeth Nutritionals Ireland
<b>GHG015</b>	Bailieboro Foods Limited and Bailie Foods Ireland Limited	Lear, Bailieborough, County Cavan	Bailieboro Foods Limited and Bailie Foods Ireland
<b>GHG016</b>	Dublin Bay Power Plant	Pigeon House Road, Ringsend, Dublin 4	Synergen
<b>GHG017</b>	Premier Proteins	Poolboy, Ballinasloe, County Galway	Premier Proteins {2000} Limited
<b>GHG018</b>	Schering-Plough (Brinny) Company	Brinny, Innishannon, County Cork	Schering-Plough (Ireland) Company
<b>GHG019</b>	Mallinckrodt Medical Imaging Ireland	Damastown Industrial Estate, Mulhuddart, Dublin 15	Tyco Healthcare Dublin
<b>GHG020</b>	Kinsale Head Gas Field	Marathon Oil Ireland Limited, Platforms Alpha & Bravo, Kinsale Head Gas Field, Celtic Sea	Marathon Oil Ireland Limited
<b>GHG021</b>	Beamish & Crawford	South Main Street, Cork	Beamish & Crawford plc
<b>GHG022</b>	Genzyme Ireland Limited	IDA Industrial Estate, Old Kilmeaden Road, Waterford	Genzyme Ireland Limited
<b>GHG023</b>	Eli Lilly S.A. (Irish Branch)	Dunderrow, Kinsale, County Cork	Eli Lilly S.A. (Irish Branch)
<b>GHG024</b>	St. James's Gate Brewery	St. James's Gate, Dublin 8	Diageo Ireland



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<b>Permit Register Number</b>	<b>Site Name</b>	<b>Site Location</b>	<b>Operator Name</b>
<b>GHG025</b>	Pfizer Ireland Pharmaceuticals Ringaskiddy API Plant	Ballintaggart, Ringaskiddy, County Cork	Pfizer Ireland Pharmaceuticals
<b>GHG026</b>	Wyeth Medica BioPharma Campus at Grange Castle	Grange Castle International Business Park, Kilmahudrick, Nangor Road, Clondalkin, Dublin 22	AHP Manufacturing B.V. trading as Wyeth Medica Ireland
<b>GHG027</b>	St. Francis Abbey Brewery	Parliament Street, Irishtown, Kilkenny	Diageo Ireland
<b>GHG028</b>	Dundalk Brewery	Carrick Road, Dundalk, County Louth	Diageo Ireland
<b>GHG031</b>	Killeshandra Site	Killeshandra, County Cavan	Lakeland Dairies Co-operative Society Limited
<b>GHG032</b>	Lough Egish Site	Lough Egish, Tullynahinera, Castleblaney, County Monaghan	Lakeland Dairies Co-operative Society Limited
<b>GHG035</b>	Schering-Plough (Avondale) Company	Rathdrum, County Wicklow	Schering-Plough (Ireland) Company
<b>GHG037</b>	Meath Proteins	Crossdoney, County Cavan	Meath Proteins
<b>GHG038</b>	Aughinish Alumina	Aughinish Island, Askeaton, County Limerick	Limerick Alumina Refining Limited
<b>GHG041</b>	St. James's Hospital	James's Street, Dublin 8	St. James's Hospital Board
<b>GHG042</b>	Irish Cement Ltd. (Limerick Works)	Irish Cement Ltd., Limerick Works, Castlemungret, County Limerick	CRH plc
<b>GHG043</b>	Irish Cement Limited, (Platin Works)	Irish Cement Limited, Platin Works, Drogheda, County Meath	CRH plc
<b>GHG044</b>	Clogrennane Lime Ltd.	Clogrennane, County Carlow	CRH plc
<b>GHG045</b>	Premier Periclase Limited	Boyne Road, Drogheda, County Louth	CRH plc
<b>GHG047</b>	Ormonde Brick Ltd.	Ardra, Castlecomer, County Kilkenny	CRH plc
<b>GHG048</b>	United Fish Industries	Killybegs, County Donegal	United Fish Industries
<b>GHG049</b>	Cognis Ireland Ltd	Inchera and Wallingstown, Little Island, County Cork	Cognis Ireland Limited
<b>GHG050</b>	Dairygold Co-Operative Society Ltd	Castlefarm, Mitchelstown, County Cork	Dairygold Co-Operative Society Ltd
<b>GHG051</b>	Dairygold Co-Operative Society Ltd. Mallow	Annabella, Mallow, County Cork	Dairygold Co-Operative Society Ltd
<b>GHG054</b>	Swords Laboratories	Watery Lane, Swords, County Dublin	Swords Laboratories
<b>GHG057</b>	Wyeth Medica Ireland	Buckley's Cross Roads, Old Connell, Newbridge, County Kildare	AHP Manufacturing B.V Trading as Wyeth Medica Ireland
<b>GHG058</b>	Intel Ireland	Collinstown Industrial Park, Leixlip, County Kildare	Intel Ireland Limited
<b>GHG059</b>	Bristol-Myers Squibb Cruiserath	Cruiserath Road, Mulhuddart, Dublin 15	Swords Laboratories t/a Bristol Myers Squibb Cruiserath
<b>GHG061</b>	Midleton Compressor Station	Ballinacurra West, Midleton, County Cork	Bord Gais

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<b>Permit Register Number</b>	<b>Site Name</b>	<b>Site Location</b>	<b>Operator Name</b>
<b>GHG062</b>	Lagan Cement	Lansdown, Killaskillen, Kinnegad, County Westmeath	Lagan Cement Limited
<b>GHG063</b>	ESB Aghada Generating Station	ESB Aghada Generating Station, Whitegate, Midleton, County Cork	Electricity Supply Board
<b>GHG066</b>	ESB Great Island Generating Station	ESB Great Island Generating Station, Campile, New Ross, County Wexford	Electricity Supply Board
<b>GHG068</b>	ESB Lough Ree Power	ESB Lough Ree Power, Lanesboro, County Longford	Electricity Supply Board
<b>GHG069</b>	ESB Marina Generating Station	Centre Park Road, County Cork	Electricity Supply Board
<b>GHG070</b>	ESB Moneypoint Generating Station	ESB Moneypoint Generating Station, Kilrush, County Clare	Electricity Supply Board
<b>GHG071</b>	ESB North Wall Generating Station	ESB North Wall Generating Station, Alexandra Road, Dublin 1	Electricity Supply Board
<b>GHG072</b>	ESB Poolbeg Generating Station	ESB Poolbeg Generating Station, Pigeon House Road, Dublin 4	Electricity Supply Board
<b>GHG075</b>	ESB Tarbert Generating Station	ESB Tarbert Generating Station, Tarbert, Co. Kerry	Electricity Supply Board
<b>GHG076</b>	ESB Generating Station Tawnaghmore	ESB, Tawnaghmore, Ballina, County Mayo	Electricity Supply Board
<b>GHG077</b>	ESB West Offaly Power	ESB West Offaly Power, Shannonbridge, County Offaly	Electricity Supply Board
<b>GHG078</b>	Novartis Ringaskiddy Limited	Ringaskiddy, County Cork	Novartis Ringaskiddy Limited
<b>GHG079</b>	Pfizer Ireland Pharmaceuticals Loughbeg API Plant	Loughbeg, Ringaskiddy, County Cork	Pfizer Ireland Pharmaceuticals
<b>GHG080</b>	Huntstown Power Station	Huntstown Power Station, Huntstown Quarry, Ashbourne Road, Finglas, Dublin 15	Huntstown Power Company Limited
<b>GHG081</b>	Dublin City University	Dublin City University, Dublin 9	Dublin City University
<b>GHG082</b>	Pfizer Ireland Pharmaceuticals Little Island	Pfizer Ireland Pharmaceuticals (Little Island), Wallingstown, Little Island, County Cork	Pfizer Ireland Pharmaceuticals
<b>GHG083</b>	Flemings Fireclays Manufacturing Ltd.	The Swan, Athy, County Laois	Flemings Fireclays Manufacturing Ltd.
<b>GHG085</b>	Waterford Crystal (Kilbarry)	Kilbarry, Waterford	Waterford Crystal Ltd.
<b>GHG086</b>	Tipperary Co Operative Creamery Ltd.	Station Road, Tipperary, Co. Tipperary	Tipperary Co Operative Creamery Ltd.
<b>GHG088</b>	Finsa Forest Products	Scarriff, County Clare	Finsa Forest Products Ltd
<b>GHG089</b>	Masonite Ireland	Derryoughter, Drumsna, Carrick on Shannon, County Leitrim	Masonite Ireland
<b>GHG090</b>	IBM Technology Campus	Damastown Industrial Estate, Mulhuddart, Dublin 15	IBM International Holdings BV

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<b>GHG091</b>	Tynagh 400MW CCPP	Derryfrench, Tynagh, Loughrea, County Galway	Tynagh Energy Limited
<b>GHG093</b>	Scotchtown Cement Works	Scotchtown Cement Works, Scotchtown, Ballyconnell, County Cavan	Quinn Cement Ltd.
<b>GHG094</b>	Dublin Airport	Dublin Airport, County Dublin	Dublin Airport Authority
<b>GHG095</b>	SmithKline Beecham (Manufacturing) Ltd.	Currabinny, Carrigaline, County Cork	GlaxoSmithKline
<b>GHG096</b>	University of Dublin	Trinity College, Dublin 2	Provost, Fellows and Scholars University of Dublin
<b>GHG097</b>	Cadbury Ireland Coolock Factory	Malahide Road, Coolock, Dublin 5	Cadbury Ireland Limited
<b>GHG098</b>	Cadbury Ireland Rathmore Factory	Rathmore, County Kerry	Cadbury Ireland Limited
<b>GHG099</b>	Abbott Ireland Cootehill	Drumore West, Cootehill, County Cavan	Abbott Ireland
<b>GHG101</b>	Glanbia Ingredients - Ballyragget	Ballyragget, County Kilkenny	Glanbia plc
<b>GHG102</b>	Glanbia Kilmeaden	Kilmeaden, County Waterford	Glanbia plc
<b>GHG103</b>	Glanbia Virginia	Burrenrea, Kells Road, Virginia, County Cavan	Glanbia plc
<b>GHG105</b>	Bord na Móna Derrinlough Briquette Factory	Fivealley, Birr, County Offaly	Bord na Móna Fuels Limited
<b>GHG106</b>	Bord na Móna Littleton Briquette Factory	Littleton, Thurles, County Tipperary	Bord na Móna Fuels Limited
<b>GHG108</b>	Smartply Europe	Belview, Slieverue, County Kilkenny	Smartply Europe Ltd
<b>GHG109</b>	Kerry Ingredients (Golden Vale plc)	Kilmallock road, Charleville, County Cork	Kerry Ingredients Ireland Limited
<b>GHG123</b>	College Proteins Limited	College, Nobber, County Meath	College Proteins Limited
<b>GHG126</b>	Janssen Pharmaceutical Ltd.	Janssen Pharmaceutical Ltd., Little Island, County Cork	Janssen Pharmaceutical Ltd.
<b>GHG127</b>	UCD, Belfield	University College Dublin, Belfield, Dublin 4	University College Dublin
<b>GHG128</b>	Moy Isover Ltd.	Ardfinnan, Clonmel, County Tipperary	Moy Isover Ltd.
<b>GHG129</b>	Fruit of the Loom International Limited Ballymacarry	Ballymacarry Lower, Bunrana, County Donegal	Fruit of the Loom International Limited
<b>GHG130</b>	University College Cork	Western Road, Cork City	University College Cork
<b>GHG131</b>	Drogheda Concentrates	Industrial Estate, Drogheda, County Louth	Atlantic Industries
<b>GHG132</b>	Minch Malt Limited	Greencore Malting Group, The Maltings, Athy, County Kildare	Minch Malt Limited
<b>GHG133</b>	Baxter Healthcare SA	Moneen Road, Castlebar, County Mayo	Baxter Healthcare SA
<b>GHG134</b>	Waterford Regional Hospital	Dunmore Road, Waterford	Health Service Executive - South Eastern Area

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<b>GHG136</b>	EMC Facilities Co. Cork	IDA Industrial Estate, Ovens, County Cork	EMC Corporation
<b>GHG137</b>	Ballymun Boiler House	Ballymun, Dublin 11	Dublin City Council
<b>GHG138</b>	University College Hospital Galway	University College Hospital, Newcastle, Galway	Health Service Executive, Western Area
<b>GHG139</b>	Cork University Hospital	Wilton, County Cork	Health Service Executive, Southern Area
<b>GHG140</b>	Nutricia Infant Nutrition Ltd. Macroom	Castleview, Macroom, County Cork	Nutricia Infant Nutrition Ltd
<b>GHG141</b>	Nutricia Infant Nutrition Ltd. Rocklands	Rocklands, Wexford, County Wexford	Nutricia Infant Nutrition Ltd
<b>GHG142</b>	Waterford Proteins / AIBP Waterford	Christendom, Ferrybank, County Waterford	AIBP
<b>GHG143</b>	Munster Proteins / AIBP Cahir	Kilcommon, Cahir, County Tipperary	AIBP
<b>GHG144</b>	ESB Rhode Generating Station	Coolcor, Rhode, County Offaly	Electricity Supply Board
<b>GHG145</b>	Clogrennane Lime Ltd., Toonagh Lime Works	Ballybrody, Ennis, County Clare	CRH plc
<b>GHG146</b>	Dublin Products Ltd	Dunlavin, County Wicklow	Dublin Products Ltd
<b>GHG148</b>	Slaney Proteins	Ryland, Bunclody, County Wexford	Slaney Proteins
<b>GHG149</b>	Beaumont Hospital	Beaumont Road, Dublin 9	Beaumont Hospital Board
<b>GHG150</b>	Vitra Tiles	IDA Business Park, Ballynattin, Arklow, County Wicklow	Vitra (Ireland) Ltd
<b>GHG151</b>	Centocor Biologics (Ireland) Limited	Barnahely, Ringaskiddy, County Cork	Centocor Biologics (Ireland) Limited
<b>GHG152</b>	Huntstown Power Station (Phase 2)	Huntstown Quarry, Ashbourne Road, Finglas, Dublin 15	Viridian Power Limited
<b>GHG153</b>	Allergan Pharmaceuticals Ireland	Castlebar Road, Westport, County Mayo	Allergan Pharmaceuticals (Ireland) Ltd.
<b>GHG154</b>	Shannonside Milk Products Ltd	Dublin Road, Ballaghaderreen, County Roscommon	Shannonside Milk Products Ltd
<b>GHG155</b>	Pfizer Ireland Pharmaceuticals (Dublin Sterile Operations)	Pottery Road, Dun Laoghaire County Dublin	Pfizer Ireland Pharmaceuticals