EXPLANATORY MEMORANDUM TO THE

GREENHOUSE GAS EMISSIONS TRADING SCHEME (APPROVED NATIONAL ALLOCATION PLAN) REGULATIONS 2005

2005 No. 1387

1. This explanatory memorandum has been prepared by the Department for Environment, Food and Rural Affairs and is laid before Parliament by Command of Her Majesty.

This memorandum contains information for the Joint Committee on Statutory Instruments.

2. Description

2.1 This instrument fills a technical gap in the Greenhouse Gas Emissions Trading Scheme Regulations 2005 (SI 2005/925) ("the Consolidated Regulations"). Those Regulations consolidated the Regulations contained in

- The Greenhouse Gas Emissions Trading Scheme Regulations 2003 (S.I. 2003/3311) (the "2003 Regulations");
- The Greenhouse Gas Emissions Trading Scheme (Amendment) Regulations 2004 (S.I. 2004/3390) (the "Subsistence Charge Regulations").

2.2 The Consolidated Regulations require certain things to be undertaken in accordance with an "approved national allocation plan", which is defined as meaning, "in respect of a scheme phase, a national allocation plan specified in approved NAP regulations as the approved national allocation plan for that scheme phase". "Approved NAP regulations" is defined as meaning, "in relation to a scheme phase, regulations made by the Secretary Of State under section 2(2) of the European Communities Act 1972 specifying as the approved national allocation plan, a national allocation plan developed for that scheme phase which has not been rejected by the European Commission or in relation to which the European Commission has accepted amendments in accordance with Article 9(3) of the Directive."

2.3 These regulations are the "Approved NAP regulations" for the phase 2005 to 2007 and therefore legally designates the approved National Allocation Plan for the purposes of the Consolidated Regulations. In particular, it also allows regulators to determine new entrant applications in accordance with the National Allocation Plan as required by Regulations 22 and 24 of the Consolidated Regulations.

3. Matters of special interest to the Joint Committee on Statutory Instruments

3.1 The Joint Committee will note from regulation 2 that these regulations specify a document as the approved national allocation plan "for the 3 year

period beginning on 1st January 2005". Given that part of that period has already passed, this may give rise to concerns that the regulations purport to take effect from a date earlier than that upon which they are made, contrary to paragraph 1(b) of Schedule 2 to the European Communities Act 1972.

3.2 In the Department's view, the regulations currently before them do not purport to take effect from a date earlier than that upon which they are made, contrary to paragraph 1(b) of Schedule 2 to the European Communities Act 1972, for the following reasons.

3.3 First it is necessary to look at the definition of "approved NAP regulations" in the Consolidated Regulations :

> "'approved NAP regulations' means, *in relation to a scheme phase*, regulations made by the Secretary of State under section 2(2) of the European Communities Act 1972 specifying as the approved national allocation plan a national allocation plan developed for that scheme phase …." [emphasis added]

3.4 In order for the present regulations to meet the description of "approved NAP regulations", they must specify a national allocation plan *in relation to a scheme phase*. "Scheme phase" is defined as either the three year period beginning on 1st January 2005, the five year period beginning on 1st January 2008 or a subsequent five year period. The plan specified in these regulations has been developed for the purposes for the first of those periods, and therefore needs to be specified as the approved plan for that period.

3.5 It is then necessary to consider the effect of the specified document being the approved plan for that period. Its purpose is to provide for the distribution of allowances to installations within the UK. It does not purport to impose any obligations on operators of installations or any other person which must be complied with before the date upon which they come into force.

3.6 The significance of the three year period beginning on 1st January 2005 is twofold. First, the specified plan provides for those allowances to be allocated within that period.

3.7 Secondly, those allowances may be surrendered by operators of installations in order to assist them in complying with their obligations to surrender allowances equal to the emissions which they emit during the three year period beginning on 1st January 2005[1]. These obligations already exist under permit conditions imposed pursuant to regulation 10(3) of the Consolidated Regulations[2]. The first such obligation to surrender allowances does not arise until 2006.

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[1] They may also be surrendered by any operator of installation elsewhere in the European Union in order for them to comply with a parallel requirement.

[2] Regulation 10(3) of the Consolidated Regulations states "A greenhouse gas emissions permit shall contain conditions to ensure that the operator surrenders allowances equal to the annual reportable emissions from the installation within four months of the end of the scheme

3.8 The Department therefore takes the view that although these regulations specify a national allocation plan for the three year period beginning on 1st January 2005, they only purport to have that effect from the date upon which they come into force.

4. Legislative Background

4.1 These regulations are made under section 2(2) European Communities Act 1972, and in order to implement the UK's obligations under the Emissions Trading Directive (Directive 2003/87/EC).

4.2 The Consolidated Regulations were made on 23rd March 2005 and came into force on 21st April 2005.

4.3 The Emissions Trading Scheme is split into a number of phases. The first phase runs for 3 years from 1st January 2005 until 31st December 2007. The second and subsequent phases run for five years.

4.4 Regulation 20 of the Consolidated Regulations requires the Secretary of State to develop a national allocation plan for each scheme phase. "National allocation plan" is defined in regulation 2 as "a plan developed in accordance with Articles 9 and 10 of and Annex III to the Directive". Under Article 9(1) the plan has to state the total quantity of allowances intended to be allocated and how it is intended to allocate them. It must be based on objective criteria including those listed in Annex III.

4.5 Once a plan has been approved by the Commission (either by the Commission not rejecting the plan within 3 months of its notification or by accepting amendments to the plan in accordance with Article 9(3) of the Directive) a final decision on allocation can be made. Regulation 21(1) of the Consolidated Regulations requires the Secretary of State to make this decision. Annex III requires the plan to contain a list of the installations covered by the Directive and the quantities of allowances intended to be allocated to each. The decision on allocation has to be based on the plan taking due account of comments from the public (see regulation 21(2)). The Consolidated Regulations provide a framework for how allocations will be made to new entrants and the procedures to be followed where an installation ceases operation. However in order to avoid having to make new regulations for each scheme phase, it was proposed that the detailed provisions would be set out in the national allocation plan for each phase rather than in the regulations.

4.6 The Consolidated Regulations therefore include a number of references to the "approved national allocation plan" such as regulation 22 which provides that an application may be made for an allocation from the new entrant reserve "where the approved national allocation plan provides for a new entrant reserve". The other main example is regulation 24 sets out the

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year during which those emissions arose." This provision replicates regulation 10(3) in the Greenhouse Gas Emissions Trading Scheme Regulations 2003 (S.I. 2003/3311).

circumstances in which an operator can apply to retain its allocation once its installation has closed. Regulators (who are under an obligation to determine both of these types of application) may not do so until approved NAP regulations are in force.

4.7 As the UK had not completed its national allocation plan at the time that the Consolidated Regulations were made, those regulations therefore provided that once approved by the Commission, the national allocation plan would be listed in "approved NAP regulations" to be made under section 2(2) of the European Communities Act 1972.

4.8 The regulations which are currently before the Committee are the regulations which specify the national allocation plan for the first phase (2005-2007).

5. Extent

5.1 This instrument applies to all of the United Kingdom.

6. European Convention on Human Rights

6.1 The Minister of State (Department of Environment, Food and Rural Affairs) has made the following statement regarding Human Rights:

6.2 In my view the provisions of the Greenhouse Gas Emissions Trading Scheme (Approved National Allocation Plan) Regulations 2005 are compatible with the Convention rights.

7. Policy background

7.1 The EU ETS is one of the policies being introduced across Europe to tackle emissions of carbon dioxide and other greenhouse gases and combat the serious threat of climate change.

7.2 The scheme commenced on 1 January 2005. The first phase runs from 2005-2007 and the second phase will run from 2008-2012 to coincide with the first Kyoto Commitment Period. Further five-year periods are expected subsequently.

7.3 The scheme will work on a "Cap and Trade" basis. EU Member State governments are required to set an emission cap for all installations covered by the Scheme. Each installation will then be allocated allowances for the particular commitment period in question. The number of allowances allocated to each installation for any given period, (the number of tradable allowances each installation will receive), will be set down in a document called the National Allocation Plan. A national allocation plan for the first phase has been developed, consulted on and is to be published in accordance with Regulation 20 of the Consolidated Regulations and these regulations simply

give legal backing to the plan and require regulators to act in accordance with that Plan

7.4 The announcement of the number of allocations and the publication of the National Allocation Plan are the final steps towards full UK participation in the EU ETS. As a result operators will know what their installation-level allocations are. They will be able to begin trading once their Registry accounts are opened and allowances are issued. The Government intends to open these accounts and issue allowances during by the end of May.

8. Impact

8.1 A Regulatory Impact Assessment is attached to this memorandum.

8.2 The impact on the public sector is to enable the Secretary of State and the regulators to ensure that the UK is in compliance with the EUTS Directive and to give effect to policy decisions on the implementation of the EU ETS in the UK through the requirements of the approved national allocation plan.

9. Contact

Teresa Hart at the Department for Environment, Food and Rural Affairs Tel: 020 7082 8577 or e-mail: teresa.hart@defra.gsi.gov.uk can answer any queries regarding the instrument.

EU Emissions Trading Scheme
Full Regulatory Impact Assessment
May 2005

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1. TITLE OF PROPOSAL

1.1 This Regulatory Impact Assessment (RIA) is concerned with Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. Agreement on the Directive was reached on 22 July 2003 following the European Parliament's second reading. It was published in the Official Journal on 25 October 2003[3].

1.2 This final RIA assesses both the overarching impacts of the implementation of this Directive through the establishment of the EU Emissions Trading Scheme (EU ETS), and the impacts relating to the more detailed implementation of the scheme. It combines the issues covered in the partial RIAs[4] published with the draft National Allocation Plan (NAP) in January 2004, the provisional UK NAP 2005-2007 submitted to the Commission in April 2004 and the proposed amendments to the UK NAP published in November 2004 with the aim of providing a full impact analysis of the Scheme as a whole and specific implementation options.

2. PURPOSE AND INTENDED EFFECT

2.1 Objective

2.1.1 The broad objective of the EU ETS is to reduce greenhouse gas emissions from the installations covered by the Scheme. It is a key market-based instrument and the EU ETS forms an integral part of the European Union's strategy to tackle the challenges posed by climate change. It aims to reduce, in the most cost effective way, EU emissions of carbon dioxide (CO_2) that contribute to the problems associated with global warming, and to encourage investments by business to help EU Member States achieve the reductions necessary for meeting their Kyoto Protocol targets for 2008-2012.

2.1.2 The UK National Allocation Plan is intended to put us on a path to achieving our national climate change goal of moving towards a 20% reduction in CO_2 emissions on 1990 levels by 2010.

2.1.3 Implementation of the EU ETS is a devolved matter in the UK. In light of this, where we describe the UK position in the remainder of this document, this should be read as meaning the agreed view of the UK Government and the Devolved Administrations.

2.1.4 The more detailed objectives regarding UK implementation of the Scheme are discussed in Section 4 below.

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[3] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm
[4] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/impact.htm#ria

2.2 Background

2.2.1 Climate change is one of the most serious environmental problems the world faces. The Earth's climate is undoubtedly changing. Global average temperatures rose by more than 0.6ºC during the 20th century. The ten warmest years on record have occurred since 1990. All the evidence points to the primary cause being an increase in concentrations of greenhouse gases in the atmosphere, due to human activities. The Intergovernmental Panel on Climate Change (IPCC) concluded in its Third Assessment Report[5], published in 2001, that most of the observed warming over the last 50 years is attributable to human activities. The changing climate is likely to have far-reaching effects on all aspects of the world's environment, economy, society and health.

2.2.2 Further detail of climate change and its impacts can be obtained from the Intergovernmental Panel on Climate Change[6] and the UK Climate Impacts Programme[7]. Climate change impacts and adaptation issues are explored in more detail in the UK Climate Change Programme[8] and in the RIA that accompanied that document[9].

Introduction to the EU ETS

2.2.3 The EU ETS Directive sets out the basis for emissions trading, a market-based instrument well suited to reducing greenhouse gas emissions. The rationale of emissions trading is that it should ensure a certain level of emission reductions that take place where the cost of the reduction is lowest, thus lowering the overall costs of addressing climate change.

2.2.4 The EU Directive requires all Member States to:

- set a limit on the total allowable CO_2 emissions from UK installations covered by the Scheme; and
- allocate allowances up to this limit to operators of individual installations, each allowance representing a tonne of CO_2 equivalent.

2.2.5 The number of allowances that will be allocated to each installation for the first phase of the Scheme (2005-2007) must be set out in a National Allocation Plan (NAP). This RIA accompanies the consolidated UK NAP which sets out in detail the UK's allocation methodologies and arrangements for dealing with new entrants, plant closure and auctioning. The NAP also lists the final allocations to be made to operators during Phase I of the Scheme. See below for further detail on the total quantity of allowances to be allocated in the UK[10].

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[5] Available from: http://www.ipcc.ch/
[6] See: http://www.ipcc.ch/
[7] See: http://www.ukcip.org.uk/
[8] See: http://www.defra.gov.uk/environment/climatechange/cm4913/
[9] See Annex I: http://defra.gov.uk/environment/climatechange/cm4913/pdf/section5.pdf
[10] See the Defra website for further details on the UK NAP and Regulations 20 and 21 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005:
www.legislation.hmso.gov.uk/si/si2005/20050925.htm
UK NAP: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/index.htm

2.2.6 Once the total quantity of allowable CO_2 emissions from UK installations covered by the Scheme has been set, neither the method of allocating allowances to individual installations nor the size of the actual allocation for each installation will affect the overall environmental outcome, the opportunity costs, or market prices resulting from the implementation of the EU ETS by the UK.

2.2.7 Essentially, the initial allocation of allowances to EU ETS participants is a one-off transfer. Participants in the trading scheme might be allocated allowances that are either more or less than their emissions in any given compliance period. Therefore they can consider how best to manage their emissions and allowances throughout the year in preparation for surrendering allowances equal to the actual emissions for each compliance period. The most cost effective strategy for each installation will vary. Participants with relatively high marginal abatement costs (compared to the market price for allowances) can be expected to have higher emissions and may achieve compliance by, at least in part, buying allowances from other participants. Participants with relatively low marginal abatement costs (compared to the market price for allowances) will undertake more abatement activity and can be expected to benefit from the sale of any surplus allowances. Emissions trading thus gives companies the flexibility to meet emission reduction targets according to their own strategy; for example by reducing emissions on site or by buying allowances from the market.

The total level of allowances in the UK

2.2.8 The UK published its National Allocation Plan (NAP) in May 2004, setting out provisional allocation levels for the first phase of the EU ETS (which runs from 2005-2007). These were based on provisional projections of emissions over the period and were equivalent to allocating a total of 736.3 million allowances to UK installations (1 allowance represents the right of a permitted installation to emit 1 tonne of carbon dioxide (tCO_2)). The allocations were subsequently reviewed in the light of ongoing work on the projections and the new climate change agreement targets agreed with industry.

2.2.9 The NAP published in May 2004 made it clear that we would be looking to the power stations sector to make reductions below business-as-usual emissions as they are more insulated from international competition than other sectors. Taking allowances from other industry sectors would have a greater impact on UK competitiveness as these sectors are more exposed to international competition and in particular competition from producers unaffected by the EU ETS[11]. As a result of the revised projections the Government proposed, in November 2004, to increase the total number of UK allowances for Phase I to 756.1 $MtCO_2$, with the additional reduction still implicit in this increase taken from the power generation sector[12]. We have not changed this approach and have allocated to sectors open to international competition on the basis of projected need.

[11] See Section 5 for a detailed assessment of the impact of the EU ETS on competition.
[12] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/amend.htm

2.2.10 Following notification from the Commission that it was unlikely to consider the proposed amendment to the UK NAP, the Government announced on 11 March 2005 that it intended to issue allowances on the basis of the provisional total of 736.3 million allowances, which the European Commission had already approved, in order to allow trading in the UK to begin as soon as possible. At the same time it would initiate legal proceedings against the Commission which will seek to require the Commission to consider the substance of the amendment to the UK National Allocation Plan, submitted in November 2004.

2.2.11 The UK submitted applications to this effect to the Court of First Instance on 11 April 2005 and 5 May 2005. A summary of the application will be published in the Official Journal of the European Union[13]. The initial allocation of 736.3 million allowances will be made without prejudice this legal challenge.

2.2.12 The Commission made a formal decision rejecting the amendment[14] to the total quantity of allowances in the UK NAP on 12 April 2005. The UK's Final Allocation Decision will therefore be based on the approved total of 736.3MtCO_2, with the additional 19.8million allowances to be distributed to the power stations sector later in the event of a successful court challenge[15].

Legislative framework

2.2.13 The Directive was transposed into UK law on 31 December 2003 by the Greenhouse Gas Emissions Trading Scheme Regulations 2003. These Regulations provided the necessary legal framework and detailed rules for the purpose of implementing the EU ETS in the UK. Amendments to the 2003 Regulations were subsequently required to enable the implementation of various further policy decisions (such as new entrant and closure policy), to take account of further relevant EU implementing legislation and to enable regulators to recover the costs incurred when exercising their functions under the Scheme.[16] The 2003 Regulations have now been revoked and replaced by the Greenhouse Gas Emissions Trading Scheme Regulations 2005, which entered into force on 21 April 2005.[17]

2.2.14 The UK consulted on both the original draft regulations in September 2003[18] and the proposed amendments to the regulations in October and November 2004[19] and refined the draft regulations in light of comments received.

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[13] See: http://europa.eu.int/eur-lex/lex/JOIndex.do?ihmlang=en
[14] See: http://europa.eu.int/comm/environment/climat/pdf/uk_bis_final_en.pdf
[15] Further information is available on the Defra website at: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/index.htm
[16] See http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm#regulations. The Greenhouse Gas Emissions Trading Scheme (Amendment) Regulations 2004 enabled regulators in the UK to recover the costs associated with administering the EU ETS by levying a subsistence charge for the financial year 2004/5. Annual subsistence charges for future years are provided for in the 2005 Regulations.
[17] See http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm#regulations
[18] See http://www.defra.gov.uk/corporate/consult/euets-regs/index.htm
[19] For details of the consultations, including partial Regulatory Impact Assessments regarding the amendments, see http://www.defra.gov.uk/corporate/consult/euets-charging/index.htm and http://www.defra.gov.uk/corporate/consult/euets-regs2/index.htm.

2.2.15 The Directive applies to installations across the UK. The Government will undertake several of the centralised functions contained in the Directive. In the UK, most of the operational aspects of the scheme will be regulated by the relevant regulators, namely: the Environment Agency (England and Wales); the Scottish Environment Protection Agency (Scotland); the Chief Inspector (Northern Ireland); and the Department of Trade and Industry (DTI) (all offshore installations). The UK is working to ensure that the directive is implemented in a consistent manner across England, Scotland, Wales and Northern Ireland.

2.3 Rationale for government intervention

Inaction on climate change

2.3.1 The IPCC Third Assessment Report stresses the need for urgent action to tackle climate change and provides a sound basis for developing the national and international response.

2.3.2 In response to the threat of climate change, most developed countries agreed at Kyoto in December 1997 to legally binding targets that will reduce emissions of the six main greenhouse gases by 5.2% below 1990 levels over the period 2008-2012. The European Community and its Member States agreed to an 8% reduction. In June 1998, Member States agreed to share out the European Community's target and the UK agreed to cut its emissions by 12.5%. Additionally, the UK adopted, as part of its Climate Change Programme, an ambitious national goal to move towards a 20% reduction on 1990 levels of CO_2 by 2010. Delivering these emissions reductions is likely to be the first part of a longer-term process. Further cuts in emissions will be needed, and the challenge of meeting future targets cannot be overstated. In the 2003 Energy White Paper[20] the Government stated its intention to put the UK on a path to a reduction in CO_2 emissions of 60% by 2050, with significant progress by 2020.

2.3.3 One of the means by which the international community is proposing to cut greenhouse gas emissions is through emissions trading, one of the so-called "flexible mechanisms" established by the Kyoto Protocol. Such international trading under the Kyoto Protocol is expected to begin in 2008. This will enable trading between those countries that have taken on emission reduction targets, in order to deliver emissions reductions where they are cheapest to implement. The EU ETS allows companies to get experience of trading prior to the onset of international trading under the Kyoto Protocol.

2.3.4 Businesses in the UK have gained early experience of trading under the UK Emissions Trading Scheme which began in 2002. However, unlike the EU ETS, the UK Scheme does not cover the Electricity Supply Industry, responsible for around 30% of the UK's CO_2 emissions. The EU ETS will ultimately lead to a harmonised approach across the EU and will minimise

[20] See: http://www.dti.gov.uk/energy/whitepaper/index.shtml

competitive internal EU distortions, which could result from different climate change policies being developed across different Member States.

2.3.5 The EU ETS is central to the UK's efforts to move towards a low carbon economy. It is a key measure in helping us to meet our 20% domestic emission reduction goal and international commitments to reduce emissions of greenhouse gases.

International obligations

2.3.6 The 7th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted a comprehensive compliance system for the Kyoto Protocol. Failure on the part of the UK as a Party to meet its international commitments will have political/diplomatic repercussions that may in turn lead to serious economic/commercial consequences. In particular, the UK could be suspended from participating in one or more of the 'flexible mechanisms' which include emissions trading; and a penalty factor of 1.3 will be applied to any shortfall from the target, which will make it harder for the UK to meet future targets under the Convention.

2.3.7 It is mandatory that all EU Member States implement the EU ETS Directive, therefore there are risks from not fulfilling UK legal obligations in the EU. In particular, the UK would face infraction proceedings from the EU if it did not implement the scheme.

3. CONSULTATION

3.1 Within Government and the devolved administrations

3.1.1 The Department for Environment Food and Rural Affairs (Defra) is working closely with the DTI and the devolved administrations of Scotland, Wales and Northern Ireland on the implementation of the EU ETS. HM Treasury, Department for Transport, Cabinet Office, the Foreign and Commonwealth Office and the UK Permanent Representation in Brussels (UKREP) are also consulted regularly on policy issues[21].

3.1.2 Close dialogue is held between Government, the devolved administrations and agencies involved in regulating the EU ETS; namely: the Environment Agency; Scottish Environment Protection Agency and Department for Environment Northern Ireland.

[21] Regulation 46 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005 contains express provisions regarding the agreement of the devolved administrations in relation to the exercise of certain powers by the Secretary of State.

3.2 Public Consultation

3.2.1 Stakeholders, including business and non-governmental organisations, have been regularly consulted on the implementation of the Scheme and their responses have been used to inform policy decisions with regard to the development of the National Allocation Plan. A list of all consultations that have been held on the EU ETS is available on the Defra website: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/consultations.htm

4. OPTIONS

4.1 Detailed implementation of the EU ETS – the UK NAP

4.1.1 This section sets out the options relating to the detailed implementation of the issues open to Member State discretion. The options relate to the following broad categories:

- Total quantity of allowances and allocation methodologies – determination of total quantity of allowances, sector and installation level allocations;
- New entrants, closure and auctioning (NECA); and
- Sector specific issues.

4.1.2 In developing different implementation options, the UK commissioned consultants to carry out work on the NAP, to examine the sub-options within the NAP, and the effect of the EU ETS on certain industrial sectors (e.g. Combined Heat and Power). In choosing specific options, we have considered our aims to achieve specific outcomes or effects of the Scheme, and also analysed the balance of costs and benefits.

4.1.3 The UK has also consulted widely throughout the development of the NAP. Partial RIA's accompanied each consultation and these have been combined to create this full, final RIA. See Section 3 for a list of the consultations carried out.

4.2 Determination of the quantity of allowances at sector level

Updated energy projections

4.2.1 The principle for determination of the overall quantity of allowances is that allocations to industry sectors will be based on projected need with the power stations sector contributing the additional reductions.

4.2.2 The emissions projections – referred to as Updated Energy Projections (UEP) - are derived from work using the DTI Energy Model incorporating carbon emissions factors from Defra.

4.2.3 In deriving allocations at sector level UEP has been used directly for 3 sectors – power stations (with allowance for adjustment of total quantity of

allowances), mineral oil refineries and offshore. In other sectors UEP growth rates have been applied to installation level 2002 emissions data.

4.2.4 The scale of reduction in the power stations sector, as against projected emissions, has increased since the provisional NAP was submitted to the Commission in April 2004. The allocation now proposed balances the UK's environmental and competitiveness objectives. The intention of these projections is to indicate where emissions would be on current Government policy. A DTI paper explaining the basis of the projections was published in November 2004[22].

Total quantity of allowances

Economic Impact

4.2.5 The economic impact of the decision on the total number of allowances depends on where allowances are taken from – either from the electricity generators or from other industry. The electricity generators are more insulated from international competition than other industry sectors, and Ministers have therefore agreed the generators should have a more stringent emissions allocation. Reducing the allocation to other industry sectors might have a greater impact on UK competitiveness as these sectors are exposed to greater international competition in particular from countries not covered by the EU ETS.

4.2.6 The decision is expected to impact on other sectors through an expected increase in electricity prices. On the basis of a carbon price of €5-10/tCO_2 it is estimated that the introduction of EU ETS will result in an increase in UK consumer electricity prices of around 3-6% for households and 6-12% for industry over the period 2005-2007, as the generators are likely to pass through the cost of carbon emissions to customers. The UK's decision to reduce the allocation to power stations as compared to business as usual should have no effect on the magnitude of the increase in end user electricity prices. Although there is a risk that the cost of carbon might be passed through more quickly than would otherwise have been the case, the impact of the change in allocations is likely only to be small.

4.2.7 We do not consider that the approach will have a material impact on security of energy supply or investments in the energy sector. In order to provide stakeholders with appropriate signals about the longer term, we are currently considering options for allocating in Phase II of the EU ETS and published (on 31 March 2005) details of our approach to developing a Phase II National Allocation Plan and details of how and when stakeholders can input into the decision making process[23].

[22] See: http://www.dti.gov.uk/energy/sepn/euets.shtml#uep
[23] See http://www.defra.gov.uk/environment/climatechange/trading/eu/phase2/index.htm

Environmental impact and relationship with Kyoto target and 20% goal

4.2.8 The nature of the trading scheme is that it sets a limit on emissions at an EU rather than Member State level. The actual emissions in Member States will be dependent on the economic decisions of operators about whether or not to reduce emissions and sell surplus allowances or increase emissions and purchase the shortfall. This in turn will be driven largely by the price of allowances. Therefore, the proposal to increase the number of UK allowances is very unlikely to have any impact on UK emissions in the longer-term, as UK companies will be participating in an EU-wide market and could therefore simply buy or sell allowances from other Member States. However, there could be a small short-term impact as a higher allocation might mean industry takes time to adjust to the new trading mechanism.

4.2.9 Despite the increase in projected UK emissions, the UK remains on track to exceed its Kyoto target of a 12.5% cut in emissions of all greenhouse gases by 2008-2012. The decision to set the total quantity of allowances at a level significantly below projected emissions means that the domestic goal of a move towards a 20% cut in CO_2 emissions by 2010 is within reach. However, the domestic goal of a move towards a 20% cut in CO_2 emissions by 2010 remains challenging, regardless of the decision on the total number of allowances.

Standardised Allocation Methodology

4.2.10 The Government has chosen to allocate allowances to all sectors, except for the power stations sector, equivalent to their projected or "business as usual" emissions. The power station sector, which has low-cost abatement opportunities and faces limited international competition, will be allocated the difference between the total quantity of allowances for the Scheme and the total allocated to all sectors apart from the power station sector.

4.2.11 It was decided to standardise the allocation methodology across sectors (except for power stations) following consultation with industry based on a number of criteria including simplicity, transparency, similar treatment of all installations included in the EU ETS, consistency with the Annex III criteria of the EU ETS directive and feasibility.

Use of CCA targets

4.2.12 CCA targets are applied to all installations covered by a CCA even if the installation only includes combustion and not any other Schedule 1 activity[24]. This approach is consistent with the NAP sector modelling as CCA targets are applied to a sector as appropriate to provide business as usual allocations for that sector. See Annex 1 for a detailed options appraisal.

[24] Schedule 1 to the ETS Regulations sets out the activities covered by the Scheme. See: www.legislation.hmso.gov.uk/si/si2005/20050925.htm

4.3 Determination of the quantity of allowances at installation level

4.3.1 Further detail on the methodology behind determining the level of allowances can be found in the National Allocation Plan[25]. For each issue below, we have presented a summary of a range of different implementation issues and the costs, benefits, risks, equity & fairness effects and competition effects for each option are set out in Annex 1.

Baseline Period[26]

4.3.2 A baseline period of 1998-2003 has been chosen as it provides a reasonable run of data and is therefore good for smoothing out anomalies. The inclusion of some early years, such as 1998, means that there is a possibility of rewarding early action. The inclusion of a recent year, i.e. 2003, increases the likelihood of the data being more representative of future emissions. See Annex 1 for a detailed options appraisal.

Allocation Methodology[27]

4.3.3 The chosen allocation methodology involves calculating an installation's 'relevant emissions' (upon which the allocation is based) by taking an average of the emissions during the baseline period after dropping the year with the lowest emissions. This is useful in excluding an anomalous year's data, increasing the likelihood that allocations are representative of future emissions. Dropping more than 1 year's minimum data would reduce the benefits that the averaging of data brings. See Annex 1 for a detailed options appraisal. The baseline changes, commissioning, rationalisation and temporary closure rules below take account of instances where application of this standard allocation methodology leads to significant anomalies.

Installations Starting in (a) 2002[28] and (b) 2003

4.3.4 For installations that began full operation in 2002, relevant emissions are calculated using 2002-2003 data, dropping the minimum year's data. This ensures that a full year's data is used, and because that year will be a recent year it is likely that the data will be a good indicator of future need. This method is also consistent with the treatment of other incumbent installations. See Annex 1 for a detailed options appraisal.

4.3.5 Allocations to installations that began full operation in 2003 will be based on the sectoral new entrant benchmarking methodology. There is insufficient data to apply the same allocation methodology that is used for other incumbent installations due to the "drop minimum year" facility. See Annex 1 for a detailed options appraisal.

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[25] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/fad.htm
[26] For more background please see the report for Defra by NERA, AEAT and SPRU, August 2003 available at: http://www.defra.gov.uk/corporate/consult/eu-emissions/annexa.pdf.
[27] For more background please see the report for Defra by NERA, AEAT and SPRU, August 2003 available at: http://www.defra.gov.uk/corporate/consult/eu-emissions/annexa.pdf.
[28] See also section 4.3.6 on commissioning.

Commissioning

4.3.6 In order that installations' relevant emissions are as representative as possible of future emissions, it has been decided to exclude full years' commissioning data for installations in the cement and power station sectors before applying the normal allocation methodology. Commissioning in these sectors is more likely to be a significant and protracted event than in other sectors and it was these sectors in particular that raised commissioning as a concern. For other sectors, the "drop minimum year" facility should account for years where emissions are low due to, among other things, commissioning. See Annex 1 for a detailed options appraisal.

Baseline Changes

4.3.7 To account for changes occurring via the addition and/or removal of technical units at an installation during the baseline, and the consequential impacts on emissions data, it was decided to apply a baseline changes rule. This means that where a baseline change has occurred, the installation's relevant emissions would be calculated on a unit-by-unit basis if disaggregated data is available. Where data cannot be disaggregated, relevant emissions would be based on the entire installation's data starting from the year of the installation's current configuration. Application of this rule means that the installation's relevant emissions are as representative as possible of future emissions. See Annex 1 for a detailed options appraisal.

4.3.8 In calculating an installation's relevant emissions, full calendar years in which there have been zero emissions are excluded. This removes anomalies occurring from periods of significant temporary closure and ensures that relevant emissions are as representative of future emissions as possible. The "drop minimum year" facility should account for shorter periods of temporary closure.

Inter-site rationalisation

4.3.9 In order to ensure that an installation's relevant emissions are as representative as possible of future emissions, a rationalisation rule has been devised to account for cases of inter-site rationalisation. Where rationalisation is deemed to have occurred[29], relevant emissions are calculated using the existing installation's historic data starting from year "t+1" where year "t" is the year in which the rationalisation took place. See Annex 1 for a detailed options appraisal.

[29] For more information on the definition of inter-site rationalisation, please see the Defra website: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/allocation.htm

New entrants, closures and auctioning (NECA)

Quantifying the size of the new entrant reserve (NER)

4.3.10 It was decided to use estimates consistent with underlying growth projections, sectoral allocations and bottom up sectoral information (option 1, see Annex 1) as the methodology for calculating the size of the new entrant reserve. This methodology has combined the bottom-up and top down approaches. Figures from these two methods are combined, according to the characteristics of each sector, to produce the most accurate expectations possible of new entrant demand for allowances in each sector. Due to the high variation in growth rates, the timeframe and character of new investment and other such traits across the different sectors, using a standard figure based on growth or output assumptions (option 2) would not deliver a fair solution in terms of the size of the NER and the percentage of allowances taken from incumbents in each sector in order to cover this NER. Option 2 would pose a greater risk of an NER that is either too big, thus penalising incumbent installations, or too small, thus adding the burden of buying allowances to new entrants, which could inhibit investment in the UK. See Annex 1 for a detailed options appraisal.

Types of new entrant

4.3.11 The chosen option has been selected in order to have a narrow definition of an eligible new entrant, with a few additions. This limits the regulatory burden as much as possible, providing simple, transparent criteria for NER applications, whilst simultaneously allowing for special circumstances where the use of particular technologies should be encouraged. Therefore, eligible types include: new installations or installations entering the scope of the scheme for the first time; extensions to existing installations that result in either a net increase in capacity of a Schedule I activity and/or the carrying out of an additional Schedule I activity[30]; installations recommencing operations following a temporary closure that occurred before the end of 2003; changes in offshore installations reflecting new tiebacks and modifications to enhance recovery; and increases in Good Quality Combined Heat and Power (CHP) capacity.

NECA - Cessation of production

4.3.12 The intention was that rules for closure would, to such an extent as was feasible, mirror the rules for new entrants. As installations closed, their unused allowances for subsequent years following the year of closure would be added to the NER, to create a balance between disinvestment and new investment. Rules relating to partial and temporary closure were intended to be part of this balance, but the Commission disallowed these rules. Therefore

[30] Schedule 1 to the ETS Regulations sets out the activities covered by the Scheme. See: www.legislation.hmso.gov.uk/si/si2005/20050925.htm

installations that are partially or temporarily closing will continue to receive their full allocation for the remaining years of the phase[31].

4.3.13 Permanent closure of an installation will result in the surrender of the permit. Allowances will not be issued to the closed installation in the years subsequent to that of closure. This will limit the windfall gained by the closing installation and prevent gaming by operators who then apply to the NER for allowances for a new installation.

NECA - Rationalisation

4.3.14 An exception to the rules on closure is the case of rationalisation. If the application for rationalisation is accepted, the operator will keep a fraction of the allowances reserved for the closing site, where this fraction is proportionate to the fraction of the closing site's production that is being transferred. The aim of this exception is to encourage, rather than discourage, the increase in energy efficiency that accompanies rationalisation. See Annex 1 for a detailed options analysis.

NECA – Commissioning

4.3.15 The cement and power stations (excluding CHP) sectors are the only sectors where it was considered appropriate to institute an average extended period of commissioning (see option 2 in Annex 1). This period is to be taken as 50 days, during which new entrants in these sectors will receive only 50% of their allocation. This will prevent a windfall to operators in these sectors, whose emissions will be much lower during commissioning than their expected emissions under normal operations, which were used to allocate their allowances. All other applicants are provided with allowances at full commercial operations rate from the date of first emissions.

4.3.16 It was decided that separate rules for the period of decommissioning were not necessary or viable. A permanently closing installation will already retain its allowance for the rest of the year in which it closes and a temporarily or partially closing installation will not lose any of the allowances reserved for it during Phase I. See Annex 1 for a detailed options appraisal.

NECA - Sale and auctioning

4.3.17 The overriding objective of the choice of auction or sale is to dispose of surplus allowances at the best price for taxpayers net of transaction costs, subject to the process of auction or sale being transparent, non-manipulative and secure from corruption. The process must also be equally fair to both large and small participants and, in the case of auctions seek to minimise the cost of participation. Annex 1 contains and options analysis and a partial RIA on auctioning and sale methods of disposal accompanies the consultation[32].

[31] A detailed options appraisal on partial and temporary closure can be found in the partial RIA published in May 2004. See: http://www.defra.gov.uk/corporate/consult/euetsnap-stagethree/ria.pdf
[32] See: http://www.defra.gov.uk/corporate/consult/euets-salemethods/index.htm

NECA - Delay in allocation for new entrants

4.3.18 The issuing of allowances to an installation may be delayed in certain circumstances, to avoid the risk of gaming by operators. Where, for example, a permit surrender or revocation application is being appealed against, the issuing of allowances to the operator should be delayed. Otherwise an operator may commence an appeal just before the issuing of allowances, in order to receive their allowances for the following year, before surrendering the permit. The Directive does not allow the recall of issued allowances. Therefore it is preferable not to issue the allowances until outstanding appeals and decisions are cleared.

Late and missing installations

4.3.19 As required by the NAP, the baseline emissions data used to calculate the allocations was subject to independent verification by accredited verifiers. Provided all installations permitted by 18 April 2005 had submitted acceptable verification opinions to Defra in time to be included in the final allocation decision (FAD), they have been included in the FAD. If an installation had received its permit before 1 January 2005 and had not submitted an acceptable verification opinion to Defra (despite reminders from Defra), they were issued no allowances in the FAD as they had not adhered to the requirements in the NAP. They will not be treated as late installations as they have had ample time in which to submit an acceptable verification opinion.

4.3.20 Installations applying to enter the Scheme after the FAD will receive an allocation calculated using, as far as possible, the allocation methodology in the approved NAP and with a reduction factor applied. The reduction factor will be 10% for those applying by 31 August 2005 and 25% for those applying between 31 August 2005 and 28 February 2007. The allowances will be issued from a finite set aside in the new entrant reserve (NER) of 1.5MtCO_2 for Phase I. The installations will be queued in the order in which their application is received. Once the set aside runs out any further late installations will need to purchase all their allowances. Any remaining allowances after 28 February 2007 will be transferred into the general NER.

4.3.21 The levels and timing of the reduction factors were balanced between the need to encourage late comers to come forward, and the recognition that many installations have already met tight timeframes under the threat of receiving no allowances. See Annex 1 for a detailed options appraisal.

Sector specific issues

Good Quality CHP

4.3.22 Good Quality CHP is classified in the sector that it serves. This approach is consistent with the definition of other NAP sectors and with the classification of other installations in UEP modelling. It fits with the overall EU ETS methodology which defines sectors according to activity type rather than

technology type. We do not foresee this method disincentivising Good Quality CHP at an aggregate level. See Annex 1 for detailed options appraisal.

Flue Gas Desulphurisation (FGD)

4.3.23 There will be no special treatment giving extra allowances to plants which start using FGD during the baseline or newly operating FGD. This avoids opening our methodology to a wide range of potential cases where future operation of generating plant could differ from operation during the baseline period. It also avoids special treatment of FGD relative to other measures to reduce pollutants (other than CO_2) from power stations. Extra allowances for plants starting to operate FGD would be difficult to calculate and would lead to a significant deviation from our overall allocation methodology. To give these plants allocations from the NER would introduce considerable complexity to the allocation methodology. There would be a reduction in allocations to other power plants. In addition, the approach could undermine the overall approach to the NER which is that it should not be used to cover increased output from existing installations. These concerns outweigh the potential under-allocation to plants where decisions to fit FGD have already been made and the possible subsequent effect on further investment in FGD. See Annex 1 for a detailed options appraisal.

Biomass

4.3.24 CO_2 emissions from biomass combustion at 100% or mostly biomass fuelled plants are zero-rated in the Commission's monitoring and reporting (M & R) Decision. Therefore emissions from biomass (as defined in the M & R Decision) were treated as 'zero' for the purpose of baseline emissions reporting. Consequently, allowances were not issued to EU ETS installations that burned only biomass fuels, such as landfill gas powered generators, although they were required to obtain permits and will need to monitor and report in accordance with a M & R Plan. Where fossil fuels were used for start up and temperature maintenance during the baseline period, allocations were based on CO_2 emissions from their use. See Annex 1 for a detailed options appraisal.

Coal Mine Methane (CMM)

4.3.25 Coal Mine Methane is not considered to be a biomass fuel in the Commission's monitoring and reporting Decision, and therefore allocations to CMM burning installations were made on the basis of their historic CO_2 emissions from methane combustion. No additional allowances were allocated to these installations on the basis they turn a more potent greenhouse gas (methane) into a less potent greenhouse gas (CO_2). Decisions on inclusion of methane within the Scheme and any consequences of doing so are reserved for Phase II discussions. See Annex 1 for a detailed options appraisal.

Other issues

Baseline data verification

4.3.26 It was decided that all installations must have their historic emissions data verified. See Section 5.4.17 for a more detailed discussion of verification and Annex 1 for a detailed options appraisal.

5. BENEFITS, COSTS AND RISKS

5.1 Sectors and groups affected

5.1.1 The EU ETS is a mandatory scheme and operators of installations covered by the Scheme must hold a greenhouse gas permit[33]. It will have a direct impact on a number of industrial and other commercial sectors. Over 12,000 installations are covered by the Scheme throughout the EU, accounting for around 45-50% of total EU emissions. In the UK, the Scheme covers 1055 installations in 50 sectors.

5.1.2 The ETS Directive expressly includes activities carried out at installations in the cement, lime, bricks and ceramics, glass, iron and steel, pulp and paper, and power stations. However, installations from any sector may be covered by the EU ETS if their combustion facilities aggregate to above 20MW rated thermal input. In the UK, this means that Scheme also covers installations in the refineries, offshore, other oil and gas, chemicals, food and drink, services (including hospitals and universities), engineering and vehicles and textiles sectors amongst others.

5.1.3 During Phase I only, certain installations in the UK will be able to apply for temporary exclusion, or "opt out", from the Scheme provided that the European Commission agrees that they are already covered by equivalent domestic policies[34]. Direct Participants in the UK Emissions Trading Scheme (UK ETS) who would be subject to the EU ETS have already had their application for temporary exclusion accepted by the European Commission. These 11 Direct Participants, covering 59 installations, are due to enter the Scheme in 2007 rather than 2005. The UK ETS will continue in its present form until the end of 2006. Those installations that wished to be temporarily excluded from the EU ETS have been able to do so. The future of the Scheme will be considered as part of the review of the Climate Change Programme.

5.1.4 Three hundred and thirty-three participants in Climate Change Agreements (CCAs) are currently in the process of having their temporary exclusion applications considered by the European Commission. The decision is expected to be announced shortly. CCAs cover a wider range of emissions than EU ETS, notably indirect emissions from electricity use. To maintain end

[33] See Part 2 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005. Permits for the Scheme contain conditions that must be complied with, including monitoring and reporting requirements.
[34] See Regulation 11 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005.

user incentives for energy efficiency on these additional energy sources, it is necessary to retain the CCAs for these sources.

5.1.5 In the long run, most businesses in the EU will be affected by the EU ETS in one way or another as the operators of regulated installations incorporate the cost of emitting CO_2 into the prices of electricity and other products they produce. A detailed analysis of the impacts of the Scheme can be found in the option analysis (Section 4) and the competition assessment (Section 7).

5.2 Uncertainties

5.2.1 Many uncertainties mean that the impact of the implementation of the EU ETS in the UK is difficult to appraise. These include:

The total quantity of allowances

5.2.2 The total quantity of allowances provides some certainty to the environmental outcome of the Scheme at an EU level, because it acts as an absolute target and therefore absolute level of emission reductions for the Scheme (excluding the effects of Joint Implementation and Clean Development Mechanism (JI and CDM)). However, the level of allowances at a Member State level will not determine the actual amount of emission reductions for that Member State, as the key incentive for emission reductions will be the price of allowances in the market.

5.2.3 As discussed in Section 2.2, there is currently uncertainty as to the final level of allowances to be allocated in the UK following the Government's proposal to increase the total number of UK allowances for Phase I.

Abatement costs in the UK relative to abatement costs in other Member States and the price of allowances

5.2.4 A key determinant of the impact on UK business of complying with their obligations in the trading scheme will be the level of their abatement costs, particularly in relation to the price of allowances and abatement costs in other Member States. If abatement costs in the UK are below most other European countries and the cost of carbon, as revealed through the market price of allowances, this would suggest that UK companies are likely to be net sellers of allowances.

Abatement costs in the UK and EU:

5.2.5 The Commission, with several consultants, undertook a study to examine evidence on abatement costs across the EU[35]. Their economy-wide marginal abatement cost estimates per Member State indicated that the UK

[35] Economic evaluation of Sectoral Emission Reduction Objectives for Climate Change, March 2001 http://europa.eu.int/comm/environment/enveco/climate_change/sectoral_objectives.htm

has low abatement costs at around €11.53/tCO_2e (tonnes of carbon dioxide equivalent), similar to those in Germany, and compared to an EU average of €41.80 tCO_2e. France has the lowest abatement costs, while the Netherlands has the highest. The UK would therefore be able to reduce emissions further and at a lower cost across the economy compared to most other Member States.

5.2.6 Their studies also analysed marginal abatement costs at a sectoral level. Across the EU, this study suggested that abatement costs may be highest in the building materials sector. It also showed that the electricity supply industry (ESI) has the highest emission reduction potential, For the UK, the study indicated that abatement costs might be highest in the building materials and iron and steel sectors. It also suggested that in terms of emission reduction potential, the ESI followed by the iron and steel sector are most important.

5.2.7 Their bottom up study, which examined all sectors separately, compared different options to a 'do-nothing, frozen technology' scenario, and this generated much larger potential reductions from all sectors. This analysis indicated that the UK, on a par with France, has a high technical potential to reduce emissions compared to other Member States such as Denmark and Sweden, but lower potential compared to Austria and Belgium. In terms of actual emissions reductions likely however, the UK is only behind Germany. The analysis indicates that the lowest abatement costs in the EU are in the 'other industries' sector, followed by the food, beverage and tobacco sector. Highest abatement costs are in the iron and steel sector, followed by the paper and pulp and chemicals sectors.

5.2.8 There is less evidence available on the abatement costs in the 10 new Member States and the level of their new build.

5.2.9 Modelling at Member State level often shows other impacts on costs. For example, one of the UK's work streams on industrial sector CO_2 abatement showed that (out of the building materials sector) cement might have slightly lower than average abatement costs. Generally, abatement costs for building materials are likely to fall if the state of the economy is good, as expanding construction means that capacity can naturally expand and cleaner technology can be installed.

<u>The price of carbon</u>

5.2.10 The EU market price of allowances, which should reveal EU carbon abatement cost, will be determined by supply and demand in the same way as other markets. Key drivers of the price of allowances are likely to include:

- The abatement cost of carbon;
- The total number of allowances allocated under the national allocation plans of Member States (as this determines the extent of any shortfall of allowances across the EU);
- Decisions on Joint Implementation (JI) and Clean Development Mechanism (CDM) projects;

- Forecast and actual CO_2 emissions (which may be affected by factors such as economic growth and weather events).

5.2.11 The price of EU allowances has risen from approximately €7/tCO_2 at the beginning of 2005 to over €17/tCO_2 in April 2005. However, the market for EU allowances is still emerging and the majority of trades to date have been forward trades between a limited number of market participants. The volumes of allowances traded and the number of players taking part in the market is expected to increase further, particularly once the spot market has fully developed.

5.2.12 Future CO_2 prices in the EU ETS therefore remain uncertain, and a range of estimates exists. In its analysis of EU ETS impacts, the UK has used a range of €5-€25/tCO_2 over the two phases of the EU ETS. This range covers the prices emerging from modelling work by the EC (€15/tCO_2) as well as industry specialists. These estimates are based both on economic models and studies available. Most models are based on the assumption that the carbon price will be at a level that makes the switch from coal to gas fired power generation in the UK economically viable (i.e. based on the marginal cost of abatement in the ESI).

Other market prices

5.2.13 For the generation sector, the willingness to abate CO_2 depends on relative fuel prices, i.e. the higher the coal prices are relative to gas prices, the higher the incentive is to switch fuels. The effect of the carbon prices on other fuel prices and vice versa is also uncertain, but they, alongside the piece of carbon, impact particularly on the behaviour and incentives for the ESI and other energy intensive industries as well as consumer costs. At any given level of electricity generation (based on fossil fuel), if there are low gas prices during the Scheme, there is likely to be higher gas use and carbon emission reductions will be higher. On the other hand, if high gas prices prevail, less gas will be used and therefore lower carbon emission reductions will be achieved.

The liquidity of the EU Emissions trading market

5.2.14 The EU ETS will be a large market where some players will be sellers and others buyers. The key factors in determining the liquidity of the market would be the number of players in the market, the level of transaction costs of trading and the degree of risk faced by players and potential players in the market. Liquidity might, to a limited extent, be influenced by the total level of allocations across Member States, for example if there is substantial excess demand for, or excess supply of, allowances. Smaller levels of excess demand or supply will have a less significant impact on liquidity since the market price of allowances will simply keep adjusting to bring supply and demand in line with one another.

5.2.15 It is difficult to predict the ultimate level of liquidity of the EU ETS market, but the volume of allowances traded and liquidity of the market has been increasing during the first quarter of 2005. Liquidity is expected to increase further as the spot market develops, as large numbers of participants enter the market and as participants begin to understand the workings of this new market. The Linking Directive, which enables Member States to allow credits from the Kyoto Protocol project mechanisms (Joint Implementation and the Clean Development Mechanism) to be linked to the EU ETS[36], is also expected to impact on liquidity. The nature and extent of the impact of the Linking Directive on market liquidity will depend to an extent on how the Directive is implemented by Member States.

Pricing behaviour of market participants

5.2.16 The Directive requires countries to allocate 95% of allowances free of charge during the first phase of the Scheme. In theory, allocating allowances free of charge should not affect participants' incentives to reduce their emissions or abatement decisions. The market price of EU ETS allowances should on the other hand effect the behaviour of participants in the Scheme. Participants will be expected to take into account the allowance price when making production decisions, investment decisions, and (where market characteristics allow) pricing decisions. Participants will incur costs as a result of any allowance purchases they must make, but also will face an opportunity cost for free allowances that is equal to their market value. Changes in costs are expected to lead to changes in prices, which in turn may lead to reduction in the level of consumption of the product.

5.2.17 The extent to which any price of carbon will be passed on to consumers through higher product prices, and therefore affect consumption will be dependent on a number of factors including the structure of the market for end products and the price elasticity of demand and supply for the products.

5.2.18 For some participants, the full cost of carbon could eventually be passed on to consumers through higher product prices. However, some installations in certain sectors may not necessarily pass through the full cost to consumers even if market structure allowed and if doing so would maximise their short term profits. Some firms may view the potential risk of losing market share (due to higher prices) as too high if they aim to maximise market share rather than pure financial profits. This may be more feasible in sectors where profits are sufficient to offset any cost increases, at least in the short term, and therefore prices may not have to rise immediately to reflect costs.

5.2.19 Analysis suggests that one sector where pass-through may not be complete is the ESI sector. Although profit margins are relatively narrow on sales to industrial users of electricity, they may be wider on sales to domestic customers. Some producers therefore may be able to moderate the price increases to domestic customers more than the increases to industrial

[36] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/kyoto/index.htm

customers. In addition, for this sector, the extent to which higher wholesale prices are passed through into higher retail prices will also depend to a considerable extent on how far consumers actively seek the cheapest sources of power and therefore erode profit margins over wholesale prices that are currently being earned by suppliers. It is possible that some suppliers will accept lower profit margins in order to retain or expand market share. However, any attempt to limit full pass through of costs is unlikely to be sustainable over the longer term.

5.2.20 This has particular implications for electricity consumers and the level of new build in the ESI, detailed in the costs section below. For the reasons given above, it is not possible to quantify the precise impact on electricity prices even though all participating countries have decided on the total quantity of allowances to be allocated.

5.2.21 Work by ILEX Energy Consulting[37] for the DTI suggests that, while there is likely to be full or near full pass through of carbon costs to retail electricity prices, the overall increases in electricity costs in the UK will be in the middle of the range among our EU competitors.

5.3 Benefits

Environmental

5.3.1 The primary benefit of the Scheme will be in terms of the environmental impact it brings. The level of emissions reductions actually made by UK firms will depend on the EU market price of allowances (the price of carbon). The total quantity of allowances however, indicates the starting point for the trading of allowances across the EU, while estimated UK abatement costs compared to some estimates of the EU market price of allowances indicate that the UK will be a net seller of allowances. Therefore it is likely that the UK will go beyond the currently projected emissions savings as the scheme progresses, and in particular make significant progress towards the UK's goal of moving towards a 20% reduction of CO_2 emissions on 1990 levels by 2010.

Economic

5.3.2 The benefits of setting a relatively tight total quantity of allowances is that it reduces emissions at EU level, increases the likelihood of a liquid market, incentivises action before the start of the Scheme, and gives the correct signal to firms inside and outside of the Scheme so that more abatement opportunities across the economy are taken.

5.3.3 If the UK is able to reduce its emissions further than the overall quantity of allowances, then the UK can be a net seller of allowances, the revenue from which would contribute to UK GDP.

[37] See: http://www.dti.gov.uk/energy/sepn/euets.shtml#research

5.3.4 The main benefit of achieving any emissions reduction via a trading scheme as compared to alternative forms of regulation is that emissions reductions are achieved in the most economically efficient way. A trading scheme allows reductions to be achieved in sectors/plants where it is cheapest to be abated. Given the level of total allowances allocated in the EU, the required reductions are achieved at the lowest cost.

5.3.5 Where the cost of carbon is passed through to product prices, products bought by consumers will face some of the environmental cost associated with their production. Consumers may therefore reduce their demand for carbon-intensive products.

The Electricity Supply Industry (ESI)

5.3.6 Power generation represents around 70% of total EU CO_2 emissions covered by the Scheme. As detailed already, the ESI has relatively good, low-cost abatement opportunities in the UK and EU. The ESI also faces limited international competition - electricity imports amounted to only around 2% of total electricity supplied in 2002 while exports were considerably lower than that; and all trade is concentrated in the EU market, all of which is affected by the EU ETS.

5.3.7 On the whole, the ESI should benefit from the EU ETS compared to no EU ETS, although the restriction of allocations to the ESI means that large windfalls to this sector will be constrained. Studies carried out by ILEX[38] for Defra, the DTI and Ofgem demonstrate that loose allocations to the generation sector could lead to large windfalls for the sector and a less effective Scheme, while tighter targets for the sector may lead to a better environmental impact and still improve profitability of the sector as a whole because of a higher carbon price. This is explained further below.

5.3.8 Non-fossil fuel power generators can expect higher profits from existing plants. If the full price of allowances (carbon) is passed through to consumers, the rise in the electricity price reflects the rise in the cost to the marginal generating plant in the electricity market, as this is the price for the whole market. Based on a market value of €12/tCO_2 for allowances, €5/MWh could be added to the cost of gas generation and about €10/MWh to the cost of coal generation. Together, these could raise wholesale prices and therefore profits by around €6-7/MWh (implying a heavier weighting towards gas as the marginal price setter).

5.3.9 The above scenarios assume that the ESI passes through the full cost of carbon to all consumers. However, to the extent that they do not pass through the full cost, they will not necessarily enjoy an increase in their profits. In a similar way, owners of generating plant that do not emit carbon - specifically renewables and nuclear – would benefit significantly from a pass through of the cost of carbon, and would not face opportunity costs, therefore they would expect to make higher profits from their existing plant. This also

[38] See: http://www.dti.gov.uk/energy/sepn/ilexetsfinal.pdf

provides the right market signal for raising the output of existing plants or investing in new plants, which would perhaps not otherwise be commercially justified. Over time, increased generation from low carbon sources may erode the market share of generators with higher emissions, tending to reduce the profits of the latter group.

Fuel diversity, carbon efficient technologies and security of supply

5.3.10 The EU ETS favours lower carbon forms of generation thereby favouring gas over coal and also promotes non-fossil fuel generation such as renewables. The EU ETS encourages investment, research and development into lower carbon forms of power generation, particularly due to the new entrant reserve, and should therefore be a factor in increasing the diversity of the generation mix in the UK. The impact on security of supply, however, is not clear. However, the new entrant reserve will reduce barriers to new investment in electricity generation and gas and oil production in the UK and should thereby help to reinforce security of energy supply.

Verification

5.3.11 Baseline data and annual verification has considerable benefits for ensuring the integrity of the Scheme and allocation process. It will ensure that any errors or misstatements made by operators in calculating their historic emissions are identified and corrected. It will also ensure that the allocations to installations, and in some cases sector allocations, are calculated on a fair and equitable basis, and are free from distortions caused by errors.

New entrant reserve (NER)

5.3.12 The design of the Scheme is such that all new entrants are treated in the same way, as allocations are distributed on a first-come-first served basis. The NER increases the incentive to expand or invest in new plants with low carbon intensity or low marginal abatement costs. It also ensures that the attraction of the UK for new investment is maintained, particularly in relation to several other Member States that are also providing a free NER. New investment, amongst other benefits, will help ensure security of supply of energy in the UK.

Combined Heat and Power (CHP)

5.3.13 The ring-fenced portion of the new entrant reserve for new Good Quality CHP provides an incentive for this relatively low carbon generation industry, in line with projections for new entrant CHP plant and in line with UK objectives. 13.9 million allowances have been set-aside for Good Quality CHP new entrants who are fully qualified, to ensure the incentive of free allowances continues for the duration of Phase I. Any partially qualified CHP new entrants will only receive the Good Quality CHP part of their application from the ring-fence, thus focussing the incentive on Good Quality elements of CHP plant.

Firms not covered by the EU ETS

5.3.14 There are large potential benefits to companies associated with trading. Brokers and the operators of trading platforms will gain business from operators requesting advice on trading and from individuals wishing to take part in emissions trading. The UK financial centres are expected to gain as the EU emissions trading market is expected to grow from 2005, particularly as at the moment, large utilities usually hedge risk through owning the entire chain from generation to supplying customers. If a standard market across Europe is created for trading, such benefits to the UK could be very significant. Other organisations who provide services to the emissions trading sector (such as accountants, risk management services and lawyers) will also gain business from the EU ETS.

5.3.15 Significant business opportunities will be created for existing and new verification bodies that are accredited to verify annual monitoring reports prepared by operators. Efforts are underway to harmonise accreditation requirements and verification processes so that verifiers from one Member State can operate in other Member States, without compromising quality and robustness of the verifications. UK verifiers have gained useful experience from carrying out baseline data verifications that may assist them in obtaining accreditation to perform annual verifications and seek work opportunities both in the UK and throughout Europe.

Auctioning

5.3.16 The Directive requires Member States to allocate 95% of allowances free of charge. Government decided not to auction a specific percentage of allowances because of the uncertainties involved with an auction being held early in the Scheme, and to assist operators adjust to the Scheme by providing them with as many allowances as they are likely to need.

5.3.17 A consultation[39] is currently underway to determine a suitable method of disposal of any allowances that may be left in the new entrants reserve at the end of the phase and auctioning is one of the options. The benefits associated with the suitable choice of auction or sale will be similar for both the Government and buyers. It is considered that, except in those market conditions whereby an auction is undesirable, the benefits from executing an auction are generally greater than those associated with a sale. The economic benefits arising from economic efficiency and revenue maximisation are generally understood to be greater in the case of auctions. Another major benefit of auctions is the fact that they are more secure than Government sales. A well-run uniform-price auction or ascending clock auction is secure in that information that might impact the market price such as the size of the sale is publicly disclosed before the event. Auctions are also by their nature more transparent than sales and can be fully described in advance. See Annex 1 for options analysis.

[39] See: http://www.defra.gov.uk/corporate/consult/euets-salemethods/index.htm

5.4 Costs

Economic

5.4.1 The free allocation of allowances on the basis of business as usual (BAU) for the majority of sectors in the UK means that firms should receive all the allocations they initially need, so there will be no immediate real costs, as far as BAU forecasts are accurate. However this does not mean that it will not be more profitable for businesses to reduce emissions and sell allowances or increase emissions beyond projected emissions and buy allowances. This depends on the market price of carbon.

5.4.2 The new entrant reserve, to the extent that it is large enough to provide for all new installations or extensions to existing plants, will eliminate initial costs to these installations in the same manner.

5.4.3 As explained above, the cost of the EU ETS to UK firms is dependant on allowance price in the market but to the extent any firms that need more allowances than they are allocated can buy allowances (real cost) from the market, the permit price effectively can be seen as a maximum cost abatement that firms would have to face. Such costs will be highest therefore, in sectors and individual firms that face high marginal abatement costs.

ESI and electricity prices

5.4.4 The ESI may face opportunity costs or real costs in the same way as other firms and pass these on to industrial and other energy consumers in the form of higher wholesale electricity prices. With allowances trading at levels of around €17/tCO_2, this could add some €8/MWh to the cost of gas generation and about €15/MWh to the cost of coal generation. Together, these cost increases could raise wholesale prices by around €8-11/MWh.

5.4.5 However, it is not entirely clear whether generators would necessarily pass through costs, particularly if they are allocated the bulk of allowances they need free of charge. A number of other factors will help dictate the extent to which generators pass on their costs to consumers (see above).

5.4.6 The new entrants reserve also mitigates possible electricity price rises in the long-term, as new plants will replace carbon intensive generation. However, the rules on plant closure may have the opposite effect, because it raises the incentive to remain open and therefore lowers the volume of new, potentially cleaner, entry.

Other industry costs

5.4.7 Analysis carried out by the DTI has indicated that the industries facing the largest potential increases in energy costs in relation to industry gross value added or sales include starch products, malt, industrial gases, inorganic and organic chemicals, fertilisers, bricks, cement, iron and steel and

aluminium[40]. The impact of an increase of costs on these sectors in the low carbon price scenarios as described above range from 0.1-1.6% of sales, and 0.3-2.9% of value added, while for the high carbon price scenario these ranges are 0.1-7.2% of sales, and 1.1-13.4% of value added. Therefore costs could represent a significant share of net operating margins, particularly for smaller firms.

5.4.8 The water supply industry is a relatively high energy-intensive industry and provides an important input to many production sectors. On the basis of its energy consumption, which is almost entirely electricity, the industry might experience an impact of between 0.3% and 0.8% of gross value added or between 0.2% and 0.5% of industry turnover.

5.4.9 The DTI analysis also estimates the impact on petrol prices as a result of the EU ETS to be between 0.08p and 0.4p per litre as a result of the increase in the costs to oil refineries. This represents an increase in the cost of petrol of between 0.1% and 0.5%. Since fuel accounts for around a third of the total costs of operating an HGV, this might lead to an increase in road transport costs of between 0.03% and 0.17%.

Consumer costs

5.4.10 The cost of carbon could potentially be passed on fully to consumers in some industries. In particular increasing electricity prices are likely to lead to worsening fuel poverty for domestic consumers. This is because lower income households are likely to spend more of their total energy bill on space heating and are more likely to use inefficient storage heating, so proportional impact could be greater. Also, any increase in domestic energy bills could raise the absolute number of fuel poor households. The Government has specific policies in place to address fuel poverty[41] and, in the long-term, behavioural changes are expected to occur in households and elsewhere, including efficiency improvements by generators and changes in the fuel mix.

Implementation and compliance costs

5.4.11 There are a number of costs which companies may face in order to comply with the Scheme. The ETS Regulations set out various fees and charges that operators need to pay[42]. For example, an application for a permit must be accompanied by a fee (£1230 - £5490, depending on the level of emissions at the installation) and changes to permits (such as variation, transfer and surrender) will also incur fees (£240, £240 and £620 respectively). An annual subsistence charge is also levied on operators in order to enable regulators to recover the costs incurred when exercising their functions under the Scheme. Fees also apply when making an application to

[40] See: http://www.dti.gov.uk/energy/sepn/euetsimplications.pdf
[41] See: http://www.defra.gov.uk/environment/energy/fuelpov/index.htm
[42] See Schedule 5 to the Greenhouse Gas Emissions Trading Scheme Regulations 2005. Amendments to the fees and charges in the UK Regulations were consulted on in late 2004: see http://www.defra.gov.uk/corporate/consult/euets-charging/index.htm and http://www.defra.gov.uk/corporate/consult/euets-regs2/index.htm. Partial RIAs providing further analysis of the impact of the fees and charges are available on these web-pages. The Regulations enable the current fees and charges to be superseded at a future point by charging schemes adopted by the regulators.

the new entrant reserve (£1030) and additional fees can apply to the nomination or change of authorised representatives for registry accounts and verification organisations (£50).

5.4.12 These fees and charges have been developed in accordance with the polluter pays principles and principles of cost-recovery and cost-reflectivity (i.e. the charges reflect the cost of regulatory effort). For some of the tasks carried out by regulators, the effort required varies in proportion to the scale of emissions from the installation. A tiered approach to subsistence charges and permit application fees has therefore been adopted, whereby the charges are tiered according to the scale of emissions from the installation. This tiered approach is consistent with the cost-reflectivity principle.

5.4.13 Non-permit holders who open accounts in the registry are also required to pay a fee (£175) and will be required to purchase a Digital Certificate to access the Registry at a cost of £30.

Monitoring and reporting

5.4.14 Installations are required to monitor and report annual emissions of CO_2 in accordance with the monitoring and reporting plan (M & R Plan) approved by the regulator. The costs of monitoring will depend on the scale and complexity of the installation, and the level of accuracy required by the Commission's M & R Decision and the installation's M & R Plan. The narrow definition of combustion installation adopted for Phase I of the Scheme may reduce the costs of monitoring for some installations.

5.4.15 While accuracy requirements are generally lower for smaller emitters, the monitoring and reporting costs will still be relatively high per tonne of CO_2 compared to much larger emitters. Further consideration of costs for smaller emitters and how to minimise them is covered in Section 5.4.22.

5.4.16 The M & R Guidelines require installations to use the highest, most accurate monitoring tiers unless it is not technically or economically feasible to do so. Therefore each year, installations will need to consider how and whether they can improve the accuracy of their monitoring. Guidance on the regulators' expectations for improvements within certain Schedule 1 activities[43] is currently being prepared by the regulators. Improving accuracy will incur costs, such as installing new gas meters, but will have the added benefit of more accurate reporting of emissions and hence the purchase or sale of allowances. The regulators will consider cost benefit assessments in determining whether to require more accurate monitoring through varying Greenhouse Gas permit conditions.

Verification

Baseline data verification costs

[43] Schedule 1 to the ETS Regulations sets out the activities covered by the Scheme. See: www.legislation.hmso.gov.uk/si/si2005/20050925.htm

5.4.17 To ensure that the best quality data was used to calculate allocations, the NAP required operators to obtain independent verification of historic baseline emissions data submitted to Defra in the NAP Data Forms. Verification bodies had to be accredited by UKAS to perform verifications, and Defra published guidance on the verification requirements[44].

5.4.18 Costs of baseline verifications ranged from between £750 to £1500 for smaller installations, to several thousand pounds for larger, more complex installations. Government aimed to minimise costs for smaller emitters by reducing the stringency of the verification checks and allowing installations to be verified in groups. The baseline data verification was very useful in identifying errors in data and calculations, and the lessons learnt from the process were used to develop procedures for annual verification.

Annual verification costs

5.4.19 Operators will also be required to pay for annual verification of their monitoring programme and annual emissions report. Accredited verifiers will check that the monitoring has been carried out in accordance with the M & R Plan approved by the regulator and verify that the annual emissions figure is fairly stated and free from material errors. The process for annual verification is required by the EU ETS Directive and will be explained in a Government guidance note currently being developed in consultation with stakeholders.

5.4.20 Costs of annual verification will depend upon the scale and complexity of the installation and whether the operators have transparent and accessible data and record management systems. Costs may be comparable to baseline verification, because although the checks must be more thorough, verifiers will only need to check one year of data and monitoring (not 6 years as for baseline verification). However, in some installations costs will be higher, particularly in the first year because of more stringent checks and the need for verifiers to perform a site visit. Site visits will be required unless the verifier and operator can justify that one is not feasible and/or necessary and the regulator agrees to this in writing.

5.4.21 Verification bodies pay an application fee to UKAS when they apply to become accredited. These costs are likely to be recovered from operators through charges for verification services.

5.4.22 The costs of monitoring, regulator fees (subsistence fees, permit variations and application fees), report writing and verifications per tonne of CO_2 will depend on the scale of emissions from the installations. For smaller installations (discharging less than 50,000 tCO_2 per year), preliminary analysis suggests that costs may be between €4.00 – €10.50 per tonne of CO_2 emitted per year, while for larger installations (between 50-100,000tCO_2 per year) they may be between €0.90 - €1.35 per tonne of CO_2.

[44] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/permits/index.htm

New entrant reserve related costs

5.4.23 Costs associated with processing new entrant, rationalisation and closure applications should be covered by the fee the Regulators will charge for each application, which is set at £1030 per new entrant application. Operators may incur additional costs associated with demonstrating eligibility for a free allocation.

5.4.24 The removal of the uncertainty element from the new entrant reserve has increased the possibility that the reserve may run out of allowances. If this happens, new entrants would be required to buy allowances to cover their emissions. It is unlikely that the scale of this effect will be large in Phase I, given that planning for most new installations likely to be built in Phase I is already in progress, but it could have a small impact towards the end of the phase (2007) with a knock-on (because of delayed entry) into the early years of Phase II.

5.5 Risks

Identification of installations and monitoring and enforcement

5.5.1 The UK endeavoured to locate and permit all installations covered by the EU ETS by 1 January 2005, with the aim of including them in the final allocation decision (FAD). However, despite facing potential enforcement action under the Regulations, the challenging implementation timetable means that there is a risk that not every covered installation has been permitted and included in the FAD. Some operators may still be unaware of the Scheme's requirements, or they may have incorrectly determined that they are not in the Scheme. These installations are expected to include smaller combustion installations, such as small commercial and manufacturing plants, universities, hospitals and possibly council-run services. The process for minimising the potential costs to these late-comers is described in Section 4.3.19.

5.5.2 Operators of installations covered by the EU ETS that do not hold a Greenhouse Gas permit from 1 January 2005 risk potential enforcement action by the regulators. Penalties (on summary conviction) include fines (not exceeding the statutory minimum) or imprisonment not exceeding three months.

5.5.3 Operators also risk penalties for failing to surrender the correct number of allowances by 30 April each year (equal to the verified annual emissions figure). Failure to surrender the correct number of allowances will result in a penalty of €40 per tonne during Phase I of the Scheme.

5.5.4 Regulators are currently developing a monitoring and enforcement strategy to set out their programme of action to identify any installations that are not complying with the rules, and/or their monitoring and reporting plans. The verifiers will also play a major role in bringing any non-compliance to the attention of the operator, who is then responsible for informing the regulators.

Accuracy of data

5.5.5 As discussed above, to ensure that the data underlying the allocations were as accurate, complete and consistent as possible, the Government required operators to obtain independent verification of the baseline emissions data reported in the NAP data forms. Verifications had to be performed by verification bodies accredited by the UK Accreditation Service. While independent verification identified and addressed many inconsistencies and errors in the data, there is still a risk of errors or misstatements remaining in some installation's baseline data.

5.5.6 Future verifications will play an important role in potentially identifying any undiscovered errors in baseline emissions data. Where such cases constitute provision of a 'statement that is false or misleading' that lead to an over-allocation of allowances, Government can seek to amend future allowances to an installation under regulation 38[45]. There is a risk, however, that these errors are not picked up and go undetected. The risk of errors resulting in the installation having received a lower allocation than they should have, will not be pursued by the Government.

Market inefficiency

5.5.7 There is a risk that there may not be enough liquidity in the immature market to enable the market to function efficiently. The real costs of abatement may also take some time to emerge. Furthermore, for several reasons, there is a risk that there may be too many or too few allowances available for trading on the market.

Auctioning

5.5.8 The main risks to Government involved in performing an auction or sale relate to: distorting the functioning of the market (for example, by releasing a large volume of allowances into the market and creating a price collapse); failing to achieve an appropriate price (for example, by selling a volume of allowances at a price significantly below the market clearing price); and allowing for abuse of market information The main risk to market participants would come from the Government distorting the market, thereby reducing the value of allowances and undermining confidence in the function of the EU ETS.

5.5.9 The risks associated with the auction or sale can be minimised or removed by choosing the most appropriate disposal method given the market conditions. In addition, a number of design features are proposed in the current consultation[46] to minimise risk. For example, the use of reserve prices in both auction and sales reduces the risk of the Government selling allowances at a low price, thereby limiting its revenue potential.

[45] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm#regulations
[46] See: http://www.defra.gov.uk/corporate/consult/euets-salemethods/index.htm

5.6 Issues of equity and fairness

5.6.1 The UK interpretation and implementation of the EU ETS aims to ensure equity and fairness by using the following mechanisms: allocation methodology; the provisions for temporary exclusion; the provisions for new entry, closure and auctioning.

Allocation methodology

5.6.2 The implementation of the EU ETS attempts to treat all sectors the same way by allocating according to energy projections and climate change agreements, which take into account costs faced by different sectors in adopting alternative measures to reduce emissions.

5.6.3 By using historic emissions as a basis for allocations, those who have taken early abatement action within or after the baseline period will not be disadvantaged. Furthermore, installations that may have had low output/emissions for a particular reason in one year should not be disadvantaged as the lowest emissions between 1998-2003 are excluded in the calculation of allocations.

5.6.4 Where the standard allocation methodology does not take account of specific circumstances at an installation during the baseline period (e.g. commissioning, rationalisation and changes in capacity), specific rules have been developed. Operators were invited to apply for these rules to be considered in the calculation of their relevant emissions and were given the opportunity to appeal against Government's application of the rules to their installation[47].

Temporary Exclusion

5.6.5 The availability of an 'opt out' for firms that have voluntarily joined Climate Change Agreements (CCA) and the UK Emissions Trading Scheme (UK ETS) attempts to ensure that double regulation is avoided, since these schemes will continue in the UK.

5.6.6 The UK ETS temporary exclusion application has already been accepted by the European Commission. This means that the equivalence requirements of the regulations have been met through domestic policy. The UK ETS opt out lasts until the UK Scheme ends in 2006; Direct Participants then re-join the EU ETS in 2007. They must monitor, report and verify their EU ETS emissions separately to their UK ETS emissions. Their targets may also be tightened to reflect whichever emission limit (EU ETS or UK ETS) is lower for those emissions covered by both schemes. The overall effect for emissions covered by both schemes, is that emissions targets would always be equal to or lower than those if the installation were in EU ETS.

[47] Details of the rules and the appeals process are available on the Defra website see: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/allocation.htm

5.6.7 The application for temporary exclusion for CCAs is currently under consideration by the Commission. The UK Government considers that the CCAs in their present form meet the equivalence criteria set out under Article 27 of the Directive, except for reporting and certification, which are bi-annual in CCAs. We have therefore proposed to the Commission that if temporary exclusion is approved, those installations opting out will be required to report annually and will lose certification on an annual basis if they do not meet their targets. CCA targets (as revised in 2004) have been taken into account in the calculation of allocations under the EU ETS, in order not to favour either EU ETS or CCAs in the temporary exclusion decisions[48].

5.6.8 For those installations that enter into the EU ETS, the Government originally proposed to split the existing CCA targets between the direct emissions covered by EU ETS and the remainder covered by CCAs. However, industry considered that this would be too difficult. Government agreed to their request that the existing "composite" target be maintained, but only if the effects of double benefit (or double penalty) for the same emission reductions could be avoided. A mechanism for "netting off" any over or under-achievements is being developed.

New entrant reserve and closure[49]

5.6.9 The new-entrant reserve means that firms that are planning new installations and extensions to existing installations will be treated equitably in comparison to existing installations, which will receive free allowances. The new entrant reserve also provides an extra incentive for investment in new plants as compared to not having a new entrant reserve, which is in line with the scheme objectives as new plants are likely to be less carbon intensive. New entrants should have already taken the cost of carbon into account in their investment decisions, as compared to existing installations that did not have such an opportunity, and so are more likely to adopt low carbon technologies. The rule that closed plants will not be issued with allowances after the year in which the plant closed prevents operators that replace existing plants with new plants from receiving a double benefit.

Auctioning

5.6.10 The UK NAP explains that any surplus allowances in the new entrant reserve would be disposed of by way of auction or sale. The new entrant reserve was calculated using best estimates of demand from new entrants. Whether or not there will be surplus allowances will depend on the number of allowances available and future demand. In order to cover the possibility, and to help inform thinking on auctioning, a public consultation[50] on auction or sale methods of disposal is currently being held. The chosen method should be designed to maximise economic efficiency (i.e. by ensuring that such

[48] See Section 4.2 and Annex 1 for the options relating to use of CCA targets. Appendix B to the NAP details how allocations have been calculated using CCA targets.
See: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/fad.htm
[49] See Regulation 22 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005.
[50] See: http://www.defra.gov.uk/corporate/consult/euets-salemethods/index.htm

allowances are assigned to those bidders or buyers who value them most) and to maximise value for money to the taxpayer according to a method considered to be most appropriate to the EU ETS market conditions at the time of disposal.

5.6.11 In addition, any auction or sale of allowances into the market must be simple and pragmatic to implement. A low cost, robust and scaleable solution attractive to a wide range of participants, with a low administrative burden to Government and participants is a guiding principle in choosing an appropriate method of disposal for allowances. The presence of a wide range of buyers and sellers participating in a user-friendly disposal scheme will help to encourage greater market liquidity in the EU ETS and establish confidence in the growing market for EU allowances. The disposal method must also be transparent, secure from abuse and resistant to market manipulation.

5.6.12 Other factors that need to be taken into account when choosing the most appropriate disposal method include the relative transaction costs (both to the Government and the market participants), the value of continuity in the Government's approach in looking at a possible range of disposals over time, and preparing market participants for future offerings under the EU ETS.

5.6.13 Auctions or sales of EU allowances are likely to be a feature of Member State activity during Phase II (2008-2012) of the EU ETS, and there may be mutual benefits in future years from Member States participating in a common auction or sale. In addition to the objectives stated above, the proposed auction or sale also intends to enable the Government and market participants to prepare for future EU ETS developments and acquire the necessary experience and possible first-mover advantages from early participation in auctions or sales.

5.6.14 A Regulatory Impact Assessment was published alongside the consultation[51].

Other

5.6.15 Key groups that could be disproportionately affected by the EU ETS include small businesses (see Section 6); industry employees (if the Scheme results in closure of installations); and lower income consumers (Section 5.4 – Consumer costs).

5.6.16 Equity and fairness for participants in the EU ETS is also aided by the ability of participants (particularly operators) to appeal various decisions and notices made by the UK regulators, Secretary of State or registry administrator under the Scheme[52].

5.6.17 Equity and fairness in relation to the choice of specific implementation options is discussed further in Section 4.

[51] See: http://www.defra.gov.uk/corporate/consult/euets-salemethods/index.htm
[52] See Regulations 32 to 34 and Schedules 2 to 4 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005.

6. CONSULTATION WITH SMALL BUSINESS

6.1 The proportion of firms in the Scheme with less than 50 employees is relatively small.

6.2 Industrial activities within the scope of the EU ETS are identified in Schedule 1 to the ETS Regulations[53]. The EU ETS will not bear directly on small firms as much as large firms. While small firms are likely to experience broadly the same increases in electricity prices as large firms, many small firms will not fall within the Scheme in respect of their direct emissions from the use of other fuels such as gas. However, the small and medium businesses falling into the Scheme will incur relatively higher administration costs per tonne of CO_2 than much larger installations discharging hundreds of thousands of tonnes CO_2. See section 5.4.11.

6.3 The provisions for pooling may mitigate the effects on small businesses as they can collaborate to reduce administrative tasks associated with trading. Although, no installations have applied to form a pool within Phase I of the Scheme, installations may look towards pooling during Phase II[54].

6.4 Small businesses which are covered by the EU ETS have been consulted throughout the development of the NAP either directly or through sector associations. Responses received have been considered when developing specific implementation options and making decisions on the policies in the NAP[55].

6.5 The annual subsistence charges have been tiered as far as possible to be cost reflective, and to take into account that smaller scale installations will require a lower amount of regulatory effort then larger installations. However, there are a number of tasks that require the same regulatory effort irrespective of scale, and fees for small installations could not be reduced any further without moving away from adhering to the principle of 'cost-reflectivity'. Government is continuing to examine the types of assistance that can be provided to smaller installations through provision of guidance and information.

6.6 Most businesses not participating in the EU ETS within the EU are likely to be indirectly affected by the Scheme as a result of rises in electricity prices as companies factor the cost of carbon into their products.

[53] See: www.legislation.hmso.gov.uk/si/si2005/20050925.htm
[54] See Regulation 27of the Greenhouse Gas Emissions Trading Scheme Regulations 2005
[55] Consultation responses have been analysed and reports summarising the comments published alongside the consultation papers. See Section 7 for further information.

7. COMPETITION ASSESSMENT[56]

7.0 The Carbon Trust has published a report on the "Implications for Industrial Competitiveness"[57], concluding that the impact of the EU ETS on UK competitiveness is not likely to be as significant as many at first believed, and that several sectors actually have the potential to profit from the scheme. The report highlights the need for implementation of the EU ETS in "roughly equivalent ways" across the EU, and encourages the Commission not to squander an important opportunity by accepting weak targets.

7.1 Within the UK

7.1.1 The UK NAP seeks to give all sectors (with the sole exception of the electricity generation sector) as many allowances as they are likely to require for their business needs in the first phase. Therefore in sectors where emissions are expected to rise, allowances to cover this rise have been given.

7.1.2 The electricity generators will be expected to deliver the reduction in CO_2 we are seeking in Phase I – equivalent to around an 8% reduction on projected emissions across the traded sector[58]. The ESI is more insulated from international competition than other sectors and therefore we do not think this change will impact on its competitiveness. Imports of electricity amounted to only a little over 1% of supply in 2003 and the trade is concentrated in the EU market, all of which is affected by the EU ETS. The NAP published in April 2004 therefore made it clear that we would be looking to the generators to make reductions below business-as-usual emissions, as we are doing with this approach. Taking allowances from other industry sectors would have a greater impact on UK competitiveness as these sectors are more exposed to international competition and in particular competition from producers unaffected by the EU ETS.

7.1.3 On an installation and sectoral level, the scope for substitution towards products with lower environmental impacts may affect competition between firms, especially in relation to other firms with substitutable products. Also, competition could be affected by the opportunities available to firms and sectors for improving technical equipment or energy efficiency, especially in relation to other firms or sectors with substitutable products. Finally, the scope for technical innovation across sectors may differ. If firms or sectors with substitutable products exist and they are not covered by the Scheme, such effects will be exacerbated.

7.1.4 The EU ETS will also have an effect on competition and therefore trade within and outside the EU. Some sectors with high-energy intensity such as bricks, cement and industrial gases are not highly tradable sectors because

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[56] Analyses of the competitive impacts of the EU ETS can be found on the Defra website at: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/impact.htm#compete

[57] Available on the Carbon Trust website: http://www.thecarbontrust.co.uk/carbontrust/about/press_releases/20040630 EU ETS

[58] The UK's proposed amendment to the NAP, setting the total cap at 756MtCO_2 would be an increase in the level of effort from 0.75% in the original NAP to around 5% below projected emissions.

production needs to be located close to the point of final consumption. The effect of higher energy costs on their international competitiveness is therefore likely to be fairly limited. Their output does, however, form the input to other industries which may be more exposed to international competition. Within the chemicals sector, which is a highly traded sector, there is little trade in industrial gases but the output of the sector is an input into many other industrial processes. However, because the EU ETS covers all Member States the impact on the UK's competitiveness will be tempered by the fact that our EU competitors will also be facing higher energy costs.

7.2 UK versus other Member States

7.2.1 The fact that the UK is on its way to meeting its EU (Kyoto Protocol) target for emissions reductions may give it competitive advantage in comparison to other Member States, particularly if this is due to reasons independent of installations targeted by the EU ETS, and installations are given the allowances they need. The allocation of allowances on the basis of bottom-up considerations, taking account of updated energy projections, will mitigate the impact of the UK's decision to set the overall level of allowances at a level that will ensure progress further than the 12.5% Kyoto target towards the 20% national goal. In this way, early action should not prove a disadvantage to the UK.

7.2.2 We believe that it is important that other Member States use the EU ETS to put them on a path to meeting their Kyoto targets in Phase I. Many other Member States are some way from meeting their Kyoto targets and EU ETS is an excellent way to meet these commitments in cost effective manner. We have stressed to the European Commission the importance of the scrutiny process in order to ensure that the EU ETS does not distort competitiveness and that Member States' NAPs move them clearly towards their Kyoto goals.

7.2.3 There may be an effect on EU competition if the definition and scope of the installations differs across EU Member States. In order to minimise the competitive impacts of the Scheme in Phase II, the UK is working closely with other Member States to ensure a high degree of harmonisation across the EU.

7.2.4 There are risks of anti-competitive effects if all firms do not pass on the full value of allowances into product prices e.g. electricity prices. The impact of higher carbon prices on wholesale prices may be to equalise prices around the cost of new entry, with larger increases in countries with currently low wholesale prices and small increases in those countries with high wholesale prices. This may mean that the impact on retail prices is lessened in those countries where wholesale prices are high. Electricity prices in our main EU competitors may increase by broadly similar amounts. The UK has the lowest wholesale electricity prices among this group so the percentage increase for the final consumer could be larger.

7.2.5 As well as achieving real environmental benefits, the EU ETS has been designed to safeguard security of energy supply by maintaining a diverse

range of energy sources, while supporting the international competitiveness of UK industry. Our EU competitors will also be facing similar impacts and increases in energy costs as a result of the scheme.

7.2.6 If monitoring and enforcement is not pursued with equal skill and rigour within and across Member States this could lead to distributive and competitive effects at the installation, sector and country level. However, if there is lax monitoring and enforcement this may mean less administrative costs, but in doing so a Member States risks infraction proceedings from the European Commission.

7.2.7 If there is differential treatment of temporary exclusion within and between Member States this could lead to competitive distortions.

7.3 EU countries versus non-EU

7.3.1 Market share could also be affected through countries trading in third country markets with other non-ratified countries. Some sectors (cotton fibres, coke oven products, copper and accumulators and primary batteries), face intensive competition from countries outside the EU not subject to the Scheme. Recognising such concerns, we are allocating allowances to these sectors in line with their projected needs[59].

7.3.2 Competition within EU markets will also be affected, as non-member states not subject to the EU ETS will enjoy a competitive advantage. Sectors with high shares of exports to non-EU markets include sugar, malt, coke oven products, stone and wire products. Imports from outside the EU are particularly important in sugar, coke oven products, lead, zinc and tin and accumulators and batteries. Sectors with both high import penetration and high shares of imports from outside the EU include cotton fibres, coke oven products, copper and accumulators and primary batteries. In the case of cotton fibres the principal source of imports among non-ratified countries is Turkey. The majority of imports of copper from non-ratified countries are derived from Russia, Canada and the USA. The USA is also the main source of imports of accumulators and primary batteries among non-ratified countries.

7.3.3 We are aware of concerns that UK, and other Member States, have about competing worldwide with other countries not bound by the EU ETS. However, the Directive is intended to set the way ahead to being innovative and efficient and being well placed to take advantage of low carbon opportunities. Some parts of US industry are already concerned that EU industry will gain a competitive advantage as a result of the EU ETS.

[59] Analyses of the competitive impacts of the EU ETS can be found on the Defra website at: http://www.defra.gov.uk/environment/climatechange/trading/eu/info/impact.htm#compete

8. ENFORCEMENT, SANCTIONS AND MONITORING

8.1 Enforcement and sanctions

8.1.1 The European Commission has the power to bring infraction proceedings against any EU Member State which does not meet the deadlines in the Directive for implementation of the Scheme.

8.1.2 In the UK, the ETS Regulations[60] contain specific enforcement powers and sanctions. The regulators for the EU ETS in the UK are responsible for ensuring compliance with the Regulations. The regulators and/or the Secretary of State/Scottish Ministers/National Assembly for Wales/ the Chief Inspector (Northern Ireland) have powers to enforce sanctions on installations that fail to comply with their obligations. In particular, it is the duty of the regulators to enforce compliance with the monitoring and reporting conditions that are set out in the operator's permit and the regulator has the power to serve an enforcement notice on the operator if the regulator has reason to believe that an operator has contravened, is contravening or is likely to contravene any monitoring and reporting condition[61].

8.1.3 The UK Regulations also provide both criminal and civil sanctions. The Regulations contain several criminal offences in relation to the Scheme, such as carrying out an activity covered by the Scheme without a greenhouse gas emissions permit, knowingly or recklessly providing misleading statements in order to obtain a greenhouse gas emissions permit, and failing to comply with the requirements of an enforcement notice[62].

8.1.4 Failure by an operator of an installation to surrender a sufficient number of emission allowances by 30 April each year will result in a financial penalty. In the Phase I this penalty will be set at €40 per excess tonne of CO_2 (allowance) that an operator fails to surrender. In the Phase II of the Scheme the penalty will increase to €100 per allowance. Payment of the penalty does not relieve the operator from the obligation to surrender allowances under the Scheme and the shortfall from the year in which the penalty was paid will be rolled over and added to the number of allowances that must be surrendered the following year. In addition, the UK Regulations provide an additional enforcement mechanism where an operator fails to surrender sufficient allowances by blocking transfers out of the account until sufficient allowances have been surrendered[63].

8.1.5 Failure to submit a verified annual emissions figure will result in the installation's registry account being blocked by the registry administrator. The installation will then be subject to the fines described above as they have not surrendered the correct number of allowances. This emphasises the need for installations to start to arrange for verifications as soon as possible and not to

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[60] http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm#regulations
[61] See Part 4 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005 for further details.
[62] See Part 7 of the Greenhouse Gas Emissions Trading Scheme Regulations 2005 for further details.
[63] See Part 7 and Regulation 26(8) of the Greenhouse Gas Emissions Trading Scheme Regulations 2005 for further details.

leave it to the last minute. Verified annual emissions reports must be submitted by 31 March each year. If annual emissions reports cannot be verified, operators must seek guidance from the regulators, who have the ability to calculate emissions on their behalf.

8.2 Monitoring and review

8.2.1 The Commission is required to report back to the European Parliament on the operation of the Scheme by 30 June 2006[64].

8.2.2 The Directive (Article 21) requires Member States to report annually to the Commission on the application of the Directive. The first of these reports is due on 30 June 2005. The Commission has prepared a questionnaire for Member States to use. The Commission recognises that the first report will be incomplete as a full years reporting will not be available.

8.2.3 Operators of installations covered by the EU ETS are required to prepare and implement monitoring and reporting plans describing how emissions from the installation will be monitored and reported on an annual basis. In mid 2004, regulators in the UK published guidance on how to prepare these plans and ran workshops with EU ETS participants.

8.2.4 Upon approval, the monitoring plan was included as a condition of the Greenhouse Gas Emissions Permit and operators started monitoring in accordance with approved plans on 1 January 2005.

8.2.5 Annual emissions reports and the monitoring programme must be verified by accredited verifiers before they are submitted to regulators by 31 March each year for emissions during the preceding year. Allowances must then be surrendered in accordance with the verified Annual Reportable Emissions figure by 30 April each year.

9. POST-IMPLEMENTATION REVIEW

9.1 In order to provide stakeholders with appropriate signals about the longer term, we are currently considering options for allocating in Phase II of the EU ETS and published (on 31 March 2005) details of our approach to developing a Phase II National Allocation Plan and details of how and when stakeholders can input into the decision making process[65]. Development of the Phase II NAP will include a review of the Phase I policies and RIAs will be completed throughout this process.

[64] Article 30 of the EU ETS Directive:
http://www.defra.gov.uk/environment/climatechange/trading/eu/info/directive.htm
[65] See http://www.defra.gov.uk/environment/climatechange/trading/eu/phase2/index.htm

10. SUMMARY AND RECOMMENDATION

10.1 Implementation of the EU ETS is an international and legal obligation.

10.2 The uncertainties associated with the development of a new market mean that it is not possible to quantify the actual costs and benefits of the Scheme. It is clear that the cost of inaction on climate change potentially has much greater costs than those associated with the implementation and running of the EU ETS.

10.3 The EU Emissions Trading Scheme, as a market mechanism, has been chosen as the most favourable method of ensuring that the EU emission reductions take place where the cost of the reduction is lowest thus lowering the overall costs to industry of combating climate change. For the UK, it will enable emission reductions to take place in the economy where they are most economically viable and through the trading mechanism the cost of those reductions will be shared across other participants in the Scheme.

10.4 The recommended options for detailed implementation of the Scheme (set out in Section 4) reflect the analysis of the risks, costs and benefits of each option, incorporating the results from the many consultation processes that Government has undertaken in the lead-up to the start of the Scheme which began in January 2005.

11. DECLARATION

I have read the regulatory impact assessment and I am satisfied that the benefits justify the costs

Signed: Elliot Morley

Date: 15th May 2005

ELLIOT MORLEY, MINISTER OF STATE

DEPARTMENT FOR ENVIRONMENT FOOD AND RURAL AFFAIRS

ANNEX 1 to the EU ETS Final Regulatory Impact Assessment

This annex contains the tables detailing all the options considered before making certain policy decisions. The chosen options are italicised and a summary of the reasons for choosing a particular option for each issue is set out in Section 4 of the Regulatory Impact Assessment (the numbering reflects the numbering in that document).

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4.2 Determination of the quantity of allowances at sector level

4.2.12 Use of CCA targets

Option	***1***	**2**
Description	***Apply CCA targets to all installations covered by a CCA (status quo)***	***Apply CCA targets to installations that include both combustion and schedule 1 activities in the EU ETS, but do not apply a CCA target to those that include only combustion***
	Benefits	
Is this consistent with the NAP sector modelling?	*Yes – as the CCA would be applied to a sector to provide business as usual allocations for that sector*	No – as this would be moving towards providing business as usual allocations on an installation level
	Costs	
Is this transparent?	*Yes*	No – it would involve investigating negotiated underlying agreements to compare the coverage of CCAs with the EU ETS
Is this simple to administer?	*Yes*	No – it would be complex to compare coverage of CCAs with the EU ETS
	Competition	
Is this fair treatment compared to installations falling under schedule 1 definitions?	*Other installations may have the opportunity to reduce energy use using non-combustion activities in both the CCA and EU ETS*	Yes and no – as the same combustion activities that are covered by CCAs could be differently treated
How would installations whose emissions are covered by a CCA (as energy is supplied to a CCA covered installation), but the operator is not party to the CCA be treated? Is this consistent?	*CCA targets would be applied to those installations – this is consistent with the fact that a CCA target applies to the installation even if the operator is different*	No CCA target would be applied to those installations.
	Risks	
Could the option be consistently applied?	*Yes*	Possibly, with difficulty and much time, but it may not be accurate

Treatment of Installations that are Covered by CCA Targets

Option	**1**	***2***	**3**
Description	***Apply a weighted average of all CCA umbrella targets relevant to the NAP sector (status quo)***	***Apply relevant CCA umbrella targets to relevant covered CCA installations***	***Apply the underlying CCA targets to relevant covered CCA installations within a NAP sector.***
		Benefits	
Could the CCA target used reflect likely need for CCA covered installations?	No – a weighted average can lead to perverse results if CCA targets in one NAP sector are significantly different.	*Yes – as far as the CCA umbrella agreement reflects needs for the CCA sector.*	Yes – as underlying agreements can be negotiated specifically for installations.
Is this consistent with the NAP sector modelling?	Yes – as one CCA target is applied to one NAP sector.	*Yes – as a target is applied on a CCA sectoral level within a NAP sector.*	No – as the allocation methodology does not aim to assess need at an installation level.
		Costs	
Is this simple to administer?	Relatively, but weighting assumptions need to be made	*Yes – it is simple to check what installations are covered by each CCA – although it may be more difficult to determine the appropriateness of an absolute CCA target if it covers more than one NAP sector.*	No – it would be very complex to apply over 600 different targets to over 600 installations.
What level of aggregation does this imply?	High level of aggregation.	*Lower level of aggregation than option 1.*	Disaggregation to installation level.
Is this transparent?	No – a weighted average entails making a judgment about the appropriate weighting.	*Yes – each installation knows what CCA it is covered by and therefore what has been applied.*	No –underlying agreement targets were negotiated using a variety of top down or bottom up approaches.
Could it be consistently applied?	Yes – an weighted average can be applied to every NAP sector	*Yes – although for the ceramics sector only sub-sector targets exist*	Yes all CCA covered installations have underlying agreements (or a direct agreement with the Secretary of State)
		Competition	
How are installations in different NAP sectors covered by the same CCA treated? Is this consistent?	The weighted average applied to such installations could be completely irrelevant	*The CCA target applied would be that relating to the covered installation – and the growth rate applied would be that of the NAP sector. The two could be inconsistent*	Yes – although the variation in the way in which sectors calculate underlying agreement targets could generate distortions
		Risks	
Are there confidentiality issues?	No – all CCA umbrella agreements are publicly available	*No – all CCA umbrella agreements are publicly available*	Yes – underlying agreements are negotiated confidentially

Treatment of installations not covered by CCA targets

Option	**1**	***2***
Description	***Apply a weighted average of all CCA Umbrella targets relevant to the NAP sector (status quo)***	***Apply relevant growth rate to 2002 data and do not apply any CCA target to such installations***
	Benefits	
Is this consistent with the NAP sector modelling?	Yes – as one CCA target is applied to one NAP sector	*Yes – as a target is applied on a CCA sectoral level within a NAP sector*
Is this consistent with the treatment of CCA installations?	Consistent with option 1 for treatment of CCA installations	*Consistent with option 2 for treatment of CCA installations*
	Costs	
Is this transparent?	No – a weighted average entails making judgments about the appropriate weighting	*Yes – growth rates only would be applied*
Could it be consistently applied?	Yes – an weighted average could be applied to every NAP sector	*Yes – it is possible to identify installations not in CCAs*
Is this simple to administer?	Yes	*Yes – it is possible to identify installations not in CCAs*
	Competition	
Is this fair treatment compared to installations covered by CCA targets?	No – it essentially imposes targets on installations that have not signed up to them or been involved in negotiations for them	*Yes – it does not impose any targets on the installations that they have not been part of*
	Risks	
Only a small number of installations are affected – could there be large effects?	This option may under-allocate to such installations	*This option may or may not lead to much change, and this does not necessarily rule out under allocation*

4.3 Determination of the quantity of allowances at installation level

Further detail on the methodology behind determining the level of allowances can be found in the National Allocation Plan[66]

4.3.2 Baseline period[67]

Option	1	2	3	4
Description	***Use 1998-2002 (status quo)***	***Use 1998-2003***	***Use 1999-2003***	***Use 2002-2003***
		Benefits		
Is there a possibility of rewarding early action?	Very good due to early baseline period.	*Very good due to early baseline period.*	Good due to relatively early baseline period.	Low due to late baseline period.
Is this baseline period a good proxy for the future?	Unlikely, as many sectors or installations reported that 2002 was an anomalous production and therefore emissions year and that 2003 data was more representative of future emissions.	*Mostly, as many installations reported that 2003 data is more representative of future emissions than earlier years.*	Mostly, as many installations reported that 2003 data is more representative of future emissions than earlier years.	Yes, as many installations reported that 2003 data is more representative of future emissions than earlier years.
Is this baseline sustaining the benefits of using an average for allocations?	Yes – a 5 year period provides a good average for allocations.	*Yes – a 6 year period provides a good average for allocations.*	Yes – a 5 year period provides a good average for allocations.	No – a 2 year period may contain anomalies that may distort allocations.
		Costs		
Would this require resubmission of data (aside from other issues)?	No – data already submitted for 1998-2002.	*Likely for most installations, as need to add 2003 data.*	Likely for most installations, as need to add 2003 data.	Likely for most installations, as need to add 2003 data.
Would all data required be available on time?		*Some installations may not have 2003 data.*	Some installations may not have 2003 data.	Some installations may not have 2003 data.
Would there be a need to treat 2002/ 2003 entrants differently?	Yes, for both 2002 and 2003 entrants – as they may not have a full year's data.	*Yes, for 2003 entrants only– as they may not have a full year's data.*	Yes, for 2003 entrants only – as they may not have a full year's data.	Yes, for 2003 entrants only – as they may not have a full year's data.
Potential verification costs	High – 5 years' emissions to be verified and early years may be more difficult to verify.	*Highest – 6 years' emissions to be verified and early years may be more difficult to verify.*	High – 5 years' emissions to be verified.	Lowest– 2 recent years' emissions to be verified.
		Competition		
Could this reward historically high emitters more?	Most likely due to early baseline period.	*Likely due to early baseline period (though addition of 2003 data lessens effect).*	Likely due to early baseline period (though exclusion of 1998 and addition of 2003 data lessens effects).	Unlikely due to late baseline period.
		Risks		
Any other distortions likely?	Unknown – but early years can incorporate large structural changes.	*Unknown – but early years can incorporate large structural changes.*	Unknown - as not sure of significance of excluding 1998 emissions data.	Unknown - as not sure of significance of excluding 1998- 2001 emissions data.

[66] See: http://www.defra.gov.uk/environment/climatechange/trading/eu/nap/fad.htm
[67] For more background please see the report for Defra by NERA, AEAT and SPRU, August 2003 available at: http://www.defra.gov.uk/corporate/consult/eu-emissions/annexa.pdf.

4.3.3 Allocation methodology

Option	***1***	***2***
Description	***Drop Minimum Year (Status Quo)***	***Drop Minimum 2 Years***
	Benefits	
Can methodology help smooth out anomalous data?	*Yes, provided only one years data is anomalous*	Yes, provided only 2 years data is anomalous
Could it address impact of some years being unrepresentative of full production, e.g. commissioning or temporary closure?	*Mostly, except where more than 1unrepresentative year, that might have to be addressed separately.*	Expect mostly, some specific problems may remain.
Could it address 2002 as a low, anomalous year?	*Yes - if commissioning data is excluded.*	Yes - if commissioning lasts 1 year or if commissioning data is excluded.
Could it address 2002 as only representative year (e.g. if large structural changes occurred prior to 2002)?	*No – unless baseline period chosen is 2 years only and includes 2002.*	No – unless baseline period chosen is 3 years only and includes 2002.
Could it address the whole period being in low cycle?	*Very unlikely, but depends on cycle and baseline period overlap.*	No, but more likely than option 1 – also depends on cycle and baseline period overlap.
Transparent methodology?	*Yes*	Yes
	Costs	
Could it lead to allocations being based upon unrepresentative data?	*Possibly – number of anomalous years.*	Difficult to assess –likely because more years of data are excluded, but unlikely because more anomalies may be excluded.
	Competition	
Would some installations need to be treated differently?	*Yes – 2003 entrants, and 2002 entrants if 2003 data not used.*	Yes – 2002 and 2003 entrants, and 2001, 2002 and 2003 entrants if 2003 data not used.
	Risks	
Years used could represent anomalous activity?	*Unlikely – as average data used – but depends on year of entry.*	Likely – as average data used but more years of data are excluded.

4.3.4 Installations Starting in (a) 2002 and (b) 2003

Treatment of installations that began full operations in 2002.

Option	1	*2*	3	4	5
Description	***Pro-rata the 2002 data to reach 1 year and use that as the only data point***	***Use 2002 - 2003 data and drop minimum year's data***	***Use 2002-3 data and pro-rata 2002 data to reach 1 year, then drop minimum year's data***	***Use emissions or output projections***	***Apply benchmarks derived for use in New Entrants Reserve***
Benefits					
Could it address problem of having a partial year's data?	Yes	*Yes – as full year's data always used.*	Yes	Avoids problem	Avoids problem
Results likely to be good indicator of future need?	Possibly (provided commissioning data is not prorated)	*Likely*	Likely (provided commissioning data is not prorated)	Yes	Likely
Costs					
Could allocation be based upon unrepresentative data?	Prorated data very likely to be anomalous.	*Unlikely - unless commissioning etc. lasts longer than 1 year*	Prorated data could be anomalous (if not dropped).	Inaccuracies are possible with installations level allocations.	Unlikely
Is data verifiable?	The shorter the period of actual data the more difficult it is to verify it to an accurate level	*Yes*	The shorter the period of actual data the more difficult it is to verify it to an accurate level	Not strictly, but depending on who and how projections are made some assumptions could be verified	Depends on who and how benchmark is set, but use of benchmark could be verified
Is methodology transparent?	Yes	*Yes*	Yes	No installation level projections may be difficult to check for consistency or accuracy.	Probably
Competition					
Consistent with proposed treatment of other existing installations?	No as others cannot pro-rata data.	*Yes if other existing installations use 2003 data.*	No as others cannot pro-rata data.	No - other existing installations can't use projections.	No - other existing installations can't use benchmarks.
Consistent with proposed treatment of new entrants?	No	*No*	No	No	Yes – it is proposed that New Entrant allocations will be based upon benchmarks.
Risks					
Would all extra information required be available on time?	Yes	*2003 data may not be available.*	2003 data may not be available.	Likely – depends on how projections made	Benchmarks may not be available for all sectors.

Treatment of installations that began full operations in 2003.

Option	***1***	***2***	***3***
Description	***Pro-rata the 2003 data to reach 1 year and use that as the only data point***	***Use emissions or output projections***	***Apply benchmarks derived for use in New Entrants Reserve***
Benefits			
Could it address problem of having a partial year's data?	Yes	Avoids problem	*Avoids problem*
Results likely to be good indicator of future need?	Possibly (provided commissioning data is not prorated)	Yes	*Likely*
Costs			
Could allocation be unrepresentative of actual activity?	Very likely to be anomalous.	Inaccuracies are possible with installations level allocations	*Unlikely*
Is data verifiable?	The shorter the period of actual data the more difficult it is to verify it to an accurate level	Not strictly, but depending on who and how projections are made some assumptions could be verified	*Depends on who and how benchmark is set, but use of benchmark could be verified*
Is methodology transparent?	Yes	No – installation level projections may be difficult to check for consistency or accuracy.	*Probably*
Competition			
Consistent with proposed treatment of other existing installations?	No – others can't pro-rata data.	No – others can't use projections.	*No – others can't use benchmarks.*
Consistent with proposed treatment of new entrants?	No	No	*Yes – it is proposed that New Entrant allocations will be based upon benchmarks*
Risks			
Would all extra information required be available on time?	2003 data may not be available	Likely - depends on how projections made	*Benchmarks may not be available for all sectors*

4.3.6 Commissioning

Option	***1***	***2***	***3***
Description	***Average all data provided and drop minimum years data (status quo)***	***Average all data provided and drop 2 minimum years data***	***Average data adjusted to exclude full years' commissioning data then use agreed methodology for existing installations***
Effect on historic emissions data used	Possible distortion as data may or may not include commissioning data.	Commissioning data more likely to be excluded than option 1	*More representative of normal operations as full years' commissioning data excluded.*
Does it address problem of using data for commissioning periods?	Only if commissioning lasts less than 1 year and there are no other very anomalous years	In most cases - more likely than option 1	*Yes*
Does it address problem of phased or varying commissioning periods?	No	More likely than option 1	*Likely*
Results likely to be good indicator of future need?	Unlikely – would need to use allocation methodology (e.g. drop 2 years data, pro-rata, etc).	Unlikely because more data is excluded, but likely because more anomalies may be excluded.	*Yes*
Is a definition of commissioning required?	No	No	*Yes*
Is the data verifiable?	Yes	Yes	*Yes*
Is methodology transparent?	Yes	Yes	*Mostly, but would need to check definitions.*
Consistent with proposed treatment of other existing installations?	Yes	No – unless this option was used in standard methodology	*Yes*
Could the number of 2002/3 entrants increase?	No	No	*Very likely*

4.3.7 Baseline Changes

Treatment of installations that have undergone internal changes during the baseline period.

Option	***1***	***2***	***3***
Description	***Use all historic data for all individual stationary technical units in use at the start of phase 1***	***Use historic data on a unit-by-unit basis if data can be disaggregated. If disaggregation is not possible, use historic data for the whole installation, but only for the years it was in its configuration permitted***	***Use all historic data for the units, regardless of whether or not some of the units in use in the baseline are not in use at the start of phase 1***
Benefits			
Results likely to be good indicator of future need for installations that have substituted?	No – may lead to under or over allocation.	*Yes*	No – may lead to under or over allocation.
Could allocations to CHP replacing boiler represent future need?	No – may over allocate.	*Yes*	Yes – may under allocate.
Costs			
Would this be simple to administer?	Yes	*Possibly complex, depends on clarity of definition of changes used.*	Yes
Are clear definitions of changes needed?	*No*	*Yes*	No
Is this transparent?	Yes	*Less so than option 1 – depends on approach taken*	Yes
Would this be consistent with permitting arrangements?	Yes	*Yes*	No – could be wider than the scope of the installation permitted.
Competition			
Could it create asymmetries of treatment between installations?	*Yes – if data cannot be disaggregated.*	*Yes – depends on clarity and transparency of definitions used and if data cannot be disaggregated*	No
Is this consistent with other proposed measures?	*Yes – with withholding un-issued allocated allowances to closed installations and adding them to the New Entrant Reserve*	*Yes*	No – instead consistent with retaining allowances after closure
Risks			
Could the allocation methodology become too complex?	Unlikely	*Yes*	Unlikely

Treatment of installations that have had significant periods of temporary closure during the baseline

Devising a rule to take into account periods of temporary closure works towards making an installation's relevant emissions more representative of its future emissions. In particular, a rule which excludes only full year's non-zero data ensures that only significant periods of temporary closure, and hence periods which are significantly anomalous, are removed from the allocation calculation. The "drop minimum year" facility should account for shorter periods of temporary closure. If no rule is available to account for years with non-zero emissions, then there is a high risk that the resulting calculation of relevant emissions will be unrepresentative of future emissions.

4.3.9 Inter-site rationalisation

Option	***1***	***2***	***3***
Description	***Use all historic data for those sites in operation at the start of phase 1***	***Use historic data only for the permitted existing installation after a defined change for a defined reason***	***Use all years' historic data for all installations operational during the baseline period, whether or not they are operational at the start of Phase 1***
Benefits			
Results likely to be good indicator of future need for installations that have rationalised?	Likely to be less than needed, as rationalisation should lead to fewer emissions.	*Likely to be as needed, unless cases not clear.*	Likely to be more than needed, as reflects pre-rationalisation emissions.
Could early action be "rewarded"(assuming baseline period is long enough)?	Unlikely	*Yes - in defined cases which would be determined by government*	Yes - always
Costs			
Would this be simple to administer?	Yes	*Possibly complex, depends on clarity of definition.*	Probably
Is a clear definition of rationalisation needed?	No	*Yes*	No
Would this be consistent with permitting arrangements?	Yes	*Yes*	No – could be wider than the scope of the installation permitted.
Could verification costs rise?	No	*Possibly – definitions may be checked*	Yes – may be more difficult to verify closed installation data.
Is this transparent?	Yes	*Less so than option 1 – depends on approach taken.*	Yes
Competition			
Could it create asymmetries of treatment between installations?	No	*Yes – depends on clarity and transparency of definitions used*	Yes – if data for closed installations is not provided/ available.
Is it consistent with other proposed measures?	Yes - with withholding unissued allocated allowances to closed installations and adding them to the New Entrant Reserve.		No – instead consistent with retaining allowances after closure.
Risks			
Could reward for non-"early action" changes (e.g. changes brought about by regulation)?	No	*Possible – depends on clarity of definitions.*	*Very Likely*
Could the number of 2002/3 entrants increase?	No	*Yes*	*No*

4.3.10 New entrants, closures and auctioning (NECA)

4.3.10 Quantifying the size of the new entrant reserve (NER)

Option	***1***	**2**
Description	***Produce estimates consistent with: (i) underlying growth projections and sectoral allocations; (ii) bottom-up sectoral information.***	***Use standard figure based on overall UK output or growth assumptions***
	Benefits	
Takes account of growth rates in different sectors	*Yes – estimates produced on a sectoral basis.*	No – same percentage applied to each sector.
Takes account of sector information and data	*Yes – where sectors have provided data on new entry plans, these have been taken into account.*	No.
Equitable across sectors	*Yes – because takes account of differences in growth rates by sectors.*	No – applies blanket figure to all sectors.
	Costs	
Is this simple to administer?	*Relatively, but growth rate and other assumptions need to be clear.*	Yes, but need to agree use of standard assumption.
Is it transparent?	*Relatively, as long as underlying assumptions are clear.*	Yes.
Could it be consistently applied?	*Yes, but likely that one or other method more suitable, depending on type of sector.*	Yes.
What level of disaggregation is it applied to?	*Each CCA sub-sector can be treated separately, in line with the sectoral allocations.*	Use blanket rate for all sectors.
	Risks	
Are there confidentiality issues	*Yes. Some estimates rely on confidential plans by sectors, could affect transparency.*	No because use publicly available forecasts.
Reserve may be wrong size	*Risk that reserve too big or too small reduced by using better information and data.*	Greater risk of having too few or many allowances. May risk UK investment.
	Competition	
Equitable for incumbents and new entrants?	*The split of sector totals between the allocation to existing installations and contribution to the new entrant reserve would be more accurate and therefore more equitable for both existing installations and new entrants*	No, since takes no account of different sectoral growth rates.

4.3.11 Types of new entrant

Option	**1**	***2***	**3**
Description	***Use narrow definition of new entry and only include capacity (re)opening or extensions***	***Use narrow definition of new entry (Option 2) plus a limited number of additional new entrant types (e.g. tiebacks)***	***Use wide definition of new entry to include all proposed types***
		Benefits	
Consistent with the Commission Guidance on the definition of new entrant in Directive?	Yes – the Directive/ Commission interpretation of the definition in the Directive is relatively narrow	*No – would result in a larger number of changes to installations being considered new entry than in the Commission's Guidance*	No – would result in a larger number of changes to installations being considered new entry than in the Commission's Guidance
Simple to administer?	Yes – it is relatively straightforward to assess when new capacity has been brought on line	*Probably - would need a wider range of conditions against which to assess whether new entry had occurred than Option 1 but fewer than Option 3*	No – would need a wide range of conditions against which to assess whether new entry had occurred
Able to define and identify new entrants?	Yes – new entry would result in a new or revised permit	*Probably – depending on the kinds of new entry allowed over and above those in Option 1*	Possibly – although increasingly difficult to identify new entrants
Able to calculate likely need of new entrants?	Yes – a standardised allocation methodology would be required for a relatively limited number of circumstances	*Probably – depending on the number and types of new entry considered eligible*	Possibly – although a (much) larger number of methodologies would need to be determined and the methodologies would be required for the cases which are less easy to distinguish
		Costs	
Reduces incentives to trade?	Yes – as compared to a scheme under which all new entrants buy	*Yes – allocations to incumbents would be adjusted in a wider range of circumstances that Option 1, but fewer than Option 2*	Yes – the allocation to existing installations would be adjusted in a wide range of circumstances than option 1 and 2
Reduces barriers to entry?	Yes – for a limited range of new entrants	*Yes – although the wider types of new entry which would be included would affect existing installations who would otherwise have received more allowances in the initial allocation*	Yes – although the wider types of new entry which would be included would affect existing installations who would otherwise have received more allowances in the initial allocation
Implications for cessation of activity rules?	For consistency and to avoid the opportunity for gaming, cessation rules should match the rules on new entry	*Probably – if the NER is to be sized net of closure, allowances would need to be withheld from installations in a wider range of circumstances*	Probably – if the NER is to be sized net of closure, allowances would need to be withheld from installations in a wider range of circumstances
Fails to compensate for investment decisions already taken?	Probably - provides a free allocation in only a limited number of circumstances but there would be a greater number of allowances for allocation to existing installations at the outset	*Possibly – provides free allocation in more instances than Option 1 but fewer than Option 3*	Unlikely – this option would result in a free allocation for most changes to an installation's emissions
Results in greater regulatory burden?	Burden limited since small number of cases and eligibility triggered by (re)issuing a permit	*Yes – larger number of 'new entrants' than under Option 1 but fewer than Option 3*	Yes – we would need to identify and calculate allocations for a large number of changes to a wide range of installations
Shifts balance of allocation from incumbents towards new entrants?	Yes - to minimum extent - new capacity can be relatively well projected for most industries, as can closures	*Yes – to some extent – depending on the number of types of new entry allowed*	Yes – as the number of types of new entry increases, the size of the NER is likely to increase too

4.3.14 Rationalisation

Option	*1*	*2*
Description	***Allow rationalising operators to keep allowances from the closing site proportional to the percentage of production transferred, above a threshold of 50% of production***	***Treat a rationalising site in the same manner as any permanent closure, and do not issue any of the site's allowances in the years following that of closure***
Benefits		
Simple to administer?	*Fairly – but would require verification of the quantity and nature of the transfer*	Yes
Allocation likely to reflect need?	*Yes*	No – operator would not receive the allowances he needs to cover the production being transferred
Improvements in energy efficiency incentivised?	*Yes – operator improving efficiency would be rewarded with allowances retained from closing site*	No – operators would lose allowances by rationalising
Could it be consistently applied?	*Yes - for transfers above the 50% threshold*	Yes
Transparent methodology?	*Yes*	Yes
Costs		
Shifts balance of allocation from incumbents towards new entrants?	*No – incumbents would be more likely to rationalise than new entrants*	Possibly – if incumbents were not rewarded for their efforts to improve efficiency but new operators were
Increased uncertainty for allocation to operators?	*Yes – operators will not be informed of the quantity of allowances they would retain until verification had been completed*	No
Results in greater regulatory burden?	*Yes - but reduced by 50% rule and private sector verification*	No
Risks		
Possibility of gaming by operators	*Less likely – operators would still receive all the allowances they needed to cover production*	Likely – operators may run the plant at very low levels, rather than permanently closing it, in order not to lose any allowances

4.3.15 NECA - Commissioning

Option	**1**	***2***	**3**
Description	***Provide allowances at full commercial operations rate from date of first emissions***	***Provide allocations at a reduced rate from the date of first emissions until commercial operations commence***	***Provide allocations at the commercial operations rate, but issue the allowances a fixed period of time after the date of first emissions***
Benefits			
Simple to administer?	Need to determine (i) date on which emissions commence; (ii) full allocation rate	*Need to determine: (i) date on which emissions commence; (ii) date on which commercial operations begin; (iii) reduced allocation rate; (iv) full allocation rate*	Need to determine: (i) date on which emissions commence; (ii) expected length of commissioning period; (iii) full allocation rate
Allocation likely to reflect need?	No – allocation likely to be greater than need during commissioning	*Yes – reduced allocation during commissioning*	Possibly - depending on how accurately the commissioning time can be projected
Flexible if commissioning period is shorter/ longer than expected	No – allocation remains the same however long commissioning takes	*Yes – since date on which commercial operations commence will change*	No – expected length of commissioning period fixed
Costs			
Shifts balance of allocation from incumbents towards new entrants?	Probably – size of NER will need to be larger than if allocation was lower during commissioning	*Possibly – but if reduced rate accurately reflects commissioning, NER will be sized appropriately*	Possibly – but if time allowed for commissioning accurately reflects commissioning, NER will be sized appropriately
Require more complicated standardised allocation methodology?	No – only single allocation rate is used	*Yes – require both 'commissioning' and commercial operations methodology*	No – only single allocation rate is used but need methodology for determining time delay
Increased uncertainty for allocation to operators?	No – operators know allocation rate from date of first emissions	*Yes – allocation will depend on date commercial operations commences although operator has control over this date*	No – operators will know their allocation in advance (since expected length of commissioning period fixed)

4.3.16 NECA - Decommissioning

Option	**1**	**2**	***3***
Description	***Provide allowances at full commercial operations rate until installation ceases Annex 1 activity***	***Withhold a proportion of allowances in any years following the start of decommissioning***	***Require the operator to surrender/cancel additional allowances, over and above its actual emissions***
Benefits			
Simple to administer?	Need to determine (i) full commercial operations rate	Need to determine (i) full commercial operations rate; (ii) reduced rate for decommissioning period; (iii) date on which decommissioning commences	*Need to determine (i) full commercial operations rate; (ii) actual emissions; (iii) additional allowances required to surrender*
Allocation likely to reflect need?	No – allocation will be above need if emissions during commissioning are lower than those during commercial operations	Probably – allocation adjusted to reflect expected need but with delay as only affects unissued allowances	*Yes –allocation will be above need but operator will be required to surrender additional allowances*
Flexible if decommissioning period is shorter/ longer than expected	Yes – length of decommissioning period does not affect allocation	Yes - once decommissioning rate starts continues at that rate until installation ceases to carry out a Schedule 1 activity	*Yes – allocation will remain unchanged but operator will be required to surrender additional allowances (and therefore actual decommissioning)*
Costs			
Shifts balance of allocation from incumbents towards new entrants?	Probably – size of NER will be larger than if allocation was reduced during decommissioning	Possibly – but if reduced rate accurately reflects decommissioning, NER will be sized appropriately	*Possibly – ex post adjustment means increased uncertainty regarding number of allowances that will be required*
Require more complicated standardised allocation methodology?	No – only single full commercial operations rate required	Yes – reduced decommissioning rate required	*Yes – will need to develop methodology to calculate the additional allowances to be surrendered*
Increased uncertainty for allocation to operators?	No – full commercial operations rate throughout period	Yes – allocation will depend on length of decommissioning period	*Yes – allocation will be adjusted ex post, although it would reflect actual emissions*

4.3.17 NECA - Sale and auctioning

Option	**1**	***2***	**3**
Description	***Cancellation of left-over New Entry Reserve***	***Auctioning/sale of left over New Entry Reserve***	***Allocating left over allowances free of charge***
Benefits	Tightens UK allocation beyond expectations	*Ensures liquidity is in line with overall UK cap*	ensures that all allowances in the total cap are made available to installations; reduces the effect on existing installations of uncertainty in the calculation of the NER
Costs	Loss of liquidity	*Distributional – some incumbents will need to buy*	increases complexity of the scheme as would require an additional methodology to be developed to govern the distribution of allowances remaining in the NER
Risks	Fails to recognise the balance between new entrants and existing installations, May not be sufficient allowances for installations to buy on the market	*Small risk that auction/sale could destabilise carbon market*	may not be sufficient allowances remaining in the reserve to enable a fair distribution between installations; the Directive does not provide for further allocations of allowances to be made
Competition	Competitiveness of UK installations may be impacted negatively	*None*	

4.3.19 Late and missing installations

Option	1	2	*3*
Description	***To issue no free allowances to late entrants who apply for a GHG permit after the final cut-off date for the FAD.***	***To issue late entrants the same number of allowances they would have received had they been in the FAD (adjusted according to the date on which the permit enters into force).***	***To issue late entrants a proportion of free allowances, but less than they would have received had they been in the FAD (adjusted to when the permit enters into force). 10% reduction up to 31 August 2005, and 25% reduction between 31 August 2005 and 28 February 2007.***
Benefits	Late entrants would not benefit. Other NER applicants may benefit from the availability of more allowances since the late entrant set aside of 1.5MT comes from the NER.	Late entrants would benefit from receiving the same number of allowances as if they had been in the FAD.	*Late entrants will benefit from receiving a proportion of free allowances. Existing incumbents that did obtain permits and provide information to Defra within tight timeframes will see that latecomers are penalised.*
Costs	Late entrants would need to purchase all their allowances from the date on which their permit enters into force. For a small installation discharging between 5-10,000 tonnes per year, this mean purchasing allowances to surrender of between at a cost of around €85,000 to €170,000 per year (at €17 per tonne CO_2).	No additional costs for late entrants.	*Late entrants will incur some costs as they will not receive as many allowances as they would have had they been in the FAD. They may need to purchase allowances or will not have as many excess allowances to sell.*
Risks	Missing installations may be put off coming forward to join the EU ETS as they stand to face considerable costs as well as potential enforcement action. The UK might fail to meet the Directive requirement to ensure all installations are properly permitted.	Incumbent installations that met tight timeframes to obtain permits and submit information to Defra, (under the threat of receiving no allowances) would be aggrieved that late applicants receive a proportionally similar number of allowances and yet did not meet all the required timeframes.	*Even a 10% reduction may disincentivise missing installations from coming forward. However, if they consider that this will be further increased to 25% over time, they may see the benefit in coming forward. They also still face enforcement action for failing to hold a GHG permit.*
Competition	This option may have adverse effects on competition. It would be a significant financial burden for potentially small installations that may have been unaware of the Scheme's requirements.	No impacts.	*This option may have some minor impacts on competition since these installations will be required to buy some allowances (or not have as many to sell) in proportion to their competitors that were in the FAD, but not as many as option 1.*

4.3.22 Sector specific issues

4.3.22 Good Quality CHP

Option	*1*	*2*	3
Description	***Categorise GQ CHP in the sector that it serves (status quo)***	***Categorise all GQ CHP in a separate NAP sector***	***Adjust the 'relevant emissions' calculation for GQ CHP to reflect GQ emissions during baseline***
Benefits			
Consistent with definition of other NAP sectors?	*Yes – installations are categorised according to the UEP sector in which they are modelled*	No - creates a sector on the basis of a technology type	Yes – installations still allocated to UEP sector in which they are modelled
Consistent with the classification of installations in UEP modelling?	*Yes - UEP includes emissions from GQ CHP plant in the sector that they serve*	Not currently – as UEP does not model GQ CHP separately as a sector. It would need to be separated out.	Yes - UEP includes emissions from GQ CHP plant in the sector that they serve
Results in a transparent allocation to all GQ CHP?	*Yes – if the assumptions behind UEP are clearly set out*	Yes – most simple approach to understand (although calculations could become quite complicated where only a proportion of an EU ETS installation is GQ CHP)	No – likely to require installation by installation adjustment, especially if take into account proportion of (non-) GQ emissions during the baseline
Simple to administer?	*Can be difficult to determine what sector GQ CHP serves, but fits with overall EU ETS allocation methodology*	Would require identification of all installations including GQ CHP & baseline GQ emissions (based on CHPQA information). GQ emissions would need to be separated out accurately in UEP projections	As Option 2, would require identification of all installations including GQ CHP & baseline GQ emissions (based on CHPQA information). Would need to make installation-by-installation adjustment to each installation's relevant emissions
Consistent with proposed contribution to NER ring fence for GQ CHP?	*Yes – contribution shared across industrial sectors*	Not currently - contribution would need to be taken from GQ CHP sector only to achieve consistency	Yes – contribution shared across industrial sectors
Costs			
Could similar installations be treated in a different way?	*The same allocation methodology will be applied to all GQCHP as to other installations although as with all combustion installations which are categorised in a sector other than power generation there could be variation depending on the sector*	All GQCHP would be treated equally but there would be some difference in treatment between GQCHP and other installations since this would be a sector defined by technology type	Yes – this would effectively result in installation-level allocations although all GQCHP would be treated the same

Option	*1*	2	3
Does the methodology disincentivise GQ CHP installations?	*Government analysis indicates that the current allocation methodology should not disincentivise GQ CHP at an aggregate level and a number of other measures proposed are intended to provide all installations including CHP with more representative baselines than were used to calculate indicative allowances in the January draft NAP*	It would depend on the resulting growth rate for the sector but should not disincentivise GQCHP as the growth rate would be specific to that type of technology	Although this shouldn't disincentivise GQCHP but it depends on how the non-GQ component is treated – if as a generator, the increase in allocations to the GQ portion might not outweigh the decrease to the non-GQ portion at some installations
Could a GQ CHP installation face the power stations reduction?	*Yes – those plant that are classified in UEP as power stations would be classified as power stations*	Depends on whether the power stations reduction is applied to the CHP sector	Yes –the adjustment could take into account the power stations reduction or ensure that the power stations reduction is not applied to the GQ part
Does allocation vary depending on whether output is (non-) good quality?	*No – no distinction in treatment, whatever the proportion of (non-) good quality output/capacity*	Yes – only GQ CHP would receive an allocation from the GQ CHP sector, the remainder from the sector in which it is modelled	Yes – allocation would vary from installation to installation, depending on the quantity of GQ output during the baseline period
Competition			
Consistent with treatment of other installations?	*Yes*	No because the GQ CHP would be a sector based on technology type rather than a UEP sector	No – allocations to other installations do not take into account the nature of their output
Affects allocations for other installations?	*Yes – GQCHP would be treated consistently with other combustion installations*	Yes – the balance between the sector total (the emissions that remain in each NAP sector) and the installations to which they are distributed will be affected. The impact will vary depending on how much GQ CHP there is in each industrial sector	Yes – adjustments to GQCHP allocations could reduce other installations' allocations

4.3.23 Flue Gas Desulphurisation (FGD)

Treatment of plants with FGD using a revision to allocation methodology.

Option	***1***	**2**
Description	***No change***	***Give extra allowances to plant where FGD starts to operate after baseline and reduce allowances to other plant***
Benefits	*Simple.* *Avoids opening methodology to wide range of potential cases where future operation of generating plant could differ from operation during baseline period.* *Avoids special treatment of FGD relative to other measures to reduce pollutants from power stations (other than CO2).*	Could reduce potential gap between allocation of allowances and need for allowances at individual power plant, especially if extra allowances for FGD taken from coal stations not operating FGD. With sulphur limits expected to tighten during Phase 1 of ETS, likely that generation from plant with FGD will increase relative to that from plant without FGD.
Costs	*Installations which have fitted FGD during the baseline period might have higher emissions and might therefore need to buy additional allowances on the market*	Complexity. No simple way to calculate appropriate extra allowances for plant starting to operate FGD. Significant deviation from overall allocation methodology. Extra initial allowances would not encourage further new FGD.
Risks	*Perceived lack of "fair" allocation for FGD already committed could also reduce further investment in FGD.*	Could seriously undermine allocation methodology with range of possible cases being made for extra allowances on variety of grounds.
Competition	*Could be viewed as inequitable to firms that have made decisions to fit FGD. But does not prevent FGD plant competing in market.*	Could be viewed as special treatment for just a couple of generating companies. Some of the plant affected already have more allowances than some plant operating FGD during baseline, for which no adjustment would be made.

Treatment of Plants with FGD using extra allowances from the New Entrant Reserve (NER).

Option	***1***	**2**	**3**
Description	***No allocation from NER for newly operating FGD plant.***	***Newly operating FGD plant given allocation from NER to reflect higher load factor and increase in carbon emissions per unit generated.***	***Newly operating FGD plant given allocation from NER to reflect increase in carbon emissions per unit generated.***
Benefits	*Simplicity.* *Avoids special treatment of FGD relative to other measures to reduce pollutants from power stations (other than CO2).*	Could encourage additional FGD with security / fuel diversity benefits. However, impact probably minimal given limited duration of Phase 1. Allocation rules for Phase 2 could have greater impact on investment. Could reduce potential gap between allocation of allowances and need for allowances at individual power plant, especially if extra allowances for FGD taken from coal stations not operating FGD.	Relatively simple to implement. Would give modest benefit to newly operating FGD plant and small encouragement for further FGD.
Costs	*Potential under allocation to plant where decisions to fit FGD have already been made.* *Could discourage further investment in FGD.*	Complexity. There is no simple way to assess the impact of FGD on plant load factor. Would require significantly larger NER and hence reduced allocation to all other generators. Could be regarded as encouragement for coal generation, contrary to thrust of ETS.	Slight reduction in allocations to other power plant, including gas plant. Could be regarded as encouragement for coal generation, contrary to thrust of ETS.
Risks	*Lack of incentives for new FGD would reduce security of supply by reducing potential range of fuels the generation sector can use, perhaps including some coal produced in UK.* *Perceived lack of "fair" allocation for FGD already committed could also reduce further investment in FGD.*	Could undermine overall approach to NER which is that it should not be used to cover increased output from existing installations. Is inconsistent with Commission Guidance. Would require substantial increase in NER with burden borne by all other plant, including gas plant and plant already fitted with FGD.	Could undermine overall approach to NER which is that it should not be used to cover increased output from existing installations – but to much lesser extent than Option 2. Is inconsistent with Commission Guidance.

4.3.24 Biomass

Option	**1**	***2***	**3**	**4**	***5***
Description	***Exempt installations from the Scheme***	***Require installations to enter the scheme and allocate based on fossil fuel use only. Biomass emissions zero rated.***	***Require installations to enter the scheme and calculate allowances by not zero rating emissions***	***Require installations to enter the scheme and allocate a certain number of allowances to off-set administration costs***	***Require installations to enter scheme and reduce administration costs of subsistence fees, monitoring and reporting and verification.***
Benefits	Permits and other administration costs would not apply. Operators still gain from potential rise in electricity prices.	*Adheres to EU ETS requirements. Operators gain from potential increases in electricity prices. Prepares some operators for phase 2 inclusion of methane.*	Provides operators with allowances that can be sold.	Operators would recover costs of permit and administration	Reduced administration costs for operators of biomass installations.
Costs	Legislative changes required.	*Operators incur same costs as other generators.*	Reduces allowances to others in the sector.	Adds to complexity of the scheme as the number of allowances required to cover costs is uncertain and the situation would be further complicated where an installation is not 100% biomass.	Potentially reduced cost recovery for regulators.
Risks	a) Contrary to the EU ETS Directive which does not allow for exemption and could lead to legal challenge for non-compliance with the requirements of the Directive. b) Complex method required to determine exclusions.	*Operators incur costs for few allowances.*	Contrary to the M and R Guidelines and Commission advice.	Potentially inconsistent with EU ETS Directive. Could be considered to be a state aid.	Potentially complex charging scheme required.
Competition		*Consistent with the treatment of other installations.*			Biomass installations would have an advantage of paying less in costs but might be considered to be in a different position if all emissions are zero rated.

4.3.25 Coal Mine Methane (CMM)

Option	***1***	**2**	**3**	**4**
Description	***Allocations for CMM plants are calculated in the same way as all other power generators***	***Allocations for CMM plants are not subject to the generator sector reduction factor***	***Emissions from CMM plants are zero rated for both annual and baseline emissions data***	***Allocations for CMM plant use baseline emissions on the amounts of CO_2 equivalents avoided by turning methane into CO_2.***
Benefits	*Consistency with other generators who will all benefit from electricity price increases.* *Consistent treatment of CO_2 emissions*	CMM plants would not have to buy additional emissions allowances to continue to operate as business as usual. They will benefit from increased electricity prices.	CMM plants would not be granted any allocation as the emissions are zero, and would not have to buy any once the scheme begins.	CMM plants can sell the extra allocation that they receive
Costs	*CMM plantsmay need to purchase additional allowances (in the same way as the other generators) to continue to operate as business as usual.*	CO_2 emissions reductions from the CMM plants will not be promoted. Inconsistent with treatment of other generators.	CMM plants will still be subjected to administration costs - to obtain a permit and undertake monitoring and reporting.	The additional allocation would be above business as usual requirements. This option could be considered to be state aid. Other generators would have their allocations reduced as a result. Calculation and monitoring would be difficult.
Risks	*This approach may put additional economic pressure on CMM plants, however, such installations still emit CO_2 and the effect is the same as any installation emitting CO_2. They will still benefit from increased electricity prices.*	Treating CMM generators differently will undermine the consistency with in how generators are treated.	This approach goes against the Commission's Monitoring and Reporting Guidelines. Coal Mine Methane is not listed as a zero-rated biomass fuel.	The Commission may consider this option to constitute 'state aid. The second phase of the EU ETS may include methane and CMM plants are likely to benefit when this gas is covered.
Competition	*CMM installations treated consistently with other power generators emitting CO_2*	Inconsistent treatment of CMM installations compared to other installations	Emissions of CO_2 from CMM installations treated inconsistently with emissions from other installations	Emissions of CO_2 from CMM installations treated inconsistently with emissions from other installations

4.3.26 Other issues

Baseline data verification

Option	1	2	3	*4*
Description	***No verification or checking of baseline data used in allocation decision***	***Defra contracts consultants to verify data on behalf of operators.***	***Impose harsh penalties on operators who submit baseline data containing misstatements.***	***Require operators to obtain independent verification of baseline data by accredited verifiers by 31 August 2004***
Benefits	Low costs for operators. Some operators may benefit from gaining higher allocations because of misstated data or errors.	Low cost option for operators. Using one consultant would enable consistent verification of baseline data.	Low cost except for those that are found and penalised. Encourages operators to make correct data submissions.	*Would ensure sufficient confidence in the baseline data and that the best available data has been used in the allocation calculation.* *Should identify misstatements and errors in baseline data that may caused distorted allocations.* *Relatively simple to administer and achievable in the timescales required.*
Costs	Does not ensure a sufficient level of confidence in underlying data. Allocations may be distorted because of misstatements in data submitted by operators. Potentially costly for those that are granted lower allocations as a result of errors in other installations' data.	Costs would lie with Defra. With over 1000 installations in the Scheme the costs of baseline verification by consultants contracted by Defra would be in excess of £1 million (based on estimate of £1000 per verification).	May require legislative changes. Checks would still be required to find any misstatements. Action against operators may be costly and too late to make changes to allocations prior to the final allocation decision.	*Verification costs will vary according to: scale of operation, availability of records, previous verifications. Verification requirements can be tailored to be as cost effective as possible, with a tiered approach according to scale of emissions.*

Option	**1**	**2**	**3**	***4***
Risks	Errors found in the first set of baseline data submitted for the Draft NAP demonstrated the need for some form of 'checking' or 'verification' in order to have confidence in the data and avoid distortions.	Operators may be uncomfortable with consultants working for Defra suggesting changes to their data. The amount of work required may not be achievable by one or more verification bodies/consultants within the timeframes required. Sufficient resources may not be available.	Would not necessarily ensure confidence in the baseline data. Still requires some form of checking to ensure operators making misstatements are penalised. This may come too late to amend allocations. Won't necessarily pick up errors and use of inappropriate methods .	*Verifications may not be completed by 31 August 2004 due to limited availability of verifiers.*
Competition	Would give a competitive advantage to installations which have not submitted accurate data.	Would ensure consistent checks on data and therefore should prevent installations from gaining a competitive advantage by submitting inaccurate data.	Depending on enforcement of penalties, this might not deter some installations from seeking to gain a competitive advantage by submitting inaccurate data	*Should ensure confidence in data and avoid operators obtaining a competitive advantage by submitting inaccurate data.*