

Title: EU ETS Small Emitter and Hospital Phase III Opt-Out IA No: DECC0068 Lead department or agency: Department for Energy and Climate Change Other departments or agencies:	Impact Assessment (IA)			
	Date: 23rd October 2012			
	Stage: Final			
	Source of intervention: Domestic			
	Type of measure: Secondary legislation			
Contact for enquiries: EU ETS Team, DECC (eu.ets@decc.gsi.gov.uk)				

Summary: Intervention and Options	RPC: N/A
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Cost of Preferred (or more likely) Option

Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB in 2009 prices)	In scope of One-In, One-Out?	Measure qualifies as
-£33.0m	£39.2m	-£4.6m	No	N/A

What is the problem under consideration? Why is government intervention necessary?

The EU ETS is a cap and trade system designed to incentivise cost-effective reductions in greenhouse gas emissions (GHG) from carbon-intensive industries and electricity generators. Evidence suggests that the administrative burden (the costs of monitoring, reporting and verification of emissions and fees to regulators) of the EU ETS on smaller emitters is disproportionately large. Article 27 of the EU ETS Directive provides for an opt out from the EU ETS in Phase III (2013-2020) to reduce the administrative burdens on small emitters and hospitals. It requires that opted out installations face measures that achieve an equivalent contribution to emissions reductions as if the installation were still in the EU ETS.

What are the policy objectives and the intended effects?

The objective in offering an opt-out is to incentivise GHG emissions reductions whilst minimising the regulatory cost burdens to UK small emitters and hospitals. The aim is to achieve this whilst meeting EU legislative requirements, not significantly affecting the emissions reductions achieved by operators in the EU ETS and ensuring that UK industry is not placed at a competitive disadvantage compared to firms in the EU. Within the constraints of the EU ETS Directive, those 243 eligible operators who have chosen to opt-out of the ETS in Phase III will be required to reduce emissions through an alternative measure.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Four options were considered: Option 1: Do nothing (baseline). UK small emitters and hospitals remain in the EU ETS. Options 2-4: Eligible installations are given the choice of opting out from the EU ETS in Phase III. Opted-out installations are subject to binding emission reduction targets, set according to either (Option 2) the level of EU ETS Phase III free allocations, (Option 3) EU ETS benchmarks, or (Option 4) an installation's historical emissions. Alternatives to regulation would not meet the requirements of the Directive but each of options 2-4 are deregulatory. The final Preferred Option is a combination of options 2 and 4, which has been slightly modified to secure European Commission approval. This offers enhanced flexibility for operators and largely retains the cost savings to UK small emitters and hospitals of the consultation stage preferred option, Option 4, whilst incentivising GHG reductions, and it remains consistent with the approaches of other Member States.

Will the policy be reviewed? It will not be reviewed. If applicable, set review date: Month / Year					
Does implementation go beyond minimum EU requirements?			Yes		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro No	< 20 No	Small Yes	Medium Yes	Large Yes
What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent) (NB figure represents change in effort incl. a change in cap)			Traded: -6.7		Non-traded: +1.3

I have read the Impact Assessment _____ Date: _____

Summary: Analysis & Evidence

Preferred Policy Option

Description: Offer an Opt-out policy with target set according to EU ETS Phase III free allocations or an installation's historical emissions

FULL ECONOMIC ASSESSMENT

Price Base Year 2012	PV Base Year 2012	Time Period Years 8	Net Benefit (Present Value (PV)) (£m) – relative to Option 1		
			Low: -33.9	High: -30.0	Best Estimate: -33.0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low			
High			
Best Estimate	0	10	79.7

Description and scale of key monetised costs by 'main affected groups'

The UK's carbon liability will increase as a result of carbon moving from the traded (EU ETS) to the non-traded sector (NTS) (valued at £77.1m), reflecting higher carbon values in the NTS relative to EU ETS. The Government will also see a fall in EUA auction revenues (£2.6m) owing to the EU ETS cap change.

Installations will pay a penalty to government for any emissions over their target (£7.8m). This is a transfer to government and has been offset in the benefits section.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low			
High			
Best Estimate	0	5.8	46.7

Description and scale of key monetised benefits by 'main affected groups'

The opt-out will lower the administrative costs to small emitters of the EU ETS whilst retaining other features of the EU ETS. It is estimated that small emitters and hospitals that take this opt-out option will save £4.7m in administrative costs over the period 2013-2020 (£0.6m annually) relative to Option 1.

Installations will also no longer be required to purchase EUAs under the EU ETS representing an estimated cost saving of £42m.

Government will receive revenues in the form of penalties from opted-out installations (£7.8m). This is a transfer from industry and has been offset in the costs section.

Other key non-monetised benefits by 'main affected groups'

UK small emitters will also not be placed at a competitive disadvantage when compared to European counterparts who are offered opt-out schemes. This cost saving has not been monetised.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

Emissions growth forecasts from Bloomberg New Energy Finance were used to estimate most of the cost impacts in this impact assessment. Installations would have a better idea of their own levels of expected growth and administrative cost savings.

The NPV range above reflects sensitivities to carbon prices.

BUSINESS ASSESSMENT (Preferred Option)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: -4.9	No	N/A
Benefits: 0		
Net: 4.9		

Background

1. The EU Emissions Trading System EU (ETS) was launched in 2005 as one of the key policies introduced by the EU to help meet its greenhouse gas (GHG) emissions reduction target of 8% below 1990 levels under the Kyoto Protocol. It works on a “cap and trade” basis, where there is a cap on all the emissions covered by the EU ETS, and installations within the system have tradable allowances to cover their GHG emissions.
2. In December 2008, a 2020 Climate and Energy package was agreed by the European Council and the European Parliament which included revisions to the EU ETS Directive that will take effect in Phase III (2013-2020). Phase III of the EU ETS will see the introduction of a centralised, EU-wide cap on emissions to ensure a much more ambitious and consistent approach to implementing the EU ETS across the EU. The cap in Phase III will reduce by 1.74% of the average annual 2008-2012 emissions each year, delivering an overall reduction of 21% below 2005 verified emissions by 2020.
3. This Impact Assessment (IA) is an update of the previously published consultation stage impact assessment which estimated the cost and benefits of this policy using estimates of the number of small emitters and hospitals which would choose to opt out of the EU ETS. It is now known that a total of 243 small emitters have chosen to opt-out. This updated analysis concerns only these 243 small emitters and hospitals. Some other changes have also been incorporated into this IA:
4. Updated appraisal values for short-term traded carbon published in October 2012, have been used.¹ These 2012 carbon appraisal values are considerably lower than those used in the 2011 consultation stage IA and are the main reason for the benefits reported in this IA being lower than those reported in the Consultation stage IA. values are expressed in 2012 prices, rather than 2011 prices as in the consultation IA.

Rationale for Policy

5. The EU ETS is designed to support installations across the EU to deliver emissions reductions at least cost. In addition to the costs of compliance, operators participating in the ETS are subject to the costs related to monitoring, reporting and verification (MRV) and the fees resulting from competent authorities in Member States’ recovering the costs of administering the system. The work of operators and the competent authorities to deliver appropriate MRV is essential to ensuring the validity of emissions reductions and protecting the economic and environmental integrity of the system.
6. However it has been recognised in Europe^{2,3} that the administrative costs faced by small emitters under the EU ETS are disproportionately high per tonne of CO₂, compared to the costs for installations with larger emissions. This has been demonstrated in the UK, following an assessment of the administrative costs to UK operators during Phases I (2005-2007), and II (2008-2012) of the ETS. In the UK, this assessment found that small emitters accounting for 2% of emissions, incurred approximately 20% of the total administrative burden (across the 60% of all installations covered by the assessment). The largest 8% of emitters were responsible for 60% of emissions and incurred 45% of the administrative burden. Per tonne of CO₂ emitted, the estimated administrative costs for UK small emitters exceeded £1, while costs for UK large

¹ <http://www.decc.gov.uk/assets/decc/11/cutting-emissions/carbon-valuation/6667-update-short-term-traded-carbon-values-for-uk-publ.pdf>

² Commission guidance for Phase II National Allocation Plans emphasised the need to ensure or improve the cost-effectiveness of the ETS for small installations.

³ The Climate and Energy Package Impact Assessment states: “It is likely that the costs of inclusion and compliance (in terms of monitoring, reporting and verification rather than costs of complying by buying allowances) outweigh the benefits of including these small emitters..”

emitters were estimated to be £0.04. Almost all UK hospital installations are also small emitters and therefore face the same disproportionate administrative cost burden per tonne of CO₂.

EU ETS Directive, Article 27 – opt-out of small emitters and hospitals

7. In recognition of the disproportionate administrative burdens of the EU ETS on small emitters and hospitals, Article 27 of the revised 2009 EU ETS Directive gives Member States the option to exclude them from the EU ETS in Phase III (2013-2020). This is provided installations face equivalent measures in Member State law. The requirement for equivalence seeks to ensure that the environmental goals of the EU ETS are preserved, namely the delivery of GHG emissions savings.
8. According to Article 27, small emitters are defined as having annual emissions that are less than 25,000tCO₂e and a thermal capacity not exceeding 35MW per year in 2008, 2009 and 2010. Hospitals may be opted out irrespective of their emissions or thermal capacity relative to the thresholds. The Directive does not provide for new entrants to the ETS during Phase III to opt out from the EU ETS. If an opted-out installation's emissions rose above 25,000tCO₂ per year the installation would re-enter the EU ETS.
9. The UK was required to gain approval for its opt out policy from the European Commission, which reserves the right to object to Member States' opt-out proposals if it does not believe they are in line with the Directive. Member States wishing to offer an opt-out were required to submit their alternative policy proposal and a list of opted-out small emitters and hospitals for Commission scrutiny. In reaching an agreed opt out policy, the Commission requested a number of small changes to the UK's opt-out proposal (described below).

UK approach to opt-out of small emitters and hospitals

10. Consistent with the UK Government's 'Better Regulation' agenda, we are seeking to better target EU ETS policy in the UK and offer UK small emitters and hospitals an optional, lighter-touch policy alternative.
11. The Government considered a number of options for an optional scheme that would lower the cost burdens on small emitters and hospitals compared to the EU ETS, whilst incentivising reductions in carbon emissions. The options were developed with input from other government departments, devolved administrations, UK competent authorities, UK industry and the European Commission. Considering these options, we have also sought to balance:
 - Designing a proposal that will not be rejected by the European Commission
12. Given the Commission has the power to object to Member States' opt-out lists, in designing UK proposals we have taken into consideration whether they are likely to gain Commission approval. Non regulatory options would not meet the requirements of the Directive, including to ensure installations comply with ETS monitoring and reporting and that installations with emissions exceeding 25,000tCO₂ per year re-enter the EU ETS.

- Simplification of the climate policy landscape
13. To help minimise policy complexity, consideration was given to utilising existing UK domestic climate policies as alternative measures, namely the CRC Energy Efficiency Scheme (CRC) and Climate Change Agreements (CCA), which also incentivise industrial emission reductions. However, feedback from industry and the Commission has shown that neither the CRC nor the CCA is suitable as an opt-out policy, largely on the basis of equivalence⁴ with the ETS and, in the case of the CRC, the costs to operators⁵. The main options considered (options 2-4) therefore used the framework of the ETS, which is now well understood by participants, to provide a lighter touch alternative.
- Avoiding putting UK industry at a competitive disadvantage compared to the rest of the EU
14. Other Member States including France, Germany and Spain have also developed proposals for opting-out small emitters and hospitals from the EU ETS. Spain and Germany have submitted a proposal based on installation-based targets set according to a baseline of historical emissions and France submitted a final proposal to opt-out hospitals given targets according to preliminary levels of free allocation. We worked closely with these Member States to minimise the risk of creating intra-sectoral distortions within the EU by adopting significantly different approaches. A key consideration was the need to avoid taking a more stringent approach in the UK compared to other Member States which could have penalised those UK firms competing internationally and reduced the overall benefit of a UK opt-out.

Options considered

15. The following options were considered for UK implementation of Article 27 of the revised ETS Directive:

Option 1: Do nothing. UK small emitters and hospitals are not able to opt out from the EU ETS in Phase III.

All incumbent small emitters and hospitals would remain in the EU ETS and any small emitters and hospitals that are new entrants would join the EU ETS from the start of Phase III.

Options 2-4: Eligible installations and hospitals may choose to be excluded from the EU ETS over Phase III. Opted-out installations and hospitals would be subject to binding emission reduction targets.

16. Eligible installations that choose to opt out of the ETS would be required by UK regulation to meet a binding emission reduction target. A fixed penalty for non-compliance would be imposed on emissions above the target. The level of the penalty would equal the price of an EU allowance (EUA). The reduction in regulatory cost burden associated with this proposal largely depends on how the target is set. Options 2-4 offer different methodologies for setting the target; other provisions in the proposal are the same.
17. Options 2-4 are voluntary on the basis that operators would have a better understanding (than government) of the cost and time implications of participation. This is supported by feedback from industry.

⁴ Both of these policies will place a price on carbon emissions, but neither will set the price according to the EUA price. Moreover, neither policy covers all EU ETS emissions as they do not address process emissions.

⁵ The CRC scheme places a price on all emissions whereas under the EU ETS operators receive an allocation of allowances for free. For example, an average hospital would pay £65,000 more under the CRC than the EU ETS in 2013. This additional cost will decline to £40,000 in 2020 as EU ETS free allocation levels decline.

18. These options represent a shift away from a system based on trading, to installation-specific emissions targets and penalties for non-compliance. Opted out Installations (Opt-outs) would not receive any free allocation of EUAs, they would be exempt from the requirement to surrender allowances for their emissions and to hold an active registry account. Aside from this, opt-outs would in general be required to comply with the same conditions as EU ETS installations. For example, they would continue to monitor and report annually according to EU ETS regulations but they would be exempt from EU ETS provisions on third party verification. Instead, opt-outs would fall under a risk-based auditing scheme. They would still be required to hold a permit for carrying out the GHG emitting activities covered by the EU ETS⁶ but this would be modified to reflect the requirements of the opt-out.

Risk-based auditing scheme

19. Annual emissions reports would be audited by UK regulators (e.g. the Environment Agency) in place of third party verification. Opted-out installations would be audited at least twice during Phase III. However, all annual reports would undergo a risk analysis and, where they match predefined risk criteria, it is likely they would be audited more frequently. Installations with emissions above 20,000tCO₂ per year would be audited annually. Operators would face penalties for misreporting, as they do under the EU ETS.

Option 2: Target set according to EU ETS Phase III free allocation

20. Targets would be set in 2013 according to the level of allowances an installation would have been allocated for free under the EU ETS in Phase III, before any reduction in allocation that may result if the cross sectoral correction factor is applied.⁷
21. For sectors not at risk of carbon leakage,⁸ this would mean a target set according to free allocation levels of 80% of the relevant product benchmark in 2013 declining to 30% of benchmark in 2020 as would occur in the EU ETS. For sectors deemed to be at significant risk of carbon leakage, the target would be set according to free allocation of 100% of the product benchmark with no decline.
22. The application of benchmarks and preliminary free allocations for UK installations is set out in the UK's National Implementation Measures (NIM) which were published in December 2011⁹.

Option 3: Target set according to EU ETS product benchmark

23. Targets would be set in 2013 at 100% of the relevant product benchmark for the installation, as set out in the Community Implementation Measures¹⁰. Product benchmarks reflect the average greenhouse gas performance of the 10% best performing installations in the EU producing that product.
24. For sectors at risk of carbon leakage, targets would not decline over the period 2013-2020. For sectors not at risk of carbon leakage, targets would decline by 1.74% per year over the period 2013-

⁶ The EU ETS Directive requires installations carrying out activities regulated by the Directive, as specified in Schedule 1, to hold a greenhouse gas emission permit. This requirement will be retained in UK regulation for opted out installations.

⁷ The European Commission may be required to issue a cross-sectoral correction factor, as set out in Article 10a(5) of the EU ETS Directive, to ensure that the total allocations given to EU ETS installations does not exceed the cap determined by the Commission in 2010. Such a factor would reduce free allocations to installations by the determined proportion, and may vary annually throughout Phase III.

⁸ http://ec.europa.eu/clima/documentation/ets/leakage_en.htm

⁹ <http://www.decc.gov.uk/assets/decc/11/cutting-emissions/eu-ets/3846-uk-nat-imp-measures-phase3-euets.pdf>

¹⁰ <http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2011:130:SOM:EN:HTML>

2020 in line with annual reductions in the EU ETS cap. The cross sectoral correction factor would not be applied to the opt-out targets (for more details see the section on Compliance costs - Option 2).

25. For the eligible installations that are in sectors at risk of carbon leakage, targets set under Options 2 and 3 would be the same. For those in sectors not at risk of carbon leakage, emissions targets under Option 3 would be less stringent than those under Option 2.

Option 4: Target set according to historic emissions

26. The proposal, agreed with the European Commission was that emissions targets for small operators would be based upon their historic average annual emissions measured over the period 2008-2010. As with the EU ETS, the emissions cap is set to undergo an annual linear tightening of 1.74 percentage points in each year from 2010, leading to a cumulative 5.22% reduction in the three years to 2013¹¹.
27. For sectors at risk of carbon leakage, targets would not decline over the period 2013-2020. For sectors not at risk of carbon leakage, targets would decline at 1.74% per year over the period 2013-2020 in line with annual reductions in the EU ETS cap. The cross sectoral correction factor would not be applied to the opt-out targets (see section on Compliance costs - Option 2). Targets under this option would be less stringent than those in Option 2 or 3.
28. Of the options considered, an approach based on targets set according to historical emissions (Option 4) offered the greatest regulatory cost savings to UK small emitters and hospitals. This option was preferred at consultation stage as it was in alignment with the approach of other Member States although as it set targets in a way that differed to levels of free allocation, there was a risk that the Commission could reject the UK's proposal as not delivering equivalence to the EU ETS. Industry indicated an appetite for some risk in putting forward a proposal to the Commission on the basis that some level of uncertainty that the proposal would be approved is preferable to the risk of putting UK firms at a competitive disadvantage.

Consultation and agreement with the Commission

29. The Opt-out scheme was developed in consultation with industry stakeholders. Formal and informal consultation showed a clear preference for an opt out being offered to reduce administration burden and simplify applicable regulations and that the scheme should be voluntary. This feedback was incorporated into the options discussed above.
30. Since the consultation stage impact assessment discussions have been held with the Commission to agree an acceptable UK opt-out Scheme. As the starting point for these discussions the UK submitted to the Commission a voluntary scheme, as described above, which gave operators a choice in the method for setting installation-based binding emissions reduction targets either according to an historical baseline (Option 4) or according to the preliminary level of Phase III free allocations (Option 2). These options maximised costs savings and flexibility for industry. The Commission largely accepted this proposal but sought one small modification to Option 4 on the grounds that this would improve equivalence. This modification is set out below.
31. Eligible operators were provided with an application period to consider the final policy and decide whether they wished to opt out from the EU ETS and take up Opt-out Agreement Scheme instead. Operators of 243 installations chose to opt out, from a total of 320 installations which provided data to demonstrate that they were eligible.

¹¹ The EU ETS directive states that the Phase III cap will reduce annually by 1.74% of the average annual Phase II (2008-12) cap. Following EC guidance, the 2013 cap is compared to 2010 emissions (the midpoint of 2008-2012) and will therefore represent a tightening of 5.22% (3 * 1.74%)

Preferred Option, as agreed with the European Commission

32. The Preferred Option retains all of those features common to Options 2 and 4 of a voluntary scheme that includes individual binding emission reduction targets and exemptions from requirements to surrender allowances, holds an active registry account or undertakes third party verification. The ability for operators to choose between a target set according to historic emissions or preliminary levels of free allocation is also retained. However, there has been one modification, in response to a request from the Commission, in relation to setting targets according to historic emissions. This modification means that all installations will face targets which decline by 1.74% of the baseline per year (irrespective of whether those installations are at risk of carbon leakage or not).

33. In the application process 231 operators chose a target set according to historic emissions (Option 4) and 12 operators chose a target set according to the preliminary level of free allocation in the EU ETS (Option 2).

Scope of the UK EU ETS opt out

34. A national data collection exercise was carried out in June 2011 and further data was collected through the application process. This exercise highlighted that 320 installations meet the small emitter eligibility criteria (including hospitals) and wished to have the opportunity to choose whether to opt out of the EU ETS.¹²
35. The 243 installations opting out are estimated to represent 24% (243 of 1010 operators) of the total number of UK EU ETS installations, but only 0.8% (2MtCO₂ of 265MtCO₂) of UK EU ETS emissions in 2008.

Table 1 shows the industrial sectors for the operators choosing to opt out.

Table 1: Industrial sectors of operators opting out

Industrial sector	Number of operators which chose Option 2 Allocation	Number of operators which chose Option 4 Historic Emissions	Total number of installations opting out	%
Mineral Products	0	45	45	19%
Food and Drink	0	31	31	13%
Others	9	43	52	21%
Ceramics	1	26	27	11%
Pulp & Paper	2	9	11	5%
NHS	0	71	71	29%
Chemicals	0	5	5	2%
Other	0	1	1	0%
Total	12	231	243	100%

Cost and benefit analysis

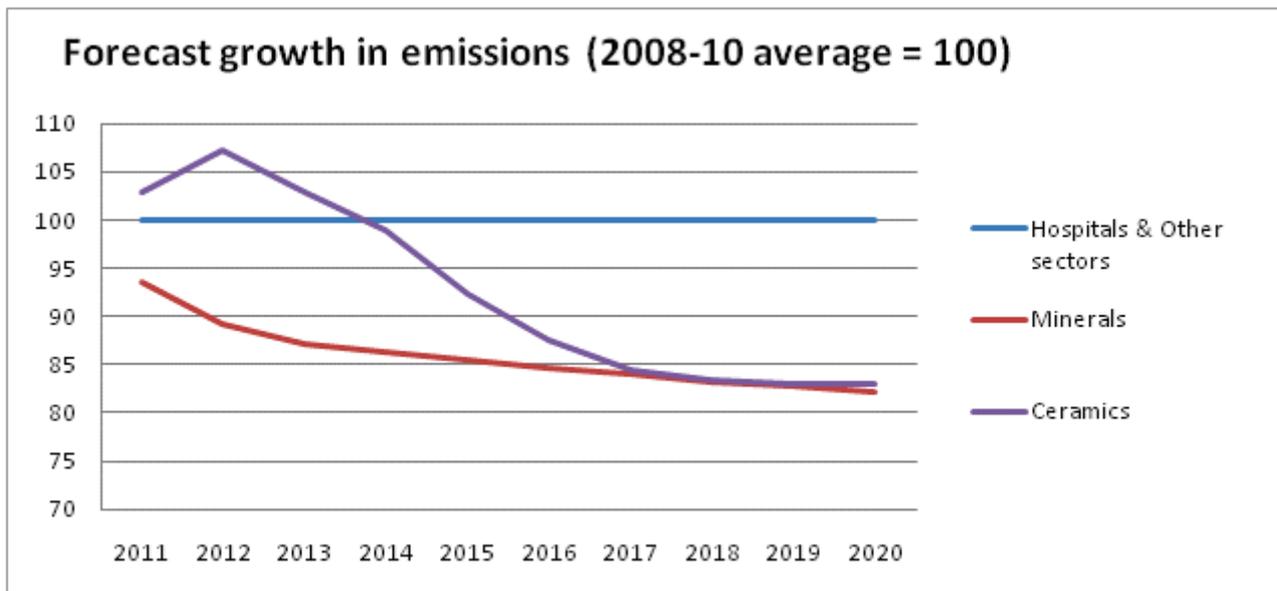
36. This section examines the costs and benefits for the final agreed Opt-out scheme. The do nothing scenario (Option 1) under which UK small emitters and hospitals are not able to opt-out of the ETS is presented first. The final Preferred Option will then be presented in relation to Option 1 so as to examine the relative costs and benefits of the preferred option.

Option 1: Do nothing. UK small emitters and hospitals are not able to opt out from the EU ETS in Phase III.

¹² Numbers of eligible installations and associated emissions are drawn from the 2011 UK NIMs data collection, which asked eligible installations to indicate whether they would like to consider the opt out and asked all non-electricity installations for verified emissions data. As this exercise did not include electricity producers, the total EU ETS installations and emissions are from the Report on 2008 UK EU Emission Trading System emission data, DECC, September 2009: (http://www.decc.gov.uk/assets/decc/what%20we%20do/global%20climate%20change%20and%20energy/tackling%20climate%20change/emissions%20trading/eu_ets/publications/1_20090924140921_e_@@_euetsreport2008.pdf).

37. Option 1 is a 'do nothing' option. In this option, an opt-out from the EU ETS is not offered and all small emitters and hospitals remain in the ETS. The EU ETS is designed to achieve emissions reductions in the most cost-effective way. This is done by capping the total level of emissions. Installations within the EU ETS trade emissions permits and the market is then able to find the cheapest available emissions abatement required to meet the cap.
38. There are two methods for providing emissions permits (allowances) in the EU ETS: auctioning or giving allowances to installations for free (free allowances). In Phase III of the EU ETS, non-electricity producers will be allocated some free allowances according to a production benchmark.
39. Installations in sectors deemed to be at risk of carbon leakage will be given 100% free allowances up to their benchmark for every year of Phase III. For installations not at significant risk of carbon leakage, the proportion of the allowances they receive for free will decline over time from 80% in 2013 to 30% in 2020. Once the free allocation of allowances to EU ETS operators has been finalised, the Commission may apply the cross sectoral correction factor (CSCF) if the total number of free allowances exceeds the EU ETS cap. The CSCF will reduce the level of allowances allocated to individual installations for free by equal proportions, until the total free allocation is equal to the EU ETS cap.
40. The diagram below (Figure 1) shows the assumptions for projected changes in emissions used in this impact assessment¹³.

Figure 1: Projected change in emissions over the period 2011-2020 for Ceramics, Minerals, Hospitals and other sectors



41. Installations that will emit at levels greater than the amount they receive in free allowances (if any) can choose to either undertake abatement or purchase allowances from the market. Table 2 below illustrates the expected emissions and abatement for UK small emitters and hospitals which have selected to opt out of the EU ETS over the period 2013 to 2020. The cost of non-

¹³ Projected emissions for mineral products (48 installations) were taken from the DECC's Emission Projections model, with "non-metallic minerals production" used as a proxy for the sector. Projected emissions for the ceramics sector (44 installations) were taken from Bloomberg New Energy Finance's Global Energy and Emissions Model. No projections were available for other sectors. We therefore assumed no growth in emissions from 2008-10 average levels

administrative compliance (the cost of undertaking abatement and purchasing EUAs) is then calculated¹⁴.

Table 2: Compliance and administration costs to UK small emitters and hospitals under a 'do nothing' scenario (Option 1).

Option 1 – do nothing (all costs over 2013-2020 expressed in Present Value terms in 2012 prices)	Total
Number of installations	243
Estimated Emissions without abatement 2013-20 (MtCO ₂)	16.0
Estimated Abatement (MtCO ₂)	0.07
Free allocation MtCO ₂	8.75
EUAs purchased (MtCO ₂)*	7.15
Abatement costs (£m)	0.2
EUA Purchase costs (£m)	41.2
Total compliance costs (£m)	41.4
Total administration costs (£m)	13.7

* (Emissions – Abatement - Allocation)

42. Small emitters also face administrative costs associated with participating in the EU ETS. Based on a study carried out for DECC surveying 178 installations (55% of which were emitters of less than 25ktCO₂), these administrative costs have been estimated at approximately £7,600¹⁵ per installation per annum (£8,200 in 2012 prices¹⁶). Included in this figure are a range of costs faced by operators in meeting their administrative obligations including monitoring and reporting, third party verification and other internal costs such as understanding the requirements of the EU ETS.
43. The requirement that annual reports are verified by an independent third party represents one of the largest EU ETS administrative costs. The average annual cost of verification for a small emitter, including verifier fees and supporting verifier activity, is £2,600¹⁷ (£2,800 in 2012 prices).
44. The total administration costs also include fees paid to regulators to cover ETS implementation costs. For example, regulators charge ETS operators to recover the costs of issuance or variation of an emissions permit (including MRV requirements) and annual subsistence fees (Table 3).

¹⁴ Estimates for allocation levels and historic emissions have been derived from data collected from installations in order to submit the UK's National Implementation Measures for Phase III.

¹⁵ Estimates taken from Aether (2010) work for DECC. Full report can be found at http://www.decc.gov.uk/en/content/cms/emissions/eu_ets/publications/publications.aspx

¹⁶ Inflated to 2012 prices using ONS GDP Deflator (Quarters 1 and 2 only)

¹⁷ Aether 2010

Table 3: Examples of administrative costs charged to UK operators by UK regulators¹⁸.

Charge type	Definition	Emissions (ktCO ₂)	Charge (£)
New permit	The regulator will estimate the emissions likely to be emitted by the installation in a calendar year, and installation will be charged accordingly. The charge covers the opening of a registry account.	Less than 50	1,340
		50kt - 500	2,500
		More than 500	5,970
Annual subsistence	The cost of ongoing management of a permit is recovered through the annual subsistence charge it also covers on-going use of the registry.	Non-emitter	980
		Less than 50	2,550
		50kt – 500	3,320
		More than 500	4,080
Permit variation	This charge will only be incurred by installations that require at technical assessment to carry a variation of the provisions of a permit		430

45. DECC estimates that the total paid in administrative costs by all the UK small emitters and hospitals opting out would be £13.7m (PV) between 2013 and 2020.

46. Preferred Option: Eligible small emitter and hospital installations may choose to be excluded from the EU ETS over Phase III and be subject to binding emission reduction targets instead.

47. The Preferred Option includes all 243 operators that chose to opt out and is a combination of Option 2 and Option 4 as set out in the Consultation IA. The costs and benefits of the Preferred Option are assessed relative to the 'do nothing' scenario set out in Option 1. The costs and benefits fall on 1) installations and 2) government (including regulators) and are examined in turn.

Costs to installations

48. The opt-out imposes two types of costs on installations: administrative costs and compliance costs.

Administrative costs

49. It is estimated that under the final preferred opt-out option the total net annual administration costs to individual UK ETS installations will fall by £2,800 (2012 prices) per installation¹⁹. This is as a result of not requiring third party verification. Annual administration cost savings are estimated to be the same, regardless of which approach for setting the target is chosen.

50. Third party verification is not required under the opt-out options, so verification costs are assumed to be zero.

51. All other administrative costs are assumed to remain substantially unchanged. The Environment Agency has consulted on fees and charges for 2013 - 2015 and these are proposed to be set at the same level as for small emitters that remain in the EU ETS.²⁰ Monitoring and reporting requirements for small emitters under the opt-out will be the same as for EU ETS installations, excepting a potentially small saving for some installations from a specific rule for monitoring of small emission sources. We have therefore assumed no change in monitoring and reporting costs.

52. There may be other small, non annual costs and savings for opted out installations. For example, they would not face one off fees associated with changes to registry accounts, i.e. a change in

¹⁸ For example, http://www.environment-agency.gov.uk/static/documents/Business/ETS_scheme_2011-12.pdf Charges in Northern Ireland vary slightly: the fee for a new permit (50-500ktCO₂) is £1357, with annual subsistence fees of £2584 http://www.doeni.gov.uk/niea/pollution-home/emissionstrading/fees_and_charges-3.htm

¹⁹ This figure was estimated from discussions with the Environment Agency and based on their experience as regulators in UK carbon markets.

²⁰ <https://consult.environment-agency.gov.uk/portal/ho/finance/charges2012>

the authorised representative (£55) but there may be additional short term costs associated with learning the requirements of the opt-out scheme. These are likely to be small given that the scheme largely operates under the same rules as the EU ETS and almost 80% of eligible installations are EU ETS incumbents. Moreover, these costs will be minimised through the provision of specific guidance for opted out installations to help them understand the requirements of the scheme.

Option 2: Target set according to the preliminary level of EU ETS Phase III free allocation

53. For the 12 installations who have selected to opt out in this way, administrative savings for these installations amount to an estimated £0.23m (PV) over the period 2013 to 2020.

Option 4: Target set according to historic emissions

54. This approach to setting targets was by far the most popular option with 231 small emitters choosing to opt out with targets set according to historic emissions. Total administrative cost savings for these installations amount to an estimated £4.44m (PV) over the period 2013 to 2020.
55. Overall administrative costs savings accrued for all 243 installations is estimated to be £4.7m (PV) between 2013 and 2020.

Compliance costs

56. Opted out installations will need to undertake abatement in order to comply with their emission reductions target. Installations that fail to comply will be required to pay a penalty for any emissions over their target level. These compliance costs are set out in more detail below in respect of the two approaches for setting targets.

Option 2: Target set according to the preliminary level of EU ETS Phase III free allocation

57. This option for setting installation targets has been designed to mimic the EU ETS except in respect of the administrative requirements and trading and surrender of allowances. The level of the target is the same as the level of free allocation under the EU ETS. The exception to this is where the Cross Sectoral Correction Factor (CSCF) is applied in the EU ETS²¹. Under these circumstances, the costs of compliance could be lower for opted out installations compared to the EU ETS (Option 1) because the CSCF would reduce the number of allowances allocated to ETS installations for free and in effect, increase the stringency of their effort.
58. For the 12 installations that have selected to opt out and have their target set at the preliminary level of Phase III free allocation, the net effect on their compliance costs relative to the 'do nothing' scenario, is zero. The reason is that whilst these installations will see compliance savings from no longer having to purchase EU ETS allowances (estimated to be £0.03m over the 2013-2020 period), they are also faced with the prospect of penalties if emissions exceed their target.

Option 4: Target set according to historic emissions

59. Under this option targets are set according to the installation's historical emissions with regards to the period 2008-2012. The average emissions over this period are reduced by 5.22% in line with the reduction in the overall EU ETS cap to give an emissions level for 2013. The targets then decline by 1.74% of the baseline per year over the period 2013-2020 (again in line with annual reductions in the overall cap).

²¹ The application of the CSCF is highly uncertain and will depend on the levels of free allocation in all other Member States. Its application be established in 2012. Bloomberg New Energy Finance estimate that the CSCF will not apply until 2019 and will only marginally reduce free allocation in 2019 and 2020. If these figures are correct, they will not affect the robustness of the results in this IA. However some installations may be particularly risk averse and choose to opt out rather than facing a potentially declining number of emission allowances in the EU ETS.

60. For the 231 installations opting out under this approach, total compliance cost savings are estimated to be of the order of £4.3m per annum (£34.6m PV total) driven mainly by no longer having to purchase allowances under the EU ETS (£42m saving)²² which is partially offset by penalties imposed for any emissions exceeding their target (£7.8m costs).
61. Table 4 sets out details of all the costs and benefits for the operators opting out of the EU ETS via each option. Overall, cost savings accrued by the businesses selecting to opt out via Option 2 are due entirely to changes to the administrative charges²³. In respect of Option 4 the key driver of cost savings to businesses is a result of reduced compliance costs from no longer having to purchase ETS allowances. Consequently, overall total savings for all the 231 UK installations in question are estimated to be £39m over the period 2013-20.

Table 4: Summary of impacts on emissions, compliance and administration costs to UK small emitters and hospitals opting out of the EU ETS.

Preferred Option - Combination of Option 2 and Option 4 (all costs Present Value in 2012 prices)	Preferred Option		
	Option 2 Allocation	Option 4 Historic Emissions	Total (rounded)
Number of installations opting out	12	231	243
Estimated Emissions of opted out installations (Mt)	0.3	15.7	16
Total Compliance Cost relative to Option 1 (£m)* <i>of which:</i>	0.0	-34.6	-35
(i) Cost change from no longer purchasing EUAs (£m)	0.0	-42.0	-42
(ii) Penalties paid for emissions over target (£m)	0.0	7.8	8
Total Admin Costs relative to Option 1 (£m)	-0.2	-4.4	-5
Net impact on Business (£m)	0.2	39.0	39

*Including savings from abatement costs (£0.4m)

22 There is an estimated additional £0.4m reduction in abatement costs. See section on Greenhouse & Carbon Target Costs for further detail

23 The carbon price could in theory lower as a result of this measure, given that installations opting out were expected to be net buyers of allowances. However the effect should be minimal (given the size of those opting-out compared to the emissions remaining in the EU ETS). This effect has not been estimated.

Costs to Government/Regulators

62. Government and regulators face three costs and benefits of the EU ETS: the administrative costs of running the scheme, revenues raised from auctioning allowances and the governmental liability in terms of Carbon Budgets management. The effect of these options is discussed in turn.

Administrative costs to government

63. The Environment Agency, Scottish Environment Protection Agency and Northern Ireland Environment Agency and DECC are responsible for administering and enforcing the EU ETS and will also be responsible for implementing the UK's voluntary opt-out scheme (the Preferred Option). Regulators charge fees to operators in the EU ETS to recover the costs of implementing the system. Hence any reduction in costs will also result in a reduction in charges the installations face – thus the change in regulator costs and revenues will be neutral while installations opting out will face lower administrative charges, as outlined above.
64. Under the Preferred Option, regulator costs are expected to fall as opted out installations will no longer be required to hold a registry account or surrender allowances and the regulator will no longer be required to maintain these accounts. Regulator costs will increase as a result of increased auditing effort in implementing the risk based auditing programme. The expected changes in costs and fees are set out above in the fees to regulators section.
65. For the purpose of this impact assessment, it is assumed that all costs to the regulators are variable, so a reduction in the number of installations being regulated will not affect the charges to other installations. In practice, there may be some fixed costs associated with running the EU ETS. Under such a scenario, a reduction in the number of ETS installations may result in increased charges to ETS operators to cover the fixed costs. Thus the savings to business may have been overestimated in this analysis.

Reduction in fiscal revenues from the EU ETS / increase in fiscal revenues from the opt-out measure

66. In Phase III around 60% of allowances will be auctioned across the EU. The Commission has indicated that the UK will receive 10.2% of all auction rights, in line with the UK's share of historical EU ETS emissions (2005-2007)²⁴. Table 5 presents DECC estimates of the reduction in auction revenues to UK government from auctioning allowances to EU ETS participants (including those outside the UK) as a result of the estimated number of installations opting out in both of the options²⁵.
67. In order to estimate the penalties installations pay²⁶ we have looked at the difference between their projected emissions (minus estimated abatement undertaken in the option) and their target, and multiplied this by an amount equivalent to the EU ETS carbon price (see Table 7).
68. The overall net impact to the UK exchequer of the Preferred Option is positive. This is because;
- a. The reduction in the UK auction pot is only 10.2% of the reduction in the overall EU ETS auction pot; and more significantly,
 - b. Any installation with emissions above their allocation will pay a penalty directly to the UK exchequer instead of purchasing allowances from other installations across the EU,

²⁴ Our understanding is that the total (EU) auction pot is likely to decline by the amount of auction allowances that were associated with the relevant installations. So if installations considered at risk of carbon leakage opt out, there will be no decline in the auction pot as there are no auction allowances associated with these installations.

²⁵ DECC Carbon values for appraisal have been used to estimate the loss in revenues and the penalties. The average price of carbon value over the period 2013-20 is £6.70/ tCO₂ (2012 prices)

²⁶ For installations the penalties under the opt-out represent a transfer in payment. Under the EU ETS installations have to purchase allowances for emissions over their free allowance allocations. Under an opt-out these payments no longer go to market participants but rather are collected by HMG. These figures account for the fact that industry will undertake some levels of abatement under all options as detailed above.

69. Under the Option 2 Allocation the revenue raised from penalties is lower than the reduction in revenues raised from auctions, so the net impact on fiscal revenues is negative

Table 5: Estimated changes in fiscal revenues to UK government over the period 2013-2020 under the Preferred Option (2 and 4) compared to “do nothing” (Option 1).

Preferred Option £m (2012 prices) All NPV	Change in fiscal revenues from the EU ETS	Fiscal revenues from the opt- out	Net impact on fiscal revenues
Option 2 Allocation	-0.09	0.03	-0.07
Option 4 Historic Emissions	-2.53	7.86	5.33
Total	-2.62	7.89	5.26

Greenhouse Gas & Carbon Target costs

Carbon budgets management – lost abatement

70. The penalty per tonne of CO₂ for missing the target will be set in line with the EUA price. Any installation with expected emissions above their target will face the same incentive to abate as if they were in the EU ETS; in such a situation, one would expect the installation to undertake abatement if the cost of abatement is less than the carbon price and to pay the penalty if the cost of abatement was above the EUA price.
71. Unlike in the EU ETS, installations with emissions at or below their target will not be able to gain financially from lowering their emissions even further and thus will not face the same incentive to abate. Hence in all of the options considered, the incentive to abate is limited to emissions above the target, unlike the EU ETS, in which rational firms should undertake any abatement costing less than the carbon price, regardless of their level of emissions.
72. Therefore, the policies will produce the same level of emission reductions as long as cost effective abatement potential is equal to or not greater than effort required by the target. The tougher the target set under the preferred option, the more emissions will be subject to an incentive to abate and the less risk that there will be “lost abatement” relative to the EU ETS.
73. In order to assess the amount of abatement undertaken in each option, this IA has examined the difference between modelled emissions with and without a carbon price to look at the amount of abatement brought on by the carbon price²⁷. The amount of abatement is then applied as a percentage to business as usual emissions. This results in an implicit assumption that a defined percentage of abatement occurs for emissions above a target level. The level of ‘lost’ abatement has been estimated by considering the number of installations with targets that are set above their forecast level of emissions. It is assumed that these installations will not undertake any abatement and thus the emission reductions that would have been brought on by the EU ETS may not be realised.
74. This approach has been used because marginal abatement cost data is not available for the small emitter subset. Table 6 below shows the estimated ‘lost’ abatement for 2013 to 2020 when compared to that undertaken in the EU ETS. These figures compare to estimated abatement of 0.07 MtCO₂ in the EU ETS from installations eligible to opt out and equates to a value of £0.4m in abatement cost savings.

Table 6: Lost abatement for 2013 to 2020 under the Preferred Option (2 and 4) compared to that under the “do nothing” (Option 1).

‘Lost’ abatement (MtCO ₂ e)	Preferred Option		
	Option 2 Allocation	Option 4 Historic Emissions	Total
Central estimate	0.0	0.07	0.07

²⁷ For the ceramics sector, it is estimated that the carbon price reduces emissions by 2.5% below the level of emissions without a carbon price. This was estimated from the Bloomberg New Energy Finance GE²M model. For all other sectors, the level of abatement resulting from the carbon price was estimated to be 0.1% lower, based on the estimated change in UK industrial emissions with and without a carbon price in the DECC energy model. While not ideal, the use of estimated abatement from different sources is justifiable as it is important that the abatement potential is estimated consistently with the BAU projections.

Impact on the costs of the liability in terms of UK carbon targets

75. While emissions in an opt-out scheme are still subject to a carbon price, they fall outside the EU ETS cap. For UK carbon budgets accounting and carbon accounting under the EU Effort Share Decisions, emissions from the UK opt-out scheme for small emitters and hospitals will shift to the non-traded sector.
76. In moving emissions from the EU ETS to the non traded sector (NTS), the overall allowed EU emissions will remain constant – any reduction in the overall EU ETS cap will be exactly offset by an increase in the UK's targets for the NTS under the EU's Effort Sharing Decision (ESD). This ensures that the overall environmental ambition of the Climate and Energy Package is maintained. However the shift in emissions does have an impact on the UK's carbon budgets and the costs to the UK of meeting greenhouse gas reduction targets.
77. The overall EU ETS cap for Phase III is determined on the basis of an average annual reduction from the Phase II average annual cap. To account for small emitters being opted out of the EU ETS, this notional "Phase II cap", which is used to set the Phase III cap, will be adjusted downwards²⁸ in line with historic (2008-10) emissions for the installations being opted out of the EU ETS.
78. The UK's GHG target for the Non Traded Sector, as determined by the EU ESD, will increase by the same amount as the EU ETS cap is reduced. Note that this increase in ESD target is only dependent on the number of installations that are opted out and is not dependent on the targets set for specific installations.
79. Based on the projections outlined above, it is estimated that the emissions moved to the UK's Non Traded Sector will be greater than the increase in the NTS budget under the ESD, even after abatement is taken into account. This implies an increase in the required effort (abatement) from elsewhere in the Non Traded Sector such as additional abatement from the transport, residential or agricultural sectors.²⁹ Any impacts to business associated with this effort will be assessed separately as part of the development of new policies as required.
80. This increase in NTS effort has been valued at the marginal cost of abatement for the NTS³⁰ (an average cost of £62/tCO₂ over 2013 – 2020 (2012 prices)). Note that it is not possible to say exactly where this cost will fall, as government will have a number of policy options to achieve greater abatement and it is not clear which option would be followed. In this impact assessment two methods for estimating the change in NTS effort have been used, thereby creating a range to reflect the uncertainty.
81. The first method assumes that the EU's GHG targets provide the primary constraint on the UK's emissions either because UK Carbon Budgets are adjusted in line with the Commission's adjustment of the UK's non-traded sector target under the Effort Share Decision (ESD) or because the EU target is more stringent than UK carbon budgets (see Table 7).
82. The second method for valuing the change in liability to the UK is to assume that the carbon budgets provide the primary source of binding effect on the UK's emissions and are not adjusted. In such an instance, any increase in emissions under carbon budget accounting³¹, must be made

²⁸ Note the actual Phase II cap will not change as a result of this policy. It will simply be the notional Phase II cap which is used to determine the Phase III cap which will be adjusted. This is identical to the way the Phase III cap has been adjusted to include new sectors which are not covered by the EU ETS in Phase II.

²⁹ Note there is also a reduction in the EU ETS effort (quantity of allowances purchased). However this reduction is already captured in the business benefits so is not included here to avoid double counting.

³⁰ http://www.decc.gov.uk/en/content/cms/about/ec_social_res/iag_guidance/iag_guidance.aspx.

³¹ Carbon budgets account for EU ETS emissions by simply looking at the total number of (free and auction) allowances the UK receives.

up through additional effort in the NTS³². This figure is higher than method 1 as the reduction in the number of EU ETS allowances the UK receives as a result of the opt out, is less than the increase in NTS targets under the EU's Effort Sharing Decision. The results of this valuation for each option are shown below in Table 8.

83. The net fall in UK traded sector emissions is estimated to be 6.7MtCO₂ which is the difference between the change in traded sector emissions of 15.9MtCO₂ and the decrease in the UK's traded sector cap of 9.2MtCO₂.

Table 7: Valuing emissions on the assumption that carbon budgets are adjusted in line with EC adjustment of the UK Effort Share Decision target (Method 1).

Preferred Option	Projected change in NTS emissions (MtCO ₂) 2013-2020	Change in UK NTS target* (MtCO ₂) 2013-2020	Change in NTS abatement effort (MtCO ₂) 2013-2020	PV of costs of increased abatement effort 2013-2020 nearest £m (2012 prices)
Option 2 Allocation	0.3	0.3	0.03	2
Option 4 Historic Emissions	15.6	14.3	1.31	75
Total	15.9	14.6	1.34	77

* Under the EU's Effort Sharing Decision

Table 8, Valuing emissions on the assumption that carbon budgets are not adjusted. Any change in UK emissions (as accounted for in carbon budgets) results in a liability for the non-traded sector (Method 2).

Preferred Option	Projected change in NTS emissions (MtCO ₂) 2013-2020	Change in UK traded sector emissions cap* (MtCO ₂) 2013-2020	Change in NTS abatement effort (MtCO ₂) 2013-2020	PV of costs of increased abatement effort (2013-20) nearest £m (2012 prices)
Option 2 Allocation	0.3	-0.6	-0.3	-16
Option 4 Historic Emissions	15.6	-8.6	7.0	352
Total	15.9	-9.2	6.7	336

* As accounted for under carbon budgets

84. Carbon budgets for 2008 to 2022 are set in UK legislation but may be amended in the future, for example in the event that the EU moves to a more ambitious 2020 target and following subsequent effort share negotiations amongst Member States. In such a situation, the carbon budgets are also likely to be adjusted to ensure that they align with the EU targets up until 2020.
85. In the event that the UK's share of the EU's GHG targets are more stringent than the UK's legislated carbon budgets³³, method 1 for estimating the increase in effort should be used. This is because in such a scenario, the UK GHG emissions will be limited by the EU targets, with

³² Because under carbon budget accounting rules, the UK is unable to reduce its emissions in the EU ETS. It is this reason, why the UK may wish to adjust its carbon budgets to align them with the actual number of ETS allowances the UK will receive.

Carbon Budgets not placing an additional constraint on UK emissions. Internal analysis suggests that it is more likely that targets will bind and therefore method 1 is used as the central estimate of the GHG costs.

Summary of costs and benefits of the Preferred Option

86. The following tables summarise the costs and benefits of Options 2 and 4 relative to Option 1 (do-nothing), including how these are distributed between businesses and government/regulators.
87. Table 9 provides a breakdown by costs and benefits to the UK as a whole, whereas Table 10 uses a sectoral approach comprised of the net impact on UK operators and on the UK Government.

Table 9: Summary of costs and benefits to UK of the Preferred Option for a voluntary opt-out for eligible UK installations compared to the “do nothing” scenario (Option 1).

	Preferred Option					
	Option 2 Allocation		Option 4 Historic Emissions		Total	
Costs/benefits (2012 £m)	Average Annual	Total (NPV)	Average Annual	Total (NPV)	Average Annual	Total (NPV)
Change in EUA auction revenues	-0.01	-0.09	-0.3	-2.5	-0.3	-2.6
Change in NTS abatement effort	-0.23	-1.82	-9.4	-75.2	-9.6	-77.1
Total impact on costs to UK	0.24	1.92	9.7	77.8	10.0	79.7
Change in admin costs for operators	-0.03	-0.23	-0.6	-4.4	-0.6	-4.7
Change in cost of ETS EUA purchases	-0.003	-0.027	-5.2	-42.0	-6.2	-42.0
Total impact on savings/benefits to UK	0.03	0.26	5.8	46.4	6.7	46.7
Change in TOTAL NPV	-0.21	-1.66	-3.9	-31.4	-3.2	-33.0

88. The loss of EUA auction revenues and the cost of a fall in non traded sector abatement effort is mitigated to some extent by the reduction in administrative and EUA purchase costs for operators. Nevertheless the overall impact of the policy is a reduction in the net present value relative to option one of £33m.

³³ When the carbon budgets were set in 2009, the intention was to align them with the UK's likely share of the EU's target. However there were uncertainties regarding key assumptions which mean that the targets will not necessarily exactly align.

Table 10: Summary of distribution of costs and benefits to operators (businesses) and government/regulators of the Preferred Option for a voluntary opt-out for eligible UK installations compared to the “do nothing” scenario (Option1).

	Preferred Option					
	Option 2 Allocation		Option 4 Historic Emissions		Total	
Costs/benefits (2012 £m)	Average Annual	Total	Average Annual	Total	Average Annual	Total
Change in Admin costs	-0.03	-0.2	-0.55	-4.4	-0.6	-4.7
Change in Compliance costs	-0.00	-0.0	-4.32	-34.6	-4.3	-34.6
Net impact on UK operators' costs	-0.03	-0.2	-4.87	-39.0	-4.9	-39.2
Change in auction revenue	-0.01	-0.1	-0.32	-2.5	-0.3	-2.6
Change in penalty revenue	0.00	0.0	0.97	7.8	1.0	7.8
Net impact on government costs	0.01	0.07	-0.66	-5.27	-0.65	-5.2
Change in abatement costs	0.00	0.0	0.05	0.4	0.0	0.4
GHG costs (NTS liability)	0.23	1.8	9.41	75.2	9.6	77.1
Change in TOTAL NPV	-0.21	-1.66	-3.9	-31.4	-3.2	-33.0

89. This table clearly shows the significant reduction in costs that will benefit UK operators who are the main beneficiaries of this policy. There is also some benefit to Government where the increase in revenues from penalties outweighs the reduction in auction revenues.

Sensitivities/Risks/Assumptions

90. The above analysis is reliant on a number of assumptions: most notably the change in emissions for small emitters and the carbon price. Table 11 below shows the high-level results using high and low carbon price values from DECC's traded carbon values³⁴.

Table 11: Total impact of Preferred Option under different Carbon Price Scenarios

NPV of Preferred Option Relative to Option 1 £m for Low, Central and High Carbon Prices	Carbon Price Scenario		
	Low	Central	High
Total Impact on Business Costs	-4.7	-39.2	-75.7
Total Impact on Government Costs	-0.0	-5.2	-10.7
Change in Abatement Costs	0.0	0.4	0.8
Change in GHG Costs	38.5	77.1	115.6
Overall Change in NPV	-33.9	-33.0	-30.0

**As a result of rounding figures in columns do not necessarily add up to totals*

91. From this, it can be seen that higher carbon prices increase the savings to business and the revenues to government. However higher carbon prices also increase the liability of increasing NTS emissions, so the overall impact of higher carbon prices is to reduce the overall NPV of the policies.

Competitiveness Impacts in the UK

92. A key rationale for this policy is to avoid putting UK industry at a competitive disadvantage compared to the rest of the EU. There is a risk of creating intra-sectoral distortions within the EU if different approaches are adopted. These avoided costs have not been quantified.
93. This measure may also have a negative impact on competition within the UK. Under the rules of the Directive, new entrants will miss the opportunity to opt-out of Phase III. This could potentially create a barrier to market entry for sectors where existing competitors benefit from an opt-out scheme that is no longer available. This could also be a barrier to expansion. No consultation responses on these impacts were received and it has not been possible to quantify this effect.

Business Costs

94. Compared to the current regulatory framework, offering small emitters and hospitals an opt out will lead to significant benefits through administrative savings and savings on emissions abatement costs for these operators.
95. **Under the Preferred Option (2 and 4), there are total estimated business savings of £4.9m per year, amounting to £39.2m (NPV) when assessed over the 8 year appraisal period to 2020.**

³⁴ http://www.decc.gov.uk/en/content/cms/about/ec_social_res/analytic_projs/carbon_values/carbon_values.aspx