

POST IMPLEMENTATION REVIEW OF THE UK'S TRANSPOSITION OF THE EU EMISSIONS TRADING SYSTEM DIRECTIVE (2009/29/EC)

INTRODUCTION

1. This document provides an overview of the Post Implementation Review (PIR) of the Greenhouse Gas Emissions Trading Scheme Regulations 2012 (SI 2012/3038). These regulations implement the European Union Emissions Trading System (EU ETS) as established by Directive 2003/87/EC, and amended from time to time, including by Directive 2009/29/EC, which replaced many of the commitments placed on the UK through Directive 2003/87/EC for Phase III. The Greenhouse Gas Emissions Trading Scheme Regulations 2012 fully implemented Phase III of the EU ETS Directive in the UK and replaced the 2005 Greenhouse Gas Emissions Trading Scheme Regulations which had previously implemented Phases I and II of the System. There was a statutory requirement to review the Greenhouse Gas Emissions Trading Scheme Regulations 2012 by 31 December 2017.
2. This Command Paper and associated PIR evaluate the effectiveness of the Government's actions and decisions, set out in the original Impact Assessment, now the Directive has been transposed and operational for a period of time. It covers:
 - The extent to which the regulation is achieving its objectives;
 - Whether those objectives remain appropriate and to what extent they could be achieved with a system which imposes less regulation.
 - The impacts and costs that have resulted, and in particular, to what extent the effects anticipated in the regulation's original Impact Assessment actually occurred.
 - How the Directive and measures adopted under it by the European Commission have been implemented in other Member States.

BACKGROUND TO EU ETS AND THE EU ETS DIRECTIVE

3. The 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 by 2012, as specified in the Kyoto Protocol¹. The EU ETS works on a "cap and trade" basis, where there is a cap on all greenhouse gas emissions from covered installations and aviation operators, and within this cap operators can buy, sell or trade allowances. The cap is reduced over time to ensure that total emissions fall. Each year operators must surrender sufficient allowances to cover their greenhouse gas emissions. Allowances are awarded free to

¹ The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which sets internationally legally binding emission reduction targets for 37 countries.

participants considered at risk of “carbon leakage” (where, due to the cost of emission allowances, industry relocates to regions outside the EU with a lower carbon price), auctioned directly by Member States, and traded on the secondary market. The System is structured into phases: Phase I operated from 2005-2007, Phase II 2008-2012, Phase III operates from 2013-2020 and Phase IV will operate from 2021-2030.

4. All operators must monitor their emissions throughout the year, ensure emissions are verified by an accredited independent verifier, and report to the regulator annually. Operators are required to report emissions by 31 March and surrender allowances equivalent to their actual emissions by 30 April of the following year. Allowances are held electronically in the EU ETS Registry, similar to a bank for allowances. Each allowance permits the owner to emit one tonne of carbon dioxide (or equivalent). Operators can buy allowances to meet their surrender obligations and, where an operator receives allowances for free, they have the flexibility to sell any surplus allowances generated from reducing their emissions below their allocation.
5. The theory behind a cap-and-trade system is that it enables emission reductions to take place where the cost of the reduction is lowest, thus lowering the overall cost of tackling climate change. More abatement will be undertaken by operators with lower abatement costs, therefore reducing the overall costs of meeting the emissions target (or cap) set by the trading system. The EU ETS covers power, heavy industry and aviation sectors and comprises around 45% of the EU's greenhouse gas emissions.
6. The EU ETS is regulated in the UK by the Environment Agency (“EA”) in England, the Scottish Environment Protection Agency (“SEPA”) in Scotland, Natural Resources Wales (“NRW”) in Wales, the Chief Inspector (“NI”) in Northern Ireland and BEIS offshore. Some of the regulators’ costs of administering the scheme are recovered through operator fees and others are charged directly to BEIS and devolved governments.

SUMMARY OF THE DIRECTIVE’S OBJECTIVES

7. The EU ETS Directive for Phase III (2013-2020) was agreed in 2009, with agreement of a centralised, EU-wide cap on emissions, which declines over time, delivering an overall reduction of 21% below 2005 verified emissions by 2020. The new Directive introduced a number of new rules to ensure a more environmentally ambitious and consistent approach to implementing the EU ETS across the EU. Changes for Phase III included the introduction of new sectors, and gases, and harmonised rules on free allocation with a move towards greater auctioning of allowances. There were also significant modifications to the System so that it made a more efficient and greater contribution to tackling climate change, and creating more predictable market conditions and improved certainty for industry. Aviation operators were also introduced into the System in 2012 through a separate Directive, which was agreed in 2008.

8. The Directive is supported by a number of EU Regulations that set out the detailed harmonised EU level rules for Monitoring and Reporting, Verification and Accreditation, Free Allocation, Auctioning and Registries. These Regulations are developed by the European Commission and Member States, and are approved by Member States through the Climate Change Committee.
9. As many of the key policy decisions relating to the design and functioning of the EU ETS are taken in Europe, Member States have limited discretion when implementing the Directive. The Greenhouse Gas Emissions Trading Scheme Regulations 2012 implement the Directive in the UK, and provide the detailed rules for the elements of the scheme over which Member States have discretion.
10. As set out in the original Impact Assessment, consistent with the Government's better regulation agenda and in the context of public scrutiny of UK regulations as part of the environmental chapter of Defra's "Red Tape Challenge", a key objective for the Government when transposing the Directive for Phase III of the EU ETS was to identify opportunities for simplifying the existing 2005 Greenhouse Gas Emissions Trading Scheme Regulations and reducing the regulatory burdens of the EU ETS on UK industry. The Government sought to ensure that the revised Statutory Instrument (SI) contained the measures necessary to facilitate the effective implementation in the UK of Phase III of the EU ETS, and focused on those areas where the EU ETS Directive gives interpretive discretion to Member States, or where in order to make EU ETS Directive requirements implementable, UK regulations elaborated on the relevant provisions contained within them. We have taken the same approach for this PIR of the Greenhouse Gas Emissions Trading Scheme Regulations 2012.

11. The table below shows key aspects of the resulting legislative framework:

LEGISLATION	CONTENTS
EU ETS Directive	<p>Sets out the most important features of the EU ETS including:</p> <ul style="list-style-type: none"> • Which sectors and activities are included • The overall cap on emissions and, the linear reduction factor which reduces the number of allowances each year. • How many allowances are to be auctioned, how many are to be allocated for free, and the methodology for this. • The number of allowances to be set aside for innovation and regional development funds
EU Regulations	<p>Detailed rules for:</p> <ul style="list-style-type: none"> • Monitoring and reporting of emissions • Verification of emissions reports and accreditation of verifiers

	<ul style="list-style-type: none"> • The functioning of the EU ETS Registry, and security requirements • Free Allocation rules • Auctioning of allowances
Greenhouse Gas Emissions Trading Regulations 2012	Domestic legislation implementing the EU ETS Directive and UK specific rules including: <ul style="list-style-type: none"> • The UK's process to permit and charge operators • Penalties for non-compliance • Rights of appeal against penalties • The UK's Small Emitter and Hospital Opt-out Scheme

EU POLICY DEVELOPMENTS IN PHASE III AND NEGOTIATION OF RULES FOR PHASE IV

12. Despite this review being focused on those elements of the Directive over which the UK had discretion to implement, it is important to note the work being done at EU level to revise and refine the EU ETS Directive in response to challenges and changing international commitments to cut greenhouse gas emissions, and the UK's role in this. This work includes changes to the System during Phase III and the EU-wide re-negotiation of the Directive for Phase IV. While negotiations over the terms of the UK's withdrawal from the EU have begun, the UK has continued to actively participate in the negotiation of the EU ETS Directive for Phase IV.
13. Due to the effects of the economic recession and an EU ETS cap which was set out of line with long-term emission reduction targets, a large surplus of allowances (approximately 1.5-2 billion) has built up in the System since 2009. This surplus has reduced the carbon price, resulting in weaker incentives to reduce emissions and increasing the risk of higher costs to meet long-term emission reduction targets. There have been reform proposals in Phase III to address some of these structural issues. In 2014 there was agreement to a short-term measure to "backload" the auctioning of 900 million allowances from 2014-2016 to the final two years of Phase III (2019-2020). The European Commission proposed a longer-term reform measure in 2014 to establish a "Market Stability Reserve" (MSR). The MSR is a rules based mechanism, specifying thresholds to remove and return auctioned allowances from the market. The MSR will address the large surplus of allowances and improve System resilience by adjusting the supply of allowances to respond to significant changes in demand. The UK was influential in achieving agreement in 2015 to an ambitious final deal, including an earlier start date in 2019 (the Commission proposal was to start in 2021) and placing backloaded allowances directly into the reserve rather than allowing them to return to the market during the final two years of Phase III.
14. In July 2015 the European Commission issued proposals to amend the EU ETS Directive for Phase IV (2021-2030). The proposal covered the overall framework of the System, including the level of EU emissions reductions

required to deliver the 2030 climate and energy policy framework for the EU, which was agreed by the European Council in October 2014. The climate and energy policy framework endorsed a binding EU target of at least a 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990². This demonstrated the EU's commitment to the objective to achieve international agreement to reduce greenhouse gas emissions, which was adopted in Paris in December 2015. The Paris agreement is the first legally binding global climate deal, where 195 countries committed to reduce average global temperature increases to below 2°C of pre-industrial levels.

15. The Phase IV proposal specified rules to allocate allowances for free to industry at risk of carbon leakage, the share of allowances allocated for free and auctioned for sale by Member States, and funds to finance innovation in low-carbon innovation and modernisation of the energy sector in lower income Member States. To develop a UK negotiating position for Phase IV, the Government reviewed the EU ETS Directive and UK implementing regulations. The UK negotiating position for Phase IV supported³:

- Measures to strengthen the System, to provide a more meaningful carbon price signal, improving the incentive for industry to invest in low-carbon technologies.
- A more targeted approach (through a tiered system) to allocate free allowances to support industry facing carbon leakage and competitiveness risks, while balancing environmental ambition.
- Maintaining Phase III rules for auctioning to be the primary source of allocating allowances.
- Simplifying the System to reduce administrative complexity and burdens for participants, in particular for small emitters. This included doubling the emission threshold (from 25,000 tonnes of CO₂ to 50,000 tonnes of CO₂) for an existing policy which allows Member States to opt-out small emitters out of the EU ETS into less administratively burdensome schemes, and a new exemption for installations which record consistently low volumes of emissions.
- Transparent selection of projects and strong governance of funds for low-carbon innovation, and modernisation of the energy sector in lower income Member States.
- Defending national fiscal sovereignty.

16. In developing a UK position for Phase IV the Government undertook a significant amount of engagement with UK industry, EU ETS regulators and other Member States, reflecting on experience from Phase III to develop a position to improve the future effectiveness of the System. Political agreement on Phase IV was reached between the European Commission, European Parliament and Council in November 2017, with

² To achieve this target as cost-effectively as possible, the sectors covered by the EU ETS will need to reduce their emissions by 43% by 2030 compared to 2005.

³ The published UK position on EU ETS Phase IV can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474050/The_UK_s_position_on_Phase_IV_of_EU_ETS_.pdf

the agreement due to be approved by the European Parliament and Council of Ministers in early 2018. The key elements of the agreed package are:

- Ambitious short and longer term strengthening measures, including increasing the rate at which allowances will be added to the MSR and cancellation of allowances placed in the MSR from 2023.
 - To protect industry against the risk of carbon leakage and maintain competitiveness, a number of measures were agreed which will help to ensure there is adequate free allocation allowances for the most vulnerable industrial sectors. The package strikes a good balance between providing more free allowances for industry and preventing a large reduction in the amount of allowances auctioned.
 - Establishment of an innovation fund to fund low carbon technology and innovation projects.
 - Measures to enable lower income member states to modernise their energy systems.
 - An optional exemption from the EU ETS for ultra-small emitters (for installations emitting below 2,500 tonnes of CO₂ per annum or which operate generators for less than 300 hours per annum), to help to reduce administrative burden and support those who face disproportionate costs.
 - No change to the 25,000 tonnes of CO₂ per annum emissions threshold for installations to opt-out of the EU ETS, though there was agreement to provide a further opportunity for eligible installations to be able to join Member State schemes during the middle of a Phase.
 - Measures which do not undermine national fiscal sovereignty.
17. The UK supported the package as a balanced and good overall outcome, which delivered the majority of UK negotiating objectives.

Aviation EU ETS

18. Due to international opposition to the scope of the aviation scheme covering flights to, from and between all airports in the European Economic Area (EEA), the EU agreed a temporary derogation (from 2012-2016) to reduce the scope of the scheme to apply to flights departing and landing in an EEA airport. This derogation was agreed until the end of 2016 so that there could be an assessment of the progress of the International Civil Aviation Organisation (ICAO) to agree an international scheme to tackle aviation emissions.
19. In October 2016 ICAO agreed to introduce a “Global Market Based Measure” (GMBM) to tackle emissions from international aviation from 2020. In response to this agreement, the European Commission issued a proposal in February 2017 for the scope of Aviation EU ETS to remain intra-EEA until 2020; to avoid the scope of aviation EU ETS reverting back to cover international flights, the EU ETS Directive had to be amended by 31 March 2018. The key agreed elements were:

- The end date for the derogation reducing the scope to intra-EEA flights is set at 31 December 2023;
- The European Commission will undertake a review on the implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) and the future of the Aviation EU ETS within 12 months of the rules on the CORSA being adopted in ICAO;
- Language on the use of auctioning of aviation allowances which would risk mandating the use of such revenues for tackling climate change. The agreed wording risks undermining national fiscal sovereignty.

SCOPE OF THE POST IMPLEMENTATION REVIEW

20. The UK's approach to overall framework and objectives of the EU ETS Directive have been extensively considered when developing UK negotiating positions for reform proposals during EU ETS Phase III and for Phase IV. Therefore the scope of this PIR has focused on the implementation of various elements of the Directive which Member States had some direct control over, which were subject to assessment in the original Impact Assessment. These areas were:

- 1) The penalties regime implemented in the UK
- 2) The appeals process for England

21. This PIR also considers The UK's implementation of the UK Small Emitter and Hospital Opt-out Scheme, which exempts small emitters and hospitals from the EU ETS into a less regulatory burdensome scheme. A separate Impact Assessment was undertaken to assess the costs and benefits of this scheme.

ASSESSMENT OF OPTIONS AVAILABLE WITHIN THE DIRECTIVE

22. Sections 4 and 5 of the annex provide a detailed assessment of issues 1-3 outlined in the previous section, including the decisions that were made during transposition, whether objectives have been achieved and whether there have been any unintended consequences or impacts that may require a change or amendment to be made.

23. To carry out this assessment we used data from EU ETS compliance reports, stakeholder engagement with industry, UK regulators and other Member States to discuss Phase III delivery and Phase IV policy development, and an external research study ("Cost of Compliance Report") delivered by Databuild on behalf of DECC, to assess the Phase III administrative costs of compliance with the EU ETS for UK participants. Analysis was undertaken to consider the costs and benefits of options assessed in the Impact Assessments.

NEXT STEPS FOR THE REGULATION AND CONCLUSIONS

24. BEIS' assessment at the time of undertaking this review was that the options chosen during transposition delivered on their objectives and

remained appropriate. The regulations and policies set out in this PIR will remain in place.

Title: The Greenhouse Gas Emissions Trading Scheme Regulations 2012 PIR No: TBC RPC No: RPC-4198(1)-BEIS Lead department or agency: Department for Business, Energy and Industrial Strategy Contact for enquiries: biciee@beis.gov.uk	Post Implementation Review
	Source of intervention: EU
	Type of regulation: Secondary legislation
	Type of review: Statutory Review
	Date of implementation: 31/12/2012
	Date review due (if applicable): 31/12/2017
	RPC Opinion: Green

1a. What were the policy objectives and the intended effects? (If policy objectives have changed, please explain how).

As set out in the original Impact Assessment, consistent with the Government's better regulation agenda and in the context of public scrutiny of UK regulations as part of the environmental chapter of Defra's "Red Tape Challenge", a key objective for the Government when transposing the Directive for Phase III of the EU ETS was to identify opportunities for simplifying the existing 2005 Greenhouse Gas Emissions Trading Scheme Regulations and reducing the regulatory burdens of the EU ETS on UK industry. The Government sought to ensure that the revised Statutory Instrument (SI) contained the measures necessary to facilitate the effective implementation in the UK of Phase III of the EU ETS, and focused on those areas where the EU ETS Directive gives interpretive discretion to Member States, or where in order to make EU ETS Directive requirements implementable, UK regulations elaborated on the relevant provisions contained within them. We have taken the same approach for this PIR of the Greenhouse Gas Emissions Trading Scheme Regulations 2012.

As set out in the Command Paper, the UK's position on the framework and overall objectives of the EU ETS Directive have been considered in detail to develop UK negotiating positions for reform proposals in Phase III and for the re-negotiation of the Directive for Phase IV (starting 1 January 2021). This work included developing positions on:

- Measures to strengthen the System, to provide a more meaningful carbon price signal and improve incentives for industry to invest in low-carbon technologies.
- A more targeted approach to allocate free allowances to support industry facing carbon leakage and competitiveness risks, while balancing environmental ambition.
- Maintaining Phase III rules for auctioning to be the primary source of allocating allowances.
- Simplifying the System to reduce administrative complexity and burdens for participants, in particular for small emitters.
- Funds for low carbon innovation.
- The scope of the aviation scheme.

The scope of this PIR focused on the implementation of various elements of the Directive which Member States had some direct control over, which were subject to assessment in the original Impact Assessment. These areas were:

- 1) The penalties regime implemented in the UK
- 2) The appeals process for England

This PIR also considers The UK's implementation of the UK Small Emitter and Hospital Opt-out Scheme, which exempts small emitters and hospitals from the EU ETS into a less regulatory burdensome scheme. A separate Impact Assessment was undertaken to assess the costs and benefits of this scheme.

The specific policy objectives and intended effects of each of these areas are set out in section 4.

1b. How far were these objectives and intended effects expected to have been delivered by the review date? If not fully, please explain expected timescales.

The objectives and the intended effects of the UK transposition of the EU ETS Directive were expected to apply immediately from the start of Phase III of the System (2013). The costs and benefits assessed in the Transposition and Small Emitter and Hospital Opt-Out Scheme Impact Assessments covered all of Phase III, starting in 2013 and lasting until the end of 2020. While we have been able to assess the objectives and intended effects by the review date, to undertake an assessment for all of Phase III we have assumed that the costs and benefits in the Phase so far will continue to apply until the end of 2020.

2. Describe the rationale for the evidence sought and the level of resources used to collect it, i.e. the assessment of proportionality.

The EU ETS covers approximately 40% of the UK's greenhouse emissions and applying to a wide range of business sectors including heavy industry, Small and Medium Enterprises and aviation.

The review of the UK's implementing regulations in 2012 focused on those areas where the EU ETS Directive gives interpretive discretion to Member States, or where in order to make EU ETS Directive requirements implementable, UK regulations elaborated on the relevant provisions contained within them. As we have taken the same approach for the PIR of the 2012 Regulations, the areas which have been the main focus for this review are fairly minor aspects of the overall policy

Stakeholder views from forums (e.g. UK Emissions Trading Group) discussing Phase III delivery, engagement for policy development for Phase III reforms and rules for Phase IV were used for this review. Evidence from an external research study⁴ conducted for DECC by Databuild Consulting, CAG Consultant and Verco, was used for this review. This study, known as the "Cost of Compliance (CoC) report", surveyed approximately 250 UK EU ETS participants in late 2015 and early 2016, gathering information on the administrative costs of undertaking activities (such as monitoring and reporting of emissions) to comply with the System. EU-wide EU ETS monitoring and reporting data was also used to compare UK implementation of the Directive to other Member States.

⁴ "Assessment of Costs to UK Participants of Compliance with Phase III of the EU Emissions Trading System". The report, which has yet to be published, will be published alongside this PIR.

A medium amount of evidence and resource has been used for this review, which is proportionate to assess the elements of the Directive which Member States had direct control over when implementing Phase III. Furthermore, UK implementation of the Phase III Directive built on existing well established policy, and a significant amount of work, including a comprehensive assessment of the Directive and UK implementing regulations, has been undertaken to develop UK positions on EU-wide reforms during Phase III and for the negotiation of future rules for Phase IV.

3. Describe the principal data collection approaches that have been used to gathering evidence for this PIR.

EU ETS monitoring and reporting data (annual reports provided by Member States to the Commission and Commission and external organisations' summaries of information provided in these reports) was used for the assessment of the UK penalties regime and implementation of the small emitter opt-out scheme.

Data on penalties provided by the Environment Agency and devolved administrations was used to assess the savings to installations from regulators applying discretion when issuing penalties for operators under reporting their emissions. Emissions data from the Environment Agency and evidence of the administrative costs of the EU ETS from the CoC Report were used for the analysis of the costs and benefits of the small emitter opt-out scheme. The cost of appeals heard by the FTT in Phase III was used to assess the costs to government of the appeals regime.

Information from BEIS' engagement with other Member States for the Phase IV negotiation and Environment Agency engagement with regulators in other Member States for Phase III delivery has been used to compare the UK implementation of the Directive in Phase III to other Member States. As set out in the previous section, stakeholder views from Phase III delivery discussions, engagement for Phase III reforms and policy development for Phase IV have been used for this review.

4. To what extent has the regulation achieved its policy objectives? Have there been any unintended effects?

1) The UK Penalties Regime

Issue

The EU ETS Directive requires Member States to put in place a system of national penalties for non-compliance with the provisions of the EU ETS Directive which are effective, proportionate and dissuasive. The levels of penalties are left to Member State discretion, with the exception of the penalty for failure by operators to surrender sufficient allowances to cover their emissions by the compliance deadline, where the Directive specifies a mandatory €100 per tonne penalty.

Policy objectives

During transposition the Government's assessment of the UK penalties regime particularly focused on objectives for penalties to be dissuasive and proportionate. The specific policy objectives, as specified in the original Impact Assessment, which these criteria were measured against were:

- To encourage operators who are non-compliant to become compliant as soon as possible;

- To provide sufficient incentive to dissuade operators from being non-compliant;
- For penalties to be proportionate to the offence committed, accommodating a range of circumstances;
- For the administrative cost of enforcement to be low;
- To ensure fairness and equality for operators that are compliant.

Options considered

Two options were considered for the Government's approach to discretionary penalties: to retain the system used in Phase II combining criminal and civil penalties or to move to a civil penalties regime

Decision made in 2012

Following consultation with operators and regulators, a decision was taken to move to a system of civil penalties. It was predicted that civil penalties would retain a similar level of dissuasiveness as criminal sanctions and would be more proportionate to the nature of the offence committed. This change also aligned with the recommendations of the 2006 Macrory Review (which the Government fully accepted) that criminal law was used too readily in regulatory situations, and was consistent with approaches used in broader climate and environmental policy.

The change to civil penalties sought to maintain a sufficient deterrent against non-compliance, while avoiding a situation where a penalty would be too punitive and disproportionate to the offence committed. The majority of UK civil penalties for stationary operators are for failure to apply with a condition of a permit e.g. if an operator fails to submit a verified emissions report to their regulator by the statutory deadline. For the majority of permit infringements a maximum fixed penalty of £3,750 is applied, with an additional daily penalty of £375 for every day that an operator fails to apply with the condition following the service of the initial notice of the civil penalty, up to a maximum amount of £33,750. The fixed penalty is determined by a formula which accounts for the size (large, medium, small and micro) of an organisation and the degree of culpability, ranging from deliberate to low or no culpability. This means that the maximum fixed penalty of £3,750 will only be applied in a situation where there is a deliberate infringement by a large organisation. Regulators can also consider the specific circumstances, including the nature of the offence, the impact on the integrity of the EU ETS and the actions of the individual to apply discretion to waive a penalty, reduce a penalty, or extend the time for payment.

The civil penalty for an installation operating without a permit is calculated by the estimated avoided costs of not having a permit, plus the costs of allowances to cover emissions during the non-compliance period. This figure can also be increased by 5% to ensure the penalty issued exceeds any economic benefit that an operator may have obtained from being non-compliant. Further details on the Environment Agency's enforcement and sanctions policy can be found at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/663773/Draft_Enforcement_and_Sanctions_Policy_for_consultation.pdf

A more flexible approach was an integral part of the change to civil penalties - if operators think they are less likely to be severely punished or avoid punishment in cases of genuine mistakes then they may be more likely to voluntarily notify regulators, potentially improving compliance or avoiding non-compliance.

The EU ETS Directive specifies a mandatory €100 a tonne penalty for operators failing to surrender sufficient allowances for their emissions by the compliance deadline. In Phase III,

the UK introduced a provision which allows this penalty to be reduced to €20 a tonne and regulator discretion to be applied when operators make genuine errors or mistakes (e.g. due to errors in data collection or the sampling and analysis of fuels and materials that produce emissions), resulting in under reporting of emissions and subsequent under surrender of allowances for compliance. The operator is required to correct the error and cooperate with their regulator, and in addition to paying a penalty the operator is required to surrender allowances to cover the volume of under reported emissions. The justification to reduce the €100 a tonne penalty was that this can be particularly punitive in circumstances where operators make genuine mistakes when reporting their emissions, which are not picked up through the verification process. The Impact Assessment estimated a saving to operators of £1 million in Phase III from this change.

Has the policy delivered its objectives?

Assessment from a UK perspective

UK regulation of the EU ETS is overseen by specialist teams within the national regulators, with resources allocated to support operators into compliance as well as take necessary and effective enforcement. UK regulators carry out spot checks of installations (both through site visits and desk based reviews of annual emission reports) and meet regularly with operators and verifiers to discuss compliance. There have been consistently high rates of compliance (99%+) by stationary UK operators in Phase III with the obligation to surrender allowances by 30 April for their verified emissions.

Information from the Phase III Impact Assessment shows that for the years 2010 and 2011, the Environment Agency issued 67 warning letters and 26 enforcement notices for non-compliant activity in England. Information from an annual report (Article 21) by Member States on the application of the EU ETS Directive shows that for the compliance years 2015 and 2016, the UK issued 46 civil penalties for non-compliance by stationary operators: the majority of these penalties were issued for late reporting of emissions and operating without a permit. The Environment Agency have confirmed that in the majority of cases where penalties have been issued in Phase III for non-compliance in England, this has been due to operators proactively notifying regulators of infringements and non-compliance, validating the conclusion in the Impact Assessment that this would be a benefit of a more flexible and proportionate approach to penalties.

12 penalties for the under reporting emissions were issued in Phases I and II (2005-2012). Up until June 2017, 12 penalties for operators under reporting their emissions were issued in Phase III. However, the majority of the penalties issued in Phase III have been for cases which occurred during Phase II. Current evidence for penalties issued for under reporting of emissions by operators shows higher savings in Phase III of £7 million compared to £1 million estimated in the Impact Assessment, due to regulators applying discretion more often when issuing these penalties than was expected in the Impact Assessment.

Comparison with other Member States

We have compared the UK national penalties for non-compliance with the provisions of the EU ETS Directive to those implemented by other Member States, particularly focusing on Member States that regulate a similar number of operators as the UK. This comparison excludes the mandatory €100 a tonne penalty for operators failing to surrender sufficient allowances for their emissions by the compliance deadline and the €20 penalty when operators under report emissions due to genuine errors or mistakes.

There are a variety of enforcement procedures implemented by Member States, with some applying criminal sanctions, some civil penalties and some a combination of both. For

Member States with civil penalty regimes, minimum and maximum penalty levels can be applied to account for the specific circumstances of non-compliance. Based on information reported by Member States in the Article 21 report, the maximum penalty which has been issued in Phase III has exceeded €10 million. While for the 2015 and 2016 compliance years the UK issued the highest number of penalties, this should consider the broader context of Member States deciding how to approach and set penalties. In other Member States enforcement of the EU ETS can be devolved locally and incorporated within teams managing a variety of environmental regulations, rather than being managed by specialist teams, as is the case in the UK. The use of criminal sanctions in some Member States can mean that the grounds for enforcement are set quite rigidly between prosecution or a warning, with limited scope for the type of flexibility which is offered by civil penalties. The European Environment Agency publishes an annual report on the application of the EU ETS Directive by Member States. In its latest report on the 2015 compliance year, while the Agency referred to the UK issuing the highest number of civil penalties in 2015, they did not recommend this as a reason for the UK to consider its penalties regime and approach to compliance.

Our comparison to other Member States has not identified a requirement to re-assess the change to a civil penalties regime.

Conclusion

BEIS analysis shows that consistently high levels of compliance following the change to a civil penalties regime, and savings to operators from regulators being able to apply greater discretion when issuing penalties, are evidence of a system which is delivering its objectives to be effective, dissuasive and proportionate. We have not identified evidence of any unintended consequences of the change from criminal to civil penalties. We do not consider that any action is necessary at this time.

2) Appeals in England

Issue

The EU ETS Directive does not set out specific requirements relating to appeals, but is based on the right to a fair hearing which is a general principle of EU law set out at Article 6 of the European Convention on Human Rights (ECHR). Member States must provide the right of appeal against decisions of a competent authority but appeal procedures are at their discretion, subject to the requirements of the ECHR. Hence enforcement of the EU ETS is supported by an appeals system which allows an operator to lodge an appeal under a variety of circumstances.

Policy objectives

Policy objectives, as specified in the original Impact Assessment, for appeals sought a system which would be:

- Relatively low cost, both to government and operators;
- Efficient, avoiding overly burdensome and complex procedures;
- Proportionate to the nature of what was being appealed;
- Transparent and accessible to operators and;
- Independent.

Options considered

The appeals process in the UK is a devolved matter. The scope of the Impact Assessment and consultation only covered appeals in England, and did not consider the appeals process in Scotland, Wales and Northern Ireland. During transposition four options were considered to hear appeals in England:

- To retain the system for Phase II, where the Secretary of State would appoint a person to hear appeals by written or oral procedure.
- The same as option 1, with hearings heard by written procedure only.
- Appeals heard by the Planning Inspectorate.
- Appeals heard by First Tier Tribunal (FTT).

Decision made in 2012

Following a review of the options against these criteria, it was decided that appeals against decisions relating to the GHG regulations in Phase III would change from being heard by a person appointed by the SoS to being handled under the FTT, on the grounds that this would be the most efficient, proportionate, transparent and independent system.

The Impact Assessment estimated a Phase III saving to government of £88,000 by changing the appeals process to FTT, mainly as a result of reduced costs from more appeals being heard by written appeal rather than through an oral hearing (oral hearings incur additional costs, such as travel expenses and legal support). The assumption that more written appeals would be heard was based on evidence on the proportion of appeals heard by the Planning Inspectorate in Phase II, whose processes closely align to those of the FTT. The Impact Assessment predicted that the number of appeals that would be heard would increase from an average of 1.5 per year in Phase II to 2 per year in Phase III, mainly due to the increased scope of the System. During consultation operators suggested that the change to appeals process would lower their costs, though data wasn't available to estimate this saving in the Impact Assessment. The Impact Assessment concluded that operator costs would be similar to those for regulators to prepare for appeals, hire external representation and appear at a hearing.

Efficiency was expected to improve from operators having more time to lodge an appeal and appeals being heard more quickly. The use of FTT for appeals across a range of environmental legislation was expected to build knowledge and experience which would steadily improve the efficiency of the process, and would enhance the consistency of judgement and capacity to handle EU ETS cases.

Proportionality was expected to improve as a result of more appeals being heard by written procedure rather than orally, though the complexity of a case was recognised as an important determinant of the type of hearing which would be held. Transparency and accessibility were expected to improve, through tribunals being able to sit in different locations around the country, improving accessibility and reducing travel costs, and the FTT's clear and well established practices were expected to reduce time and resource for appellants to understand requirements. While the independence of hearings by a person appointed by the SoS, or the SoS himself, was not considered to be in question, the independence of the FTT from government was deemed to meet the objectives for appeals to be independent.

Has the policy delivered its objectives?

For the change of appeals to the FTT, the Government paid an initial start-up cost for the first year of Phase III (2013) which covered a set number of appeals for the year, and any hearings from 2014 are charged at a fixed cost; this fixed cost applies to both written and oral hearings. Two appeals have heard by the FTT, both in 2016. The costs per appeal have

been higher than was estimated in the Impact Assessment, but as there have been fewer appeals (0.5 per annum for the first 4 years of Phase III compared to 2 per annum for the entire phase estimated in the Impact Assessment) the ongoing annual costs have effectively been lower. Although, as noted in the next paragraph, two appeals is an insufficient number from which to draw conclusions about the overall costs of appeals to government.

Our assessment has not identified any unintended consequences for the objectives for appeals heard by the FTT to be more efficient, transparent, and independent. The benefits predicted for a more proportionate approach to the nature of what is being appealed was predicated on there being a higher number of written appeals. As noted in the previous paragraph, two appeals⁵ have been heard by the FTT in Phase III.. Two appeals is an insufficient number from which to assess whether the change to the FTT will deliver objectives for business, in particular those relating to cost and the proportionality to what is being appealed. Further appeals will need to be heard by the FTT to assess the impacts of this change on business.

We have considered the process to hear EU ETS appeals in devolved administrations. In the Wales the FTT is the appeal body, appeals in Northern Ireland are heard and determined by the Planning Appeals Commission (PAC) and in Scotland the Directorate for Planning and Environmental Appeals (DPEA) in the Scottish Government hears and determines appeals on behalf of the Scottish Ministers. Devolved administrations have confirmed that they are content with their respective processes to hear appeals and have no current plans to change these.

Conclusion

BEIS analysis of the change to hear appeals by the FTT is that there have been an insufficient number of appeals in Phase III to assess whether this has delivered all of the intended policy objectives. Further appeals will need to be heard before any future detailed assessment of the appeals regime can be undertaken. Based on current evidence, we do not consider that any action is necessary at this time

3) UK Small Emitter and Hospital Opt-out Scheme

Issue

In Phase III, Article 27 of the EU ETS Directive introduced a new provision to allow Member States to exclude small installations (carrying out activities covered by the EU ETS, but emitting less than 25,000 tonnes of CO₂ per annum⁶) and hospitals from the scope of the EU ETS, into alternative schemes which would deliver equivalent emission reductions to the EU ETS. The UK actively supported the inclusion of these provisions in recognition of the fact that the administrative costs faced by smaller emitters under the EU ETS are disproportionately high per tonne of CO₂ compared to the costs for installations with larger emissions.

The Directive prescribed an overarching framework for Member States to implement national schemes, specifying threshold levels, the requirement for Member States to put in place measures to achieve equivalent contributions to emission reductions, and to reintroduce installations to the EU ETS if they emitted above the emission threshold. Member States had discretion over the specific design of rules to deliver these objectives.

⁵ By an international aviation operator and an installation in the UK Small Emitter Opt-out Scheme.

⁶ There is also a requirement for installations classified as undertaking combustion activity to have a net rated thermal input below 35MW to be eligible for the opt-out scheme.

Policy objectives

The policy objectives considered during transposition were to design a scheme which would reduce the administrative and regulatory costs for small installations, whilst preserving environmental integrity by delivering the Directive's requirement to achieve an equivalent contribution to emission reductions to the EU ETS.

Options considered

The options considered were either to implement a UK scheme enabling eligible installations to opt-out of the EU ETS or not to implement a scheme.

Decision made in 2012

A decision was taken to implement a UK opt-out scheme, which was designed in consultation with relevant stakeholders in order to deliver reduced regulatory costs compared to the EU ETS, consistent with the broader agenda on better regulation. The UK scheme aligns with Phase III of the EU ETS, beginning in 2013 and concluding at the end of 2020. The Government worked closely with those other Member States offering national schemes, to promote policy alignment and ensure that UK industry was not placed at a competitive disadvantage in the EU. Through this work and detailed discussions with the European Commission – which had to approve the equivalent measures of Member States – the Government's objective was to secure deregulatory benefits for UK industry whilst ensuring that incentives for emission reductions were retained and that the UK scheme complied with EU legislative requirements. Guidance⁷ was published for UK installations which chose to participate, to assist their understanding of scheme rules and compliance obligations.

243 out of 320 of installations which submitted data showing that they were eligible decided to join the UK scheme, from sectors including ceramics, food and drink, mineral products and hospitals. The main scheme features are:

- Individual emission reduction targets for installations, replacing the EU ETS requirements to purchase and surrender allowances for compliance.
- Installations which emit above their targets are required to pay a penalty, based on the EU ETS carbon price, for every tonne of CO₂ emitted above their target; the revenues from these penalties return to the exchequer. This provision was established to replicate a situation in the EU ETS where an installation would have to purchase allowances for every tonne of CO₂ emitted above the level of free allocation provided to them, thus maintaining a similar incentive for installations in the opt-out scheme to reduce their emissions.
- Installations can choose to forego third party verification of emissions by an independent verifier, instead having their emissions verified through risk-based auditing, administered by regulators.
- Banking any emissions below target forward to future years.

The Impact Assessment predicted an overall saving to installations for Phase III of £39.2 million from administrative and compliance cost savings. Administrative savings were estimated to be £4.7 million, primarily due to reduced costs to installations from being able to choose risk-based auditing of emissions in the opt-out scheme. Compliance cost savings

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/481396/Annex_D_small_emitter_S1_updated_guidance_-_final_policy_clearance_3_.pdf

were projected to be £34.6 million, based on installations in the opt-out scheme no longer having to purchase allowances in the EU ETS.

Additional revenue to government was predicted to be £5.3m over the Phase, based on reduced EU ETS auction revenues being offset by revenue (which returns to the exchequer) from installations in the opt-out scheme emitting above their targets.

The emissions of installations in the opt-out scheme are not included in the EU ETS cap. For the purposes of accounting for Carbon Budgets under the Climate Change Act 2008⁸ this means that emissions are moved from the traded sector (EU ETS) to the non-traded sector (non-EU ETS emissions). The Impact Assessment estimated that this change would affect the UK's carbon liability, including the amount of effort required in the non-traded sector (where the cost of abatement for sectors is higher than in the traded sector) to meet UK Carbon Budget targets. The Impact Assessment predicted a cost of £77.1 million, due to increased abatement effort and the cost of abatement in the NTS.

Has the policy delivered its objectives?

Assessment from a UK perspective

Through engagement with participants and EU ETS regulators for delivery of Phase III of the System, and internal analysis assessing the administrative costs of installations in the scheme, we have gathered a good insight of the experience of the UK opt-out scheme. Evidence from the Cost of Compliance Report shows that the scheme has reduced the average administrative costs for installations by £4300 per annum compared to equivalent sized installations in the EU ETS and the projected average administrative cost difference is £15,000 per annum compared to average costs for all installations in the EU ETS. However, despite the savings offered by the scheme, the administrative costs for participants are still higher per tonne of CO₂ than they are for larger emitters in the System. The general view of participants is that the opt-out scheme has helped to reduce administrative costs for business, but design improvements both to the Directive and to our domestic implementation of a scheme could help to further reduce regulatory burden. The following specific issues have been identified for this PIR:

- Some participants have suggested that administrative burdens could be further reduced through less frequent risk-based auditing of emissions. The UK scheme requires that regulators should aim to audit an installation at least twice during the phase, with more frequent audits undertaken where an installation meets pre-defined risk criteria. Installations which emit above 20,000 tonnes of CO₂ are audited annually. We believe that these auditing requirements currently remain proportionate, balancing objectives to reduce administrative burdens for installations and preserving the environmental integrity of the EU ETS.
- Some operators of installations in the scheme choose to continue to have their emissions verified by a third party (as is required in the EU ETS) rather than through risk-based auditing which is offered by the scheme, either for reputational reasons or to align their processes with other installations which are in the EU ETS. Installations that continue to use third party verification forego the most significant administrative savings offered by the opt-out scheme.
- Some operators with installations which were eligible to join the opt-out scheme chose not to join, to avoid having installations in both the EU ETS and in the opt-out scheme i.e. they preferred to keep all of their installations in the EU ETS. Some eligible installations also decided to remain in the EU ETS so that they

⁸ UK Carbon Budgets set limits on the amount of greenhouse gases which the UK can emit over a 5 year period. We are currently in the 2nd budget period, running from 2013 to 2017.

could benefit from being able to trade the free allowances which they received in the System.

- During the scheme's early years, installations expressed concerns about possible reputational consequences of civil penalties being issued for not achieving their emissions reduction targets. This matter was resolved in 2015 by DECC issuing guidance to regulators to clarify that civil penalties issued when installations emit above their emission reduction targets are not a significant infringement, and regulators aren't required to publish information on the penalties issued for installations emitting above their targets.
- During transposition powers weren't included in our domestic regulations to enable installations which emit above the emission threshold of 25,000 tonnes of CO₂ (or which are no longer compliant with the scheme) to receive free allocation when they return to the EU ETS. These powers were provided through an amendment to the Greenhouse Gas Emissions Trading Scheme Regulations 2012 (SI 2015/1849).
- The Phase III Directive only specified one opportunity for installations to join the opt-out scheme before the start of Phase III, meaning that installations which joined the EU ETS during Phase III weren't eligible to join national opt-out schemes. The UK Phase IV negotiating position supported an additional opportunity for eligible installations to join an opt-out scheme, which was reflected in the final Phase IV agreement.
- There was support to increase the emission threshold from 25,000 to 50,000 tonnes CO₂ in Phase IV, so that more installations would be eligible to join an opt-out scheme. While the UK Phase IV negotiating position supported increasing the emission threshold to 50,000 tonnes of CO₂, the final Phase IV agreement retained the emission threshold of 25,000 tonnes of CO₂.

Updated analysis of the costs and benefits projected in the Impact Assessment suggests that the administrative savings to business have increased to £6.7 million, while compliance cost savings have reduced to £17.1 million, primarily due to a lower than projected EU ETS carbon price. This has reduced overall savings to business to £26.4 million. Government revenue has increased to £9.2 million due to more revenue being received from penalties when installations emit above their emission reduction targets. Updated analysis shows that the cost of the UK carbon liability has reduced to £61.7 million, primarily due to fewer installations (and therefore emissions) participating in the scheme than was previously estimated in the IA.

Comparison with other Member States

For this PIR we have considered other Member States' implementation of opt-out schemes. Germany, France, Italy, Spain, Slovenia, Croatia and Iceland chose to implement national schemes. The UK scheme is the largest, both in terms of the number of installations and the emissions coverage (approximately 2 million tonnes of CO₂ per annum), with half of all emissions in Member State schemes covered by the UK Scheme. Italy and Spain's schemes account for the majority of the remaining volume of emissions, while France and Germany's schemes respectively account for less than 50 thousand and 10 thousand tonnes of CO₂ per annum. As is the case in the UK scheme, the main administrative savings offered by other Member State schemes are derived from simplified processes for installations to verify their emissions, where savings are determined by less stringent requirements for third party verification and the scope and the frequency of audits by competent authorities.

Government worked closely with other Member States to design our scheme to ensure that UK industry was not placed at a competitive disadvantage compared to EU competitors; this work ensured policy alignment with other Member States on emission reduction targets for installations and measures to reduce administrative burdens. Considering the policy

alignment of schemes, and the limited coverage of France and Germany's schemes, our assessment is that the UK scheme is delivering comparable savings to those offered by other Member States.

Conclusion

BEIS' assessment of the UK opt-out scheme is that it is delivering objectives to reduce costs to business, albeit less than projected, whilst delivering emissions reductions close to what they could be in the EU ETS, and that these remain appropriate. We have not identified any unintended consequences and don't consider that any action is necessary at this time. Some of the outcomes of this PIR will be evaluated further when considering implementation of any future opt-out scheme, including:

- Reducing administrative burdens and costs to business while delivering equivalent emission reductions
- Issuing administrative rather than civil penalties when installations emit above their emission reduction targets.
- The impact on achieving UK climate targets in the 2020s.

5a. Please provide a brief recap of the original assumptions about the costs and benefits of the regulation and its effects on business (e.g. as set out in the IA).

The UK Penalties Regime

The Impact Assessment estimated that the value of penalties that would be issued by regulators for underreporting of emissions in Phase III would be £9.7 million⁹.

In Phase II £2.8m of penalties were issued for underreporting emissions. All penalties (of €100/tCO₂) were imposed in 2010 or 2011. It was assumed that if this level of underreporting was representative of future levels, then there could be around £9.7m (2012 prices, PV) of penalties imposed to 2020. By adjusting the parameters for applying this penalty to allow greater regulator discretion in specific cases where genuine mistakes occur, it was assumed that a proportion of these fines would be reduced or waived, such that the total level of fines would fall by 10% (£0.97m).

Appeals in England

For the appeals system, the final preferred option was that appeals against decisions relating to the GHG regulations in Phase III were to be handled under the First Tier Tribunal (FTT). Appeals under the FTT were forecast to deliver savings to government of £88,000 (PV), compared to the previous system of hearings by a person appointed by the SoS.

There was also a further assumption that in the central scenario, initial setup costs for the FTT are £2,540, with the central scenario assuming 2.1 appeals per year and 5 appeals per year in the case of the high scenario. The Impact Assessment estimated cost savings to government from the change of appeals process of £88,000 (2012 prices) for Phase III.

Small Emitter & Hospital Opt-out Scheme

⁹ 'Transposition of the EU ETS Directive: Review of the 2005 UK Greenhouse Gas Regulations' IA, pg 17

1) Business: admin cost saving

The Small emitter opt-out IA estimated that the administrative costs for small emitters participating in the EU ETS to be £8,200 (2012 prices) per annum¹⁰ per installation, based on a DECC survey of 178 installations in 2010. The requirement that annual reports are verified by an independent third party represents one of the largest EU ETS administrative costs. In the IA, the annual cost of verification was estimated to be £2,800 per annum¹¹, which was based on information from the DECC 2010 survey (which the Environment Agency estimated to be accurate). Since third party verification is not required in the opt-out scheme, verification costs for the small emitters opting out were assumed to be zero, and annual administrative cost savings were estimated to be £2,800 per installation. As a result, the Impact Assessment estimated that the opt-out scheme would save £4.7m in administrative costs to businesses over the period 2013-20.

2) Business: compliance net saving

The main benefit to business from the opt-out scheme identified in the IA was a £42.0m¹² saving from no longer having to purchase allowances under EU ETS, due to the majority of installations in the opt-out scheme choosing historic emissions methodology to set their emission reduction targets, which was less stringent than the free allocation which they would have received in the EU ETS. The quantification of this benefit is based on the estimated cost of allowances over Phase III and the projection of the installations' emissions over the Phase. This benefit is partially offset by penalties imposed for installations exceeding their emissions target (£7.9m cost), based on contemporary estimates.

The estimation of savings from purchasing allowances was based on the trajectory of projected short-term traded carbon values as published by DECC in 2012 (see table below). Penalties were also calculated in line with these traded carbon values.

Traded carbon values - 2012 projections (real 2012 £/t)								
Year	2013	2014	2015	2016	2017	2018	2019	2020
Central	£5.98	£6.24	£6.45	£6.67	£7.10	£7.55	£8.03	£8.55

In addition, these savings were based on the estimated emissions of the installations over the Phase. This estimate used data collected from EU ETS installations and included in the UK's National Implementation Measures (NIM) for Phase III, along with emissions growth projections from Bloomberg New Energy Finance.

3) Government net savings

It was estimated in the IA that the net impact on fiscal revenues as a result of the opt-out scheme was a gain of £5.3m (2012 prices). This was a result of the revenue raised from penalties charged to the participating installations (£7.9m) exceeding the lost auction revenues from the EU ETS from UK installations opting out (£2.6m).

a) Penalty revenues

The IA estimated a gain in fiscal revenues of £7.9m as a result of fines charged to installations participating in the opt-out scheme that exceed their targets and are required to pay a penalty. This fiscal gain from penalties was calculated by the difference between the projected emissions

¹⁰ 'EU ETS Small Emitter and Hospital Phase III Opt-Out' IA, pg 11 (paragraph 42)

¹¹ EU ETS Small Emitter and Hospital Phase III Opt-Out' IA, pg 11 (paragraph 43)

¹² EU ETS Small Emitter and Hospital Phase III Opt-Out' IA, pg 14, table 4

of the participating installations (minus estimated abatement) and their target, multiplied by the corresponding EU ETS price for each year.

b) Auction revenues

The IA estimated a loss in government revenues from EU ETS auctions based on the understanding that the total EU ETS auction pot was likely to decline by the amount of auction allowances associated with the installations opting out. The loss of revenue was calculated based on the assumptions that (1) the EU ETS cap will be reduced by the amount of auctioned allowances associated with UK opt-out installations and (2) the UK's auctioned allowances would be reduced proportionally to the UK's share of historical EU ETS emissions (10.2%). Implicitly, this assumed that auction shares of other member states would be reduced to reflect the Government's decision to implement an opt-out scheme for UK installations. The IA estimated that this would result in a loss of £2.6m UK auction revenues over Phase III, based on contemporary emissions and carbon price projections.

4) Non-traded sector liability

The Non-Traded Sector (NTS) liability outlines the cost of shifting emissions from the EU ETS to NTS under UK carbon budgets accounting and carbon accounting under the EU Effort Share Decision (ESD).

In the IA, the quantity of this liability was calculated by the difference between the reduced emissions targets (the reduced EU ETS cap as a result of the opt-out – see sub-section 2) and the increase in NTS emissions (based on contemporary estimates of the participating installations' emissions which would be moved from the EU ETS to the non-traded sector). The change in NTS abatement effort was estimated at 1.34 million tons of CO₂ between 2013 and 2020. This quantity of abatement effort was then multiplied by the carbon price in the NTS (an average cost of £62/tCO₂ in 2013-2020, in 2012 prices) to reach the estimate of £77.1m (PV 2012 prices) in increased NTS liability costs.

5b. What have been the actual costs and benefits of the regulation and its effects on business?

The UK Penalties Regime

The Impact Assessment estimated a reduction in penalties to business of around £0.97m (2012 prices, PV), mainly as a result of a more proportionate approach to penalties by regulators when operators under report their emissions. Based on data from UK regulators we have calculated that regulator discretion (a reduction in the penalty for underreporting emissions from €100/tCO₂ to €20/tCO₂) has in practice reduced these penalties by £3.9m in Phase III, up to June 2017. This is due to more regulator discretion being applied than was originally projected in the IA. The amount of penalties issued for under reporting of emissions has been £0.2m; had there no reduction of the €100/tCO₂ penalty, penalties issued would have totalled £4.1m

To estimate a saving for the entire phase, we have used the same approach as the IA and assumed that the historical observed average of underreporting will continue for the remaining 3.5 years of the phase. Therefore, cost savings to business from reduced penalties for underreporting of emissions are now expected to be £7.0m compared to £0.97m previously estimated (2012 prices).

Appeals in England

There may be a reduction in the cost to business if the change to the appeals regime results in an increase in the proportion of written appeals and reduced costs for legal representation at oral hearings. And for hearings which may be heard orally, the location of tribunals across England means that travel costs are likely to be lower compared to oral hearings by a person appointed by the SoS, which are heard in London. Two appeals is an insufficient number from which to draw wider conclusions of the costs to business of the change to the FTT; further appeals will need to be heard for any future quantitative assessment of costs to business.

Small Emitter and Hospital Opt-out Scheme

The costs to installations as a result of EU ETS participation have been estimated as the sum of the administrative costs and compliance costs.

1) Business: admin cost saving

In order to estimate the administrative cost savings to installations in the small emitter opt-out scheme, we have used evidence from the Cost of Compliance Report, which assessed the average administrative costs of participating in the EU ETS in Phase III. The table below shows the average total costs (including one off and ongoing activities) incurred by installations by the end of the first year of Phase III.

Table 5: Average cost of compliance by emissions band for single installations

Category	Number of cases	Average cost for emissions band
Small Emitters in opt out scheme	21	£13,214
Main <25,000t CO ₂ e	18	£17,752
Main 25,000-50,000 CO ₂ e	9	£18,449
Main 50,000-500,000 CO ₂ e	15	£36,441
Main >500,000 CO ₂ e	9	£30,471

By calculating the difference between the average administrative cost of compliance for small emitters in the opt-out scheme and small emitters in the main EU ETS scheme, i.e. those installations who emitted below 25,000 tonnes of CO₂, we can work out the average saving in administrative cost of compliance for the small emitters participating in the opt-out scheme in the first compliance year. It is therefore estimated that the administrative cost savings are £4,538 per year¹³ (£4,281 in 2012 prices) per installation, with a net present value saving over the phase of £6.7m (2012 prices), which is larger than the £4.7million (2012 prices) previously estimated in the IA. However, there is a significant uncertainty associated with this result as it is based on a small sample of installations who reported their costs by the end of the first year of compliance and who responded to the survey (21 installations in the main scheme and 18 installations in the opt out scheme), and may therefore not be representative of the group as a whole.

2) Business: compliance net saving

Aside from administration costs, installations participating in the opt-out scheme also obtain savings from no longer having to purchase allowances. If these installations had stayed in the EU ETS, some of their emissions would be covered free of cost through free allocation, but the remainder would have to be fulfilled by purchasing allowances. However, in the opt-

¹³ Calculated by £17,752 minus £13,214 as shown in table 5

out scheme, installations are given an annual emissions reduction target to adhere to during the phase. If they emit above their target, they pay a penalty to the government (as opposed to buying more allowances if they were in the EU ETS). However installations in the opt-out scheme can emit up to their emissions targets free of the cost of allowances, whilst in the EU ETS they would have to purchase a significant proportion (57% of EU ETS allowances are auctioned in Phase III) of their emissions. This results in a sizeable saving to the scheme's participants from not having to purchase allowances to comply with the EU ETS.

In the IA, total net compliance cost savings were estimated to be £34.6m (PV, 2012 prices), driven mainly by installations no longer having to purchase allowances under the EU ETS (£42.0m saving). This was partially offset by penalties imposed for installations' emissions exceeding their target (estimated £7.9m costs).

However, a revised estimate value of the net compliance cost savings in the opt-out scheme is £17.1m (2012 prices). The main driver behind the downwards revision in compliance cost savings is the depressed carbon price projection compared to the trajectory used in the IA. In the IA, the average 2013-20 carbon price was estimated to be £7.07/tCO₂, but has since been revised down to £4.12/tCO₂¹⁴ in 2012 prices. With carbon prices falling significantly lower than anticipated, this has reduced the expected compliance savings from not having to purchase allowances (see tables below). As a result of the lower carbon price, the saving to participants from no longer have to purchase allowances fell from £42.0m to £26.4m.

Original set of carbon price projections used in the Impact Assessment in 2012:

Traded carbon values - 2012 projections (real 2012 £/t)								
Year	2013	2014	2015	2016	2017	2018	2019	2020
Central	£5.98	£6.24	£6.45	£6.67	£7.10	£7.55	£8.03	£8.55

Latest carbon price projections used for the PIR in 2017:

(2013-2016 values are based on historical data, 2017-2020 values are projections)

Traded carbon values - 2017 projections (real 2012 £/t)								
Year	2013	2014	2015	2016	2017	2018	2019	2020
Central	£3.48	£4.21	£4.85	£3.94	£3.97	£4.00	£4.15	£4.31

In addition, the methodology for calculating penalties has also changed since the IA. Previously, the IA estimated penalties by aggregating all the participating installations' emissions and calculating by how much this value exceeded aggregate targets of all these installations.

However, using data received from the Environment Agency, this methodology for calculating penalties incorrectly included installations which emitted below their target. The consequence of this is that the amount of penalties was underestimated in the IA's calculation. Based on the Environment Agency data and including only installations which exceeded targets, there were 1.2 million tonnes of emissions exceeding targets in 2013-16, which is almost double the 0.68 million tonnes previously projected for this period.

Therefore, compliance cost savings are reduced because of the increase in penalties paid to government for non-compliance with targets. It was previously estimated that £7.9m would be paid in penalties for exceeding targets, but a revised estimate puts this at £9.2m, based on the latest data.

¹⁴ Green Book Appraisal Guidance 2017

In the IA: compliance costs savings = **£34.6m** = (£42.0m saving from allowance purchases) – (£7.8m penalties cost)

In PIR: compliance costs savings = **£17.1m** = (£26.4m saving from allowance purchases) – (£9.2m penalties cost)

3) Government net savings

a) Penalty revenues

Based on the latest available data, the value of the penalty revenue from the small emitters opt out is now estimated to be higher than the previous IA estimate of £7.9m, at £9.2m. This can be attributed to the change in methodology in how penalties are calculated since the IA was published (see section on installations' compliance costs above, in part 2).

In the IA: Impact on government revenue: **£5.3m** = £7.9m (gain in penalties) – £2.6m (lost EU ETS auction revenue)

In PIR: Impact on government revenue: **£9.2m** = £9.2m (gain in penalties) – £0m (lost EU ETS auction revenue)

b) Auction revenues

At the time of publishing the PIR (2017), there has been no evidence to suggest that auction revenues have been changed as a result of the UK small emitter opt out scheme. Therefore it is assumed that the change in government revenues from EU ETS auctions is zero, since we have not observed any reduction in UK auction volumes after the opt-out scheme had been put in place.

3) Non-traded sector (NTS) liability

Based on the latest available data, the opt out scheme has resulted in a lower UK NTS liability than previously projected, at £61.7m (PV, 2012 prices) compared to the previous estimate of £77.1m.

The main reason for this is that the historical data shows that the emissions in the opt-out scheme, particularly during the scheme's early years, were lower than projected in the IA. This is due to a fall in the number of participants since the scheme started in 2013. The IA assumed that there would be 243 installations in the scheme throughout the whole phase. In 2013 there were 232 installations participating in the scheme, and this has fallen to 218 in 2016¹⁵, according to the latest data from the Environment Agency. We have assumed that the number of participants will remain at 218 for the rest of the Phase. Consequently the latest projections, given the lower number of installations, shows fewer emissions moved from the traded to the non-traded sector as a result of the scheme and therefore the value of the NTS liability has been revised downwards from the IA. The use of an updated set of GDP deflators, which reflect our current understanding of future inflation, have also contributed to the lower NTS liability from what was projected in the IA. The projections used for future inflation throughout the Phase have been higher in the PIR than those originally used in the IA. All other things being equal, this means that for a given future monetary cost, this is now worth less when converting this future cost into 2012 prices for the NPV figure.

In the IA: **£77.1m** = (15.9Mt Phase III emissions – 14.6Mt Phase III opt out scheme targets) * £62/tCO₂

¹⁵ This reduction is mainly due to installations in the opt-out scheme closing, while a few installations have also returned to the EU ETS because their emissions have exceeded the threshold of 25,000 tonnes of CO₂.

In the PIR: £61.7m = (15.8Mt Phase III emissions – 14.5Mt Phase III opt out scheme targets) * £60/tCO₂

6. Assessment of risks or uncertainties in evidence base / Other issues to note

We have used data obtained from the Environment Agency for the historic emissions of installations in the opt-out scheme from 2013-16. We have used this historical data to project future emissions and thus the amount of penalties for emitting above targets. This has been done by calculating the average emissions for 2013-16 and assuming that emissions in the rest of the phase follow the historical average emissions over the period 2013-16. We are making an assumption therefore that emissions in the future do not deviate significantly from historical averages. If future emissions do end up significantly different from historical average emissions, then this would change the calculated costs and benefits of the scheme.

Using the emissions data obtained from the EA, we cannot ascertain which installations have decided to set their emission reduction targets based on Phase III free allocation that they would have received in the EU ETS rather than on their historic emissions (option 2 vs option 4 in the Impact Assessment). As a result, we have modelled that the 12 installations that chose to set their emissions reduction targets using Phase III free allocation set their targets based on historic emissions levels, like the majority of installations in the opt-out scheme. Given that the number of installations opting out has fallen from 243 to 218 since the Impact Assessment was conducted, the impact should be minimal.

To estimate the administrative cost savings for installations in the opt-out scheme, we have assumed that all installations will choose risk based auditing to verify their emissions. As mentioned in section 4, we know from discussions with participants that some installations still have their emissions verified by a third party, thus foregoing a significant portion of the administrative savings offered by the scheme. However, we don't have data on the number of installations which choose risk based auditing to verify their emissions, which presents a certain degree of uncertainty as to the value of this administrative cost saving.

Despite the change in Phase III for appeals to be heard by the FTT, for legislative reasons there have been appeals heard in Phase III by a person appointed by the SoS. These appeals have been for cases relating to aviation operators which arose during Phase II in 2012, where enforcement action was subsequently undertaken by the Environment Agency in Phase III. The transposition IA didn't forecast that in Phase III aviation appeals would be heard by a person appointed by the SoS. We have not considered these cases in the assessment of the change of appeals for Phase III from a person appointed by the SoS to the FTT.

7. Lessons for future Impact Assessments

Future IAs are subject to significant uncertainties around the projected emissions and carbon prices. Carbon emissions significantly depend on the state of economy, but also there is a significant year-on-year variation in emissions by individual installations; given that the opt-out schemes cover a relatively small number of EU ETS installations, any econometric analysis of their future activities is subject to a large range of uncertainty. Similarly, carbon prices have been volatile in the recent years, reacting to such factors as weather, hedging activity in the power sector, policy announcements etc. Given these factors cannot be estimated with a degree of certainty, it is recommended to use ranges when providing final outputs, rather than point estimates.

At times, the IA was making an informed guess about certain inputs, for which there was no evidence available, for example the assumption that regulator discretion would result in a

10% reduction in penalties for under reporting of emissions in Phase III. Future IAs will have the benefit of using historic data from the EU ETS phase III, including from the small emitter opt-out scheme, resulting in more robust analytical projections.

While the IA included an assumption that there would be a start-up cost to government for judicial training for the change of the appeals regime to the FTT, the IA did not estimate that there would be an initial start-up cost to cover a number of appeals in the first year. The analysis of costs to government also assumed that the cost of a hearing would be determined by the number of days, rather than being a fixed cost.

Furthermore, in section 5b we commented that the methodology for calculating penalties has also changed since the IA. Previously, the IA estimated penalties by aggregating all the participating installations' emissions and calculating by how much this value exceeded aggregate targets of all these installations. However, using data provided by the EA, this methodology for calculating penalties incorrectly included installations which emitted below their target. The consequence of this is that the amount of penalties was underestimated in the IA's calculation. Using ranges for emissions projections could partially mitigate the risk of underestimating future emissions, revenues and penalties.

8. What next steps are proposed for the regulation (e.g. remain/renewal, amendment, removal or replacement)?

BEIS' assessment at the time of undertaking this review was that the options chosen during transposition delivered on their objectives and remained appropriate. The regulations and policies set out in this PIR will remain in place.