BIS | Department for Business Innovation & Skills

ENERGY INTENSIVE INDUSTRIES IN THE UK – MAINTAINING INTERNATIONAL COMPETITIVENESS

Compensation for the indirect costs of EU ETS and Carbon Price Support - Consultation on scheme eligibility & design

OCTOBER 2012

DEPARTMENT OF ENERGY & CLIMATE CHANGE

Contents

1. Introduction 3

2. Foreword from the Secretaries of State 6

3. How to respond 7

4. Confidentiality & Data Protection 7

5. Help with queries 8

6. The Call for Evidence 9

7. State Aid 11

8. The proposed approach 12

9. Administering the scheme 25

10. Consultation questions 28

Annex A – Eligibility Flow Chart 29

Annex B: Consultation principles 30

Annex C - Glossary 31

Compensation for the indirect costs of the Carbon Price Support Mechanism and EU ETS

1. Introduction

The UK Government is committed to reducing carbon emissions consistent with meeting legally binding targets – a reduction of greenhouse gas emissions by at least 80% by 2050. This requires a transformation of the UK economy while ensuring secure, low carbon energy supplies to 2050. At the same time Government is committed to ensuring that the UK economy remains competitive.

A key driver for investment in low carbon technologies including generation, is carbon pricing. The EU Emissions Trading System (EU ETS) has created a Europe-wide market for carbon, meaning that businesses and investors are required to factor in the price of carbon when making production and investment decisions. Emissions trading enables emission reductions to take place where the cost of the reduction is lowest, thus lowering the overall cost of tackling climate change.

One key aspect of this is the need for a transformation of electricity generation and transmission, alongside measures on heat and transport. In terms of electricity, between now and 2020, the UK requires up to £110 billion investment in electricity generation and transmission in order to reduce our greenhouse gas emissions whilst ensuring access to secure supplies of energy in the future. The Government is, therefore, committed to creating the right environment for investment in low carbon electricity generation.

A strong investment signal, through the carbon price, provides more attractive opportunities for low carbon technologies. As such, supporting the price for carbon in the UK electricity generation sector – through the Carbon Price Floor (CPF) - can reduce revenue uncertainty and improve the economics for investment in low-carbon generation.

The Carbon Price Floor

In practice, the Carbon Price Floor will be achieved through a tax levied on fossil fuel used for electricity generation. In most cases, fossil fuels currently used to generate electricity are exempt from the Climate Change Levy (CCL). The Government will remove these exemptions and tax these commodities at rates that take account of the commodities' average carbon content. Oils are not subject to CCL but fuel duty is payable at the point oils leave the refinery. Currently, the duty can be reclaimed in full by the electricity generator but, as part of the carbon price support mechanism, the Government will reduce the amount of fuel duty that can be reclaimed, in effect creating 'oils carbon price support rates'.

The Government recognises that supporting the carbon price will have a knock-on effect on the wholesale electricity price, which is likely to increase retail electricity prices in the short to medium term. Rising electricity costs can pose a key risk to the competitiveness of the most electricity-intensive businesses in the UK, particularly those which operate in internationally competitive markets and are unable to pass these costs through to consumers. These industries are critical to growth of the economy and, in many cases, employ significant numbers of people in economically deprived areas across the country.

The Government is keen to ensure that these industries remain in the UK and to support their low carbon transition, enabling them play a full part in the green economy. In many cases, it will be energy intensive industries providing the components for renewable energy generation or the materials required to lower the carbon intensity of consumer products. Furthermore, having investment in energy intensive industries occur overseas where it may otherwise have taken place in the UK is damaging to the UK economy and - in the absence of a global agreement on reducing carbon emissions – can lead to 'carbon leakage' impacting negatively on efforts to reduce global warming.

In recognition of this issue, the Government commissioned a study to compare the future energy policy costs faced by energy intensive industries in different countries[1]. Based on countries' current policies, the study highlights that, for the most electricity intensive industrial users in the UK, policy costs affecting the price of electricity may be higher over the medium term when compared with other countries, without Government intervention to alleviate some of these costs.

In the Autumn Statement on the 29 November 2011 the Chancellor announced that the Government intends to implement measures to reduce the impact of policy on the costs of electricity for the most electricity-intensive industries, beginning in 2013 and has earmarked up to £250 million for this over the Spending Review period.

As part of this the government has committed to compensate those electricity-intensive industries most at risk of carbon leakage to help offset the indirect cost of the Carbon Price Floor and the EU Emissions Trading System , subject to state aid guidelines.

Using evidence received from the March 2012 call for evidence, and taking into account the European Commission's published guidance[2] on compensation for the indirect costs of EU ETS, we have developed eligibility and aid criteria in order to target EU ETS and Carbon Price Floor compensation at those business sites which are most at risk. This consultation seeks views from the business community and other interested parties on the proposed approach.

---

[1] http://www.bis.gov.uk/assets/biscore/business-sectors/docs/i/12-527-international-policies-impacting-energy-intensive-industries.pdf

[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:158:0004:0022:EN:PDF

Issued: 05 October 2012

Respond by: 21 December 2012

Enquiries to:

Green Economy Team

Orchard 2, 4th Floor

1 Victoria Street
London
SW1H 0ET

This consultation is relevant to: businesses and trade associations; particularly those businesses that are manufacturers with energy costs that are a high proportion of their total costs. Businesses, non-governmental organisations and individuals with an interest in industrial or energy policy may also wish to respond to the consultation.

2. Foreword from the Secretaries of State

The Coalition Government's ambitious energy security and decarbonisation targets have put the UK firmly on a path towards a low-carbon economy.

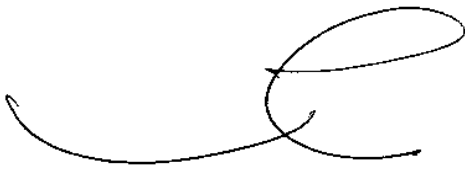
In the absence of a global agreement to mitigate climate change, however, unilateral EU and UK carbon pricing measures pose challenges for our energy intensive industries, which must remain internationally competitive as we drive down domestic emissions.

These industries, of course, have an essential role to play in achieving our transition to a low-carbon economy as well as contributing to jobs and growth. Energy intensive manufacturing is central to strengthening our industrial base and rebalancing our economy.

We have therefore introduced a £250 million package to limit the impact of our policies on such businesses. For example, the Climate Change Levy rebate on electricity for companies with Climate Change Agreements will increase to 90 per cent with effect from April 2013.

This document contains proposals, subject to state aid rules, to compensate energy intensive industries for the indirect costs of the carbon price floor and the EU Emissions Trading System, where they pose significant risk to UK competitiveness and could lead to carbon leakage.

We welcome views from all interested stakeholders on the proposed scheme, including the eligibility thresholds for compensation, so that the industries most at risk receive the necessary help. Your responses will help to ensure that both the design and administration of the scheme are fit for purpose.



Rt. Hon Dr Vince Cable MP

Secretary of State

Business, Innovation and Skills

Rt Hon Ed Davey MP

Secretary of State

Energy and Climate Change

3. How to respond

1. When responding, please state whether you are responding as an individual or representing the views of an organisation. If you are responding on behalf of an organisation, please make it clear who the organisation represents by selecting the appropriate interest group on the consultation form and, where applicable, how the views of members were assembled.

2. For your ease, you can reply to this consultation online at http://www.bis.gov.uk/assets/biscore/business-sectors/docs/e/12-1179rf-energy-intensive-industries-compensation-consultation-on-scheme-form.

3. The form can be submitted by letter or email to:

   Energy Intensive Industry Consultation

   Green Economy Team

   Orchard 2, 4th Floor

   1 Victoria Street
   London
   SW1H 0ET

   Email: mailto:energyintensiveindustries@bis.gsi.gov.uk

4. An electronic version can be found at, http://www.bis.gov.uk/Consultations/energy-intensive-industries-compensation-scheme, further information is at http://www.bis.gov.uk/policies/business-sectors/energy-intensive-industries.

4. Confidentiality & Data Protection

5. Information provided in response to this consultation, including personal information, may be subject to publication or release to other parties or to disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 (DPA) and the Environmental Information Regulations 2004). If you want information, including personal data that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

6. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

5. Help with queries

7. Questions about the policy issues raised in the document can be addressed to:

Nigel Pargiter

Green Economy Team

Orchard 2, 4th Floor

1 Victoria Street
London
SW1H 0ET

Email: energyintensiveindustries@bis.gsi.gov.uk
Tel: 020 7215 6303

6. The Call for Evidence

8. On 12 March 2012, BIS and DECC published a call for evidence on compensation for the indirect costs of the carbon price floor and EU ETS. We received 48 responses which have been useful in informing the development of the proposals set out in this consultation.

9. Responses were largely received from trade associations and energy intensive businesses. We received strong evidence from a few respondents on the need to take action on the risk of carbon leakage and deliver compensation to companies at risk. However, the responses provided no clear consensus on which metrics should be used to assess eligibility for compensation. Whilst there was considerable support for using criteria based around trade intensity and electricity intensity, a number of respondents also suggested different metrics, such as measures of 'trade exposure' .The responses reflected a range of views regarding the level at which eligibility should be assessed – i.e. at sector, company, site or process level.

10. We received comprehensive energy use and financial data from a number companies and trade associations. This data was very useful, particularly in illustrating the extent to which electricity costs are a significant issue for energy-intensive companies.

11. The call for evidence also highlighted the difficulty in collecting the data needed to calculate electricity intensity at the site or process level. Companies collate their accounts at different levels, with only some able to provide financial data at a site or process level. Companies also define sites and processes in various ways, using different boundaries. For accounting purposes, some companies consider processes which happen in different parts of the country as the same process, or as being part of the same site, if the process relates to the manufacture of the same product. In addition, companies often sell product from one business unit to another, at prices not determined by a wider market. These prices are not visible to government, further hindering our ability to understand the real costs of manufacturing at a specific site.

12. A significant number of respondents argued that data already held by the government, provided by businesses under the EU Emissions Trading System, Climate Change Agreements (CCAs) and the CRC Energy Efficiency Scheme, should be used when developing our proposals, to avoid additional burdens on business. We have utilised available data, including from CCAs, but as these sources do not include site-level financial data which could be used to determine the value of output at a given site, they cannot be used to assess electricity intensity at a process or site level.

13. With regard to scheme eligibility, it is also very difficult to draw strong conclusions from the call for evidence regarding where the risk of competitive impacts is greatest - i.e. we understand that it is those industrial sites which are both electricity intensive and trade intensive which are placed at competitive risk from increases in electricity, but **at what levels** of electricity intensity and trade intensity will indirect costs represent a serious competitive risk?

14. Given these factors, we are proposing that the eligibility for CPF compensation should primarily based at company level, rather than at process level. Furthermore, we

consider that it makes sense for the UK to base its approach to CPF compensation on the Commission's approach to indirect EU ETS compensation for the following reasons:

- The Commission has undertaken considerable analysis in assessing which sectors are at risk of carbon leakage from indirect EU ETS costs;
- The Carbon Price Floor effect is analogous to indirect EU ETS costs, largely affecting the same sectors in the same way;
- Administering the two schemes – EU ETS and CPF compensation – in broadly the same way will minimise burdens and cost for businesses and Government.

15. However, we also recognise that examining data at the aggregate sector level can mask or misrepresent the situation faced by specific sites or 'sub-sectors'. For example, some sectors which are electricity intensive overall may include companies or sites which manufacture products which are much less electricity intensive. Similarly, there may be some very electricity intensive companies operating in sectors which are, by and large, not high users of electricity. In developing our approach, we have taken this into account.

7. State Aid

16. The UK's intention to compensate energy intensive industries for the indirect costs of both the EU ETS and the carbon price support mechanism is subject to state aid rules. Under EU law, a Member State must notify the European Commission of its plans to grant new aid and should not put the aid into effect before the Commission has authorised it.

17. The UK has submitted its pre-notification for compensation of the indirect cost of the carbon price support mechanism. This will be followed by discussions with the Commission leading up to formal notification in Spring 2013. The Commission would normally conclude the preliminary examination within three months of receiving a complete notification. We anticipate that any doubts that the Commission may have about the legal nature of the scheme will be resolved during pre-notification discussions and before final notification. Our expectations are that both the EU ETS and CPF compensation schemes will receive a final decision by the Commission by the summer of 2013.

18. We expect that the Commission will authorise indirect EU ETS compensation, provided we can demonstrate that our approach falls within the Commission's published guidelines. However, it is more difficult to assess the likelihood of the Commission authorising compensation for the costs of the carbon price support mechanism. Nevertheless, we consider that the UK has a strong case for this compensation scheme, which is analogous to the Commission-backed scheme for EU ETS compensation.

8. The proposed approach

Compensation for the indirect costs of EU ETS

19. In 2005, the EU established a system for trading in greenhouse gas emission allowances (EU ETS) with the aim of reducing emissions from industry in the EU and establishing a price for each tonne of CO2 emitted. The EU ETS facilitates carbon reduction at the lowest cost to the EU economy by enabling the cheapest abatement to be funded by trading allowances with those with limited opportunity for cost effective abatement. The EU ETS Directive recognises that the trading system will increase electricity prices as a result of fossil fuel based electricity generators passing on the cost of allowances to their customers - commonly referred to as 'indirect' emission costs. The Commission, therefore, allows Member States to grant state aid in favour of sectors or subsectors deemed to be exposed to a significant risk of carbon leakage due to indirect emission costs.

20. Addressing the risk of carbon leakage serves an EU objective. In the absence of a binding international agreement on the reduction of greenhouse gas emissions this aid aims to avoid the risk of increased global greenhouse gas emissions due to shift of production from EU countries to those outside the EU that are not subject to emissions reduction targets.

21. Compensation in the context of the EU ETS Directive involves state aid. Aid for indirect emission costs may have a negative impact on the efficiency of the EU ETS if the aid given reduces the incentive for emission reduction in these sectors. In addition, compensation may result in distortions of competition in the internal market, in particular where companies in the same sector are treated differently in different Member States. The European Commission monitors and controls state aid in the EU and, in May this year, published guidelines setting out the compatibility criteria that should apply to this compensation measure.

22. In the Autumn Statement last year, the Government announced it will provide compensation for the indirect impacts of the EU ETS on electricity costs from January 2013 of up to £110 million over the Spending Review period, from existing departmental budgets. Eligibility will be based on the published Commission guidelines.

23. The guidelines provide the maximum discretion for Member States. Member States will need to interpret and transpose the guidelines. This requires policy decisions relating to a number of issues, including:

    - sector eligibility;
    - aid intensity;
    - CO2 emission factor;
    - Efficiency benchmarks.

Eligibility (See also – Annex A – Eligibility Flow Chart)

24. The Government wants to target compensation at those sectors which are most at risk of carbon leakage, based on objective and transparent criteria. In addition, the Government wants to ensure the administration of both indirect EU ETS and carbon price support mechanism compensation is as simple and efficient as possible.

25. The Commission has applied quantitative and qualitative criteria, consisting of trade intensity and cost impact measures, to assess whether sectors are deemed to be exposed to a significant risk of carbon leakage. Following this, they have specified that Member States can compensate the following sectors and sub-sectors -

SIC code	Description
27.42	Aluminium production
14.3	Mining of chemical and fertilizer minerals
24.13	Manufacture of other inorganic basic chemicals
27.43	Lead, zinc and tin production
18.1	Manufacture of leather clothes
27.1	Manufacture of basic iron and steel and of ferro-alloys[3]
21.12	Manufacture of paper and paperboard
24.15	Manufacture of fertilizers and nitrogen compounds
27.44	Copper production
24.14	Manufacture of other organic basic chemicals
17.11	Preparation and spinning of cotton-type fibres
24.7	Manufacture of man-made fibres
13.1	Mining of iron ores

[3] We are discussing with the Commission the extent to which we can compensate industrial gases within the costs of chemicals and steel (and other eligible sectors), including where such operations and costs are 'contracted out' to a separate company.

SIC code	Description
24.16	The following sub-sectors within manufacture of plastics in primary forms 24161039 – Low-density polyethylene 24161035 – Linear low-density polyethylene 24161050 – High-density polyethylene 24165130 – Polypropylene 24163010 – Polyvinyl chloride 24164040 - Polycarbonate
21.11	The following sub-sectors within manufacture of pulp 21111400 – Mechanical pulp

26. In line with the Commission's guidance, we propose that, in order to be considered for indirect EU ETS compensation a company must be in one of the above sectors. However, we are aware that within electricity intensive sectors, there will be some processes which use much less electricity and, as such, will be much less exposed to electricity price increases. In order to ensure that compensation is appropriately targeted, we propose to apply an additional filter – that companies applying for compensation must demonstrate that their carbon cost (EU ETS and CPF) in 2020 will amount to 5% of their GVA. This is based on the quantitative test which the Commission applied when developing the eligibility list[4].

27. In calculating the indirect cost for the purpose of eligibility for compensation, companies need to apply the following carbon price, emission factor and gross value added data:

- A carbon price of **£33** per tonne of CO2 equivalent. This figure is based on the CPF trajectory and 2020 the carbon price adjusted to real terms and 2007 prices.

[4] Sectors or subsectors deemed to be exposed to significant risk of carbon leakage on a quantitative basis if the intensity of trade with third countries is above 10% and the sum of indirect additional costs induced by the implementation of the ETS directive would lead to an increase in production costs, amounting to at least 5% of gross value added. Gross value added has been defined as: Earnings before interest, taxes, depreciation and amortisation and staff costs including employers' pension and national insurance contributions.

- The UK's regional emission factor of **0.58**tCO2/MWh as set out in Annex IV of the Commission's guidelines on certain state aid measures in the context of the EU ETS post 2012.[5]
- Average gross value added (GVA) data over the reference period 2005-2011 in 2007 prices. GVA is calculated as "earning before interest, taxes, depreciation and amortisation (EBITDA) plus staff costs (including employer's pension and national insurance contributions)". GVA is in real terms and calculated by adjusting nominal GVA using HMT's GDP deflator[6].

The box below shows how such a calculation should be done

Calculation of increase in production costs as a percentage of gross value added

$$\text{COST IMPACT} = \frac{\text{CONSUMPTION}\,(\text{MWh}) \times \text{PRICE IMPACT}\,(£/\text{MWh})}{\text{GVA}\,(£)}$$

Where:

- CONSUMPTION is average electricity consumption (MWh) by the company over the period 2005 to 2011
- PRICE IMPACT is the combined impact of the EU ETS and CPF in 2020, assumed to increase electricity prices by 19 £/MWh (carbon price of £33 times emission factor of 0.58) in real 2007 prices.
- GVA = Average real GVA (£) over the period 2005 to 2011 in 2007 prices.
  Where gross value added is calculated as

  Earnings before interest, taxes, depreciation and amortisation (EBITDA) plus staff costs (including employers' pension and national insurance contributions)

GVA is in real terms and calculated by adjusting nominal GVA using HMT's GDP deflator. Adjustment factors are shown in the following worked example.

[5] The Commission's calculation is based on a weighted average of carbon intensity of fossil fuels in the generation mix in the UK. We consider that this does not reflect the carbon intensity of the electricity price faced by EIIs which is driven by the marginal producer (and not the average producer) (see 'CO2 Emissions Factor' section). However, in assessing eligibility for indirect EU ETS costs, the Commission will have used their assessment of regional emissions factors. Therefore, in order to stay in line with the Commission's methodology, for the purposes of eligibility, we consider the use of 0.58 is appropriate.

[6] http://www.hm-treasury.gov.uk/data_gdp_fig.htm

.

Worked Example

A firm has the following figures for electricity consumption, EBITDA, and staff costs:

	2005	2006	2007	2008	2009	2010	2011	Average
Electricity consumption	50	50	60	60	40	40	50	**50**
EBITDA (a)	2,500	3,000	3,500	3,000	(100)	0	500	
Staff costs (b)	5,000	5,500	6,000	5,500	4,000	3,000	4,000	
GVA (a + b)	7,500	8,500	9,500	8,500	3,900	3,000	4,500	
Deflator	1.05	1.02	1	0.97	0.96	0.93	0.91	
Real GVA	7,875	8,670	9,500	8,245	3,744	2,790	4,095	**6,417**

- Step 1 – GVA in each year is calculated by summing EBITDA and staff costs. For example, in 2005 the firm had EBITDA of 2,500 with staff costs of 5,000 and had GVA of 7,500 (2,500 + 5,000)
- Step 2 – real GVA is calculated by multiplying GVA by the deflator For example, in 2005 nominal GVA of 7,500 is multiplied by 1.05 to give a real GVA (in 2007 prices) of 7,875
- Step 3 – electricity consumption and real GVA is averaged over the period. For example electricity consumption in each year is summed and divided by the number of years –
- (50 + 50 + 60 + 40 + 40 + 50) / 7 = 50
- Step 4 – the cost impact is calculated by multiplying average electricity consumption by the price impact of £19 /MWh. For example average electricity consumption of 50 × 19 = 961
- Step 5 – cost impact as a proportion of GVA is calculated by dividing the average cost impact (950) by average real GVA (6,417) = 15%

In the example above the firm has cost impact as a proportion of GVA of 15%.

Efficiency Benchmarks

28. The Commission's guidelines set out that the formula for calculating the maximum compensation payable to a company will take account of electricity consumption efficiency benchmarks for each product within an eligible (sub) sector. The Commission is in the process of developing benchmarks at 'Prodcom 8 level'[7] for specific electricity

[7] PRODCOM is the title of the EU production statistics collected at an 8 digit level. For each 4 digit NACE/SIC code, the physical volume of production during the period is reported

intensive products within the eligible sectors. These benchmarks will ensure that companies are compensated for electricity usage, based on the most efficient process for manufacturing that specific product.

29. The Commission will not develop benchmarks for all products within the eligible sectors named. This is due to a number of sector specific issues, including data limitations (for example, for some products there may be too few data points or an insufficient number of comparable plants). Where a benchmark for a specific 'Prodcom code' does not exist the Commission will set a 'fallback' value that can be used. We currently expect the Commission to publish benchmarks in Autumn 2012.

Aid intensity

30. The Commission guidelines state that the aid intensity must not exceed 85% of the eligible cost increase in 2013, 2014 and 2015, 80% of the eligible cost incurred in 2016, 2017 and 2018 and 75% of the eligible cost incurred in 2019 and 2020.

31. The Government proposes to apply these aid intensity levels.

CO2 Emission Factor

32. Commission guidelines give maximum regional CO2 emission factors to include in calculating the level of compensation and state that the same factor applies to all sources of electricity supply whether it is auto generation, electricity supply contracts or grid supply. The Commission's figure for the UK is 0.58 tCO2/MWh and is based on the average carbon content of electricity supplied by fossil fuel plants.

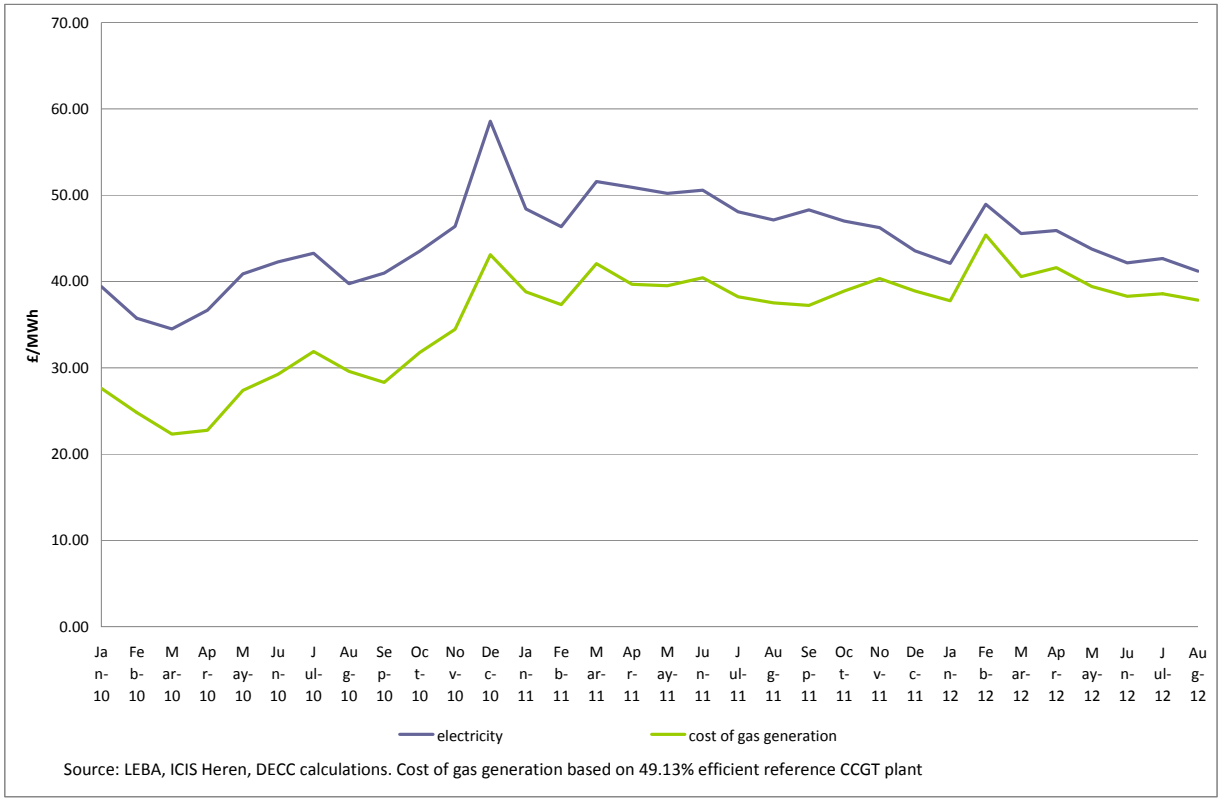
33. The purpose of this package is to compensate electricity intensive businesses for the carbon costs incorporated in the electricity price they face. In the GB market, the wholesale electricity price is generally set by the short-run variable cost (or "marginal cost") of the most-expensive generator required to meet demand. It may, therefore, be more appropriate that the relevant emissions factor for the purposes of this compensation scheme is that which is consistent with the carbon content of the marginal producer.

34. The chart below reflects the movement of historic electricity prices against those of gas and coal generation and indicates that there is generally a strong co-movement between gas and electricity prices. The narrowing of the Spark Spread[8] since October 2011 is driven by a combination of low coal fuel prices and the entry into operation of newer, more efficient combined cycle gas turbines (CCGTs) which seem to have pushed the less efficient CCGTs off the top of the merit order as they become increasingly "out of the money"[9].

[8] Spark spread is the difference between the electricity price and cost of gas generation.

[9] A plant is "out of the money" when the required price to make it profitable to run (known as the strike price) is greater than the market price.

Chart 1: Comparison of historic wholesale electricity prices and the cost of gas generation



35. Looking forward, there are strong reasons to believe that low spark spreads will not persist indefinitely. We anticipate current excess capacity margins will decline later in the decade as a result of the retirement of existing coal and nuclear plants. Decisions to retire coal plants will be influenced by a number of factors such as the carbon price and underlying commodity prices. Tighter margins should lead to an increase in the baseload wholesale price, and a wider clean spark spread. In the longer term, we expect the amount of nuclear and wind generation to increase, which has a lower marginal cost than gas-fired generation. This means that as the amount of this type of generation increases, gas-fired generation will dispatch less, and set the price less often. However, for the time period over which compensation will be paid (i.e. to 2015), we believe it is a reasonable assumption that gas will continue to be the marginal producer.

36. Government proposes therefore to use an emissions factor different to the Commission's assessment of 0.58 tCO2/MWh, as this reflects the average carbon intensity of the grid rather than the carbon intensity of the price electricity consumers actually face. The industry-recognised reference plant for calculating clean 'spark spreads' has a marginal emission factor of 0.411 tCO2/MWh[10]. As such, this should be

[10] In the UK spark spread products are regularly traded by market participants. These spreads are calculated on the basis of a **reference plant** to represent gas fired electricity generation. An efficiency of 49.13% is used as standard in the UK. This translates into an emissions factor of **0.411 tCO_2/MWh** which is used to calculate the clean spark spread i.e. Clean Spark Spread = Spark Spread – (Carbon Price*0.411).

a closer reflection of the indirect carbon costs faced by businesses in the UK. We are seeking stakeholder views on this issue.

Question 1: Do you agree with the approach of using an emissions factor which is based on gas-generated power being the marginal producer of electricity? If not, please give your reasons why with supporting evidence?

Aid amount calculation

37. The guidelines state that the maximum compensation payable per installation for the manufacture of products within the sectors and subsectors eligible must be calculated according to the following formula.

a. Where published electricity consumption efficiency benchmarks are applicable to the products manufactured by the beneficiary, the maximum aid payable per installation for costs incurred in year t will equal:

BOX 1 - MAXIMUM COMPENSATION AMOUNT CALCULATION
Amaxt = Ai t × C t × P t-1 × E × BO In this formula, Ai t is the aid intensity at year t, expressed as a fraction (e.g. 0.8); C t is the applicable CO 2 emission factor (0.411) at year t; P t-1 is the EUA forward price at year t-1 (EUR/tCO 2); E is the applicable product-specific electricity consumption efficiency benchmark[11]; and BO is the baseline output.

b. Where there is no published benchmark applicable to the products manufactured by the beneficiary, the maximum aid payable per installation for costs incurred in year t equals:

BOX 2 - MAXIMUM COMPENSATION AMOUNT CALCULATION
Amaxt = Ai t × C t × P t-1 × EF × BEC In this formula, Ai t is the aid intensity at year t, expressed as a fraction (e.g. 0.8); C t is the applicable CO 2 emission factor (0.411) at year t; P t-1 is the EUA forward price at year t-1 (EUR/tCO 2); EF is the fall-back electricity consumption efficiency benchmark; and BEC is the baseline electricity

[11] Each sector / sub-sector has a defined benchmark which reduces aid further. For sectors which do not have a specific benchmark, a 'fall-back' benchmark will be used (70%)

consumption (MWh).

Question 2: Do you agree with the proposed approach to eligibility for EU ETS compensation? If not, please give your reasons why?

Compensation for the Indirect costs of the Carbon Price Support Mechanism

38. The Government has introduced a carbon price support mechanism to support the price for carbon in the UK electricity generation sector thereby reducing revenue uncertainty and improve the economics of investment in low-carbon generation.

39. Government is implementing the carbon price support mechanism via the removal of the climate change levy exemption relating to fossil fuels used in UK electricity generation starting in April 2013. The levels of the carbon price support mechanism are £4.94 and £9.55 per tonne of CO2 for 2013/14 and 2014/15 respectively, with the aim to have a combined EU ETS and support price of £30/tCO2 in 2020 (2009 prices).

40. In the Autumn Statement 2011, the Government also recognised the risk of carbon leakage as a result of the carbon price support mechanism and announced it will provide up to £100 million over the Spending Review period to mitigate the impacts of it on electricity costs to businesses that are electricity intensive and operate in internationally competitive markets from April 2013.

41. This compensation is subject to relevant state aid rules. BIS has submitted the state aid pre-notification to the European Commission and will discuss the case with the Commission over the coming months.

Eligibility (See also – Annex A – Eligibility Flow Chart)

42. To determine eligibility for compensation of the indirect cost of the carbon price support mechanism, we propose to take the same approach as set out for indirect EU ETS cost compensation above. Given the Commission's work in this area, and the close analogy between how ETS and CPF costs affect businesses, we consider this to be a reasonable approach.

43. Therefore, we propose that the eligibility for compensation for the indirect costs of the Carbon Price Floor should be as follows.

SIC code	Description
27.42	Aluminium production
14.3	Mining of chemical and fertilizer minerals
24.13	Manufacture of other inorganic basic chemicals
27.43	Lead, zinc and tin production
18.1	Manufacture of leather clothes
27.1	Manufacture of basic iron and steel and of ferro-alloys
21.12	Manufacture of paper and paperboard
24.15	Manufacture of fertilizers and nitrogen compounds
27.44	Copper production
24.14	Manufacture of other organic basic chemicals
17.11	Preparation and spinning of cotton-type fibres
24.7	Manufacture of man-made fibres
13.1	Mining of iron ores
24.16	The following sub-sectors within manufacture of plastics in primary forms 24161039 – Low-density polyethylene 24161035 – Linear low-density polyethylene 24161050 – High-density polyethylene 24165130 – Polypropylene 24163010 – Polyvinyl chloride 24164040 - Polycarbonate
21.11	The following sub-sectors within manufacture of pulp 21111400 – Mechanical pulp

44. Mirroring eligibility for EU ETS compensation, companies in the above sectors will be eligible for compensation provided they can demonstrate that their carbon cost (EU ETS and CPF[12]) in 2020 will amount to 5% of their GVA[13].

45. However, whilst the indirect costs of EU ETS may affect a company's competitiveness when compared with sites outside Europe, it is possible that CPF costs could affect competition between sites within Europe. With this in mind, we want to ensure that sectors or sub-sectors who are not on the EU ETS eligibility list, but who may be at risk from CPF costs have the opportunity to make their case for inclusion for the purposes of CPF compensation.

46. Therefore, if a company or trade association operating within a sector not named on the eligibility list can provide Government with firm evidence in favour of eligibility, the Government will consider putting the case for inclusion to the Commission at formal state aid notification stage. In order to demonstrate that a company within a sector is at risk within the UK, we would require quantitative evidence as part of this consultation of the following:

- Evidence that shows that the company's carbon costs (CPF and EU ETS) in 2020 will amount to at least 5% of GVA.
- Evidence that the product is significantly traded within (or beyond) Europe or that imports would become more economically viable as a result of increased carbon costs.

Question 3. Are there companies which are not on the eligibility list which would meet this test? Please provide evidence?

Aid calculation

47. We propose that the level of compensation will mirror the Commission's calculation for indirect EU ETS cost compensation. However, for the purposes of calculating aid, we propose not to apply the efficiency benchmarks. This is due to concern that the application of benchmarks could increase distortion between costs in the UK and the rest of Europe. With less than 100% compensation (85% aid intensity – see below) and with benchmarks based on the electricity usage of the newest and most efficient plant, there would be a risk that some companies in the UK would continue to face significant costs when compared with counterparts in Europe. This would particularly be the case for sectors without published efficiency benchmarks and where a fallback benchmark would be applied[14] (see also – Energy Efficiency section below).

---

[12] Cost of carbon should be assumed to be £33 tCO2, translating to £19 per MWh with an emissions factor of 0.58 tCO2/MWh. Cost / value information supplied will need to have been audited.

[13] GVA defined as earnings before interest, taxes, depreciation and amortisation and staff costs including employers' pension and national insurance contributions (in real 2007 prices and averaged over the period 2005-2011)

[14] The Commission's fallback benchmark will result in applicants being compensated for a proportion of their electricity – i.e. less than 100%. This level has yet to be decided by the Commission.

48. In line with the EU ETS approach, we propose an aid intensity of 85% for 2013 -15[15] and the proposed carbon intensity figure of 0.411.

BOX 2 - MAXIMUM COMPENSATION AMOUNT CALCULATION

The maximum compensation payable is calculated according to the following formula - Cmaxt = Ai × C t × Pcpsm t x BEC

In this formula, Ai is the aid intensity of 0.8; C t is the applicable CO 2 emission factor (tCO 2 /MWh) (at year t); and Pcpsm is the level of the carbon price support mechanism at year t (£/tCO 2). BEC is the baseline electricity consumption (MWh).

49. This approach, including issues such as the application of benchmarks, will be subject to the views of the Commission. As such, elements of the approach may change.

Question 4: Do you agree with the proposed approach to eligibility for CPF compensation? If not, please give your reasons why?

Environmental Objectives

50. In designing compensation for the indirect costs of EU ETS and CPF, Government has been keen to ensure that environmental objectives are fully considered. This includes consideration of how greater energy efficiency might be further incentivised by the presence of compensation and how potential perverse incentives can be avoided, such as eligibility conditions which could drive greater electricity usage or poor energy efficiency.

51. The incentives for greater energy efficiency are already strong for many energy intensive industries, as energy costs represent a significant element of their overall costs. The presence of an aid intensity which is at a level of less than 100% and which reduces over time will mean that eligible companies will continue to pay a proportion of the additional passed-through costs from EU ETS and CPF. As such, there remains a further incentive for firms to continue to examine ways to become more energy efficient. For EU ETS compensation, we will also be applying efficiency benchmarks. The benchmarks have been developed by the Commission and are based on the most efficient process for manufacturing that specific product. Companies with processes below the very best level of energy efficiency will, as a result, find that their compensation is further reduced.

52. Many Energy Intensive Industries also sign up to voluntary Climate Change Agreements, which set out stretching energy efficiency targets in return for relief from the Climate Change Levy.

[15] Funding for CPF compensation has not been agreed beyond this Spending review period.

53. Overall, we consider that the inherent nature of energy intensive industries, combined with the Government's policy framework, will continue to drive greater energy efficiency and carbon reduction amongst those companies eligible for ETS and CPF compensation.

9. Administering the scheme

54. State aid law requires Member States to submit annual reports to the Commission. In its guidelines for indirect EU ETS compensation, the Commission sets out the information required from Member States. Therefore, the UK Government will require information from businesses in order to fulfil its obligations to the Commission and to enable Government to process the applications for indirect EU ETS and CPF cost compensation.

55. Since both the indirect EU ETS cost compensation and carbon price support mechanism cost compensation schemes are similar, the Government proposes that the information requirements and application process will be the same.

Frequency

56. The guidelines enable Member States to pay compensation in the year in which the costs are incurred or in the following year. In case of the latter, the Commission requires Member States to put in place an ex-post payment adjustment mechanism to ensure that any over-payment of compensation will be repaid.

57. The Government proposes to pay EU ETS and CPF compensation in arrears – i.e. after the costs have been incurred. This avoids establishing a complex mechanism that would be administratively costly for both eligible companies and Government.

58. However, Government understands that paying compensation after the costs are incurred can cause cash-flow difficulties for companies. Therefore, we propose to process applications on a quarterly basis.

Question 5: Do you agree with the proposal to pay compensation in arrears and on a quarterly basis? If not, please give your reasons why?

Information Obligations

59. The guidelines require Member States to use either baseline outputs where there is an applicable product-specific electricity consumption efficiency benchmark or baseline electricity consumption where there is no product-specific benchmark. In the latter the case, the guidelines stipulate that a fall-back electricity consumption efficiency benchmark will be applied.

Products with a benchmark

60. The guidelines define '*baseline output*" as the average production in tonnes per year at the installation over the reference period 2005- 2011 for installations operating every year from 2005 to 2011. A given calendar year (e.g. 2009) may be excluded from this seven-year reference period. With regard to new companies or installations, if an installation did not operate for at least one year from 2005 to 2011, then the baseline output will be defined as yearly production until there are four years of operation on record. Once there are four years of historic production on record, 'baseline output' will be calculated as the average of the three years preceding the aid-granting period.

61. If, over the aid granting period, production capacity at an installation is significantly extended within the meaning of the Commission's guidelines, the baseline output can

be increased in proportion to that capacity extension. The definition of a significant capacity extension is set out in the Commission's guidelines.

62. If an installation reduces its production level in a given calendar year by 50 % to 75 % compared to the baseline output, the installation will only receive half of the aid amount corresponding to the baseline output. If an installation reduces its production level in a given calendar year by 75 % to 90 % compared to the baseline output, the installation will only receive 25 % of the aid amount corresponding to the baseline output. If an installation reduces its production level in a given calendar year by 90% or more compared to the baseline output, the installation will receive no aid.

Products without a benchmark and where a benchmark is not being used (e.g. in CPF compensation calculation).

63. The guidelines define 'baseline electricity consumption' as the average electricity consumption in MWh at the installation (including electricity consumption for the production of out-sourced products eligible for aid) over the reference period 2005-2011 for installations operating every year from 2005 to 2011. A given calendar year (e.g. 2009) may be excluded from that seven-year reference period.

64. With regard to new companies or installations, if an installation did not operate for at least one year from 2005 to 2011, then the baseline electricity consumption will be defined as yearly consumption until there are four years of operation on record. Once there are four years of historic production on record, 'baseline electricity consumption' will be calculated as the average of the three years preceding the aid-granting period.

65. If, over the aid granting period, an installation significantly extends its production capacity, the baseline electricity consumption can be increased in proportion to this capacity extension. The definition of a significant capacity extension is set out in the Commission's guidelines.

66. If an installation reduces its production level in a given calendar year by 50 % to 75 % compared to the baseline output, the installation will only receive half of the aid amount corresponding to the baseline electricity consumption. If an installation reduces its production level in a given calendar year by 75 % to 90 % compared to the baseline output, the installation will only receive 25 % of the aid amount corresponding to the baseline electricity consumption. If an installation reduces its production level in a given calendar year by 90 % or more compared to the baseline output, the installation will receive no aid.

67. Therefore, in order to process applications from eligible companies for the first time, companies will need to provide their baseline output or baseline electricity consumption over the period 2005 to 2011 in accordance with the definitions above.

68. To process applications for compensation, the UK Government will require applicants to submit the following information. Financial and cost data will be on the basis of audited accounts.

- The name of the applicant and the installations under its ownership which its seeks compensation for;

- The sectors(s) or subsector(s) the business is active in;
- The quarter the applicant seeks compensation for;
- The baseline output for each installation in the relevant sector the applicant seeks compensation for;
- Any significant capacity extensions or reductions, where relevant;
- Yearly production for each installation in the relevant sector for each of the years used to determine the baseline output;
- Quarterly production for each installation in the relevant (sub)sector the applicant seeks compensation for, for the quarter for which compensation is being applied for;
- Yearly production of other products manufactured by each installation the applicant seeks compensation for and not already covered by the electricity consumption efficiency benchmarks for each of the years used to determine the baseline output;
- The baseline electricity consumption for each aided installation (if any aid is given using a fall back electricity consumption efficiency benchmark);
- Yearly electricity consumption for each of the years used to determine the baseline electricity consumption (if any aid is given using a fall back electricity consumption efficiency benchmark);
- Yearly electricity consumption of the installation for the year for which aid is being paid (if any aid is given using a fall back electricity consumption efficiency benchmark).
- Confirmation that electricity consumption was not from renewable sources

Scheme Guidelines

69. More detailed information on the administration and application process will be set out in the guidance to be published next year. This will include a further explanation of how information will be submitted, auditing and verification arrangements and which organisation will administer the compensation scheme.

10. Consultation questions

Question 1: Do you agree with the approach of using an emissions factor which is based on gas-generated power being the marginal producer of electricity? If not, please give your reasons why with supporting evidence?

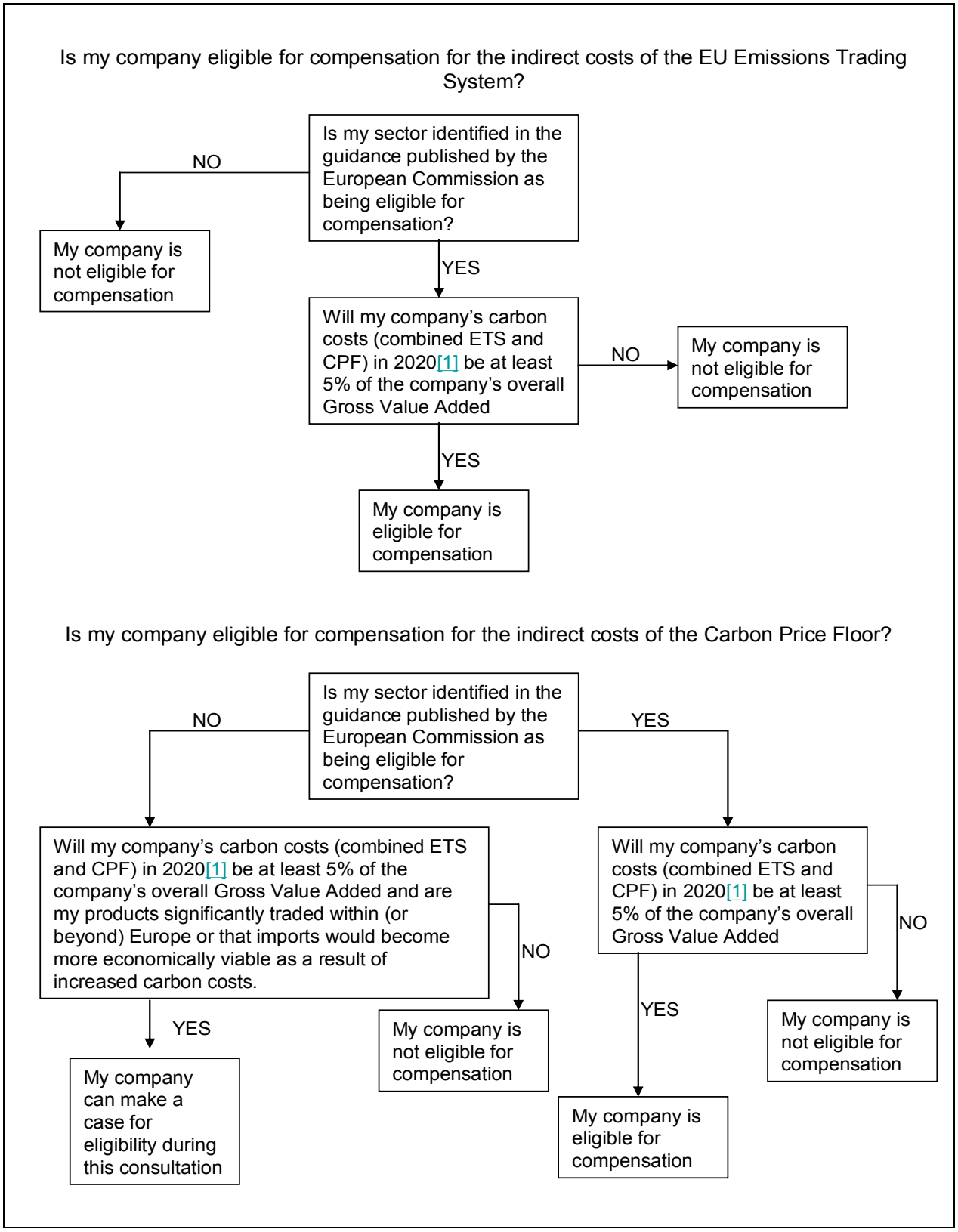
Question 2: Do you agree with the proposed approach to eligibility for ETS compensation? If not, please give your reasons why?

Question 3: Are there companies which are not on the eligibility list which would meet this test? Please provide evidence?

Question 4: Do you agree with the proposed approach to eligibility for CPF compensation? If not, please give your reasons why?

Question 5: Do you agree with the proposal to pay compensation in arrears and on a quarterly basis? If not, please you give your reasons why?

Annex A – Eligibility Flow Chart



Annex B: Consultation principles

The principles that Government departments and other public bodies should adopt for engaging stakeholders when developing policy and legislation are set out in the consultation principles.

http://www.cabinetoffice.gov.uk/sites/default/files/resources/Consultation-Principles.pdf

Comments or complaints

If you wish to comment on the conduct of this consultation or make a complaint about the way this consultation has been conducted, please write to:

John Conway,
BIS Consultation Co-ordinator,
1 Victoria Street,
London
SW1H 0ET

Telephone John on 020 7215 6402
or e-mail to: john.conway@bis.gsi.gov.uk

Annex C - Glossary

Aid intensity – The percentage of the costs faced that compensation will be paid at. The Commission guidelines state that the aid intensity must not exceed 85% of the eligible cost increase in 2013, 2014 and 2015, 80% of the eligible cost incurred in 2016, 2017 and 2018 and 75% of the eligible cost incurred in 2019 and 2020.

Baseline output – Tn tonnes per year, means the average production at the installation over the reference period 2005- 2011 (*baseline output*) for installations operating every year from 2005 to 2011.

Baseline electricity consumption – **I**n MWh, means the average electricity consumption at the installation (including electricity consumption for the production of out-sourced products eligible for aid) over the reference period 2005- 2011 (*baseline electricity consumption*) for installations operating every year from 2005 to 2011

Note – Full definitions of both baseline output and baseline electricity consumption can be found at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:158:0004:0022:EN:PDF

Carbon leakage – The relocation of investment or production outside the UK, and other EU countries, because of the price of carbon with an associated increase in global emissions.

Carbon Price Floor – The higher the carbon price, the more attractive investments in low carbon technologies become. As such, supporting the price for carbon in the UK electricity generation sector – through the Carbon Price Floor (CPF) - can reduce revenue uncertainty and improve the economics for investment in low-carbon generation.

Climate Change Agreements (CCA) – Voluntary agreements between government and energy intensive sectors which allow a discount from the Climate Change Levy in return for meeting energy-efficiency or carbon saving targets.

CO2 emissions factor – A measure of the amount of carbon dioxide emitted per unit of electricity generated.

CRC Energy Efficiency Scheme – Is a mandatory energy efficiency scheme for large public and private sector organisations, which uses a range drivers to incentivise the uptake of energy efficiency measures.

Electricity consumption efficiency benchmark – In MWh/tonne of output and defined at Prodcom 8 level, means the product-specific electricity consumption per tonne of output achieved by the most electricity-efficient methods of production for the product considered.

Electricity intensity – The percentage of electricity consumed as a proportion of GVA.

EU ETS – A Europe-wide cap and trade system that sets an overall cap on the total emissions allowed from all the installations covered by the System but allows trading of allowances so that the carbon price is determined by the market and emissions can be reduced at lowest cost.

Fall back electricity consumption efficiency benchmark – Per cent of baseline electricity consumption. This parameter shall be determined via a Commission decision together with the electricity consumption efficiency benchmarks. It corresponds to the average reduction effort imposed by the application of the electricity consumption efficiency benchmarks (benchmark electricity consumption/*ex-ante* electricity consumption). It is applied for all products which fall within eligible sectors or subsectors, but for which an electricity consumption efficiency benchmark is not defined.

GVA (Gross Value Added) – Measured as; earnings before interest, taxes, depreciation and amortisation and staff costs including employers' pension and national insurance contributions.

PRODCOM – The EU production statistics collected at an 8 digit level. For each 4 digit NACE/SIC code, it is the physical volume of production during the period is reported

Significant capacity extension – Significant increase in an installation's initial installed capacity whereby: one or more identifiable physical changes relating to its technical configuration and functioning take place other than the mere replacement of an existing production line, and the installation can be operated at a capacity that is at least 10 % higher compared to the installation's initial installed capacity before the change and it results from a physical capital investment (or a series of incremental physical capital investments).

Spending Review period – The five-year period, starting in 2010, which set financial budgets for government departments through to the financial year 2014-15.

State aid – Assistance from a public body, or publicly-funded body, given to selected undertakings (any entity which puts goods or services on the given market), which has the potential to distort competition and affect trade between member states of the European Union. The European Commission monitors and controls State Aid in the EU. Member States are obliged to notify and seek approval from the Commission before granting State Aid. This gives the Commission the opportunity to approve or refuse to approve the proposed measure.

This publication is also available on our website at www.bis.gov.uk

Any enquiries regarding this publication should be sent to:

Department for Business, Innovation and Skills
1 Victoria Street
London SW1H 0ET
Tel: 020 7215 5000

If you require this publication in an alternative format, email enquiries@bis.gsi.gov.uk, or call 020 7215 5000.

URN 12/1179