techUK

Briefing notes
Inclusion criteria for Phase III of EU ETS

These briefing notes have been put together after a round table workshop with DECC during which they confirmed the exact qualification criteria for EU ETS Phase III. We also outlined a number of scenarios so that we could understand the implications at a practical level. These notes do not cover generic information on EU ETS: for general information please refer to the accompanying slide set kindly provided by DECC which provides a comprehensive overview of EU ETS.

These notes cover:

1 Inclusion criteria – a site requires a permit under EU ETS if

- It performs one of the activities listed in Annexe I to the EU ETS Directive
- The total combustion capacity is greater than 20MW (thermal) **AND** this 20MW is reached by aggregating all combustion units with an individual capacity greater than 3MW (thermal). Here's the relevant wording:

Inclusion Criteria

- ***Any installation where fuel (other than 97% or more biomass) is burned in a combustion unit of 3MWth or above for whatever purpose and which when aggregated together exceeds 20MWth input is caught by Phase III.***
- ***All types*** *of boilers, burners, turbines, heaters, furnaces, calciners, kilns and in particular, ovens, fryers, dryers, engines, fuel cells, chemical looping combustion units, flares, thermal or catalytic post-combustion units etc are now captured.*
- ***Stand-by generation or boiler capacity should be included*** *in the aggregation calculation provided that it is technically feasible for them to be run concurrently with the rest of the capacity.*

2 Notes on inclusion criteria

The Environment Agency guidance "EU ETS Regulatory Guidance for stationary installations (including excluded installations)" provides further information and examples on the points discussed (sections 4-13 discusses the inclusion criteria, standby capacity and the definition of an operator).

The following are provided as a guide only. If you are in any doubt as to whether your site is covered by the EU ETS you should contact the regulator for your area. Contact details for all UK regulators are set out in section 8 below.

Capacity vs. emissions:

- EU ETS inclusion is based on generating **CAPACITY**, not usage, so if a facility meets the threshold it is covered by EU ETS, even if the actual emissions are tiny.

Generator array – aggregating capacity at each site

- If a generating array comprises generators all below 1MW then it is unlikely that the site will be caught, although it is **essential** to check the thermal capacity of those generators to be sure.
- If a site has seven standby generators each of which is 3.01MW thermal capacity then you are caught by the scheme and cannot operate that site without an EU ETS permit.
- If your site has six standby generators each of which is 3.01MW thermal then your aggregate is below 20MW and you are not caught by the scheme.
- If your site has six standby generators each of which is 3.01 MW thermal plus six generators each of which is 2.99 MW thermal then that site is NOT obliged under the scheme (because the generators above 3MW don't add up to 20MW).
- If your site has 100 standby generators that are each below 3MW thermal capacity then you are NOT obliged under EU ETS, even though your generating capacity is much higher. The same would technically be true in the unlikely event that you had 1000 such generators.
- For those sites that exceed the 20MW threshold when units of 3MW and above have been aggregated, when calculating the EU ETS liability (the emissions that need to be paid for under the scheme) ALL combustion is covered (including units less than 3MW).

Thermal capacity vs electrical capacity

- Thermal input capacity is generally much greater than electrical output capacity for a generator. As a rough rule of thumb, it is approximately 3 x electrical output capacity. So a 3MW thermal input capacity generator is likely to equate to a generator of approximately 1MW electrical output capacity. A 10MVA site could have standby generating capacity of around 30MW thermal.
- The exact ratio between thermal and electrical generating capacity varies depending on the efficiency of the generator and the type of fuel used.
- This means that sites with generating capacity of around 8MVA and above may be caught by EU ETS depending on the nature of their generator array.

Standby capacity

- Standby generation **IS** included in assessing generating capacity provided it can be operated at the same time as other power provision used by the site. Data centre standby generating power **IS** therefore included.

Duplication with CRC

- Where sites are also covered by CRC, the emissions associated with EU ETS are excluded from CRC. In data centres, this means that utility power (grid electricity) is covered by CRC and generator power is covered by EU ETS. Operators with sites covered by EU ETS will have to comply with both schemes.
- Any emissions under EU ETS do not have to be reported in CRC (although in practice for data centres this doesn't mean much, as those emissions will be tiny).
- As set out in the CRC Order 2013 which came into force on 20 May 2013, energy supplied to CCA facilities or to EU ETS installations will be removed from the CRC scheme from the beginning of its second phase, in April 2014, irrespective of whether they are self-supplied or supplied via a third party. It is for the participant to understand where the boundaries of CCA or EU ETS are, and what energy goes to CRC.

Duplication with CCA

- The Government has decided to proceed with split targets. The new CCA Scheme establishes two elements: Emissions within a CCA and covered by the EU ETS (not subject to a CCA target), and
- A negotiated CCA target covering non-EU ETS emissions and electricity.
- Operators will need to meet both their obligations under EU ETS as well as meet their CCA target in order to receive the CCL discount. The CCL discount will apply to both EU ETS and non-EU ETS fuels.

Site characteristics:

- EU ETS is based on installations, or sites. EU ETS obligation is therefore not based on the aggregate generating capacity of a company but that of each individual installation
- A company may have one or many EU ETS installations
- EU ETS applies to the **operator** of the site, not the owner

Section 13 of the Environment Agency guidance "EU ETS Regulatory Guidance for stationary installations (including excluded installations)" highlights the different questions that an operator must ask to determine whether they meet the definition of operator in EU ETS. To summarise, the operator has got to be able to demonstrate that they have control over the installation and the ability to ensure compliance. The guidance also provides additional worked examples.

So ....

- A site owned by one company with four units leased to different operators, each of whom is responsible for the backup power for their unit, would most likely be considered as four installations and the generating power would be aggregated individually, not collectively.
- But a site owned by four companies with four units all leased to the same operator who is responsible for backup power for all four units would most likely be regarded as one installation and the generating power would be aggregated collectively, not individually.
- In complex areas like these it is best to check with the relevant regulator!

3 Costs of compliance

The Environment Agency charge operators in EU ETS (and the opt-out scheme) for compliance activities. The charge for these activities is dependent on the emissions associated with the

installation. The Environment Agency guidance document "European Emissions Trading System charging scheme advice" explains what activities are chargeable and how much they are.

For a large data centre which has generated 530,000 KWh of power test firing its generators over a year (this would have required approximately 50,000 litres of fuel), the compliance costs are as follows:

Conversion factor for CO_2 emissions is 0.27857kg CO_2 per KWh of gas oil (or 3.0595 per litre). This means that the facility would have generated about 150 tonnes of CO_2 in that year. The current EU ETS price for carbon is €3 per tonne of CO_2e. So the cost of buying the necessary allowances would be €450 or approximately £370.

HOWEVER to that cost you would need to add:

1. The cost payable to the EA of registering for a permit -£1,340 - £5,970. In this example the cost of a new permit would be £1,340.
2. The cost payable to the EA for annual subsistence fee -£980 - £4,080. In this example the annual subsistence would be £2,550.
3. The cost to apply for free allowances from the New Entrant Reserve (if eligible because you have a new site or have increased capacity at an existing site) is £1,120.
4. The cost of a verifier to validate your emissions reporting – third party verifiers set their own rates
5. Costs associated with trading will vary. Some trading costs are included in the subsistence fee.

The only fee that is annual is the subsistence fee. Other fees are once per phase.

Intellect's initial estimates suggest that the cost of allowances for a large data centre with a generator array that falls under the EU ETS criteria would be in the region of £300-£500 per year, and the cost of administration in fees would approach £10,000, depending on the characteristics of the site and the charges levied by third parties such as verifiers. These costs exclude any internal costs that have to be met by companies. This indicates that, per tonne of carbon, the cost of administration will be many times the cost of allowances.

4 Costs of non-compliance.

Non-compliance with the EU ETS will attract a civil penalty. The civil penalties are defined in Part 7 of the Greenhouse Gas Emissions Trading Scheme Regulations 2012. Breaches for which civil penalties can be applied include carrying out an EU ETS activity (Annex 1 activity) without a permit. The civil penalties have been designed to ensure that the cost of non-compliance will always outweigh the cost of compliance. Consequently, it is a good idea to check that your sites are in compliance with the rules of the EU ETS where this is required.

5 Small Emitter exemption

In 2012 eligible small emitters and hospitals were given an option to join an opt-out scheme, under which they face targets to deliver emission reductions at an equivalent level to the EU ETS. The costs associated with the scheme are lower than for the full EU ETS, but operators are still required to monitor and report their emissions, register for a permit and pay an annual subsistence charge to the EA. Eligible installations to join the opt out scheme were those that met the criteria for exclusion and were carrying out a Phase II Annex I activity before 30 June 2011)

The EU ETS Directive does not permit new entrants to the small emitter opt-out scheme. There will therefore be NO further small emitter exemptions in Phase III of EU ETS, which runs to the end of 2020.

6 How to find out if you are obliged under EU ETS

a) Assess your generator array for each site. Check the thermal input capacity rating. If there is no thermal capacity rating then you need to check the efficiency against the electrical capacity rating to give you thermal capacity.

b) Aggregate all those generators with thermal input capacity greater than 3MW to see if they exceed 20MW at any site. If they do then that site is obliged under EU ETS Phase III.

7 What to do next if you think a site is covered or are still not sure

a) Check what your emissions actually are for the gas oil you have burned in your generators over the previous year at that site. You need to include all your generators for sites that are caught, not just the ones that are above 3MW. This will give you an indication of the likely number of carbon allowances you will need to buy.

b) Check your interpretation with your energy consultants and legal advisors.

c) Talk to the relevant regulator (Environment Agency in England). The EA has been aware for some time that there may be compliance issues within the data centre sector so it is better to be proactive.

d) Tell us at Intellect what you are doing – if more than one company is affected we may be able to help collectively. We will also be collating evidence on the carbon cost of allowances compared to costs for paperwork.

8 Contacts:

- DECC EU ETS web pages: https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/eu-emissions-trading-system-eu-ets
- DECC EU ETS mailbox: eu.ets@decc.gsi.gov.uk
- Environment Agency EU ETS web pages: http://www.environment-agency.gov.uk/EU ETS
- The UK EU ETS Regulators:
    - Environment Agency are responsible for operators in England: ethelp@environment-agency.gov.uk
    - Natural Resources Wales are responsible for operators in Wales: GHGhelp@naturalresourceswales.gov.uk
    - Scottish Environment Protection Agency (SEPA) are responsible for operators in Scotland: emission.trading@sepa.org.uk
    - Northern Ireland Environment Agency (NIEA) are responsible for operator in Northern Ireland: emissions.trading@doeni.gov.uk
    - DECC offshore are responsible for installations located offshore (UK-wide): emt@decc.gsi.gov.uk

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