



Position paper on Benchmarking and allocation rules in phase III of the EU Emissions Trading System

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About Climate Action Network Europe

Established in 1987, Climate Action Network Europe (CAN-Europe) is recognised as Europe's leading network working on climate and energy issues. With 129 member organisations in 25 European countries, CAN-Europe unites to work to prevent dangerous climate change and promote sustainable energy and environment policy in Europe. CAN-Europe is part of CAN-International a worldwide network more than 500 Non-Governmental Organizations (NGOs) working to promote government, private sector and individual action to limit human-induced climate change to ecologically sustainable levels. CAN is based on trust, openness and democracy.

The vision of CAN is a world striving actively towards and achieving the protection of the global climate in a manner that promotes equity and social justice between peoples, sustainable development of all communities, and protection of the global environment. CAN unites to work towards this vision.

CAN's mission is to support and empower civil society organisations to influence the design and development of an effective global strategy to reduce greenhouse gas emissions and ensure its implementation at international, national and local levels in the promotion of equity and sustainable development.

Since the inception of the EU Emissions Trading System in 2001, CAN-Europe has been an active stakeholder in the political negotiations leading to this directive and its reviews as well as the actual implementation of this greenhouse gas emission trading system in the EU.

CAN-Europe is committed to fight for an adequate and effective EU Emissions Trading System consistent with its main goal of avoiding dangerous climate change.

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If you want to know more about CAN-Europe, its membership and its activities, we invite you to visit our webpage: www.climnet.org

1. Foreword

In December 2008 all European institutions agreed on a major reform of the European Emissions Trading System (EU ETS). Those changes to Europe's climate protection flagship will have to be implemented before the start of the 3rd trading period of the EU ETS (2013-2020).

This position paper is part of the European NGOs' contribution to the comitology procedure implementing the provisions of the reviewed EU Emissions Trading directive on benchmarking and EU-wide allocation rules. We expect a draft decision, prepared by EU national experts and the European Commission, to be presented to the Council and the European Parliament before the summer of 2010, with the aim of having a final decision before the end of 2010.

European NGOs have always endorsed an emission trading system based on 100% auctioning of allowances as the best way to generate a visible carbon price through the production and consumption chain. By now it is also clear that auctioning is the simplest and most transparent way to allocate allowances. Therefore, auctioning of allowances will be an important part of the allocation methodology after 2012.

However, for some sectors, free allocation will still be applied after 2012.

These uniform EU-wide allocation rules for free allowances will be based on benchmarks. European benchmarks, if they are ambitious, can be a major driving force towards a profitable, innovative and greenhouse-gas efficient manufacturing industry in Europe. Ambitious European benchmarks will promote and reward early action and innovation in the manufacturing industry. They are an opportunity to reinstate and reinforce Europe's climate and technological leadership in the world.

CAN-Europe supports the specific and clear criteria that the reviewed emissions trading directive sets for EU wide benchmarks.

European decision makers are now faced with a two-pronged choice.

They can choose to implement the directive in a correct and ambitious way and lead the European Union towards **a competitive and green economy**. These new benchmarks have to be the **signposts** leading to a high-tech European manufacturing industry. Indeed, this can be an economy with a.o. ultra low CO₂ steel and clinker-free cement, researched, developed and produced in Europe.

If European institutions and governments want to make that choice, this briefing will provide some useful proposals to achieve exactly that.

If, on the other hand, European decision makers opt for the status quo of older and less efficient technologies, by agreeing on the lowest common denominator and weak benchmarks, this briefing will be of no interest at all.

**Matthias Duwe,
Director of Climate Action Network Europe**

2. CAN-Europe's key recommendations on EU-wide benchmarks

- *No EU ETS installations (due to e.g. specific technologies, material quality, climatic and national circumstances) can be excluded from the benchmark curves.*
- *There can be no discrimination between existing and new installations.*
- *Benchmarks have to account for technological improvements over time. Therefore the 2007-2008 vintage benchmark has to be adjusted with a pre-determined annual improvement factor.*
- *Due to the importance of the refinery sector and concern about data access and transparency, we urge the European Commission to execute an additional independent and external data and methodology audit after the first verification of data coming from this sector.*
- *Benchmarks need to be based on product output and not on input, regardless of the list of activities in Annex I of the directive.*
- *The use of a "clinker" benchmark is unacceptable and will harm the environmental and economic integrity of future climate policies. A "cement" benchmark has to be applied.*
- *In case a product benchmark for a sector or sub-sector cannot be determined because there are just a handful producers of this product in the EU, the product benchmark has to be set at the level of the most efficient European producer.*
- *Fall back approaches are acceptable if and only if they guarantee equal treatment between sectors and installations AND safeguard the environmental integrity of the applied benchmarks.*
- *The fall-back "heat production benchmark", needs to be corrected with the introduction of a generic "heat end-use efficiency" improvement factor, as to include end-use efficiency improvements.*
- *A "fuel mix benchmark" as fallback for combustion processes other than the ones for steam and hot water production might not be necessary. Many furnaces can be "heat benchmarked" by looking at the thermal efficiency and internal heat transfer parameters of the installation.*
- *The heat production and fuel mix benchmarks need to take into account ALL criteria mentioned under article 10a para 1 of the emissions trading directive with specific reference to the potential use of biomass.*
- *A heat-benchmark (or fuel-mix benchmark) using an emission factor of natural gas is too high because it excludes the use of biomass from the average of the 10% most GHG-efficient installations.*
- *Grandfathering for non-fuel related process emissions and waste gases is unacceptable. Again, such approach does not take into account the list of criteria under art 10a para 1 of the Emissions Trading directive.*
- *The total amount allowances allocated should be equal, regardless of the greenhouse gas permitting situation of the installations with a technical link.*

- *To improve transparency and equal treatment across installations the GHG-permits of all EU ETS Installations with a technical link have to be joined into a single GHG-permit.*
- *To maintain legal consistency in the implementation of the directive the allocation of free allowances for power production from waste gases needs to be subjected to a benchmark too. Logically this benchmark (CO₂/kWh) will come close to a mix of efficient power production by biomass installations (0g CO₂/kWh) and 60%+ efficient STAG-CCGT (combined cycle steam and gas turbines <300g CO₂/kWh).*
- *ALL technologies for N₂O-abatement used in installations participating as from 2013 in the EU ETS must be included in the product benchmark for a.o. adipic and nitric acid. It is unacceptable to exclude specific mitigation technologies.*
- *It is unacceptable to introduce “gaming” in the allocation for phase III of the EU ETS by allowing Member States and/or operators to “choose” different reference periods or to exclude specific years from a reference period, related to the production volumes.*

3. Introduction

3.1. Free allocation and benchmarking

Emission allowance trading systems must contain a methodology to introduce the “emission allowances (or credits)” on the market. It are those allowances which will be traded within the system. Each year a company under the EU Emissions Trading System (ETS) will have to retire or cancel an amount of allowances equivalent to the emissions of the previous year.

In the first 2 phases¹ of the EU ETS, European governments allocated allowances for free based on the rules contained in so called National Allocation Plans (NAPs). Many of the NAPs used an allocation method called “grandfathering”. This is allocating the allowances using the historical emissions of the companies falling under the EU ETS.

The EU legislators decided in December 2008 that as from 2013 the allocation of free allowances² shall be based on an EU-wide harmonised methodology. According to the reviewed EU ETS, this methodology will be using “benchmarks”. Benchmarks are different from grandfathering in the sense that they introduce a technological performance indicator to the allocation methodology. The use of benchmarks tend to avoid the penalisation of early reduction actions by companies. This is an improvement on a grandfathering based allocation. A benchmark, for use under the EU ETS, can be defined as the greenhouse gas intensity of a production process. This can be expressed as³:

$$\text{Benchmark} = \frac{\text{greenhouse gas emissions}}{\text{unit of product}}$$

It speaks for itself that there will be different benchmarks for (significantly) different products. The amount of free allowances will be calculated by using a formula which contains a.o. things a product specific benchmark multiplied with a (historical) production level. We refer to part 4.8. for more specifics on this allocation formula.

3.2. Ground-rules for designing benchmarks (aka what does the directive say)

The reviewed EU ETS directive contains specific rules on how benchmarks need to be developed. The basic rule, according to the directive, is that **the starting point for setting ex-ante benchmarks in individual sectors or sub-sectors, shall be the average performance of the 10% most efficient installations in a sector or sub-sector in the Community in the years 2007-2008**⁴.

Furthermore the development of benchmarks has to take into account the following criteria⁵:

- a) the most efficient techniques;
- b) substitutes;
- c) alternative production processes;
- d) high efficient cogeneration;
- e) efficient energy recovery of waste gases;
- f) use of biomass;
- g) capture and storage of carbon (where available).

¹ The first phase of the EU ETS ran from 01.01.05 to 31.12.07 and the second phase runs from 01.01.08 to 31.12.12.

² Free allowances will be allocated to non-power sector installations. The rate of free allocation depends on the fact of those installations are deemed to be exposed to carbon leakage.

³ A straightforward example of a benchmark could be tonnes CO₂-eq /tonne Cement

⁴ Article 10a paragraph 2 of the Emissions Trading Directive

⁵ Article 10a paragraph 1 of the Emissions Trading Directive

The directive clearly states as a general binding principle that **the benchmark shall be calculated for products (i.e. outputs) rather than for inputs**, in order to maximise greenhouse gas emission reductions and energy efficiency savings throughout each production process.

Finally, the directive explicitly forbids benchmarks to give incentives to increase emissions.

3.3. Implementing the reviewed EU ETS through comitology

As mentioned above, the product specific benchmarks are not part of the reviewed EU ETS directive. The directive states that those benchmarks will be decided on through a so called "comitology procedure with scrutiny". Through this procedure a draft decision on "benchmarks" will be proposed by the European Commission to the Council and the European Parliament. The European Parliament next has a 3 month scrutiny period in which they can accept or reject the draft decision.

We expect the draft decision on benchmarks, which is being prepared by the European Commission and EU government experts within the Climate Change Committee, to be presented to the Council and the Parliament by June-July 2010. A final decision on benchmarks can be expected by the end of 2010. An indicative time-line can be found at the EU ETS part of the European Commission's [website](#).

The above draft decision of the European Commission will build on consultancy reports (2009) prepared by Fraunhofer ISI, Ecofys and the Oko Institut⁶. These reports form the background for the comments and suggestions from CAN-Europe, as offered in this position paper.

4. Specific recommendations

4.1. Establishing the "benchmark curve"

To find a benchmark for a specific sector or product, data needs to be gathered from all installations in this sector. The result will be, once ordered, a curve representing the GHG-efficiency of all those installations in the sector. This is what we refer to as the "benchmark curve".

Collecting the necessary data to build the benchmark curves for EU ETS sectors will be one of the most important steps in establishing qualitative benchmarks. These benchmarks shall be determined by taking the average of the 10% most efficient installations (GHG-emissions/unit of product) within the EU ETS.

Again the directive offers clear instructions on how to construct those curves. The data of **ALL** installations falling under the scope of the EU ETS as from 2013 need to be part of the benchmark curve. The installation level data shall be from the years 2007 and 2008. The directive does **not** provide the legal grounds to withdraw specific (EU ETS) installations from this curve.

CAN-Europe supports the following specific criteria for the construction and application of benchmarking curves, which state that:

- there can be no discrimination or exclusion of specific technologies;
- there can be no discrimination between existing and new installations;
- there can be no correction applied for material quality, climatic and national circumstances;

⁶ "Methodology for the free allocation of emission allowances in the EU ETS post 2012 Report on the project approach and general issues", Fraunhofer isi, Ecofys and Oko-institut, 2009 <http://ec.europa.eu/environment/climat/emission/pdf/bm/BM%20study%20-%20%20Project%20Approach%20and%20general%20issues.pdf>

- the benchmark shall be determined on the mathematical average of the “greenhouse gas”-efficiency of the 10% most GHG-efficient installations;
- the directive does not allow for corrections and linearisation of the benchmark curves;
- the curves consist of the GHG-efficiency (GHG/unit of product) per installation and not cumulative production volumes.

It speaks for itself that any data collection with the aim of establishing benchmark curves, has to meet the highest quality standards. This means first of all transparent and unambiguous rules with regard to the collection of data leading to results which can be reproduced independently. Secondly, all data collected must be checked by an independent verifier which has specific technical and technological knowledge of the (sub-)sector concerned. Those verifiers must prove to be free of conflicts of interest.

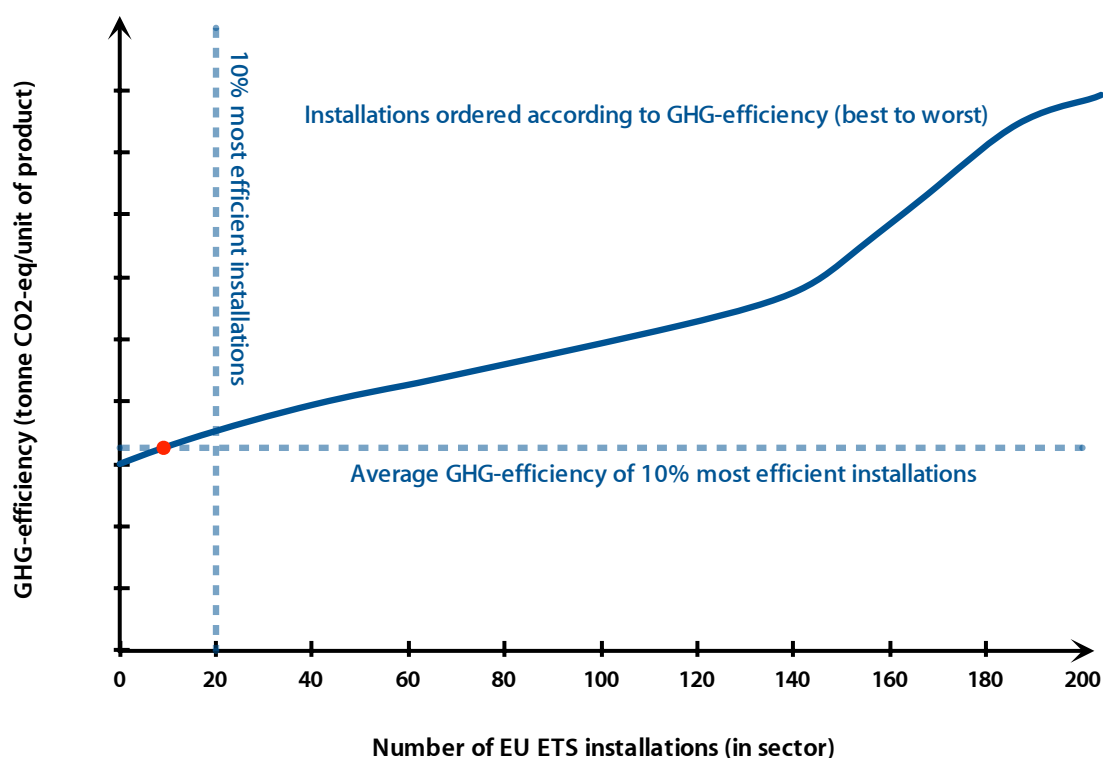
CAN-Europe expresses concern with regard to the transparency of the methodology proposed for the refinery sector⁷. Due to the importance of this sector (emission wise) we urge the European Commission to execute an additional independent and external data and methodology audit after the first verification of data coming from this sector.

We also ask the European Commission to make benchmarking methodologies and data collected, available to the public with the possibility to have these assessments peer-reviewed, if required. We urge the European Commission and/or the Member States to publish the following elements:

- The complete sector’s rule book, which was used to collect data and to establish the benchmarking curve(s);
- the benchmarking curve(s), including all data points⁸;
- a formal proof of the independence and expertise of the verifier responsible for the verification of the benchmarking methodology, data and curves;
- a report of the EU-level competent authority containing all relevant information gathered during the verification of benchmark data.

⁷ Solomon CO₂ Weighted Tonne (CWT) owned by CONCAWE

⁸ data points can be anonymous if anonymity is proven to be required to protect competition sensitive data



Example of of what a benchmark curve could look like

4.2. The average of the 10% most efficient installations in 2007-2008, as a “starting” point

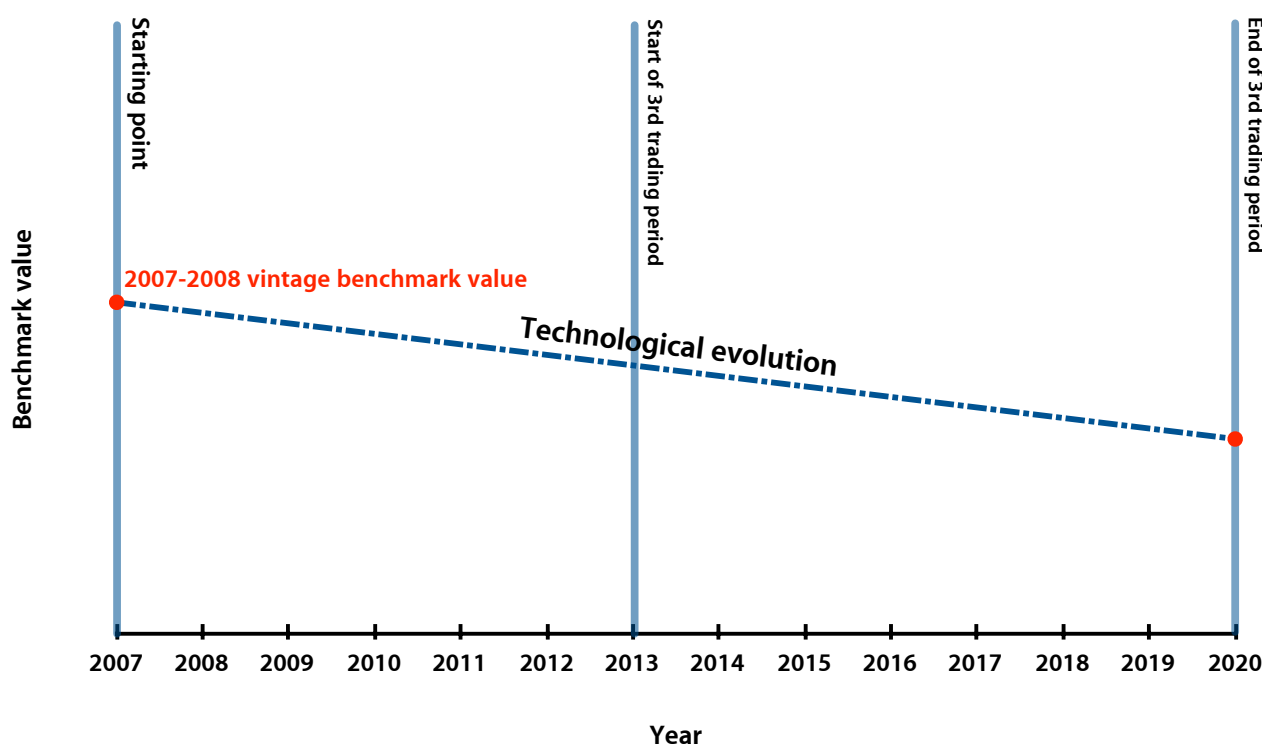
The directive emphasises that the reference years for calculating the average of the 10% most efficient installations shall be 2007 and 2008. The directive recognises that the above determined benchmarks are only being a “starting point”.

The starting point indicates that benchmarks over time have to take into account (new) technological improvements in the GHG-efficiency of production. This is consistent with other benchmarks developed in the EU and with jurisprudence of the N₂O benchmarks for opted-in adipic and nitric acid production as approved by the European Commission for the second trading period of the EU ETS (2008-2012).

Such technological adjustment can be achieved by introducing an **upfront “technological evolution factor”** into the benchmarks. It just does not make sense to keep applying a 12-13 years aged technological benchmark⁹ up to 2020. This would reduce the pressure on innovation (and investments) within the European manufacturing sector. In the Dutch and Flemish benchmarks a technological evolution factor of 0.8% per annum is applied. Because this evolution factor dates from 2001, i.e before the EU ETS and a carbon price, it is likely to be a serious underestimate.

A sector specific, efficiency evolution can also be derived from the 2005-2009 verified emissions data in the Community Independent Transaction Log (CITL) and the corresponding NACE-3/4 level Gross Value Added (GVA) data as recently collected by the European Commission (DG ENTR) during the Carbon Leakage assessment. Those data sets can give us a reliable and recent GHG-efficiency improvements compared to GVA, which can be expanded for the years in the next trading period. On a broader level, the UNFCCC Common Reporting Format (CRF) tables used for the national emission inventories can be used for data-sets going back to 1990.

⁹ The vintage of the “starting point” benchmark is the GHG-efficiency in the years 2007-2008.



The 2007-2008 vintage benchmark as “a starting point”

This moving benchmark can be expressed as:

$$BM_i = BM_{2007-2008} \times T^i$$

With

$BM_{2007-2008}$ the benchmark with vintage, the average of the years 2007 and 2008

BM_i the technological adjusted benchmark in the years i since 2007-2008, and

T^i the technological evolution factor for years i since 2007-2008 ($T^i = i$ times T).

4.3. Product (NOT input) based benchmarks

4.3.1. Product based benchmarks for all sectors

According to the directive, for each sector, the benchmark shall be calculated for **products rather than inputs**. To underline this principle the directive states that these product based benchmarks shall be applied with the aim to maximise greenhouse gas emissions reductions and energy efficiency savings throughout each production process of the sector or the sub-sector concerned. This rule has to apply for all producers under the EU ETS and not only for products listed in Annex I of the directive. The reviewed directive does not state that product benchmarks shall be limited to activities listed in Annex I of the directive. Furthermore the decision on the (extensive) list of sectors¹⁰ identified as at risk from carbon leakage has set a legal precedent that this indeed shall not be the case. It is therefore unacceptable that installations listed below 20 MW combustion activities in Annex I are having a “heat benchmark” and not a “product benchmark” applied as a default.

¹⁰ Going much broader than the list of sectors mentioned in the annex of the directive, up to NACE 4 level

4.3.2. Why Europe needs a “cement” benchmark

CAN-Europe is **highly concerned** to see a clinker benchmark being proposed as a viable alternative to a **cement benchmark** in the report by Fraunhofer/Ecofys/OkO Institut. Besides being an incorrect and legally objectionable implementation of the reviewed directive (see 4.3.1.), setting a benchmark on clinker would damage the integrity and credibility of the EU ETS in a significant manner. A clinker benchmark would “ex ante” exclude and forego a significant and cost-effective amount of emission reductions in the cement sector. This is related to the “substitute materials” which can replace the energy- and carbon-intensive clinker production.

We believe a cement benchmark will not complicate matters. To the contrary, according to cement industry sources more than 90% of the cement is produced on the same site where the clinker is produced. A cement benchmark as such is consistent with the Fraunhofer/Ecofys/OkO Institut Pareto “rule” which says that if more than 80% of the production in a sector can be benchmarked a benchmark for the sector shall be applied.

New econometric research estimates that the cement sector in the EU will pass through between 33-90% of the opportunity cost (depending on location). This might lead to an additional windfall profit of 10-20bn EUR over the period 2013-2020¹¹. A normal response to such windfalls would be to go for 100% auctioning and make sure the revenues are recycled back into green investments. However, we cannot do this because the cement sector is mentioned in the so called “Carbon Leakage” list and therefore eligible for free allowances. Therefore the second best option is to go for the strongest possible benchmark (which is “cement” an NOT “clinker” based) to make sure allowances go to other sectors which could need them more.

A more fundamental point relates to new investments (or replacement investments) and giving the right incentives for low-clinker cement production. A cement plant can be in operation for decades. This means that a plant build right now might still be operational in 2050, the time when EU emissions have to be 80-95% below 1990. So, if benchmarks and the related free allocation do not give the right incentive, we are enabling a high carbon lock-in (and we can forget about keeping global average temperature increases well below +2°C). Establishing a “clinker” benchmark for e.g. new entrants will give such a wrong signal.

It is likely that in a post 2012 world we will see the introduction of sectoral mechanisms. The cement sector (in non-Annex I countries) is a prime candidate for falling under such mechanism. Benchmarks will play an important role in such mechanism to establish deviation below BAU and the generation of credits. How will the EU be able to defend an ambitious international benchmark for cement if in our domestic system our benchmark excludes one of the prime (and cheap) reductions in that sector (i.e. substitution of clinker)? The cement sector within the World Business Council for Sustainable Development and the Cement Sustainability Initiative is actually promoting the replacement of clinker as a major driver. The EU will look foolish (or even protectionist) when our domestic benchmarks are weaker than what is needed internationally.

4.4. Fall-back cannot equal free-ride

We understand that it is impossible to find and/or construct benchmarks for each 4-digit NACE code sub-sector under the EU ETS. The pragmatic approach as presented in the report by Fraunhofer/Ecofys/OkO Institut, tries to find the optimum between the amount of benchmarks and the coverage of (emissions in the) EU ETS sectors. CAN-Europe sees the added value in such approach but wants to add the following elements to guarantee equal treatment between sectors and installations and safeguard the environmental integrity of the over-all approach. The fall-back

¹¹ ‘Climate change and the cement sector’ by G.Cook, Climate Strategies, 2009

approaches, used in absence of benchmarks, cannot be an excuse for sub-standard efficiency improvement.

In case a sector cannot be benchmarked over-all, but a sub-sector responsible for more than 10% of the emissions in this sector is “benchmarkable”, this sub-sector shall be benchmarked. By “benchmarkable” we mean that benchmarks for this sub-sector already exists¹² or are straightforward to achieve.

In case a benchmark for a sector or sub-sector cannot be determined because there are just a handful producers of this product in the EU, the benchmark has to be set at the level of the most efficient European producer.

In case a sector or sub-sector cannot be benchmarked, 3 successive fallback options are presented in the Fraunhofer/Ecofys/OkO Institut report.

The fallback **heat production benchmark**, based on fuel-mix choices and combustion efficiency, does exclude the potential for efficiency improvements in the heat end-use. The default product benchmark does include these latter potential for efficiency improvements. It is clear that by excluding a specific reduction potential, this approach is discriminatory within and between benchmarkable and not benchmarkable (sub-)sectors. Furthermore, by excluding the important end-use efficiency potential, the heat-benchmark approach can be breaching the provisions of the directive¹³.

To mitigate the above major issues related to a heat production benchmark, CAN-Europe advocates the introduction of a generic “heat end-use efficiency” improvement factor, in addition to the heat benchmark. This factor can be based on best practice studies for the sectors concerned or be derived from the product benchmarks in (the other parts of) that sector.

We dispute the necessity of a “**fuel mix benchmark**”¹⁴ for combustion processes other than the ones for steam and hot water production. Many furnaces can be “heat benchmarked” by looking at the thermal efficiency and internal heat transfer parameters of the installation¹⁵. Furthermore, a fuel-mix benchmark (and a heat production benchmark) do not include the useful application of waste heat in downstream processes. Therefore we repeat our demand for the introduction of an “end-use efficiency” improvement factor.

We also stress that both the heat production and fuel mix benchmarks need to take into account **ALL** criteria mentioned under article 10a para 1 of the emissions trading directive with specific reference to the potential use of biomass. We estimate that a heat-benchmark or fuel-mix benchmark which uses an **emission factor of natural gas is too high** because it excludes the use of biomass from the average of the 10% most GHG-efficient installations.

¹² through benchmarking covenants in European Member States, studies related to the national allocation plans for phase II, national rules for new entrants or sector initiatives.

¹³ Article 10a paragraph 1 of the Emissions Trading Directive, stating the elements which have to be taken into account when determining free allocation rules.

¹⁴ A “fuel mix benchmark” only takes into account the different types of fuels which can be used for combustion. It excludes the efficiency of the combustion (heat-generating process) and the efficiency of the end use of the heat generated.

¹⁵ A way to get a heat-type benchmark out of a furnace-process is by comparing the theoretical heat/energy (kWh) required to achieve the process (e.g. melt product x) to the actual/measured heat-input (e.g. kWh CH₄) furnace.

Grandfathering¹⁶ for non-fuel related process emissions is **unacceptable**. Again, such approach is in contradiction with the list of criteria under art 10a para 1 of the Emissions Trading directive. Out of the list of 7 criteria (see chapter 3) grandfathering for process emissions does not take into account the following measures and options:

- the most efficient techniques;
- the use of substitutes;
- alternative production processes;
- efficient energy recovery of waste gases;
- use of biomass;
- capture and storage of carbon (where available).

So far we have been given no technical or legal reasons why process emissions should be taken out of the product-benchmarks.

Besides the legal issues related to grandfathering process emissions, this approach will also ensure further discrimination within and between (sub-)sectors. An example of this discrimination would be the application of a uniform cross sectoral correction factor due to a more generous or lenient approach towards process emissions and waste gases.

4.5. Cross boundary heat flows: “the answer is blowing in the permit”

CAN-Europe endorses the principle that **the total amount allowances allocated should be equal, regardless of the greenhouse gas permitting situation of the installations with a technical link**. We stress that besides the “equivalence” principle, the chosen methodology cannot be in breach with the benchmarking criteria established in the directive (see chapter 3). As an example, we state that the complexity related to “cross-boundary heat- and product-flows” cannot be a reason to deviate from the principle of “product-based benchmarks” and cannot be an excuse for the promotion of fall-back methodologies.

We believe that the majority of complicated problems associated with benchmarks and allocation will disappear if EU governments and the European Commission apply the following rule:

“The GHG-permits of EU ETS Installations with a technical link have to be joined into a single GHG-permit.”

Applying this rule will lead to a more streamlined EU ETS and will defuse most of the gaming which is going on between EU ETS companies. We strongly encourage the European Commission to add this rule to the decision on benchmarks and harmonised allocation rules. We ask European Governments and competent authorities to not wait on the European Commission and implement the consolidated permit as a best practice as soon as possible before 2013. Finally we encourage the European Commission’s DG environment and DG competition to audit the different implementation of GHG-permitting across Member States with the aim to find possible distortion of competition and environmental effectiveness.

4.6. Waste gas used for power production

According to the directive, no free allocation shall be made in respect of any electricity production, except for (cases falling within Article 10c and) electricity produced from waste gases. This does not mean a free allocation for waste gases equivalent to the historical amount of emissions (aka grandfathering).

¹⁶ “Grandfathering” means an allocation process or methodology based on historical emissions or performance. This methodology “de facto” discriminates innovation and early action.

To maintain legal consistency in the implementation of the directive, the allocation of free allowances for **power production from waste gases needs to be subjected to a benchmark too**. In this case the benchmark has to be determined for the end product “electricity”. Logically this benchmark (CO₂/kWh) will come close to a mix of efficient power production by biomass installations (0g CO₂/kWh) and 60%+ efficient STAG-CCGT (combined cycle steam and gas turbines <300g CO₂/kWh).

4.7. Industrial N₂O-emissions

As from 2013 installations for the production of adipic, nitric, glyoxal and glyoxylic acid will be included in the scope of the EU ETS. Some of those chemical installations are already participating in the EU ETS (opt-in in phase 2) or have implemented N₂O abatement technologies under national legislation. This means that a significant amount of mitigation technologies are used in the EU right now.

According to the reviewed directive the benchmark must be determined based on data from EU ETS installations falling under its scope (as from 2013). Therefore **ALL** technologies used in installations participating as from 2013 in the EU ETS must be included in the product benchmark for adipic and nitric acid. We repeat that it is unacceptable to exclude specific mitigation technologies (already used in the EU) and see this as a “trick” to achieve a higher allocation level.

Again, the EU would lose its international credibility and leverage if the N₂O abatement benchmarks are less ambitious than the ones proposed or considered under UNFCCC Kyoto mechanisms such as Joint Implementation¹⁷ and the Clean Development Mechanism¹⁸.

4.8. historical production years for the allocation formula

Next to the development of benchmarks there are other elements which will determine the allocation at installation level. The allocation formula below¹⁹ shows how the total amount of free allowances (for the period 2013-2020) to an operator/installation will have to be calculated.

$$F = \sum_{i=2013}^{2020} (BM_i \times HAL_{2007-2008} \times EF_i \times LF_i \times CF_i)$$

F = the total amount of free allowances for an installation (or sector) in the period 2013-2020

BM_i = benchmark in year i of the period 2013-2020. This is the 2007-2008 vintage benchmark corrected for the technological evolution since 2007-2008 (see 4.2)

HAL₂₀₀₇₋₂₀₀₈ = the production of the installation as the average of the years **2007 and 2008**

EF_i = the Carbon Leakage exposure factor of the sector in year i in the period 2013-2020

LF_i = the linear reduction factor in year i in the period 2013-2020

CF_i = the uniform cross-sectoral correction factor in year i in the period 2013-2020

The directive states clearly that the benchmarks must be based on data from the years 2007-2008. For consistency reasons we propose the 2007-2008 average production as the factor to be used in

¹⁷ For an example of an N₂O abatement JI project see <http://ji.unfccc.int/UserManagement/FileStorage/8QPC7NZT8GH7NBB153UX0560HBNUVA>

¹⁸ For an example of an N₂O abatement CDM project see <http://cdm.unfccc.int/UserManagement/FileStorage/S6JQEXCZWAB7V1YI7ERBJH2YB7P2N2>

¹⁹ This formula is based on the proposal by the European Commission showed and distributed to EU ETS stakeholders on 6 November 2009 and can be found at http://ec.europa.eu/environment/climat/emission/pdf/bm/bmsh_6_11_09_method.pdf

the allocation formula. Another reason is the fact that GHG-efficiency is inherently linked to the production level. In case of high production levels, the GHG-efficiency of most installations will be higher because they will run at optimal level. In case of below par production levels, the GHG-efficiency will in many cases be lower because of sub-optimal use of heat/power/[...] generating installations. Finally the 2007-2008 average will take into account both a year with very high industrial output (2007) and one with lower output (2008) due to the start of the economic crisis at the end of 2008.

A longer reference period 2006-2009 can ONLY be allowed if ALL years are included. It is unacceptable to introduce “gaming”²⁰ in the allocation for phase III of the EU ETS by allowing Member States and/or operators to “choose” different reference periods or to exclude specific years from a reference period.

²⁰ “gaming” the system (through National Allocation Plans) being one of the factors leading to a structural over-allocation in phase I of the EU ETS and a collapse of the carbon price.

4.9 References

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