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IMPACT ASSESSMENT

Accompanying document to the

Commission Decision on determining transitional Union-wide rules for harmonised free allocation pursuant to Article 10a of Directive 2003/87/EC

Executive summary

Disclaimer
This report commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission.

EXECUTIVE SUMMARY

The EU Emissions Trading Scheme (ETS) is in operation since 2005, and requires installations covered by the ETS Directive to surrender one emission allowance for each tonne of CO_2-equivalent that it emits. The total amount of allowances is limited, which creates a market price for CO_2. As an important part of limiting the costs for installations, while keeping the economic incentives to reduce emissions, the first ETS Directive provided that a large share of the allowances was to be distributed for free. This allocation was done through so-called national allocation plans, which were approved by the Commission.

The first phase of the ETS (2005-2007) was analysed[1] in 2008. This analysis identified a lack of a level playing field for installations covered by the ETS, due to the different levels of free allocation for similar installations across Member States. As a result, distortions of competition occurred, entailing a perception of unfairness. The analysis also showed that the most common allocation method, which was based on historical emissions (so-called grandfathering) had the perverse effect of providing more free allocation to the highest emitting installations.

The revised ETS Directive[2] therefore introduced the concept of an EU-wide, harmonised, approach for the allocation of allowances. It provides that for the third phase of the ETS (2013 onwards) full auctioning shall be the rule for the power sector and that a transitional system for free allocation, based on benchmarks, shall be put in place for other sectors. The decision setting the rules for the free allocation shall be adopted by the Commission no later than 31 December 2010.

As the harmonised approach has been introduced by the Directive, it can be considered proportionate and in line with the principle of subsidiarity as such harmonised approaches can only be defined at European level.

The Directive contains a number of clear parameters of significance for the development of an allocation methodology which the Commission is to follow in its Decision. There are also a number of issues of significance for the development of an allocation methodology where the Directive leaves room for methodological choices to be made.

These key issues, for which the Commission has to make methodological choices, and the methodological options under each key issue are analysed in this impact assessment with a view to their likely economic, social and environmental impacts. In addition, they are evaluated against the background of the specific objective of implementing the provisions in the Directive, which requires the Commission to adopt measures to allow for harmonised free allocation of emission allowances. The impact assessment also analyses the operational objectives of the provision of incentives to maximise greenhouse gas emissions reductions, fairness between covered installations and the impact on efficient use of public resources (which implies that there should be no over-allocation of allowances for the majority of installations in a given sector).

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1 Impact assessment accompanying the proposal for Directive 2009/29/EC; SEC(2008)52.
2 As amended by Directive 2009/29/EC.

In terms of incentive, it is clear that the ETS in itself provides incentives to reduce greenhouse gases, independently of the allocation methods, via the mechanism of the carbon price that is determined through the overall cap on greenhouse gas emissions covered by the ETS and the scarcity created through this limited supply. As a consequence, also the economic, social and environmental impacts are predetermined to some extent. Nevertheless, the allocation of allowances undeniably also has an impact on behaviour of operators, since in case of full allocation or even over-allocation, the pressure to take action and reduce emissions will be rather limited. Inversely, pressure to reduce emissions will be stronger in case a company is faced with the need to buy a significant share of allowances to cover its emissions. The incentive effect is more evident for new installations, since the allocation methodology could impact on how a new installation is designed.

In order to understand the impact assessment it is necessary to have a general understanding of the planned allocation methodology. In short, the allocation of allowances for an installation will be calculated by multiplying a benchmark value with the historic production data of the installation, for each product falling under the definition of a product benchmark. Approximately 50 product benchmarks are expected, covering some 75% of industrial emissions under the ETS. The selection of product benchmarks was made in view of having a maximum amount of emissions covered, by a feasible number of product benchmarks. Criteria that were used were emissions, number of installations and homogeneity of products. This selection was done in close cooperation with the concerned industry sectors, and the current list of foreseen product benchmarks is widely accepted by stakeholders.

If an installation also produces products not covered by a product benchmark, additional allowances will be provided based on heat or fuel use for those products (so-called fallback approaches). For these installations it will also be possible to get allocation for process emissions (not related to energy use). Process emissions are already included in the product benchmarks, but not in the heat or fuel benchmarks.

There are thus four allocation methods. Product benchmarks, and three fallback approaches: heat benchmark (estimated to cover around 20% of eligible emissions), fuel benchmark (estimated to cover around 5% of eligible emissions), and process emissions (grandfathered; estimated to cover less than 1% of eligible emissions).

There may also be a number of additional factors applied to the allocation formula, such as a carbon leakage factor, a linear reduction factor, and the cross-sectoral correction factor. The application of these factors is determined by the Directive, and they are therefore not analysed in this impact assessment.

The key issues and the results of the analysis of options can be summarised as follows:

1. Period for historic production data

As noted above, defining a period for historic production data is necessary for calculating the amount of free allowances per installation. A number of options are conceivable:

(a) 2005-2009 (median)

(b) 2007-2008 (average)

(c) 2005-2008 (average)

(d) 2005-2008 (average minus minimum performing year)

(e) 2005-2009 (average minus minimum performing year)

The longer the period for historic production data, the better projection is offered for the industrial economic activity for 2013 onwards. Therefore, options (b), (c) and (d) can not be regarded as most appropriate. Option (a) might be considered most suitable from the economic efficiency and effectiveness point of view. An inclusion of the year 2010 in options (a) and (e) would, once such data is available, be coherent with offering the best possible projection for industrial economic activity for 2013 onwards using the most recent available production data.

2. Heat benchmark value

Where the development of a product benchmark is not feasible, a hierarchy of fallback approaches would be applicable. The first of the fallback approaches is the heat benchmark. It is applicable for combustion processes where a measurable heat carrier is used in a production process. A number of options for determining the value of the heat benchmark may be considered:

(a) 60.3 t CO2/ TJ – natural gas, 93% efficiency

(b) 62.3 t CO2/ TJ – natural gas, 90% efficiency

(c) 0 t CO2/ TJ – biomass

(d) 75.2 t CO2/ TJ – average fuel mix, average efficiency

(e) 6.4 t CO2/ TJ – average 10% most GHG-efficient heat

(f) 56.1 t CO2/ TJ – natural gas, 90% efficiency, 10% reduction

For the sectors to which the heat benchmark would be applied, the objective of maximising the reduction in greenhouse gas emissions would be best fulfilled with the lowest values of the heat benchmark, i.e. options (c) and (e). These also best meet the objective of the efficient use of public resources. At the same time, those options would imply the highest costs for the industries affected.

On the other side of the spectrum option (d) would be largely accommodating to the current patterns of heat generation but would not put the necessary downward pressure on emissions in this field. In addition, this option is based on average performance and does not reflect the level of ambition of product benchmarks as prescribed by Article 10a of the Directive (average performance of 10% most efficient installations). Therefore, it does not meet the objective of ensuring fairness between covered installations. Options (a) and (f) (and to a lesser extent option (b)) which aim to reconcile the objectives of reductions in greenhouse gas emissions and fairness between installations may be regarded as middle ground in this respect. Except for option (d), all other options encourage heat producers to use alternative technologies and fuels, with option (c) providing particular incentives to rely on biomass use (benchmark value set at 0 t CO_2/ TJ).

3. Fuel benchmark value

The second of the fallback approaches is the fuel benchmark. It is applicable for combustion processes where there is no intermediary heat carrier and where the combustion and heat consuming processes are combined. A number of options for determining the value of the fuel benchmark may be considered:

(a) 56.1 t CO2/ TJ – natural gas

(b) 0 t CO2/ TJ – biomass

(c) 58.5 t CO2/ TJ – average fuel mix of ETS installations

(d) 50.5 t CO2/ TJ – natural gas, 10% reduction

The objective of reduction of greenhouse gas emissions in the sectors expected to be covered by the fuel benchmark would be best met with the lowest values of the fuel benchmark (option (b)). It would also best meet the objective of the efficient use of public resources. That option would at the same time entail most significant cost increases for the industries affected.

Option (c) reflecting the current mix of fuel use by ETS installations would be least costly but it would not be sufficient to trigger necessary emissions reductions. In addition, this option is based on average performance and therefore does not reflect the level of ambition of product benchmarks as prescribed by Article 10a of the Directive (average performance of 10% most efficient installations). Therefore, it would not meet the objective of ensuring fairness between covered installations. Options (a) and (d) represent mid-range solutions in this respect. Except for option (c), all other options effectively put emphasis on the use of alternative technologies and fuels, with option (b) providing particular incentives to rely on biomass use (benchmark value set at 0 t CO_2/ TJ).

4. Grandfathering proportionality factor

The third of the fallback approaches is grandfathering for process emissions linked to installations covered by the heat and fuel benchmarks. It can be argued that the four different allocation methods should result in comparable allocation rates. Full grandfathering (i.e. based on 100% of historic emissions) of process emissions not covered by product benchmarks does not reflect a similar level of stringency as the general approach provided for by the Directive. Therefore, a reduction factor may be envisaged to level out the difference in allocation rate compared to installations covered by product, heat or fuel benchmarks. A number of options are conceivable:

(a) No grandfathering proportionality factor

(b) Based on installation's reduction potential

(c) Based on installation's reduction potential (sector-specific)

(d) Harmonised factor of 11.31% for all sectors

An analysis of option (b) requires a detailed assessment of the greenhouse gas reduction potential of each individual installation. Also option (c) would in principle require such information. However, the required data to make this assessment (heat production, fuel consumption, process emissions and the specific reduction potentials related to each process step) are not sufficiently available at this point in time. Therefore, an assessment of the options (b) and (c) is not feasible within the scope of the impact assessment.

If no reduction factor were applied to free allocation under the grandfathering method, the installations with process emissions would receive 100% of those historic emissions and therefore not experience the same level of stringency as other operators subject to product benchmarks. Therefore, this option would not meet the objective of ensuring fairness between covered installations. The potential for reducing greenhouse gas emissions would be used less in that area, not meeting the objective of maximising the greenhouse gas emission reductions. The objective of efficient use of public resources would not be met either.

On the other hand, an introduction of a harmonised factor for all sectors could imply higher operating costs for the affected sectors. However, it would also be more likely to encourage greater use of more efficient, alternative technologies.

5. Waste gases

In some installations carbon-containing waste gases are generated as a direct result of the industrial production process. They need to be burnt due to their toxic content (e.g. carbon monoxide), but also have an intrinsic value as a fuel to be used for in-house or outsourced production of heat and/or electricity. Since waste gases from the industrial production process can be used to generate heat or electricity, in the same or in a different installation, a coherent methodology for the benchmark setting needs to be decided. A number of options are conceivable:

(a) Full allocation to the waste gas producer

(b) Allocation to both the user and producer of waste gas (with deduction for electricity production with natural gas as reference fuel)

(c) Allocation to both the user and producer of waste gas (with deduction for electricity production with coal as reference fuel)

Option (a) provides the lowest cost for the iron & steel sector and parts of the chemicals industry. However, it does not meet the objective of providing maximum incentives for the reduction in greenhouse gas emissions. According to this method, waste gas users are not eligible for free allocation for heat production. This could create perverse incentives to increase greenhouse gas emissions in case of newly covered installations (only being granted free allocation if they use any other fuel but not if they would use any available waste gases for heat production).

Furthermore, option (a) increases significantly the probability of the application of the cross-sectoral correction factor, which would lead to lower allocation for all other installations. In addition, option (a) provides full free allocation for electricity production, which no other sector receives (although even in options (b) and (c) a large part of the emissions from electricity production is covered by free allocation). Therefore, it does not meet the objectives of implementing the relevant provisions of the Directive, i.e. avoiding distortions of competition, and of ensuring fairness between covered installations. The objective of efficient use of public resources is also not met. While options (b) and (c) slightly increase the cost and risk of export losses for the sectors concerned, they better meet the objectives of avoiding distortions of competition and ensuring fairness between covered installations and imply no increased risk of the application of the cross-sectoral correction factor.