

PRELIMINARY VERSION

**BENCHMARKING IN THE EU ETS:
POLICY ISSUES FOR THE EU AND BEYOND**

**PREFACE AND EXECUTIVE SUMMARY
OF THE
CEPS TASK FORCE REPORT**

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This report is based on discussions in the CEPS Task Force on “Benchmarking for the EU ETS and Beyond”. The Task Force met several times over a concentrated period from June to September 2009. Participants in this CEPS Task Force included senior executives from a broad range of industries – including energy production and supply companies, energy-intensive industries – and representatives from business associations and non-governmental environmental organisations. A list of members and invited guests and speakers appears in Appendix X.

The members of the Task Force engaged in extensive debates in the course of several meetings and submitted comments on earlier drafts of this report. Its contents contain the general tone and direction of the discussion, but its recommendations do not necessarily reflect a full common position agreed by all members of the Task Force, nor do they necessarily represent the views of the institutions to which the members belong.

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PREFACE

The EU emissions trading scheme (EU ETS) is the flagship climate policy tool of the EU. The objective of the EU ETS cap-and-trade scheme has been to create incentives for companies to reduce emissions in the most cost-effective way, to reward carbon-efficiency and create incentives for new and innovative approaches to reduce emissions.

The new ETS Directive, applying from 2013, has set auctioning as default allocation method. For industry, the Directive foresees transitional free allocation based on ex-ante benchmark, where possible, which will be phased out for sectors not exposed to carbon leakage in steps by 2027. Benchmarking as allocation methodology has been chosen to avoid perverse effects of grandfathering and because it has the potential to ensure a non-distorted carbon price signal, including reward early action and more generally carbon efficiency. Thus, benchmarks *per se* do not offer incentives to improve performance, it is ultimately the carbon price under the EU ETS that will decide the level of incentive to improve performance.

In parallel with the Swedish Presidency, it has been my privilege over the past six months to chair the CEPS Task Force on Benchmarking in the EU ETS and beyond with a view to providing key messages and policy recommendations, first to the European Commission, then to the European Parliament and the Council of Ministers and also to a wider range of international stakeholders. The work was made possible thanks to the members of the Task Force, including a wide range of business, industry, research and environmental NGOs, who gave their expertise and time, presenting the viewpoints of different interests. The Task Force is particularly indebted to Hubert van den Bergh, who by contributing his practical experience with the Dutch and Flemish energy efficiency benchmarking covenants, have set the scene for the Task Force discussions. I would also like to thank the European Commission, Ecofys, member state officials and industry representatives who generously shared their expertise and reflections and, through their contributions and advice, helped us to remain focused on what soon became a rapidly emerging agenda. Last, but not least, we were fortunate enough to be able to rely on CEPS' support throughout the Task Force.

This CEPS Task Force Report was designed as a description on benchmarks and benchmarking, outlining previous experiences and lessons learned for the development of the product benchmarks under the EU ETS for its third phase. While proposing a number of key principles to which benchmarks and benchmarked-based allocation should adhere, the CEPS Task Force also identified several recommendations crucial to the European Commission's future work.

Discussions were always rich, the debate was at times intense and I believe that this Task Force has made a constructive contribution to the important work on establishing product benchmarks under the EU ETS and, possibly, as well as to other international equivalents.

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BENCHMARKING IN THE EU: LESSONS FROM THE EU ETS FOR THE GLOBAL CLIMATE CHANGE AGENDA

EXECUTIVE SUMMARY

The revised EU Emissions Trading (EU ETS) Directive grants transitionally free allocation to the industrial sector to address competitiveness questions. This has created a challenge for EU policy makers to design a system whereby such free allocation can be implemented in a way compatible with the EU's single market and the EU's objective to achieve GHG emissions reductions targets in the most efficient way. The revised ETS Directive therefore has chosen ex-ante benchmarks. While to date most of the focus in the EU is on benchmark-based allocation, it has revived the interest in benchmarks more generally. In particular, it has heightened awareness of and identified lessons from previous benchmarking experiences in the EU and member states, which are considerable.

The development of benchmarks and benchmarking offers more possibilities than being just a tool for allocation under an emissions trading scheme. Allocation is only one – even a small – yet politically very contentious and currently most immediate application. Therefore, this CEPS Task Force Report puts the principal attention on how to identify and use benchmarks. It takes a broad approach and examines the potential merits of benchmarks and benchmarking *both* for managing the transition to a low-carbon economy in national climate change strategies *and* for the provisions in a global climate change agreement. The latter describes the potential of benchmarks for deepening and accelerating climate change mitigation, i.e. leading to real reductions here and now, even in the absence of a comprehensive global legally binding agreement that ultimately will be required.

I. Key messages

General

- 1) Benchmarking is a very broad concept that has been used for a variety of purposes in different applications. Traditionally, benchmarking processes have been tools for judging and, ultimately, improving industry performance. A 'benchmark' is a performance measure on agreed and verified parameters (e.g. sector boundary, performance indicators¹), not necessarily at the highest level of performance. 'Benchmarking' applies this benchmark to a particular purpose with allocation of free emission rights being but one. Other possibilities for benchmarking in the context of climate change policies are its use as a regulatory scheme to set (industry) performance targets, to define (sectoral or national) GHG emissions caps in a bottom-up fashion, to judge national, EU-wide or international 'comparability' of sector efforts – both intra and inter-sectoral – , to establish the level of carbon credits that are granted under the Kyoto Protocol's or new post-2012 period's flexible mechanisms or to calculate the carbon content of products e.g. for carbon footprinting. Historically, numerous sectors (e.g. refining, aluminium, cement, steel, or power) have used benchmarks for

¹ Typical performance indicators are profitability, safety records and resource efficiency.

evaluating and comparing the performance of installations with the aim of improving the performance of installations or the overall sector, or both. While companies seem to appreciate that the use of benchmarks increase performance, independent analysis of the effectiveness of benchmarking in helping to reduce GHG emissions and overall sector performance is, however, limited if at all available.

- 2) Preconditions for developing benchmarks are the availability of common definitions, reliable data (including on historical production), good measurement and verification systems. Good benchmarks will require considerable efforts by all stakeholders and, ultimately, acceptability as access to industry data is critical. Efforts to develop benchmarks are more likely to be successful if benchmarking is considered crucial to achieve a political or industry objective, adds value or is politically relevant and if the development of benchmarks is made in practical and pragmatic way. Benchmarks may be derived from different sources. Those derived from arbitrary targets or the literature are easier to construct but tend to be unreliable and non-transparent. They also often use margins. Benchmarks based on calculations and practical measurements are preferable but their identification requires most effort and can incur potentially high costs to those engaged in identifying them. Costs can be broken down into three categories: i) those related to defining the benchmark, ii) those related to data collection and iii) running costs for measuring, reporting and verification (MRV). The most significant costs are running costs for MRV; costs, which would, however, generally also occur under the ETS and any other GHG regulation. Costs for data collection, which in some cases can be considerable too, and for defining a benchmark are directly related to benchmarking. The latter costs are generally minor compared to running costs and costs for data collection. The revised EU ETS Directive foresees that benchmarks are based on products, i.e. a specific performance per unit output to maximise incentives for greenhouse gas reduction through each production process of the sector. Complexity for establishing a benchmark typically increases if the same products are made by different raw materials or if processes produce more than one product, requiring, in some cases, benchmarks for intermediate products. Benchmarks are easier if they are based on direct emissions only.

EU benchmark-based allocation

The revised ETS Directive prescribes EU-wide ex-ante benchmarks for transitional free allocation, 'to the extent feasible'. The starting point is the average of the 10% most efficient installations in sectors or sub-sectors, calculated on products. Benchmarks shall take into account 'the most efficient techniques, substitutes, alternative production processes high efficiency cogeneration, efficient energy recovery of waste gases, use of biomass and capture and storage of CO₂, where such facilities are available'. In areas where benchmarks are not feasible, a combination of generic, so-called fallback approaches such as a benchmark for combustion processes and grandfathering for process emissions will have to be applied.

The amount of free allowances per installation will be established by multiplying the benchmark with historical average production, - currently discussed are the period 2005-07 or 2005-08 -while the maximum total free allocation for industry is set at the industry's share of total total cap based on emissions in 2005-07. The maximum number of free allowances will decline annually in line with the decline of the emissions ceiling (the 'linear factor') by 21% between 2005 and 2020. A 'uniform and cross-sectoral correction factor' will be applied if the allowances based on the benchmarks multiplied by the production factor plus the other free allowances for industry, based on fall back approaches, will exceed the cap. . According to the revised ETS Directive, free allocation ends in 2027 at the latest.

- 1) The ongoing preparation² of benchmarks for the EU ETS has delivered a number of practical principles relating to technology and correction factors, the number of benchmarks, and the relationship between energy efficiency and CO₂ performance. This Task Force has identified 'ground rules' such as to i) ensure (environmental) effectiveness, ii) incentivise GHG and energy efficiency, and iii) avoid damaging competitiveness. In addition, more operational ones have been identified such as iv) equal treatment of all sectors, v) equal treatment of all installations in a (sub)sector but differentiation only based on GHG efficiency, vi) transparency also for non-specialists and, finally, vii) practical and pragmatic (not perfect) approaches to reduce administrative complexity and minimise cost. An overall objective of the development of benchmarks is avoiding distortions to competition in the EU internal market.
- 2) The development of benchmarks and the benchmarking process has distributional impacts compared to the existing predominant allocation methodology (i.e. historical grandfathering). Decisions on sector boundaries or the choice of product for the application of benchmarks could benefit some installations or companies within a sector over others, e.g., by rewarding early action but could also restrict reduction possibilities. At the same time, the setting of the benchmark determines the total number of allowances a sector gets and how this compares to other sectors. The formulation of and adherence to *ex-ante* agreed principles to guide the development and application of benchmarks is likely to be required to ensure acceptability because it will allow stakeholders to test the benchmarks and their application against the agreed principles.
- 3) The revised ETS Directive provides that benchmarks for products are developed, in principle, based on data from all installations. This reflects the fact that exclusion of installations has a significant impact on the level of the benchmark and should therefore only to be applied in exceptional circumstances
- 4) There are only a few key sectors or sub-sectors where benchmarks are difficult to develop. First estimates for the EU shows that, with 40-50 benchmarks, 85% of the emissions in EU ETS installations that are eligible for free allocation can be covered.
- 5) Competitiveness is addressed in the revised ETS Directive through free allocation of allowances (up to the benchmark). Ex-ante benchmark-based allocation in the EU is a means to allow free allocation to take place. However, ex-ante benchmark-based allocation will not necessarily stop any change in production patterns. Nevertheless, it is a way to off-set the increased costs for industry and may act as an incentive to continue producing in the EU during the period covered. But there is no guarantee that these revenues from free allocation will be invested in EU installations.
- 6) Benchmarking for the purpose of allocation requires both a benchmark and an activity rate, which the benchmark would need to be multiplied with in order to establish the total number of allowances to be granted. The use of verified historical production levels reduces the possibility of over-allocation by avoiding projections and allowing the setting in advance of allocations of allowances to installations.
- 7) In the absence of full auctioning of allowances, allocation based on benchmark to an operator can define incentives for emissions reductions. Once the benchmarks are known, any future changes to the allocation will be the result of possible modifications

² Ecofys, Fraunhofer Institute for Systems and innovation Research and Öko-Institute (2009, *Methodologies for the free allocation of emissions allowances in the EU ETS post 2012*. By order of the European Commission: Study Contract: 07.0307/2008/515770/ETU/C2, November 2009.

of the cap as a consequence of an international agreement, or due to changes in the rules on closures and new entrants.

- 8) Availability of robust and verified data, including production data, does not appear to be an issue that would prevent EU allocation by benchmarks, largely thanks to the fact that the EU ETS has always required accurate monitoring, reporting and verification.

II. Recommendations

The experience of benchmarking in the current EU ETS trading period shows that benchmarking is a feasible and useful allocation tool. First estimations following the EU ETS benchmarking exercise indicate that, with a limited number of benchmarks, a large amount of emissions can be covered. Emissions, which cannot be covered by benchmarks, need to be subject to fall-back approaches. Against this background, this CEPS Task Force has formulated the following recommendations:

- 1) The development of benchmarks must be tailored towards their application such as allocation, crediting under flexible mechanisms, or comparability of industry performance.
- 2) The EU should take a practical and pragmatic approach to benchmark-based allocation in a collaborative manner with stakeholders to allow for rapid and efficient implementation from both an environmental and economic perspective.
- 3) Benchmarking should provide incentives to reduce GHG intensity via technology and fuel neutrality; there should be no differentiation between old and new plants, no correction factors for plant age, size, raw material quality and climate circumstances.
- 4) Where a fall-back methodology instead of a benchmark is used for allocation, it must be fully transparent --also to the non-specialist. Furthermore, fall-back options must be fair and stringent and should not result in any undue disadvantage to any of the sectors covered by the ETS.
- 5) Exclusions of installations from benchmarks (and thereby the benchmark curve) should be minimised and should only be accepted against pre-determined and transparent criteria.
- 6) Benchmarks for more than one product in a sector should be considered if this offers the possibility to achieve significant additional GHG reductions.
- 7) The EU should use its experience with the ETS benchmark-based allocations to inform benchmarking efforts in other countries, especially within the context of international climate change negotiations, e.g. reformed CDM or sectoral crediting.