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POSITION PAPER – INFORMATION

BENCHMARKING FOR FREE ALLOCATION OF ALLOWANCES TO HEAT PRODUCTION IN THE EU ETS DURING 2013-2020

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In response to

According to the directive (2009/29/EC) on emissions trading, free allocation of allowances (EUAs) shall be granted to e.g. district heating and high-efficiency co-generation during the third trading period (2013-2020) of the EU emissions trading scheme (EU ETS), whereas no more free allocation shall be granted in relation to electricity generation after 2012. The basis for deciding on the free allocation to heat production are Community-wide harmonized (ex-ante) benchmarks, which are currently being developed in accordance with a comitology procedure deemed to be concluded during 2010.

Purpose of document

Formulate a Group-wide position on the construction and application of harmonized benchmark(s) which will decide the amount of free allocation to heat producing installations in all heat markets where Vattenfall is active. The foundation for this position is the impact assessment contained in the report "Benchmarking for transitional free allocation of EUAs in the EU ETS during Phase III" prepared by the CESAR- team at Vattenfall R&D.

Lobbying/action plan

In May 2010, the European Commission is expected to present its official proposal with benchmarks that shall be used for all products (incl. heat) that are eligible for free allocation of EUAs during Phase III. Formal voting will take place in the Climate Change Committee (CCC) during September 2010, with a view to have the rules entering into force by the end of 2010. Vattenfall works to have its opinion incorporated in the lobbying activities carried out by the business organizations Eurelectric and Euroheat & Power. In February these organisations had not yet reached a final position on important elements such as whether or not to support the use of one single (fuel-independent) benchmark for all heat production.

Distribution

EGM/Group Site/BG representatives/PA network/ .COM-site (positions for external use)/VEA/EPG-Quarterly/Vattenfall Eurelectric representatives.

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BENCHMARKING FOR FREE ALLOCATION OF ALLOWANCES TO HEAT PRODUCTION IN THE EU ETS DURING 2013-2020

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Background

The revised EU ETS directive, which contains the principles for allocation of allowances (EUAs) in Phase III (2013-2020), stipulates that free allocation shall be provided to the production of heat on basis of harmonized benchmarks. Moreover, it is stipulated that a starting point for determining the benchmarks shall be the average performance of the 10 % most efficient installations in each sector. However, it does not contain any provisions with regards to the number of benchmarks to be derived for heat generation. Since it is not evident whether "most efficient" [Article 10a(2)] refers to the energy efficiency or CO2 efficiency of the heat production, the adoption of separate benchmarks for installations using different fuels is fully conceivable.

In principle, an allocation regime based on a single heat benchmark could contribute to a more simple and transparent ETS legislation, and it would be in line with a "one product, one benchmark" principle. However, when taking into account also the large distributional effects associated with a fuel-independent heat benchmark approach, it is reasonable to believe that final heat prices would increase, and thus, create lost competitiveness for the district heating vis-à-vis decentralized heating units not subject to a similar CO2 cost and thereby give rise to also other undesired effects such as carbon leakage.

Vattenfall's considerations

The allocation of EUAs is first and foremost an issue of distributional nature. However, the matter can not be judged without also taking into account e.g. market implications as well as effects on security of supply, level playing field, stranded assets and the risk of carbon leakage.

Although the district heat producers covered by the EU ETS operate on strictly local markets, they are subject to direct competition from other heating alternatives such as decentralized heating systems in the residential sector, as well as smaller combustion installations (<20 MW) which have access to the district heating grids but without being covered by the EU ETS directive. As long as these installations are not subject to an equal CO2 cost burden, Vattenfall comes to the following conclusions.

Vattenfall's position

For existing plants, a fuel-dependent benchmarking approach limited to two heat benchmarks is preferred (natural gas and coal). This respects the large spreads of CO2 intensities within the heat sector. As such, it protects large heat installations from being inflicted with disproportional costs, which many of their competitors are exempted from. It allows the heat markets with high CO2 intensities to gradually adjust to the full auctioning regime that still which will be introduced stepwise between 2013-2027 regardless from the number of benchmarks employed in the allocation, and even more importantly, it reduces the risk of CO2 leakage.

The way the distribution of allowances is done to existing plants does not affect the incentives to reduce CO2 emissions from the installations, nor the cost-efficiency of the ETS. A fuel-dependent system for allocation to new entrants could, however, be regarded

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as a support for investments in new CO₂-intensive heat production capacity, thereby counteracting the CO₂ price signal and the transition intended by the ETS directive.

On that background, For new entrants one solution could be to have one single fuel-independent heat benchmark. This is justified from the perspective that it preserves the CO₂ price signal and puts new technologies on equal footing. However, a completely distortion-free market obviously requires that also heat producing alternatives in the sectors not covered by the ETS are subject to a similar CO₂ cost from 2013.

This dual solution for old and existing plants is fair, avoids market distortions, and respects the fact that only existing installations can be associated with stranded costs. It will preserve the CO₂ price signal experienced by all heat installations and support the transition of the energy system through investments in low-CO₂ technologies.

Vattenfall is of the firm position that all free-of-charge allocation must be directed to the installation from which the emissions are generated. The proposals that have been put forward with the aim to relocate the allocation intended for heat production towards, ~~e.g.~~ the heat consumer (at the handling of cross-boundary heat flows) is a clear deviation from the EU ETS directive's intention and it should consequently be refused.

POSITION PAPER – APPENDIX 1

BENCHMARKING FOR FREE ALLOCATION OF ALLOWANCES TO HEAT PRODUCTION IN THE EU ETS DURING 2013-2020

Vattenfall's views on methods to distribute allowances to heat generation

1. General opinion on free allocation to heat

Vattenfall is of the opinion that it is a clear improvement that the distribution of allowances (EUAs) from 2013 and onwards will be made on basis of EU-wide and harmonized principles instead of national allocation plans. It will make the EU ETS more transparent, and promote a level playing field for companies on the EU's internal market. At the same time, it is recognized that the use of uniform-harmonized heat benchmark(s) across the EU will induce significant distributional impacts compared to previous trading periods and that heat markets will be affected differently.

On that background, the benchmarks applied should take into consideration all potential effects of the allocation regime on ~~(CO2 intensive)~~ markets, incl. a steep increase of the price on heat and the risk of carbon leakage in relation to e.g. heating alternatives within the non-trading sector as well as stranded assets. Consideration should also be given to the advantages of adopting principles that are simple, credible and which do not give rise to disincentives to reduce the emissions. Vattenfall is convinced that it can be achieved without compromising with the ambition to adopt Community-wide benchmarks which are broadly applied on heat installations in all Member states simultaneously.

As a general remark on the distribution of allowances, regardless of sector or product, Vattenfall is of the firm position that all free-of-charge allocation must be directed to the installation from which the emissions are generated. Any-The current proposals to relocate the allocation intended for heat production towards, ~~e.g.~~ the heat consumer (at the handling of cross-boundary heat flows) is a clear deviation from the directive's intention and should therefore be refused. This position paper, however, mainly occupies with the issue on how the benchmark(s) should be constructed.

2. Fuel-dependent vs. fuel-independent heat benchmark(s)

The revised EU ETS directive stipulates that the benchmarks shall take ~~its~~their point of departure from the average performance of the 10 % most efficient installations in each sector, while providing for incentives to ~~reductions-of~~ greenhouse gas emissions, and also taking into account substitutes, energy efficient technologies, alternative production processes [...]. The Commission is of the opinion that one single benchmark shall be used for all heat production (regardless of which fuel is

used), and that the level of the benchmark shall correspond to the CO₂ efficiency of a natural-gas fired heat installation with an energy conversion efficiency of 93 %.¹

In case the described benchmarking characteristics would be endorsed, it **would** translate to a much lower heat benchmark (approx. 219 gCO₂/kWh) compared to a policy scenario under which separate benchmarks are derived for individual fuels (coal, lignite, natural gas, waste, etc.). Due to Vattenfall's relatively CO₂ intensive energy mix within the heat production portfolio (primarily concentrated to BG Central Europe), the distributional implications in terms of free allocation during 2013-2020 would be significant. This is the case although our calculations have show that the final allocation is more affected by the combination of various factors employed on top of the benchmarks (i.e. exposure factor, linear reduction factor and uniform cross-sectoral correction factor) than the number of benchmarks.

It is estimated that the free-of-charge allocation to Vattenfall's heat producing installations could be reduced by an annual amount of up to 1.4 M EUAs (on average) during Phase III, in case a single fuel-dependent benchmark (reflecting the CO₂ intensity of a natural gas fired installation) is implemented **instead of a fuel-dependent approach**². Due to an **underlying** gradual phase-out of free allocation during Phase III, the difference is higher in the beginning and lower in the end of the trading period (2013-2020). The aggregated net-present-value at stake for the heat business of the Vattenfall Group could be up to € 220 million for the 8-year period³.

It is likely that a *part* of the increased out-of-pocket costs can be compensated by an increase of the price on district heating. However, to what extent this will actually materialize depends on the characteristics of the individual local heat markets. In cases where the heat price is determined on basis of marginal-costs (also reflecting the opportunity cost of EUAs received for free), or a competing heating alternative with higher costs, the reduced allocation will not translate to increased heat prices, and thus, lower profits for Vattenfall. On the other hand, in cases where the district heat price is determined on basis of e.g. average costs of heat production, market prices can be expected to increase, and thus, it mitigates the negative impacts on profits.

In practice, the real ability to pass-through the increased costs to heat consumers is restricted by asymmetries in the CO₂ **cost-price** experienced by competing alternatives, incl. decentralized heating devices in the non-**ETS trading** sector. Hence, the district heat price increase can be prevented since a higher price would translate into a decrease of the demand for district heating, and consequently, contribute to "carbon leakage" where CO₂ emissions are relocated to the residential sector **with increased overall CO₂ emissions as a result**. The treatment of district heating in the context of allocation principles must therefore take into account **the** climate policies employed in the non-**ETS trading** sectors, which becomes even more important as competition from small-scale heat production is set to increase as a result of e.g. third party access to the district heating grids.

¹ European Commission, DG ENV, Implementing paper on principles for rules for free allocation – Emissions Trading System – Post 2012.

² The figure represents an upper boundary of the values at stake since it builds on the assumption of a uniform cross-sectoral correction factor of 1 (CF_K=1).

³ The assumptions include a EUA price of €25 per CO₂ and a discount rate of 7.5 %

In the political choice between a fuel-dependent and fuel-independent approach for benchmarking, special attention should also be given to the way that the allocation principle impacts the CO2 price signal, and subsequently, both the cost-efficiency and credibility of the EU ETS. The allocation principles employed for new entrants are particularly sensitive to the choice between fuel-specific and fuel-independent benchmarking. A fuel-dependent approach implies that the allocation is contingent on not only the investment materializing but also that it is constructed for a certain fuel. Hence, the EUAs allocated to new entrants on basis of fuel-dependent benchmarks are less associated with an opportunity cost, and consequently, the CO2 price signal intended by the EU ETS is partly eroded. Such a solution could be disadvantageous for Vattenfall's strategic ambition to become CO2 neutral to 2050 (and to reduce the CO2 emissions by 50 % to 2030) ~~and since it reduces~~ the cost-efficiency of the policy.

3. Vattenfall's views

Vattenfall recognizes that there are both pros and cons connected to the adoption of a fuel-dependent benchmarking principle. However, taking into account ~~not only~~ the large values at stake for ~~heat~~ companies with an energy mix that translates to a CO2 intensity very far from the natural gas benchmark ~~but also as well as~~ the competitive concerns related to decentralized heat production which accommodate a risk of CO2 leakage to the non-trading sector, a more gradual phase-out of the free allocation to district heating installations ~~is advocated with regards to~~ ~~for~~ existing installations ~~would allow for a more gradual adjustment to full auctioning and counteract CO2 leakage~~. The allocation principles should reflect at least two fuel categories (natural gas and coal) ~~and this would not in any way affect the schedule for when all free allocation shall be phased-out, nor the share of auctioning at each point in time~~.

For new entrants, however, there are stronger theoretical arguments for a fuel-independent approach. The explanation is that a fuel-dependent approach directed to new entrants tends to impact what fuel the installation is constructed for (since the use of another fuel might entail a lower allocation), and thus, it reduces the incentives to reduce emissions and counteracts the CO2 price signal sought for by the ETS directive. A partial solution with a distinction between new and existing installations ~~would also be in full-conformity with the factperception~~ that new installations (in contrast to incumbents) have no stranded assets.

4. Vattenfall's recommendation

A fuel-dependent benchmarking regime should be used for determining the free allocation of EUAs to heat production during Phase III of the EU ETS (2013-2020). This would mitigate the associated increase of prices on heat, particularly expected in coal-dominated markets, and to preserve the competitiveness of district heating in relation to less CO2-regulated heating alternatives, and hence, avoid both carbon leakage and a reduced security of supply. It is important to emphasize that these objectives are then achieved without compromising with neither the overall degree of auctioning in Phase III, nor the end year when all free-of-charge allocations shall be phased-out according to the provisions contained in the EU ETS directive.