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Subject: Consultation on structural options to strengthen the EU Emissions Trading System

Borealis Contribution to the European Commission consultation on Structural Reform of the EU Emissions Trading Scheme (Carbon Market Report)

Borealis welcomes and appreciates the consultation process initiated by DG Clima. Borealis strongly supports the concept of carbon trading that rewards cost-efficient performance improvement and achieves the agreed greenhouse gas (GHG) emission reduction target for 2020 in the most cost efficient way. Borealis is willing to take its responsibilities and provide a fair contribution to the reduction of GHG emissions as long as the effort does not undermine the international competitiveness and potential for development.

The current EU emission trading scheme (ETS) design does not adequately reconcile climate protection and industrial growth, thus weakening manufacturing in the short term and undermining investors' confidence in the longer term. It is a valid aim to strengthen the EU ETS as a driver in combating climate change effectively, not only in Europe but globally, while at the same time strengthening the EU's economic basis by enabling efficient economic activity, high-quality jobs and growth.

In this response Borealis addresses the EU Commission proposals for a reform. In our view these options do not really address the root causes. Borealis proposes a comprehensive 7-point structural reform package to tackle the fundamental shortcomings, which will cause carbon leakage and inhibit growth in Europe if not being addressed.

1. Introduction

The EU Emission Trading Scheme (EU ETS) is in over-supply and there are requests, urges and proposals for interventions. The European Commission proposes a short-term measure, to backload allowances from 2013-2015 to 2019-2020, and proposes that subsequently a structural reform is needed. For this structural reform, the Commission mentions "*six non-exhaustive options for structural measures*" in its report 'The state of the European carbon market in 2012', also named the 'Carbon Market Report' dated 14 November 2012. Stakeholders and experts in the field of the European carbon market are invited by the Commission to comment on its structural reform proposals of the EU ETS.

Borealis welcomes this debate because the current EU ETS design does not adequately reconcile climate protection and industrial growth, thus weakening manufacturing in the short term and undermining investors' confidence in the longer term. With its contribution to the consultation, Borealis aims to strengthen the EU ETS as a driver in combating climate change effectively, not only in Europe

but globally, while at the same time strengthening the EU's economic basis by enabling efficient economic activity, high-quality jobs and growth.

First of all we would like to stress that we support the EU ETS as a market-based instrument aimed at achieving environmental targets at lowest cost. However, there are still fundamental shortcomings, which need to be resolved. Therefore, before commenting on the six proposed structural reform measures for discussion, we first address:

- the structural causes of the present state of affairs;
- the fundamental shortcomings of the EU ETS.

Then we communicate our comments on the six non-exhaustive options proposed for structural reform. We finalise with our views for a comprehensive structural reform package to tackle the fundamental shortcomings.

2. The structural causes of the present state of affairs

In a note ¹ the Commission stresses that intervention is “urgent” otherwise the EU “ETS may become irrelevant” and that situation is “exceptional”. “The economic and fiscal crisis has affected demand for allowances in such an exceptional manner that it presents severe risks for the continued orderly functioning of the EU ETS.” In the view of the Commission, it is the accrued imbalance of supply-demand of allowances due to the unique economic and financial crisis which is the main cause for the present situation.

In our view, the economic and financial crisis is indeed one cause of the present situation, but not the only one. We distinguish the following structural causes:

- a) The early auction in 2011-2013 of the NER 300 ². The decision on early auctioning was taken when the crisis was present in 2010 and could have been delayed.
- b) Auctioning of about 120 Mton leftovers of the NERs (new entrants' reserves) of Member States of phase 2. Instead of auctioning, these leftovers should have been shifted to the NER for phase 3. The 'obligatory' auctioning at the end of a trading period is a structural problem, which might re-occur in the EU ETS for phase 3 (leftovers in 2020).
- c) The ex-ante fixed allocation, which is in fact the only crisis-related cause. This allocation scheme gives emission allowances to industry on the basis of historic (median 2005-2008, or 2009-2010) production volumes and benchmarks. The use of historic production volumes instead of actual production volumes has very likely led to the highest contribution to the supply-demand imbalance. The gap between actual and historic production volumes is another structural problem of the current ETS rules.

The three causes above are not addressed in the six options proposed by the Commission. The supply of international credits is no structural problem, this was known since 2008 and it has not relation to the financial crisis.

The structural reform of the EU ETS should address these basic structural causes. Without adequate reform, supply-demand imbalances are likely to re-surface in the future, which could already happen when the intended review of the EU ETS Directive is planned to be finalised (around 2015-2016). But there are also other structural problems, shortcomings, which also should be addressed in a proper structural reform, these are outlined below.

3. The fundamental shortcomings of the EU ETS – need for structural reform

In our view the EU ETS with an ex-ante frozen allocation suffers from four fundamental shortcomings:

¹ Explanatory note of mid September 2012 send by Commissioner Mrs. Connie Hedegaard to the European Parliament.

² 300 Mton allowances from the new entrants' reserve of EU ETS phase 3 to generate funds for promoting CCS (carbon capture and storage) and advanced renewables.

- a) Over-allocation during recession or economic crisis, as mentioned above;
- b) Under-allocation in the case of growth and investments, due to complex and risky allocation rules. These rules deter investments in the European Union and are likely to cause *investment carbon leakage*, especially when carbon prices are ascending in future. It is a significant barrier for growth;
- c) The clear incentive for *production carbon leakage*. In the current rules the production volumes can be lowered until and including 49% (partial cessation of operation rules) while the allocation of emission allowances remains unchanged. Above a break-even CO₂ price – which is product specific – the freed emission allowances will be sold and the lacking product will be imported from outside the European Union. Then the revenues from this carbon trade will more than compensate for the cost of transportation into the European Union.
- d) Possibility of windfall profits if companies are able to charge the opportunity-cost into the product price. These profits are undesirable according to some stakeholders but desirable according to others (environmental economists) to achieve the (product) carbon price signal (resulting in lower product demand through price elasticity of demand);

Especially the problems of carbon leakage are currently hardly noted and analysed; the present debate focuses entirely on the over-allocation.

For a detailed analysis of the huge barriers and risk for growth, see the study “*A reality check of the EU Emissions Trading Scheme; Does it allow growth – the major objective of the EU industry policy?*”, 18 June 2012, undertaken by USG/Chemelot, Borealis and Essenscia.

4. Comments on the six non-exhaustive options for structural reform

We thank the Commission for their efforts to initiate this debate on structural reform of the EU-ETS and their efforts to include the input of participants of the EU-ETS. We welcome the request for consultation. The commission lists 6 options to structurally change the EU-ETS:

- a) Increasing the EU reduction target to 30% in 2020
- b) Retiring the number of allowances in phase 3
- c) Early revision of the annual linear reduction factor
- d) Extension of the scope of the EU-ETS to other sectors
- e) Limit access to international credits
- f) Discretionary price management mechanisms.

As a first general comment, any intervention “*to tackle the surplus*” of allowances is a measure to push the carbon price above a virtual price floor. However, the opposite possibility is hardly addressed (except in option f): what to do if after the present crisis the economy recovers with a – much desired – higher growth path than anticipated today?

Therefore we feel that there is an imbalance in the proposals. In our proposals for structural reform this imbalance is addressed (most important one: efficient growth should be stimulated from the new entrants’ reserve, which is guaranteed to be refilled when depleted).

In this chapter the proposals of the Commission are reviewed and commented on.

4.1. Option a: Increasing the EU reduction target to 30% in 2020

There are many ways to increase the reduction target to 30%. The Commission mentions a permanent retirement of allowances or a revision of the annual linear reduction factor (LRF). Borealis is strongly against a unilateral increase of the EU reduction target in the absence of a global climate agreement, as this would worsen the global competitiveness of EU industry and therefore would make industry much more vulnerable for carbon leakage.

As the Commission states, this option would not only require changes to the quantity of allowances in the EU ETS but also affect the targets adopted under the Effort Sharing Decision (the non-ETS obligations of Member States).

The Commission has earlier considered that an intermediate move to -25% as target for 2020 could possibly be made while the move to -30% – as foreseen in the EU ETS Directive (“up to -30%”) – still can be made but only if a new post 2012 Global Climate Agreement will be achieved.

Our assessment:

- The increase of the target to 30% in 2020 would imply a large removal of allowances (we believe this might be well above 900 Mton EUAs and rather about 1,500 Mton EUAs).
- This option – as a maximum as stipulated in the EU ETS Directive – should be maintained when a new Global Climate Agreement is achieved to prevent a too strong loss of competitiveness of the European industry. Global participation is a prerequisite for achieving a deep reduction in Europe like 80-95% by 2050 as mentioned in the Commission’s Energy Roadmap.
- This option – a unilateral increase of the EU reduction target in the absence of a global climate agreement – would worsen the global competitiveness of EU industry and therefore would make industry much more vulnerable for carbon leakage.
- This option is not a structural measure because by any new recession or crisis again an imbalance in supply-demand will occur again.
- This option does not address the fundamental shortcomings of the EU ETS, as presented above.

4.2. Option b: Retiring a number of allowances in phase 3

Retiring of any number of allowances is not a structural measure. The number of allowances involved as well as the timing and possible re-occurrences are non-structural decisions, which would undermine the trust in the EU ETS.

According the Commission, this retiring could be done by a separate decision, to be taken by the European Parliament and Council, rather than a fully-fledged revision of the EU ETS Directive. Even if this could be done indeed, then still we do not support that it should be done.

Our assessment:

- This option is not a structural measure because by any new recession or crisis the same situation as today will occur again. Any sustainable measure must not simply address the symptom, but also the cause of the problem.
- This option does not address the fundamental shortcomings of the EU ETS.

4.3. Option c: Early revision of the annual linear reduction factor

In the current EU ETS rules, the total amount of allowances will decrease by the linear reduction factor (LRF) of 1.74% annually, compared to the average annual total quantity for the period 2008-2012. The Directive foresees a review of the linear reduction factor as from 2020 with the intention to be executed by 2025. The linear reduction factor could be set at levels in-line with an overall EU target of 30% GHG reductions compared to 1990, as described under option a.

Our assessment:

- This option should not be used now but maintained when a new Global Climate Agreement is achieved; as mentioned in the Commission’s Energy Roadmap, global participation is a prerequisite for aiming a deep reduction in Europe like 80-95% by 2050.
- This option would worsen the position of industry and therefore would make industry much more vulnerable for carbon leakage, in absence of structural measures addressing the present fundamental shortcomings.
- This option would decrease allocation for new entrants competing on international level further below the benchmark which would create an even more negative investment signal.
- This option is not a structural measure because by any new recession or crisis the oversupply situation as today will occur again.
- This option does not address the fundamental shortcomings of the EU ETS.

4.4. Option d: Extension of the scope of the EU ETS to other sectors

The Commission states:

“The fourth structural option could be to include sectors less strongly influenced by economic cycles. Whereas the emissions in the EU ETS decreased in 2009 by more than 11%, in the sectors outside the EU ETS this reduction was only around 4%.

The coverage of the EU ETS could therefore be expanded to other energy related CO₂ emissions in sectors currently outside the EU ETS by for instance including fuel consumption in other sectors. ... Several policy questions would need to be addressed, such as who would carry the obligation to report emissions and surrender allowances, fuel producers or users, or some kind of a hybrid system. Therefore, this measure requires more analytical work, including on how it would relate to existing policies in these sectors.”

The final energy use – which includes electricity – of transport and households is 27% and 33% of total final energy use of the EU in 2009, while that of the industry (ETS and non-ETS) is 24%. The inclusion of sectors like transport – with perhaps shipping – and households would be expected to increase liquidity of the EU ETS market.

Extension of the scope of the EU ETS Directive has its merits, also by elimination a needed flanking CO₂ tax, but on the other hand the taxes on fuel use in transport and households are in most Member States already high. However, extension of the scope is not a structural measure to solve the flaws for the sectors which are now included in the EU ETS.

Our assessment:

As a matter of principle, Borealis would support a broadening of the EU ETS to other sectors (such as transport and housing) as a larger scheme would provide a more robust carbon market and more opportunities for low-cost abatements within these sectors, if the cap is adjusted accordingly. However, against this background, it should be evaluated whether the inclusion of new sectors in the EU ETS could be implemented without an extensive administrative burden.

This option is structural and should therefore be considered, but extension of the scope should not be a (non-structural) “backdoor” measure to significantly alter supply-demand of allowances and no reason to refrain from solving the flaws of the present EU ETS since option d:

- is not a structural measure to avoid oversupply of emission allowances, by any new recession or crisis the same oversupply will occur again.
- does not address the fundamental shortcomings of the EU ETS as outlined above.

4.5. Option e: Limit access to international credits

The Commission states in the Carbon Market Report:

“Following the exceptional macro-economic developments and the fact that emissions have been substantially lower than the cap, the quantity limit of international credits in the period 2008 to 2020 has turned out to be rather generous and is a major driver for the build-up of the surplus.

...

In phase 4 the regulatory framework could be crafted in a manner that initially allows for no or much more limited access to international credits. This would create more certainty about the effort to be undertaken in Europe and thus could spur indigenous investment in low carbon technologies, instead of external monetary and technology transfers through the EU ETS. This may, however, have to be balanced against adverse impacts on financial flows and transfer of technology to developing countries.

...

Additional flexibility regarding the access to international credits could be foreseen in case of strong and sustained price increases. Such a mechanism could have a similar function as Article 29a of the Directive, but would not result in the rapid growth of the surplus as experienced at present. Furthermore, the right international conditions could enable a strengthening of the cap and therefore allow for additional cost containment through increased access to international credits.”

A phase 4 package of measures has in our view limited impact on the medium-term carbon market and fails to address the fundamental flaws of the present EU ETS. The second possibility – regarding protection against too high CO₂-prices – deserves consideration, but still fails to address the fundamental flaws of the present EU ETS.

In a new Global Climate Agreement to be realised by 2015 the (possibly stepwise) introduction of a global carbon market should be achieved, thus reducing part of the present supply of international credits. Other new supply could emerge but such developments are still uncertain today.

Borealis believes that the system of international carbon credits is currently one of the very few recognitions of the global nature of climate change. Outspoken unilateral restrictions on their use might undermine the feasibility of a global climate agreement. Moreover, these credits introduce the needed flexibility in the EU ETS allowing European industries to comply also through lower cost abatement options in non-EU countries. Further limiting the access to these credits will lead to increased compliance cost for EU companies and possibly slow down the creation of a truly global carbon market.

Our assessment:

- This option is structural but should be considered in the context of a new Global Climate Agreement. However it is not a structural measure to cope with the present problems, because by any new recession or crisis the same situation as today will occur again
- This option does not address other fundamental shortcomings of the EU ETS as outlined above. The access to international credits is a separate issue which should be no reason to refrain from solving the flaws of the present EU ETS.

4.6. Option f: Discretionary price management mechanisms

The Commission states in the Carbon Market Report:

“To reduce volatility and prevent price drops due to temporary mismatch between supply and demand, two mechanisms could be conceived as a temporary way of supporting the carbon price.

As from the third trading period a large amount of allowances will be auctioned, a carbon price floor has been discussed as a feature applied primarily in the primary market, i.e. for auctions. A carbon price floor would create more certainty about the minimum price, giving a better signal for investors.

Alternatively, a mechanism could be devised that adjusts the supply of allowances, when the carbon price would be affected by a large temporary supply-demand imbalance, by means of a price management reserve. If decreases in the demand were to generate an excessive price decrease below a certain level deemed to affect the orderly functioning of the market, an amount of allowances to be auctioned could be deposited in such a reserve. In the opposite case, allowances could be gradually released from the reserve.

The reserve could initially be funded by reducing phase 3 auction volume by an amount corresponding to a substantial share of the accumulated surplus. The rulebook could foresee the permanent retirement of some allowances, in case the size of the reserve would exceed a certain magnitude.

Discretionary price-based mechanisms, such as a carbon price floor and a reserve, with an explicit carbon price objective, would alter the very nature of the current EU ETS being a quantity-based market instrument. They require governance arrangements, including a process to decide on the level of the price floor or the levels that would activate the reserve. This carries a downside in that the carbon price may become primarily a product of administrative and political decisions (or expectations about them), rather than a result of the interplay of market supply and demand.”

Our assessment:

- This option should only be considered after a new Global Climate Agreement, especially in case the emerging ETSs around the world adopt a price floor and price ceiling with a strategic reserve, like the Waxman-Markey Bill adopted in the US House of Representatives on 26 June 2009 (which later failed in the Senate). It is a basic change of the system.
- We note that the proposed “*six non-exhaustive options for structural measures*” are measures “*to tackle the surplus*” of allowances and therefore are in fact measures to increase the carbon price and hence the total costs. Any intervention “*to tackle the surplus*” of allowances is a measure to push the carbon price above a virtual price floor. Therefore any direct or indirect price floor should be complemented by a direct or indirect price ceiling to protect the EU ETS in extreme situations.
- However, this option does not tackle other fundamental shortcomings of the EU ETS, which were outlined above in this contribution. Therefore, the possibility of a price collar system should be no reason to refrain from solving the flaws of the present EU ETS.

5. A comprehensive structural reform package to tackle the fundamental shortcomings

Introduction

In this paragraph the views are presented to structurally improve the EU ETS. We stress the importance of a proper functioning European (and global) carbon market both for sustainability arguments as well as for a competitive European industry.

Global participation of industry and electricity production in an ETS with a same global CO₂ price and a same allocation methodology is vital to maintain the competitiveness of European industry on the global market. The ultimate globally linked ETS is likely to be based on auctioning, which reflects the polluter-pays principle.

With auctioning, the CO₂ impact expressed in €/ton-product follows actual production. With auctioning the cost price difference between two producers A and B producing the same product is given by the difference in carbon efficiency: $\text{Eff.}_A - \text{Eff.}_B$. This is exactly the same as under an allocation with benchmark multiplied with actual production, the cost price difference is: $(\text{Eff.}_A - \text{Benchmark}) - (\text{Eff.}_B - \text{Benchmark}) = \text{Eff.}_A - \text{Eff.}_B$.

Therefore auctioning is clearly an “ex-post” system, just like benchmarks multiplied with actual production, in which a provisional production is ex-post adjusted to actual production (just like the system to pay corporate and personal income taxes).

As long as there is no global auctioning system, free allocation of allowances to industry is essential to avoid carbon leakage and to maintain industrial competitiveness, while the incentive to reduce emissions is fully maintained as well. Benchmarks are the driver to improve and thus to reduce emission per ton product produced. The stringency of the benchmarks should be carefully assessed as more stringent benchmarks lead to a higher incentive for carbon leakage. Benchmarks combined with actual production follow the polluter-pays principle³.

For ‘significant capacity extensions’ actual production is already of relevance. However, in the present rules the actual production of just two months within three or six months after start-up (“start of normal operations”) determines the ‘formal’ capacity to be used for allocation. The use of this “start-up” capacity is very risky due to possible technical start-up problems, lack of market demand in times of recession and crisis, or, is not realistic for a (performance) novel product which requires years to develop market demand.

A comprehensive 7-points program

For the reasons above, the following measures as structural reform are proposed:

1. Global participation adjustments.

In a global auctioning system there will be a level playing field. But in case of a (still) poor global participation the stringency of the cap should be evaluated. Then also the allocation to industry in the EU ETS should be brought in line with those of other emissions trading schemes.

2. Benchmarks with actual production data.

Use the combination of actual production figures and benchmarks to determine the allocation of allowances. This circumvents supply-demand imbalances due to lower production due to whatever cause.

If the actual production is lower than the historical baselines the excess flows into the new entrants’ reserve (NER). If the actual production is higher than the historical production the shortage is taken from the NER. This use of actual production data and balancing with the NER removes the present

³ The same is valid for benchmarks and an ex-ante fixed allocation, but only if the production does not change. However, in reality the production volumes do move, up and down, and then competitive and environmental distortions occur. A market share winner is punished while the market share loser is rewarded, thus not reflecting the polluter-pays principle. Market share winners are most often innovative market players with more efficient technologies; these are in an ex-ante system hindered instead of stimulated. Under full auctioning, innovative market share winners are stimulated, just as under benchmarks with actual production.

barriers and risks for growth, eliminates the possibility of windfall profits (in the present ex-ante system by the possible capitalisation of the opportunity-costs) and mitigates the incentive for carbon leakage (zero incentive for production and investment carbon leakage when the benchmark is achieved).

This main *structural improvement* will avoid the risk of undermining the orderly functioning of the carbon market, as is the objective of the structural reform.

3. **Direct & indirect allocation.**

The unstable and incomplete (in terms of scope and level) financial compensation for indirect (electricity) emission should be changed to a comprehensive long term predictable **indirect allocation**, to complement the allocation for direct emissions. Companies cannot base investment decisions on an inherently unstable financial compensation.

Borealis recommends considering direct and indirect emission on a same footage. Free allocations related to indirect carbon emissions for industrial power consumers will make obsolete the (27 different!) incomplete and uncertain national (voluntary) financial compensation schemes for sectors exposed to a significant risk of carbon leakage.

4. **NER replenishment when depleted.**

The NER is used to balance the market. The NER needs to be **replenished** from the auctioning volume **if depleted**. A possible **surplus must not be auctioned**. In this way the total EU ETS cap will be maintained.

This provides for a second *structural improvement* to avoid the risk of undermining the orderly functioning of the carbon market.

5. **Sliding path allocation.**

The **stringent “top 10%” benchmarks** should be the **target for after 2020**, not immediately as from 2013. Companies need considerable lead time to invest in achieving such an ambitious top 10% benchmark. The early application of the top 10% benchmark removes significant financial resource from industry, while the same industry is supposed to undertake considerable investments to reduce emissions.

Contrary to some conventional thinking, this temporary weakening of the benchmarks does not undermine the environmental effectiveness of the scheme. The incentive to reduce emissions lies in the benchmark approach: the incentive for an investment to reduce emissions equals avoided costs plus revenues of sales of allowances.

6. **Abandon reduction factors.**

The **Linear Reduction Factor (LRF)** for new entrants and for heat users, receiving heat from electricity generators and the **Cross-Sectoral correction Factor (CSF)** should be **abandoned**. If Europe comes (hopefully) in 2-3 years out of the present crisis, more new investments for manufacturing growth should be envisaged, which then take until 2017/2018 to come on stream. The economic evaluation period is then ~ 2018-2028. But then the LRF is already as low as 91% in 2018 and 74% in 2028, which will result in very low allocations. The lower allocation combined with a most stringent benchmark and many other barriers and risks for growth in the present rules are likely to deter investments in Europe.

The present stringent top 10% benchmark in combination with the Linear Reduction Factor (LRF) of 1.74% would cause unrealistic low allocations. For example, the top 10% of 1.619 ton CO₂/ton ammonia or 28.9 GJ/ton with this 1.74%-LRF would cause an allocation for new entrants of 1.14 ton CO₂/ton ammonia or 20.3 GJ/ton in 2030 (thermodynamic minimum is 20.7 GJ/ton!). Thus CCS (carbon capture and storage) would from now on already be necessary for new ammonia plants to be built for new market demand or as replacement for older stock while the Commission's Energy Roadmap sees CCS to be viable only after 2040.

7. **Certainty of the carbon leakage status.**

The assessment of the Carbon Leakage List each five years creates uncertainty and an unnecessary risk for industry. A sudden significant drop in the allocation volume threatens maintenance investments of existing installation needed to stay in Europe and threatens the needed investments in new production capacity so much needed for the recovery of the economy.

Certainty of the carbon leakage status should be soon provided. In the overall picture of CO₂ costs combined with substantial drawbacks regarding natural gas (ref. shale gas), feedstock and electricity in Europe versus the major industrial regions in the world, we believe that the **Carbon Leakage Exposure Factor (CLEF)** can in practice be **abandoned** as long as there is no global agreement.

Please consider that actual production data already now must be carefully monitored, because of the rules for partial cessation of operations. The proposal above for a comprehensive improvement package deals with the analysed weaknesses of the present EU ETS and is very much in line with global ETS developments, for example:

California ETS and Western Climate Initiative (WCI): The allocation is based on a direct link with actual production. Note that this link was also foreseen in the Waxman-Markey Bill for a US nation-wide ETS and in the Canadian ETS, both schemes are for the time being on hold.

Australian ETS: The industry benchmarks are based on Weighted Average Efficiency and there is an indirect (electricity) allocation, of 1.0 ton CO₂/MWh. Australia has no limitation on the number of product benchmarks, which avoids difficult issues with the “fallback” benchmarks (heat, fuel, process emissions) as experienced in the EU ETS. The allocation is based on actual production, the provisional production is ex-post adjusted to actual production.

South Korea ETS: There is an indirect (electricity) allocation, as far as known there will be a link to actual production.

In conclusion: The parameters actual production and indirect allocation are not the exception but the rule in emerging emissions trading schemes globally. The move to these parameters together with the already achieved concept of benchmarks will make the EU ETS a blueprint for the world.

Yours sincerely,

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