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Bellona Europa response to the stakeholder consultation on Emission Trading System (ETS) post-2020 carbon leakage provisions

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The Bellona Foundation is an independent non-profit organisation that aims to meet and fight the climate challenges, through identifying and implementing sustainable environmental solutions. We work towards reaching a greater ecological understanding, protection of nature, the environment and health. Bellona is engaged in a broad spectre of current national and international environmental questions and issues around the world.

Pollution knows no borders, thus Bellona works with and against anyone and everyone relevant to our work, both nationally and internationally. Bellona has a solution-oriented approach to the environmental challenges and has since 1998 had extensive cooperation with a number of companies in different industries and businesses. Our approach is that to achieve results one must jointly work out the best social and environmental solutions, and make these financially profitable and viable. Bellona has always been and remains an independent watch dog that investigates, scrutinises and reports any environmental crime we uncover.

The Bellona Foundation was founded in 1986. We are currently 65 employees, working at the main office in Oslo and our three international offices in Brussels (Belgium / EU) Murmansk (Russia) and St. Petersburg (Russia). Bellona has been established with an office in Brussels since 1994.

Introduction

The granting of a higher share of free allowances to sectors in the EU ETS, deemed to be exposed to a significant risk of carbon leakage, has had a number of negative consequences for the well-functioning of the scheme. Free allocation has resulted in an allowance oversupply on the market and depressed the EUAs price, thereby undermining incentives for energy efficiency improvements needed to safeguard European industrial competitiveness. In addition, evidence from the first two trading periods shows that free allocation has led to lowered production and earlier than planned installation closure, as well as windfall profits to power companies who have passed on the cost of EUAs through product prices. Moreover, the eligibility criteria employed by the European Commission for the calculation of carbon leakage exposure, namely carbon costs and trade intensity, have been largely overestimated and based on misleading assumptions.

Bellona strongly promotes CCS for industry as a means to reconcile EU climate change mitigation and re-industrialisation objectives.

In the absence of an international agreement and a level playing field between the EU and its trading partners, ensuring protection of the EU's industrial competitiveness is essential. Bellona regards innovation and investment in low-carbon technologies, such as CO_2 Capture and Storage (CCS) as the most effective means of addressing carbon leakage concerns in the long-run. For many industrial sectors CCS is the only available technology which allows for deep CO_2 emission reductions. CCS deployment in Europe will also create and secure an estimated total of 330,000 jobs in fuel supply, CCS equipment manufacture, plant operation and CO_2 storage facility operation. Bellona, therefore, strongly promotes CCS for industry as it can enable the reconciliation of the EU's climate change mitigation and re-industrialisation objectives.

Driving the deployment of shared projects and infrastructure of EU relevance will, however, greatly depend on clear and predictable incentives for EU energy and industrial sectors.

Bellona recommends a substantially higher share of the post-2020 allowance budget than in Phase 3 to be dedicated in particular to the support of large-scale CCS demonstration projects under the NER300 programme to provide extra support to first movers.

Bellona's response to each question is outlined in the following pages.

I. General: competitiveness, carbon leakage and present free allocation rules

The questions in this section are an opportunity for stakeholders to express their general and broader view on carbon leakage issues, the present rules on free allocation of allowances and will be useful from a policy evaluation perspective.

Q1. Do you think that EU industry is able to further reduce greenhouse gas emissions towards 2020 and beyond, without reducing industrial production in the EU? ***[Yes; No; I don't know]***

Yes

Bellona recognises the value of enhancing energy efficiency and renewable energy production in combating climate change, but believes that sufficient emission reductions can only be obtained with CO_2 Capture and Storage (CCS) technologies in place. If all large factories and coal and gas power plants are equipped with CCS, about half of global man-made CO_2 emissions can be eliminated. For many industrial sectors CCS is the only available technology, which allows for deep reductions in CO_2 emissions. CCS is necessary to deal with emissions inherent to industrial processes. Bellona, therefore, strongly promotes CCS for industry as it can enable the reconciliation of the EU's climate change mitigation and re-industrialisation objectives. In addition, the need for CCS as well as for carbon negative emissions by means of Bio-CCS has been acknowledged in the 5th Assessment Report of the IPCC. The failure to act now will mean Europe will miss its objective to decarbonise by 80-95% by 2050, while damaging its competitiveness and missing out on hundreds of thousands of jobs.

Q2. Do you think that the EU ETS helps the EU industry to become more energy efficient, and thus contributes to increasing the competitiveness of European industry in the long-term? ***[Yes; No; I don't know]***

No

The low and volatile EUAs price, which has marked the first two trading periods of the EU ETS, has undermined the dynamic efficiency of the scheme, in other

words, it has failed to incentivise sufficient investments in energy efficiency improvements. Addressing this lack of dynamic efficiency and increasing the competitiveness of European industry in the long-term requires a comprehensive reform of the ETS to cure the EUAs price and send a strong signal to investors. In order to achieve this, Bellona recommends the establishment of a discretionary price-based adjustment mechanism into the ETS to adjust the overall supply of EUAs available at auctions in the market. To ensure that these adjustments have the desired impact on the EUAs price, Bellona advocates for the permanent cancellation of EUAs in cases where the price is below a certain threshold as opposed to their temporary deposition in a reserve. Setting up a price collar, i.e. a price floor and a price ceiling, would directly and immediately increase the current EUAs price. This, in turn would incentivise investment in low-carbon technologies and the energy efficiency improvements needed. Imposing a maximum price would also address concerns of a too high EUAs price and subsequently those of carbon leakage. Attaining an EUA price of EUR 35-40/tonne in 2030, believed to be sufficient for CCS to be deployed, could allow EU industry to increase its competitiveness while attaining CO_2 emission reductions.

Bellona believes that the introduction of benchmarking in the EU ETS has the potential to resolve this lack of dynamic efficiency, by ensuring that the most efficient installations are rewarded with the highest share of free allowances thus providing incentives for investment in energy efficiency improvements. The introduction of benchmarks in the third trading period was, however, too late at a time when the EUAs price was too low, and thus resulted in benchmarking having a minimal effect on energy efficiency improvements.

Q3. Do you think the EU needs to provide special (transitional) measures to support EU industry covered by the EU ETS, in order to address potential competitiveness disadvantages vis-à-vis third countries with less ambitious climate policy? ***[Yes; No; I don't know]***

Yes

In the absence of an international agreement and a level playing field between the EU and its major trading partners, EU industry needs to be provided with transitional measures to protect its industrial competitiveness. Bellona's position with regards to what the optimal transitional measures would be to address

competitiveness disadvantages and carbon leakage is outlined in the section below.

Q4. In your view, how adequate a policy instrument is free allocation and, in particular, increased free allocation for certain industrial sectors to address the risk of carbon leakage? ***[Very adequate; Quite adequate; Quite inadequate; Very inadequate; I don't know]***

Quite inadequate

Free allocation has resulted in an oversupply of EUAs in the market and has subsequently depressed their price, thereby undermining incentives for energy efficiency improvements needed to safeguard competitiveness. In fact, we have observed that free allocation can result in lowered production and earlier than planned installation closure. To resolve this issue, Bellona recommends the adoption of more stringent closure rules where in cases of closure or dramatically lowered production output, the installation's EUAs are withdrawn or suspended. Moreover, the low EUA price has also resulted in windfall profits accrued by power companies as significant part of the costs of EUAs has been passed through to product prices, in the form of higher electricity prices for consumers. Free allocation can also be problematic regarding the regulation of new entrants on the market, as it can be a way of subsidising new installations if the relevant rules are not sufficiently harmonised in the Member States.

As evidenced, free allocation is marked by deficiencies; however, the existing alternatives have been even less attractive. Sectoral agreements are challenged by the same type of international coordination problems that have impeded international climate negotiations. Border tax adjustments (BTAs) indeed help to restore a level playing field for energy-intensive sectors in the EU and to reduce carbon leakage, yet they may entail welfare losses, difficulty in implementation and compatibility issues with WTO rules. Introducing BTAs would mean adopting a punitive approach to pursuing international cooperation in climate change with a danger of igniting a 'carbon war' because of the chance of retaliation. Recycling part of permit auction revenues to ETS-sectors exposed to carbon leakage is another alternative. These revenues could be used to lower other costs such as taxes on labour or capital, or technology development and application costs. Direct financial compensation, however, does not effectively mitigate carbon leakage and being a sovereign fiscal matter would be difficult to implement at EU-level. The exemption of economic sectors from the ETS on the

other hand, is problematic given it does not achieve the original policy goal of reducing CO_2 emissions even though it addresses carbon leakage.

Therefore, because of the limited effectiveness and practicability of the existing alternatives to free allocation, Bellona calls for a more targeted carbon leakage list in the post-2015 period and a revision of the existing eligibility criteria employed by the EC which are largely insufficient in terms of measuring carbon leakage exposure. Bellona believes that in the long term, substantial policy reforms may be needed to address carbon leakage more directly. The granting of free allowances should be linked to the deployment of low-carbon technologies, such as CCS. Innovation and investment in low-carbon technologies, such as CCS, are the most effective means to address carbon leakage concerns in the long-run.

Q5. In your view, how does free allocation impact the incentives to innovate for reducing emissions? *[It absolutely keeps the incentive; It largely keeps the incentive; it largely compromises the incentive; it absolutely compromises the incentive; I don't know]*

It absolutely compromises the incentive

Free allocation has resulted in an oversupply of allowances in the market which has subsequently depressed the EUAs price to a level insufficient to provide the necessary incentives to installations covered by the ETS to innovate and invest in abatement technologies.

Q6. In your view, is the administrative burden for companies to ensure the free allocation via the implementation of the benchmarking proportionate to the objectives? *[Absolutely proportionate; Quite proportionate; Quite exaggerated; Absolutely exaggerated; I don't know]*

Quite proportionate

There seems to be no major evidence of the administrative burden being overly disproportionate. However, the administrative burden of ensuring free allocation via the implementation of benchmarking should always be minimised to the extent possible. Particular effort should be put into minimising administrative burden for new entrants.

II. Options for post-2020: Strategic choices

Beyond 2020 the total number of allowances under the EU ETS issued per year will further decline. This makes the overall balance budget available for auctioning and free allocation (the cap) each year gradually lower. At the same time, we expect increasing efforts by other major economic players in the context of the UNFCCC negotiations for a post-2020 agreement. Currently some 45% of the total number of allowances (the cap) is provided to industry for free in Phase 3 (2013-2020).

Q7. What share of the post-2020 allowance budget should be dedicated to carbon leakage and competitiveness purposes? ***[A lower share than in 2013-20; A higher share than in 2013-20; A constant share as in 2013-20; There should be no limit to overall free allocation to industry; There should be no free allocation post-2020; I don't know]***

A lower share than in 2013-20

Bellona believes that in the long term, free allocation should be abolished and that more comprehensive policy reforms should be introduced to address carbon leakage directly. On the other hand, Bellona would favour increasing the share of the allowance budget dedicated to supporting large-scale demonstration of CCS projects and innovative renewable energy for the purpose of addressing carbon leakage. Bellona welcomes alternative approaches to addressing carbon leakage, such as targeted support for CCS technologies which are optimal for obtaining significant emission reductions while allowing for industrial production to continue and therefore limiting carbon leakage. The next section further elaborates this point.

Q8. Currently the European Commission implements the NER300 programme to provide from EU ETS specific support for large-scale demonstration of Carbon Capture Storage (CCS) projects and innovative renewable energy. 300 million allowances, representing ca. 2% of total phase 3 allowances, are dedicated for this purpose. What share of the post-2020 allowance budget should be dedicated to such innovation support? ***[A substantially higher share than in Phase 3; The same share as in Phase 3; A lower share than in Phase 3; There should be no such innovation support post-2020; I don't know]***

A substantially higher share than in Phase 3

Bellona recommends a substantially higher share of the post-2020 allowance budget than in Phase 3 to be dedicated in particular to the support of large-scale CCS demonstration projects. CCS is an essential technology for mitigating CO_2 emissions from large-scale fossil fuel use and is also the only decarbonisation option available for many industrial sectors. CCS is therefore also essential for competitiveness, job retention and job creation in Europe. The deployment of CCS in Europe will create and secure an estimated total of 330,000 jobs in fuel supply, CCS equipment manufacture, plant operation and CO_2 storage facility operation. Globally the EU would have to spend ca. EUR 750 billion more on decarbonising the power sector without CCS. Since CCS allows the attainment of CO_2 emission reductions at substantially lower costs it limits the threat of carbon leakage, the principal trigger of which is the high cost of climate policy. In fact, a CIRED study shows that leakage is more than halved in a scenario with CCS included among abatement options, compared to a scenario prohibiting CCS. For the smooth establishment of this new, expanded NER300 programme Bellona urges the EC to take the following recommendations into account:

- The programme should build on lessons learnt from the first one, in particular in terms of ensuring greater flexibility with regards to criteria setting and implementation. The eligibility criteria need to be adapted per sector and should be defined with other relevant stakeholders including industry and NGOs. The evaluation decision should preferably be made in consortium with all relevant DGs, in particular DG Enterprise and DG Energy.
- Demonstration projects under the Fund should target innovative technologies which are key for the decarbonisation of the power generation sector and heavy industries. The Fund should aim at developing large scale demonstration projects for non-mature renewables and CCS.
- The programme should be established without delay. The EC foresees a start of the new Fund post-2020, thus leaving a gap of minimum seven years (given we assume two years between the launch and the first awards). The legislative basis for NER300 elapses in December 2015. A prolongation of the programme requires an amendment to the ETS Directive. It should be done as soon as possible so that the first calls take place well ahead before 2020 and the development of crucial technologies can continue. They should benefit from an even more

accelerated examination and due diligence processes than it was the case for the second call of NER300 (18 months).

- In order to catch the rapid evolution of technological innovation, Bellona believes this new funding programme should be open ended and rolling with calls for proposals and awards every 2 years. The Fund should make available a very large amount of public money, a figure of approximately EUR 25 billion.
- Unlike the current NER300, which caps EU funding per project to 50% of the eligible cost and limits the maximum funding per project at 15% of the total funding available, Bellona believes that in certain cases, a higher share of the eligible cost could be covered by the EC, in particular in cases concerning projects with community-wide benefits. However, any projects should require a substantial financial or in-kind commitment from industry, and in cases of high community support share, stipulation should be added to safeguard against project non-delivery.

Q9. At the moment, EU ETS rules do not contain a specific support scheme for industrial innovation and deployment of new low-carbon technologies (apart from support for CCS and renewables under the NER300). Do you think there should be such a financial support scheme? ***[Yes; No; I don't know]***

Yes

Bellona urges the establishment of a CCS fund to drive the development of shared projects and infrastructure of EU relevance. Early movers will incur significant upfront costs, with little transport and storage infrastructure in place and an uncertain environment for long-term investment. The fund should, therefore, cover both capex and opex to make sure CCS plants are dispatched and first movers are compensated for taking the lead in CCS deployment. An adequate financial support scheme for large-scale integrated CCS demonstration projects has the potential to drive down abatement costs significantly, thereby reducing the risk of carbon leakage. It is imperative that this fund is established sooner than 2020 to avoid delays in the much needed support to innovation and demonstration. Bellona calls for the EU to draw on the experience of CCS financing overseas, where we have observed ongoing government- and state-level support towards CCS development. While this is not based on carbon emissions trading it shows that it is possible to deliver innovation provided an effective incentive framework.

Q10. If innovative low carbon technologies in the industry are to be further supported, which could be possible sources of funding? *[It should be funded under a system similar to NER300 with extended scope to cover greenhouse gases reduction technologies in the industry; It should be funded through a new dedicated scheme financed by the revenues from auctioning (e.g. x% of the auctioning revenues); Other types of funding (please specify); I don't know]*

Other types of funding

Funding could come from the following sources:

- Free allowances from the NER non-allocated in 2020 and free allocations allocated to plants that will close before 2020 (under the IED regulation) could be monetised.
- Part of the 2014-2020 Budget could also be directed to this Fund. In particular funding could be allocated from either the 'Smart or Inclusive Growth' or the 'Sustainable growth: Natural Resources' lines of the Multiannual Financial Framework 2014-2020.
- Further funding sources to consider include Structural funds, Coal and Steel Research Fund, H2020, Connecting Europe Facilities and the tax on financial transactions. In order to ensure an optimised use of EU funds, it is essential to come up with a solution allowing ETS-covered installations to benefit from Structural Funds over 2014-2020.

Q11. In your view, is there a need for additional measures beyond free allocation and EU-level innovation support to address the risk of carbon leakage for energy intensive sectors covered by the EU ETS, post-2020? *[Yes; No; I don't know]*

Yes

As outlined in our response to question 9, Bellona recommends the establishment of a CCS fund to provide extra support to first movers to drive the development of shared projects and infrastructure of EU relevance. An adequate financial support scheme for large-scale integrated CCS demonstration projects has the potential to drive down abatement costs significantly, thereby reducing the risk of carbon leakage in energy intensive sectors in the ETS. Moreover, as discussed in our response to question 4, Bellona believes that in the long term, substantial policy reforms may be needed to address carbon leakage more directly rather than relying on compensation through free allowances. New solutions to reduce carbon leakage should also be

encouraged, such as for instance the linking of free allocations to the deployment of low-carbon technologies such as CCS.

III. Options for post-2020: Allocation modalities

There is a need for a more focused system of free allocation post-2020 because of the fact that the allowance budget post-2020 gradually shrinks. Providing innovation support would also require some headroom. There might also be a case for improving allocation modalities based on practical experience gained in developing and implementing the existing harmonised carbon leakage and free allocation rules.

Q12. Currently there are two categories for sectors in terms of exposure to the risk of carbon leakage: sectors are either deemed to be exposed to such risk (the sectors on the carbon leakage list) or not (sectors not on the carbon leakage list). Should the system continue with two carbon leakage exposure groups or is some further differentiation needed? ***[The present two groups should remain; More carbon leakage categories should be defined; There is no need for a carbon leakage list – all industrial installations should be treated as exposed; There is no need for a carbon leakage list – all industrial installations should be treated as not exposed; I don't know]***

The present two groups should remain

Bellona believes that the present two categories should remain. Introducing multiple categories of exposure could result in situations where the largest amount of free allowances will be granted to EU industrial sectors whose economic competitiveness vis-à-vis major trading partners is most threatened or already diminished. This provides perverse incentives and entails a risk of allocating free allowances into industrial sectors whose decline in Europe is likely to continue as a result of factors other than the EUAs price. Moreover, having several categories of exposure in place and therefore differentiated treatment for each would mean more administrative burden and could entail implementation issues. Nevertheless, Bellona sees it as necessary to revise the existing carbon leakage criteria, namely carbon costs and intensity of trade, as well as to define additional ones, in order to ensure that the sectors categorised as exposed to carbon leakage have been detected on the basis of objective criteria which provide a comprehensive picture of the level of exposure of each sector. Bellona's position regarding revision and expansion of carbon leakage criteria is elaborated below.

Q13. Under the current system, exposure of sectors to the risk of carbon leakage is primarily measured by the share of 'carbon costs' in their gross value added (GVA) and by the intensity of trade with third countries. What carbon leakage criteria should be defined for the post-2020 period? *[The present criteria should remain; Only the share of 'carbon costs' in the GVA should be maintained; The share of 'carbon costs' in the GVA should be maintained, but 'carbon costs' should be taken into account to the extent that they can't be recuperated in product prices; Only the intensity of trade with third countries should be maintained; Additional criteria should be defined (please specify which current criteria should be maintained and which additional criteria should be defined); Both the current criteria should be replaced and other criteria should be used instead (please specify); I don't know]*

Additional criteria should be defined

Bellona believes that both the 'carbon costs' and 'trade intensity' criteria are marked by significant shortcomings. Firstly, the calculation of the carbon costs criterion has been largely overestimated. When the sectors exposed to carbon leakage were being decided, calculations of additional costs induced from the implementation of the ETS were based on the assumption of a default auctioning level of 70% in the period 2013-2020 meaning that installations covered by the ETS were assumed to only receive 30% of their allowances for free; this has obviously not been the case and the 70% represents a dramatic overestimation of the auctioning share. Similarly, the carbon price of EUR 30/tonne of CO_2 used to calculate additional costs has been overestimated, given the low EUA price observed throughout the first two trading periods. Instead, Bellona believes the assessment should be based on an average of recent years' prices or a forward market price. Furthermore, it is important to note that the cost price differential between many trading partners is not just equivalent to the EUA price. In many countries, some forms of climate policies are in place and industry is being faced with implicit carbon costs. Also, additional carbon costs are actually lower for companies since they can make use of CERs for about 1/3 of their emission reductions and prices of CER have been below EUR 1. Moreover, carbon costs may not be an accurate criterion because of the possibility of passing through the cost of EUAs in the form of higher product prices. This has been evidenced in the first two trading periods where windfall profits were accrued by power companies. Another limitation of the criterion concerns the denominator used, namely GVA. In the medium to long-run, carbon leakage is driven by capital investment flows, and the decision

makers who are boards of companies answerable to shareholders are not pursing the generation of GVA, which spans both profit and wages, but simply profit. In this regard, the use of GVA in the denominator of carbon costs criterion is questionable: profits would be the most relevant metric, or alternatively, the cost of carbon in all production costs.

Similarly, the trade intensity criterion is inadequate. Carbon leakage rates tend to be higher the more that production increases in regions with high emissions factors. The use of trade intensities as defined by the EC addresses the issue of increased imports, but does not directly address the question of increased carbon emissions. This is distinct from production simply increasing in trading partners generally. This issue might be partially addressed by using weighted measures of trade, where the weights equal the relative carbon-intensity of the trading partner. Another issue is that the trade-intensity measure is only a proxy indicator of the potential for foreign producers to make up any shortfall in EU production. Foreign producers may be capacity-constrained, which could inhibit their ability to expand in the market. Moreover, the trade intensity criterion fails to take into account factor specificity. The more strongly a firm benefits from factors that are specific to the EU (i.e. particular skills of the local workforce, agglomeration of economies, stability of institutions) the more unlikely it is to re-locate production abroad in response to implementation of the ETS.

Given these significant limitations of the existing two criteria, Bellona sees the need to take into account additional factors when calculating carbon leakage exposure. One important factor is the ability of companies to pass through the carbon costs and therefore incur windfall profits, thereby reducing their risk of carbon leakage. Further omitted factors that contribute to determining the extent to which an industry is affected by carbon prices include the price elasticity of demand, the degree of competition within the sector, and carbon abatement opportunities. It is important to note the potential for these factors to evolve over time following changes in transport costs, and the appearance of new or exit of firms, among others.

Q14. What thresholds should be defined for the criteria measuring the risk of carbon leakage? *[The present threshold (30% for the stand-alone criteria and lower value for the combination of several criteria) should be maintained; Other thresholds should be defined (please specify); I don't know]*

Other thresholds should be defined

The EC's rationale behind the three routes to qualification and the thresholds used in each has been unclear. Currently, it is possible to qualify entirely through the trade-intensity criterion, even if the industry emits zero CO_2 emissions. And indeed, most sectors presently on the carbon leakage list have qualified through the trade intensity criterion. Bellona believes that the combination of the carbon costs and trade intensity criteria, and in particular the trade intensity criterion on its own, does not provide an accurate assessment of carbon leakage exposure. Only the combination of both the cost intensity, taking into account abatement opportunities, and inside-outside firm market shares, together with information on market conditions and customer price elasticity, is able to provide a full picture. It is important that when assessing the carbon leakage exposure of a firm one looks at the carbon costs incurred in combination with the firm's ability to pass on this cost in the form of higher product prices.

Q15. In the current system, there is a possibility to assess the exposure of sectors to the risk of carbon leakage also based on qualitative criteria (abatement potential, market characteristics and profit margins). Do you think that similar qualitative criteria should be maintained to complement the quantitative criteria? *[Yes, it is important to maintain a certain level of discretion in the system for justified cases; No, all criteria should be based on simple metrics and linked to clearly defined thresholds; I don't know]*

Yes

Bellona believes that the existing quantitative criteria do not provide an adequate assessment of the carbon leakage exposure of a given sector, and therefore supports maintaining qualitative criteria to complement the quantitative ones. However, it is important to note that the usage of qualitative assessments can be problematic because national data on electricity usage, as well as other variables, are not available for all Member States, thus forcing the EC to rely on private surveys. This could undermine the transparency of the process. Despite these issues, qualitative criteria are needed to complement quantitative criteria in order to provide the full picture of carbon leakage exposure. Further qualitative criteria which would improve the assessment of carbon leakage exposure include projected production investments within and outside the EU, and the contribution of each sector and product to the EU economy taking into

account the whole value chain, and including the transportation and recycling of the products.

Q16. Currently, the list of sectors exposed to the risk of carbon leakage is valid for five years. What should be the validity of the list for the post-2020? *[Five years; Longer (please specify); Shorter (please specify); In line with the duration of ETS Phase 4; I don't know]*

Shorter

Free allocation is not the optimal policy measure for addressing carbon leakage in the long run. For this reason, the validity of the carbon leakage list should be shortened in the post-2020 period with the aim to abolish it completely in the long-run. Bellona sees innovation and investment in low-carbon technologies, such as CCS, as the most effective means to address carbon leakage concerns in the post-2020 period. CCS is an essential technology for mitigating CO_2 emissions from large-scale fossil fuel use and is also the only decarbonisation option available for many industrial sectors. CCS is therefore also essential for competitiveness, job retention and job creation in Europe. In the long term it could be the optimal means to reconcile climate change and re-industrialisation objectives, thus avoiding carbon leakage. Bellona, furthermore, welcomes the design of new mechanisms to address concerns of industries exposed to high international competition and to limit carbon leakage. Moreover, the validity of the carbon leakage list should be shorter in order for allow the EU to respond to potential far reaching emission reduction commitments from major trading partners and avoid locking itself into certain levels of protection.

Q17. Currently benchmarks are set to the average greenhouse gas emission performance of the 10% best performing installations in the EU for a given product. What adaptations of benchmarks for 2021 onwards should be considered, if any? *[The present approach of average of the 10% most efficient installations should remain; The approach should be more stringent (please specify); The approach should be less stringent (please specify); I don't know]*

The approach should be more stringent

The introduction of benchmarking in the third trading period was welcomed by Bellona. Benchmarking rewards the most efficient installations with the highest share of free allowances which in turn incentivises improvements in energy efficiency and boosts Europe's industrial competitiveness. Nevertheless, it is

important to note that the 'historical dimension' which has been criticised in grandfathering remains in benchmarking too, with the use of historical production activity levels in the calculation of allowance entitlement. Despite this departure from predominance of grandfathering to benchmarking, the concept of grandfathering remains, however, now being associated with production level rather than emission level. The use of historical reference levels is associated with the same problems of grandfathering. Bellona welcomes the employment of benchmarking based on the last 2 years of production.

Q18. Should benchmarks be revised to reflect the technological state of the art? *[Yes (please specify how often); No; I don't know]*

Yes

It is necessary for benchmarks to be revised to reflect the technological state of the art, but it is important that this revision is not undertaken too regularly to ensure predictability and certainty for investors. Bellona believes that a benchmark should be established for the duration of two 2 years to reflect the last 2 years of production.

Q19. Currently, historical production data are used to determine the allocation due to each installation. Operators had the possibility to choose between 2005-2008 or 2009-2010 as basis years. Should the production data used to calculate allocations in Phase 4 (post-2020) be updated? *[No, the same baseline period chosen for allocation in Phase 3 should be maintained also for post-2020 (Phase 4) allocation; Yes, production levels in 2016-2018 should be the basis for post-2020 (Phase 4) allocation; Other (please specify); I don't know]*

Other

The current allocation methodology employed in the ETS is based on historical production data and does not take into account market dynamics, production changes over time or the future production outlook of installations. This means that the amount of free allowances will remain unaffected irrespective of changes in production. Output-based allocation would be an effective means to reduce the carbon cost per unit of output and can prevent situations of over-allocation in times of economic recession. However, an output-based approach raises concern over removed direct incentives for efficiency, as installations would be provided with perverse incentives to emit more CO_2 in order to receive more allowances in future. Another issue linked to output-based allocation relates to transparency and availability of installations-specific information on

production activities. As a result, Bellona is not in favour of an output-based approach to allocation but believes allocation needs to reflect the recent economic reality.

Q20. Is there a case for any deviations from general harmonised allocation rules, and what would be the risks involved? *[No, there should be no deviations; Yes, there should be deviations with higher allowances for installations facing specific hardships; Yes, there should be deviations with lower allowances for installations enjoying very favourable circumstances; Both of the two previous options; I don't know]*

No, there should be no deviations

There should be no deviations for individual installations in order to guarantee fair competition between companies and production sites. In the very exceptional case of installations facing specific hardships, the situation of the entire sector should be investigated, so that potential adjustment measures applied to that site do not distort fair competition. In general, however, Bellona does not favour granting a higher share of allowances to installations facing special hardship as this would trigger competition among installations in trying to prove their eligibility for deviation and would undermine the objective of the scheme. Moreover, providing deviations goes against the objective of decreasing the share of free allocation and eventually abolishing it completely.

Q21. Should there be a harmonised EU-wide compensation scheme for indirect costs, i.e. for increases in electricity costs resulting from the ETS? *[No, the present approach should be maintained, i.e. that Member States can provide such compensation based on state aid guidelines; No, and there is no need for financial compensation by Member States, either; Yes, in the form of additional free allocation; Yes, in the form of financial compensation at EU-level; I don't know]*

No, there is no need for financial compensation by Member States, either

IV. Options for post-2020: Innovation support

The transition to a low-carbon economy requires continuous innovation activities in many sectors and relatively long time and high level of investments to the final

prototypes. The sectoral 2050 roadmaps have revealed some of the key technologies and innovations needed to master this transition. First movers in low-carbon innovation not only have the prospect of earning high returns on successful innovations, but also run the risk of failure. Hence support with public money might be justified, in particular for full scale demonstration projects, to complement other EU (and private) funding possibilities.

Q22. In your view, at which stage of the innovation process is there a particular need to strengthen the EU's innovation support? Please rank the options from the most important to the least important.

Most important: At the commercialisation stage

Important: At the conception stage

Less important: To implement a large-scale pilot

Least important: To implement a small-scale prototype

It is important to note that this ranking applies in particular for innovation support towards CCS development.

Q23. Should the allowances funding low-carbon innovation support come from the Member States' auction budgets or from free allocation? *[From the Member States' auction budgets; From free allocation; From both; Other; I don't know]*

From both

V. Other issues

Q24. Are there any other issues you would like to raise?

During the first two trading periods of the EU ETS we have observed a low and volatile EUA price which has failed to incentivise sufficient abatement efforts and investments in low carbon technologies. The EC's proposal to establish a Market Stability Reserve (MSR), however, does not address the scheme's main problem of a low and volatile EUA price. Instead it aims to address the existence of a large allowance surplus by adjusting the short-term auction supply without

affecting the long-term cap. Bellona believes that the ambiguous design features of the envisaged MSR will undermine its ability to stabilise the EUA price and ensure a well-functioning ETS. Bellona doubts the ability of the ETS to deliver the EUA price of EUR 35-40/tonne necessary for CCS deployment and therefore calls for the provision of support and transitional measures to facilitate the deployment of low-carbon technologies. Bellona in particular regards CCS as a crucial technology which could allow EU industry to increase its industrial competitiveness while attaining necessary CO_2 emission reductions.