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Bellona Response to the Consultation on Revision of the EU Emission Trading System (EU ETS) Directive

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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 IPCC's 5th Assessment Report (5AR) makes clear the necessity of Carbon Capture and Storage (CCS) and negative emissions, attained via Bio-CCS, in halting global average temperature rise below 2°C. Moreover, the 5AR warns that the exclusion of this technology from the mitigation portfolio would entail abatement costs more than doubling. Bellona, therefore, sees the establishment of an innovation fund (i.e. NER400) available to both the power and industrial sectors as an important step in the right direction.

The fund should be established as early as possible in order to ensure continuity of funding to crucial climate technologies, such as CCS. This is to be achieved either through a prolongation of the current NER300, the possibility of recycling remaining funds for a third call under the current NER300, or through the creation of a 'bridge fund' between the two funds.

The NER400 should build on lessons learnt from its predecessor, which has been marked by a distorted awarding process based on inadequate criteria and lack of transparency. Projects in the power sector should be assessed on the basis of generation of clean electricity. In the industry sector, assessment should be based on the production of a "clean" tonne of cement or steel for instance. Moreover, when assessing industrial CCS projects, the efficiency criteria should not only be based on thermal efficiency but also on CO_2 reduction efficiency. Other key criteria to CCS projects should include storage and transport infrastructure developed; CCS hubs developed; CO_2 emissions reduced; and job retention and creation potential of a given project.

The realisation of any single CCS project in the NER300 competition would have generated more low carbon electricity than all the innovative renewable generation projects awarded funds combined – and with less use of NER300 funds. On a project-by-project basis, CCS projects are also more capital-intensive than RES projects. **Bellona therefore calls for at least 50% of the funds to be dedicated to CCS projects in order to ensure the timely deployment of this key climate mitigation technology.**

The NER400 should be better protected against EUA price risk. This can be done thought the setting up of a 'guarantee fund' in cases where the EUA price falls below a minimum threshold – a determined 'strike price'. The NER400 should also ensure both capex and opex are covered in order for CCS plants to be dispatched and first movers to be compensated for taking the lead in CCS deployment. Unlike the 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, **the NER400 should not cap maximum funding for CCS projects, or should at least set a higher cap for CCS than for RES projects.** The EC should ensure the compatibility, and therefore possibility of accumulating funds from the NER400 and other sources of funding, including the Modernisation Fund.

I. Free allocation and addressing the risk of carbon leakage

Q1. The European Council called for a periodic revision of benchmarks in line with technological progress. How could this be achieved in your view and, in particular, which data could be used to this end? How frequently should benchmarks be updated, keeping in mind administrative feasibility?

The periodic revision of benchmarks should pursue the objective of reflecting the most realistic performance of EU installations and incentivise the uptake of technological state of the art. However, this revision should not be 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.

Q2. The European Council has defined guiding principles for the development of post-2020 free allocation rules which provide inter alia that "both direct and indirect costs will be taken into account, in line with the EU state aid rules" and that "the most efficient installations in these sectors should not face undue carbon costs leading to carbon leakage" while "incentives for industry to innovate will be fully preserved and administrative complexity will not be increased" and while "ensuring affordable energy prices". Do you have views how these principles should be reflected in the future free allocation rules?

Bellona supports the Council Conclusion statement that most efficient installations should not face undue carbon costs leading to carbon leakage nor should installations benefit from windfall profits resulting from over-allocation of allowances.

An amendment to the allowance distribution mechanism should be introduced so that allowances are allocated using more accurate benchmarks as well as activity levels, based on more recent results (i.e. ex-post). This approach is expected to avoid the application of the cross sectoral correction factor and contribute to reducing energy prices. Moreover, it is of utmost importance that the new rules provide the right stimulus to the industry to continue investing in innovation and low carbon technology. The granting of free allowances should be linked to the deployment of low-carbon technologies, CCS.

Innovation and investment in low-carbon technologies, such as CCS, is the most effective means to address carbon leakage concerns in the long-run. As made clear in the IPCC's 5AR, 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[1]. 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.

3. Should free allocation be given from 2021 to 2030 to compensate those carbon costs which sectors pass through to customers? How could free allocation be best determined in order to avoid windfall profits?

Free allocation should be justified by real needs and should reflect a concrete exposure to potential carbon leakage. In principle, compensation should not be given for carbon costs that are passed through to consumers. Experience has shown that it is very difficult to calculate ex-ante the right amount of free allocation; therefore ex-post calculations should be preferred.

II. Innovation Fund

The European Council has concluded that 400 million allowances in 2021 to 2030 should be dedicated for setting up an innovation fund to support demonstration projects for innovative renewable energy technologies, carbon capture and storage (CCS) as well as low carbon innovation in industrial sectors. To make this fund operational, a legal basis has to be created in the EU ETS Directive while further implementation modalities can be set out in secondary legislation. The work can build on the experience with the existing "NER300" programme which made available 300 million allowances for CCS and innovative renewable energy technologies.

With regard to establishing the legal basis for the innovation fund as part of the revision of the EU ETS Directive, the Commission seeks feedback on the following questions:

Q1. Do you see reasons to modify the existing modalities applied in the first two calls of the NER300? Are there any modalities governing the NER 300 programme which could be simplified in the design of the innovation fund? If you see the need for changes, please be specific what aspects you would like to see changed and why.

Bellona strongly commends the establishment of a dedicated innovation fund available to both power and industrial sectors to support the deployment of low-carbon technologies, such as CCS. The IPCC's 5AR makes clear the necessity of CCS and negative emissions, attained via Bio-

[1] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf

CCS, in limiting global average temperature rise to 2°C. The report also warns that the exclusion of CCS from the mitigation portfolio would entail abatement costs more than doubling. The expansion of the NER programme is therefore an important step in the right direction. In order to ensure the smooth and timely operationalisation of the fund, it needs to build on lessons learnt from its predecessor. To this end, Bellona urges the EC to take the following recommendations into account:

Scope:

- Demonstration projects under the NER400 programme should target innovative technologies and business models, which are key for the decarbonisation of the power generation sector and heavy industries. The Fund should aim at developing **full-chain commercial scale CCS projects as well as part chain projects** that contribute towards the commercial deployment of the technology in the 2020s.

Implementation:

- The fund should be **established as early as possible**. As currently foreseen by the EC, the start date of the Fund is 2021, which would create a gap of a minimum of 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 of the ETS Directive. This 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.
- Alternatively, there is a need for a **'bridge fund'** between the NER300 and the NER400 to avoid discontinuation of funding to crucial climate technologies such as CCS and needlessly delaying European climate action. For instance, Bellona would support the **organisation of a new call under the existing NER300 scheme** using the significant amount of funding returned to the EU institutions as a result of NER300 applicants not taking projects through delivery. This funding is readily available and would not impact the ETS market as allowances have already been monetised. However, in this case, it must be ensured that the modalities could be adapted, to allow learning from previous rounds to be taken into account.
- In addition, given the substantial planning time required for CCS projects of the scale eligible for the current programme, the necessary **flexibility** to accommodate currently planned relevant projects should be allowed, to increase the chances of a successful awarding process.

Project Assessment:

- The **assessment criteria** employed in the NER300 programme have resulted in a distorted awarding process. The ETS Directive states that the award of NER300 funds shall be dependent upon the verified avoidance of CO_2 emissions. However, in practice projects have been reviewed primarily on the cost per tonne of CO_2 stored. This did not take account of the cost of electricity output, and may have resulted in poor value for money for co-financing Member States that would have been obliged to fill any resulting funding gap[2].
- The eligibility criteria need to be **adapted per sector** and should be defined with other relevant stakeholders including industry and NGOs. The evaluation decisions should be made in consortium with all relevant DGs, in particular DG Growth and DG Energy.
- Bellona urges the EC to consider the following eligibility criteria: **1) in the power sector** (including CCS), the EIB should assess projects on the basis of generation of clean electricity, i.e. levelised cost of electricity. This is particularly important for the business case for CCS projects; **2) in the industry sector**, assessment should be based on the production of a "clean" tonne of cement or steel for instance. Moreover, when assessing industrial CCS projects, the efficiency criteria should not only be based on thermal efficiency but also on CO_2 reduction efficiency; **3) other criteria of importance to CCS projects** should include storage and transport infrastructure developed; CCS hubs developed; CO_2 emissions reduced; and job retention and creation potential of a given project.
- When submitting project applications to the EIB, "**indicative" political support** from Member States should be accepted, instead of requiring full endorsement, if other guarantees are available. Lack of political support was one of the reasons why the Polish and Romanian CCS projects (Belchatow and Getica) were not eligible to award. Political support should not, in any case, be a criterion for eligibility.
- Moreover, Member States should be allowed to provide support to CCS projects not only through direct investment, but also through other incentives, such as by allowing tax breaks or other support commensurate with the match funding required.
- Given the **particularities CCS projects face**, i.e. permitting delays, issues resulting from the transposition of the CCS Directive, large funding gaps, and timing issues etc, it is important to ensure that the assessment of CCS project plans takes these specific circumstances into account and that they have a **degree of inbuilt flexibility**[3]. For the reasons mentioned, CCS projects should benefit from a more accelerated examination

[2] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf
[3] CCSnetwork, *Process and General Recommendations for NER300 funding programme*

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

- In the first round of the NER300, the EIB submitted the initial eligibility checks and preferred plans to the EC, but **information was not shared** with the project sponsors. This lack of transparency meant project sponsors were unable to react and amend their plans and decisions (e.g. Air Liquide project). Bellona therefore calls for enhanced openness and transparency towards Member States and project sponsors.

Funding Arrangements:

- The new fund should be better protected against **EUA price risk**. The low EUAs price auctioned for the NER300 scheme has greatly reduced funds available to immediately support CCS projects. The reduced **amount of funding** meant that projects successful in the competition would receive less support than initially anticipated, placing an additional burden on co-founders such as host states and sponsor companies. It also resulted in a rationalisation of the scheme, with fewer full-scale plants able to be supported. Since this diminished the chances of success for individual candidates, it also reduced their incentive to devote significant resources to taking part in the process[4]. To address this issue, Bellona calls on the EC to consider a potential **cluster element** in the innovation fund meant as infrastructure facilities for any CCS potential project. As 'enabling infrastructure' this would offer the benefit of supporting multiple sectors and multiple CCS projects, while accumulating knowledge for replicability, helping to lower costs for future CCS projects and engaging Member States in fewer projects which could be beneficial to multiple Member States. Strategic collaboration between Member States in developing shared infrastructure and economies of scale would significantly drive down the costs of CCS deployment.
- Moreover, Bellona calls on the EC to set up a '**guarantee fund'** in cases where the EUA price falls below a minimum threshold – **a determined 'strike price'** - and therefore the innovation fund fails to deliver the necessary funding, in order to guarantee targeted support for CCS.
- The innovation fund should offer the flexibility of determining the amount of funding cycles in consideration with the EUA price.
- The realisation of any single CCS project in the NER300 competition would have generated more low carbon electricity than all the innovative renewable generation projects awarded funds combined – and with less use of NER300 funds. CCS is able to cost-effectively deliver large amounts of CO_2 abatement in the transition away from fossil fuels (*see diagram at the end of this section*). On a project-by-project basis, CCS

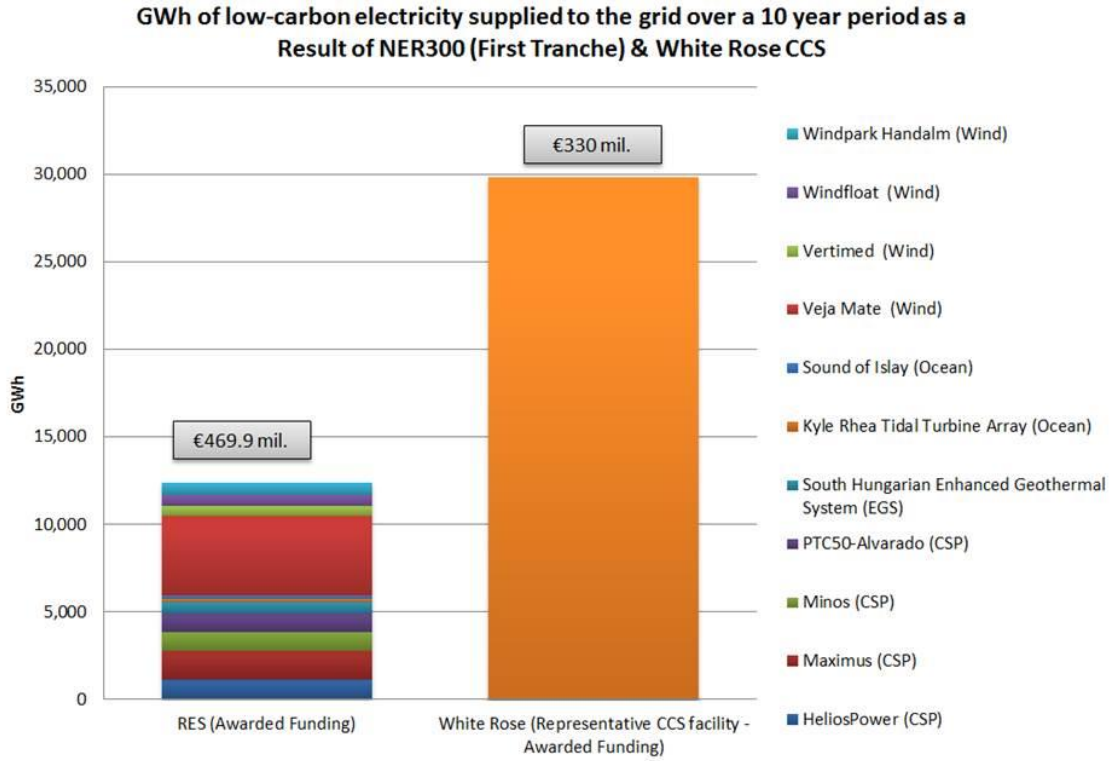
[4] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf

projects are also more capital-intensive than RES projects. Bellona therefore calls for **at least 50% of the funds to be dedicated to CCS projects** in order to ensure the timely deployment of this key climate mitigation technology.

- Early movers of CCS will incur significant upfront costs, with little transport and storage infrastructure in place and an uncertain environment for long-term investment. The funding available in the NER300 has been insufficient to cover both capital and operating costs. The NER300 successfully funded the White Rose project, but this has been possible due to the UK government ensuring the operational support to the project. The NER400 should therefore **cover both capex and opex** to make sure CCS plants are dispatched and first movers compensated for taking the lead in CCS deployment[5].
- Unlike the 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 the NER400 should not cap maximum funding for CCS projects, or should at least set a higher cap for CCS than for RES projects. However, any project 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.
- In order to facilitate CCS project progress towards commercial scale projects within 2020, Bellona recommends that **innovation funds are made available before operation** (i.e. during the engineering, development and construction phases) to those projects having satisfied broader pre-defined eligibility criteria. In particular, Bellona recommends the EC to draw on the experience of Alberta where funding schemes for CCS have been put in place, which guarantee a certain amount of funding during each stage of the project, i.e. construction, delivery and operation. These funding schemes, in combination with the presence of a carbon price of approximately €12 per tonne of CO_2, have acted to facilitate the business case for CCS in Alberta.
- Moreover, the EC should ensure the compatibility, and therefore **possibility of accumulating funds** from the innovation fund and other sources of funding (‘**blending’**), which may include the following:
    - From the ETS: 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. Allowances from the Market Stability Reserve (MSR) could also be sold on the market. Without being monetised, allowances from the ETS could also be used as collateral to leverage financing at an agreed carbon price.
    - Modernisation funding

[5] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf

- Part of the Juncker Investment Plan for Europe: the dedicated European Fund for Strategic Investments (EFSI) should facilitate financing and investments in key areas such as infrastructure, energy, R&I.
- Structural funds, Coal and Steel Research Fund, H2020, Connecting Europe Facilities and the tax on financial transactions are also some sources of funding that could add up. Looking forward, the EC should in any case include funding for the EU Innovation Fund in its proposal for the next MFF (starting 2021) to be submitted at the lasts on 1 January 2018.



Q2. Do you consider that for the extended scope of supporting low-carbon innovation in industrial sectors the modalities should be the same as for CCS and innovative renewable energy technologies or is certain tailoring needed, e.g. pre-defined amounts, specific selection criteria? If possible, please provide specific examples of tailored modalities.

Bellona welcomes the extended scope of the NER400 scheme to support low-carbon innovation in industrial sectors and believes that certain tailoring will be needed.

As highlighted in the diagram in the previous section, the realisation of any single CCS project in the NER300 competition would have generated more low-carbon electricity than all the innovative renewable generation projects awarded funds combined – and with less use of

NER300 monies. CCS is able to cost-effectively deliver large amounts of CO_2 abatement in the transition away from fossil fuels[6]. Moreover, for many industrial sectors CCS is the only available technology which allows for deep CO_2 emission reductions. The extension of support for low-carbon innovation in industrial sectors is of crucial importance in security economic competitiveness, job retention and job creation in Europe. In fact, the deployment of CCS in Europe will create and secure an estimated total of 330,000 jobs in fuel supply, CCS equipment infrastructure, plant operation and CO_2 storage facility operation[7].

Because of the capital-intensive nature of CCS projects as well as the fact that all the available funds in the first round of the NER300 went to RES projects, Bellona calls for **at least 50% of the funds to be dedicated to CCS projects** in order to ensure the timely deployment of this key climate mitigation technology.[8] With regards to the confirmation stage, CCS projects should qualify for funding from the innovation fund if there is a realistic chance that the project will continue – even if not all uncertainties and issues have been resolved (including timing and funding) – in order to take the invaluable step of progressing industrial scale CCS demonstration projects in Europe.

Q3. Are there any complementary aspects regarding innovation funding you would like to add to the replies given the previous written consultation in the light of the European Council conclusions?

As stated above, Bellona considers crucial to ensure continuity between the NER300 and the innovation fund, and therefore supports the **possibility of recycling of remaining funds for a third call under the current NER300**. This provided the modalities could be adapted, to ensure that lessons learnt from previous rounds were taken into account.

The NER300 failed to effectively support CCS deployment as a result of a number of factors, including the initial design of the award process, the funding structure of the award, Member State participation and liability and the way funds were raised. Under the NER300 EU funding per project was capped to 50% of the eligible cost and the maximum funding per project was limited at 15% of the total funding available. The lack of flexibility has prevented the EC from adapting to circumstances, i.e. the low EUA price. In order to ensure the success of the NER400 Bellona opposes the setting of arbitrary maximum funding limits and calls for the **granting of flexibility to adjust rules** in the course of the programme, and **prioritise project delivery**.

[6] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf
[7] http://bellona.org/assets/sites/6/CCS-Market-Incentives-Report.pdf
[8] CCSnetwork, *Process and General Recommendations for NER300 funding programme*

Bellona also would like to have more clarity concerning the **role that the EIB** will play in the next NER400: it should be clear what role the EIB will play in the future, especially when it comes to assessment and monitoring of projects and instalment of funds.

Finally, Bellona underlines the need to clarify the **relation of the NER400 with the modernisation fund**: the Council Conclusions decided to dedicate 2% of ETS allowances to the establishment of a modernisation fund to improve energy efficiency and modernise the energy system. Full coordination between the two funds must be ensured and Member States should be given the possibility to combine the funds and use the revenues in the most efficient way.

III. Modernisation Fund

The European Council has concluded that 2% of the total EU ETS allowances in 2021 to 2030 should be dedicated to address the particularly high investment needs for Member States with GDP per capita below 60% of the EU average. The aim is to improve energy efficiency and to modernise the energy systems of the benefiting Member States. The fund should be managed by the beneficiary Member States, with the involvement of the European Investment Bank (EIB) in the selection of projects. To make this fund operational, a legal basis has to be created (in the EU ETS Directive), while further implementation modalities can be set out in secondary legislation. With regard to establishing a legal basis for the modernisation fund as part of the revision of the EU ETS Directive, the Commission seeks feedback on the following questions:

Q1. Implementation of the modernisation fund requires a governance structure: What is the right balance between the responsibilities of eligible Member States, the EIB and other institutions to ensure an effective and transparent management?

Bellona suggests that eligibility criteria should be introduced against which Member States will present their plans[9]. The EIB would be the institution in charge of monitoring the plans and disbursing funding. There should be **clear rules in terms of accountability** of Member States: in case the modernisation plan is not executed, funds shall be returned, made available for similar type of projects/ dedicated budget lines, and in no means dispersed in general budgets. It is important that the EIB is strict in ensuring that modernisation funding is only channelled towards investments that **further EU decarbonisation objectives**.

In the setting of the modernisation fund, lessons should be drawn from the experience of the NER300. The lack of transparency observed in the first round of the NER300 meant project

[9] See response to Q3 below for more on Bellona's recommendations regarding eligibility criteria

sponsors were unable to react and amend their plans and decisions. Bellona therefore calls for a **high level of openness and transparency** towards Member States and project sponsors. Timeframes and deliverables of the modernisation fund should be set out clearly up front, and any changes communicated in a timely fashion.

Q2. Regarding the investments, what types of projects should be financed by the modernisation fund to ensure the attainment of its goals? Should certain types of projects be ineligible for support?

It is important that the EIB is strict in ensuring that modernisation funding is only channelled towards investments that further EU decarbonisation objectives. In order to prevent a lock-in to inefficient high carbon infrastructures, Bellona believes that the modernisation fund should target **in particular CCS**. CCS is able to cost-effectively deliver large amounts of CO_2 abatement in the transition away from fossil fuels, but also requires greater funding to cover its capital-intensive nature.

On the other hand, Bellona strongly disapproves of any funding being directed towards capacity payments to underutilised, inefficient power plants for being available on the system as back up to renewables. Existing coal power plants should be ineligible for modernisation funding unless equipped with CCS technology[10].

Q3. Should there be concrete criteria [e.g. cost-per-unit performance, clean energy produced, energy saved, etc.] guiding the selection of projects?

Bellona believes that the allocation of funding under the modernisation fund should be guided by concrete criteria. The EIB should be responsible for assessing that projects selected for funding comply with the criteria. Bellona commends the **EIB's internally set EPS** of 550 grams of CO_2 per KiloWatt Hour – the criteria for funding future fossil-fuel projects, and calls for it to be respected in order to qualify for funding under the modernisation fund. Furthermore, Bellona urges the EIB to consider the following criteria: **1) in the power sector** (including CCS), the EIB should assess projects on the basis of generation of clean electricity, i.e. levelised cost of electricity. This is particularly important for the business case for CCS projects; **2) in the industry sector**, assessment should be based on the production of a "clean" tonne of cement or steel for instance. Moreover, when assessing industrial CCS projects, the efficiency criteria should not only be based on thermal efficiency but also on CO_2 reduction efficiency; **3) other criteria** of importance to CCS projects include storage and transport infrastructure developed; CCS hubs developed; CO_2 emissions reduced; and job retention and creation potential of a given project.

[10] http://bellona.org/assets/sites/6/Bellona_Brief_Capacity_markets.pdf

Q4. How do you see the interaction of the modernisation fund with other sources of funding available for the same type of projects, in particular under the optional free allocation for modernisation of electricity generation (see section below)? Would accumulation rules be appropriate?

Accumulation rules should be appropriate in particular when it concerns funding of CCS projects and in particular when these are being undertaken in lower income countries. The accumulation of funds stemming from the innovation and modernisation funds should be made possible for project having met the eligibility criteria of both funds. The EC should, therefore, ensure the compatibility of the NER400 and modernisation fund. The fact that both funds are managed by the EIB could ensure success of both funds and more projects being funded.

Q5. Do you have views on how the assessment of the projects should be reflected in the forthcoming 2030 governance process (e.g. national climate programmes, and plans for renewable energy and energy efficiency)?

Bellona commends the recommendations made in the recently released final report following the CCS Directive Review, in particular with regards to Member States being requested to develop national 2050 roadmaps, based on an 80% emission reduction target and including an assessment of whether or not CCS is required.

Bellona believes that Member States, while drafting their comprehensive plans for climate and energy policies for 2030, should elaborate a decarbonisation strategy which clearly outlines how targets are to be met with, or alternatively without, CCS. Member States also should be encouraged to establish an appropriate remuneration framework for CCS projects. Bellona calls on the EC and Member States to build a constructive and iterative dialogue for further shaping the 2030 governance framework and defining credible decarbonisation pathways at Member State level for 2030 and beyond, up to 2050. **These detailed decarbonisation pathways must include CCS as a positive landmark within Member States' strategy towards decarbonisation of their power and industry sectors.** Ideally, these pathways shall indicatively translate the CCS milestone set at EU level. Member States should be encouraged and not face any obstacles to the design and implementation of ad hoc support schemes for CCS projects, in both the investment and operational phases. Member States that prefer not to deploy CCS at this point should put forward alternative, cost-effective decarbonisation routes.

Q6. Should the level of funding be contingent on concrete performance criteria?

As mentioned above, Bellona believes that the allocation of funding under the modernisation fund should be guided by concrete criteria. The EIB should be responsible for assessing that projects selected for funding comply with the criteria. Bellona commends the **EIB's internally set EPS** of 550 grams of CO_2 per KiloWatt Hour – the criteria for funding future fossil-fuel

projects, and calls for it to be respected in order to qualify for funding under the modernisation fund. Furthermore, Bellona urges the EIB to consider the following criteria: **1) in the power sector** (including CCS), the EIB should assess projects on the basis of generation of clean electricity, i.e. levelised cost of electricity. This is particularly important for the business case for CCS projects; **2) in the industry sector**, assessment should be based on the production of a "clean" tonne of cement or steel for instance. Moreover, when assessing industrial CCS projects, the efficiency criteria should not only be based on thermal efficiency but also on CO_2 reduction efficiency; **3) other criteria** of importance to CCS projects include storage and transport infrastructure developed; CCS hubs developed; CO_2 emissions reduced; and job retention and creation potential of a given project.

IV. Free allocation to promote investments for modernising the energy sector

The conclusions of the European Council provide for the continuation after 2020 of the mechanism foreseen in Article 10c of the EU ETS Directive, which allows some Member States to opt to hand out free allowances to power plants in order to promote investments for modernising the energy sector. The current Article 10c modalities, including transparency, should be improved to promote investments modernising the energy sector, while avoiding distortions of the internal energy market.

With a view to reviewing and improving the current modalities as part of the revisions to the EU ETS Directive, the Commission seeks feedback on the following questions:

Q1. How can it be ensured that investments have an added value in terms of modernising the energy sector? Should there be common criteria for the selection of projects?

Bellona believes that the modernisation of the energy sector should go hand in hand with its decarbonisation. It is therefore necessary that in future any project submitted undertakes an assessment of the CO_2 emissions reduction. Bellona calls on the EC to ensure prohibition of any support to new-built CO_2-intensive power plants[11]. Such plants wouldn't be investible due to rising EUA price in the future if they weren't receiving free allowances (through inclusion on the carbon leakage list). Free allocation is designed to accommodate legacy plants, not to enable construction of new power plants.

[11] http://bellona.org/assets/sites/6/Bellona_Brief_Capacity_markets.pdf

Q2. How do you see the interaction of the free allocation to energy sector with other sources of funding available for the same type of projects, e.g. EU co-financing that should be made available for the projects of common interest under the 2030 climate and energy framework? Would accumulation rules be appropriate?

As stated above, Bellona believes that the accumulation of different sources of funding should be allowed, especially for large, pan-European projects and community-wide benefits. Moreover, there should be clear and simple rules allowing the contribution of different Member States to projects.

Q4. The maximum amount of allowances handed out for free under this option is limited. Do you think eligible Member States should use the allowances for a period of time specified in advance (e.g. per year), or freely distribute them over the 2021-2030 period? (Please explain your motivation.)

Member States should in principle be free to use the allowances as they judge best; however, it must be ensured that free allocation does not translate into an unexpected excessive liquidity in the market. This can be avoided with a functioning MSR in place. A more stringent budget of free allowances would provide a constant abatement incentive.

Moreover, Bellona calls for the establishment of a **discretionary price-based adjustment mechanism** to intervene and adjust the overall supply of EUAs available at auctions in the market. This mechanism is to be entrusted to a regulator (i.e. European Central Bank of Carbon) who is to regulate over-supply and avoid excessive price movements affecting the orderly functioning of the market. The Carbon Bank is to be assured of a strong mandate and the political independence to execute this mandate. In order to ensure stability and predictability, effective and transparent criteria for intervention will need to be drawn up[12].

Q5. Should there be priorities guiding the Member States in the selection of areas to be supported *[yes, no]*

If so, which of the following areas, if any, currently supported through investments for modernisation of electricity generation up to 2020 should be prioritised for support up to 2030 and why? *[interconnections, smart grids, super-critical coal, gas, renewable energy, energy storage, energy efficiency, other (please elaborate)]*

Bellona believes that priority areas should be specified. These should be compatible with key messages of the 2050 Roadmap and the 5AR of the IPCC, which make clear the imperative role

[12] http://bellona.org/assets/sites/6/020713-Bellona-EC-Green-Paper-EU-Climate-and-Energy-2030.pdf

of CCS in attaining the 2°C target. Bellona therefore calls on the EC to ensure CCS is granted a priority area status.

Q6. How can improved transparency be ensured with regard to the selection and implementation of investments related to free allocation for modernisation of energy? In particular regarding the implementation of investments, should allowances be added to auctioning volumes after a certain time period has lapsed in case the investment is not carried out within the agreed timeframe?

Bellona considers that allowances handed out for free for a particular purpose (e.g modernisation or for a specific investment) should not return to the auction volumes if they are not used – to avoid the risk of inflating the market. At the moment all allowances not handed out for free by the end of Phase 3 will be auctioned by 2020 – therefore adding liquidity to an already over-flooded market. A solution could be to place those in a "pool of allowances" that are dedicated towards this specific purpose. In case the investments do not take place, free allowances should not be handed out, but added to the pool.

In order to improve transparency with regard to the selection and implementation of investments, clearly set criteria as well as feedback on eligibility should be communicated to project sponsors well in advance by the EIB.

Q7. Under the current EU ETS Directive, at least 50% of the revenues generated from the auctioning of allowances should be used by Member States for climate-related purposes. For the calendar year 2013 Member States have reported to have used or to plan to use 87 % on average to support domestic investments in climate and energy. Do you consider the current provisions regarding the use of the revenues adequate for financing climate action? If not, please explain why?

Today the EU ETS Directive only recommends that "at least 50% of the revenues from the EU ETS should be used for climate action" and this does not secure the necessary support for investment in climate and energy. Some Member States e.g.; Germany have already gone further, and have now a legal obligation to spend 50% of the revenues for energy and climate. Bellona would support this threshold to be increased to 100% and made binding, in order to make funding available for low carbon technologies. Moreover, the reporting of ETS revenues shall be incorporated into Member States' decarbonisation strategies for 2030.

V. General Evaluation

Q1. How well do the objectives of the EU ETS Directive correspond to the EU climate policy objectives? How well is the EU ETS Directive adapted to subsequent technological or scientific changes?

The EU ETS Directive sets two principal objectives, emissions reduction at least cost and CO_2 price signal to incentivise investment in low carbon technology. These objectives are overall in line with the wider EU climate policy objectives.

However, while the EU is on track in terms of attaining emissions reductions, investment in low carbon technology has been slow, mainly because the current low carbon price does not provide the right incentive to investors. CCS in particular has been highlighted as central to achieving long-term decarbonisation objectives, but to date, the EUA price has not provided the necessary investment signal to develop this crucial technology.

The system designed by the ETS Directive is fairly rigid and does not take into consideration possible economic downturn or other externalities, creating *de facto* an obstacle to the smooth functioning of the market. The ETS Directive has not been sufficiently flexible so far to adapt to technological changes.

Bellona therefore calls for a prompt and comprehensive reform of the ETS, through the implementation of the MSR as soon as possible and the amendment of the **linear reduction factor** from the current 1,74% to at least 2,2%. What is more, the setting of a **price collar**, i.e. price floor and price ceiling, could act as a direct and immediate means to incentivise investment in low-carbon technologies and reduce price uncertainty. Imposing a maximum price would also address concerns of a too high EUA price which in turn would remove EU competitiveness concerns and those of carbon leakage[13].

Furthermore, the ETS Directive currently does **not reward activities which go beyond zero and achieve negative emissions**, as in the case of Bio-CCS. In the U.S. Bio-CCS is already being deployed at industrial scale. It is vital, however, that stringent biomass sustainability criteria are enforced alongside any reward mechanism for negative emissions so as to avoid increased use of limited biomass resources for power, fuels and other products[14].

Given the recognition by the 5AR of the IPCC of Bio-CCS as a crucial tool to remove excess CO_2 from the atmosphere and reach the 2°C, this calls for a revision of the ETS Directive to ensure the rewarding of negative emissions. If negative emissions were rewarded, the EUA price, once

[13] http://bellona.org/assets/sites/6/Bellona_brief_ETS.pdf
[14] A policy strategy for CCS, IEA/OECD 2012

high enough, could make Bio-CCS economically viable. Bellona therefore calls for a comprehensive study to be undertaken to find the most effective way to reward negative emissions (e.g. at production, use and/or storage stage). Moreover, Bellona calls for Bio-CCS projects to be granted priority treatment in the assessment process of innovation and modernisation funds. Finally, sustained efforts must be made to ensure a comprehensive and sustainable EU bioenergy policy is in place.

Q2. What are the strengths and weaknesses of the EU ETS Directive? To what extent has the EU ETS Directive been successful in achieving its objectives to promote emission reductions in a cost-effective manner compared to alternatives, e.g. regulatory standards, taxation?

Bellona divides the key strengths and weakness of the ETS as follows:

Strengths:

- EU-ETS provides an explicit CO_2 price signal and is market-based. Hence it induces an economy-wide, transparent CO_2 price which facilitates cost-efficient, technology-neutral mitigation. The ETS does not pick winners and losers and assures quantifiable GHG reductions.
- The EU-ETS provides flexibility over other instruments such as taxation, technology mandates or EPS. It fosters innovation and minimises costs to consumers and industry. Furthermore it allows for the support of energy-intensive, trade-exposed (EITE) industry, and it generates funds which can be used in part to support low carbon technology advancement.
- The ETS has created a European common framework, a single CO_2 price for Europe for the 45% of emissions that are covered by the scheme and a liquid market for the trading of CO_2 certificates.
- It has helped businesses to focus on their emissions and on how to reduce them.
- It provided a model for other jurisdiction to follow, including lesson to learn and mistakes to avoid.

Weaknesses:

- **Overlapping regulation:**
    - For the ETS to be effective, interfering regulations need to be limited in scope and time.
    - The projector of the cap needs to be more calibrated with trajectory of energy efficiency, renewable deployment and any other non-ETS measures.
- **Over/under-allocating free allowances (carbon leakage support):**

  - By allocating free allowances on basis of historical production levels, the ETS does not effectively account for deliberate (i.e., gaming the system) or involuntary (slowing economic growth) downturns in industrial output which lead to reduced production rates. This increases the surplus of emission allowances on the market leading to "windfall profits" for some sectors taking advantage of over-allocated allowances.
  - A discretionary supply adjustment mechanism is missing (i.e. Carbon Bank).
- **Continuing uncertainty around legally binding level of ambition**, in particular linear reduction factor.

The ETS should remain the central tool of EU climate policy, providing a predictable, meaningful and robust carbon price and a long-term driver for CCS. However, the carbon price has persisted at low levels and is likely to remain so through the 2020s. **A prompt and comprehensive reform of the ETS** is therefore needed, through the implementation of the MSR as soon as possible and the amendment of the linear reduction factor from the current 1,74% to at least 2,2%. Bellona also recommends the introduction of a discretionary price-based adjustment mechanism to regulate over-supply and avoid excessive price movements affecting the orderly functioning of the market. What is more, the setting of a price collar, i.e. price floor and price ceiling, could act as a direct and immediate means to incentivise investment in low-carbon technologies and reduce price uncertainty. Imposing a maximum price would also address concerns of a too high EUA price which in turn would remove EU competitiveness concerns and those of carbon leakage[15]. Read Bellona's position on the MSR and recommendations for the way forward here.

What is more, the introduction of an **EU-wide EPS** would provide an earlier, more stable, signal for the decarbonisation of the power sector – smoothing the ETS price trajectory. An EPS would not replace the carbon price in the ETS but would complement it by providing a safeguard that ensures investment flows only to energy resources that can contribute to achieving EU decarbonisation objectives. EPS for CO_2 is already beginning to be part of EU climate and energy policy, by virtue of the fact that the EIB has decided to no longer fund any new power generation projects that emit more than 550gCO_2/kWh. Bellona commends the EIB-set EPS and calls for it to be respected in order to qualify for funding under the modernisation fund.

[15] http://bellona.org/assets/sites/6/Bellona_brief_ETS.pdf