ZEP input to the design of modalities governing the proposed Innovation Fund and Modernisation Fund to be established under the EU ETS Directive

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Executive Summary

The European Commission proposed in its Summer Package 2015 that the existing NER300 programme should be replaced by an Innovation Fund under Phase IV of the EU Emissions Trading System, made up of an initial endowment of 450 million allowances. This Fund, supplemented by a Modernisation Fund for eligible Member States, would support the deployment of CCS projects, innovative renewables and to deliver emissions reductions from industrial installations.

NER300 aimed to support the European Council's objective of 12 operational CCS demonstration projects by 2015. For multiple reasons, including the inadequacies of the NER300, not a single commercial scale CCS project is yet operating in the EU. In order to ensure that the Innovation Fund is fit for purpose and can deliver commercial scale CCS projects ZEP has undertaken an initial review of the NER300 Decision (2010/670/EU) and identified high level recommendations.

ZEP believes that the Innovation Fund should be made significantly more flexible than the NER300: this applies on multiple levels from the balance of funding between technologies, the process of achieving geographical balance, right through to the technology categories prescribed in Annex 1 of the Decision. ZEP strongly recommends moving away from the full value chain approach of NER300 towards a more outcomes-focused approach that also enables part-chain projects to come forward. Projects awarded funding should be compatible with the Paris Agreement and the EU 2050 Roadmap, taking account of 2030 objectives but not losing site of longer-term energy and climate goals.

In particular, for the Innovation Fund implementing decision, ZEP recommends that:

1. The Funds should be able to support the development of part-chain and CO_2 transport and storage infrastructure projects, including funding for "market makers" as described in the ZEP Executable Plan.
2. That a geographical balance can best be achieved through allowing an increase in the funding rate for projects that deliver greatest EU added value and which contribute towards the decarbonisation of multiple Member States.
3. If a project is awarded funding from more than one source of EU funding, those funds should be allowed to accumulate. Under the NER300 scheme projects awarded funding would have had any additional EEPR funding deducted from its NER300 total.
4. Project selection should move away from award based on the cost of performance defined by the total eligible cost divided by the amount of CO_2 stored towards a more flexible system that recognises the value in infrastructure development and the clean output of industrial processes (including electricity generation).

ZEP Secretariat, Mauritskade 33
2514 HD The Hague,
Netherlands

info@zero-emissionplatform.eu
www.zeroemissionsplatform.eu

5. The requirement for Member State support should be revisited to make it easier for projects to apply for, and receive funding from the new Innovation Fund.

Introduction

In its proposal for revising the EU ETS Directive, the European Commission suggests the introduction of dedicated funds to support innovation in low carbon technologies and modernisation in the energy sector. The ZEP exists as the European Technology Platform for Carbon Capture and Storage (CCS) and sees the Commission proposals as an important step towards securing further EU support for CCS under the 2030 framework for climate and energy policies and as an integral part of the Energy Union Strategy.

This paper presents ZEP's recommendations regarding how such funds should be structured in order to foster deployment of innovative low carbon technologies. It is structured according to the articles of the Commission Decision on *"laying down criteria and measures for the financing of commercial demonstration projects that aim at the environmentally safe capture and geological storage of CO_2 as well as demonstration projects of innovative renewable energy technologies under the scheme for greenhouse gas emission allowance trading within the Community established by Directive 2003/87/EC of the European Parliament and of the Council"* (the Decision). The paper outlines ZEP's input to the new implementing decision for the Innovation and Modernisation Funds and follows previous input relating to changes to the EU ETS Directive.

In particular, when it comes to ZEP's recommendations for increased compatibility across funds, matching of timelines, and adequate support for transport & storage infrastructure, these should be taken into account for both the Modernisation and Innovation Funds.

Innovation fund

The European Commission proposed the endowment of 450 million allowances under the EU ETS, to support CCS beside innovative renewable energy and energy intensive industry. ZEP welcomes the proposal, however notes that CCS and other innovative low carbon technologies will require multi-year support to get it to deployment phase. Therefore ZEP believes that a long-term mechanism should be put in place, as it would best support break-through of innovative projects.

In the impact assessment that accompanies the ETS legislative proposal, the Commission analyses different options for the outline of the fund, including the possibility to move away from the present current grant-based option for a permanent financial support provided through a financial instrument. The Commission has decided to continue with a grant scheme. ZEP agrees that a grant scheme will be the most appropriate option for the new Funds but would also welcome a separate pot being set aside for loans and/or financial guarantees that could be made available to successful bidders to support project financing.

Article 2: Principles

ZEP believes there should be as much flexibility as possible in the number of allocation rounds and allowance auctions, in order to maximize the auction revenues and therefore the total funding available.

Article 2.2 of the Decision prescribed that 200million allowances had to be auctioned in the first round and 100 million allowances in the second, which meant the European Investment Bank (EIB) had to auction 200 million when the EUA price was very low. The total revenue from monetisation would likely have been higher if the EIB had had flexibility to switch that round (e.g. 100 million then 200 million) – or even decide for itself what to auction when.

Article 2.3 enshrined that the maximum funding rate for projects awarded NER300 funding would be 50% of the eligible costs. The Commission has proposed that the funding rate for projects awarded funding under the Innovation Fund should increase to 60% of the eligible cost. ZEP welcomes the proposed increase to 60% funding rate, but would suggest that the funding rate for CCS projects could be increased further still, perhaps even to 100%. Experience from the NER300 programme suggests that a lack of Member State support was one of, if not the most significant barrier to developing viable projects. On this basis, there are grounds to suggest that a higher funding rate may be justified for CCS projects.

ZEP is strongly supportive of up to 40% of funding being made available independent of verified avoidance of CO_2 emissions. It is important that this new flexibility is used to allow pre-financing of projects, including the development of infrastructure and part-chain CCS projects**.**

The Commission proposal currently maintains the previous NER300 limit of the maximum funding per project at 15% of the total funding available under the Innovation Fund. ZEP believes that with the current price forecast, a 15% funding limit may disadvantage some of the larger projects (especially CCS projects). Whilst ZEP understands the rationale for why the 15% limit was imposed, it believes that more flexibility should be enabled in cases where projects deliver significant EU added value, in particular where regional CCS initiatives could reduce costs and deliver benefits to multiple Member States. ZEP suggests therefore that the 15% cap on the amount of money a project is able to receive should be flexible enough to offer increased funding to regional projects.

ZEP strongly believes that funding under the Innovation and Modernisation funds should be combinable with other EU and Member State funding programmes. Large investments needed for CCS could be supplemented, in particular, by funding under the Modernisation Fund and/or Connecting Europe Facility if and when appropriate, but access to these additional sources of funding should not result in a further limitation on the amount of funding a project is eligible to receive under the Innovation Fund.

Article 2.3 of the Decision established the principle that where financing under the NER300 was combined with funding from the EEPR programme, the amount of funding received from NER300 would be reduced by the amount of funding under the EEPR. Given the current shortage of commercial scale CCS projects under development in the EU, and considering the scale of investments required to realise large-scale, first of a kind projects, ZEP believes that funding from multiple EU sources should be additional to each other and seen as alternative.

To aid projects that could be supported by multiple funding sources, ZEP recommends that the terms and conditions, including timelines for awards for the Innovation and Modernisation

Funds, are matched with those of other relevant funding programmes (e.g. the Connecting Europe Facility and Horizon 2020).

Article 3: Relevant costs

Article 3.2 established a requirement for the eligible cost base of a CCS project to be defined on the basis of the initial 10 year operating period. This period seems arbitrary when compared with the potential variability in operational lifetime of CCS projects, noting that the various parts of the CCS chain may well have very different lifetimes and therefore very different net present values. This could particularly be the case in a CCS retrofit project, for industrial installations, or where existing pipelines or offshore facilities might be used. Moving forward, ZEP believes that project developers should be afforded greater flexibility on the length of time used to define the eligible costs.

In the NER300 legislation, relevant costs of CCS are those borne by the project as a result of the addition of CCS equipment to a conventional plant. ZEP believes that this definition of additional cost is too restrictive and should be broadened, especially in consideration of the application of CCS to industry and in view of developing hubs. When defining additional costs, the entire value chain should be taken into consideration.

The present definition arguably has made it more difficult to assess the extra-costs for some technologies. At present it is relatively easy to assess extra investment costs for a post-combustion retrofit project, while it is more difficult to establish for an oxy-fuel new build project, for example. Moreover, the "operating benefits" definition makes sense only for retrofit projects, but not for new build CCS projects, where CO_2 would be captured from the very beginning; therefore carbon cost would not be there.

The State aid guidelines for Energy and Environment published on 1 July 2014 acknowledge CCS can benefit from State Aid both for investment and operation up to 100%. In the case of CCS, it is also essential that studies needed prior to Final Investment Decision are considered an integral part of a CCS project, and could therefore benefit from State Aid up to 100% (classification as Environmental study would only allow partial State Aid (50% to 70% intensity rate). The new rules should make clear that all the studies linked to a CCS project qualify for the same aid intensity rate as CCS (100%), as stated in the Guidelines.

Article 4: Role of the European Investment Bank

ZEP believes that the EIB will play a crucial role in ensuring the successful implementation of the Modernisation Fund and that it should have a prominent role when it comes to the selection criteria and the process for selection of projects.

Article 5: Selection procedure

Article 5.3(d) established that the relevant Member State should submit an assessment of the total projected amount of CO_2 stored in the first 10 years of operation to the EIB and the Commission to help inform the NER300 selection procedure. ZEP believes that additional flexibility should be afforded here to support the development of part-chain and CCS

infrastructure projects. For CCS projects, Member States should instead be required to submit an assessment of:

- The projected storage capacity of any CO_2 transport and storage infrastructure to be developed as part of the project; and/or,
- The potential CO_2 mitigation expected over the lifetime of the facilities; and/or,
- The projected amount of CO_2 to be captured from industrial facilities as part of the project; and/or,
- The contribution of the project towards reducing the costs of future projects; and/or,
- The technology and consortia readiness; and/or,
- The projected amount of CO_2 to be stored within the first 10 years of operation.

The project selection procedure could then be designed around a scoring system that determines the best projects based on multiple criteria, giving a different weighting to different criteria depending on the location of the proposal and the expected future contribution of CCS to reducing emissions within that region.

Article 6: Eligibility criteria

Article 6.1 required that eligible projects must fall into one of the categories set out in Annex 1 of the Decision. This marked out sub categories in a rigid manner, without always taking into account the realistic prospects of feasibility or research interest for the type of technology. ZEP believes that the categories and thresholds prescribed in Annex 1 were far too prescriptive; this constrained the type and number of eligible projects, didn't allow for any technological innovation throughout the lifetime of the NER300, and increased the economic challenges of developing large-scale CCS projects to developers. For these reasons, Annex 1 should be replaced with a more flexible framework, based on the individual needs and constraints of each of the relevant constituency groups (e.g. the power sector, steel producers, cement producers, etc.).

Independent modelling, supported by the ZEP's own analysis, shows that the application of CCS to industrial processes will be of key importance for the decarbonisation of the European economy and therefore stresses the need for eligibility criteria flexible enough to encompass all the different application to industry. For instance, when it comes to industry, thresholds need to be carefully evaluated or should only be used as indicatively. The 500,000 tCO_2/year requirement for industrial projects was demonstrated to be too stringent and prevented pilot projects from being eligible. Moreover, ZEP believes an additional category should be created for Bio-CCS technology.

Article 8: Project selection

Article 8.1 established that 8 projects falling under Part A.I of Annex I and 1 project in each project subcategory specified in Part A.II of Annex I would be funded. In actuality this approach proved to be too specific: NER300 calls funded no CCS project during the first funding round and only 1 CCS project during the second round. There was clearly no balance between CCS and renewable technologies, and therefore how the money will be allocated in the future needs revisiting. ZEP appreciates why Article 8.1 was designed in such a technology-specific manner but believes that an alternative approach – designed in collaboration with the CCS community – will need to be adopted for the Innovation Fund selection procedure.

Article 8.2 established that the cost-per-unit performance for CCS projects would be calculated as the sum of the amounts specified in Article 5(3)(b) and (c), divided by the total projected amount of CO_2 stored in the first 10 years of operation. As demonstrated through the award decisions for NER300, this ranking formula for CCS proved to disadvantage CCS applied to gas-fired power stations compared to coal. For example, a typical CCS project on a CCGT plant might capture around 1 million tCO_2/annum whereas a typical coal CCS project might capture 4-5 $MtCO_2$/annum. The existing ranking criteria would therefore favor coal over gas, regardless of whether the gas CCS project was able to produce a higher clean output of electricity. ZEP believes that the ranking criteria should not give preference to any particular fuel type, but notes that there is also a need to consider how negative emissions can be appropriately rewarded through the application of CCS to electricity generated from sustainable biomass.

Similarly to the above, Article 8.2(b) and (c) in the Decision, which speaks to the need for 3 saline aquifer and 3 oil/gas reservoir storage projects, was overly prescriptive and appears to have been based on an arbitrary analysis of expected CCS deployment in Europe. For this reason, ZEP believes that this level of prescription should be removed for the Innovation and Modernisation Fund modalities.

With respect to ranking of projects, a possible solution could be to adopt a two-step approach. The first criterion, applied within categories and sub categories defined by the legislation, could be technology neutral and focus on the CO_2 incremental abatement. The second one would discriminate among projects based on the cost per volume out clean output produced. For power (including CCS), it would be the generation of clean electricity (which is more relevant when it comes to business cases for CCS projects); for industry, the production of a "clean" ton of cement or steel for instance. Other eligibility and ranking criteria could be the replicability of projects or their return on investment. It is important that the EIB and other relevant stakeholders are consulted as part of the discussions on the new ranking criteria.

The formula of pro-rata-ing based on the sum of amounts requested by the eligible CCS projects and the amounts requested by the eligible renewables projects, proved to be too arbitrary. ZEP recommends that if there are no/insufficient CCS projects submitted or awarded, then the funds should not be spent on more of the remaining technology categories. Instead, the money should be set aside and used during the subsequent round, to provide an equal chance to more CCS projects. Article 8.2 of the Decision also required the lowest ranked projects to be dropped in a balanced way across the different technology categories if the money produced via auction is less than expected. ZEP believes that this should be maintained so that the best projects can continue to receive the support initially awarded so as to minimize the risk of a funding shortfall.

Article 8.4 established that "at least one and no more than three" projects should be supported in one Member State. Moving forward, ZEP believes that project selection should focus on the added value and impact of the awarded projects at European level. This should recognise that, for some Member States, part-chain projects may be the most effective solution. For some Member States a series of CO_2 capture projects might be desired, for others it may be utilising natural CO_2 storage resources. These projects should each be eligible for funding separately in recognition that they could link up and benefit each other.

Article 9: Award decisions

Article 9 stated that award decisions would be conditional on final investment decisions (FID) being taken within 48 months of adoption of the award decisions, 60 months for saline aquifers. This timeframe may be insufficient for CCS projects, which can involve substantial periods of pre-investment in FEED studies and storage characterisation before FID can be taken. Furthermore, the process of licensing and permitting of storage sites is relatively novel to the vast majority of Member States and developers and can therefore take longer than expected. ZEP appreciates the need to impose a timeframe on FID but recommends that this for CCS the indication of 60 months for all categories of store is given with the possibility to take exceptions into consideration.

Article 10: Monetisation of allowances

Article 10 required the EIB to "sell the allowances for the first round of calls for proposals before the award decisions are adopted by the Commission for each round of calls". Reiterating our comments on Article 2 of the Decision, ZEP believes that the total revenue from monetisation would likely have been higher if the EIB had had flexibility to decide for itself what and when to auction. Much greater flexibility should therefore be awarded in the Decision relating to the Innovation Fund.

Article 11: Disbursement of revenues and use of non-disbursed revenues

Article 11.1 laid out the requirements concerning entry into operation (stable CO_2 injection post commissioning). ZEP believes that these have proven to be too prescriptive. ZEP considers that the 4-year period indicated in the Decision is unnecessarily stringent, especially in view of supporting the development of hubs, where infrastructure does not yet exist. The impact assessment suggests longer periods should be considered and ZEP recommends employing a higher degree of flexibility in the Innovation Fund modalities.

Article 11.2 established that the funding rate for CCS projects would be calculated by dividing the awarded funding by 75% of the projected total amount of stored CO_2 in the first 10 years of operation. In order to cover some of the risks, NER300 projects could receive a certain amount of upfront funding with a Member State's guarantee, followed by the remaining funds once it has demonstrated at least 75% of the target performance. ZEP believes that an element of upfront funding should be maintained, irrespective of a Member State guarantee, to provide unrecoverable support for development capital in the case of CCS projects. ZEP supports disbursing the remainder of a funding award following the achievement of specific milestones. If combined with an initial over-programming of projects against funding this could ensure that faltering projects could be easily replaced by well-developed projects in reserve.

ZEP strongly recommends that the Innovation Fund is used to support the development of CCS transport and storage infrastructure. CCS infrastructure projects could be stand-alone projects or part of a full-chain project. For the latter, funding should not be restricted to a capacity proportional to the amount of transport and storage capacity to be utilised by the anchor capture project.

Article 11.3 of the Decision established the principle that disbursement for a given year would only take place if knowledge sharing requirements for that year are fulfilled. Rectification in a subsequent year was not allowed. This is unnecessarily stringent.

Article 11.4 limited the disbursement period to 10 years for CCS projects. ZEP believes that this period should continue to match the length of time on which the eligible costs were defined (see response to Article 2) but equally believes that additional flexibility is needed to ensure that the timeframe supports the wide range of potentially eligible CCS projects.

Additional remarks

Large scale demonstration projects of innovative technologies are by nature complex and exposed to multiple risks. Taking into account the long process of NER300 like scheme (at least 6 years from submission to operations for a renewable project), it may well happen that the initial consortium collapses and that the operator has to change the supplier (and hence the technological solution) initially chosen. In this regard, the current NER300 rules are extremely strict. Should the project sponsor want to modify its application, it enters not only a very lengthy process but also faces uncertainty of agreement by the Commission. This puts the whole project at risk.

As for the NER 300, Member States should play a key role as their support will be critical to the delivery of projects. However, for some CCS projects, the necessary financial endorsement (and the legally binding contract to be signed between the parties) by the Member State has proved in some cases to be an obstacle. This was one of the reasons why the Polish and Romanian CCS projects (Belchatow and Getica) were ineligible. To avoid a similar situation in future, as long as Member States support such as guarantees, tax benefits or other measures proportional to the funding requirement is provided, only ”indicative” political support should be required. It should not, in any case, be a criterion for eligibility.

Modernisation Fund

General remarks

ZEP believes that the Modernisation fund could be key for CCS deployment in some of the lower-income Member States and that it should be combined with the Innovation Fund wherever possible. ZEP therefore recommends that the general rules governing the Funds should be harmonised to the greatest extent possible.

Criteria for supported projects

ZEP believes that for some of the Member States beneficiaries of the Modernisation Fund, supporting the right projects will be crucial and indispensable for their decarbonisation strategy. Therefore the use of the Modernisation Fund needs to be consistent with the EU’s 2050 decarbonisation ambitions, National Climate and Energy Plans and the EU’s INDC under the Paris Agreement. For this reason, eligibility should be clearly defined in advance. ZEP does not support use of these funds to build new unabated fossil fuel power plants.

The criteria for the selection of investments must take account of the wider European interest, with Member States that are not beneficiaries having the opportunity to oppose funding allocations that may contradict this interest.

Large scale projects to be supported as matter of priority

Given the significant dependence on fossil fuels and the pressing need to reduce carbon emissions, ZEP believes that the Modernisation Fund would be most efficient if used primarily to fund large scale projects. In fact, large scale CCS projects would ensure a more effective transition to a low carbon economy through the transformation of the power generation system.

Support for infrastructure

As highlighted above, ZEP considers that the Modernisation Fund should be able to support investments in CCS infrastructure, in a similar manner to the Innovation Fund. Member States should be able to access Modernisation funds to support the development of CO_2 pipelines and stores. For Member States without the necessary pre-conditions for storage (e.g. geology, political will, public acceptance), the Modernisation Fund should be available to support regional cooperation and investment in CO_2 pipelines to transport CO_2 from the source of emissions to an appropriate storage location.