ZEP Advisory Council 52

13th September 2017

Agenda Item 8: Network Policy and Economics

8.a. Network Policy and Economics Update

Appended to this paper is an update for the ZEP Network Policy and Economics

8.b. EPS Dagmara enquiry and response

Appended to this paper is the enquiry from Dagmara Koska and the response provided by ZEP

8.c European Court of Auditors consultation

Appended to this paper is a consultation by the European Court of Auditors on financial support for RES and CCS.

8.d ZEP feedback to Commission on PCI applications

Appended to this paper is the response submitted to the Commission's public consultation on PCI proposals.

8.e Proposal for new NWPE work programme

Appended to this paper is a proposed NWPE work programme, based on the suggestions proposed at the ACEC Away Day.

European Zero Emission Technology and Innovation Platform

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13th September 2017

Agenda item 8: Network Policy and Economics update

Co-chairs: Lamberto Eldering (Statoil), Angus Gillespie (Shell), Jonas Helseth (Bellona)

Network Policy and Economics met in The Hague on 23 August. The group discussed the priorities for the Network identified at the ACEC Away Day to inform its forward work programme. A proposed work programme is appended to the update. Other topics covered included:

- Hydrogen & CCS, with update from Statoil
- Projects of Common Interest
- SET- Plan Implementation Plan, with update from Joelle Rekers of Netherlands Ministry of Economic Affairs
- Norwegian CCS project

Temporary Working Group Projects of Common Interest

The group produced a response to the public consultation on PCIs. The consultation itself consisted of one question for which a “yes” or “no” answer was to be provided however, there was also an option to submit position papers separately. The survey and position paper are appended to this update.

Temporary Working Group Policy and Funding

- EPS and EU Capacity Markets

Since the ZEP position paper was approved and distributed, an enquiry was received from Dagmara Koska, Cabinet member to VP Šefčovic, asking what level ZEP would recommend reducing the figure of 550g/kWh to. ZEP’s response is appended to the update.

- European Court of Auditors consultation into EU financial support for RES and CCS

The ZEP Secretariat was approached by the European Court of Auditors for a meeting to discuss the effectiveness of EU financial support for RES and CCS. From this meeting, ZEP has been invited to respond to a consultation on this topic, for which the deadline is 15 October. The consultation addresses the effectiveness of financing mechanisms including NER 300, InnovFin, EEPR CCS, ERA- NET and Horizon 2020 in meeting the previous (2009) SET- Plan objectives as well as whether the funding mechanisms available are well aligned to the current SET-Plan process.

As this is a detailed consultation, the TWG proposes that it spends time engaging with relevant stakeholders, including those involved in the current SET-Plan process, before producing a draft

response. Therefore, the TWG asks that the AC endorses the ACEC to approve the response before the deadline of 15 October.

- Element Energy report on smart funding pathways

The report by Element Energy has been completed and a foreword added by I24C, who commissioned the report. The report is expected to be made publically available in September. It was previously agreed at AC51 that ZEP would produce its own position paper, referencing the findings of the report, and use this to engage with stakeholders. TWG P&F will produce a draft paper once the report is available.

Temporary Working Group – Energy Intensive Industries and CCU Policy

Chair: Rob van der Meer (HeidelbergCement)

At the AC51 it was agreed the ACEC would adopt the paper on CCU and Energy Intensive Industries in order for it to be used in engagements in September. The TWG is re- drafting the paper based on feedback from the AC.

ZEP AC52

25th July 2017

Question from Dagmara Koska:

What threshold would you have in mind and why?

Response from ZEP:

While ZEP has not undertaken specific modelling on capacity markets, past ZEP modelling of the wider EU energy system (CO_2 Capture and Storage (CCS) Recommendations for transitional measures to drive deployment in Europe, ZEP, 2013) looked into the effect of an EPS set at 225g/kWh in 2030. This report concluded that "An EPS set at 225g/kWh in 2030, on the other hand, prevents investment in unabated gas and gas with CCS is selected; it then advances lignite, coal and gas CCS and by 2050 increases the total level of CCS deployment." This modelling was based on the assumption of an effective CO_2 price under the EU ETS of 35-40 €(2010)/tonne by 2030.

Hence ZEP requests that the Commission looks into the impact of a lower target and what would be its ideal level also in the capacity market, duly noting that other incentives would be required to drive the required CCS deployment, as outlined in ZEP's position paper and the 2013 report.

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Introduction

The European Court of Auditors (http://www.eca.europa.eu) is conducting a performance audit on EU support for commercial demonstration in the areas of renewable energy (RES)[1] and Carbon Capture and Storage (CCS). The audit examines whether relevant EU instruments are well managed to ensure their effectiveness.

Most of our audit work is at the European Commission. We are also organising this survey to obtain views and information from selected European Technology and Innovation Platforms (ETIPs)[2] or similar organisations[3]. This survey addresses: NER300[4]; other instruments supporting large-scale demonstration of innovative RES and CCS; as well as coordination and strategy issues, in particular through the (Integrated) Strategic Energy Technology Plan ('SET-plan').

As a key stakeholder to the EU mechanisms referred to above, you are kindly invited to participate in this survey and to provide us with your organisation's expert views. We expect the survey will provide us with vital stakeholder information which will help us frame our audit observations. We would like to receive one completed survey per organisation. The auditors aim to publish the results of the audit in 2018.

Your replies to the survey, where relevant, may be used in an aggregated or anonymous way, but without attribution to your individual organisation.

Completing the questions of this survey should take up to one hour, subject to the level of detail you wish to provide in some of your replies.

We highly appreciate your assistance in this matter and are available for any questions you may have.

We kindly ask you to reply to this survey by October 15th 2017.

For further information, please contact Stefan Den Engelsen (stefan.denengelsen@eca.europa.eu) or Oana Dumitrescu (oanacristina.dumitrescu@eca.europa.eu).

* **Are you and the members of your organisation familiar with the following EU instruments as supporting commercial demonstration projects of innovative renewable energy and/or carbon capture and storage technologies?**

	Do not know how to answer	Yes	Somewhat familiar	No	Not applicable
NER300 under EU ETS	○	○	○	○	○
FP7 / Horizon 2020	○	○	○	○	○
European Energy Programme for Recovery (EEPR)	○	○	○	○	○
Future Innovation Fund under EU ETS	○	○	○	○	○
Risk Sharing Finance Facility (EIB with FP7 contribution)	○	○	○	○	○
InnovFIN and InnovFIN Energy Demo Projects (EIB with H2020 contribution)	○	○	○	○	○
ERA-NET Funding	○	○	○	○	○

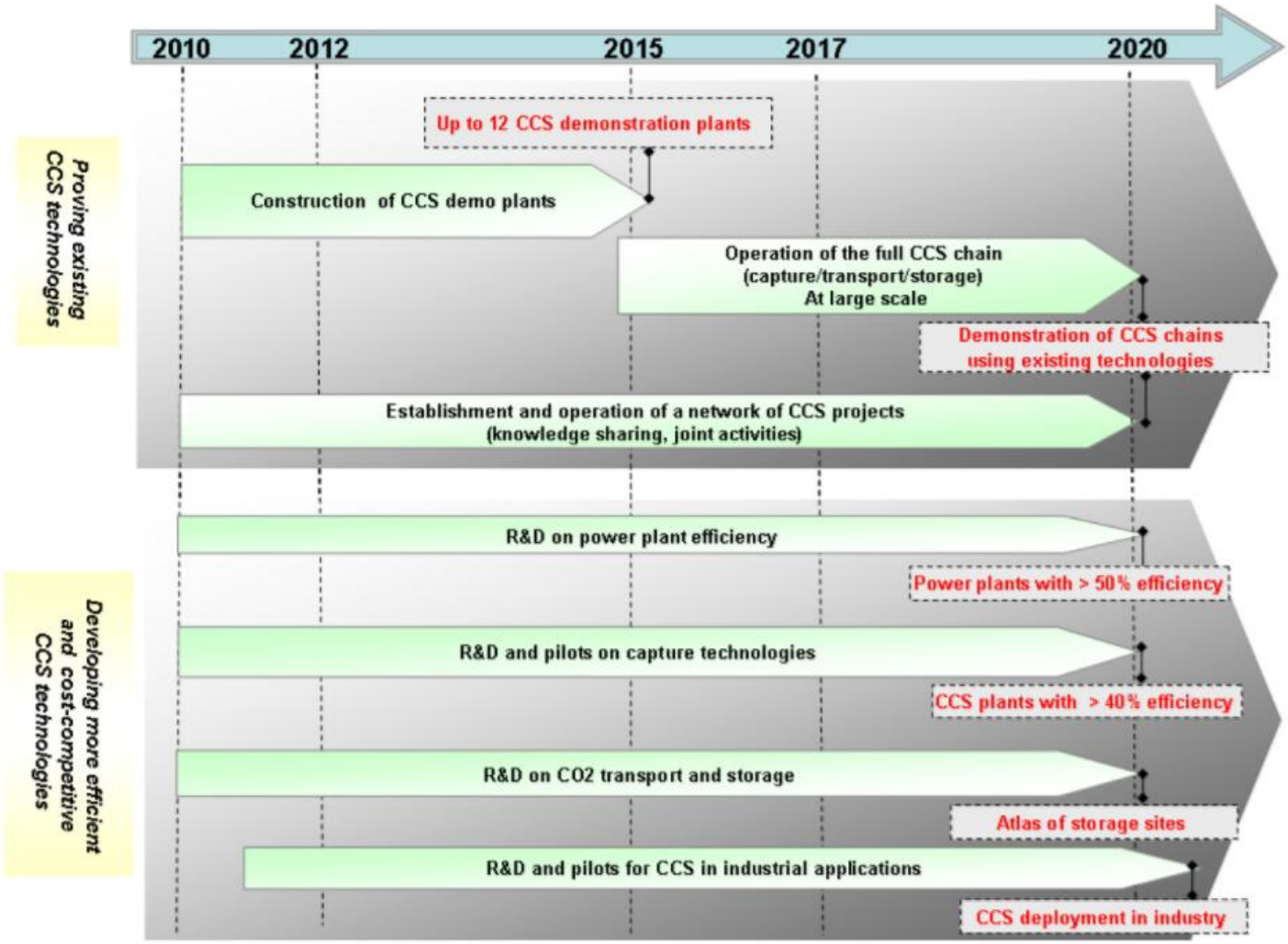
Are there other EU instruments you would like to mention in this context providing EU support to such commercial demonstration projects of innovative technologies (in your industry)? If yes, please specify.

* **Please also express your opinion on whether you believe the instruments below have successfully helped commercialise technological innovations (in your industry in recent years)**

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
FP7/Horizon2020 grants	○	○	○	○	○	○	○
NER300	○	○	○	○	○	○	○
EEPR Offshore Wind	○	○	○	○	○	○	○
EEPR Carbon capture and storage	○	○	○	○	○	○	○
EEPR Grid Connections and Networks	○	○	○	○	○	○	○
Risk-Sharing Finance Facility (under FP7)	○	○	○	○	○	○	○
InnovFIN (under H2020)	○	○	○	○	○	○	○
ERA-NET funding	○	○	○	○	○	○	○
LIFE Climate Action	○	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○	○

If possible, please provide specific examples of innovations or breakthroughs that were expected to be commercialised with support of the indicated instruments and/or examples of breakthroughs that have actually been achieved with the support of the indicated instruments. (Note: there is a specific section on NER300 later in this survey).

Please use the figure below to help you answer to the questions in this part of the survey



Source: Technology Roadmap - Commission Staff Working Document SEC(2009) 1295 of 7 October 2009.

*** To what extent do you believe the following demonstration and overall objectives for CCS, from the initial SET-plan (cf. COM(2009) 519 final) and its Technology Roadmaps 2010-2020 (SEC(2009) 1295), are being or have been met?**

	Do not know how to answer	Fully	Sufficiently	Insufficiently	Not at all	Not applicable
Build up to 12 CCS demonstration plants	○	○	○	○	○	○
Reduce the cost of CCS to 30-50 € per tonne of CO2 abated by 2020, making it cost-effective within a carbon pricing environment	○	○	○	○	○	○
Strategic objective: to demonstrate the commercial viability of carbon capture and storage (CCS) technologies in an economic environment driven by the emissions trading scheme. In particular, to enable the cost competitive deployment of CCS technologies in coal-fired power plants by 2020-2025	○	○	○	○	○	○
Industrial sector objective: to enable European fossil fuel power plants to have near to zero CO2 emissions by 2020	○	○	○	○	○	○

Please feel free to add comments to your answers to the question above.

In its 2015 communication "Towards an Integrated Strategic Energy Technology (SET) Plan: Accelerating the European Energy System Transformation" (C(2015) 6317), the European Commission wrote:

"A major problem for investors in new technologies in the EU is overcoming the 'valley of death' between the demonstration and commercialisation phase. This requires greater access to risk-financing and a better articulation of coordinated funding sources between EU and national programmes for energy research and innovation".

*** From your organisation's perspective, which barriers/factors might keep commercial demonstration projects from reaching final investment decision/financial close? Please rate the following reasons.**

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
High capital expenses / initial costs	○	○	○	○	○	○	○
High technology risks	○	○	○	○	○	○	○
Policy/Regulatory uncertainty at EU level	○	○	○	○	○	○	○
Policy/Regulatory uncertainty at Member State level	○	○	○	○	○	○	○
Regulatory barriers on banks (limiting availability of long-term finance)	○	○	○	○	○	○	○
Long timelines for energy innovation investments and market deployment	○	○	○	○	○	○	○
Low carbon prices to effectively internalise external (climate change) costs	○	○	○	○	○	○	○
Low carbon prices yielding insufficient revenues for public investments	○	○	○	○	○	○	○
Low fossil fuel prices	○	○	○	○	○	○	○
Fossil fuel subsidies	○	○	○	○	○	○	○
Low electricity wholesale prices	○	○	○	○	○	○	○
Difficulty to establish Internal Return Rate (IRR) / Demonstrate bankability for innovation	○	○	○	○	○	○	○
Policy or commercial barriers to renewables at Member State level	○	○	○	○	○	○	○
Difficulty to obtain permits at national level	○	○	○	○	○	○	○
Lack of success stories from public support schemes	○	○	○	○	○	○	○
State aid restrictions	○	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○	○

Please feel free to add comments to your answers to the question above.

* **In its 2009 Communication "Investing in the development of Low-Carbon Technologies" (SET-plan), the Commission stated that in order to mobilise sufficient resources to finance commercial demonstration, it would look, together with the EIB, for new ways to combine resources from different actors and instruments, such as grants, loans and loan guarantees.**

Do you consider that an optimal financial package to support large commercial demonstration projects exists at EU level today?

- Yes
- To a certain extent
- No
- Do not know

Please feel free to provide a brief explanation for your answer to the question above.

* **What type of financial products with (national or EU) public support would help to increase chances of reaching FID/financial close for commercial demonstration projects (in your industry)? Please rate the following types of products:**

	Do now know how to answer	Useful	Mostly useful	Mostly not useful	Not useful	Not applicable
Grants						
Loans						
Risk sharing / guarantees						
Equity						
Mezzanine finance						
Other, please specify						

Please feel free to add comments to your answers to the question above.

* **Is the EU providing/supporting these financial products to meet industries' needs for funding commercial demonstration projects?**

	Do not know how to answer	Fully	Sufficiently	Insufficiently	Not at all	Not applicable
Grants	○	○	○	○	○	○
Loans	○	○	○	○	○	○
Risk sharing / guarantees	○	○	○	○	○	○
Equity	○	○	○	○	○	○
Mezzanine finance	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○

Please feel free to add comments to your answers to the question above.

* **The 2015 Integrated SET-Plan upgraded the initial SET-Plan. It became aligned with the Energy Union's main objectives and core priorities while also addressing identified areas for improvement.**

Please give your opinion on whether the following expected improvements are materialising:

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
Political priorities for research and innovation set out in the Energy Union strategy are translated into effective policy action	○	○	○	○	○	○	○
Prioritisation, integration, coordination and ownership of actions are strengthened and aligned with technological trends	○	○	○	○	○	○	○
More effective coordination of research and innovation activities at national and EU level to avoid unnecessary duplication of funding and efforts, as well as identification of potential synergies and gaps	○	○	○	○	○	○	○
Stronger involvement from industry and Member States and a greater focus on the implementation of concrete actions and results, in particular through the Temporary Working Groups	○	○	○	○	○	○	○
Financing and market-uptake measures are well-linked with implementation plans and focus on delivering the key actions	○	○	○	○	○	○	○
Revised management approach of the Integrated SET-plan provides increased transparency, accountability and monitoring of progress achieved, as well as a results-oriented approach	○	○	○	○	○	○	○
Financial commitments from Member States are strengthened	○	○	○	○	○	○	○
Financial commitments from the private sector are strengthened	○	○	○	○	○	○	○
International cooperation for global challenges is addressed (e.g. synergies with Mission Innovation and International Energy Agency)	○	○	○	○	○	○	○

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
Financial commitments from the private sector are strengthened	○	○	○	○	○	○	○
International cooperation for global challenges is addressed (e.g. synergies with Mission Innovation and International Energy Agency)	○	○	○	○	○	○	○
The upgraded plan links with stakeholders involved in funding instruments under the emissions trading scheme (i.e. NER300 and the future Innovation Fund)	○	○	○	○	○	○	○
Joint actions involving Member States are implemented with or without EU funds. The ERA-Net co-fund instrument in Horizon 2020 launches transnational calls on demonstration activities involving industry and leveraging private funds	○	○	○	○	○	○	○
A new type of Public-Public Partnership, based on the European Strategic Forum for Research Infrastructure (ESFRI), is used to build large scale demonstration facilities of European interest. Such facilities can test the appropriateness of the current regulatory frameworks and identify bottlenecks to the deployment of new innovative energy technologies	○	○	○	○	○	○	○
Stronger collaboration with the Knowledge and Innovation Community (KIC) InnoEnergy of the European Institute of Innovation & Technology (EIT) to identify innovative projects and bring them to the attention of investors or companies	○	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○	○

* **Please provide your community or organisation's perspective on the statements below about the SET-Plan and how its commercial demonstration needs are supported by the EU:**

	Do no know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
The 2015 Integrated SET-plan objectives for the relevant technologies are or will be supported by a clear set of funding mechanisms to deliver EU public support to demonstration activities in our field	○	○	○	○	○	○	○
EU grants and financial mechanisms (such as NER300, the new Innovation Fund, H2020, RSFF, InnovFIN, EEPR) aimed at supporting innovation, and in particular large-scale demonstration activities, have been/are generally coherent with the priorities established under the SET-Plan	○	○	○	○	○	○	○
SET-plan coordination provides a comprehensive EU overview of how promising technologies move through the innovation cycle, also allowing for effective targeting and implementation of funding mechanisms which support the commercial demonstration stage	○	○	○	○	○	○	○
The coordination between various Commission services responsible for devising and implementing policies and funding instruments in areas related to SET-Plan priorities (such as DG RTD, DG CLIMA, and DG ENER) has been/is overall good	○	○	○	○	○	○	○
EU funding instruments and coordination mechanisms supporting large-scale demonstration projects effectively contribute to a near zero emissions power sector in the EU by 2050	○	○	○	○	○	○	○

Please feel free to share additional thoughts you may have with regards to all or any of the previous statements.

* **Do you consider that, overall, the European Union and its Member States coordinate well their strategies to foster clean energy innovation towards meeting the long-term (i.e. 2050) ambition of full decarbonisation of the power sector?**

- ○ Yes
- ○ To a certain extent
- ○ No
- ○ Do not know

Please add comments to your answer as appropriate

Investment climate for clean energy innovation

* **In general, do you consider that the investment climate in the European Union is conducive to funding commercial demonstration projects of innovative technologies (in your industry)?**

- Yes
- To a certain extent
- No
- Do not know

* **Please indicate to what extent the following public policy aspects have contributed to the investment climate in the EU in recent years (for funding commercial demonstration projects of innovative technologies)**

	Do not know how to answer	Positively	Somewhat positively	Neutral	Somewhat negatively	Negatively	Not applicable
Predictability and stability of EU policies and regulatory frameworks							
Predictability and stability of EU Member States' policies and regulatory frameworks							
Coordination among EU institutions in the policymaking process							
Coordination between the EU institutions and Member States in the policymaking process							
Joint strategic planning of energy innovation needs, actions and budgets between the European Commission and Member States							
The EU ETS carbon price							
Incentive schemes to stimulate innovation and create value chains focusing on long-term technology potentials							
Access to EU institutions responsible for devising and implementing policies on issues related to renewable energy and/or CCS							
Availability, critical mass and reputation of EU public grants and financial mechanisms							
Available guidance and support on how to get access to EU public grants and financial mechanisms							
Availability and critical mass of public grants and financial mechanisms in the Member States							
Attitude of regulatory bodies at the EU and Member State levels towards innovation							
Other, please specify							

Please share additional thoughts on other aspects driving or hindering the investment climate for this type of innovation activity in the European Union:

NER300

* **From your organisation's perspective, do you consider that the NER300 instrument provides useful support to meet innovation, and in particular large-scale commercial demonstration needs?**

- Yes
- No
- Somewhat
- Do not know

Please feel free to add comments to your answer.

* **Please provide your community or organisation's perspective on the statements below about NER300:**

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
NER300 is an important mechanism for the financing of large-scale demonstration projects which would otherwise be more difficult to fund							
NER300 provides/has provided a substantial contribution to enabling demonstration activities for innovative technologies							
The NER300 technical requirements for the supported technologies (as per Annex I of Commission Decision 2010/670/EU) corresponded to cutting edge technologies at the time of the publication of the calls for proposals (i.e. 2011 and 2013)							
The NER300 technical requirements for supported technologies still correspond to cutting edge technologies in 2017							
Once NER300 projects become operational, within the next few years, they are likely to enable commercialisation of breakthrough or highly innovative technologies							
NER300 grants have been awarded to what could be considered the most innovative and promising projects for the further development of the supported technologies							

Please share additional thoughts you may have with regards to all or any of the previous statements.

* **Do you consider that NER300 has effectively helped or will help to bridge the "valley of death" between research and commercialization for innovative technologies (in your industry)?**

- Yes
- No
- Somewhat
- Do not know

Please feel free to add comments to your answer

* **Do you consider that between the Commission, the European Investment Bank and the Member States it is clear who is/are responsible for the successful implementation of NER300 to ensure efficiency and effectiveness?**

- Yes
- No
- Somewhat
- Do not know

Please feel free to add comments to your answer

* **Do you consider that NER300 is well aligned with other key energy innovation initiatives and instruments at EU level, in particular the SET-plan?**

- Yes
- No
- Somewhat
- Do not know

Please feel free to add comments to your answer

* **Please indicate whether the following factors, according to your organisation, have hindered implementation progress under NER300:**

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
Member State co-financing did not materialise as expected							
State aid clearance for national co-financing difficult to obtain							
Project partners withdrawing							
Technology issues hampering expected progress							
Application of the project selection process							
Limited access to private capital/high cost of capital							
Economic crisis / EU investment climate							
Credit rating of companies / stricter banking regulations							
Synergies with other EU instruments did not materialise / were difficult to obtain							
Low carbon price yielding lower than expected revenue (capping maximum individual grant size at 300 million euro)							
NER300 did not sufficiently reduce project financing risk for other investors due to its design							
NER300 insufficiently known by other investors / Lack of track record							
Other, please specify							

Please add any other comments to your answer as appropriate.

Concluding remarks

If you consider it applicable, please provide us with suggestions on how EU support for the commercial demonstration of innovative technologies could be best delivered.

Please provide additional comments you may have on the topics covered by this survey.

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Agenda item 8.d. ZEP response to public consultation on PCI applications

The European Commission published a public consultation on PCIs for CO2 transport, with a deadline of 15 August.

The consultation itself asked just one question and gave the option of a “yes” or “no” answer, plus a <200 character comment.

The question posed was “In your opinion, is a proposed project significantly contributing to market integration/sustainability/security of supply/competition and therefore needed from an EU energy policy perspective”.

Given the limited opportunity for response, the TWG agreed to selecting “yes” against all four projects and commenting that “ZEP believes the project contributes significantly to the requirements set out under the TEN-E regulations, and therefore meets EU energy policy objectives.”

Separately, it was possible to submit a position paper. The submitted paper is attached below for reference. The response took messaging from previous ZEP engagement on the PCI process with no new recommendations being proposed, and was therefore not submitted for approval by the AC.

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Response from the European Zero Emission Technology and Innovation Platform (ZEP) to the European Commission consultation on PCI applications for trans- boundary CO2 transport

About ZEP

The European Zero Emission Technology and Innovation Platform (ZEP) is the European Technology and Innovation Platform (ETIP) established to provide advice to the European Commission on the research, demonstration and deployment of CCS. For further information, please contact the ZEP secretariat.

Support for PCIs for CO2 Transport

CCS deployment in Europe has progressed slower than expected due to a variety of factors, but the need for CCS remains greater than ever given the EU's ambition to cut its emissions by 80-95% by 2050, and the implications of the "well below two degrees" target set out in the Paris Agreement. Unlocking investments in CO_2 infrastructure can, in turn, remove the barriers to investments in CCS seen by many energy intensive industries and power sector emitters.

To enable CCS to deliver its contribution to CO2 emissions reductions will require CO_2 transportation infrastructure networks that can serve multiple sectors of the economy. Infrastructure planning is essential to secure and protect the future of emissions intensive industries and encourage investments in these economically important sectors, especially as CO_2 emissions become increasingly constrained.

In Europe, many emissions intensive industries (industrial and power) are clustered in a limited number of geographical areas e.g. Teesside (UK), Rotterdam (NL), Herøya (NO), Ruhrgebiet (DE), Grangemouth (UK) and Antwerp (BE). In addition, some industrial and manufacturing clusters are close to excellent and extensive geological CO_2 storage opportunities and existing pipelines, e.g. the North Sea Basin and co-located with power generation facilities (with large source of emissions).

With the development of a shared network of CO_2 transportation infrastructure, CO_2 emitters located in close proximity to each other can benefit from using a strategically sized infrastructure. Therefore, multiple sources of CO_2 in a tight geographical location make infrastructure planning easier and less costly. CO_2 transportation infrastructure networks built with spare capacity allows for investment decision to be de-risked for the emitter, ultimately supporting the transition towards a low-carbon economy.

ZEP has highlighted through various reports the economic challenges for investments in CCS infrastructure projects, in particular CO_2 transport and storage.

In its 2014 report on a Business Case for Commercial CO_2 Transport and Storage[1] ZEP identified the need for innovative business models, which align commercial interests across

[1] http://www.zeroemissionsplatform.eu/downloads/1523.html

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the entire CCS chain; and given the long lead times – 6 to 10 years for both pipelines and storage sites – demonstrated the need for developments to start now, ahead of wide-scale deployment. The report was followed by An Executable Plan for CCS in Europe[2], which built on the earlier concept of CO_2 "Market Makers" to support the deployment of CCS by de-risking infrastructure investments.

In your opinion, is a proposed project significantly contributing to market integration/sustainability/security of supply/competition and therefore needed from an EU energy policy perspective?

ZEP believes that all four proposals contribute to the criteria set out for CO2 transport projects under the TEN-E regulations. Developing shared infrastructure for CO2 transport and storage will reduce risk by allowing greater interconnection between stores and emitters. Resources can be used most efficiently by developing economies of scale through shared transport and storage infrastructure.

CCS is vital to enabling avoidance of CO2 emissions in key sectors of the EU economy, contributing to the long- term sustainability of Energy Intensive Industries; and can further provide a cost effective method of decarbonisation in heat, transport and power. Given that some areas of Europe are strategically better placed to develop CCS than others, cross-border transportation of CO2 will be vital to ensure efficient use of resources so that benefit can be shared between regions.

All four project proposals submitted will significantly contribute to the sustainability of European industries in a low carbon future. Furthermore, the development of CO2 transport infrastructure can contribute significantly to security of supply in Europe, allowing the continued use of a wider range of energy sources.

Developing strategic CO2 transport infrastructure will enable a CO2 market to develop between Member States, enabling industries located in multiple Member States to benefit from CCS, and contributing to wider market integration and competition.

[2] http://www.zeroemissionsplatform.eu/downloads/1545.html

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Agenda item 8.e. Network Policy and Economics forward work programme

Co-chairs: Lamberto Eldering (Statoil), Angus Gillespie (Shell), Jonas Helseth (Bellona)

At the NWPE meeting on 23 August, the priorities identified for the Network by the ACEC were discussed in detail. Comments are aligned with the recommendations from the ACEC below:

Ongoing input into Clean Energy package

It was agreed that the current working groups would continue to respond to developments within the Clean Energy Package.

ETS- funding for infrastructure

A short- term priority for TWG P&E is to utilise the Element Energy report to highlight the gaps in funding for CCS infrastructure.

The Network will also continue to engage with the Innovation Fund design process, the next step for which is likely to be a public consultation in early 2018.

Hydrogen- business case and barriers to non- renewable hydrogen

The Network held a session on hydrogen at the August meeting. It was agreed the network will continue to follow developments and support where possible.

CCU- policy drivers, circular economy and clear link to CCS

It was felt that CCU paper is a starting point but the TWG needs to look further at the policy drivers and how they link to CCS policy drivers.

Air quality

It was agreed that air quality was not an immediate priority as it is a by- product of CCS. There may be ways to link CCS messaging with air quality stories, but this would most likely be a communications activity as opposed to a piece of policy work.

PCIs & TEN-E framework / London Protocol ratification or interim arrangements/ ZEP support to frontrunners (PCIs, regions, etc)

A TWG had previously existed to look at the CCS Directive, including proposed changes to the guidelines to remove barriers for store operators. It was noted that the Commission had said the next Directive review would take place after the EU had had experience of developing CCS. It was agreed that the transport and storage work ties in with the work of TWG PCIs, but that it is not currently in the scope of the Terms of Reference for the group. It was agreed the Terms of Reference would be updated and an invitation would be issued for new members of the group.

Value of CCS- look to collaborate with OGCI

Policy support to SET Plan implementation- no regrets options, near- term action on CCS (implementation of policy/closure of gaps re smart funding pathway)

Role for ZEP modelling capacity in support of SET Plan actions relating to national climate and energy plans (governance)

Policy around well below 2 degrees scenario

IEA and IPCC have both undertaken modelling on B2DS, and it was agreed that ZEP should not repeat this exercise but develop policy and actions based on the findings of this work. It was noted that there are concerns around negative emissions in relation to biomass and carbon offsets, and negative emissions in future being used to justify delay in action now. There could be a role for ZEP in identifying a “good” carbon negative approach. It was also noted that the IEA modelling is top- down, so ZEP could add value by undertaking modelling for individual countries. It was agreed that work on below 2 degrees would be incorporated into TWG ME5.

Actions agreed

TWG Market Economics 5

- Continue promoting ME5 report through opportunities such as COP 23
- Build on ZEP, IEA and IPCC work on below 2 degrees target to assess and effectively communicate need for CCS, as well as beginning to look at impact of different negative emission technologies.

TWG CCU & Energy Intensive Industries

- Build on CCU report by looking further at the policy drivers for CCU and how they link to CCS policy drivers.

TWG Policy and Finance

- Summary and dissemination of report on smart funding pathways
- Continue to input into design of Innovation Fund

TWG PCIs

- Continue input into review of TEN- E framework
- Update ToR to include looking at barriers to developing the proposed PCI projects, including barriers to transport and storage (London Protocol, CCS Directive).