

# ZEP Advisory Council 53

## Draft Minutes

### Attendance

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#### Advisory Council members

Lamberto Eldering	Statoil
Andrea Forabosco (alternate)	Shell
Stuart Haszeldine	SCCS
Jonas Helseth (alternate)	Bellona
Christophe Kervevan (alternate)	BRGM
Pierre Le Thiez	IFP Energies Nouvelles
Filip Neele	TNO
Rob van der Meer	HeidelbergCement
Nils Røkke	Sintef
Graeme Sweeney	ZEP Chairman

#### Observers and other attendees

Ståle Aakenes	Gassnova
Thomas Berly	IEA
Gerdi Breembroek	ZEP Government Group Registered Observer
Karl Buttiens	Arcelor Mittal
Bor Kae Chang	National Central University, Taiwan
Niels Peter Christensen	Gassnova
Chris Davis	
Caterina de Matteis	IOGP
Bernard Hoffait	Total
Stephen Kerr	Summit Power
Vassilios Kougionas	European Commission
Theo Mitchell	Enerfair
Jean-Xavier Morin	CO2-H2
Brian Murphy	Ervia
Andy Read	ROAD
Annya Schneider	GCCSI
John Scowcroft	GCCSI
Henry Smyth	Ervia
Jan Steinkohl	European Commission
Keith Whiriskey	Bellona
Maria Velkova	European Commission
Vladimir Zuberec	European Commission

#### ZEP Secretariat

Nikki Brain	ZEP Secretariat
Luke Warren	ZEP Secretariat

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## ***Item 1: Introduction***

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ZEP Chair Graeme Sweeney (GS) introduced the meeting. The AC adopted the agenda for the meeting and approved the minutes of AC52. The AC endorsed the actions taken by the ACEC on its behalf since the last AC meeting.

### Chair's update

GS said the SET- Plan Implementation Plan for CCUS had now been approved. GS said it was disappointing that none of the approved Implementation Plans were presented at the SET Plan conference in Bratislava. GS said the Temporary Working Group 9 had permission to reform as a Temporary Standing Group, before the Commission sets out how the plans will be advanced. The standing group will meet in January.

GS fed back that all four PCI applications for CO2 transport had been approved.

GS said that Patrick Child, Deputy Director- General DG RTD, had invited ZEP to provide input on the Missions for FP9. DG CLIMA had invited ZEP to input into the Commission's revised 2050 decarbonisation Roadmap, and to provide a proposal on how to fund a CCS "Market Maker" through the Innovation Fund.

GS said ZEP and the CCSA had jointly submitted a letter to the Norwegian Government in light of the budget announcement. A formal response was not received, but Norwegian stakeholders had found the demonstration of interest outside Norway to be helpful.

## ***Item 2: Secretariat update***

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Luke Warren (LW) fed back on the actions from AC 52. LW had set a date to contact the Commission about the Clean Energy Ministerial. All other actions had been completed.

LW shared the financial update and confirmed that 2018 would return the ZEP budget to a surplus. He said that the Commission had approved the extension of the Secretariat's grant to April and an amendment to the grant has been submitted to the Commission for formal approval.

The Secretariat proposed an approach to the 2018 budget in light of the grant extension. The AC approved the draft budget for core services presented by the Secretariat. The AC agreed to the proposal that the ACEC manage arrangements for the provision of the Secretariat and Weber Shandwick services in Q1 of 2018.

The finance paper was approved.

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### ***Item 3: Commission updates***

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#### **DG RTD**

Vassilios Kougionas (VK) thanked those who had worked on the SET- Plan Implementation Plan, allowing it to be approved by the Commission. He said the January meeting of the Working Group should look at how the actions align with Mission Innovation.

VK thanked Filip Neele, Nils Røkke, and Wim van der Stricht for representation at the Mission Innovation meeting in Houston, and for ZEP's role in establishing a common EU position ahead of the talks. VK said that while the focus had initially been on low TRL technologies the focus was shifting, with the US Department of Energy willing to discuss higher levels.

Nils Rokke (NR) said instruments needed to be created to enact the activities identified under Mission Innovation, and that these should align with the SET- Plan. NR said that the EERA-ACT framework would hopefully expand globally and could align with the Missions. However the next round of funding will not be supported by the Commission so will be reliant on funding from member governments.

Stuart Hazeldine (SH) said the focus from the CCU delegation at Mission Innovation was strongly on economic opportunity as opposed to CO<sub>2</sub> mitigation, and he suggested that the EU should take a stance to counteract this.

VK said that the proposals for FP9 were being developed based on recommendations contained in the Lamy report on innovation including a doubling of the innovation budget and a missions- based approach. VK said there would be a public consultation in January, and proposals would be sent to the Parliament and Council by the end of May 2018.

NR said there seemed to be confusion between system TRL and component TRL. It was agreed ZEP should produce a short paper to differentiate these in relation to CCUS in the context of FP9. NR said that ZEP and EERA were working on joint input on definition of Missions under FP9.

#### **DG ENER**

Vladimir Zuberec (VZ) said he had taken over from Michael Schuetz on an interim basis to be ZEP's key contact within DG ENER, alongside Jan Steinkohl.

VZ fed back on the meeting of the Project Network Advisory Forum in October which discussed bridging the gap between the previous NER 300 projects and the Innovation Fund to 2020. The Forum heard presentations from ROAD, GCCSI and a discussion on the future of the Network. Feedback was that the Network should focus on business and deployment and avoid duplication of the activities of other organisations. VZ agreed to circulate the minutes of the meeting when available.

#### **DG CLIMA**

Maria Velkova (MV) gave an update from CLIMA in light of the agreement on ETS. Important additions were the inclusion of CCU in the text, and the delegated act for the Innovation Fund. The

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inclusion of milestone funding and flexibility on the percentage of project costs eligible is welcome in the context of CCS. MV said there would be a public consultation on the Fund in the New Year, and that an expert group would also be set up as this is part of the formality of creating a Delegated Act. MV said there would be an application process if the expert group is open to stakeholders.

MV said CLIMA wanted the Fund to be operational by 2020, as the second round of NER 300 funds would be reallocated early. On the Modernisation Fund, MV said that while CCS was eligible the Member States applying for the Fund would be unlikely to use it for this purpose, and that there could be a role for ZEP to engage with them on this.

MV said that there had been a statement from the Commission that CCU would not be counted under the ETS until phase 5 (2028 onward).

MV said the CLIMA study on CCU technologies would conclude in June 2018, with workshops being held on 1 March and 20 April.

MV said the Scientific Advice Mechanism would provide a separate, independent opinion in April 2018. MV said the Terms of Reference are available on the SAM website.

LW asked MV about the invitation from Artur Runge- Metzger to input into CLIMA's 2050 pathways work and how best to input. MV suggested sending input directly to the head of the Strategy unit.

#### ***Item 4: Overview of European Parliament, Council & other relevant activities***

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Nikki Brain (NB) gave an overview of developments in the European Parliament and Council on various parts of the Clean Energy Package.

On Governance of the Energy union, NB said the ERG had produced a short paper aiming to strengthen the language around 2050 targets in the Council's proposed text.

On Electricity Market Design, NB said the Council and Parliament both retained the Emissions Performance Standard of 550gCO<sub>2</sub>/kWh but that the Council had proposed delaying implementation until seven years after the implementation of the Directive, while the ITRE Committee proposed shortening this to two years.

NB said that ZEP's recommendation to include biomass with CCS within the Renewable Energy Directive was reflected in the Council's revised text.

On CCU, NB said the final position was not clear given the negotiations were ongoing, but that ENVI had several new definitions for CCU fuels within its text with different criteria, which made the issue more difficult to follow. NB said the Council retained the recommendation for a 70% emissions saving to be the threshold for eligibility, and that the Council advised that Member States should retain choice over whether to include these fuels in their supplier obligations.

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### ***Item 5: Ervia, Cork CCS project***

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Henry Smyth (HS) gave an overview of Ervia's proposed power project delivering CCS on two new CCGTs located near Cork (see presentation slides). He said the project aimed to use existing infrastructure including the Kinsale gas field which is due to be decommissioned in 2022. The field has been used for gas storage meaning it is already capable of two way flow, and is low pressure. HS said this would decrease CAPEX and OPEX.

HS said the CCGTs could be the anchor load for an industrial cluster in the region encompassing the Irvine oil refinery, local industrial emitters and BECCS.

HS said that Ireland would not develop the project in isolation; it was envisioned as a project by Europe for Europe. Ervia are hoping to apply for innovation funding once the Fund is open. National support would also be needed, including the project forming part of Ireland's National Integrated Plan.

It was agreed that it would be useful for Ireland to participate in the forward work of the SET- Plan Standing Group, and that ZEP should attempt to facilitate this.

### ***Item 6: BRGM, CO2 DISSOLVED***

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Christophe Kervevan presented on BRGM's CO2 DISSOLVED project which looks at the potential to combine injection of CO2 dissolved in brine and extraction of geothermal heat (see presentation slides). KC said that the heat recovered strengthens the economic case for the CCS project by selling the heat to local heat networks. The dissolution of CO2 in brine potentially makes the storage safer as there is no pressure build up or brine displacement associated with traditional CO2 storage. However this option would only be viable for small-to-medium size emitters.

BRGM hope to continue the work with a pilot and are looking for a location. They are also undertaking work on social acceptance of this type of storage.

Participants asked what the status of CO2 in this form would be under the CCS Directive. CK said this needed further investigation.

GS said the project would be well placed within the SET- Plan action on innovative onshore storage pilots.

### ***Item 7: Summit Power, UK East-Coast Economic Benefits CCS***

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Stephen Kerr (SK) presented a report from Summit Power which sets out in economic terms the benefit of CCS to the UK, using the methodology the Treasury would apply to other large infrastructure projects. The report demonstrates that the business case for industrial CCS and power CCS together is stronger than that for either alone. SK said that the report demonstrated the benefits significantly outweigh the cost (see presentation slides).

Stale Aakenes asked about the figures on storage options contained in the report. SK said these reflected the fact that the UK could develop its own stores on a regulated basis to control costs, as opposed to paying an unknown cost to another party for storage.

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Thomas Berly (TB) said the study was helpful and that “best practice” common methodology for defining value of infrastructure should be developed by governments.

## ***Item 8: Networks update***

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### Network Technology

Filip Neele (FN) outlined Terms of Reference for three new Temporary Working Groups for approval by the AC. The first, a TWG Mission Innovation, would continue to work with the Commission on the Missions Innovation process and feedback on the forthcoming MI report. FN said the TWG would also lead ZEP’s input into the FP9 development process including working with EERA to draft suggested missions.

FN said the second TWG on “Collaboration across the CCS chain” would focus on managing storage obligations and liabilities; would support the work being done by ERA-NET ACT projects ELEGANCY and ALIGN-CCUS on managing the CCS chain, particularly in clusters with multiple emitters and storage sites.

Finally, the ToR for a TWG CCS in a 2 degrees scenario was presented, to build on previous work by the IEA and incoming IPCC work and tailor recommendations for a European context.

All three Terms of Reference were approved by the AC.

In addition, Rob van der Meer (RvdM) introduced the concept for a fourth TWG, to build on ZEP’s recent report into CCU and energy intensive industries. RvdM said that the work would focus on collating Life Cycle Analysis from several industrial projects and presenting this in a uniform comparison. RvdM said the Arcelor Mittal and Mitsubishi would support this piece of work.

It was agreed that a short Terms of Reference would be sent to the ACEC for approval in January to allow the work to commence.

### Network Policy & Economics

Lamberto Eldering (LE) presented the NWPE forward work programme, including an updated Terms of Reference for the TWG PCI. This was approved by the AC.

Theo Mitchell (TM) introduced for approval a paper from TWG Innovation Fund, which was produced in response to DG CLIMA’s request for a proposal on how to fund a CCS market maker through the Innovation Fund. The paper was approved by the AC.

NR asked how the Network would input into the work of TWG9. LW said the Secretariat had a call with the TWG9 co-chairs, and the group plans to invite experts on each R&D activity to review the actions outlined in the Implementation Plan.

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### **Item 9: External Relations Group (ERG) update**

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Jonas Helseth (JH) said that Mark Downes had stepped down as co-chair of the ERG, and that Sarah Kempe, EU Affairs Adviser at Shell, had been proposed as the new co-chair. GS asked for any further nominations, of which there were none. The AC approved the nomination.

LW gave feedback on the hydrogen workshop held with the European Commission in November. Participants included DG RTD, including the Hydrogen and Fuel Cell Joint Undertaking; DG ENER, and Hydrogen Europe. LW said there was general consensus that the groups should cooperate more closely, and a follow-up call was scheduled for December to see if a proposal could be put to the Commission on including CCS in its hydrogen work in future.

LW fed back on the CSLF meeting held on 6 October, which was hosted by CCSA and CO2GeoNet and supported by ZEP. LW said that there had been strong views presented by the panel, with five key messages being sent on to the Secretariat to be incorporated into the message for ministers.

### **Item 12: Any other Business and closing remarks**

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RvdM said that there had been a meeting in Sydney on standardisation of CO2 capture in the cement industry. JH said that standardisation of CO2 purity can act as a barrier to projects. FN said TNO had also been contacted on this subject. It was agreed this issue could be brought up at the next Network Technology meeting.

GS said that ZEP had offered to help North Rhine Westphalia with regional modelling, which would reflect the priority focus on supporting Member States, infrastructure development and PCIs.

### **Actions**

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Action	Owner	Deadline
3	ZEP to produce a short paper to differentiate between system TRL and component TRL in relation to CCUS in the context of FP9	
3	VZ agreed to circulate the minutes of the meeting when available.	Vladimir Zuberec
5	Ireland to be invited to the SET-Plan Standing Group	Secretariat
8	Terms of Reference for TWG CCU to be sent to ACEC for approval in January	Rob van der Meer

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