

ZEP Advisory Council 52

Draft Minutes

Attendance

Advisory Council members

Didier Bonijoly (alternate)	BRGM
Lamberto Eldering (alternate)	Statoil
Ward Goldthorpe	Sustainable Decisions
Stuart Haszeldine	SCCS
Jonas Helseth (alternate)	Bellona
Gardiner Hill	BP
Pierre Le Thiez	IFP Energies nouvelles
Filip Neele	TNO
Rob van der Meer	HeidelbergCement
Marie Bysveen (alternate)	Sintef
Constantin Sava	GeoEcoMar
Graeme Sweeney	ZEP Chairman

Observers and other attendees

Myles Allen	Oxford University
Nicky Denning	Fuels Europe
Siri Eritsland	Norwegian Ministry of Petroleum and Energy
Willem Frens	BA2C
Arthur Heberle	Mitsubishi Hitachi Power Systems Europe
Rannveig van Iterson	European Climate Foundation
Vassilios Kougionas	European Commission
Enrico Maggio	Sotocarbo
Samantha McCulloch	IEA
Caterina de Matteis	IOGP
Brian Murphy	Ervia
Andy Read	ROAD
Alberto Pettinau	Sotocarbo
Michael Schuetz	European Commission
Bradley Steel	Pöyry
Maria Velkova	European Commission

ZEP Secretariat

Nikki Brain	ZEP Secretariat
Luke Warren	ZEP Secretariat

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Item 1: Introduction

The Chair (GS) introduced the meeting. The AC adopted the agenda for the meeting and approved the minutes of AC51. LW fed back on the actions from AC 51, with all actions having been completed. The AC endorsed the actions taken by the ACEC on its behalf since the last AC meeting.

Chair's update

GS fed back on his meeting with Allard Castelain, CEO of the Port of Rotterdam. He said the Port is not advertising its planned activity on CCS until the political landscape in the Netherlands is more certain. GS noted the Port of Rotterdam was interested in taking on a role as Chair of a ZEP Working Group, and that the Port may also present at the ZEP hydrogen workshop in October.

Andy Read (AR) said the conversation was ongoing between the Port, Government and capture companies about the future of the ROAD funding. He said it was unlikely funding could simply be transferred and that if the Port had to apply for new EU grants this could delay any future project by two to three years. He said that there was strong political support for continuing a project but that it was not yet clear whether the right set of stakeholders would align.

Michael Schuetz commented that the OGCI could be a potential source of funding for the successor to ROAD.

On the SET Plan Implementation Plan, GS said that target one had been changed in light of the cancellation of ROAD, and that the changes had been agreed by member states. The final draft had been sent to the Commission for approval, and that the Plan was to be presented to the SET Plan steering committee on the 27 September.

Item 2: Secretariat update

Luke Warren (LW) shared a financial update for ZEP-C for 2016-17. He said that while there was a predicted deficit over the two year period, ZEP-C was on track to reach a surplus in 2018. The AC approved the financial papers.

LW said that the next call for funding under Horizon 2020 opened in December and therefore it was unlikely a new contract would be signed before April 2018, leaving ZEP with a funding gap. He said under the new round there would also be funding for support to the SET-Plan working group which the Commission wished to retain in some form. GS said an approach would need to be agreed to cover the funding gap before AC53. The AC endorsed the ACEC to approve this on its behalf.

LW informed that AC that Olav Skalmeraas had retired from the AC, and thanked him for his contribution. LW said that Lamberto Eldering (LE) and Dominique Copin had put themselves forward to join the AC, and invited the AC to vote on their membership.

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Item 3: Commission updates

DG RTD

Vassilios Kougionas (VK) said that the Commission was in the process of assessing the SET Plan Implementation Plan, and that it would go to the Steering Committee pending approval from Directors. He said that the successor to the TWG-9 would not necessarily be a standing working group as it had been referred to previously, but that the Commission aimed to retain the same membership.

VK updated the AC on the Mission Innovation workshop taking place on 25 September. He said that the Commission will ask ZEP's opinion before formalising an EU position.

Stuart Haszeldine (SH) noted that Mission Innovation could potentially fill gaps on research into infrastructure and whole system costs of CCS. He asked whether the final document could be shared with the UK government. VK agreed this would be possible.

DG ENERG

Michael Schuetz said the Directorate was involved in ongoing discussions with the ROAD stakeholders.

On PCIs, MS said that the four CO₂ transport proposals were being consulted on with the Thematic Group, and that the High Level Group would take a decision on which projects would be listed on 17 October.

MS said the CCS Project Network was holding an advisory forum on 25 October, and that invitations would be sent to stakeholders shortly.

MS said there would still be a tender for support to the network, however due to the lack of projects being developed, the timing of this was uncertain. MS said the Commission was in touch with the Secretariat, GCCSI, about how remaining money from this grant period could be usefully spent on bridging activity until new projects come forward.

MS said the European Parliament had discussed amendments to the Energy Union Governance Directive for the first time, and hoped to adopt a position by the end of November. Of particular debate was the 50 year perspective proposed in the draft text.

On the Renewable Energy Directive, MS said that opposition from MEPs and members states made it likely that the text concerning inclusion of waste based fuels would need to be amended in some form. On the issue around restricting support for biomass to CHP, he said there was some opposition from Member States.

MS reported on a study by the Commission looking into the effect of an emissions performance standard on 550pm for capacity mechanisms, the link for which is [here](#). The report concludes that without an emissions performance standard, there will be significant stranding of coal assets. However he said sufficient opposition to the proposal for an EPS may lead to a blocking minority in the Council.

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GS fed back that the vice- president's office had followed up with a question about the EPS recommended by ZEP, but that the relevant person was now on personal leave and as yet, their replacement had not been identified.

MS said that DG Unit 2 was dealing with the EPS and would be happy to have input. He agreed to put GS in touch.

DG CLIMA

Maria Velkova (MV) told the AC she had taken on a new position in unit C3 of the Commission which covers land use and finance for innovation, including NER 300 implementation and preparing the innovation and modernisation funds.

MV said that while the Innovation Fund cannot be progressed without the ETS Directive, there will be little time after the adoption of the Directive so an impact assessment and proposal are already being worked on.

MV said the contract has been signed for a study into the climate abatement potential of CCU applications. The study will include stakeholder workshops, and information would be shared with ZEP in due course. In parallel the Scientific Advice Mechanism will also be providing an opinion on the topic in April 2018, and will also be holding stakeholder workshops. MV confirmed that regulatory issues would form part of the study and it was expected that changes would be made to monitoring and verification requirements.

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

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

NB said that 17 MEPs had tabled an amendment to remove the reference to "waste based fuels" in the Renewable Energy Directive, with a smaller amount of MEPs suggesting amendments to promote waste based fuels from "unavoidable" streams of CO₂ where they contribute to significant CO₂ savings over the lifetime of the product.

NB said that the Commission has confirmed that the proposal to limit biomass to CHP in the RED is due to the limited availability of biomass and the need to use it most effectively. It was agreed that ZEP was supportive of this principle, but that given the necessity of negative emissions in 2 degree or below scenarios, that it would make sense to also allow bioenergy with CCS within the proposal. It was agreed that ZEP would write to Mechthild Wörsdörfer to share a suggested amendment as a matter of urgency.

NB said that there had been proposals by some MEPs and Member States to remove the references to a 2050 target for EU emissions. It was agreed that the ERG would discuss increasing ZEP's communication on this issue within the Governance Directive.

GS fed back on his engagement with the Bulgarian Permanent Representation, and Katrien Prins, Policy Officer at DG ENER. He said that the Bulgarian representation had agreed to put ZEP in

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touch with energy colleagues to look at the potential for undertaking modelling. DG ENER had welcomed the offer of a ZEP view on what a “good” PCI application for CO2 transport would entail.

Item 5: Industrial CCS investment mechanisms

Bradley Steele (BS) of Poyry Consulting presented on the industrial investment mechanism for CCS produced for the Teesside Collective (presentation slides are attached for reference).

The mechanism proposed reflects a need for a “pay at the gate” solution for CO2 transport and storage for industrial CCS, and recognises that the ETS will not by itself provide a sufficient economic driver for investment.

It was recognised that there would need to be an element of competitiveness to ensure costs were reduced over time, given that all costs are recovered by industry in the proposed mechanism. This would also be a factor in relation to State Aid requirements.

The proposal included an agreement for industry to contribute to the funding by returning EUAs corresponding to sequestered CO2 to government. The AC questioned how returning EUAs to government did not constitute carbon exposure. BS said that as 95% of EUAs are freely allocated, it was perceived by the industries involved to be an acceptable cost provided they received a return on their investment in capex and recovered operating costs.

Jonas Helseth (JH) questioned whether the proposal diminishes social license to operate, i.e. reduces the incentives to decarbonise using other methods. BS said that CCS would be the cheapest way to decarbonise some processes, but not others.

It was agreed that Network Policy & Economics would need to take this work into account when looking at the operation of the Innovation Fund, and should continue to speak to Poyry. Gardiner Hill (GH) added that the OGC1 would also want to join discussions. GS said this should be a priority area of work for NWPE to take forward.

Item 6: CCS in a below 2 degree scenario

Myles Allen (MA), Oxford University and Samantha McCulloch (SM), IEA, presented recent findings on the role CCS will need to play globally in meeting a below two degrees scenario as set out in the Paris Agreement.(presentation slides appended to minutes).

MA said that countries’ current pledges do not address the deep emissions cuts needed post-2030. MA put forward a proposal for a mandated CCS certificate system for mandatory sequestration.

GS pointed out that the UK got close to mandatory sequestration several years ago, and that it was seen as an environmental performance standard. He added that for such regulation to be successful it would need to be supported by the fossil fuel industry.

LE fed back from the IPIECA event held the day before the ZEP AC, where MA had presented. He said there was not much pushback against the idea other than on the issue of long term liabilities of CO2 storage. It would help if infrastructure was in place.

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SH added that if mandatory sequestration was introduced it would stimulate competition to provide storage services.

GH said the OGCI would look at the issue in detail including the legal issues around liability.

GS said NWPE should look at the issue further.

SM presented the findings of the IEA's 2017 Energy Technology Perspectives in relation to CCS in a below two degrees scenario.

JH asked whether lead times were taken into account in the ETP. SM said the modelling assumed that storage was available. JH said it would be useful if realistic lead times could be included in the modelling.

MA said it would be useful to see figures for carbon sequestered in each region. SM said that IEA GHG would shortly be publishing a paper on CCS roll- out.

GH asked whether ZEP could produce its own response to the IEA/ IEA GHG work, and how it links with the ETIP's previous work on hubs and clusters. Filip Neele (FN) said this linked in with the proposed work for TWG- 9 on hubs and clusters.

Item 8: Conversation with Marco Mensink, CEFIC

Marco Mensink (MM) gave a short introduction addressing CEFIC's recent report on its 2050 pathway. He said that the report was an interim piece of work and that CEFIC would be presenting its mid- century plan in 2018. He said CEFIC doesn't have a position on CCS, and that his comments at the Innovation Fund roundtable reflected that the Innovation Fund money was for industry, so industry should choose how to spend it.

He said that looking at available ways to decarbonise today, CCU is feasible now. He said that a technical document was needed to look at CCS in the chemicals industry. He said that 95% of CEFIC's members were SMEs and therefore the cost of infrastructure for CCS would need to be socialised.

MM said that he did not see SET Plan activity 9 as a CCU activity and that it would be good to align activities. GS said that the CCU community had been involved in drafting the Implementation Plan and it says what they asked it to. He said there would be an ongoing opportunity to input through the standing working group.

JH said that governments did not hear industry saying there is a need for CO2 infrastructure and that it would be helpful for CEFIC to take part in ZEP's discussions on this. MM said the priority for the industry was attracting inward investment for Europe, and decarbonisation was one part of this. He said he had raised the electrification issue with the policy team who produced the CEFIC report.

LW addressed the opportunities for clean hydrogen to reduce emissions from industry. MM agreed there was scope and that the Innovation Fund needed to come forward for industry to look into it further.

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Item 9: Network Policy and Economics update

LE gave an update from Network Policy & Economics. The Network had met in August to identify a new work programme based on the output from the ACEC Away Day.

GS said that there may need to be a new piece of work done on the criteria for good PCIs for which ZEP could provide input. LE said that in this case new members were needed for the group.

JH said a new co-chair was needed for TWG policy and finance. GS said Allard Castelain was interested in having the Port of Rotterdam contribute and asked for details to be shared with him.

Rob Van der Meer (RVM) presented the final draft of the report from TWG CCU and Energy Intensive industries for approval. The AC approved the report. It was noted that further work needed to be done separately on the sink factor of EOR.

Item 10: Network Technology update

FN gave an update from Network Technology. He introduced the paper for Mission Innovation and asked for the AC's approval to take this to the meeting in Houston.

GH commented that storage site evaluation is missing from the tables, with the focus being on operation and closure. FN responded that this was due to MI focusing on low TRL levels.

GS said that in light of this, did ZEP need to ensure that FP9 and H2020 focused on higher TRL levels. He said it was worth being involved in MI to try to influence the process.

FN said that NWT would meet on 19 October to review MI, and to define its work topics based on the output from the ACEC Away Day. He said it would be useful to discuss with the TWG CCU EII to see if there were areas of shared interest going forward. FN said he would like NWT to focus on specific clusters in detail, including the relationship between CCU and CCS development, as well as CHP and hydrogen, and look at how the IEA's work could be implemented at a regional level. He said he would also like to focus on solving the issue of long term liability for storage.

Marie Bysveen asked how best the research community could support PCI applications; FN said this should also be a focus of NWT. Ward Goldthorpe (WG) said that the collaboration between ERA- NET and ZEP was encouraging in this respect.

Item 11: External Relations Group (ERG) update

JH gave an update from the ERG. He asked for approval for the revised ZEP narrative. The AC approved the document.

Ton Wildenborg (TW) talked through the proposed event jointly hosted by CCS organisations in the European Commission tent at COP 23. Charles Soothill is to present on behalf of ZEP. TW asked for the AC's help in attracting CEOs and senior executives of relevant organisations to the event.

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LW updated the AC on the planned clean hydrogen workshop, saying the scope was now very much to get a conversation going between different parts of the hydrogen community. The workshop would highlight ZEP's work, the Statoil project and Port of Rotterdam. The Secretariat recently met Mark Van Stiphout at DG ENER who was very keen for this event to go ahead and also for ZEP to facilitate other conversations bringing together parts of the commission which work separately from one another.

Item 12: Any other Business and closing remarks

LW confirmed that Lamberto Eldering and Dominique Copin had been elected to the AC.

Actions

Action	Owner	Deadline	
2	Secretariat to propose approach to cover funding gap before AC53, to be endorsed by ACEC.	Sec	November
3	Secretariat to share Mission Innovation document with UK Government	Sec	September
3	MS to put GS in touch with DG Unit 2 to discuss EPS	MS	September
4	It was agreed that ZEP would write to Mechthild Wörsdörfer to share a suggested amendment as a matter of urgency.	Sec	ASAP
4	It was agreed that the ERG would discuss increasing ZEP's communication on 2050 targets within the Governance Directive.	ERG	September
5	NWPE, Poyry and OGCI to continue discussion on industrial investment mechanisms	NWPE	December
6	NWT to produce response to IEA/ IEA GHG work	NWT	December
7	NWPE to understand the opportunity to input on the criteria for good PCIs.	NWPE	December
7	Invitation to be sent to members to join TWG PCI	Sec	September
7	Terms of Reference to be made with Port of Rotterdam re co-chair for TWG policy and finance.	Sec	September
8	TW asked for the AC's help in attracting CEOs and senior executives of relevant organisations to the event.	AC	November

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