ZEP Advisory Council 52

13th September 2017

Agenda Item 1: Introduction

1.a. AC52 Agenda

Appended to this paper is the agenda for the 52nd meeting of the Advisory Council.

1.b. AC51 Draft Minutes

Appended to this paper are the draft minutes for the 51st meeting of the Advisory Council, which took place on 5th July 2017.

The Advisory Council are invited to approve the minutes of the last meeting.

1.c. ACEC July Meeting Minutes

Appended to this paper are the minutes for the July meeting of the ACEC.

1.d. ACEC August Draft Meeting Minutes

Appended to this paper are the draft minutes for the August meeting of the ACEC.

1.e. Chair's update

Appended to this paper is an update for SET-plan TWG9 CCS and CCU activities and summaries of the Chair's external meetings since the AC51 in July.

European Zero Emission Technology and Innovation Platform

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ZEP Advisory Council 52

Meeting Agenda: 13th September 2017

Centre Albert Borschette, 36 Rue Froissart, 1040 – Bruxelles

10:30 – 17:00 CET

Item		Lead Presenter	Time
1	Introduction and welcome: • Adoption of Agenda • Approval of AC51 minutes and review of actions • Chair's update	Graeme Sweeney	10:30 – 10:50
2	Secretariat Update	Luke Warren	10:50 – 11:00
3	Commission updates: • DG RTD • DG ENER • DG CLIMA	 Vassilios Kougionas Michael Schuetz Maria Velkova	11:00 – 11:30
4	Overview of European Parliament, Council & other relevant activities	Nikki Brain	11:30 – 11.45
5	Industrial CCS investment mechanisms	Stuart Murray & Bradley Steel, Pöyry	11.45 – 12:45
	Lunch		12:45 – 13:30
6	CCS in a below 2 degree scenario	Myles Allen, University of Oxford Samantha McCulloch, IEA	13:30 – 14:30
7	Cefic discussion	Marco Mensink, Cefic	14:30- 14:50
8	Network Policy and Economics update	Lamberto Eldering / Angus Gillespie / Jonas Helseth	14:50– 15:30
9	Network Technology update	Filip Neele/ Arthur Heberle	15:30– 16:10
10	External Relations Group (ERG) update	Mark Downes / Jonas Helseth	16:10-16:45
11	Any other business & closing remarks		16:45 – 17:00

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
Stuart Murray	Pöyry
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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Draft Minutes

Attendance

Advisory Council members	
Lamberto Eldering (alternate)	Statoil
Angus Gillespie	Shell
Stuart Haszeldine	SCCS
Jonas Helseth (alternate)	Bellona
Gardiner Hill	BP
Pierre Le Thiez	IFPEN
Nils Røkke	Sintef
Graeme Sweeney	ZEP Chairman
Rob van der Meer	HeidelbergCement
Charles Soothill	ZEP Vice Chairman
Chris Littlecott	E3G

Observers and other attendees	
Thomas Berly	IEA
Didier Bonijoly	BRGM
Gerdi Breembroek	Netherlands Enterprise Agency
Bor Kae Chang	National Central University, Taiwan
Eric De Coninck	Arcelor Mittal
Roman Doubrava	European Commission
Caterina de Matteis	IOGP
Nicola Denning	Fuels Europe
Emrah Durusut	Element Energy
Willem Frens	BA2C
Giorgi Komakhidze	EPPSA
Vassilios Kougionas	European Commission
Brian Patrick Murphy	Ervia
Virgilijus Petuska	UAB Minijos nafta
Andy Read	ROAD
Ana Serdoner	Bellona
Cees van der Ben	Vopak
Rannveig van Iterson	European Climate Foundation
Maria Velkova	European Commission
Keith Whiriskey	Bellona
Ton Wildenborg	TNO
Marta Yugo	Fuels Europe
Nikki Brain	ZEP Secretariat
Luke Warren	ZEP Secretariat

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Item 1: Introduction

The Chair (GS) introduced the meeting and noted that as part of the Chair's update he wished to invite Andy Read (AR) to give an update on the status of the ROAD project.

The AC adopted the agenda for the meeting and approved the minutes of AC50, pending one correction. LW fed back on the actions from AC 50, saying that Government Group had discussed future of the group and concluded that it was important to retain the Government Group but that crossover with the SET- Plan Standing Working Group would need to be managed. All other actions were completed.

Update from Andy Read, ROAD

AR told the AC that Uniper and Engie have pulled out of the ROAD project, explaining that the Dutch Government was unable to give clarity on the life of the coal plant, which meant that ROAD couldn't meet the timetable for the EU grant.

AR said he could see an opportunity for a SPJV using the grants from the EU and the Dutch Government, which could potentially develop the storage aspect of the project for industry. This would most likely need to be owned by the Dutch Government and the proposition would need cross- party political support. He said the parent companies, Uniper and Engie, had given a deadline of 15 September for a new proposal. He explained that the current SPV was owned by Uniper and Engie, who don't want to be liable for the project going forward. AR said that the AC could help by promoting the idea to political contacts, as the ROAD team is engaging local stakeholders.

AR highlighted the importance of not losing existing expertise from the ROAD project. Gardiner Hill (GH) asked how ROAD developments fit with the Port of Rotterdam project. AR said that work on the transport and storage would tie in with Rotterdam, the PCI applications, and the CO2 smart grid project, but that whether it is a separate project remains to be seen.

Emrah Durusut (ED) asked how much money could be transferred to a new project. AR said it wasn't confirmed that any funding would be transferred, but that the ROAD funding was €300,000

The Chair said that it would be useful to document the lessons learned from the ROAD process. It was agreed that ZEP would schedule a call with ROAD.

Chair's update

GS fed back on ZEP activity and his external engagement programme, noting that:

- TWG 9 had been a satisfying collaboration with a broad range of stakeholders, and felt substantially better than previous programmes. The final Implementation Plan will go to the Commission for comment, and to member states before a final endorsement at the September steering committee.
- GS said that the SET- Plan Steering Committee has accepted a recommendation to form a Standing Working Group to monitor the implementation of the Plan, using the governance

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process already in place. He said the ETIP should continue to provide the service to this group.

- He had raised PCIs in meetings with officials, and the importance of progressing these.
- There was a need to continue to press on inclusion of CCU derived fuels in RED2.
- There was substantial engagement to do on the role of CCS in producing low carbon hydrogen, and that ZEP was planning a workshop for September.
- He had visited ExxonMobil, who are enquiring about relationship with ZEP.

Item 2: Finance for Innovation: Towards the ETS Innovation Fund

Roman Doubrava of DG CLIMA presented on the results of stakeholder engagement on the ETS Innovation Fund. The presentation is appended to the minutes. Key messages were:

- Depending on outcome of ETS negotiations, decision on Innovation Fund could be tabled for the first half of next year
- More than 80 industrial decarbonisation pathways were identified
- Cross- sectoral confirmation that isolation in industries won't work. There is added value in collaboration and connecting sectors.
- Allowing different parts of chain to be established. Manage counter party risk, different models in different sectors.
- Innovation fund will take the form of grants but the option of different forms of finance for lower risk projects
- Milestones based (instead of after emissions are verified)
- Advantage for collaborative models
- Size of innovation fund depends on agreed number of allowances and price under reformed ETS

AC members welcomed the inclusion of hydrogen with CCS in the category of green hydrogen.

Angus Gillespie (AG) raised a concern about grouping CCUS as TRL 7, noting that some CCU technologies are not close to commercialisation. RD clarified that this had not yet been decided.

Charles Soothill (CS) pointed out that ZEP focuses CCS infrastructure to support a range of industries, in line with the proposal to reward industry collaboration.

Luke Warren (LW) asked whether it was envisioned that many small projects or several large ones would be awarded funding, stressing that from a CCS perspective several large projects would be preferable to kick- start a CCS industry. RD responded that this was not yet confirmed.

GS said that if the fund was looking to fund collaborative projects, it would need to be structured in a way that assists cross- sector collaboration.

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Item 3: Secretariat update

LW gave an update from the ZEP Secretariat. He fed back on the finances of ZEP-C following the AGM. The presentation including the figures is appended to the minutes.

LW welcomed Rob Van der Meer and Charles Soothill to ZEP-C

LW announced that Francois Kalaydijan and Mart van Bracht were stepping down from the AC. In their place, Pierre le Thiez and Filip Neele would join the AC. GS thanked Francois and Mart for their participation.

Item 4: Commission updates

DG ENERG
Michael Schuertz sent apologies

DG RTD
Vassilios Kougionas (VK) said that there are voices in Commission pushing for funding from ROAD to be redirected to other energy areas such as battery storage if the project does not progress.

VK said he had nominated Nils Rokke (NR), Filip Neele and Wim van der Stricht of Arcellor Mittal to attend the Mission Innovation expert workshop on CCUS in September.

VK said he had attended a meeting in Japan looking at a potential CCS project in the North of the country that was looking at collaboration with the EU.

DG CLIMA
Maria Velkova (MV) said that an Inception Impact Assessment for the Innovation Fund was open to analyse inputs. A public consultation will follow once the Directive is adopted.

MV said an opinion is being sought on climate mitigation potential of CCU from the EU's Scientific Advice Mechanism, an independent high- level group that sits under the Commissioner for Research and Innovation. This will be delivered on 30 April 2018.Separately CLIMA is undertaking a study on CCU technology looking at TRLs and legislative aspects to make sure technologies are treated fairly. MV said there would be stakeholder engagement on this piece of work.

MV said the Commission is currently assessing the lifecycle of renewable fuels which will result in a delegated act to specify designated values. Jonas Helseth (JH) pointed out that the Steering Committee of the Bioenergy Platform has said it was a mistake to refer to CO2 derived fuels as renewable.GS said that policies on climate benefit should deliver climate benefit. If there is an industrial rationale for creating these fuels should come from funds for industry.
MV said that the Renewable Energy Directive (RED) and Fuel Quality Directive were previously regulating the same market and were being integrated into RED for efficiency.

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Item 5: Overview of European Parliament, Council & other relevant activities

Nikki Brain (NB) provided an overview of activity in the Council and Parliament. Slides are appended to minutes.

NB said an issue had arisen on biomass in the recast renewable Energy Directive as there is a proposal from the Commission to only class biomass used in CHP as renewable and therefore eligible for support. GS said in ME5 ZEP has supported biomass in CHP, but that it should not be restricted to just this form. JH asked whether there would be repercussions for biomass use in industry, and pointed out that 50% of renewable energy in the EU was biomass co-firing. It was agreed that the secretariat through the ERG would propose a position then seek guidance from the ACEC. GS pointed out that this could be a way to interact with member states on their national plans as the TWG-9 becomes a SWG.

NB said that the Green co-rapporteurs on the Governance of the Energy Union Directive had suggested amendments to the text requiring a fully renewables based economy by 2050. It was agreed that through the ERG ZEP would seek to engage with the leaders of other parties within the Committees on this.

It was agreed this update would be a standing item on the agenda going forward.

Item 6: Oil and Gas Climate Initiative

Gardiner Hill (GH) introduced the work of the Oil and Gas Climate Initiative (OGCI) and OGCI Climate Investments. Slides are appended to the minutes.

Charles Soothill (CS) noted that the ZEP Market Economics team could work with OGCI on assessing potential for CCS in specific regions. GH said that the OGCI looking at key regions that could deliver biggest impact in the shortest time.

AR asked about the investment fund criteria. GH said the criteria are fairly broad, but that investment in scalable and replicable projects. The website sets out how to apply.

The AC agreed that ZEP should collaborate with OGCI

Item 7: EU Funds for Industrial CCS Clusters

GS introduce the presentation from Emrah Durusut (ED) saying that the AC had a previous action to do some work on a smart funding pathway. To avoid duplication, he requested that AC agree an endorsement of the Element Energy report and recommend this to stakeholders.

ED presented Element Energy's interim findings, which aim to highlight funding gaps based on currently or soon to be available EU funding. The presentation is appended to the minutes. Feedback from the AC was as follows:

- MV noted that it wouldn't be possible to ringfence funding for CCS within the Innovation Fund.
- AR endorsed the figures from the report as being realistic for a first of a kind cluster project
- CS asked for clarity on the fact that the study is looking at CCS for industrial clusters but is based around ETS price, given that energy intensive industry is currently exempt.

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- GS asked whether the report could conclude that the Innovation Fund could potentially fund one cluster, but not a second
- Jonas Helseth asked that the term “small scale” is removed in reference to the pilot
- JH also asked if the cost could be weighed up against the cost to society of not developing the cluster i.e. risk to industry and jobs
- AR said that funding for phase 1 and phase 2 needs to be separated out, as the EU will not want to commit to funding the whole project before the first stage is complete.
- AR also raised concern about focus on carbon price, as energy intensive industries can’t pass these costs on to consumers
- Gerdi Breembroek (GB) said that as a government representative she could not endorse the figure of £220m from Government
- GH asked that an executive summary is added and that the report represents the findings as a value proposition
- LW asked that the language in the report is aligned with the language in the innovation fund report/ workshop e.g. the Innovation Fund report refers to “milestone funding”, Element’s refers to phases of funding

The AC agreed to mandate the ACEC to endorse the final report. ED said the report would be available for comment within a few weeks, and would undergo a wider stakeholder review.

Item 8: 2017 ACEC Away Day – initial conclusions

GS shared the outcomes from the ACEC Away Day held on 4th July, which set out short and longer term goals for ZEP. GS said that the ZEP narrative would need to be updated to reflect the discussions. The summary slides are appended to the minutes.

The discussions included a work programme for each of the Networks and the ERG. GS said that each of the priorities recommended reflected themes and did not necessarily require a report for each. It was agreed that the Networks and ERG would respond to the programme suggested by the ACEC.

NR pointed out that a focus on more engagement and workshops would require people willing to put in more time. GS said ZEP would focus on collaboration with stakeholders.

LE said that the first reports on below 2 degree scenario were starting to emerge so it is a good time to build ZEP’s position.

GS spoke about the longer- term sustainability for ZEP, saying there may be a gap between the current grant funding and new grant funding for a secretariat that will necessitate invoicing members for 2018 in Q4 2017.The AC agreed this approach.

The AC agreed the proposed actions on H2020 funds.

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Item 9: Network Policy and Economics update

LE gave an update on NWPE. He said the date for the next meeting would be set shortly.

TWG EEI CCU
Rob Van der Meer (RV) gave an overview of the TWG EEI CCU's draft report, saying that the group had already had feedback from members on the tone of the report and the need to be more positive on the links between CCU and CCS.

Didier Bonijoly (DB) said that many industrial sectors consider CCU could be the only place to start and become a first mover. CCU might not be a good way of targeting CO2 reduction but it is a starting point given that industrial emitters are not able to develop CCS alone. He agreed that it may not be a helpful message to say CCS won't happen if we do too much CCU.

It was agreed that further comments should be sent to the group with the aim for the AC to approve the final draft by September.

Emission Performance Standard
LE said the ZEP position on an Emissions Performance Standard in capacity mechanisms as part of the Electricity Market Design directive had been approved by the ACEC and distributed.
Chris Littlecott (CL) welcomed a positive stance on an EPS from ZEP.

Item 10: Network Technology update

LW gave an update from NWT.

He said that ZEP input into Mission Innovation was ongoing, and the main output of MI would be a report. He said that given MI outputs could shape innovation calls in future including under H2020 & FP9, it had been proposed that a Temporary Working Group be set up for ongoing input.

NR said that while MI is currently focused on TRL levels 1-3 this may change this may change, as the US may pull out as a co-chair, and they were the main advocates of low TRL levels. Therefore it would be useful for ZEP to keep a close eye on developments. He also noted that there was a strong focus on carbon utilisation, and the TWG's messaging should align with previous ZEP work on CCU as an enabler for CCS.

The AC approved the Terms of Reference for a Temporary Working Group on Missions Innovation, and that the TWG should guide input into the MI meeting in Houston.

Item 11: External Relations Group (ERG) update

JH gave an update on ERG. He said the ZEP draft narrative would need to be updated based on developments in Rotterdam.

He said that ERG is working on a workshop to promote ZEP's clean hydrogen report, noting sensitivities in space as the focus in the Commission seems to be on using excess renewables for low carbon hydrogen. The ZEP report looked at SMR/CCS to accelerate hydrogen today, as

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opposed to in the 2030s when hydrogen from renewables would become cost competitive. He said it would be useful to engage the industrial regions in the workshop.

GS noted that the hydrogen Joint Undertaking ToR excludes hydrogen from SMR/CCS.

LW said that ENTSO-E are launching coalition on the EU energy system in 2030 and will be producing a clean hydrogen report. The coalition has the potential to shift the narrative from pure electrification.

Item 12: Any other Business and closing remarks

CL noted that there is a public consultation on PCI applications for CO2 transport, saying the consultation is a limited exercise on whether the proposals are worthy of being described as PCIs and therefore eligible. It was requested that the secretariat share the link.

Actions

Action		Owner	Deadline
1	ZEP to schedule a call with ROAD to understand opportunities to assist.	GS/AR/LW	October
5	ZEP to contact EC to understand basis RED CHP-biomass position.	LW/NB	September
5	ERG to engage on proposed 2050 RES target within the Energy Union Governance.	LW/NB/JH	October
7	Share Element Energy report with ACEC for comment	ED	July
9	Networks and ERG to respond to the programme suggested by the ACEC.	JH/AG/LE	ASAP
9a	TWG on Mission Innovation to be set up	LW/NB	ASAP
10	Update ZEP narrative	JH/LW/NB	ASAP
12	Share link to PCI consultation	NB	ASAP

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Advisory Council Executive Committee

Minutes: Conference Call – 25th July 2017

Attendance

Angus Gillespie*	Shell
Arthur Heberle	Mitsubishi Hitachi Power Systems
Jonas Helseth *	Bellona
Charles Soothill*	ZEP Vice Chair
Graeme Sweeney	Ardnacraggan Energy Services Ltd. (Chair)
Rob van der Meer	HeidelbergCement
Luke Warren	ZEP Secretariat
Harriet Howe	ZEP Secretariat

* Angus Gillespie acted as Gardiner Hill's proxy
* Jonas Helseth acted as Frederic Hague's proxy
* Charles Soothill acted as Nils Røkke's proxy

1. Introduction and general update (open session)

The Agenda for the meeting was adopted with the addition of one item under the NWPE update, regarding the Element Energy report presented at the AC51 meeting on 5th July. Draft minutes from the May ACEC call were approved unanimously and adopted.

2. ACEC Away Day (open session)

The Secretariat produced a summary note of the away day in addition to slides drafted during the meeting; both circulated as pre-reads. The ACEC approved this recording of events.

Feedback from the Government Group

GS requested that the Government Group's (GG) short away day feedback paper be appended to the meeting minutes for the record.

LW updated the ACEC on feedback from the GG, following the last meeting on the 8th June in Brussels. A concern raised was lack of change in the countries looking at CCS. However, the GG did note that Member States are now receiving more pressure from stakeholders (particularly the industrial sector) to form positions on CCS.

Also discussed was the GG's ongoing role in the SET-Plan TWG9 process. They felt that this had been a positive process, and that there were clear benefits from increased links with the TWG9

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and the Secretariat. However, it was felt that the GG should not take over an ongoing TWG9, with separate governance processes needed. Other points raised by included:

- The need for a piece on the benefits of CCS. Climate costs/allowances/long term investment in CCS – is there a role for ZEP in bridging infrastructure
- A piece of work on the role of CCS in complimenting renewable technologies, something which could tie in with the regional work planned by Network Technology
- Greater links with the CCU community

SET-Plan TWG9

GS noted the need to understand how an ongoing TWG9 could link into an upcoming bid for the ZEP Secretariat. *LW agreed to put together a draft proposal on potential options*.

GS updated the ACEC on progress of the TWG9 with a final version of the Implementation Plan submitted to the Commission and shared with Member States to seek wider approval ahead of the SET-Plan Steering Committee meeting on 27th September. Changes to the document, as shared with the AC, were made to account for the recent developments on the ROAD project. GS noted that Vassilios Kougionas had advised that further revisions be need to made following the announcement in October, suggested that submission to the SET-Plan Steering Committee be delayed until the November meeting. *GS took an action to follow up with the TWG9 co-chairs to discuss the approach to submitting the Implementation Plan, with the recommendation of sticking to the original September deadline but including the caveat that the ongoing TWG9 will focus on a long-term strategy for the power sector*.

3. Network and Temporary Working Group updates (open session)

a. Network Technology

AH gave an update on the NWT. GS noted that delaying the next meeting until October may risk losing momentum on the delivery of work identified at the away day, particularly as a forward work programme would have to be approved by the AC. AH noted that the NWT could consider holding the meeting earlier, however, this would risk low participation and feedback on the priorities.

b. Network Policy and Economics

AG gave an update on NWPE, including a date for the next meeting on 23rd August at the Shell offices in The Hague. The meeting agenda will run through each of the priorities identified at the away day, with the aim of developing a forward work programme to be approved at the AC52.

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It was noted that a new co-chair was needed for the TWG: Policy and Funding. It was agreed that the Network and new members should be informed about the position and that it would be good to involve the Port of Rotterdam Authority.

CS informed the ACEC of a request from OGCI through Total to use the Market Economics 5 model. AG, as Shell's representative to the OGCI, said that it should be expected that the main interaction would be through the consultancy Copenhagen Economics, and as non-experts in this area it would be important to be clear on the economics of CCS. *AG agreed to follow up with CS after the call to discuss this in more detail. CS agreed to provide an update on interactions with the OGCI on the next ACEC call.*

CS raised a question on the low amount of CCS in BP's 2017 Energy Outlook. AG noted that by contrast Shell adopt non-normative scenarios, rather than the forecast approach used BP, resulting in higher uptake of CCS. CS took an action to contact Gardiner Hill to discuss this in more detail.

Follow up on enquiry from Dagmara Koska on EPS

ZEP's response to the question from Dagmara Koska (Cabinet member to VP Šefčovic) regarding the EPS paper was circulated as pre-read 3.b.i. GS reiterated the importance of the need for a timely response to this query, and that this was consistent with the messages in the paper, recommending that the Commission evaluate the impact of a lower target and its potential impact in the capacity market. It was agreed that this matter should be added to the agenda for the AC52 meeting in September.

Input to Element Energy EU smart funding pathway paper

At the AC51 meeting in July it was agreed that ZEP would provide feedback to Element Energy on their final report: European funds for industrial CCS, with the proposal that this then be endorsed by ZEP if the recommendations were satisfactory. LW updated the ACEC that the Secretariat had crosschecked an updated version of the report with the list of recommendations made at the AC.

LW took an action to circulate notes on the paper alongside the meeting minutes and to undertake a detailed review of the report, particularly focusing on counterfactual costs of not developing CCS in the region, and ensuring that the effect of the ETS was not overstated. JH took an action to provide comments on the report, to be incorporated. The ACEC approved the use of the report as a ZEP resource once input had been adopted.

<u>c. External Relations Group (ERG)</u>

JH provided an update on the activities of the ERG, including a call scheduled for that afternoon. The focus would be on accepting a work programme for August and September, building on the priorities identified at the away day. However, the ACEC approved taking a practical approach to short term matters, undertaking specific actions as and when they arise.

Response to the Cefic report

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There was a discussion on the steps needed to address comments on CCS in the recent Cefic report on the decarbonisation of the EU's chemical sector, following similar comments made by Marco Mensink, Director General of Cefic at the Innovation Fund Workshop in June. It was noted that several Cefic members are also members of ZEP, including Shell. AG informed the ACEC that Cefic's endorsement of the report, and in particular the phrase 'CCS as technology path in this respect is considered counterproductive at this point' was inconsistent with previous internal discussions on CCS between Cefic and Shell.

There was strong support for a meeting between ZEP and Cefic, with GS noting that this could also be opportunity to restate ZEP's position as a CCS and CCU platform and seek to engage Cefic in activities. AG took an action to facilitate a meeting through Shell's Cefic representative for after the summer, alongside an already planned meeting between JH and Marco Mensink on 25th August.

Verbal update on EU Court of Auditors meeting

LW provided a verbal update of a meeting with the EU Court of Auditors on 6th July in London to discuss their review into the effectiveness of the Economic Recovery Package and NER300, for which CCS is being used as an example. This will be used to inform their recommendations for the Innovation Fund. LW noted that they showed a good understanding of the key issues and that there was close alignment with ZEP's work in this area, particularly around the actions in the Implementation Plan, and work on the Innovation Fund and EU governance arrangements. It is expected that GS will be invited to provide recommendation at a later date, and that this could form a piece of work for the NWPE and ERG. An action was taken to add this to the NWPE meeting.

4. ZEP information for prospective members (open session)

A draft document providing information for prospective ZEP members were circulated ahead of the meeting, as per pre-read 4. This was produced in response to a number of recent membership enquiries from external organisations interested in how they can participate in AC meetings and working groups.

LW suggested that a section of the wider benefits of joining the ZEP AC be added, highlighting as well as language on the core principles expected from organisations if they wish to become members. GS added that as public meeting, there is no barrier to organisations observing the AC. However, the constitution does not allow trade bodies to become members and the chair has the discretion to prevent them from speaking in meetings.

It was noted that Permanent Observers have a different status, established so that the Government Group may have standing within the Platform, allowed to speak at meetings but with no voting capacity.

Diversification of the membership was discussed, with the agreement that the Cefic example (as discussed under item 3) demonstrated the importance of bringing together a range of viewpoints rather than keeping then outside the Platform.

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The Secretariat agreed to update the document to incorporate this feedback and circulate to the ACEC for further comment.

5. AC52 Agenda (closed session)

Potential agenda items for the AC52 meeting on 13th September were discussed. These were:

- Endorsement of work programmes for ERG and NWPE (as determined at the next meeting).
- CCS in the below 2 °C scenario, possibly with a speaker from the IEA
- Hydrogen developments in Norway and the Netherlands
- CCS and CCU, potentially inviting GreenWin to join to assess the potential links
- Port of Rotterdam and the role of CCS. However, it was noted that there may be sensitivities to consider around the timing ahead of the ROAD announcement
- BRGM project presentation
- JH informed the ACEC about a potential CCS project in Croatia – INA – which will be a 2nd generation bioethanol plant with CCS on CHP onsite. GS suggested that they be contacted to present at the meeting, and could be a potential member for the Platform.
- SET-Plan TWG9 update
- Teesside funding mechanism
- Endorsement of the ZEP narrative, updated to incorporate comments from the ACEC Away Day

6. Finance update (closed session)

LW provided a verbal update on ZEP finances. Since the last ACEC meeting a total of €30,000 has been paid to clear 4 outstanding invoices to Ardnacraggan Energy Services Ltd, leaving cash reserves of €10,000. An invoice from the Port of Rotterdam is outstanding and engagement with Gassnova and Mitsubishi Hitachi Power Systems regarding membership ongoing. It was agreed that a formal update would be provided for the August ACEC call.

7. AOB (closed session)

GS provided an update on engagement with ExxonMobil, who had requested a list of AC members and positions. This had been the third enquiry, following questions on ZEP's position on subsidies.

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8. Actions

Action		Owner	Status
1	Government Group paper to be circulated with meeting minutes	LW	Completed
2	LW to draft an outline of how the ongoing TWG9 fits in with the upcoming ZEP Secretariat bid	LW	
3	GS to follow up with the TWG9 co-chairs to discuss the approach to submitting the Implementation Plan	GS	
4	AG agreed to follow up with CS on discussion with OGCI on ME5 model.	AG + CS	
5	CS to provide an update on interactions with the OGCI on the next ACEC call.	CS	
6	CS to contact Gardiner Hill regarding the amount of CCS in the BP 2017 Energy Forecast	CS	
7	Add Dagmara Koska EPS enquiry to the AC52 agenda	LW	
8	LW to circulate notes on the Element Energy report alongside the meeting minutes and to undertake a detailed review of the report	LW	
9	AG to facilitate a meeting between ZEP and Cefic	AG	
10	Add an item on the EU Court of Auditors work to the NWPE agenda	NB	
11	Secretariat to update the draft ZEP membership document and circulate to the ACEC for further comment.	HH	
12	JH to contact INA to present at the AC52 meeting	JH	

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Advisory Council Executive Committee

Minutes: Conference Call – 15th August 2017

Attendance

Graeme Sweeney	Ardnacraggan Energy Services Ltd. (Chair)
Angus Gillespie*	Shell
Arthur Heberle	Mitsubishi Hitachi Power Systems
Jonas Helseth *	Bellona
Charles Soothill*	ZEP Vice Chair
Filip Neele	TNO
Mark Downes	Shell
Lamberto Eldering	Statoil
Gardiner Hill	BP
Arthur Heberle	Mitsubishi Hitachi Power Systems
Luke Warren	ZEP Secretariat
Harriet Howe	ZEP Secretariat

* Jonas Helseth acted as Frederic Hague's and Rob van der Meer proxy
* Charles Soothill acted as Nils Røkke's proxy for the first hour of the meeting

1. Introduction and general update (open session)

The August meeting agenda was adopted and draft minutes from the July ACEC call were approved and adopted.

Following the action taken on the ACEC July call the Government Group ACEC away day feedback was circulated in the meeting pre-reads for completeness of the record. No other issues on this matter were raised.

2. Network and Temporary Working Group updates (open session)

a. Network Technology

FN gave an update on the NWT, with the next meeting planned for Thursday 19th October in Brussels. As this is after the September AC52 meeting the co-chairs, FN and AH, are preparing a proposal for a new work programme to present to the AC for discussion. This will then form the basis for the NWT October meeting agenda.

Mission Innovation

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Terms of reference for the TWG: Mission Innovation was approved at the AC51 meeting in July. FN updated the ACEC that NWT members have been asked to provide input to the process, which will be collated at a teleconference meeting on 30th August, with a final set of recommendations presented to the AC52 for review. It was agreed that rather than highlighting work which ZEP have already done, the focus should be on how the EU can support this process and help to set an R&D agenda.

GS noted the lack of input from the Commission on both the Mission Innovation process and the H2020 draft work programme, although added that discussions through the SET-Plan TWG9 had been more productive. GS noted that ZEP should provide feedback to the Commission on this issue, agreeing with input provided ahead of the meeting from Nils Røkke. FN took an action to write a letter to the Commission, outlining the need for more constructive dialogue on future work programmes, to be discussed at the AC52 meeting.

b. Network Policy and Economics

LE gave an update of the NWPE. The next meeting is planned for 23rd August in The Hague, with an agenda circulated in the meeting pre-reads for information. The meeting will focus on the key priorities for NWPE identified at the ACEC away day.

PCIs

LW noted that day was the deadline for feedback to the Commission PCI consultation. LW added that the Secretariat and NWPE co-chairs had prepared a response, which would be submitted to the Commission later that day. LE noted that as a project promoter no communication had been received from the Commission or other involved parties on forward process, however the expectation was that a formal enquiry to Member States for support is expected shortly.

Element Energy report

LW informed the ACEC that ZEP's feedback on the report had been passed on the consultants, with the expectation that a response would be received shortly. The ACEC agreed to endorse the report so it could be used in upcoming engagements, ahead of approval at the AC52. It was agreed that ZEP should put together a formal response to the report, to be used in engagement with officials, and that this matter should be raised with the ERG.

c. External Relations Group (ERG)

MD provided an update on ERG activities, including a call scheduled that week. LW noted that Nikki Brain had been arranging an engagement programme for September, which would be discussed further on the ERG call.

COP23

The ACEC agreed that this would be a good opportunity to present the ME5 report. LW updated that the Secretariat have arranged for CS to attend through the CCSA delegation. GS added that Nils Røkke would also be attending on behalf of EERA. In response to a question from GS on

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whether it would be beneficial for other ZEP delegates to attend, LW noted that there appeared to be limited value in attending the negotiations as an observer; however, the CCSA could look into whether additional speaking opportunities were available. It was agreed that a short summary outlining ZEP's role at COP23 should be shared with the AC52.

ZEP Narrative

The narrative was updated following input from the ACEC away day, with an amended version with tracked changes circulated in the meeting pre-reads. Nils Røkke provided feedback ahead via email that heat should be included as well as a greater focus on synergies.

There was a discussion around the use of the term 'zero emissions', which, due to its broad scope, may risk removing the reference to CCS. It was agreed that 'net zero emissions' would be a more appropriate term, with AG adding that it was unlikely that this would get conflated with offsetting.

Other points raised were the need to make language around clean/green hydrogen consistent with the ZEP clean hydrogen report, and the inclusion of low-carbon processes and products. It was agreed that the narrative should be circulated to the ACEC for further review, with a deadline of the end of the week for comments.

Energy Post article

GS updated the ACEC that following the ZEP response and comment to the article the ERG plan to follow up with Energy Post proposing a separate oped piece, highlighting positive CCS developments in Europe. AG noted the inconsistencies in figures for the number of global operational CCS plants between the article, ZEP's response and the ZEP narrative. The need for consistency was agreed, with the common source for this information being GCCSI.

Clean Hydrogen workshop

An update internal concept note for the workshop was circulated in the meeting pre-reads, with feedback from Nils Røkke that the ERA-NET ELEGENCY project be added to the agenda.

GH commented that the objectives should be made clearer, and questioned why Northern Gas Networks and the Leeds H21 project were not included on the agenda. LE responded that due to Brexit considerations it was felt that the workshop would be more impactful with a Dutch-Norwegian focus. However, as Statoil have collaborated on the H21 project LE could also cover this alongside the Magnum project. Additionally, Dan Sadler from Northern Gas Networks would be invited to attend. JH noted the UK Cadent project, which is focused on industrial hydrogen combined with gas blending into the domestic heat network. LW added that it was expected that an initial report on the project would be published shortly.

3. EU support for CCS (closed session)

LW provided an overview of the pre-read circulated ahead of the meeting. With regards to the ETIP ZEP bid, LW noted that the core text was consistent with the previous text, but the funding

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available indicated that this would now be a 3, rather than 2 year grant. The timeline means that it is unlikely a new contract will be signed before March 2018, leaving a minimum 3 month gap. It was agreed that ZEP needs to engage with the Commission on options available, including extending the current grant.

For the TWG9 grant it appeared that the proposal text was still in an early stage of development. GS reiterated that the Government Group have expressed a wish to maintain a shared secretariat with ZEP for consistency but that separate governance would be needed. It was agreed that ZEP would engage with the Commission, and in particular Michael Schuetz and Vassilios Kougionas, to stress the importance of maintaining a common secretariat for the ETIP ZEP and TWG9 in order to make the process efficient and avoid disruption.

For the Project Network FN noted that the approved text had been delayed. LW added that the Secretariat have been approached by a number of other organisations wishing to submit a joint bid, which could indicate a high level of competition.

LW agreed to put together a timeline for the three bids, highlighting the key dates.

4. AC52 Agenda (closed session)

A draft AC52 agenda was circulated to the ACEC as a pre-read ahead of the meeting, with a couple of speakers not yet confirmed. It was noted that additional time may need to be given to the ERG update to allow for discussions around the narrative, and also for the NWT update with regards to Mission Innovation.

5. Finance update (closed session)

LW provided an update on ZEP finances. Since the last ACEC meeting invoices from the Port of Rotterdam and Total had been paid. Based on current finances it is forecast that ZEP will be going into 2018 with a deficit of €11,000 and then operating at a surplus later in the year. LW informed the ACEC about a discrepancy which had been picked up between the financial management report and the budget. The accountants had been contacted for information, however due to public holidays LW hadn't received a response. LW agreed to provide an update on the cause of the discrepancy ahead of the AC meeting.

6. ZEP information for prospective members (closed session)

There were no comments on the updated draft text, which the ACEC approved for engagement with prospective members.

7. AOB (closed session)

GS updated the ACEC of a meeting with Cefic taking place that Friday. GS agreed to provide an update on the meeting and next steps. GS also noted that engagement with ExxonMobil regarding ZEP membership was ongoing.

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JH informed the ACEC that the Energy Intensive Industries and CCU Policy paper should be ready by the beginning of the following week. It was agreed that if the paper was ready by this time it should be circulated to the ACEC for approval and used in September engagements.

8. Actions

Action		Owner
1	NWT co-chairs and Nils Røkke to draft a letter to the Commission with feedback on the Horizon 2020 and Mission Innovation process	FN + AH +NR + Sec
2	ERG to discuss a response to the Element Energy report	MD + JH + Sec
3	Summary outlining ZEP's role at COP23 be circulated with AC52 pre-reads	Sec
4	Secretariat to circulate narrative to ACEC for further review and comments	Sec
5	LW to produce timeline of key dates for possible ZEP bids	LW
6	LW to update ACEC on discrepancy in ZEP finances ahead of the AC52	LW

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ZEP Advisory Council 52

13th September 2017

Agenda Item 1.e: Chair's update

External meetings

The ZEP Chair and Secretariat have recently participated in two meetings with external stakeholders and processes:

Meeting with the Port of Rotterdam Authority

On 24th August Graeme Sweeney (ZEP Chairman) and Harriet Howe (ZEP Secretariat) met with Allard Castelein (CEO), Nico van Dooren (Director Energy and Industry) and Mark Driessen (Programme Manager for European Affairs) from the Port of Rotterdam Authority (PoR).

- Allard Castelein (AC) expressed regret that the ROAD project is now unlikely to progress, but added that this could create new opportunities. Some PoR stakeholders still need to be convinced on the case CCS and this may be an easier task without the association to coal. Current projects provide a more robust case for industrial CCS and its role in the Ports decarbonisation and climate objectives. Graeme Sweeney (GS) added that although the cancellation of ROAD would lead to some negative discussions around CCS in the short term, ZEP would be working to counter this narrative and highlight positive developments in Europe.

- Nico van Dooren provided an overview of the Port of Rotterdam CO_2 Backbone Project, which is currently being developed with stakeholders including Shell, Air Liquide, BP, TAQA. Discussions on the project timeline are currently underway with the Dutch Ministry of Economic Affairs. The project will also involve CCU; however this is not at the core of plans.

- AC added that the PoR are not just focused on the Dutch Government, but also on Brussels – and this is where they see ZEP as useful – particularly in conversations around ROAD funding and Dutch subsidies. EU subsidies also important and it is likely that the PoR will seek to apply for new subsides for the project rather than pushing for a transfer from those currently assigned to ROAD. Mark Driessen added that options to retain funding are currently being explored, but that the likely outcome would be default back to Member States. GS offered to look into where some of the remaining EU subsidies are being directed and could engage with Member States (including Norway and Germany) to see if they can provide support.

- The PoR are in currently holding discussions with Vopak and are looking into establishing a CO_2 supply from the Ruhr region. ZEP agreed to provide information on the Norwegian CCS projects.

- GS provided information on a number of ZEP's ongoing and planned activities. This included the Clean Hydrogen Workshop, and an invitation for AC to speak. ZEP agreed to send further details and agenda for the workshop. It was also agreed that ZEP would send a copy of the Element Energy Smart Funding Pathways report and ZEP executive summary, and report on EIIs and CCU policy once completed. GS also discussed ZEP's involvement in the SET-Plan TWG9 CCS and CCU, noting the prominent role of the Rotterdam region in the Implementation Plan recently submitted to the European Commission. GS agreed to keep the PoR updated on progress.

- GS also raised the co-chair position available for the Network Policy and Economics TWG Policy and Funding, adding that this would benefit from the PoR's leadership and expertise in this area. The Secretariat agreed to send further information on scope of group and responsibilities of the role. The Secretariat also offered to send the PoR a draft of the ZEP new members press release for review *(note to Graeme – this has been completed).*

Call with Marco Mensink, CEFIC

On 18th August Graeme Sweeney (ZEP Chairman) held a call with Marco Mensink from CEFIC regarding their *Roadmap for 2050* report which was published in July and the CEFIC position on CCS.
Marco was subsequently invited and is confirmed to attend the AC52 meeting. Actions arising from the call on the 18th August will be discussed at the AC52 meeting.

Forward programme of external meetings

A number of meetings with external stakeholders are being planned for the ZEP Chair on the 12th September (to coincide with the AC52 meeting) and the 27th September (to coincide with the SET-Plan Steering Committee meeting):

12 September - meetings:

- 09h30 - Silvia Bakardzhieva, Environment Attaché, Permanent Representation of Bulgaria (next Council Presidency holder)
- 16h00pm - Miguel Capilla Esquitino, Policy Advisor to MEP Carolina Punset (ALDE, ES), Shadow on Energy Union Governance

Open meeting requests:

- Patrick Child, DG RTD
- Permanent Representation of Austria to the EU
- Permanent Representation of Sweden to the EU
- Permanent Representation of France to the EU

- MEP Gerben-Jan Gerbrandy (ALDE, NL), ITRE/ENVI Committee Shadow on Energy Union Governance
- MEP Gunnar Hokmark (EPP, SE), ITRE/ENVI Committee Shadow on Energy Union Governance
- MEP Bas Eickhout (Greens/EFA, NL), ENVI Committee Rapporteur on REDII
- MEP Lambert van Nistelrooij (EPP, NL), REGI Committee member and ex-GA host
- MEP Jan Huitema (EPP, NL), ENVI Committee substitute
- MEP Esther de Lange (EPP, NL), ITRE Committee member
- MEP Miriam Dalli (S&D, MT), ENVI Committee coordinator

SET-Plan TWG9 CCS and CCU update

A finalised version of the SET-Plan TWG9 Implementation Plan was submitted to the European Commission on 24th August. Since the last meeting of the TWG9 changes have been made to the Implementation Plan to address target 1 of the Declaration of Intent (at least one commercial-scale, whole chain CCS project operating in the power sector), which previously outlined the delivery of the ROAD project. This Research and Innovation Activity has been updated and now focuses on the progression of activities leading on from ROAD in the Rotterdam region, including the Magnum hydrogen project.

The European Commission is currently conducting an internal review of the Implementation Plan. If approved, this will then be submitted to the SET-Plan Steering Committee ahead of the meeting on 27th September, which will be attended by the TWG9 co-chairs (William Christensen, Norway; Joelle Rekkers, Netherlands; and Graeme Sweeney, ZEP). If adopted at the Steering Committee meeting the Implementation Plan will then be presented at the SET-Plan conference taking place on 29th November to 1st December in Bratislava. The ZEP ERG, Weber Shandwick, and Secretariat are currently developing an engagement programme for the Implementation Plan following its publication.