

## MEETING MINUTES

### ZEP 74<sup>th</sup> ADVISORY COUNCIL AND IWG9 PLENARY

22 March 2023, 10:30-17:00 CEST

In-person meeting in Brussels (and online)

#### 1. Welcome and introduction

Eve Tamme/Chair welcomes participants and confirms Quorum verified.

Chair introduces herself and welcomes the new ZEP member 8Rivers, represented in the AC by Jennifer Diggins, as well as the new AC member for IFPEN, Cecile Barrere-Tricca.

Chair asks for approval of

- the IWG9 Plenary/AC74 draft meeting agenda – approved.
- the IWG9 Plenary/AC73 draft meeting minutes – approved.
- the ACEC January draft meeting minutes – approved.

#### 2. ZEP and IWG9 2023

POG highlights the ZEP conference on 26 April and invites participants to register, he gives an update on the election of a new ZEP Chair as well as the strategic seminar organised in February.

Asking the AC for approval of the focus and budget for the ZEP additional work programme, POG notes the background with decreased EU funding and increased funding from members, and presents the basis for the additional ZEP work programme, focused on outreach, public affairs and communication: additional resource to be employed in CCSA serving ZEP, enhanced advocacy and communication activities and external events, as well as linked administrative support.

Asking the AC for approval of the way forward and starting the new ZEP Network Project, POG notes the great need to support the many market-ready projects and refers to the previous AC approval. He presents the basis for the new Network, including addressing enablers and barriers, enabling knowledge sharing, improve public perception, and de-risking projects focusing on specific regions, also referring to Governments, public authorities, and the ZEP Government Group.

POG gives an update regarding the 2022 budget follow-up and the very sound financial situation, where the ZEP-C has some €355,000 in financial reserves at the beginning of 2023. He notes the two items additional items for the ZEP-C 2023 budget – funding of the ZEP chair and the additional work programme and asks the AC to approve the budget.

Chair invites the ZEP AC to approve the additional work programme, delegating to the ACEC the preparations and starting of the new Network, and the 2023 ZEP-C budget, including funding for the ZEP Chair and the ZEP additional work programme – all approved.

### **3. Updates from governments & projects**

Jasmin Sharzad (JS) gives a presentation on Denmark's plan and recent milestones on CCS deployment, highlighting the plan for 52 Mtpa domestic CO<sub>2</sub> storage possibilities and stating that a new licensing round should take place this year. Answering participants' questions, JS highlights that engagement in public perception is crucial for onshore storage and adds that Denmark has a mandate to engage with like-minded countries in the EU/EEA.

Sara Budinis gives a presentation on the International Energy Agency (IEA) work and findings on CCS and CCU, highlighting that the IEA will release publicly its database of CCS and CCU projects. The IEA will publish a report on business models for CCS and CCU applications in 2023/2024 and organise a workshop on DACCS on 31 May.

Sander Nijman gives a presentation of the Aramis project. Final investment decision is expected in 2024/2025 and storage potential could reach 10 Mtpa in 2030. CCS on ships is not being considered at the moment.

### **4. Updates from the Networks**

#### **a. Network Policy & Economics**

CS gives an update on the latest Network meeting, noting discussions on the agreement on the EU ETS revision, the memorandum of understanding signed between Equinor and RWE, the review process for the CO<sub>2</sub> storage directive Guidance Documents, the CCUS Forum and the revision of the TEN-T regulation. ZEP co-signed a letter calling on the inclusion of multimodal CO<sub>2</sub> transport in the TEN-T. He gives an update from the latest TWG Policy & Funding meeting, noting the work on a draft ZEP position on the Green Deal Industrial Plan and the Net-Zero Industry Act, and that the 50 Mtpa objective by 2030 is a very positive signal.

CAB provides an update from the working group on CO<sub>2</sub> transport by ship, noting the preparation of the scope and the first inputs to the report. CAB and AF present the recent ZEP consultation responses that are up for AC approval:

- DNV's call for inputs on the CO<sub>2</sub> Storage Directive Guidance Documents
- DG CLIMA's consultation on the key features of the Innovation Fund
- The EC consultation on the list of PCI/PMI candidates in CO<sub>2</sub> networks
- The EC consultation on competitive bidding schemes for hydrogen under the Innovation Fund.

All are approved.

The two open EC consultations on the Net-Zero Industry Act and the European Critical Raw Materials Act, and the expected consultations on the CCUS Communication and the EU 2040 climate target are noted.

#### **b. Network Technology**

FN gives an update on the latest Network meeting, noting discussions on the new Network Projects, a presentation on the ISO work on standards for CO<sub>2</sub> storage, and presentations by OGE and PilotSTRATEGY. He highlights that TWG CDR will work on ZEP responses to the EC proposal for a

regulation on an EU certification for carbon removals and the Article 6.4 Supervisory Body call for feedback.

AH presents the new TWG supply chain that will investigate bottlenecks and dependencies along the CCS and CCU supply chain, noting that larger volumes of CO<sub>2</sub> entail larger demand of material and equipment. The aim is to see whether there are enough resources and workers available.

FN mentions ZEP's response to the EC consultation on the Horizon Europe work programme, highlighting the need for knowledge sharing and the importance of coordinated calls at the regional, national, and EU level. FN and AF present the recent ZEP consultation responses that are up for AC approval:

- DG RTD's consultation on the Horizon R&I programmes
- Article 6.4 Supervisory Body call for input on carbon removals
- EC call for views on the proposed certification framework for carbon removals

All are approved.

## **5. Updates from External Relations Group**

POG provides a short update of ZEP activities, highlighting the ZEP conference on 26 April – the most important place to be for CCS and CCU this year, the successful ZEP application to the EU Sustainable Energy Week on 20-22 June.

POG gives a background to the proposed merger of the ERG and the Communications Group, he notes the increased focus on outreach and communication and that the ZEP vice-chairs for Oil & gas, Research, and Industry have been asked to nominate ERG co-chairs, and asks the AC for endorsement. Both are endorsed by the AC.

## **6. Updates on monitoring and reporting regulation and carbon removals**

Ioannis Markoudakis gives a presentation on the revision of the monitoring and reporting regulation. The revision will run from March to November and there will be a public consultation in Q3 2023. The aim of the revision is to clarify, simplify, and make rules more cost-efficient. New rules will be laid out for municipal waste incineration, renewable fuels of non-biological origin (RFNBOs) and recycled carbon fuels. The revision could cover CCS and CCU if there is enough time.

Questions and answers follow.

Fabien Ramos (FR) presents the EC proposal for a regulation on an EU certification for carbon removals and the ongoing process. There is significant interest from the European Parliament and the Council for this proposal. The EC is aiming for a political agreement in January/February 2024. The EC expert group met on 7 March and had a good discussion. After the summer there will be expert group meetings on BECCS/DACCS and the certification process. A workshop on geological storage is planned for October as a basis for a paper on existing EU frameworks and gaps. FR takes questions from participants and highlights that BECCS and DACCS are priorities.

Kristin Jordal (KJ), ZEP's representative in the expert group, provides an update from the first meeting. The expert group is focused on the methodology and the CCS+ was mentioned as one

possibility. KJ notes that clarity is needed regarding the certificates' timescale/permanence. This is also highlighted by LE in the following discussion on CDR and permanence. POG notes ZEP's current position here, that removals will need geological storage of CO<sub>2</sub>.

## **7. The Green Deal Industrial Plan**

Daniel Kitscha (DK) gives a presentation of the EC's proposed regulation, the Net-Zero Industry Act, noting among other things that CCS is defined as a strategic Net-Zero technology, and that the proposal includes a legally binding target of 50 Mtpa of CO<sub>2</sub> by 2030 with the aim to reinsure industry investors. He adds that the EC aim is to have the proposal adopted before the 2024 EU elections. DK also notes that €3 billion will be awarded under the third large-scale Innovation Fund call with €1 billion for general decarbonisation. Innovation Fund auctions for renewal hydrogen will start in the autumn to award €800 million.

Many questions are asked in the discussion that follows.

## **8. CCUS Forum**

Chris Bolesta gives an update on the CCUS Forum and the four working groups, and the expert group on CO<sub>2</sub> specifications, noting that a public consultation on the strategy will take place in April, and that the Forum plenary is scheduled for late November in Denmark.

POG gives an update regarding the WG Industrial Partnerships, noting the ZEP written input – that the platform is ideal to be this partnership since it, including the new Network Projects, gathers the right stakeholders and performs the tasks described as crucial by the Industrial Partnership co-chairs.

## **9. EC update on CO<sub>2</sub> infrastructure**

FN presents the preliminary findings of the TNO/Trinomics study on regulation for CO<sub>2</sub> transport and storage, noting the policy recommendations:

- open-access infrastructure,
- overcapacity and oversizing,
- forum to coordinate emitters and storage,
- support Central and Eastern Europe,
- decouple emitters from transport and storage,
- EU guidance for transport,
- prioritise BECCS and DACCS,
- insurance to cover financial liabilities for storage, and
- avoid too early overregulation.

A discussion follows.

Dražen Tumara provides an update on the Joint Research's work on a cost-optimal way from CO<sub>2</sub> sources to sinks via pipelines and maritime ships that is planned to be finished in May 2023. He

describes the methodology used to model cost-optimal transport routes. For 2030, the study relies on existing and announced projects and foresees 70 million tonnes of CO<sub>2</sub> transported by pipeline and ship. The model used can incorporate the 50 Mtpa CO<sub>2</sub> target laid out in the Net-Zero Industry Act proposal.

Questions and answers follow.

Katrien Prins provides an update on the state-of-play of the 6<sup>th</sup> list of projects common and mutual interest, highlighting that there is no theoretical limit to the number of projects that can be granted PCI/PMI status.

## 10. SET Plan

Eirik Velle Wegner Lønning notes that there is no significant new update. LE notes that the Net-Zero Industry Act should impact the Horizon Europe programme.

## 11. ZEP and IWG9 actions / Closing remarks and next meeting

Chair notes that 8 Rivers could not attend the meeting and that they will present themselves at the next meeting.

Chair thanks all for participating and notes the next AC/Plenary meeting dates for 2023: ZEP AC75 and IWG9 Plenary on 14 June, 13 September and 13 December.

Attendants		
1	Eve Tamme	Zero Emissions Platform
3	Sebastian Busch	NRW.Energy4Climate
4	Anna Dubowik	Negative Emissions Platform
5	Rodolphe Nicolle	European Lime Association
6	Ståle Aakenes	Gassnova
7	Luke Warren	bp
8	Sander Nijman	Shell
9	Christian Schwarck	Shell
10	Pauline Bourguignon	TotalEnergies
11	Eric De Coninck	ArcelorMittal
12	Filip Neele	TNO
13	Winston Beck	Heidelberg Materials
14	Lamberto Eldering	Equinor

15	Per-Olof Granström	Zero Emissions Platform
16	James Cogan	Ethanol Europe
17	Nils Røkke	SINTEF
18	Jonas Helseth	Bellona Europa
19	Eirik Lønning	European Commission
20	Axel Scheuer	IOGP Europe
21	Alberto Pettinau	Sotacarbo
22	Alex Blades	UK government
23	Anders Melhus	Altera Infrastructure
24	Anders Uihlein	European Commission
25	Anton Manakhov	Aramco
26	Arash Hedayat	Repsol
27	Cecile Barrere-Tricca	IFPEN
28	Bernice Maxton-Lee	ETH Zurich
29	Caterina De Matteis	IOGP Europe
30	Codie Rossi	CATF
31	Constantin Sava	GeoEcoMar
32	Eadbhard Pernot	CATF
33	Daniel Kitscha	European Commission
34	Eric Ingels	Pall Corp
35	Timo Ritonummi	Finnish Ministry of Economic Affairs and Employment
36	Carol Paquier	French Ministry for the Ecological and Solidarity-Based Transition
37	Giovanni Vergine	Eni
38	Gülten Özçayan	Tenmak
39	Jarand Gauteplass	University of Bergen
40	Jan Kjärstad	Chalmers University of Technology
41	Guillaume Janin	NeoCarbon
42	Jannicke Gerner Bjerkås	Hafslund Oslo Celsio
43	José Moya	European Commission
44	Klaus Meyer	Bosch



45	Kristin Jordal	SINTEF
46	Leila Faramarzi	Vallourec
47	Lieselot Marinus	Port of Antwerp-Bruges
48	Liv Rathe	Norsk Hydro
49	Luke Warren	bp
50	Marine Plassier	French Ministry for the Ecological and Solidarity-Based Transition
51	Martijn van de Sande	Netherlands Enterprise Agency
52	Michael Evans	Cambridge Carbon Capture
53	Michał Wondolowski	Bellona Europa
54	Francis Morin	McDaniel
55	Nicolai Mykleby-Skaara	Aker Carbon Capture
56	Nicolò Cairo	ETN Global
57	Ane Gjengedal	Norwegian Ministry for Petroleum and Energy
58	Roberto Ferrario	Eni
59	Sebastian Fischer	German Federal Ministry for Economic Affairs and Climate Action
60	Sina Blix Prestmo	ECCSEL
61	Sophie Wilmet	Cefic
62	Stefan Gielis	Air Liquide
63	Stefano Benato	
64	Stuart Haszeldine	University of Edinburgh
65	Svante Söderholm	Swedish Energy Agency
66	Sytze Ferwerda	Porthos Development
67	Thomas Le Guénan	Bureau de Recherches Géologiques et Minières
68	Tine Leroux	Flemish Energy and Climate Agency
69	Hanife Tuzcuoğlu	Tenmak
70	Vicente Cortés Galeano	Inerco
71	Ward Goldthorpe	Sustainable Decisions
72	Wolfgang Haider	Carbon2ProductAustria
73	Xavier Pettiau	Lhoist

74	Yelda Guven	ExxonMobil
75	Arthur Heberle	
76	Ioannis Markoudakis	European Commission
77	Fabien Ramos	European Commission
78	Chris Bolesta	European Commission
79	Katrien Prins	European Commission
80	Jürgen Gusterhuber	Austrian Federal Ministry of Finance
81	Frederik Pieters	BASF
82	Rebecka Larsson	Bellona Europa
83	Morten Skovgaard Olsen	Danish Energy Agency
84	Julia Mülheiss	e.on
85	Stijn Santen	EBN
86	Panos Deligiannis	Ecolog
87	Arjan van Ginkel	Endress+Hauser
88	Luisa de Castro	Equinor
89	Helena de Sousa-Falcao Montull	Equinor
90	Nicolò Cairo	ETN Global
91	Federico Benito Dona	Eurofer
92	Robin Clowes	ExxonMobil
93	Natalya Hermann-Kopotilov	German Federal Ministry for Economic Affairs and Climate Action
94	Nikolaos Koukoulas	CERTH
95	Ana Mingo	Norsk Hydro
96	Tim Dixon	IEAGHG
97	Ayan Bhattacharji	Interconnector
98	Michalis Agraniotis	Mitsubishi Power Europe
99	Ross Brown	Shell
100	Marine Valdois	ExxonMobil
101	Paola Mazzuchelli	CIRCE
102	Bram Sommer	Shell
103	Aslak Hellestø	Northern Lights



104	Heimo Friede	Siemens Energy
105	Marie Bysveen	SINTEF
106	Miguel Angel Hernando García	Tecnicas Reunidas
107	Ümit Çalıkoğlu	Turkish Ministry of Energy and Natural Resource
108	İrem Işık Çetin	Tenmak
109	Çağrı Yildirim	Tübitak
110	Hooman Haghighi	Wood
111	Andreas Weiss	Forschungszentrum Juelich
112	Eleonora Andaloro	Eni
113	Flavia Cassiola	Shell
114	Arash Hedayat	Repsol
115	Alexis Perrier	Lhoist
116	Ana Maria Staack Reis Machado	University of Lisbon
117	Bruno Langlois	Khimod
118	Cécile Boyer	Vicat
119	Fred Selhorst	Victrol
120	Jean-Louis Roux Dit	NeoCarbons
121	Giovanni Vergine	Eni
122	Jeromine Albertini	Veolia
123	Kerstin Schwalm	e.on
124	Pana Ligia	Saipem
125	Michał Piekutowski	KGHM
126	Mohamed Magdeldin	Sumitomo SHI
127	Priscilla Moukouri	Suez
128	Przemysław Grojs	PKN Orlen
129	Tino Villano	CRH
130	Wolfgang Haider	Borealis
131	Yoshihiro Sawada	Japan CCS
132	Per-Olof Granström	ZEP Secretariat
133	Charles-Albert Bareth	ZEP Secretariat

134	Ana Faria	ZEP Secretariat
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