

# IWG9 Plenary and ZEP 74<sup>th</sup> Advisory Council

**22 March 2023, 10:30-17:00 CET**

## **Agenda Item 1: Introduction and welcome**

### ***1.a. Meeting instructions***

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The IWG9 Plenary and ZEP AC74 meeting will be a physical meeting. **It will be held at ACEEvents, Avenue d'Auderghem 22 in Brussels (Metro Schuman).**

Physical participation is strongly encouraged. Virtual participation will be facilitated if required, with Webex. The link to join virtually can be found in the Outlook calendar invitation, you can also [click here to join](#).

### ***1.b. Draft meeting agenda***

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The draft agenda for the IWG9 Plenary and 74<sup>th</sup> meeting of the Advisory Council is appended as pre-read 1.b.

### ***1.c. IWG9 Plenary and ZEP AC723 draft meeting minutes***

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The draft meeting minutes of the previous IWG9 Plenary and 73<sup>rd</sup> meeting of the ZEP Advisory Council, which took place on 14 December 2022, are appended as pre-read 1.c.

### ***1.d. ZEP ACEC January meeting minutes***

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The ZEP ACEC January meeting minutes are appended as pre-read 1.d.

### ***1.e. ZEP AC members-only Chairperson election meeting notes***

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The ZEP AC members-only Chairperson election meeting notes are appended as pre-read 1.e.

## IWG9 Plenary and ZEP 74<sup>th</sup> Advisory Council

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

### Draft meeting agenda

Item	Lead Presenter	Time
<b>1 Welcome and introduction – for information</b> <ul style="list-style-type: none"> <li>New ZEP Chair</li> <li>Introduction of new ZEP members</li> </ul>	ZEP Chair	10:30-10:40
<b>2 ZEP and IWG9 2023 – for information, guidance, and approval</b> <ul style="list-style-type: none"> <li>ZEP work programmes and budget</li> </ul>	Per-Olof Granström	10:40-11:10
<b>3 Updates from governments &amp; projects – for information</b> <ul style="list-style-type: none"> <li>Danish CCS strategy</li> <li>Updates from the International Energy Agency (IEA)</li> <li>Aramis project</li> </ul>	<ul style="list-style-type: none"> <li>Jasmin Sharzad, Danish Ministry of Climate, Energy and Utilities</li> <li>Sara Budinis, IEA</li> <li>Sander Nijman, Shell</li> </ul>	11:10-12:00

### LUNCH BREAK

<b>4 Updates from the Networks – for information, guidance, and approval</b>	Network co-chairs, ZEP Secretariat	13:00-13:45
<b>5 Updates from the ERG – for information and guidance</b>	ERG co-chairs, ZEP Secretariat	13:45-14:05
<b>6 Updates on monitoring and reporting regulation and carbon removals – for information and guidance</b> <ul style="list-style-type: none"> <li>Revision of the Monitoring and Reporting Regulation</li> <li>Certificates for Removals – consultation and way forward</li> <li>Update from the CDR expert group</li> </ul>	<ul style="list-style-type: none"> <li>Ioannis Markoudakis, DG CLIMA</li> <li>Fabian Ramos, DG CLIMA</li> <li>Kristin Jordal, SINTEF</li> </ul>	14:05-14:30

### COFFEE BREAK

<b>7 The Green Deal Industrial Plan – for information and guidance</b>	<ul style="list-style-type: none"> <li>EC official (tbc)</li> </ul>	15:00-15:30
<b>8 CCUS Forum – for information and guidance</b> <ul style="list-style-type: none"> <li>Updates on Working Groups</li> <li>EU Strategy for CCS and CCU</li> </ul>	<ul style="list-style-type: none"> <li>Chris Bolesta, DG ENER</li> </ul>	15:30-16:00
<b>9 EC update on CO2 infrastructure – for information and guidance</b> <ul style="list-style-type: none"> <li>Presentation of the TNO/Trinomics study</li> <li>Update on the JRC study</li> <li>First Union List of Projects of Common / Mutual Interest</li> </ul>	<ul style="list-style-type: none"> <li>Filip Neele, TNO</li> <li>Drazen Tumara, Joint Research Centre</li> <li>Katrien Prins, DG ENER</li> </ul>	16:00-16:30
<b>10 SET-Plan – for information and guidance</b> <ul style="list-style-type: none"> <li>Revised SET-Plan – implications for CCS/CCU</li> </ul>	ZEP Secretariat	16:30-16:45

11	<b>ZEP and IWG9 actions / Closing remarks and next meeting</b>	ZEP chair/IWG9 chairs	16:45-17:00
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DRAFT

## **DRAFT MEETING MINUTES**

### **ZEP 73<sup>rd</sup> ADVISORY COUNCIL AND IWG9 PLENARY**

14 December 2022, 10:30-17:00 CEST

In-person meeting in Brussels (and online)

#### **1. Introduction and welcome**

Chair (WC and JR are sharing the role of chair), open the meeting and note the coordinated work of ZEP the IWG9 as defined by the new grant.

All pay tribute to the former ZEP chairman, Dr Graeme Sweeney, who passed away this year.

POG welcomes new members of the ZEP Advisory Council (AC) – new ZEP member Mitsubishi Heavy Industries (MHI) represented by Dr Michalis Agraniotis and new AC members for TotalEnergies, Pauline Bourguignon. Michalis Agraniotis gives a short introduction to MHI's CCS-related activities.

The AC thanks Lucie Boost for her engagement as ZEP ERG co-chair.

#### **2. ZEP and IWG9 2023**

POG notes that he is asking the AC for approval of 1) the ZEP chairperson election process, 2) the proposed updated ZEP bylaws, 3) the ZEP budget for 2023, and for AC and IWG9 Plenary approval of the work programme for 2023. He presents the process, criteria and description of role and responsibilities for the election of a new ZEP chairperson. The call for candidates that was sent to the AC members in November closes on 2 January and an AC members-only meeting will be organised in Brussels (and on-line) on 18 January for election of the new chairperson. He notes the commitment is for three years with an expected 20% workload, and highlights the criteria, that include upholding the ZEP values and navigating the platform across the many areas from research to the political economy and commercialisation of CCS and CCU.

POG presents, referring to the pre-reads, the updated bylaws that include a general update of the texts based on the previous version from 2016, the governance structure, rotation of members, addition of new groups, etc.

POG gives an overview of the proposed ZEP/IWG9 work programme for 2023, noting that the draft programme, that was presented at the AC/Plenary in September, has since been discussed and developed in the Networks, the ERG, and the government group. Given the decreased EU grant budget and the increased interest and funding from ZEP members, ZEP will also develop a ZEP own work programme. The process for developing this own work programme is outlined, which will be submitted for approval at the AC/plenary in March 2023.

POG provides an update of the finances in ZEP-C, noting increased end-of-year reserves of approx. €350k. The proposed budget for 2023 shows income on €310k and includes two items that will be brought up for approval at AC74 in March: possible funding for the new chairperson and budget for the ZEP own work programme.

From the discussions, the following is noted:

- For the chairperson application it is noted that Why the candidate wants to be the chairperson and How she/he would like to develop ZEP will be key.
- Referring to the bylaws, SP asks how to ensure continuity of the work while allowing for the rotation of members in the ACEC. POG notes that based on the bylaws, continuity and rotation of AC members will be brought up at the AC September meetings each year.
- Referring to the budget the following is noted: The budget for the new EU grant, that started in July this year, is halved – €1million – compared to the two separate previous ZEP and IWG9 grants. Decreased budgets and increased coordination between ETIPs and IWGs have been applied to all SET-plan sector. The accounts refer to ZEP Communications ASBL (Belgian non-profit organisation), where all ZEP members are invited to be a member.

The ZEP AC are invited to approve the ZEP chair election process, the proposed updated ZEP bylaws, and the ZEP budget for 2023. All approved.

The ZEP AC and the IWG9 Plenary approves the ZEP/IWG9 work programme for 2023. Approved.

### 3. Updates from governments

Tomas Velghe (TV) provides an update on CCUS in the Flemish region, presenting the Flanders' Climate and Energy Agency (VEKA) which was established in January 2021. He highlights that Flanders comprises several port areas and stand among the most energy intensive regions in Europe, with very strong concentration of industrial installations – important clustered CO<sub>2</sub> point sources. It is thus a key area in the EU with respect to CCUS. Currently the Flemish CCUS policies focus on facilitating ideas and spatial planning in regions and ports, as well as cooperating with neighbouring countries – e.g., Denmark, Norway, and the Netherlands. Recently an MoU was concluded with Denmark for cooperation and transport of CO<sub>2</sub>. Recent efforts focus on transport by ship and pipeline, with draft Flemish legislation being prepared for the latter in order to ensure that all pipeline projects have a legal framework.

After the presentation, a discussion follows with several questions:

- JH thanks for the update and asks for further information on collaboration across the whole of Belgium area to develop an infrastructure backbone. TV replies that most projects are in the Flemish region but the legislation under development aims to ensure that the Belgian approach is well coordinated.
- LB notes that Fluxys has received a lot of interest on CCUS in Belgium recently. This would mean a possibility to have the same operator in both Wallonia and Flanders. She asks how this is perceived. TV responses that this could be an outcome of the legislation and adds that all operators will have a chance to apply to be the network operator, including Fluxys.
- WB highlights the strong momentum for projects in Belgium, with many in Wallonia. However, these regions are far from ports, so infrastructure backbone is key. He asks who is the Walloon counterparty to VEKA. TV replies that he will share the contact after this meeting.
- SC asks how the bilateral agreements signed by Flanders link to the EC analysis paper. TV replies that currently an MoU between two member states seems enough for all relevant institutions.

Sophie Wenger (SW) presents the status regarding CCUS in Switzerland, indicating that a roadmap that establishes a clear position for Switzerland was recently published (an English version is available). The country aims to get the best possible framework for CCS and CDR to be a frontrunner. It considers this sector as an important opportunity for business and R&I institutions. Both reductions and removals will be necessary to solve the challenge of achieving net zero CO<sub>2</sub> emissions.

SW also points at the importance of international cooperation, considering the possibility to account for foreign CDRs in the Swiss emission reduction targets. Therefore, a mix of policy measures will form the legal basis for these developments, including supporting CCS projects nationally and abroad, a Swiss ETS linked to the EU ETS, financial incentives and more across several relevant sectors (waste, aviation, and others). She highlights the role of governments to give legal guidance, and the industry to make investments, give science-based insights and critical reflections, and support for ambitious policies.

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

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

LE provides an update of the latest activities in NWPE, inviting everyone to attend these meetings in person during the next year. LE presents ZEP's response to the Climate Bonds Initiative (CBI) consultation, ZEP's note regarding political interference in the ETS, as well as the important questions that has been highlighted concerning the London protocol.

AF presents the policy agenda for the coming months, noting especially the EC studies on CO<sub>2</sub> infrastructure, finalising the Fit for 55 package, continued work on the CCUS Forum, a public consultation on the EC proposal for a CDR certification mechanism, etc.

CAB presents the draft ToR for the ZEP/CCSA work on CO<sub>2</sub> transport by ship. This work aims to investigate the scope and trade routes for CO<sub>2</sub> transport by ship, standards work being done by ISO, IMO, and SIGTTO and what further interoperability issues to consider, and to describe and provide recommendations regarding barriers to commercialisation.

BdB asks about the ZEP response to the CBI consultation linked to the Taxonomy thresholds. POG notes that the CBI response is based on the ZEP position that highlights that the threshold for hydrogen should start at a higher level and then decrease, aiming for net zero by 2050.

The AC are invited to approve the ZEP note on political interference in the EU ETS (already endorsed by the ACEC), ZEP's response to the CBI consultation (already endorsed by the ACEC), and the draft ToR for the ZEP/CCSA work on CO<sub>2</sub> transport by ship. All approved.

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

FN provides an update on NWT, noting the networks latest activities, such as ZEP's input to the work of the EC/JRC study on CO<sub>2</sub> infrastructure that will be finalised in May 2023. FN presents ZEP's response to the European Critical Raw Materials Act consultation, where ZEP has focused on calling



on the EC to give due consideration to CCUS supply chains in the identification of strategic raw materials and ensure a level playing field. FN also presents the draft ToR to extend the ZEP work on CDR that has been discussed with the network.

AH presents the draft ToR on supply chain risks and gives the context for the new TWG created to push forward the work. The elements in the draft ToR have been discussed in recent NWT meetings. A first meeting is expected in January/February 2023.

The AC are invited to approve the draft ZEP response to the call for evidence on the European Critical Raw Materials Act (already endorsed by the ACEC), the draft ToR extension for TWG CDR, and the draft ToR TWG supply chain risks. All approved.

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

LB outlines the latest activities of the ERG, noting recent critical reports to CCS. She notes the effort for a joint letter to the EC on the CCUS Forum and calling for a strategy. In this regard it was impossible to gather all co-chairs to agree on a final text. LB also notes the newly available opening in the ERG for a co-chair focused on R&I, as well as an additional opening following her own departure of the ERG. LB notes the yearly performance of the ZEP newsletter which has increased and flags the recent article (29 November) published by ZEP on Euractiv, calling for strong European leadership for carbon removals.

MS outlines planned communications activities for Q1 2023, noting a Communication group workshop on 13 January on updating the ZEP Facts & Information toolkit. MS highlights communications material being prepared, project case studies, and preparations for a ZEP conference in 2023. He notes that the strong momentum for CCS in 2023, as described in the policy agenda, will be coordinated with communications, policymaker engagement and event activities – touching on the areas of CO<sub>2</sub> transport and storage, CDR, the EU ETS, the incoming ZEP chairperson, R&I, and skills insofar as 2023 is the EC Year of Skills.

## **6. SET-Plan review**

VK presents the new 2023/24 work programme for Horizon Europe, with CCUS strongly included in the new calls. It includes demonstration projects for transport and storage, calls on CCU, as well as for DACCS and BECCS. Regarding the SET Plan revision, VK notes that the latest meeting took place today with the aim to investigate key issues with a formal communication to be adopted by the end of March 2023. The work will therefore be finalised mid-January, and include an improved governance structure, issues of hydrogen, NECPs, as well as cross-cutting issues such as digitalisation. Finally, VK highlights the recent CETP joint call, with further details to be provided in the next item of the agenda.

A discussion follows on VK's presentation, with questions. POG asks what can be expected regarding the next Horizon Europe work programme, and if there are items in preparation connected to CCS/CCU. VK replies that preparations have started, and the first step is to identify current gaps. Help and input from ZEP is welcome and appreciated in this area. NR asks if there are metrics from the CETP call, e.g., number of applications received from CCUS projects. VK does not have this information but there will be further details in the next presentation (outlined below).

## **7. Updates from ACT/CETP**

RR gives an update, noting that ACT gathers 16 international partners, and that in its three first calls, 33 projects with a total funding of around €110 million has been supported. The CETP call for 2022 gathers 60 funding agencies from 30 countries (many of the funders participating in ACT also participate in the CETP) – including €70 million from the EC amounting to €140 million in total. The call received 107 pre-proposals asking for €195 million. There were 15 pre-proposals for CCS and CCU technologies in the 2022, as well as 14 in hydrogen. RR asked for feedback in order to improve and further precise the future calls.

A discussion follows, including the following. NR asks if there will be a simplification of the current complexity of application process. RR replies that this is being discussed. One approach could be to reduce the number of call modules and be more precise on call topics. MB adds feedback from the EERA community, noting that the call was released suddenly without clear communication. RR adds that this goes back to funding agencies and how proactive they are. VH proposes ways to lighten the burden on projects, including reconsidering the TRL requirements.

## **8. CCUS Forum**

YMO from DG ENER provides an update from the CCUS Forum, including outcomes and next steps. She notes the call for co-chairs for the new WG on public awareness, that will be launched ahead of the next year's Forum. There will also be a public consultation on the EC CCUS Communication, starting around March 2023. Input from ZEP is welcome. HB asks why the announced EC Communication is planned only for Q4 2023, so long after the CCUS forum. This may lead to the EU losing momentum from an international company's (such as Carbon Engineering) perspective. YMO replies that the timeline is following internal regulation and requirements for publishing a communication – an admittedly long process.

POG notes the strong support for CCUS Forum work on an EU strategy for CCS and CCU and a new regulatory framework for CO<sub>2</sub> transport infrastructure and highlighted the need for concrete action by the EC in 2023. He also highlighted the ZEP views from discussions in the Networks and the ACEC on an Industrial Partnership: The importance to first define a clear objective for such partnership, to not create overlaps with existing cooperations, that the focus should be on funding/de-risking of projects, that such partnership should be open to all interested stakeholders, and that it is beneficial to base it on ZEP/that ZEP should host the Partnership's secretariate.

WB gives a short update from the work of WG Industrial Partnership, pointing to the outcome of the WG's survey: The need for more advocacy, to identify and address the main barriers for hubs and projects, to enhance the link between demand, supply, and funding, as well as the need to have an open format for this partnership. In this regard a paper is being prepared which will likely include key proposals for what the partnership could look like. This paper will then be discussed at the WG's next, expected in early 2023.

A discussion follows, with SC noting that there are only so many platforms in which stakeholders can participate and that it is crucial to avoid duplication. SC thus suggests that ZEP should be the secretariat for this new partnership.



CD presents the new “industry-led coalition” for which he is expecting funding from the European Climate Foundation, and where declarations of support – particularly from hard-to-abate sectors – are needed by January. CD notes that this coalition is focused on capture of CO<sub>2</sub> and focused on industrial companies.

A discussion follows, including CS asking what specific cooperation is requested from ZEP and if there is a concrete proposal for how to move ahead together. CD does not have a concrete idea, but points what he sees as difficulties for ZEP, the close relationship with the EC and ZEP’s membership. He insists that this coalition will be a special and time limited commercial advocacy body.

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

FN provides a short presentation on CO<sub>2</sub> infrastructure study that Trinomics and TNO is performing for the EC. The study aims to provide the EC with advice about potential gaps in regulations to support and develop transport and storage of CO<sub>2</sub>. The first part has been finalised and there will be a consultation round. The study is supposed to be finalised in March 2023. Input from ZEP members and stakeholders is welcome.

KP from DG ENER gives an update on the next round of Projects of Common Interest (PCI), noting the deadline to apply for the 6<sup>th</sup> list is on 15 December. There has been significant interest and questions from across the CCUS industry. KP adds that the Connecting Europe Facility (CEF) round concluded last week with two CCUS PCI projects awarded for studies and the Antwerp@C project awarded a grant for construction works.

Zoe Kapetaki from the JRC gives an update on their ongoing study on CO<sub>2</sub> infrastructure, to update the 10 years old study. There are three deliverables under the current project: First, an updated methodology paper is progressing well with good input received from ZEP – most of it has been included in new methodology. Second, a study of optimal routs and networks that is expected in May 2023. Finally, preliminary results are expected next year for cost estimations – the intention being to estimate CO<sub>2</sub> transport and storage network costs.

A discussion follows on the presentation with questions from the audience:

- MW asks if input to these workstreams consider different geographies in Europe. ZK replies that the work on CO<sub>2</sub> sources so far uses publicly available scenarios from the EC (PRIMES) and CO<sub>2</sub>Stop project.
- SW asks if the scope of the work cover EEA or the EU. ZK replies that the previous study (10-year-old) covered the EEA and so will the new one. For Norway, available storage capacity will be included but not CO<sub>2</sub> sources.

## **10. Certificates for removals**

FR, DG CLIMA, provides a comprehensive presentation on the latest proposal by the EC on a certification mechanism for carbon removals. He notes that the proposed certification mechanism aims to maximise harmonisation with other initiatives in the Green Deal. The aim is to better define quality criteria for carbon removals, tailored to each activity, as well as the removal process itself. FR notes that an expert group (selected candidates will be announced in early January at the latest)

will hold its first meeting as soon as possible next year. Current priorities that have been highlighted include BECCS and DACS, and there will be additional support from the JRC. Finally, the proposed certification mechanism aims to support the evaluation process of the Innovation Fund.

A discussion follows on the proposed initiative and the presentation:

- LE asks for further information regarding interchangeability with EU ETS allowances, and whether there will be a different certificate for different degrees of permanence. FR replies that currently there are varying options for how to include CDR in EU ETS. The currently favoured mechanism is an expiry date (this will be discussed with expert group).
- EP notes that the definition of removals can be problematic without a clear distinction between reductions and removals. FR replies that this issue needs to accommodate both technology- and nature-based solutions, and notes that the biggest potential to increase the LULUCF (nature-based) sink is to stop emissions from peatlands – in the long-term, it turns into a carbon removal. This is reflected in the text.
- JH and HB asks about the possibility of storing CO<sub>2</sub> outside the EU and if Norway is included in the scope. FR replies that Norway is included, as the basis is the CO<sub>2</sub> storage Directive.
- SW asks if the CO<sub>2</sub> storage Directive applies to both atmospheric and biogenic CO<sub>2</sub>. FR replies that a DAC plant, for example, is not considered to be an EU ETS installation, so the CO<sub>2</sub> storage Directive does not apply. In the case of a mixed stream of both fossil and biogenic emissions, it has to determine what is and is not covered under the CO<sub>2</sub> storage Directive.

## 11. Closing remarks and next meeting

Chair thanks all for participating in the discussions and all who agreed to present today. Thanks all for a productive meeting and highlights the proposed AC/Plenary meeting dates for 2023:

- ZEP AC74 and IWG9 Plenary – 22 March 2023
- Other ZEP AC/IWG9 Plenary dates for 2023: 14 June, 13 September, 6 December

Attendants		
1	Joëlle Rekkers	Dutch Ministry and IWG9 Co-chair
2	William Christensen	Norwegian Ministry and IWG9 Co-chair
3	Vicente Cortes-Galeano	AICIA/University of Sevilla
4	Jonas Helseth	Bellona
5	Shirley Oliveira	BP
6	Jannicke Gerner Bjerkås	Celsio
7	Chris Littlecott	E3G
8	Stijn Santen	EBN
9	Salvatore Giametti	Eni

10	Lamberto Eldering	Equinor
11	Robin Clowes	ExxonMobil
12	Constantin Sava	GeoEcoMar
13	Winston Beck	Heidelberg Materials
14	Florence Delprat-Jannaud	IFPEN
15	Liv Rathe	Norsk
16	Aslak Hellestø	Northern Lights
17	Stuart Haszeldine	Scotland CCS
18	Syrie Crouch	Shell
19	Nils Røkke	SINTEF
20	Charles Soothill	Sulzer
21	Filip Neele	TNO
22	Emmanuel Kakaras	University of Athens
23	Yanika Meyer-Oldenbourg	European Commission
24	Vassilios Kougiouas	European Commission
25	Fabien Ramos	European Commission
26	Katrien Prins	European Commission
27	Zoi Kapetaki	Joint Research Centre
28	Tomas Velghe	Flemish government
29	Sophie Wenger	Swiss government
30	Anders Melhus	Alter Infra
31	Adrien Berthier	Aluminium Dunkerque
32	Michał Wendołowski	Bellona
33	Luke Warren	BP
34	Eadbhard Pernot	CATF
35	Kasia Frotier De La Messeliere	Drax
36	Domien Vangenechten	E3G
37	Ryan Bain	E3G
38	Jasper Heikens	Ecolog
39	Kostis Andreou	Ecolog
40	Sebastian Busch	energy4climate

41	Lucie Boost	Equinor
42	Luisa de Castro Gonzalez	Equinor
43	Nicolò Cairo	ETN Global
44	Bert de Backker	ExxonMobil
45	Marine Valdois	ExxonMobil
46	Yelda Guven	ExxonMobil
47	Ståle Aakenes	Gassnova
48	Axel Scheuer	IOGP
49	Caterina de Matteis	IOGP
50	Maria João Duarte	Mitsubishi Heavy Industries
51	Michalis Agraniotis	Mitsubishi Heavy Industries
52	Marleen Ramakers	Port of Antwerp-Bruges
53	Nico de Meester	Porthos
54	Sytze Ferwerda	Porthos
55	Christopher Davies	Rudd Pedersen
56	Christian Schwarck	Shell
57	Marie Bysveen	SINTEF
58	Hanne Rolén	Aker Carbon Capture
59	Nicolai Mykleby-Skaara	Aker Carbon Capture
60	Bram Sommer	Aramis
61	Eric De Coninck	Arcelor Mittal
62	Juergen Gusterhuber	Austrian government (Finance Ministry)
63	Frederik Pieters	BASF
64	Lina Nagell	Bellona
65	Wolfgang Haider	Borealis Group
66	Jim Todd	BP
67	Helen Bray	Carbon Engineering
68	Toby Lockwood	CATF
69	Markus Sebastian Hole	Celsio
70	Jan Kjärstad	Chalmers
71	Eve Tamme	Climate Principles

72	Claire Pasquiou	CO <sub>2</sub> Value Europe
73	Vít Hladík	Czech government (Geological Survey)
74	David Lund Hansen	Danish government (Energy Agency)
75	Jasmin Sharzad	Danish government (Energy Agency)
76	Mads Kjær	Danish government (Energy Agency)
77	Theis Gjedsted	Danish government (Energy Agency)
78	Tom Mikunda	Dutch government (Economy & Climate Ministry)
79	Domien Vangenechten	E3G
80	Roberto Ferrario	Eni
81	Julia Mühleiß	EON
82	Caroline Bouilly Eriksson	EON Sweden
83	Luisa de Castro	Equinor
84	Nicolò Cairo	ETN Global
85	Sophie Wilmet	European Chemical Industry Council
86	Drazen Tumara	European Commission
87	Eirik Lonning	European Commission
88	Vendula Jirouskova	European Commission
89	Rodolphe Nicolle	European Lime Association
90	Carol Paquier	French government (Environment Ministry)
91	Fabienne Janin	French regional government (Auvergne Rhone-Alpes)
92	Stale Aakenes	Gassnova
93	Ruth Gebremedhin	GCCSI
94	Sebastian Fischer	German government (Economy & Climate Ministry)
95	Christian Heller	German government (Environment Agency)
96	Reinier van Noort	IFE
97	Sara Budinis	International Energy Agency
98	Alberto Pettinau	Sotacarbo
99	Tomisław Kozubik	KGHM
100	Greg Archer	Lanza Tech
101	Felix Jung	Liquid Wind

102	Arthur Heberle	Mitsubishi Heavy Industries
103	Mickey Kato	Mitsubishi Heavy Industries
104	Dave Warne	<i>n/a</i>
105	Anna Dubowik	Negative Emissions Platform
106	Thomas Vanhauwaert	Neptune Energy
107	Ane Gjengedal	Norwegian government (Energy Ministry)
108	Egil Meisingset	Norwegian government (Energy Ministry)
109	Sina Blix Prestmo	NTNU
110	Przemyslaw Grojs	Orlen
111	Dorus Bakker	Port of Rotterdam
112	Ragnhild Rønneberg	RCN
113	Arash Hedayat	Repsol
114	Fedora Quattrocchi	Rome Institute of Geophysics
115	Kristin Jordal	SINTEF
116	Jonathan Vouillamoz	Swiss government (Energy Agency)
117	Sophie Wenger	Swiss government (Environment Ministry)
118	Veronica Lupu	Swiss government (Environment Ministry)
119	Veronika Elgart	Swiss government (Environment Ministry)
120	Luis F. Piedra-Garza	Thyssenkrupp
121	Cyril Vock	TotalEnergies
122	Gulten Özçayan	Turkish government (Energy Ministry)
123	İrem Işık Çetin	Turkish Government (Environment Ministry)
124	Ufuk Kayahan	Turkish government (Research Agency)
125	Alex Blades	UK government (BEIS)
126	Ceri Vincent	UK government (Geological survey)
127	Frederik Selhorst	Victrol
128	Per-Olof Granström	ZEP Secretariat
129	Charles-Albert Bareth	ZEP Secretariat
130	Murillo Salvador	ZEP Secretariat
131	Ana Faria	ZEP Secretariat



## **ACEC January meeting**

**18 January 2023**

**9:00-10:30 CET**

### ***Draft meeting minutes***

#### **1. Introduction and welcome**

Chair/POG welcomes all and confirms quorum.

Chair asks for approval of the ACEC January meeting agenda – agenda is approved. Asks for endorsement of draft meeting minutes from the 73<sup>rd</sup> Advisory Council meeting, held in December – minutes are endorsed. The draft minutes will be brought to the AC74/Plenary for approval.

#### **2. New grant and way forward**

Chair highlights the agenda for the election meeting, noting the screening process and the extended election criteria. The information was shared with the AC members, proxies and candidates on 12 January. Each candidate will have a possibility to present themselves and the AC members to ask questions. Chair notes that the voting will take place online and he outlines the rules for the voting. A discussion follows, where it is clarified that all votes/proxies are accounted for, no one can see who voted for which candidate.

Chair highlights the actions from AC73, held in Brussels with very good attendance, noting among other things the rotation of AC/ACEC members, and that the rest of the budget – chair remuneration and additional ZEP work programme – will be brought up for approval at the AC in March. For the draft AC74/Plenary agenda, it is proposed to add a speaker highlighting the developments in Germany.

Chair highlights the setup to start Network Projects, which has already been approved by the AC. He notes the discussions with the CCUS ZEN initiative and highlights the need for a very clear definition of the Network and its objective. In the discussion that follows, it is noted that the running of the new network can be incorporated in the current structure and that needed additional resources will depend on the setup and scope of the network.

Chair gives a introduction to the ZEP own work programme, reminds the reasons behind the AC approval, gives a short update on the 2023 ZEP-C budget and financial reserves, highlights possible focus areas for this new work programme, and proposes to discuss this and the introduction of the new Network at an ACEC strategic seminar/awayday. In the discussion that follows it is noted that given the new situation an awayday would be good, that we have had online strategy seminars instead of awayday due to COVID lately, and that the upcoming changes to the European Parliament and the Commission, a greater focus on public affairs will be important next year.

Chair notes ACEC support for the new network, and that the ACEC will be invited to a strategic seminar/awayday, where setup and start of the new network as well as the ZEP own work programme will be discussed.

### **3. Updates from Networks**

#### **a. NWPE**

CS provides the NWPE update, describing the two open consultations – on competitive bidding schemes for hydrogen under the Innovation Fund, and the list of PCIs – presenting ZEP's draft responses. He also highlights the ongoing TEN-T discussions, which were initially not considered relevant for CCUS but after discussions with DG MOVE, there seems to be a way forward for funding of non-pipeline CO<sub>2</sub> transport. He notes that the proposed ZEP engagement on the TEN-T to solicit support for four key amendments based on a clear ZEP position.

Chair notes that input and comments from the ACEC on the consultations are welcome. LE highlights the need for low-carbon hydrogen in the Innovation Fund, with the aim of preserving an equal playing field between the types of hydrogen.

Chair invites the ACEC to endorse the proposed way forward for the consultations – all endorsed, notes that an updated draft DNV consultation response will be circulated with ACEC.

#### **b. NWT**

AF presents the latest NWT activities, the four open consultations where ZEP is preparing responses. He describes the proposed approach and positioning for each consultation, noting that the ZEP representative to the EC expert group on carbon removals – Kristin Jordal – has been confirmed. Regarding TWG supply chain risks, AF highlights confirmation regarding the two co-chairs, Charles Soothill and Arthur Heberle. A first meeting will be organised in February. The CCUS Forum expert group on CO<sub>2</sub> specifications will meet end-February to start working on the technical annex on CO<sub>2</sub> specifications that will complement the final report by CCUS Forum WG CO<sub>2</sub> infrastructure. In the discussion that follows, LE notes that also the 2010 ZEP report on the guidance document will be important in the feedback to DNV, and CS notes the importance of highlighting the issue of insurance solutions.

Chair gives a short update of the announced EC Green Deal Industrial Plan – the EU response to the US Inflation Reduction Act (IRA), noting that this will become a key area where ZEP can support the EC. The announcement focuses on relaxing state aid rules, fast-tracking of permits, simplification of EU funding, and skills, and interestingly enough cooperation with the UK is highlighted. Chair notes the risk, referring to the ZEP actions and what was achieved with the REPowerEU plan, highlights the importance and proposes engagement with the EC on CCS inclusion in the plan.

The following was highlighted in the discussion that follows: WB agrees with the risks highlighted, noting that CCS is not mentioned in the Cleantech Act, and notes the importance of engaging with

stakeholders. NR adds that we need to show the CCS footprint and supports the way forward. LE highlights that the IRA does not include any additionality principles and adds that the EC plan is perceived from an economic policy perspective rather than a climate policy perspective.

Regarding the UK, CS mentions that an EU-UK agreement on CCS could be one of the main highlights once political EU-UK issues are resolved. Chair notes the need to help prepare the EC and UK Government with all needed documentation, so that such an EU-UK agreement can be a reality once the political disagreements are settled. CS proposes that a ZEP group looks into EU-UK issues.

Chair notes that ZEP will engage with the EC, safeguarding that CCS is included in the EU IRA response and that a process should be set up for preparations of documentation need for an EU-UK agreement on CCS.

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

MS updates on the latest activities of the ZEP Communications group, highlighting the updating of the ZEP communications toolkit, and presenting the final draft of the ZEP communications material, announced at the ACEC in November. MS also presents the draft outline for the ZEP Conference – focused on the EC CCUS Communication and strategy, the investor perspective, CO2 infrastructure, CDR, and European global leadership – to be organised in Brussels on 26 April. A discussion follows on these issues.

The ACEC endorses to hold a ZEP conference in Brussels on 26 April, in accordance with the draft outline programme.

#### **5. CCUS Forum**

Chair gives an overview of the ongoing Forum workstreams and ZEP actions. WB updates on WG Industrial Partnerships, noting that there is no outcome from meetings so far, but that a paper is being circulated, aiming to summarise input on what members expect from industrial partnerships – e.g., best practices, de-risking and business models, templates for long-term contracts, chicken and egg issues, etc. He adds that DG ENER wants an open and transparent partnership, and that ZEP has been clear regarding being engaged in the possible partnership. A discussion follows on the next actions needed.

#### **6. Closing remarks**

Chair thanks participants and reminds that AC/Plenary will take place on 22 March as an in-person meeting in Brussels, and that the ACEC will be invited to a strategic seminar/awayday ahead of the AC meeting. Closes the meeting.

### List of participants

Jonas Helseth	Bellona
Charles Soothill	Sulzer
Lamberto Eldering	Equinor
Winston Beck	Heidelberg Materials
Nils Røkke	SINTEF
Marie Bysveen	SINTEF
Christian Schwarck	Shell
Ana Faria	ZEP Secretariat
Charles-Albert Bareth	ZEP Secretariat
Murillo Salvador	ZEP Secretariat
Per-Olof Granström	ZEP Secretariat

## MEETING NOTES

### ZEP CHAIRPERSON ELECTION

18 January 2023, 12:00-14:00 CEST

In-person meeting in Brussels (and online)

#### 1. Introduction and welcome

Per-Olof Granström/Chair welcomes AC members, pays tribute to late Chair Graeme Sweeney. Participants introduce themselves.

#### 2. The Zero Emissions Platform: achievements, impact and the year ahead in a positive momentum on CCS and CCU

Chair highlights the work done by ZEP in the last years, its impact, and states that 2023 will be a crucial year.

#### 3. Chairperson election

The election process is presented, ensuring that all voters have a link to vote.

Candidates introduce themselves, their motivation, and assets as potential chair, followed by Q&As.

The vote takes place.

Eve Tamme is elected as new chair of the Zero Emissions Platform.

#### 4. New chairperson's address

Eve Tamme thanks the AC members for their confidence, lays out her future work as ZEP chair, and highlights the high quality of the candidates.

#### 5. Closing remarks

Chair thanks all, closes the meeting.

## Agenda Item 2: ZEP and IWG9 2023

### 2.a. ACEC strategic seminar

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On 21 February 2023, the ZEP ACEC held a seminar on strategic planning for the coming years in light of the new EU grant and ZEP/IWG9 coordination, the very busy EU and Member State CCS/CCU policy and funding agendas, and the new ZEP Chair. Focus was on the development of the ZEP itself as well as on the work programme, priorities, and activities.

- ZEP work programme and priorities 2023 and beyond
  - The EU policy timeline and specific focus on the EU response to the US Inflation Reduction Act/the EU's Green Deal Industrial Plan, and the upcoming Communication on a strategy for CCS and CCU in Q4 2023 (*see agenda items 4, 7, and 8*)
  - Preparation of the additional ZEP work programme
  - Preparations ahead of starting the new Network Projects
- Preparing the programme for the 26 April conference (*see item 5, ERG updates*)
- Developing ZEP, growing outreach and impact
  - Strengthening ZEP membership with a focus on industry
  - ZEP outreach, reshaping the ERG/Communications group.

All these items are included for endorsement or for support of the way forward on the AC74 meeting agenda, some to be further developed by the ACEC with support from ZEP networks.

### 2.b. Work programme – additional ZEP work programme and new Network Projects

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#### Background

There is a strong positive momentum for CCS and CCU in the EU/EEA area:

- More than 70 projects along the CCS/CCU value chain are expected to become operational before 2030 (given the right preconditions).
- Many interesting CO<sub>2</sub> transport visions and plans crossing borders have emerged – including the first bilateral agreement capturing CO<sub>2</sub> in Belgium for storing in the Danish North Sea – marking the beginnings of the Europe-wide open access cross-border CO<sub>2</sub> transport and storage infrastructure.
- The interest from European Governments and authorities has risen sharply.
- The European Commission (EC) has clearly communicated the need for CCS and CO<sub>2</sub> storage by 2050.

The already extremely busy 2023 EU policy and funding agenda (*see item 4, Network updates*) now also includes the Green Deal Industrial Plan and the Net Zero Industry Act – the EU response to the US Inflation Reduction Act. The year is expected to finish with a publication of the EU CCS/CCU Communication.



Around the corner, we also have the European Parliament elections in 2024 and the new incoming EC College of Commissioners.

#### ZEP additional work programme – background

Given the strong positive momentum for CCS, the decreased budget for the new EU grant (€1 million over three years for ZEP and IWG9 together compared to previously €1 million each over three years), and strongly increased ZEP member funding, the ZEP AC has approved to introduce an additional ZEP work programme (WP). The WP will be funded separately by ZEP (ZEP-C) members. The aim is to build on and further strengthen the ZEP and IWG9 work programme.

ZEP has substantially increased its activity level over the past three years. The current work programme, approved by the AC/Plenary in December, is already very ambitious, especially in relation to the resources.

The financial basis for ZEP-C is sound, with reserves of approximately €355,000 at the end of 2022 and income for 2023 that will result in an additional €150,000 for additional accelerated activities to create a balanced 2023 budget. Given the long EU funding gap preceding the new grant and risk of this occurring also in the future, it will be important to keep the ZEP-C financial reserves strong.

#### Focus and funding for the additional work programme

The ACEC has discussed and proposed the following: Referring to the strong positive momentum and extremely busy policy agenda, the focus for the ZEP additional WP should be to strengthen visibility, communication, and public affairs based on the work programme as approved by the AC73 in December 2023, with an extra focus on the CCS/CCU Communication at the end of 2023, the Green Deal Industrial Plan/the Net Zero Industry Act, and the European Parliament elections/European Commission renewal in 2024.

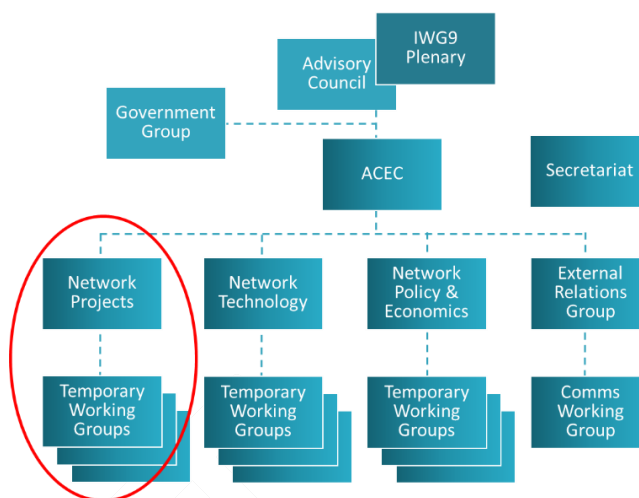
This is proposed:

- Additional resource (one FTE) to the ZEP secretariat, focused on external relations and Public Affairs (€65,000 counted on a yearly basis)
- Additional activities on visibility (€60,000):
  - Enhanced advocacy and communication activities, including increased media and social media presence and enhanced material dissemination
  - Increased number of external events and increased participation in external events
- To showcase the positive CCS/CCU narrative and drive the important items of development and deployment of CCS and CCU – an EU CCS/CCU strategy, Europe-wide CO<sub>2</sub> transport and storage infrastructure, national strategies for CCS and CCU, improved geographical spread, investability, adequate business models.
- The strong increase in activities and the increase in membership calls for dedicated administrative support (one PTE) (€20,000).

## New Network Projects

ZEP AC has approved for ZEP to include a new Network Projects, in parallel with the Networks Policy & Economics and Technology, to support the many CCS/CCU projects, address existing barriers, improve public perception, and enable real project-to-project knowledge sharing.

The need to support the market-ready projects is also obvious, taking into account the ongoing activities to create EC based CCUS Industrial partnerships, and the Industrial/CO<sub>2</sub> capture coalition funded by the European Climate Foundation that is expected to start shortly.



This new Network Projects addresses the obvious gap in the CCS/CCU deployment in Europe – there is no EU/EEA-wide platform that specifically caters to the numerous projects in the pipeline. It is vital for the CCS/CCU community to coordinate actions as best as possible, not to create singular entities and overlaps that will lead to inefficiency and counterproductivity.

By introducing this network, ZEP establishes an important tool to efficiently support projects and, at the same time, actively help the EC and European governments regarding necessary policy/regulation, funding and actions linked to public perception.

*Objective* – The objective is to support market-ready projects:

- Address on-the-ground enablers and barriers – discuss and share with public authorities,
- Enable real project-to-project knowledge sharing (consider competition law and confidentiality) on good practices and experiences (e.g., permitting, licencing, PCI/funding processes),
- Improve public perception,
- Having both closed and open sessions – on EU as well as regional level,
- De-risking projects, focusing on specific regions,
- Organise site visits for EC and national government officials,
- Use learnings from earlier project knowledge sharing experience.

*Composition:*

- Co-chairs for network and sessions: project promoters/managers (and possibly representatives from the EC)
- Project representatives (technical and commercial), take into account also newcomers and smaller/remote emitters, and industrial hubs and clusters,
- Governments and public authorities (also link to/sharing and discussing with the ZEP Government Group),

- Link to the research community (demo and scale-up resulting in further need for R&I).

The aim is for the ACEC – supported by the Networks, ERG, and Government Group – to prepare the Network including co-chairs in order to start the Network in July 2023.

***The AC are invited to approve the way forward, delegating to the ACEC to prepare and staff the Network based on the described setup, with approval by the AC in June ahead of the start of the Network in July 2023.***

## **2.c. 2022 ZEP-C Budget follow-up**

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- Income for 2022 amounts to €290,000 and the expenditure amounts to €236,263 (this may change, books are not closed yet).
- Expenditure is, due to the pandemic, much lower than budgeted. Virtual meetings have given the opportunity to strongly increase ZEP activities, while at the same time keeping costs low. In-person and hybrid meetings have been introduced since September 2022.
- There have been long gaps between the previous grants – the ZEP grant ending in October 2021 and the IWG9 grants ending in April 2022 – and the new combined grant, that started in July 2022. The AC had anticipated this risk and built up financial reserves in ZEP-C to manage possible gaps in grant funding and the ZEP-C Board of Directors approved funding during the grant gap period.
- ZEP-C started 2022 with a remaining budget from 2021 of €301,506. The starting point for 2023 (remaining budget from 2022) is approximately €355,243.
- The ACEC agreed that the 2022 audit for ZEP-C should be undertaken by Vandelanotte. Once the accounts have been finalised the audit will be completed.

*Appended* is the ZEP-Communications financial management report of 28 February 2023.

## **2.d. ZEP-C budget for 2023**

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The AC73 in December 2022 was invited to endorse a part of the 2023 ZEP-C budget:

- *Continuation of the core ZEP-C services, such as accounts, legal support, contingency, etc.*
- *Continuation of the communications and events budget of €85,000, including the services from CCSA.*
- *Strategic work, development of ZEP.*

Due to uncertainty regarding ZEP-C funding for the incoming ZEP Chair and funding for the ‘ZEP additional work programme’, these two budget items were pushed to AC74 and are now brought to the AC for endorsement.

The proposed budget for 2023 shows an income of €330k. The two items for endorsement are:

- Funding of the ZEP Chair
- Funding of the 'ZEP additional work programme'

***The AC are invited to endorse the funding for the ZEP Chair and the 'ZEP additional work programme'.***

#### **ZEP-C 2023 Budget**

<b>Activity</b>	<b>Budget (€)</b>
<i>Administration / Auditing</i>	<i>8,000</i>
<i>Website maintenance</i>	<i>1,000</i>
<i>Legal advice</i>	<i>4,000</i>
<b>Chair</b>	<b>67,992</b>
<i>Contingency</i>	<i>4,000</i>
<i>Communications/events</i>	<i>85,000</i>
<b>Funding ZEP additional work programme</b>	<b>145,000</b>
<i>Strategic work</i>	<i>12,500</i>
<b>Total Expenditure</b>	<b>332,497</b>
<b>Income</b>	<b>330,000</b>
<b>Net profit / loss</b>	<b>2,508</b>

**Budget management: Expenditure against 2023 budget**

Activity	Contractor	Budget 2023	Comments	To date Spent	Comments	To Date Committed	Comments
Administration / Auditing	Adams accountants / Vandelanotte	€ 8 000		€ 642			
Website maintenance	Global Concept	€ 1 000		€ 0			
Legal advice		€ 4 000		€ 0			
Chair	Climate Pricipals	€ 67 992		€ 0			
Contingency	Multiburo	€ 4 000		€ 339			
Additional work programme		€ 150 000					
Communications and Public Affairs		€ 85 000					
Strategic work		€ 12 500		€ 0			
<b>Total</b>		<b>€ 332 492</b>		<b>€ 980</b>		<b>€ 0</b>	

Spent: Actually paid or contractually due for delivered work

Committed: Based on signed contracts, yet to be approved invoices or founded estimates

Spent + Committed

Remaining total budget

€ 332 492

**Forecast**

€ 355243, 06	Starting point 2023 (= Left over budget 2022)
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2022 Total Spend	Comments Relative to budget
€ 8 000	
€ 1 000	
€ 4 000	
€ 67 992	
€ 4 000	
€ 150 000	
€ 85 000	
€ 12 500	
<b>€ 332 492</b>	<b>Total budget spent 2023</b>

**Cash management of ZEP Communications VZW / ASBL**

Category	Source	Issued invoices	Comments	Pending invoices	Comments	Received payments	Comments
2022 contributions	O&G			€ 167 500	Total, Equinor, ENI, BP, Exxon Mobil, Shell		
	OEM						
	Others (confirmed)			€ 162 500	Port of Rotterdam, HeidelbergCement, Gassnova, EBN, Northern Lights, Norsk Hydro, Celsio, MHI, 8Rivers		
	Others (Potential)						

€ 167 500	
€ 0	
€ 162 500	

General	VAT return	€ 43 679	VAT declar 2023/02	€ 135	Invoices 2023 to be rec.	€ 0	VAT on sales invoices
<b>Total outstanding / pending ZEP-C</b>		<b>€ 43 679</b>		<b>€ 330 135</b>			

<b>€ 330 000</b>	<b>Total forecasted income 2023</b>
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**Cash situation (of 31 December 2022)**

Current account (KBC - Business compact rekening)			€ 276 909
Savings account (KBC - Spaarrekening)			€ 101
<b>Actual cash at bank and in hand</b>			<b>€ 277 010</b>

€ 444 510

€ 91 759,21

<b>352 751,06</b>	<b>Forecasted Left over budget 2023</b>
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**Expenditure situation**

Source	Outstanding invoices	Comments	Pending invoices	Comments
Short term creditors	€ 60 000		€ 642	VDL + CA + Ardna
<b>Outstanding invoices in spent to date, to be paid</b>	<b>€ 60 000</b>		<b>€ 642</b>	

**Cash boundaries**

Minimum virtual financial position (all creditors paid, no more income)

€ 216 369

Maximum virtual financial position (all creditors paid, all income realised)

€ 590 182

## Agenda Item 3: Updates from governments and projects

### 3.a. Denmark's CCS Strategy

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The Danish Parliament has concluded a series of political agreements which guide Denmark's CCUS developments. The policy framework is focused on the development and deployment of storage sites, enabling cross border CO<sub>2</sub> transport, and in establishing mechanisms to encourage CO<sub>2</sub> capture.

The overall strategy for CCS in Denmark is outlined in its Roadmap for the Capture, Transportation and Storage of CO<sub>2</sub> ([link](#)). Among others, the Roadmap expresses the ambition to roll out CCS on market terms in the long run, to establish Denmark as a European storage hub and to develop the transport infrastructure.

To support these ambitions, Denmark has accepted the 2009 amendment to Article 6 of the London Protocol in early 2022, and signed the world's first bilateral arrangement with Belgium, covering the transport of CO<sub>2</sub> with the purpose of permanent geological storage. Denmark has also concluded MoUs on cooperation on CCUS with the Netherlands and Belgium.

Storage potential (offshore, near-shore and onshore) is being investigated by the Geological Survey of Denmark and Greenland (GEUS). In August 2022, Denmark opened its first tender for CO<sub>2</sub> storage permits, covering the exploration and storage of CO<sub>2</sub> offshore, in the Danish part of the North Sea. In February 2023, two licenses were awarded to TotalEnergies and the INEOS and Wintershall Dea consortium. A new licensing round is expected in 2024.

To support storage development and de-risk projects, in 2022, it was agreed that the State would co-own storage permits and that storage pilots in the North Sea would benefit from speedier and less extensive approval process.

Work is also underway regarding the capture and transport components of the value chain. The Danish Energy Agency has identified six clusters in Denmark with considerable emissions – these are located around major cities, all of which with port facilities. The relevant stakeholders in these clusters will present their recommendations on possible transport infrastructure and ownership models.

Regarding financing, Denmark allocates approximately 38.7 billion DKK (EUR 5.2 billion) to CCUS, which are expected to deliver 3.3 MtCO<sub>2</sub> reductions from 2030.

#### Projects

Two off-shore storage projects are currently under development in depleted oil and gas fields – project Greensand with an estimated storage capacity of 0.5-1.5 MtCO<sub>2</sub> /year in 2025 and 4-8 MtCO<sub>2</sub>/year in 2030, and project Bifrost, with an estimated long-term storage capacity of 16 MtCO<sub>2</sub>/year. In addition, the onshore demonstration project (Stenlille) has an estimated storage capacity of 2.5 MtCO<sub>2</sub>.

***Jasmin Sharzad, from the Danish Ministry of Climate, Energy and Utilities will give an update on Denmark's CCS strategy and competitive bidding scheme.***



### **3.b. International Energy Agency**

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The International Energy Agency (IEA) is an intergovernmental organisation that provides data, analysis and policy recommendations focusing on energy security and the transition to a clean energy sector. The IEA publishes regular analysis on carbon capture, utilisation and storage ([link](#)).

***Sara Budinis will give a presentation at the meeting.***

### **3.c. Aramis project**

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Aramis is a CO<sub>2</sub> transport and storage project located in the port of Rotterdam and led by state-owned companies Energie Beheer Nederland (EBN) and Nederlandse Gasunie as well as TotalEnergies and Shell. The Aramis project has applied to renew its project of common interest (PCI) status for the 1<sup>st</sup> PCI/PMI list under the revised TEN-E regulation (see *agenda item 9*). The project promoters intend to apply for a Connecting Europe Facility (CEF) subsidy in 2023. The plan is to use Porthos' onshore pipeline and transport CO<sub>2</sub> via an offshore pipeline for storage in depleted gas fields.

The construction phase is expected to run from 2025 to 2026 with operation in 2027.

***Sander Nijman will give a presentation at the meeting.***

## Agenda item 4: Updates from Networks – *for information and guidance*

### 4.a. Network Policy and Economics

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The Network Policy & Economics (NWPE) held its latest meeting on 9 February. The Network discussed:

- *EU ETS and CBAM agreements, EC survey on the Innovation Fund:* The group discussed the revised EU ETS directive, noting that all transport modes are included. The group also discussed the Innovation Fund consultation, that is initiated by the EU Green Deal Industry Plan, with deadline 7 March, where ZEP prepared a response.
- *Working group on CO<sub>2</sub> transport by ship:* There was an update on the work, noting the aim to finalise the report by mid-year 2023.
- *MoU signed between Equinor and RWE on low-carbon hydrogen:* There was a presentation on the MoU followed by a discussion.
- *Revision of the Guidance Documents of the CO<sub>2</sub> storage directive:* DNV explained that the deadline to provide input to their consultation was extended. ZEP's draft input was presented.
- *CCUS Forum:* The European Commission (EC) provided an update, noting that the second half of 2023 will be dedicated to the inclusion of new issues for the planned CCUS Communication. Participants highlighted the benefit of basing the Industrial Partnerships on ZEP.
- *Revision of the TEN-T regulation:* An update was provided regarding the ongoing revision of the TEN-T regulation, highlighting ZEP's input, and the prepared open letter for stakeholders to sign.

*The next Network Policy & Economics meetings will take place on 25 May and 26 October.*

The Temporary Working Group (TWG) Policy & Funding held its latest meeting on 15 March. The group discussed and worked on the Green Deal Industrial Plan and the basis for a draft ZEP paper on Net Zero Industry Act (see *agenda item 7*).

*The next meeting of the TWG is scheduled for April.*

### Consultations and calls for feedback – *for information and approval*

Closed consultations:

- DNV's call for inputs to support a technical update of the CO<sub>2</sub> storage directive's guidance documents (link to the [call](#) and [background information](#)), with deadline on 28 February. The response was prepared based on previous ZEP reports and input gathered from the TWG Policy & Funding (link to the [response](#)).

***The AC are invited to approve the response, which has been endorsed by the ACEC.***

- EC's public consultation on the key features of the future Innovation Fund, including the portfolio of support instruments (link to the [survey and background information](#)), with deadline on 7 March. The response highlights the need for simplification, frontloading, and project de-risking (link to the [response](#)).

***The AC are invited to approve the response, which has been endorsed by the ACEC.***

- EC's 'Consultation on the list of candidate Projects of Common Interest (PCIs) in CO<sub>2</sub> networks' (link to the [consultation](#)), with deadline on 16 March. The response, shared for comments with the TWG Policy & Funding, highlights the need to simplify and frontload funding for CCS (link to the [response](#)).

***The AC are invited to approve the response, which has been endorsed by the ACEC.***

Upcoming consultations:

- The EC will launch a 12-week public consultation to support the upcoming Communication on a strategy for CCS and CCU. The consultation is expected in March.
- The EC is expected to open a consultation on the EU 2040 climate target in the coming weeks. This consultation will take place ahead of the EC proposal scheduled in 2024 to include an EU 2040 climate target in the European Climate Law.

### EU policy and funding timelines

The ZEP EU policy timeline with a focus on CCS and CCU can be found here ([link](#)).

The ZEP EU funding timeline with a focus on CCS and CCU can be found here ([link](#)).

### ZEP/CCSA working group on CO<sub>2</sub> transport by ship – for information

The working group on CO<sub>2</sub> infrastructure by ship has agreed on a list of writers for the report, and shared key references, past studies and reports that should be highlighted in the report. The group held a focus session on commercial barriers for CO<sub>2</sub> transport by ship on 8 March.

The aim is to finalise the report in 2023.

### Agreement on the revision of the EU ETS and the CBAM – for information

The Council and the European Parliament reached a provisional agreement on the revision of the EU ETS (link to the [agreement](#)) and the carbon border adjustment mechanism (CBAM) (link to the [agreement](#)). The revised EU ETS includes the following elements of interest for CCS and CCU:

- Inclusion of all means of CO<sub>2</sub> transport in the EU ETS.
- There will be no obligation to surrender allowances for emissions that have become permanently chemically bound in a product. The requirements / conditions regarding what can be considered as permanently chemically bound will be defined in future Delegated Acts. In addition, the EC will present an assessment regarding other types of CCU by 2026.

- The EC will analyse, in a report to be presented by July 2026, how negative emissions could be accounted for and included in the EU ETS.
- Municipal waste incineration will be included in the EU ETS from 2028, subject to a positive assessment from the EC (to be presented by July 2026). The assessment will also investigate the need to allow Member States to opt out until the end of 2030.
- The agreed text also mentions a possible link to other carbon markets for the next revision.

The revision of the EU ETS will be operationalised by the revision of the Monitoring and Reporting Regulation (see *agenda item 6*).

The CBAM will cover over half of industry emissions, including the iron, steel, cement, aluminium, fertilisers, electricity, and hydrogen sectors. Indirect emissions and downstream products (e.g., electricity used in production, or screws and bolts) will be covered under certain conditions. CBAM will apply from 1 October 2023 with a transition period (where companies will be required to report on their emissions but will not have to buy “CBAM allowances”) and be phased-in from 2026 onwards, coinciding with the phase-out of free allowances, with a full phase-in in 2034.

The agreed texts on the EU ETS and CBAM have been approved by the European Parliament’s ENVI Committee and endorsed by the Permanent Representatives Committee (COREPER). The agreements will now be tabled for a plenary vote in the European Parliament. Once the European Parliament’s first reading position has been adopted, the texts will first be sent to COREPER for approval and then to EU Ministers for endorsement and formal adoption.

The price of EU ETS allowances stood at €99.8 on 12 March 2023<sup>1</sup>.

#### Germany’s upcoming CCS strategy – for information

The German federal government will present a carbon management strategy in 2023, which will define in which fields CCS and CCU can be used and whether CO<sub>2</sub> storage should be allowed in Germany (link to the [press release](#)). The German Ministry of Economic Affairs and Climate Action published the second evaluation report of the CCS Law in December 2022, which recommends a national governance for the carbon management strategy (link to the [report](#)). Germany set in law its goal of achieving greenhouse gas neutrality by 2045, amounting to 65% emissions reduction by 2045 (link to the [government webpage](#)). Norway and Germany agreed in January 2023 to cooperate on CCS and hydrogen (link to the [press release](#)).

North Rhine-Westphalia published its own Carbon Management Strategy, which states that “without CCS, it will not be possible to achieve climate neutrality in industry, in North Rhine-Westphalia or Germany. Nevertheless, the capture and storage of CO<sub>2</sub> should be the last resort if all other options have been exhausted”. The strategy highlights the importance to develop CO<sub>2</sub> infrastructure and calls on the federal government to “create the necessary legal conditions” (link to the [industry strategy](#)).

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<sup>1</sup> [EU carbon price tracker](#). Ember.

### France's upcoming CCS strategy – for information

French Minister Delegate for Industry Roland Lescure announced in November 2022 a national strategy for CCS and CCU (link to the [press release](#)). The strategy is expected by summer 2023. The French government launched at the same time the “Industrie Zéro Carbone”. Under this plan, the 50 French industrial sites with the largest emissions will have to present their emission reduction plans for 2030 and 2050 by summer 2023 (link to the [government page](#)).

France and Norway signed a letter of intent to cooperate on CCS in December 2022. The Norwegian government stated that the two countries will consider and prepare a bilateral agreement (link to the [article](#)).

### Revision of the TEN-T regulation – for information

The EC put forward a proposal for a revision of the TEN-T regulation in December 2021. The revision aims to make transport greener, more seamless and efficient, increase the resilience of the TEN-T to climate change, and improve the efficiency of the TEN-T governance tools (link to the [file](#)). ZEP responded to the call for evidence ‘Development of trans-European transport (TEN-T) network in light of war in Ukraine – amended proposal for guidelines’ (link to [call](#) and [ZEP response](#)) highlighting that *“the TEN-T revision represents an opportune moment to introduce funding mechanisms for CO<sub>2</sub> transport infrastructure, supporting upcoming projects, especially in Eastern Europe, that rely on non-pipeline transport to store CO<sub>2</sub> in a safe and permanent manner”*. The EP Transport and Tourism (TRAN) Committee and the EP plenary are expected to vote on the revision in April 2023.

ZEP is one of the signatories of a letter calling for the recognition of multimodal CO<sub>2</sub> transport under the TEN-T (link to the [letter](#)).

### Delegated acts for the production of renewable and recycled carbon fuels – for information

The EC published two delegated acts requirements for the production of renewable transport fuels. The first act details additionality requirements for the production of hydrogen from renewable electricity, i.e. the requirements that additional renewable electricity is produced for additional renewable hydrogen production (link to the [first act](#)).

The second act sets the methodology to calculate GHG emissions savings from renewable fuels of non-biological origin (RFNBOs) and recycled carbon fuels (link to the [second act](#)).

### Innovation Fund – for information

To complement the current grants programme, the EC is designing a competitive bidding scheme for hydrogen (auctioning), which will be initiated through a pilot auction. A public consultation of the draft Terms and Conditions is expected in Q2/Q3, whereas the first pilot auction under the revised rules is expected in Q4.

In addition, the EC has recently consulted stakeholders on the future operation of the Innovation Fund, including on the portfolio of support mechanisms (i.e., grants, competitive bidding mechanisms and financial instruments such as loans and equity funding) (see above).

The EC launched a call for applications to renew the membership of the Innovation Fund Expert Group (IFEG). The expert group needs additional expertise due to the revision of the EU ETS Directive, with implications for the scope of the Innovation Fund (to cover the additional sectors in the EU ETS such as maritime transport) and the type of support mechanisms. Notably, the Innovation Fund will include carbon contracts for difference as a competitive bidding method (link to the [call](#)). ZEP's application to renew its membership was approved by the EC.

The EC will hold a workshop on the Innovation Fund on 30 March, with attendance restricted to Member States and industry.

#### European Clean Hydrogen Alliance's roundtable – for information

In February, the EC started the membership renewal process for the six roundtables of the European Clean Hydrogen Alliance (ECH2A) – production, energy, industrial applications, transmission and distribution, mobility, and buildings.

As a member of ECHA, ZEP submitted an application to become a member of the roundtables but was not selected.

The next Forum, CEOs level only, will take place on 27 June.

#### Information Exchange group on the CO2 storage directive – for information

The information exchange group on the CO2 storage directive, that gathers national competent authorities, will meet on 12 April.

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

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The latest Network Technology meeting took place on 23 February. The group discussed the scope of the future Network Projects, ZEP's input to DG RTD on R&I programmes (see below), and ongoing ISO work on standards for CO2 storage. There were also presentations from OGE on CO2 pipeline infrastructure developments in Germany and from the PilotSTRATEGY project on the storage potentials in Portugal and Spain.

*The next Network Technology meetings are planned for 11 May, 26 September, and 23 November.*

The TWG CDR held its latest meeting on 7 February 2022. The group exchanged views on ongoing calls for feedback, namely on the proposal for the certification of carbon removals and on the Article 6.4 of the Paris Agreement (see below). There were also presentations on the state-of-play of Mission Innovation's CDR Mission and on the main findings of the 'State of CDR' report. *The next TWG CDR meeting will be held on 2 May.*

The TWG Supply Chain will have its kick-off meeting on 24 March. The group will discuss work planning, the objectives of the workstream and scope.

#### Consultations and calls for feedback – for approval

Closed consultations:



- DG RTD's public consultation on the 'Past, present and future of the European research and innovation programmes 2014-2027' (link to the [consultation](#)), with deadline on 28 February. ZEP responded to the consultation together with the European Energy Research Alliance (EERA) and supported by the IWG9. The response, that is based on previous ZEP/EERA/IWG9 documents, highlights the R&I priorities for upcoming work programmes, the importance of collaboration/coordination and knowledge sharing, and the need to streamline calls and evaluation processes (link to the [response](#)).

***The AC are invited to approve the response.***

- UNFCCC – Article 6.4 Supervisory Body call for the submission of views on activities involving removals (link to the [call](#)). ZEP prepared a response to the consultation together with the CCSA. The response highlights six integrity principles for an effective CDR sector, aligned with climate and sustainability objectives: a clear definition of CDR, permanence, accurate quantification, robust Monitoring, Reporting and Verification, alignment with sustainability principles, and international consistency (link to the [response](#)).

***The AC are invited to approve the response, which has been endorsed by the ACEC.***

Open consultations:

- EC's call for views on the proposed EU certification framework for carbon removals (link to the [call](#)), with deadline on 23 March. ZEP TWG CDR prepared a draft response to the consultation (appended).

***The AC are invited to approve the draft consultation response.***

## **Agenda item 5: Updates from External Relations Group – *for information and guidance***

### **5.a. Overview of ZEP communications activities and events**

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#### Communications group and External Relations Group

The next meetings of the External Relations Group (ERG) and Communications group are planned for 7 April, 19 May, and 23 June.

#### Proposed: combining the ERG and the Communications Group

Two years ago, ZEP introduced a Communication Group to accompany the ERG to support and help coordinate ZEP's and other stakeholders' outreach activities, with focus on Brussels and the EU institutions. As outreach and public affairs are becoming more and more important, it is proposed to combine the ERG with the Communication Group. ✓

Keeping the ERG as a separate entity makes less and less sense and ZEP could be more efficient and impactful in outreach and communication if the groups were merged.

***The AC are invited to endorse merging the ERG and the Communications Group under the name External Relations Group (ERG).***

#### New ERG co-chairs

Previously, ZEP has had three co-chairs representing Oil & gas, NGOs and Industry/projects. It has been proposed to increase the number of ERG co-chairs to also include a representative for research activities. Jonas Helseth from Bellona Europa is the co-chair representing NGOs. The vice-chairs for Oil & gas, Research, and Industry, have been asked to present co-chairs representing their constituencies.

***The aim is to present these new co-chairs for endorsement at the AC meeting.***

### **5.b. Recent and upcoming activities**

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#### Redirecting emissions – why so much of the EU's carbon cash is funding CCUS – featuring ZEP new Chair

*Carbon pulse* published a piece exploring EU funding to CCS (link to [article](#)). ZEP's new chair was interviewed, highlighting the role of CCS in decarbonising hard-to-abate industries, for maintaining industrial activity and for maintaining and creating jobs.

*“... On the other hand, Eve Tamme, chair at the cross-stakeholder Zero Emissions Platform that advises the EU on the deployment of CCS and CCU, argues that “for many hard-to-abate industries, CCS represents the most cost-efficient way to decarbonise.”*

*“It does so whilst maintaining industrial activity, preserving existing and creating new jobs. Other applications of CCS can enable negative emissions, which are, by definition, necessary to get to net zero and net negative thereafter,” she told Carbon Pulse.*

*Tamme also pointed out that the mitigation potential of CCS and CCU is well understood and acknowledged by the Intergovernmental Panel on Climate Change (IPCC) and the European Commission’s Clean Planet for All reference scenarios. She described how the captured carbon could then be transported via pipelines and that a portfolio of European storage sites are currently being appraised and developed.*

*Similarly, Ruggiero of CMW said that the green group had always advocated for increasing resources for IF rather than getting rid of the mechanism altogether. “Fine-tuning this fund for better selection criteria and seeing sectors in need receive a funding increase such as transport and shipping [would be our recommendations]. Given the expensive nature of transitioning these sectors it is not a bad idea to have a pool of money to help investment,” she said. “The Innovation Fund offers a EU-wide approach so it also helping member states that [unlike larger countries such as Germany or France] could not support large-scale projects and don’t have a lot of money in state aid,” she added.”*

#### Webinar on Building a European CO<sub>2</sub> transport and storage infrastructure

On 9 March, ZEP and the CCSA organised a webinar on *Building a European CO<sub>2</sub> transport and storage infrastructure*. The basis for the webinar was:

- The need for CCS technologies for Europe to reach climate-neutrality by 2050.
- The strong positive momentum for CCS and CCU in Europe and the many interesting CO<sub>2</sub> transport visions and plans crossing borders, and the first bilateral agreement and launch of the Greensand project – capturing CO<sub>2</sub> in Belgium, shipping, and storing in the Danish North Sea.
- The many preconditions – on policy, funding, and business models – that urgently need to be settled to create predictability for the industry, not least through the Green Deal Industrial Act and the upcoming EC CCUS Communication.

Panellists:

- Daniel Kitscha from the European Commission DG CLIMA (link to [presentation slides](#))
- Jasmin Sharzad from the Danish Ministry of Climate, Energy and Utilities (link to [presentation slides](#))
- Joep Sweyen from EBN and the Aramis project (link to [presentation slides](#))
- Rune Thorsen from Equinor (link to [presentation slides](#))
- Lina Strandvåg Nagell from Bellona Europa, and
- Per-Olof Granström.

Developing a Europe-wide CO<sub>2</sub> transport and storage infrastructure will be crucial for Europe to reach climate-neutrality by mid-century. Key policy measures, including a regulatory framework for CO<sub>2</sub> transport infrastructure, will be required.

#### ZEP Newsletters

- 22 December 2022 – [link](#)

- 23 January 2023 – [link](#)
- 1 March 2023 – [link](#)

The next Newsletter will be sent on 17 March 2023.

#### ZEP communications material

ZEP has updated its communication material:

- ZEP roll-ups highlighting CCS and CCU.
- Business cards with QR code linking to the ZEP website. The cards will be available to all for events, meetings, etc.
- For reports and other materials, the basis is online pdf. Materials will be printed for specific occasions.

#### ZEP conference on 26 April 2023



Secure your place today to attend the [Net Zero Within Reach](#) conference, hosted by the Zero Emissions Platform and supported by the Carbon Capture and Storage Association.

This full-day event will take place at the Square Brussels Convention Centre, located at Mont des Arts/Kunstberg in Brussels, on April 26, 2023.

This event comes at a crucial time for the development of CCS and CCU technologies in Europe. There is a positive momentum, we have seen many announcements of projects and cross-border cooperation, and there are a range of policy developments in the pipeline.

We will discuss themes such as:

- The need for an EU strategy to deliver CCS and CCU,
- Investing in CCS and CCU – building Europe's green competitiveness,
- Ensuring sufficient CO<sub>2</sub> storage – creating a Europe-wide storage market,

- From source to store – building the European CO<sub>2</sub> transport infrastructure,
- Carbon Removals and developing carbon markets,
- Europe as the global leader on clean tech.

To register your interest in joining the conference, [please click here](#).

#### EU Sustainable Energy Week 2023 (EUSEW)

ZEP has applied to host a session – “Climate Neutral Europe: Safeguarding jobs and industrial competitiveness” – at the EUSEW 2023 Policy Conference, that will take place in Brussels and online on 20-22 June (link to the [EUSEW](#)). The EUSEW's overarching theme in 2023 is: “Accelerating the clean energy transition – towards lower bills and greater skills”.

The proposed session focuses on the transition towards climate neutrality for the energy-intensive industries – such as cement, lime, steel, and chemicals, that are at the core of the European economy – how CCS technologies represent the lowest-cost route to decarbonisation whilst maintaining industrial activity and preserving jobs, and the importance of focusing on skills.

ZEP has been asked by the European Commission to coordinate the proposed session with DG ENER's application.

## **Agenda Item 6: Removals, monitoring and reporting – for information and guidance**

### **6.a. Revision of the Monitoring and Reporting Regulation**

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On 14 July 2021, the European Commission (EC) adopted a number of legislative proposals under the 'Fit for 55' package, including the revision of the EU Emissions Trading System (EU ETS) to align it with the intermediate greenhouse gas (GHG) emissions reduction target of at least 55% by 2030.

The monitoring and reporting regulation (MRR) (link to the [regulation](#)) lays down the rules for the monitoring and reporting of GHG emissions, thus operationalising the EU ETS. Following the political agreement reached on the EU ETS (see *agenda item 4*), the European Commission will review the EU ETS delegated and implementing legislation, including the MRR. The revision will be supported by a contractor (link to the [call for tender](#)) and is expected to start in Q1 2023, covering rules, among others, for:

- Waste incineration;
- CCS and CCU, in light of the inclusion of all CO<sub>2</sub> transport modes in the scope of the EU ETS and considering the interaction with other EU ETS activities such as shipping and road transport;
- CCU, regarding the need to surrender allowances for emissions captured and permanently chemically bound in a product;
- RFNBOs/RCFs.

***Ioannis Markoudakis, from DG CLIMA, will give an update at the meeting.***

### **6.b. Certificates for removals – consultation and way forward**

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On 30 November 2022, the EC adopted a proposal for a regulation establishing a Union certification framework for carbon removals (link to the [proposal](#) and ZEP's [briefing](#)), laying down quality criteria for carbon removal activities, guidelines for verification and certification, as well as the procedure for the recognition of certification schemes.

Certification methodologies and more detailed rules will be set out in implementing acts and delegated acts. The EC will be supported by an expert group on carbon removals (see *below*) and has opened a call for feedback on the proposal (see *agenda item 4*).

***Fabien Ramos, from DG CLIMA, will give an update on the proposal at the meeting.***

### **6.c. Update from the CDR Expert Group**

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Following the adoption of the proposal for a regulation establishing a certification framework for carbon removals, the EC has engaged an Expert Group of around 70 members involved in the field of carbon removals, including national authorities, industry, NGOs, certification bodies and research institutions (link to [list of members](#)). The Expert Group will assist the EC with the preparation and implementation of relevant legislative proposals, focusing on the



certification methodologies and key issues such as quantification, monitoring and reporting, additionality, durability, environmental integrity and transparency. In 2023, the group will conduct preparatory work, gathering best practices on certification schemes.

The Expert Group held its first meeting on 7 March. The meeting recording can be found on DG CLIMA's website (link to the [recording](#)). Next meetings are expected in June and September/October.

***Kristin Jordal, ZEP's representative in the expert group, will give an update at the meeting.***

## **6.d. CCS+ initiative**

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ZEP is in the Advisory Group of the CCS+ initiative which is developing carbon accounting methodologies for Voluntary Carbon Markets. The process is based on a modular approach:

- Overarching modules / tools – **CCS+ methodology**; Guidance and Principles document; tools for the differentiation between emission reductions and removals, baseline quantification and allocation of project emissions.
- Capture modules – capture technologies from **air (DAC)**, post-combustion, industrial processes, oil and gas production, biogenic sources, pre-combustion and oxy-fuel combustion.
- **Transport modules** – pipelines, ships/barges, road/trucks and rail.
- Storage and use modules – including storage in **aquifers**, depleted oil and gas fields and mineralisation.
- Compliance Guidance – including recommendations on how to use the methodologies in the context of Article 6 transactions and EU compliance (e.g., EU ETS).

In addition, the CCS+ initiative is considering developing a dedicated methodology framework for CDR.

The CCS+ initiative held a workshop with the EC in October 2022, to discuss how it can feed into the ongoing work under the Carbon Removal Certification Framework and the revision of the EU ETS.

A public consultation on the documents in **bold** is expected be launched in March/April 2023.



## **Agenda Item 7: Green Deal Industrial Plan – *for information and guidance***

### **7.a. Green Deal Industrial Plan and Net-Zero Industry Act**

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On 16 March the European Commission (EC) published the Net-Zero Industry Act – a proposal for a regulation on establishing a framework of measures for strengthening Europe's net-zero technology products manufacturing ecosystem (link to the [proposal](#)).

The proposed regulation is a landmark achievement for CCS and CCU, evidencing a political recognition of the contribution of CCS and CCU technologies to net-zero. At the same time, there are elements of the proposal which bring about important questions and where further clarification is needed.

#### Background

The Inflation Reduction Act (IRA) is a US legislative text that grants tax credits for CCS, CCU, and low-carbon hydrogen production since 1 January 2023 (link to the [law](#)). Among these is a tax credit for CO<sub>2</sub> stored in geologic formations by industrial facilities and power plants that amounts to approximately €84<sup>1</sup> per tonne.

The EC presented its response to the IRA by putting forward the Communication 'A Green Deal Industrial Plan for the Net-Zero Age' (GDIP) on 1 February 2023 (link to the [communication](#)). CCS is included in the GDIP, that is built on four pillars:

- Simplified regulatory environment
- Faster access to funding
- Skills for the transition
- Open trade

The EC has already adopted parts of the GDIP, such as the Temporary Crisis and Transition Framework (link to the [communication](#)) and an amendment to the General Block Exemption Regulation on 9 March to relax state aid rules and increase the production of net-zero products in the EU, and the Critical Raw Materials Act on 16 March (link to the [amendment](#) and the [proposal](#)).

#### The Net-Zero Industry Act

The proposal for a regulation aims to strengthen Europe's net-zero technology products manufacturing. These are some of the most important items in the Act:

##### *Duration of the permit-granting process*

- The permit-granting process for CO<sub>2</sub> storage sites or factories manufacturing CCS and CCU technologies cannot exceed 18 months.

##### *Planning*

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<sup>1</sup> EUR/USD exchange rate on 18 August 2022 on [XE](#).

- Planning efforts by public authorities must include, where appropriate, plans for CO<sub>2</sub> storage sites or factories manufacturing CCS and CCU technologies.

#### *Net-zero strategic projects*

- The Act introduces the concept of net-zero strategic project (NZSP) and related selection criteria. A factory manufacturing CCS and CCU technologies can apply for net-zero strategic project (NZSP) status if it reduces technological and industrial reliance on third countries or improves the EU manufacturing capacity.
- CO<sub>2</sub> storage projects in the EU can receive NZSP status if they contribute to the injection capacity objective (see *below*) and have applied for a storage permit under the CO<sub>2</sub> storage directive. NZSPs benefit from faster permitting and authorisation and have high priority for environmental assessments and spatial planning.
- The permit-granting process for a storage project with NZSP status is limited to 18 months.
- Member States must help NZSP projects to access private investments.

#### *Objective of CO<sub>2</sub> injection capacity*

- An annual injection capacity of at least 50 million tonnes of CO<sub>2</sub> shall be achieved by 2030, in storage sites located in the EU which are not part of an Enhanced Hydrocarbon Recovery project.
- Companies holding an authorisation under the Hydrocarbons Directive (link to the [directive](#)) would be subject to an individual contribution to the injection capacity objective. The individual contributions would be calculated pro-rata on the basis of each entity's share in the Union's crude oil and natural gas production from 1 January 2020 to 31 December 2023.

#### *Transparency of CO<sub>2</sub> storage capacity data*

- Member State must oblige companies holding an authorisation under the Hydrocarbons Directive to make publicly available all geological data relating to production sites that have been or are being decommissioned.
- Member States must report on the progress of capture projects and storage projects.

#### *European Net Zero Industry Academies*

- The EC will support the creation of European Net Zero Industry Academies to develop training and learning programmes and to support the capacity building of national authorities.

#### *Net-Zero Europe Platform*

- The EC will create a Net-Zero Europe Platform to coordinate with Member States on the implementation of the proposed regulation and support knowledge sharing.

#### Next steps

The proposed regulation follows the ordinary legislative procedure and will now be analysed by the Council and the European Parliament.

***Preparations for a ZEP response to the Net-Zero Industry Act are ongoing and will be presented at the AC meeting.***

## Agenda Item 8: CCUS Forum – *for information and guidance*

### 8.a. Update on CCUS Forum

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The European Commission (EC) has engaged a stakeholder consultation forum to support ongoing policy work on CCS and CCU, notably, on the Communication on a Strategy for CCS and CCU. Five working groups (WG) have been created under the CCUS Forum:

- CO2 infrastructure (co-chaired by ZEP, IOGP, Bellona)
- Industrial Partnerships (co-chaired by ZEP, Cembureau, European Lime Association)
- Public Perception/Role of society (co-chaired by ERCST, EPG, Fraunhofer) (*new*)
- CCUS Communication (*new*)
- Vision (co-chaired by CATF, Florence School of Regulation, Danish Ministry) (*concluded*)

#### WG on Vision

In 2022, the WG delivered a vision paper with recommendations for a CCUS Strategy, including setting milestones on capture and storage volumes (link to the [vision paper](#)).

#### WG on CO2 infrastructure

The WG delivered an issue paper in 2022 with clear recommendations on how to develop and deploy a European CO2 transport and storage infrastructure (link to the [issue paper](#)). The issue paper highlighted, among others, the need for the EC to present a regulatory framework for CO2 transport.

The WG was asked to continue its work in 2023, and has held three meetings this year, focused on technical, regulatory and commercial/business elements of the infrastructure.

The WG has started an expert group on CO2 specifications, that is working on a report with clear guidelines and principles to specify and/or standardise definitions for temperature, pressure and purity, focusing on the transport part of the value chain. The expert group has appointed three co-chairs and has started working on a draft report structure and the context of a technical appendix to the report. The expert group will also prepare a 5-page summary for policymakers and plans to have an outline of the report ready in June 2023.

#### WG on Industrial Partnerships

The WG is discussing different options for Industrial Partnership(s). The group has met twice in 2023 and is expected to deliver an issue paper highlighting what an Industrial Partnership would look like.

ZEP has provided input earlier in the process:

- First, it is essential to define the objective of a possible industrial partnership and to describe what is needed. Then to take into account what kind of cooperations and activities already exists, analyse the gaps/what needs to be added. Finally, to define how and by who this addition should be done.
- Importance of avoiding overlaps with existing activities and cooperations.
- Given what already exists, the focus should be on funding and de-risking projects, with coordination at the EU level and a specific emphasis at the regional level.
- A possible partnership should be transparent and open to all.
- It would be beneficial to base the partnership's work on ZEP's work and experience.

The co-chairs of the WG have prepared a draft proposal on what a partnership would look like. ZEP has held a separate meeting with the WG co-chairs to further describe ZEP, governance, activities, and the new ZEP Network Projects that is being introduced. A clear message is that there are substantial overlaps between the proposal and ZEP/ZEP's activities, something that several WG members also highlighted when the draft proposal was presented.

ZEP's input to the WG can be found [here](#).

#### WG on Public Perception/Role of society

The EC has started a new WG on public perception, aiming for discussions on public awareness and acceptance as well as the role of society in CCS/CCU deployment.

The WG has met twice in 2023 and is preparing an issue paper to be delivered by June. The paper will highlight the need to consider public perception in the deployment of CCUS technologies, focusing on the entire value chain.

The next meeting of the WG will be held on 27 March.

#### WG on CCUS Communication

The WG has held one meeting in 2023, where the EC outlined the context for the upcoming Strategy on CCS and CCU, potential scope/areas of focus and next steps in the process.

The four WGs active in 2023 will prepare the next plenary session of the CCUS Forum, which will take place in November 2023.

### **8.b. EU Strategy for CCS and CCU**

The EC is expected to adopt a Communication on a Strategy for CCS and CCU in Q4 2023. The CCUS Forum WGs will feed into this work. In addition, ahead of the Communication, the EC will launch a 12-week public consultation – the survey is expected to open in March.

***Chris Bolesta from DG CLIMA will give an update at the meeting.***

## **Agenda Item 9: Update on CO2 infrastructure – for information and guidance**

### **9.a. Many ongoing workstreams and studies**

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There are many ongoing workstreams focusing on CO2 infrastructure:

- the working group on CO2 infrastructure, with the Expert Group on CO2 specifications under the European Commission (EC) CCUS Forum (*see agenda item 8*),
- the EC study on regulatory issues related to CO2 infrastructure by TNO/Trinomics,
- the EC/JRC study on cross-border CO2 transport,
- the ZEP/CCSA work on CO2 transport by ship (*see agenda item 4*),
- the continued work on the Innovation Fund and the 1<sup>st</sup> PCI/PMI project list under the revised TEN-E.

### **9.b. TNO/Trinomics study on regulatory issues related to CO2 infrastructure**

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Commissioned by the EC, TNO and Trinomics have made a study investigating regulatory options and potential business models for CO2 transport and storage infrastructure ([link to preliminary findings](#)).

***Filip Neele from TNO will present the findings of the study at the meeting.***

### **9.c. JRC study on cross-border CO2 transport**

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The EC's Joint Research Centre (JRC) is updating its 2010 study on 'The evolution of the extent and the investment requirements of a trans-European CO2 transport network' ([link to the first study](#)) based on the following approach:

- Identification and clustering of CO2 sources and sinks
- Assumptions about the evolution of captured CO2 emissions and storage capacities
- Routing of potential pipelines
- Selection of the optimal network and evolution over time

The study is expected to be published in May 2023. The results of the study will also be open to the public through the JRC's GIS tool, the Energy and Industry Geography Lab ([link](#)).

***Drazen Tumara from the JRC will give an update at the meeting.***

### **9.d. First Union list of PCIs/PMIs under the revised TEN-E**

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Following the call for applications for Projects of Common Interest (PCIs) and Projects of Mutual Interest (PMIs) status ([link to the call](#)), the EC has launched a consultation on the list of candidate projects (*see item 4*), which includes 18 cross-border CO2 transport and storage

network projects (link to the [list of candidate projects](#)) – 13 candidates to PCI status and 5 to PMI status.

Selected projects will form the First Union List of PCIs/PMIs under the revised TEN-E and will benefit from a range of advantages, including accelerated permitting, enabling regulatory conditions, and be eligible to apply to Connecting Europe Facility (CEF) funding.

The final Union list is expected in November this year.

***Katrien Prins from DG ENER will give an update at the meeting.***

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## **Agenda Item 10: SET-Plan and Horizon Europe – for information and guidance**

### **10.a. The revised SET-Plan**

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The European Strategic Energy Technology Plan (link to the [SET-Plan](#)) is being revised with the aim to make it fit for the new political context and more politically visible: aligning it with the objectives of the European Green Deal, renewing policy aims and targets for development and deployment, and pooling national and European R&I resources.

Regarding the proposed changes, ZEP and IWG9 have already made the most important changes that is set out by the SET-Plan review: [the Implementation plan targets have been updated and aligned with the European Green Deal and net-zero](#), and governance structures, work plans and activities have been coordinated to increase impact, efficiency, and benefits for stakeholders.

We are awaiting the adopted revised SET-Plan, which is expected before summer.

***There will be an oral update at the meeting.***

### **10.b. CCS/CCU in future Horizon Europe work programmes**

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The 2023-2024 Horizon Europe work programme (link to [the programme](#) and ZEP [briefing](#)) was published at the end of November 2022, outlining funding available for CCS and CCU R&I projects around €82 million, spread across up to 13 projects. The biggest funding amounts will cover CO<sub>2</sub> transport and storage infrastructure demonstration projects (€40 million) and CCU and CDR projects (amounting to €15 million each).

ZEP has, together with EERA and supported by the IWG9, responded to the consultation on 'Past, present and future of the Horizon R&I programmes 2014-2027'. The focus of the response is on CCS/CCU R&I priorities and what should be included in the future Horizon Europe work programmes (link to the [response](#)). Further information can be found under item 4.



## **Agenda Item 11: ZEP and IWG9 actions, next meeting dates**

### ***11.a. 2023 meeting dates – for information***

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#### ***ZEP Advisory Council and IWG9 Plenary (Wednesdays)***

- 14 June
- 13 September
- 6 December

#### ***ZEP Advisory Council Executive Committee (Tuesdays)***

- 18 April
- 16 May
- 11 July
- 10 October
- 7 November

#### ***Network Technology***

- 11 May
- 26 September
- 23 November

#### ***Network Policy & Economics***

- 25 May
- 26 October