

ZEP 70th Advisory Council meeting

23 March 2022, 10:00-13:00

Agenda Item 1: Introduction and welcome

1.a. Virtual meeting instructions

The ZEP AC70 will be a virtual meeting, held on Microsoft Teams.

Below are some instructions in order for the meeting to run smoothly:

- Before the meeting, you will receive an Outlook invitation for the meeting (10:00-13:00 on Wednesday, 23 March). The Outlook invitation contains a link to Microsoft Teams to join the meeting. If you have not received it, please contact the ZEP Secretariat.
- The Chair will let the presenter for each agenda item finalise his/her presentation before giving the floor to other participants.
- If you have a question, use the chat function (if you have not used it before, you will find a button at the bottom of the screen and the chat function will open up in a window on the right-hand side of the screen).
- In order for the Chair to organise the speaking order, please use the following vocabulary when you have a question:
 - “Chair: question to NN”, if you have a written question for the Chair to highlight, or
 - “Chair: oral question” if you want the Chair to give you the floor for an oral question or comment.
- When you are not speaking, we would suggest that you mute your microphone for sound optimisation.

1.b. AC70 meeting agenda

The agenda for the 70th meeting of the Advisory Council is appended as pre-read 1.b.

1.c. AC69 draft meeting minutes

The draft meeting minutes from the 69th meeting of the Advisory Council, which took place on 15 December 2021, are appended as pre-read 1.c.

1.d. ACEC January meeting minutes

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

1.e. ACEC February meeting minutes

The ACEC February meeting minutes are appended as pre-read 1.e.

ZEP 70th Advisory Council meeting

23 March 2022, 10:00-13:00

Draft meeting agenda

Item	Lead Presenter	Time
1 Introduction and welcome	Graeme Sweeney	10:00-10:10
2 ZEP development and grant – for information and approval <ul style="list-style-type: none"> Work programmes and budget 	Per-Olof Granström	10:10-10:35
3 Updates from Networks – for information and approval <ul style="list-style-type: none"> Updates from TWGs ZEP reports for approval: <ul style="list-style-type: none"> CO2 transport by ship Directive on geological storage of CO2 Cross-border storage liability 	Network Co-Chairs, ZEP Secretariat Ian Phillips, Storegga Filip Neele, TNO	10:35-11:15
4 Updates from External Relations Group – for information <ul style="list-style-type: none"> Overview of ZEP communications activities and events 	Co-Chairs, ZEP Secretariat	11:15-11:30
5 Carbon Dioxide Removal – for information and approval <ul style="list-style-type: none"> Follow-up from the Communication and response to the call for evidence 	Fabien Ramos, DG CLIMA	11:30-11:50
6 EU regulatory framework for CO2 transport infrastructure – for information and guidance <ul style="list-style-type: none"> The need for a regulatory framework CCUS Forum work programme, next steps and ZEP's role European Commission study on cross-border CO2 infrastructure 	Chris Bolesta, DG ENER Maria Velkova, DG CLIMA	11:50-12:20
7 Sustainable investments and energy dependency – for information and guidance <ul style="list-style-type: none"> Taxonomy Complementary Delegated Act REPowerEU – Decreasing energy dependency ZEP actions 	Platform on sustainable Finance / DG ENER (TBC)	12:20-12:40
8 Set-Plan/Horizon Europe/Mission Innovation – for information	IWG9 Vassilios Kougionas, DG RTD	12:40-12:55
9 Closing remarks and next meeting	Graeme Sweeney	12:55-13:00

DRAFT MEETING MINUTES
ZEP 69th ADVISORY COUNCIL MEETING

15 December 2021, 10:00-13:00 CET

Virtual meeting

1. Introduction and welcome

Chair, **GS**, opens the meeting, informs of proxies and declares the meeting quorate.

Chair asks AC members if there are further items for the meeting agenda – no further items and the agenda is adopted. Chair asks AC members for approval of minutes from AC68, ACEC October – provisionally approved at ACEC November – and ACEC November – all approved.

Chair notes the proposed meeting dates for AC, ACEC, ERG and Communications Group meetings in 2022.

Chair notes that Winston Beck has been appointed as a ZEP-C Director at the Extraordinary General Assembly on 9 December.

Chair notes that Mark Driessen will step down from the role of ERG Co-Chair. Chair invites AC members to nominate potential ERG Co-Chairs by contacting the ZEP secretariat.

2. ZEP 2022

Chair notes this item is for information and endorsement, but the decision-making regarding budget lies with ZEP-C. **POG** notes endorsement needed for the ZEP work programme to April 2022 and the ZEP-C budget for January-April 2022. At the AC70 in March, the work programmes for 2022 will be presented for endorsement together with the ZEP-C 2022 budget.

The current work programme, that is funded by ZEP-C members, was endorsed by AC68 and approved by the ZEP-C Board of Directors. ZEP-C has reached an agreement with CCSA on how the work programme will be set up, following legal and financial advice. **POG** provides an overview of ongoing work programme, noting slight amendments to timelines for reports, and the upcoming combined ZEP/IWG9 grant work programme – with a radically lower budget than the current programmes – and the additional ZEP own work programme.

POG notes that the 2021 income has increased with new members, while the expenditure has been lower than expected due to Covid-19. €50,000 was allocated to November-December for the gap in grant funding, and the ZEP-C financial reserves will increase to approximately €280,000 by the end of 2021. The budget for January-April 2022 includes €100,000 for the gap in grant funding, while the rest of the budget is a continuation of the 2021 budget, resulting in expected financial reserves of approximately €250,000 at the end of April 2022.

POG and Chair respond to a question on coordinating work of ZEP and IWG9, noting that the support for IWG9 continues until the end of April. The combined ZEP/IWG9 grant will then coordinate the work into one programme.

NR notes that at the SET Plan conference in November, there was a clear statement from the Commission on revamping the SET Plan. Notes it is important to follow this and give guidance as best as possible. **POG** responds that this has been followed up with the SET-Plan Steering Group and it will be taken into account when the new grant holder will set up the new work programme.

Chair notes AC endorsement is sought today for the work programme and budget – both are endorsed.

3. Updates from Networks

CSc begins the Network Policy & Economics (NWPE) update providing an overview of the latest meeting in October, notes that the TEN-E regulation, 5th PCI list, and Fit for 55 were discussed and the Network is following these initiatives. ZEP has also provided input for the CCUS Forum and an EU strategy for CCS and CCU. NWPE has responded to several consultations. The Hydrogen and decarbonised gas market package and the Taxonomy are also key initiatives the Network is following. **CSc** highlights the topic of cross-border storage liability and ZEP work beginning on this topic. Outlines the issue of liability for post-decommissioning storage liability. The Network will continue work on this topic and report on progress at AC70.

Chair asks for AC endorsement for the proposed actions. **SCr** raises comment on the timeline and a short discussion follows highlighting that ZEP is treating this as highly critical work and has meetings to follow this up with regulators and the Commission. AC endorses the action plan and approves the consultation responses.

LSN updates on the EU Taxonomy, noting the first delegated act has been approved and now awaiting the delegated act to set out the role of gas. It is understood that the leaked document circulated in March 2021 with 'do no significant harm' of 270g is back on the table. The delegated act is expected on 20 or 22 December. It is being considered not to have a public consultation.

FN updates on the work by TWG on the Directive on geological storage of CO₂ and plans to have a report for approval at AC70. **AH** continues the update noting that the work on a biomass and biodiversity and the work on the draft report is continuing. The biomass report is intended to be used as a background for the CCS in biodiversity and land-use perspective work. The draft report is intended to be presented at AC70. The work on CCS for power generation is ongoing. Chair asks AC for approval of ToR for biodiversity work – approved.

IP presents work on the CO₂ shipping report by the ZEP/CCSA Working Group. There is broad membership in the group, with the work aiming to provide early guidance for CO₂ shipping. **IP** provides an overview of the working group's findings. The draft report was circulated prior to the AC meeting for comments. Chair asks if there are any objections to the recommendations – the AC endorse proceeding with the work as described.

YvdM asks about the report descriptions and recommendations on sizing – short discussion follows.
IP addresses why inland waterways are included in the report.

TH of DG CLIMA provides an update on the Innovation Fund and the results of the small-scale and large-scale calls. Also highlights the London Protocol and cross-border storage liability. Adds a separate comment on cross-border liability, noting that the Directive on geological storage of CO₂ should not be opened for revision. **TM** raises a question on storage sites by 2030, as Innovation Fund sites will be online by second half of 2020s. A short discussion follows on long-term vision.

POG provides a short update on the CCS+ Initiative. ZEP is a member of the Advisory Group, and has provided clear input on the Principles and Guidance document. An updated version has been sent out for comments and ZEP will follow up with the ACEC to give input. The Initiative will be in contact with EC in Q2 2022 to establish what links there are for certificate scheme and regulatory framework. Chair asks if the AC are content that the ACEC Vice-Chairs provide guidance – approved.

4. Updates from External Relations Group

LB begins the ERG update highlighting a new meeting structure for the ERG and Communications Group: a two-hour structure, with the first hour allocated to the Communications Group and the second hour allocated to the ERG. Highlights the ZEP Conference which took place after AC68, a 'grant farewell'. Also highlighted the key EU policy initiatives that ZEP will follow and communicate around in Q1 2022. **MK** continues the updates on ZEP's communication activities and events in October-December 2021 as well as ZEP articles. Highlights the planned communications and events for Q1 2022.

5. TEN-E Regulation

WvL provides update on TEN-E Regulation negotiations.

Pending the final text, the key points for the category of CO₂ infrastructure are:

- CO₂ storage is included in the regulation. CO₂ storage will also be included for infrastructure developed between an EU member state and a non-EU country, which could receive the status of Projects of Mutual Interest (PMI).
- CO₂ transport modalities other than pipeline – such as ship, train, truck, barge – will not be included in the regulation, as the Commission and the Council 'fail to see the network component of their inclusion'.
- CO₂ transport for utilisation will be allowed, given that the utilisation is 'with a view to permanent neutralisation' of the CO₂. The sustainability of utilisation will be checked against the sustainability criteria included in the regulation.

- There will be a general sustainability criteria in the Regulation, however, it will not include a specific capture rate for industrial installations.
- The focus of CO₂ infrastructure will be on industrial CCS installations, not power installations.

The status of the relationship with non-EU countries remains to be clarified in the final text.

LSN raises a question on permanent neutralisation. Short discussion follows. Only if in accordance with sustainability criteria. **WB** asks question on transport modes and how they would like to include them in the future. Could TEN-T be an option? Responds that they didn't indicate this. **KBB** asks around wording of third countries – would Norway be included? **WvL** responds that Norway would be included and that this wording should be finalised soon. Chair notes that following ZEP's recent meeting with DG ENER, the EC does not support transport modalities in the TEN-E.

CB provides update on 5th PCI list and CO₂ network projects.

6. Hydrogen

HE provides an update on the European Clean Hydrogen Alliance (ECHA) project pipeline, which is available as an online database. Provides an overview of project locations, categories, maturity, production, transmission (production and consumption). Short questions and answers follows.

Chair highlights the importance of infrastructure and notes that the complementary development of CO₂ and hydrogen infrastructure can reduce costs.

HE notes a report from the ECHA which highlights barriers for hydrogen project development.

7. Horizon Europe work programme

VK provides an update on the Horizon Europe work programme preparations for 2023-2024.

For Mission Innovation, the challenge on CO₂ removal, the US, Canada and Saudi Arabia are leading and the EU has joined as support.

Adds that input given to Horizon Europe is much appreciated and is in line with planning for 2023-2024. **VK** suggests restarting the ZEP working group on Mission Innovation. Chair confirms this with **FN**.

8. Carbon Dioxide Removals

FR presents the EC communication on 'Restoring Sustainable Carbon Cycles'. It details the long-term strategy: (i) decrease reliance on fossil carbon, (ii) replace it with sustainable streams of carbon, and (iii) offset emissions with carbon removals. The strategy looks at two sides: the role of ecosystem and role of industry. Provides an overview of the role of industry. The communication also notes CO₂ transport.

Call for evidence – impact assessment, public consultation planned late-January with questions on views of different elements related to the certification. Organising a conference at the end of January – high-level session and also to discuss with stakeholders/technical discussions. By the end of 2022, legislative proposal will be communicated.

JH notes this is a strong signal from DG CLIMA of CDR's importance for climate action. Highlights concerns on carbon farming. Short response follows. **TM** highlights provision of storage. If including targets for carbon removals, it is important to have a statement on importance of storage. Short response follows. Want to put in place tracking of CO₂ emissions and where it goes to be stored, and where emissions are from. Chair notes that describing what we have, we may lose track of current network which is pipeline based. **POG** thanks **FR** for great cooperation with ZEP and for providing updates as the work progressed. Mentions the good descriptions on CO₂ infrastructure in the Communication and refers to the ZEP input to the Commission regarding an EU strategy for CCS and CCU. **WB** asks if there were reflections on differentiating between CO₂ emissions and unavoidable process emissions. Response follows – broad view of EU economy, but in context of certification next year this point will be relevant. Possibly also relevant next year when looking at supply side of certification.

9. Closing remarks and next meeting

Chair thanks all ZEP members and CCS/CCU community for support during 2021 and for participating today. Wishes all a happy holiday season. As the calendar stands, the next ACEC meeting is 18 January and AC70 on 23 March.

List of participants

AC members		
1	Jonas Helseth	Bellona
2	Shirley Oliveira	bp
3	Isabelle Czernichowski	BRGM
4	Stijn Santen	EBN
5	Lucie Boost (<i>Proxy from Lamberto Elderling</i>)	Equinor
6	Jannicke Bjerkas	Fortum Oslo Varme
7	Winston Beck	HeidelbergCement
8	Florence Delprat-Jannaud	IFPEN
9	Kim Bye Bruun	Northern Lights
10	Stuart Haszeldine	SCCS
11	Syrie Crouch	Shell
12	Nils Røkke	SINTEF
13	Charles Soothill	Sulzer
14	Ward Goldthorpe	Sustainable Decisions
15	Filip Neele	TNO
External speakers		
16	Chris Bolesta	European Commission
17	Henning Ehrenstein	European Commission
18	Timo Herberz	European Commission
19	Vassilios Kougionas	European Commission
20	Fabien Ramos	European Commission
21	Willem van Laatum	Parliamentary Assistant to MEP Berendsen
Guests		
22	Hanne Rolén	Aker Carbon Capture

23	Roeland Kuiper	ALP Maritime
24	Adrien Berthier	Alvance Group
25	Eric De Coninck	Arcelor Mittal
26	Christian Heller	Austrian Environmental Agency
27	Frederik Pieters	BASF
28	Mark Preston Aragones	Bellona
29	Lina Strandvåg Nagell	Bellona
30	Michal Wendolowski	Bellona
31	Ceri Vincent	BGS
32	Esme Brandon	bp
33	Helen Bray	Carbon Engineering
34	Georgina Katzaros	CCSA
35	Chris Gent	CCSA
36	Ruth Herbert	CCSA
37	Ross Kennedy	CCSA
38	Rowan Emslie	Clean Air Task Force
39	Alessia Virone	Clean Air Task Force
40	Eve Tamme	Climate Principles
41	Anastasios Perimenis	CO2 Value Europe
42	Tom Mikunda	Dutch Government
43	Domien Vangenechten	E3G
44	Dennie Kleijweg	EBN
45	Merwe van der Yoland	EBN
46	Daniele D'Angelo	Eni
47	Roberto Ferrario	Eni
48	Lucie Boost	Equinor
49	Adrien Allard	ETN Global
50	Jitka Spolcova	ETN Global

51	Yelda Guven	ExxonMobil
52	Antonella Sopranzetti	ExxonMobil
53	Alex Novo Tellado	ExxonMobil
54	Paola Mazzucchelli	F.Circe
55	Paul Bonnetblanc	French Government
56	Angus Gillespie	GCCSI
57	Guloren Turan	GCCSI
58	Marlene Arens	HeidelbergCement
59	Jan Theulen	HeidelbergCement
60	Francois Regis Mouton	IOGP
61	Caterina de Matteis	IOGP
62	Iskren Kirilov	IOGP
63	Nora Hansen	LO Norway
64	Arthur Heberle	Mitsubishi Power
65	Stig Svenningsen	Norwegian Government
66	Raphael De Loenen	Port of Antwerp
67	Sophie Cuypers	Port of Antwerp
68	Marleen Ramakers	Port of Antwerp
69	Bram Sommer	Port of Rotterdam
70	Christian Schwarck	Shell
71	Alistair Tucker	Shell
7	Marie Bysveen	SINTEF
73	Kristin Jordal	SINTEF
74	Ian Phillips	Storegga
75	Svante Söderholm	Swedish Energy Agency
76	Evis Linfoot	TotalEnergies
77	Frederic Linsig	TotalEnergies
78	Dimitra Rontogianni	TotalEnergies

79	Hernan Silva	TotalEnergies
80	Gjengedal Ane	
ZEP Secretariat		
81	Per-Olof Granström	ZEP Secretariat
82	Giorgia Bozzini	ZEP Secretariat
83	Meghann Kissane	ZEP Secretariat
84	Dr Graeme Sweeney	Chairman of ZEP

ACEC January meeting

18 January 2022

9:00-11:00 CET

Draft meeting minutes

1. Introduction and welcome

Chair, **GS**, welcomes all and confirms quorum, noting proxies for Vice-Chairs. Reminds all of meeting instructions.

Chair welcomes **GB**, who is invited to participate for the first five minutes of the meeting. Chair and other participants thank her for her excellent work at ZEP and wish her all the best in future endeavours. **GB** notes she will be working on mobility and transport at ENI's Brussels office.

Murillo Salvador, new Communications and Events Officer, is invited to present himself and say a few words.

Chair asks for approval of the ACEC January meeting agenda. Asks for any other items that need to be included in the agenda – agenda is approved.

Chair asks for approval of draft meeting minutes from the AC69 meeting – minutes are approved. Chair notes they will be formally approved by AC70 in March.

Chair highlights the calendar for the years' AC and ACEC meetings.

2. Follow-up from AC69 and focus areas for AC70

POG welcomes **MS** to CCSA and ZEP and indicates that **Charles-Albert Bareth** will join as Communications and Policy Officer on 24 January. Referring to actions from AC69, **POG** notes AC members have been asked to nominate a new ERG co-chair and Vassilios suggestion to restart the working group on Mission Innovation. He asks the ACEC for input on the proposed agenda for AC70 highlighting CDR and the CCUS Forum/strategy where ZEP's input will be critical, and that two ZEP reports – on the Directive for geological storage of CO₂ and CO₂ transport by ship – will be ready for approval.

Chair notes that **NR** and **FN** were involved in the Mission Innovation work and proposes a call on how this work could be set up. Opens the floor.

- **NR** agrees and points out renewed momentum for CDR, citing developments from COP26, and reminds group of the Commission's conference on Sustainable Carbon Cycles on 31 January.
- **POG** highlights the link to the CDR call for proposals in the 2023-24 Horizon Europe work programme.

Chair notes interest to have CO₂ infrastructure and the Taxonomy as separate items on the AC70 agenda, noting the need to define renewable and low-carbon gases.

Action: preparatory meeting on Mission Innovation WG.

3. Updates from Networks

a. NWPE

CS reminds attendants of previous NWPE meeting on 22 October. Next meeting to be held on 3 February. He remarks that the outcome of TEN-E seems satisfactory from a CCS perspective and notes that Norwegian CCS projects acquired eligibility for storage. Next meeting for TWG Policy & Funding to be held on 28 January.

CS gives a short update regarding the matter of CO₂ storage liability, and notes that DG CLIMA sees the Directive for geological storage of CO₂ as a clear basis for non-discriminatory open access for CO₂ transport and storage. DG CLIMA will put up a tender for the review of the Directive's guidance documents this summer. **CS** also highlights a positive outcome regarding the Guidelines for State aid and mentions the Communication on Sustainable Carbon Cycles (SCC), which includes a separate 5 Mtpa target for carbon removals by 2030 and a proposed study on cross-border CO₂ infrastructure.

Chair disagrees on the TEN-E issue, which missed the opportunity to engage fully in CO₂ infrastructure and equitable access across CO₂ transport modalities. Stresses that ZEP will have to find another way to make progress on these issues.

b. NWT

FN notes that TWG on the Directive on geological storage of CO₂ has gained urgency in light of increased concerns about long-term liability. Report will be available for approval at the March AC meetings and should provide input to DG CLIMA. He highlights that TWG on Biodiversity had its first meeting last week and that new experts are needed to help define the principles/main results.

FN mentions that the TWG CCS on power generation is moving forward and that the issue enjoys increased interest after the latest developments related to the Taxonomy. He mentions that work by TWG on shipping is close to completion and will be ready for approval at AC70. A guidance report will be the object of discussions with ZEP Secretariat.

AH remarks regarding TWG on biodiversity the connection between CCS, biodiversity, and biomass. Practical experience from companies and projects could inform this work. A case-by-case assessment is thus needed.

Chair stresses that TWG on power is more topical than ever thanks to the Taxonomy Delegated Act. A more detailed view on this matter is thus increasingly useful. **AH** agrees on this issue and cites the example of Germany's usage of natural gas and hydrogen.

Chair opens the floor for questions and comments.

- **LE** requests that a draft of the report on the Directive on geological storage of CO₂ be made available at the next ACEC meeting in February. **FN** accepts.
- **NR** asks and **POG** responds that the TWG on biodiversity also covers land-use.
- **CS** highlights the report on CO₂ shipping in the context of the ETS policy advocacy work and proposes that a meeting be arranged with DG CLIMA. On this matter **POG** highlights that ZEP is in touch with DG CLIMA.

c. Priorities for active policy initiatives

POG points out where we stand given the many initiatives presented in December and stresses the importance of a regulatory framework for CO₂ infrastructure. He mentions that post-TEN-E we need to look at where funding is needed for the shipping and other modalities, and highlights that it is not likely that CO₂ infrastructure will be included in the legislations linked to the Hydrogen and gas package. He also notes the importance of giving input to the Terms of Reference for the Commission's study on cross-border CO₂ infrastructure.

POG mentions that the Commission will ask several organisations to volunteer in the CCUS Forum work. He notes the CCS and CCU strategy as the most promising way forward regarding a regulatory framework for CO₂ infrastructure and stresses the need for ZEP to be as clear as possible regarding how this should be done.

Chair admits lack of enthusiasm about the use of the SCC process for CO₂ transport infrastructure but recognises that ZEP may not have a choice. Proposes to form a group to explore the best way forward. **LSN**, **LB** and **CS** would like to be involved. **CS** mentions the regional cooperation on infrastructure between regulators to address commercial barriers, as a possible way forward.

Action: Meeting with group on how to progress a regulatory framework for CO₂ infrastructure.

d. CCS+

Chair introduces the issue and the problem at hand: There are confusions between reductions and removals in the current discussions.

POG gives a short update of the status of the CCS+ work, highlights the professional work done by the initiative and the very tight timeline. The core problem is that even if the initiative has described the differentiation between removals and reductions in both the draft Guidance and Principles document and the methodology tool, it still comes down to only one single product or credit for both. **POG** mentions that there is no updated version yet of the Guidance and Principles and he refers to the methodologies shared with the ACEC for comments. He highlights ZEP's role in the advisory group and stresses the need for rigorous methodologies and clear definitions for reduction and removals. Without this, there may be a risk for a backlash in the upcoming public consultation in February.

Chair notes that those behind the project are well resourced but are also overwhelming the advisory group. Opens the floor for suggestions on how to proceed.

- **LE** recognises that there is no separation in the methodology between CO₂ removal and abatement with regards to storage. This is not a problem from a verification perspective, but it is a problem when the credit is issued, asks whether the credit owner is the storage provider or if the credit owner is rather the CO₂ provider. **POG** describes that they are related to specific projects that may include both reduction and removal. If there were two separate, well-defined, types of credits then the system would work. **LE** agrees and remarks that this issue also makes it difficult for investors to find out with which company they are engaging.

Chair asks if ZEP should continue to engage with the advisory group. If yes, then we should prepare a communication plan for the public consultation. If no, then we would have to withdraw from the group.

- **LSN** notes the importance for ZEP to use as much power as possible to make the current standards appropriate, but also recognises that ZEP should not risk its own credibility by taking part in this. Asks if change is still possible at this point. Chair notes that with more and more advisory group members becoming concerned, it may be possible to change something. Highlights that the critical moment will arise by the time of the public consultation.
- **LE** argues that the group should do its best to influence from the inside and notes he trusts ZEP's judgement on this issue, as it stands in a frontline position.

Chair takes away that it is legitimate for ZEP to toughen its language on the matter and to push forth its principles.

4. Updates from External Relations Group

LB highlights the developments at the latest ERG meeting and points out that the group focused on how to finalise the work on TEN-E and the multimodal transport. The December policy packages were also discussed.

MS provides an update on ZEP's communications activities, including an overview of ZEP's participation in the EU Industry Days and ZEP articles – an interview on blue hydrogen with ZEP chairman for ENDS Europe that was published on 14 January and an article on CCS in the EU for the Oxford Energy Forum published on 17 January. Regarding planning for Q1 2022, **MS** highlighted communication plans for the upcoming ZEP reports, on track to be presented at AC70, and the upcoming EU policy initiatives that ZEP is following.

Chair stresses that the journalist from ENDS Europe was very professional and ZEP should explore opportunities to work with him again in the future.

5. Expected Taxonomy Delegated Act

LSN gives a short overview of what is expected in the Delegated Act and reminds attendants that more information will be provided on 21 January. Worries that the Act as it stands provides exceptions for fossil gas, which goes against the technology-neutrality principle and may damage the credibility of the

Taxonomy. **LSN** notes that the justification for these provisions and exceptions rely on lax promises to shift to low-carbon and renewable gasses in the future.

Chair notes that the current Act will go into force as-is, considering the high political forces at work. The only way to do better would be to have the EC improve the language on the Delegated Act. It may be more productive for ZEP to focus on the matter of defining low-carbon and renewable gases, as well as the issue of how CCS performs in this new environment.

Chair opens the floor for comments.

- **LE** highlights the importance of preparing for potential negative sentiment about the role CCS plays in this situation.

Chair notes support for the actions proposed in the pre-read: To clearly communicate the need for and help the Commission with the definitions of renewable and low-carbon gases and to prepare a good communication on the importance of CCS for power generation.

6. Closing remarks

Chair thanks all for participating in the meeting and for time and effort in contributing to the work. Reminds that AC70 takes place on the 23rd of March. Closes the meeting.

List of participants

Dr Graeme Sweeney	ZEP Chair
Lina Strandvåg Nagell (proxy from Jonas Helseth)	Bellona
Lucie Boost	Equinor
Lamberto Eldering	Equinor
Winston Beck	HeidelbergCement
Arthur Heberle	Mitsubishi Power Europe
Christian Schwarck	Shell
Marie Bysveen (proxy from Nils Røkke for 10:00-11:00)	SINTEF
Nils Røkke	SINTEF
Charles Soothill	Sulzer
Filip Neele	TNO
Per-Olof Granström	ZEP Secretariat

Murillo Salvador	ZEP Secretariat
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ACEC February meeting

22 February 2022

9:00-11:00 CET

Draft meeting minutes

1. Introduction and welcome

Chair, **GS**, welcomes all and confirms quorum. Reminds all of meeting instructions.

Chair asks for approval of the ACEC February meeting agenda. Asks for any other items that need to be included in the agenda – agenda is approved.

Chair asks for approval of draft meeting minutes from the ACEC February meeting. Minutes are approved.

2. Next grant and preparations for AC70

a. Next grant

POG reminds that ZEP AC last year approved the guidance document, for ZEP to have an own-work programme in parallel with the grant and fund resources/employ own staff to drive and coordinate the work. With a gap in ZEP grant funding since 1 November 2021, ZEP has prepared for the next grant starting shortly after the IWG9 grant ends 30 April this year, however, it now seems that CINEA may need until after the summer 2022 to prepare the grant agreement. **POG** notes this would mean another several-month funding gap until the next grant can start, creating difficulties for the platform. Given the importance of the SET-Plan, the EC should safeguard continued high-quality output, either by guaranteeing back-to-back grants or by funding the gaps.

Chair notes that historically an emergency grant was set up in these situations. Asks what sort of consequences this could have.

NR highlights the risk for ZEP and IWG9 considering that the EC does not always comply with deadlines. He asks regarding possible support from ZEP government group, and IWG Co-chairs from Norway and the Netherlands.

Chair notes that IWG9 Co-chairs are aware and that a meeting with them is important. He also notes that ZEP has built up funds and could manage the gap with own resources.

LE reminds the group of the same situation a few years ago. This points to a structural problem that must be resolved: How can this situation be improved permanently?

CS recommends considering alternative routes for funding and supports a clear approach towards the EC.

Chair notes support for a letter and proposes meeting with IWG9 Co-chairs.

b. AC70 agenda

Referring to the next AC **POG** gives an overview of the draft agenda and notes that due to later start of the next grant, we can only ask for AC approval to prolong current ZEP work programme, updated according to EU policy agenda.

It is agreed to include Mission Innovation during the SET-plan presentation.

3. Updates from Networks

a. NWPE

CS highlights that the public consultation is open for carbon removals and discussions are ongoing within TWG P&F to prepare a draft response. Discussions are also ongoing within P&F on a regulatory framework for CO₂ infrastructure, and a ZEP position paper is due soon. On funding, talks have focussed on shipping ahead of initial discussions on revising TEN-T Regulation.

POG updates from CCS+ advisory group meeting, that ZEP's comments have been taken into account. The timeline has been delayed by three months with the public consultation in May, and there will be a thorough review of the Guidance and Principles document. He notes that clear differentiation between reductions and removals is still the key issue, where focus is on convincing Verra to include different credits. He notes that Verra will open a 60-day consultation on these issues and highlights the importance to use this opportunity, possibly jointly including several stakeholders. **POG** highlights questions from the Initiative and proposed ZEP replies, including ZEP's input for the G&P review, ok to publish G&P document prior to the public consultation, That CCS includes technological CDRs but with clear differentiation between reduction and removal.

Chair remarks that they now seem to understand that the workflow was too much for the advisory group. Chair agrees with **POG** regarding publishing the G&P in May and does not object to including CDR in the definition of CCS as long as a clear difference between reductions and removals is enforced.

JH highlights that the lack of differentiation between reductions and removals is precisely what will hold back CDR. He also asks about the status on the inclusion of embodied carbon into the CCS+ methodologies. **POG** responds that this is still an open question.

LE stresses that this distinction between reductions and removals must be present from the start, and remarks that back when Verra was picked to be a part of CCS+, their good reputation helped a great deal. The differentiation issue could thus pose a reputational risk to Verra, and it is important to help them see that clearly.

b. NWT

FN reminds that a meeting will be held next week within TWG Shipping.

AH highlights that Stora Enso is actively participating in TWG Biodiversity, and their expertise as a forerunner on sustainable forest management has helped a great deal. **AH** reports that a draft report on

CCS in a Biodiversity and Land Use Perspective will be prepared by March. Regarding TWG CCS for Clean and flexible power generation, **AH** notes that Dr Hannah Chambers has joined the work, and the group has been following studies from Denmark, Germany, and the Netherlands.

POG gives an update on Mission Innovation (MI), including the CDR mission that is considered very important by the EC, which will be a member with RTD/Vassilios Kougionas and with support from CLIMA on regulatory issues. A meeting has been held with **FN** and **NR** and the proposal is for a ZEP working group that includes work in both the MI and the on CDR certificates/regulatory framework. **POG** also refers to a meeting with the coordinators for the Clean hydrogen mission together with **NR** and **VK**, where an MI working group will be started, and an action plan is to be drafted. Many crucial items, such as definitions and links to the Taxonomy, will be crucial here and it will be important for ZEP to follow and support this work.

Chair proposes to connect to the working groups on CDR and hydrogen to prepare to be actively involved in the work.

FN gives a short presentation on the draft report from TWG Directive on the geological storage of CO₂ – the report covers all stages of project development. It recommends no changes to the Directive but does call for short and on-point clarifications in the guidance documents. **FN** also highlights need of further input, which will be considered during the group's next meeting on Thursday 3 March. **FN** asks for comments and input from the ACEC by Monday 28 February.

Chair stresses how important and timely this work is, highlighting the need to maximise its policy impact.

LE observes the mass of information the report contains and asks what is the audience for this work? Have all licenced projects been included in the work? Will recommendations be checked with ZEP members ahead of AC approval? **FN** responds that good input was received from Shell and Porthos, but Equinor dropped out of the TWG at a too early stage to provide guidance, and that conclusions/recommendations for each part of the document are still to be included.

LE stresses that if this report is to contribute to ZEP's positioning and be widely used and disseminated by members (in the context of DG CLIMA's work on the guidance documents, as well as DG ENER's work on the CCUS Forum), it is important to consult all stakeholders.

Chair notes that AC70 will decide whether or not the report is approved.

4. Updates from External Relations Group

MS gives an update from the ERG/Communications group and highlights activities so far in 2022, including the EU Industry Weeks 2022, and proposed upcoming activities to be discussed, such as seminars based on the reports on CO₂ transport by ship and the Directive on geological storage of CO₂, a seminar dedicated to the ongoing work on EC call for evidence on CDR, and applications for ZEP events at the EU Green Week and the EU Sustainable Week.

5. Actions on the Taxonomy CDA

CAB presents, referring to the pre-reads, the proposed ZEP's note on the Taxonomy Complementary Delegated Act, and highlights the views and actions at the end of the document:

- "CDA does not comply with the EU Taxonomy technology-neutrality principle"
- "Crucial need to define 'renewable and low-carbon gases', where both types of gasses must qualify under the same rules, creating a level playing-field"
- "CCS crucial to reduce the GHG emissions from power generation and high-efficiency co-generation of heat/cool and power from fossil gaseous fuels"

The ACEC approves the note.

6. SET-Plan update

POG gives a short update, noting that IWG9 co-chairs will participate in meeting on cross-IWG collaboration on integration of RES and storage and circularity and raw materials dependence. He also highlights the many good reports from the IWG9 that will be published soon. Chair advises to share these reports with the ZEP groups focusing on the specific areas.

7. Closing remarks

Chair thanks all for participating in the meeting and for time and effort in contributing to the work. Reminds that AC70 takes place on 23 March. The next ACEC meeting is planned for 12 April. Closes the meeting.

List of participants

Dr Graeme Sweeney	ZEP Chair
Arthur Heberle	Mitsubishi Power Europe
Charles Soothill	Sulzer
Christian Schwarck	Shell
Filip Neele (<i>on leave, will call in</i>)	TNO
Jonas Helseth	Bellona
Lamberto Eldering	Equinor
Lina Strandvåg Nagell	Bellona
Marie Bysveen	SINTEF
Nils Røkke	SINTEF

Charles-Albert Bareth	ZEP Secretariat
Murillo Salvador	ZEP Secretariat
Per-Olof Granström	ZEP Secretariat

Agenda item 2: ZEP Development and grant – *for information and approval*

2.a. 2021 ZEP-C Budget follow-up

The income for 2021 amounts to €282,500. The expenditure for 2021 amounts to €172,299 (this may change, books are not closed yet).

- Income: Compared to the 2021 budget presented in December 2020, three new members joined ZEP during 2021, adding €50,000 to the budgeted (€232,500) income for 2021.
- Expenditure: Much lower than budgeted mainly due to the Communications and Events budget and Covid-19. Virtual meetings have given the opportunity to strongly increase ZEP activities, while, at the same time, keeping costs low.
- ZEP-C started 2021 with a remaining budget from 2020 of €186,871. The starting point for 2022 (remaining budget from 2021) is approximately €288,372.
- The ACEC agreed that the 2021 audit for ZEP-C should be undertaken by Vandelanotte. Once the accounts have been finalised the audit will be completed.

2.b. Next grant

During 2021, the ZEP AC approved [the guidance document](#) describing the proposed common IWG9 and ETIP ZEP work programme, and endorsed the way forward:

- That ZEP, in parallel with the grant, will set up an own-work programme funded by ZEP members.
- That ZEP will lead and coordinate the two work programmes, and for this purpose continue to fund resources or re-introduce employment of staff.

The deadline for the applications for the next ZEP/IWG9 call for proposal – ‘HORIZON-CL5-2021-D3-02-15: Support to the activities of the ETIPs and technology areas of the SET Plan’ – was the 5 January 2022. Information regarding who will be awarded the next grant is, according to the EC/CINEA, not expected until the end of March / beginning of April at the earliest.

ZEP has previously expected the next grant to start fairly directly after the end of the SET-Plan/IWG9 grant end-April 2022. However, the EC/CINEA is indicating that the preparations for the next grant agreement will push the start date for the next grant until after the summer, possibly September 2022. This will thus result in a new several-month long funding gap for the new combined ZEP/IWG9 Coordination and Support Action

grant. This directly follows the current six-month funding gap since the end of the ZEP grant in October 2021, where the ZEP-C members are funding the work.

This is a material change of circumstances. Nevertheless, ZEP has prepared for such a situation and could, based on the preparatory measures already taken to increase its funding in ZEP-C, manage the cashflow aspect of the funding gap. However, this is also impacting the IWG9 that does not have the same possibilities.

Following discussions with the Co-Chairs of the IWG9, a discussion with the European Commission is required to find a funding solution so that both ZEP and the IWG9 can continue to deliver high-quality output.

The AC is asked to give its advice on the way forward:

- **to recommend that ZEP-C will manage the ZEP part of the cash flow during the gap in the grant (this will be brought to the ZEP-C Board of Directors for approval)**
- **for the Chair of ZEP, together with the other Co-Chairs of IWG9, to contact the European Commission with the aim to find a funding solution.**

2.c. Prolongation of current ZEP work programme

ZEP's current work programme, from 1 January 2022 until 30 April 2022, (*appended*) is fully funded by the ZEP-C members and endorsed by the AC and approved by the ZEP-C Board of Directors.

The aim was to have enough information at this AC meeting regarding the upcoming grant to be able to prepare the two new ZEP work programmes. It is proposed to prolong the current work programme for four more months, updated regarding timelines and in accordance with the EU policy agenda.

The AC is invited to endorse a prolongation of the current work programme until 31 August 2022.

2.d. ZEP-C budget for May through August 2022

In December 2021, the AC endorsed a ZEP-C budget for January through April 2022. Given the lack of information regarding the next grant, we are proposing to prolong this short-term budget (apart from €100,000, allocated for the funding of the provision of services for January through April) also for May through August 2022, with the possibility for a review at the June AC meeting.

- Continuation of the core ZEP-C services, such as chair, accounts, legal support, etc.
- Consequences of the pandemic, planning for a stepwise introduction of physical meetings.
- Continuation of communications and events at the same level as before.
- Strategic work linked to the development of ZEP.

ZEP-C Budget May-August 2022

Activity	Budget (€)
Administration / Auditing	2,667
Website maintenance	333
Legal advice	1,333
Chair	22,664
Contingency	1,333
Communications/events	24,000
Strategic work	4,167
Total Expenditure	56,497
Income	94,167
Net profit	37,670

The AC is invited to endorse the ZEP-C budget for may-August 2022.

2.e. Updated ZEP work programme until 31 August 2022

On an overarching level, ZEP foresees these focus areas:

- *Given the continued positive political momentum around CCUS and the new grant coming up, there is a need for strategic development – further strengthening ZEP's role for CCUS in the EU arena and serving as a basis to attract new members. There is also a need to further develop the engagement and dialogue with member states and with other stakeholders, forming strong alliances to support the development of CCUS. The ZEP ACEC will also continue the series of strategic seminars during the period between grants.*
- *The new CCUS Forum has the possibility to be very important for the development of CCUS in Europe. ZEP will be engaged in this work and would like to see a concrete annual CCUS workplan – with this Forum being the start of an EU strategy for CCS and CCU.*
- *ZEP will continue providing support and input to the CCUS SET-Plan (IWG9) activities – necessary to reach Europe's ambitious 2030 climate goals – and a high level of coordination with other European and global programmes. This will be coordinated in full when the new common grant starts. Further preparatory work, based on the described basis for the cooperation and the IWG9/ZEP guidance document, will be needed ahead of the new grant starting.*
- *As more and more CCS/U projects are becoming market-ready, ZEP intends to intensify its support for these projects and monitor their development.*

The work programme is a living document based on the EU (and member state) policy agenda. Delivering on the day-to-day work:

- *Network Policy & Economics (NWPE): The Network remains the main point of contact for ZEP responses to consultations. TWG Policy & Funding has been reactivated to support the secretariat and the Network in preparing consultation responses and other input to the European Commission. Focus areas for the NWPE will be:*
 - *The 'Fit for 55 package' – revision of the 13 policy instruments – with a focus on the EU ETS, REDII, Innovation Fund, and the Carbon Border Adjustment Mechanism.*
 - *The follow-up of the revision of the TEN-E regulation, an alternative for non-pipeline CO₂ transport, and the PCIs and CEF funding.*
 - *The many ongoing hydrogen workstreams: European Clean Hydrogen Alliance, Hydrogen IPCEIs, the Hydrogen and Gas market decarbonisation package, the revision of the Alternative Fuels Infrastructure Directive, and the complementary delegated act – implementing the EU Taxonomy.*
 - *The EC work following the Communication on Sustainable Carbon Cycles, aiming for a regulatory framework for CDR certification, and other linked workstreams e.g. the CCS+ Initiative.*
- *Network Technology (NWT): will continue its very active work programme, engaging experts from members and observers. Two TWGs will deliver reports for approval at AC70 in March:*
 - *TWG CO₂ transport by ship, the first step of the work: European guidelines – ensuring consistency between upcoming and planned EU projects, ports and shipping operators, and a map and scale of the European challenge – highlighting connections between industrial hubs and clusters, ports, and potential inland and continental routes.*
 - *TWG Directive for geological storage of CO₂ – bringing forward recommendations for the guidance documents that are linked to the Directive, as well as guidance for European governments that are new to CO₂ storage.*

In June 2022, two more TWGs are planning reports for AC approval:

- *TWG Biodiversity (including the Biomass work) – Describing the CCS impact on Biodiversity and Land Use Perspective.*
- *TWG CCS in clean and flexible power generation - Describing the challenge to the energy system of the increasing use of variable renewable energy sources and the key role CCS will play in this perspective.*

NWT will also be engaged on low-carbon hydrogen and CDR – following up from the reports finalised in December 2020 – and Mission Innovation.

- *The External Relations Group (ERG): For the areas of specific interest for ZEP – highlighted above – the ERG will guide communications and outreach activities. Given the many ongoing EU policy initiatives and legislative processes, the initial focus of ZEP’s communications for the first half of 2022 will be on securing meetings with policymakers and giving necessary input to EU policy initiatives at the right time. In parallel, the ERG will guide the execution – on behalf of the AC – of the communications and dissemination activities connected to the ZEP reports; hosting events and webinars and communicating through social media and the newsletter. The ZEP Communications Group will play an important role here, as a direct channel to the wider group of members for coordination and information exchange on messages and activities. ZEP is applying to hold seminars at both the EU Green Week and the EU Sustainable Energy Week. Active presence of CCUS during both weeks is crucial.*
- *With several countries preparing national strategies for CCUS and an increasing number of ongoing and planned CCUS projects across Europe, the ZEP Government Group – where the interest from member states and permanent representations is growing – will be crucial in the coordination between EU and national strategies, policies, and funding opportunities.*

Agenda item 3: Updates from Networks – for information and approval

3.a. Network Policy and Economics

The Network Policy and Economics (NWPE) held its latest meeting on 3 February 2022. The group discussed:

- TEN-T as a possible solution for funding CO2 transport modalities other than pipelines;
- The preparation of an adequate policy framework for CO2 infrastructure;
- The EU Taxonomy Complementary Delegated Act; and
- The question of cross-border liability.

Update from TWG Policy & Funding

The TWG Policy & Funding held meetings on 28 January 2022. The group discussed:

- *Post TEN-E regulation revision*: The group discussed alternatives for funding of transport by ship, highlighting the TEN-T regulation as a possible alternative for the funding of non-pipeline cross-border CO2 transport projects.
- *Regulatory framework for CO2 infrastructure*: The group discussed solutions to help the Commission propose a real regulatory framework for CO2 infrastructure.
- *Cross-border liability for CO2 storage*: The group discussed the latest development and the role of ZEP as part of the potential solution.
- *Preparations for the CDR certification*: The group discussed the best way to prepare timely input to the Commission in the context of the public consultation and call for evidence.
- *EU Taxonomy*: The group discussed the expected Delegated Act and the definition of renewable and low-carbon gasses.

The TWG Policy & Funding held meetings on 28 February 2022. The group discussed:

- *Public consultation on the certification of carbon removals*: The group discussed the elements to include in the draft response and the questionnaire and agreed to provide inputs and comments to the documents.
- *Regulatory framework for CO2 infrastructure*: The group discussed the draft paper and agreed to provide inputs and comments to the documents.
- *Definition of renewable and low-carbon gasses*: The group discussed the need to call for a better definition of renewable and low-carbon gasses, and to ensure that there is a level-playing field between these two types of gasses.

Update on the CCS+ Initiative

The CCS+ Initiative is an alliance of organisations aiming to leverage carbon markets and scale up global decarbonisation and carbon removal efforts, by defining project based methodologies for reduction and removal of CO₂. ZEP is a member of the initiative's Advisory Group. Referring to previous AC presentations and updates from the CCS+ initiative, the work continues, and the Initiative has taken on the comments from ZEP and others: the timeline of the work has been substantially extended and the Initiative is reviewing and considering publishing the Guidance and Principles document ahead of the upcoming public consultation that is planned for May this year.

For ZEP, compliance; clear definitions of CCS, CCU, reductions and removals, etc.; a rigorous and coherent, high-quality/-integrity methodological framework and a clear pathway towards Article 6 compliance are crucial. One of the most important issues still to be cleared out for this initiative is the not clear enough differentiation between reductions and removals, that should be very clear, including the introduction of two different types of credits.

There will be an oral update at the meeting.

Hydrogen and decarbonised gas package

On 15 December 2021, the European Commission proposed a [Regulation](#) and a [Directive](#) to decarbonise the European gas market and energy system by facilitating the uptake of renewable and low-carbon gases, including hydrogen. Brief update from a CO₂ infrastructure perspective ([link](#) to ZEP briefing):

- The Directive points out that fossil gas with CCS/CCU would represent some 1/3 of the gaseous fuels in the 2050 energy mix, while biogas, biomethane, renewable and low carbon hydrogen and synthetic methane would represent some 2/3.
- The package does not mention CO₂ infrastructure.
- Low-carbon hydrogen – recognised in the short/median term – is to meet a GHG reduction threshold of 70% across the full life-cycle (which is less than defined in the Taxonomy), and for low-carbon hydrogen installations starting operations after 2030 this threshold should become more stringent.

The Industry, Research and Energy (ITRE) Committee discussed the proposal for a Regulation and the proposed Directive on 15 March 2022.

Next step: The ITRE Committee is scheduled to hold a public hearing on the proposal on 22 March 2022.

Revision of the TEN-E Regulation

On 15 December 2020 the European Commission adopted a proposal to revise the EU rules on Trans-European Networks for Energy (the 2013 TEN-E Regulation) to better support the modernisation of Europe's cross-border energy infrastructure and achieve the objectives of the European Green Deal.

The revised TEN-E Regulation aims to support the energy transition by providing financial and policy support for EU projects of common interest (PCIs) in cross-border energy infrastructure. A crucial aspect of the revised TEN-E regulation is that all future PCIs will be obliged to contribute towards the EU's emission reduction targets for 2030 and climate neutrality by 2050.

On 14 December 2021 the European Parliament and the Council reached a [provisional trilogue agreement on the Regulation on the TEN-E guidelines](#), including these points for the CO2 infrastructure category ([link](#) to ZEP briefing):

- The focus is on *industrial CCS installations*, not power installations.
- *CO2 storage* is included in the regulation and also for infrastructure between an EU member state and a non-EU country (can receive PMI status).
- *Other CO2 transport modalities than pipeline* will not be included for funding in the regulation but for studies/recognition.
- *CO2 transport for utilisation* will be allowed, given that the utilisation is 'with a view to permanent neutralisation' of the CO2.
- The *sustainability criteria* included in the Regulation is general, no specific capture rates are mentioned.

The revised TEN-E regulation is positive and recognises CO2 transport by ship but does not provide funding for it. The revision also focuses on projects rather than on transport in general.

The final Regulation on the TEN-E Guidelines ([link](#)) has to be approved by the Council and the Parliament. The ITRE Committee approved the text on 26 January 2022.

Next step: The text has to be approved by the Council and the European Parliament. A plenary date has been scheduled for 5 April 2022.

Communication on Restoring Sustainable Carbon Cycles

On 15 December, the European Commission presented [a Communication](#), clarifying the timeline for the upcoming legislative initiatives on Carbon Dioxide Removals ([link](#) to ZEP Briefing). This Communication includes these items:

- The Directive on geological storage of CO2 guidance documents will be updated. A ZEP report is to provide input to the Commission.
- A call for Evidence on carbon removals in early 202 – currently ongoing, and ZEP will present its response.
- A study on cross-border CO2 transport infrastructure is to be presented by the EC. The EC treats the study the on cross-border CO2 infrastructure deployment

needs at EU, regional and national level until 2030 and beyond as their main workstream on CO2 transport infrastructure.

ZEP intends to provide input to the EC on what should be included in the Terms of Reference for the study.

Guidelines on State aid for climate, environmental protection, and energy

On 21 December 2021, the College of Commissioners [endorsed](#) the new Guidelines on State aid for climate, environmental protection and energy (CEEAG). The proposal reinforces the eligibility of CCUS technologies as recipients for state aid ([ZEP consultation response in July 2021](#)). The new guidelines apply since January 2022.

3.b. Network Technology

The Network Technology (NWT) held its latest meeting on 4 March. The group discussed:

- The report on the Directive on the geological storage of CO2;
- The report on CO2 transport by ship;
- The report outline on CCS in a Biodiversity and Land Use Perspective;
- The report outline on CCS for clean and flexible power generation;
- ISO TC-265 and possible items in need of standards;
- Mission Innovation and, more particularly, the CDR and Hydrogen missions.

Updates from the TWGs

TWG standards for CO2 transport by ship: see 3.c.

TWG Directive on geological storage of CO2: see 3.d.

TWG CCS in a Biodiversity and Land Use Perspective: The group is preparing a draft report for the end of March. The report aims to highlight the positive and negative impacts of CCS on biodiversity. Discussions focus on the land use of CCS, available resources, distinguishing categories of biomass usage, as well as the importance of a full life-cycle analysis covering CO2 abatement and the decarbonation of soils. Assessments are to be made on a case-by-case basis as the TWG finds that there are no general rules in this field.

TWG CCS for clean and flexible power generation: The group is preparing a draft report for the end of March. The TWG is discussing several issues, from the role renewables in the energy systems, to the importance of describing primary energy use to highlight the need for flexible generation. More specifically, the working group is looking at how the increase in the share of renewable energy systems can lead to increased electricity system volatility and instability. The TWG examined the need for CCS for clean and flexible power generation – a need that has gained traction after the inclusion of natural

gas in the latest EU Taxonomy Complementary Delegated Act (CDA). The TWG is also looking into the consequences of the Russian invasion of Ukraine on power generation.

3.c. ZEP report on CO₂ shipping – for approval

A short presentation of the report will be given at the AC meeting.

This report represents the outcome of the work achieved by TWG CO₂ transport by ship (joint working group with the CCSA). The working group was created in light of the expectation that as many CCS projects will become operational in the mid-2020s, many new ships for CO₂ transportation will be needed within five years, ahead of such widespread operationalisation.

The report and the shorter Guidance document are sent out as separate document, both for approval by the AC.

3.d. ZEP report on the Directive on the geological storage of CO₂ – for approval

A short presentation of the report will be given at the AC meeting.

The TWG on the Directive on the geological storage of CO₂ aims to discuss how the Directive applies to fields at original pressure and fields at depleted pressure. The TWG has drafted a report that suggests changes to the Guidance Documents supporting the Directive. The value of the report is also to clarify for member state governments – as well as for future storage permit applicants and site developers and operators – how to deal with depleted pressure gas fields under the Directive.

This report is sent out as a separate document to the AC for possible comments. The intention is to approve the report.

The report is sent out as a separate document for approval by the AC.

Agenda item 4: Updates from External Relations Group – *for information and guidance*

4.a. Overview of ZEP communications activities and events

Follow-up on activities so far

Interview with ENDS Europe – On 11 January ENDS Europe interviewed the ZEP Chairman with a focus on low-carbon hydrogen. The interview was published on Friday 14 January. [Read it here](#).

Oxford Energy Forum – ZEP has contributed an article entitled “CCS in the EU: Prospects, challenges, and EU policy measures needed” to an upcoming issue of the Oxford Energy Forum. The issue, [available here](#), was published in the week of 17 January 2022.

EU Industry Week 2022 – ZEP organised an event under the thematic area ‘*the green and digital transition*’, [available here](#), focusing on:

- The key role of CCS and CCU in the industrial transition towards net-zero
- The importance of CO₂ transport and storage infrastructure
- Steering investments towards green technologies through the Innovation Fund and EU Taxonomy
- Market-ready projects – what policy and financial frameworks are needed?

A detailed description is provided below.

On 9 February, the Zero Emissions Platform (ZEP) held an online seminar as part of the EU Industry Weeks. Key stakeholders from industry, research communities, and civil society were called upon to discuss the importance of an EU strategy for CCS and CCU.

- Jonas Helseth, ZEP Vice-Chair and Director at Bellona Europa, kicked off the show. His presentation outlined provided an NGO perspective on how CCS can be a tool for deep decarbonisation, stressing the importance of seeing CO₂ transport networks as public goods.
- Florence Delprat-Jannaud, CCS Program Manager at IFPEN, followed to shed light on the research community’s perspective, challenges, and contributions to EU industrial innovation and decarbonisation, with the special example of DMX Dunkirk.
- Bram Sommer, Advisor of Public and Regulatory Affairs at Port of Rotterdam, was also present. His presentation showcased Porthos, a European project in which CO₂ from industry in the port of Rotterdam is transported and stored in empty gas fields under the North Sea.

- Finally, Arthur Heberle, Head of Technology at Mitsubishi Power Europe, discussed industrial innovation and implementation of CCS and CCU from a multinational technology provider perspective.

During the Q&A, chaired by Lucie Boost, ZEP External Relations Group Co-Chair and EU Affairs Manager at Equinor, speakers were asked why an EU strategy on CCS and CCU is crucial today. Discussions highlighted that this is an issue concerning all sectors of society, both public and private, warranting a strong and concerted public policy response. Among other things, a European approach would ensure all Member states are integrated within CO₂ transport networks that leave no one behind.

It was concluded that the 2020s are crucial for Europe's transition towards climate neutrality. In this decade, the EU will set out its strategy for CCS and CCU – paving the way for a low-carbon and competitive industrial sector in Europe. Political recognition of CCS and CCU would also reduce investors' uncertainty and enhance the scalability of these technologies. The EU Taxonomy on Sustainable Activities is a good starting point.

Time is not on our side, as our speakers stressed: the urgency of climate mitigation demands broad deployment of CCS across Europe to ensure a just energy transition. A sound, coherent regulatory framework CO₂ transport, and storage infrastructure is of the essence.

Five newsletters have so far been published in 2022. These are available below:

- [17 January ZEP Newsletter](#)
- [27 January ZEP Newsletter](#)
- [15 February ZEP Newsletter](#)
- [1 March ZEP Newsletter](#)
- [15 March ZEP Newsletter](#)

Ongoing work

Communication guidelines for CCS for power – In light of the Taxonomy Complementary Delegated Act and inclusion of natural gas, ZEP Communications group is working on a sound and well-balanced communications guideline highlighting the importance of CCS for power and combined heat and power (CHP) generation in order to reduce GHG emissions. ZEP has produced a [note](#) on the CDA.

Update for the ZEP Facts & Information Toolkit – As presented at AC67, ZEP provides a communications toolkit for CCS, [available here](#). It aims to take a positive approach and provide clear and factual information about the role of CCS and CCU in combatting climate change. The Toolkit also serves as a point of reference to determine how to react when CCS/CCU is not being accurately presented in the media.

The Communications group are working on updating the toolkit. This will be discussed with the Communications group and the ERG at the next meeting on 8 April.

Social media – ZEP has an active Twitter account, [@EUCarbonCapture](https://twitter.com/EUCarbonCapture).

Upcoming activities

Two ZEP reports are provided for approval by the AC during the meeting, on 23 March. These reports are the outcome of the work by TWG on CO₂ transport by ship and TWG on the Directive on geological storage of CO₂.

Seminars are planned for April-May to present these reports should they receive approval by the AC. These will:

- Present the reports and their key findings
- Include speakers: ZEP, the authors, projects, European Commission, as well as other key stakeholders

ZEP will provide social media coverage and produce concise infographics.

ZEP's response to the call for evidence on CDR is also to be showcased during a seminar, to be planned for end-April/beginning May. It will highlight ZEP's response and proposals to the Commission. *Details on the response will be submitted to the AC during the meeting, under Agenda item 5.*

EU Green Week – ZEP is preparing an application to participate in the EU Green Week, planned for 30 May to 5 June. This year's EU Green Week theme, *EU Green Deal – Make It Real*, covers a wide range of topics and sectors, from industry and new technologies to biodiversity and climate change. The ZEP program, which will highlight the need for an EU strategy for CCS and CCU, will be discussed with the ERG on 8 April.

EU Sustainable Energy Week – ZEP is to co-organise a policy event at the EU Sustainable Energy Week, to be held from 26—30 September. The event will be co-organised with Bellona and CATF.

The session will bring together different perspectives on the critical challenge of industrial decarbonisation in Europe – while highlighting the need for an EU strategy on CCS and CCU. A panel discussion is planned with industry representatives, but also speakers coming from the EU institutions, international and civil stakeholders, will exchange views on the challenges that have to be addressed, as well as the opportunities that can be leveraged, to decarbonise hard-to-abate sectors.

There will be an oral update at the meeting.

Agenda Item 5: Carbon Dioxide Removal – *for information and approval*

5.a. Call for evidence – consultation and questionnaire

On 15 December 2021, the European Commission (EC) presented [a Communication](#) on restoring sustainable carbon cycles, see [ZEP briefing](#).

The EC opened [a call for evidence/public consultation](#) on 7 February 2022 regarding Certification of carbon removals – EU rules. The call for evidence includes a short text that mentions the certification framework “*should identify the types of carbon removals to consider and set robust requirements for quality of measurement, monitoring, reporting and verification*” adding that this certification “*faces a number of technical challenges because carbon removals are at risk of uncontrolled re-emission as well as measurement and monitoring difficulties*”.

The initiative will assess whether an EU certification framework should set common minimum standards for the certification methodologies or provide for comprehensive rules on the certification of each type of carbon removal. It represents a strong signal from DG CLIMA of CDR’s importance for climate action.

The call for evidence includes a questionnaire and a general consultation response and the deadline to provide feedback is 2 May 2022.

Following the call for evidence/public consultation, the EC plans to propose an EU regulatory framework for the accounting and certification of carbon removals end-2022.

Draft responses to the consultation and questionnaire have been discussed and shared with ZEP TWG Policy & Funding for comments.

The AC is invited to approve / give input and comments to the draft responses to the consultation and questionnaire that are appended.

5.b. Expert group

The EC/DG CLIMA is also planning to set up an expert group to exchange best practices on carbon farming and to support the development of EU standards for the certification of carbon removals / support further policy development. It is proposed that ZEP seeks a possibility to attend this expert group.

The AC is invited to endorse this action.

Draft ZEP response to the public consultation on the certification of carbon removals

Reaching climate neutrality by 2050 will require all readily available, scientifically proven, net-zero compatible technologies to be developed and deployed at scale. Thorough and scientific carbon accounting accompanied by full life-cycle analysis (LCA) needs to be at the basis of any regulatory framework that will support the removal of carbon dioxide (CDR).

ZEP is adamant that reaching net-zero greenhouse gas (GHG) emissions by 2050 in the EU is the ultimate objective and the main driver of the climate action. As noted in previous responses¹, ZEP believes that the 2030 target should put the EU on a cost-efficient pathway towards net-zero by 2050 and supports the creation of a common EU standard for the identification of activities that remove carbon from the atmosphere.

The European Green Deal and the European Climate Law on climate neutrality by 2050, and the Council conclusions, clarify that both GHG emissions reduction/mitigation and carbon dioxide removal will be needed to achieve the objective of net-zero GHG emissions by 2050. ZEP would here like to emphasise that GHG emission reductions must be prioritised to reach climate neutrality and that Carbon Dioxide Removal is a supplementary measure.

As geological storage sites are not evenly distributed among member states, the large-scale deployment of cross-border, open-access European CO₂ transport and storage infrastructure is an essential prerequisite for the application of CDR on a relevant scale. This will enable all CO₂ emitters across Europe to connect to safe geological CO₂ storage. This infrastructure will be necessary to store both fossil and biogenic or atmospheric carbon, enabling both emission reductions and carbon removal respectively. It must be noted that the faster and deeper emission cuts inherently require less carbon removal to achieve climate neutrality. Therefore, quickly deploying a broad CO₂ transport and storage network in Europe is a no-regrets way to both reduce future dependence on carbon removal for climate neutrality while also enabling it to be deployed in the first place.

The definition of CDR needs to be clear and exhaustive to provide clarity to ongoing CCS projects and policy discussions, to enable large-scale deployment and avoid costly, ineffective and sometimes even counterproductive measures.

ZEP's reports '[Europe needs robust accounting for Carbon Dioxide Removal](#)' and '[Europe needs a definition of CDR](#)' show that, when assessing the potential of a process to lead to CDR, four principles must be considered:

¹ ZEP response to 2030 Climate Target Plan, Available at <https://zeroemissionsplatform.eu/zep-response-to-2030-climate-target-plan/>

- Carbon dioxide is physically removed from the atmosphere.
- The removed carbon dioxide is stored out of the atmosphere in a manner intended to be permanent.
- Upstream and downstream greenhouse gas emissions, associated with the removal and storage process, are comprehensively estimated and included in the emission balance.
- The total quantity of atmospheric carbon dioxide removed and permanently stored is greater than the total quantity of carbon dioxide equivalent emitted to the atmosphere

The above-mentioned report also acknowledges the potential for nature-based CDR solutions, but notes that these solutions require active management and are more susceptible to reversals, due to natural events caused by climate change. As mentioned in the Commission's call for evidence, some carbon removals are *"at risk of uncontrolled re-emission as well as measurement and monitoring difficulties, in particular with regard to practices that sequester carbon in natural ecosystems"*. This concern should be reflected in the certification mechanism. Permanence is crucial.

Certification of CDRs must be based on high-quality robust and transparent systems for monitoring, accounting and reporting, where the CDRs are verified through a full life-cycle analysis of the climate impact. Double counting must be avoided. Methodologies for voluntary carbon markets should also be developed to the same robust and high-quality standard as the regulated ones. We have to do this right and must avoid diverting private and public funding into greenwashing practices.

The most efficient way to 'neutralise' GHG emissions is to remove atmospheric CO₂ and placing it back into geological storage.

A robust certification mechanism for carbon removal is crucial and must include reliably monitoring, reporting or verification that carbon removal is occurring with sufficient confidence. It is crucial to have clear definitions of removals before integrating CDR into the EU's existing climate architecture.

In the impact assessment, the following intention is mentioned:

The initiative will assess whether:

- An EU certification framework should set common minimum standards for the certification methodologies, including on monitoring, reporting and verification, or provide for comprehensive rules on the certification of each type of carbon removal.
- The different functions, including the prior validation of projects and the subsequent verification of carbon removals achieved, should be carried out by

private operators or by public authorities, possibly as part of a centralised EU system.

Below is a list of key principles that ZEP would like to highlight:

- The certification should set a stringent and credible standard.
- The methodology must be very clear, including robust monitoring, LCA verification, accounting, and reporting. Robustness of monitoring, reporting and verification aspects must be among the main criteria.
- Trust in the certificate scheme and methodology is crucial. There needs to be a clear definition of the certificates and methodologies before describing how CDRs can be included in the EU ETS system (and any regulatory system).
- Cross-border trade of credits linked to Article 6 of the Paris Agreement in the wider European area, including Norway and the UK, should be harmonised.
- Voluntary Carbon Markets should develop to the same high-level standard as regulatory ones.
- Incentives to invest in CDR is crucially important and there is a strong need to foster cost-effective carbon removal solutions. Technical readiness and economic feasibility must, together with robustness, be among the main criteria. Comparability and competition between different carbon removal solutions are crucial.
- Permanence of carbon storage must be among the main criteria. The standard for permanence should be set at a level which is comparable to geological storage.
- Transparency is crucial in corporate reporting regarding the use of CDR.

About the Zero Emissions Platform

The Zero Emissions Platform (ZEP) is a European Technology and Innovation Platform (ETIP) under the Commission's Strategic Energy Technology Plan (SET-Plan) and acts as the EU's technical adviser on the deployment of Carbon Capture and Storage (CCS), and Carbon Capture and Utilisation (CCU).

ZEP supports the European Union's commitment to reach climate neutrality by 2050, defined as net-zero greenhouse gas (GHG) emissions by 2050. To this end, CCS technologies represent readily available and cost-efficient pathways for the decarbonisation of industrial

and energy sectors in the European Union. Some applications of CCU – where CO₂ is stored in a manner intended to be permanent – can also contribute to this goal.

DRAFT

Certification of carbon removals – EU rules

Fields marked with * are mandatory.

Introduction

Responding to the urgency of climate action highlighted in the successive assessments of the Intergovernmental Panel for Climate Change (IPCC), the European Union has set in law its objective of economy-wide climate neutrality by 2050. The European Climate Law requires greenhouse gas (GHG) emissions and removals to be balanced within the European Union at the latest by 2050, with the aim of achieving negative emissions thereafter. Each single tonne of CO₂eq emitted into the atmosphere will have to be neutralised by a tonne of CO₂ removed from the atmosphere. To scale up carbon farming and industrial solutions for removing carbon from the atmosphere, the European Commission is working towards a legislative proposal in 2022 on a regulatory framework for the certification of carbon removals.

As underlined in the Communication on Sustainable Carbon Cycles, the establishment of the certification framework will be an essential stepping stone towards the transparent recognition of activities that remove carbon from the atmosphere in an environmentally sound manner. The certification rules should therefore set scientifically robust requirements for quality of measurement, monitoring, reporting and verification of the carbon removed from the atmosphere, the duration of the storage, the risk of reversal and the risk of carbon leakage increasing GHG emissions elsewhere. Requirements should also be set for the amount and type of energy used for the carbon removal process. The certification rules should put in place robust safeguards to make sure that carbon removal activities do no harm to biodiversity and other sustainability objectives. This is important to ensure that the EU can claim domestic climate neutrality while helping to achieve other objectives of the European Green Deal.

This public consultation invites public administrations, academic institutions, businesses, organisations and individuals to contribute to the preparation of an EU regulatory framework for the certification of carbon removals. The findings of the consultation (which will be summarised and published) will inform the impact assessment accompanying the Commission proposal on this initiative.

Guidance on the questionnaire

This public consultation consists of some introductory questions on your profile, followed by a questionnaire. Please note that you are not obliged to reply to all questions.

At the end of the questionnaire, you are invited to provide any additional comments and to upload additional information, position papers or policy briefs that express the position or views of yourself or your organisation.

The results of the questionnaire and uploaded position papers and policy briefs will be published online. Please read the specific privacy statement attached to this consultation stating how personal data and contributions will be dealt with.

In the interest of transparency, if you are replying on behalf of an organisation, please register with the register of interest representatives (if you have not already done so). Registering commits you to complying with a code of conduct. If you do not wish to register, your contribution will be handled and published with contributions received from individuals.

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **For the purpose of transparency, the type of respondent (for example, 'business association', 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

*

Question ☐ I agree with the [personal data protection provisions](#)

Questions

Scope

Question 1: What in your view are the main challenges regarding the integration of carbon removal in EU climate policies?

at most 3 choice(s)

- ☒ Answer
Ensuring that strong action to reduce emissions is not undermined by shifting focus on carbon removals.
- ☐ Answer
Ensuring a net contribution from removals to the achievement of climate neutrality.
- ☒ Answer
Ensuring precise, accurate and timely measurement for removals.
- ☒ Answer
Providing sufficient guarantees for the duration of carbon storage and the prevention of reversals.
- ☐ Answer

Avoiding potential negative environmental impacts and complying with sustainability principles.

- ☐ Answer
Fostering cost-effective carbon removal solutions.
- ☐ Answer
Guaranteeing transparency of the benefits and costs of carbon removals.
- ☐ Answer
Setting appropriate baseline and demonstrating the additionality of removals.
- ☐ Answer
Other

Question 2: What should be the main criteria defining the types of carbon removals that EU climate policies should incentivise?

at most 3 choice(s)

- ☐ Answer
Technical readiness and economic feasibility
- ☐ Answer
Potential for deployment at large scale
- ☐ Answer
Robustness of monitoring, reporting and verification aspects
- ☐ Answer
Affordability of monitoring, reporting and verification aspects
- ☐ Answer
Duration of carbon storage
- ☐ Answer
Risk of intentional or unintentional reversal of carbon removals
- ☐ Answer
Potential environmental co-benefits
- ☐ Answer
Potential social benefits
- ☒ Answer
Other

The definition of CDR is crucial and must take into account: Permanence/the duration of carbon storage; Robustness of monitoring, reporting and verification; The risk of reversal of carbon removals; Technical readiness and economic feasibility; as well as The potential for deployment at large scale.

Question 3: Taking account of the aspects identified in the previous question, what carbon removal solutions should EU climate policies incentivise and in what time horizon?

Carbon farming solutions enhancing ecosystem removals

	As soon as possible	After 2030	Towards 2050	Never	No opinion
Afforestation under ecological principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Reforestation and forest restoration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sustainable forest management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Agroforestry and mixed farming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Increase of soil organic carbon on mineral soils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Increase of soil organic carbon on organic soils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wetlands and peatlands restoration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Costal marine ecosystem restoration and preservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Industrial solutions for carbon removals

	As soon as possible	After 2030	Towards 2050	Never	No opinion
Biochar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

	As soon as possible	After 2030	Towards 2050	Never	No opinion
Direct air capture with long-term or permanent carbon storage	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bioenergy with carbon capture and long-term or permanent storage	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geological storage of non-fossil CO2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bio-based products with long lifetime (including for construction)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilisation of non-fossil CO2 in long lifetime products	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced rock weathering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question: Would you have any additional comments on scope, please specify:

2,500 character(s) maximum

Mitigation/reduction of GHG emissions (including CCS) is a crucial, needed for Europe to reach climate-neutrality by 2050, combined with a European non-discriminatory, open-access CO2 transport and storage infrastructure. Removal of GHG emissions (CDR) are also important but secondary to mitigation/reduction.

In the short-term (pre-2030), CDR should be supported in the Innovation Fund and in national schemes.

0 out of 2500 characters used.

The benefits of a certification framework to scale up high-quality carbon removals over the coming years

Question 4: Would you agree that establishing a robust and credible certification system for carbon removals is the first essential stepping stone towards achieving a net contribution from carbon removals in line with the EU climate-neutrality objective?

☒ Answer

Yes

☐ Answer

No

☐ Answer

No opinion

Question 5: What would be the main objectives for the certification of carbon removals?

at most 3 choice(s)

☐ Answer

To increase the transparency and level playing field of voluntary carbon markets.

☒ Answer

To allow comparability and competition between different carbon removal solutions

☒ Answer

To provide better public incentives for nature-based and industrial carbon removals in EU and national funding programmes.

☐ Answer

To provide better financial incentives for land managers (e.g. purchasers of food and biomass products reward climate-friendly agriculture through price premiums or incentive payments – often called ‘in-setting’).

☐ Answer

To provide better financial incentives for carbon-storage products (e.g. bio-based products, woody construction material).

☒ Answer

To increase transparency in corporate sustainability reporting and foster the credibility of climate-neutrality claims.

☐ Answer

To support the labelling of sustainable products.

☒ Answer

Other

Technological CDR are needed for Europe to reach climate-neutrality by 2050. Here robust monitoring, accounting and reporting, including full LCA are crucial.

In addition to above responses, to increase transparency and correctness in corporate sustainability reporting and foster the credibility of climate-neutrality claims is important.

The role of the EU in the certification of carbon removals

Question 6: Which role should the EU take in the certification of carbon removals?

- ☐ Answer
Voluntary carbon markets work well. There is no need for an additional intervention by the EU.
- ☐ Answer
The EU should establish minimum standard requirements on reporting transparency for carbon removals.

- ☒ Answer
The EU should establish comprehensive standard requirements for carbon removals, e.g. on monitoring, reporting and verification, on the duration of the removal or baseline setting and additionality.

Question 7: What functions in the certification process should be carried out by private or public entities?

	Independent private entities	Public administration	No opinion
Establishment of certification methodologies	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Establishment of the system for accreditation of certification bodies	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Validation of the carbon removal project (ex-ante)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Independent private entities	Public administration	No opinion
Verification of removals made (ex-post)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Would you have any additional comments on the role of the EU in the certification, please specify:

2,500 character(s) maximum

In addition to the responses above, it is important that public administrative bodies are involved in all the functions/stages of the certification process.

0 out of 2500 characters used.

Certification methodologies

Question 8: Carbon removal solutions can differ significantly, for example as regards duration of removals or robustness of monitoring, reporting and verification. In this context, do you think an EU certification framework should allow different types of certificates for different types of removals?

- ☐ Answer
The EU certification framework should define only the minimum criteria for the certification and should not comprehensively define the certificates.
- ☐ Answer
The EU certification framework should only allow a single type of certificate to ensure equivalence of certified carbon removals.
- ☒ Answer
The EU certification framework should allow different types or sub-categories of certificates to better reflect the diversity of carbon removal solutions and their characteristics.

Question 9: Apart from diverging durations of existing carbon removal solutions, storage may also be prematurely interrupted and carbon may consequently be released back into the atmosphere. What approach could better manage this risk of intentional or unintentional reversal of carbon removals?

- ☒ Answer
Make removal providers liable for any reversal of removals and require them to offset any reversal.
- ☐ Answer
Encourage or require carbon removal providers to set up insurance systems or multi-project pooling mechanisms.

- ☐ Answer
Require commitment to multi-year monitoring plans at the outset of the certification procedure.
- ☐ Answer
Issue certificates with specific durations (e.g. 5, 7 or 10 years) that can be renewed.
- ☐ Answer
Require methods with a risk of reversal to be discounted or require a share of the removals to be stored in a buffer account (e.g. 10 to 25 per cent of the expected removals).
- ☐ Answer
Other.

Question 10: In voluntary carbon markets, the use of baseline and additionality concepts aims to quantify and reward only additional removals, i.e. those that go beyond a pre-identified baseline and would not have occurred in the absence of the incentives from the carbon removal mechanism. To what extent do you think the EU certification framework should include the concepts of baseline and additionality?

- ☒ Answer
The EU certification should establish a single methodology to define the baselines and assess additionality.
- ☐ Answer
The EU certification framework should allow for a variety of baselines and additionality criteria to cater for different types of removals.
- ☐ Answer
To best adapt to the use of the certificates in a specific context, the certification framework should not prescribe definitions for baseline and additionality criteria.
- ☐ Answer
Other

Question 11: What information should the certification for carbon removal disclose?

- ☒ Answer
Type of carbon removals
- ☒ Answer
Quantity of carbon removed
- ☒ Answer
Information on the carbon removal provider
- ☒ Answer
Information on the certificate owner
- ☒ Answer
Information on monitoring, reporting and verification processes
- ☒ Answer
Duration of carbon storage
- ☒ Answer
Risk coverage and safeguards on sustainability objectives

- ☒ Answer
Environmental benefits
- ☒ Answer
Social benefits
- ☒ Answer
Information on the baseline and additionality of the removal
- ☒ Answer
Information on the use of the certificate and its contribution to the Paris Agreement with a view to avoiding double counting
- ☒ Answer
Price if the certificate has been traded
- ☒ Answer
Other

Would you have any additional comments on certification methodologies, please specify:

2,500 character(s) maximum

It is crucial to differentiate very clearly in methodologies and credits/certificates between mitigation/reduction of GHG emissions (such as CCS) and removal of GHG emissions (CDR).

0 out of 2500 characters used.

Final remarks

Finally, are there any other important aspects that should be considered in establishing a regulatory framework for the certification of carbon removals in the EU?

- ☒ Answer
Yes
- ☐ Answer
No

Please provide your additional remarks:

5,000 character(s) maximum

To all frameworks and systems for decarbonisation, a technology-neutral approach must always be applied.

0 out of 5000 characters used.

Question

Should you wish to provide additional information (for example a position paper) or raise specific points not covered by the questionnaire, you can upload your additional document here.

Any document you upload will be published alongside your replies to the questionnaire, which is the essential input for this public consultation. An

uploaded document is an optional addition and will serve as further background reading to better understand your position.

Please upload your file(s) *(we have a lot of material to upload!)*

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

Agenda item 6: EU regulatory framework for CO₂ transport infrastructure – *for information and approval*

6.a. ZEP proposal: elements to include in an EU regulatory framework for CO₂ transport infrastructure

Background

On 15 December, the European Commission presented a [Regulation](#) and a [Directive](#) to decarbonise the European gas market and energy system by facilitating the uptake of renewable and low-carbon gases, including hydrogen. The package does not, however, mention CO₂ infrastructure.

There are several EU policies that highlight CCS/CCU and CO₂ infrastructure, such as the EU Taxonomy for Sustainable Activities, the Directive on the geological storage of CO₂, the TEN-E Regulation, and the EU ETS. However, there is no dedicated policy framework for CO₂ transport infrastructure development. ZEP believes that the European Commission (EC) should consider introducing such a regulatory framework, focused on the development of non-discriminatory, open-access CO₂ transport infrastructure that will complement the EU Directive on Geological storage of CO₂. An efficient and transparent policy framework will be an important part of the framework needed to establish a clear legal and regulatory basis for planned projects, in particular for cross-border cooperation.

ZEP has previously proposed an [EU CCS and CCU strategy](#) where the focal point is the creation of a predictable and long-term framework for investors. This way, the strategy will be an important tool for the EC to safeguard European industrial activity, enabling industry to contribute in the decarbonisation towards climate neutrality. Collaboration between EU member states, the Commission, and industry will be required to address any challenges or barriers that may arise. The main focus of the strategy should be the successful development and large-scale deployment of cross-border, European CO₂ transport and storage infrastructure.

Proposed elements

The ACEC and the Network Policy & Economics have discussed this issue and a smaller task force was initiated to draw up the principles. A draft list of elements that should be included in a regulatory framework for CO₂ transport infrastructure has been prepared and shared with TWG on Policy & Funding for input and comments. The aim is to discuss and share this with the European Commission.

The draft paper is appended for approval by the AC.

Draft ZEP proposal for a regulatory framework for CO₂ transport infrastructure

Reaching net-zero greenhouse gas (GHG) emissions by 2050 is the ultimate objective and the main driver for EU climate action. To achieve this objective, climate change mitigation must be pursued as a matter of priority and urgency. Mitigation efforts must also be supplemented with removal of CO₂ from the atmosphere, including capture of CO₂ from both atmospheric or biogenic sources for safe and permanent storage.

Such large-scale deployment of CCS and CCU will require robust European non-discriminatory, open-access cross-border CO₂ transport and storage infrastructure to ensure that emitters in Europe can connect to permanent storage sites. The current immediate energy crisis in Europe further highlights the crucial need for this CO₂ infrastructure as a core part of the European Energy system integration.

Currently, the EU has several different policies that highlight CCS/CCU and CO₂ infrastructure, such as the EU Taxonomy for Sustainable Activities, the TEN-E Regulation, and the EU ETS, but no overarching policy framework for CO₂ transport infrastructure development. ZEP believes that the European Commission (EC) should consider introducing such a regulatory framework, focused on the development of non-discriminatory, open-access CO₂ transport infrastructure that will complement the EU Directive on Geological storage of CO₂. An efficient and transparent policy framework will be an important part of the framework needed to establish a clear legal and regulatory basis for planned projects, in particular for cross-border cooperation.

ZEP has proposed an [EU CCS and CCU strategy](#) where the focal point is the creation of a predictable and long-term framework for investors. This way, the strategy will be an important tool for the EC to safeguard European industrial activity, enabling industry to contribute in the decarbonisation towards climate neutrality. Collaboration between EU member states, the Commission, and industry will be required to address any challenges or barriers that may arise. The main focus of the strategy should be the successful development and large-scale deployment of cross-border, European CO₂ transport and storage infrastructure.

CO₂ transport infrastructure policy framework

A robust CO₂ infrastructure network will enable clean, competitive industrial and energy sectors, early large-scale volumes of low-carbon hydrogen and carbon dioxide removals. An enabling policy framework should include such elements as open, competitive, secure, and environmentally sustainable CO₂ infrastructure networks with unhindered cross-border flows, regional cooperation with integrated network planning, and harmonised standards. These elements and others are the focus of this paper, which aims at sketching key potential components of an EU regulatory framework for CO₂ transport infrastructure, including cross-border dimensions.

List of elements that should be included in a regulatory framework for CO2 infrastructure

CO2 infrastructure network operator platform

Deployment of new CO2 transport corridors and networks would benefit from integrated planning and consultation processes, in a similar way to those established for the gas, electricity and hydrogen sectors under the Fit for 55 policy proposals. An entity – incorporating emitters, transport providers and storage operators and with a mandate to consider value-chain regulatory issues and make formal recommendations to the EC – that enables coordinated CO2 infrastructure planning, network design, and facilitates cross-border cooperation could enhance the deployment of new CO2 networks by addressing regulatory and permitting barriers, in particular cross-border, and promoting relevant standardisation across the value chain, including on CO2 quality specifications and shipping of CO2. A similar entity for hydrogen network development, ENNOH, was proposed in the EC's legislative proposals in the Hydrogen and Decarbonised Gas Market Package in December 2021.

The role of EU regulatory and stakeholder forums in developing CO2 networks

The Madrid Forum for Gas and Florence Forum for Electricity are important mechanisms to drive stakeholder engagement and alignment on priority regulatory issues, including implementation of key regulations, development of network codes, and identification of barriers to cross-border interconnection and market integration. Such an approach could also be beneficial in support of developing new CO2 networks, including cross-border pipeline connectivity and shipping, with the new CCUS Forum well-placed to provide this function for CO2 infrastructure issues. A joint approach to developing Forum Conclusions can be helpful in achieving transparent alignment on the work programme, and a mandate to make progress on specific regulatory / policy challenges.

Regional Cooperation

In much the same way as hydrogen infrastructure development will be considered and developed using a regional approach, with coordination between relevant competent authorities and industry under the revised Gas Regulation, a similar regional approach for discussions around CO2 infrastructure could trigger more efficient infrastructure cooperation and deployment, with a particular focus on integration between cross-border CCS systems. Regional cooperation is also a key mechanism to develop PCI projects for gas and electricity, with regional groups established to provide cross-border permitting and to address regulatory barriers. Such regional cooperation for CO2 infrastructure could be facilitated by the EC, either under the CCUS Forum or as part of any new infrastructure systems platform for CO2 infrastructure.

It will also be important to consider the interaction between EU regulatory framework for cross-border cooperation on CO2 infrastructure and the separate intergovernmental agreements under the regulated Protocol, in order to ensure consistency between the two and avoid complexity.

Integrated network planning

An important element under the Hydrogen and Gas Decarbonisation Market Package proposals is fostering integrated network planning and interaction between the electricity, gas and hydrogen sectors, in order to promote flexibility and resilience in the EU energy system. As part of a regulatory framework for CO₂ infrastructure, it will be important to ensure that CO₂ transport infrastructure also forms part of the joint approach to systems integration and development, since CO₂ infrastructure is an enabler not only of industrial decarbonisation but also such low-carbon gases as low-carbon hydrogen and synthetic methane. Work to integrate the role and scope of CO₂ transport infrastructure into energy network development planning, including integrated 10-year network development plans (TYNDP), should be undertaken as part of the regulatory framework for CO₂ transport infrastructure. This scope could cover both localised CO₂ grids, e.g. in coastal areas / ports, and also cross-border / regional CO₂ backbone infrastructure.

Public consultation and acceptability

The development and construction of new long-distance energy infrastructure often faces challenges regarding public acceptance. Mechanisms and best practices for inviting public consultation and integrating feedback into project planning are an important focus for existing energy systems operator forums in Europe, including ENTSOG and ENTSOE. A similar approach for CO₂ transport infrastructure, including the development of guidance on public engagement and support for new and repurposed infrastructure, may be an important element of the broader policy framework and should be integrated into the scope of any new platforms and / or the CCUS Forum.

Standards

Driving a standardised approach in relevant areas of the CCUS value chain will be important in promoting interconnections as well as cost efficient deployment of new infrastructure. Areas of potential focus for standards could be Monitoring, Reporting and Verification (MRV) of CO₂ metered as part of shipping operations; quality of CO₂ specifications; shipping and pipeline interconnection components, etc. Existing standardisation bodies are well placed to undertake this work, which would be an important element of the broader regulatory framework for CO₂ infrastructure.

Flexibility of approach

CCUS systems in Europe remain at an early stage, with projects at varying stages of development. Moreover, business models are still under development, with potential for innovation in the way the CCUS value chain come together to enhance efficiency, reduce cost and drive integration. For this reason, regulatory flexibility must be preserved, in order that CO₂ infrastructure providers and operators are not faced with complexity and cost to the detriment of efficient project implementation. The regulatory sandbox approach under the

Innovation Fund could serve as a testing ground for approaches that could then be supported more broadly under the regulatory framework for CO₂ transport infrastructure.

ZEP's assumption is that the funding mechanism that has served its purpose well regarding existing network operator platforms, e.g. for electricity and gas, will serve equally well for hydrogen and CO₂ transport infrastructure.

Supporting delivery of Trans-European Network provisions on CO₂ infrastructure and NECPs

Recent integration of CO₂ storage into the scope of the TEN-E Regulation and incorporation of CCS in National Energy Climate and Energy Plans (NECP) has helped to better support the role of CCS in achieving decarbonisation targets in Member States and at EU level. The Hydrogen and Decarbonised Gas Market Package contains provisions to assist Member States with implementation of the hydrogen provisions of TEN-E, as well as supporting delivery of the hydrogen components of the NECPs. Since CO₂ infrastructure also forms part of the new TEN-E and a number of NECPs, a similar link should be established between the regulatory framework for CO₂ infrastructure and achieving the CCS elements of the new TEN-E/ NECPs, in order to support their successful delivery. Given the crucial importance of non-pipeline transport of CO₂, such as transport by ship, this should be considered also for the TEN-T Regulation. The importance of CO₂ infrastructure qualifying for state aid should also be mentioned here.

Objectives

The regulatory framework for CO₂ transport infrastructure should – together with the Directive on Geological storage of CO₂ – establish the policy direction towards integrated European CCS systems, with unhindered cross-border flows of CO₂ and access for emitters to non-discriminatory, open-access CO₂ storage. The cross-border CO₂ infrastructure networks should integrate all relevant transport modalities, including pipelines and shipping, and be supported in their early development through relevant EU and national funding schemes. A regional approach to the development of CO₂ infrastructure can also target regulatory focus on specific barriers to cross-border coordination, as well as promote the connection of emitters and industrial clusters with storage providers located in different countries.

About the Zero Emissions Platform

The Zero Emissions Platform (ZEP) is a European Technology and Innovation Platform (ETIP) under the Commission's Strategic Energy Technology Plan (SET-Plan) and acts as the EU's technical adviser on the deployment of Carbon Capture and Storage (CCS), and Carbon Capture and Utilisation (CCU).

ZEP supports the European Union's commitment to reach climate neutrality by 2050, defined as net-zero greenhouse gas (GHG) emissions by 2050. To this end, CCS technologies represent readily available and cost-efficient pathways for the decarbonisation of industrial

and energy sectors in the European Union. Some applications of CCU – where CO₂ is stored in a manner intended to be permanent – can also contribute to this goal.

DRAFT

Agenda Item 7: Sustainable investments and energy dependency – for information and guidance

7.a. Sustainable investments and energy dependency

The European Commission has adopted a Complementary Climate Delegated Act (CDA) in the framework of the EU Taxonomy and published a Communication on REPowerEU with the aim to decrease the EU's energy dependency. How will this affect the role of CCS and CCU in contributing to climate mitigation efforts?

The AC is invited to give guidance and highlight possible further ZEP actions.

7.b. Taxonomy Complementary Delegated Act – impact and ZEP actions

The European Commission has adopted on 2 February 2022 the CDA ([link](#)) that includes nuclear power and unabated natural gas as sustainable activities. The Council and European Parliament have four months to either approve or reject the legislation but may request an additional two months. Ahead of the Commission's approval, [criticism](#) was expressed by the Member States Expert Group and the Platform on Sustainable Finance, in the context of the expert consultation, stating that the draft Delegated Act would not be in line with the Taxonomy Regulation.

ZEP has produced a note ([link](#)) summarising the content of the Delegated Act and laying out actions. The note was approved by the ACEC and sent to the Government Group for information.

On 15 March 2022 a group of MEPs (102) [asked](#) the Commission to withdraw the inclusion of natural gas from the Taxonomy. MEPs, mainly from the Green/EFA Groups, have started a campaign to reach the number of MEPs required to put a veto to the CDA in the Parliament. [NGOs and civil society organisations](#) have also joined this campaign.

Referring to the CDA, ZEP has highlighted the crucial importance of CCS to reduce the GHG emissions from power and CHP generation from fossil gaseous fuels, as well as, that the CDA does not comply with the EU Taxonomy technology-neutrality principle. The CDA also triggers important challenges/areas where ZEP can and will contribute:

- *To clearly communicate the need for and help the European Commission with the definitions of renewable and low-carbon gases, where both types of gasses must qualify under the same rules.*
- *To have well-balanced communication around the important role of CCS to reduce GHG emissions for gas-fired plants, and to coordinate this closely with NGOs and other external stakeholders.*

7.c. REPowerEU – Decreasing the EU energy dependency

In light of the Russian aggression against Ukraine, the EU is seeking to diversify its suppliers of fossil energy, and reinforce its energy autonomy, at the same time as it is trying to address the rising energy prices. To this end the EC adopted on 8 March 2022 the REPowerEU [Communication](#), with the aim to:

- make Europe independent of Russian fossil fuels before 2030 (the EC has later presented the year 2027 for this independency)
- reduce the EU demand for Russian gas by two thirds before the end of 2022.

The Communication includes additional measures relating to gas storage requirements, LNG inflows, biomethane and hydrogen production capacity, CCfDs, competition policy, and much more. [Read ZEP's briefing](#) for further details.

On 11 March, EU heads of state also [adopted](#) the Versailles declaration. Among other things the declaration called upon the Commission to propose further policy measures building on its REPowerEU Communication by May 2022, with the aim to reduce energy dependency and increase the EU's overall resilience.

In light of the REPowerEU it is also interesting to mention:

- The widespread [support](#) in the European Parliament to push for the share of renewables in the EU to be increased to 45% by 2030. MEP Markus Pieper (DE - EPP) is one driving force behind this increased ambition, citing the Russian aggression against Ukraine as one main reason for the increased momentum.
- The 16 March [joint statement](#) between Germany and Norway. This statement signals a new orientation for CCS and low-carbon hydrogen in Germany:

*“Germany would like to see Norway become a future partner for the production and supply of hydrogen. In order to realise the fastest possible high-volume imports of hydrogen and ensure the rapid availability thereof, **we will also jointly plan the use of blue hydrogen for a transition period.** In this context, we will ensure environmental and climate integrity **by establishing for example the highest possible standards for Carbon Capture and Storage.**”*

Agenda item 8: Set-Plan/Horizon Europe/Mission Innovation – *for information*

8.a. SET-Plan

The grant supporting the work of the CCUS SET-Plan/IWG9 will end on 30 April 2022, leaving a vast amount of good documents highlighting the eight R&I actions on development and deployment of CCS and CCU. These documents will be shared broadly when available. Some of the documents can already be found on the [CCUS SET-Plan website](#).

An end-of-the grant conference will be organised in coordination with the IWG9 Plenary on 1 April 2022, 10:00-13:00 – the event agenda and registration details can be found [here](#).

The programme includes:

- How the EU Commission is supporting the deployment of CCS and CCU with policies, and funding instruments.
- The progress in the development of some flagship CCS and CCU projects in Europe.
- The main achievements of the CCUS SET-Plan and future perspectives.

The Horizon Europe call for proposals referring to the next CSA project within the CCUS sector highlights that the EC would like to see proposals combining the co-ordination and support of the ETIP and the IWG, resulting in a single grant. ZEP and the IWG9 for this reason prepared [a joint guidance document for applicants of the next grant](#).

There is so far no news regarding who has been rewarded the next grant or when the next grant can start.

8.b. Horizon Europe

The EC/CG RTD has indicated that there may be three calls for proposals linked to CCS and CCU in the 2023-24 Horizon Europe Work Programme:

- CO₂ transport and storage demo projects, feasibility studies; synergies between projects.
- CCU for production of fuels, products, mineralisation.
- BECCS and DACCS for CO₂ removal/negative emissions. Research for these technologies is foreseen in international cooperation activities and in particular under the Mission Innovation on CDR, led by the US, Canada and Saudi Arabia.

ZEP has together with the European Energy Research Alliance (EERA) given input to the EC regarding the calls. It is not fully known when the Work Programme will be published.

There will be a presentation of Vassilios Kougionas from DG RTD regarding the Horizon Europe Work Programme for 2023-24.

8.c. Mission Innovation

The European Commission is chairing the [Mission Innovation Steering Committee](#). The work was launched during COP26 in Glasgow and a call for proposals will be published in 2024. Two of the Missions are of extra importance – to enable CDR technologies to achieve a net reduction of 100 Mtpa by 2030, and to increase cost-competitiveness for clean hydrogen end-to-end costs USD 2/kg by 2030 – where ZEP can provide added value. This was presented and discussed at the ZEP Network Technology on 4 March.

Together with the Co-Chairs of the two ZEP Networks, we will define and set up a ZEP working group that can focus on these Missions, based on discussions with DG RTD on how to specify how a ZEP working group can efficiently support the work.

There will be a presentation of Vassilios Kougionas from DG RTD on Mission Innovation.

Agenda item 9: Closing remarks

9.a. AOB

9.b. Upcoming AC and ACEC meetings

Advisory Council (Wednesdays)

AC71 – 15 June 2022

AC72 – 14 September 2022

AC73 – 14 December 2022

Advisory Council Executive Committee (Tuesdays)

12 April 2022

10 May 2022

12 July 2022

16 August 2022

18 October 2022

22 November 2022