

ZEP 63rd Advisory Council meeting

10 June 2020, 10:00 – 13:00

Agenda Item 1: Introduction and welcome

1.a. Virtual meeting instructions

The ZEP AC63 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 10 June). 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. AC63 Agenda

Appended to this paper is the agenda for the 63rd meeting of the Advisory Council.

1.c. AC62 Draft Minutes

Appended to this paper are the draft minutes for the 62nd meeting of the Advisory Council, which took place on 18 March 2020.

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

1.d. ACEC April 2020 Meeting Minutes

Appended to this paper are the minutes for the April 2020 meeting of the ACEC.

1.e. ACEC May 2020 Draft Meeting Minutes

Appended to this paper are the draft minutes for the May 2020 meeting of the ACEC.

1.f. New nominees to the AC

The result from the secret ballot vote regarding the nomination of Isabelle Czernichowski to the ZEP Advisory Council will be presented.

Agenda Item 1: Introduction and welcome

1.b. Online Meeting Agenda

Item	Lead Presenter	Time
1 Introduction and welcome	Graeme Sweeney	10:00 – 10:10
2 Secretariat update	Per-Olof Granström	10:10 – 10:20
3 European Commission <ul style="list-style-type: none"> DG RTD – <i>Horizon Europe and Partnerships</i> DG ENER – <i>TEN-E Regulation</i> DG CLIMA – <i>Innovation Fund</i> DG GROW – <i>Industrial Strategy</i> 	Vassilios Kougionas Peter Horvath Maria Velkova TBC	10:20 – 10:50
4 Updates on European Green Deal	ZEP Secretariat	10.50 – 11:00
5 EU Strategy for Integrated Energy Systems <ul style="list-style-type: none"> Presentation ZEP input 	Mark van Stiphout (DG ENER)	11:00 – 11:20
6 Clean Energy Transition Partnership and the role of CCUS	Dr Gerdi Breembroek (RVO)	11:20 – 11:45
7 Review of Network Work Programmes <ul style="list-style-type: none"> Network Policy and Economics activity update Network Technology activity update ZEP reports <u>for approval:</u> <ul style="list-style-type: none"> TWG Transport TWG Negative Emissions TWG CCU Sink factor 	Co-chairs Temporary Working Group Co-chairs	11:45 – 12:30
8 External Relations Group Update	Jonas Helseth, Helen Bray	12:30 – 12:45
9 Closing remarks and next meeting		12:45 – 13:00

Agenda item 1: Introduction and welcome

Agenda Item 1.c. AC62 Draft Minutes

DRAFT MINUTES
ZEP 62 ADVISORY COUNCIL MEETING
18 March 2020, 10-13 CET
Virtual meeting

Attendance

Name	Organisation
Graeme Sweeney	Chair
Vassilios Kougionas	DG RTD
Gabriele Morgante	DG GROW
Jan Steinkohl	DG ENER
Marion Perelle	DG CLIMA
Stale Aakenes	Gassnova
Lamberto Eldering	Equinor
Anne Cavendish	Equinor
Rob van der Meer	HeidelbergCement
Florence Delprat-Jannaud	IFPEN
Nils Røkke	SINTEF
Marie Bysveen	SINTEF
Helen Bray	Shell
Syrie Crouch	Shell
Mehmet Onal	Shell
Jonas Helseth	Bellona (proxy from Frederick Hauge)
Lina Strandvåg Nagell	Bellona
Isabelle Czernichowski	BRGM (proxy from Didier Bonijoly)
Joseph Dutton	E3G (proxy from Chris Littlecott)
Filip Neele	TNO
Stijn Santen	EBN
Stuart Hazeldine	SCCS
Charles Soothill	Sulzer
Constantin Sava	GeoEcoMar
Martin Snodgrass	BP (proxy from Liz Rogers)
Martijn Van de Sande	RVO / ZEP Government Group representative
Siri Eritsland	Norwegian Ministry of Petroleum
Brian Murphy	ERVIA
Jannicke Bjerkaas	Fortum
Angus Gillespie	GCCSI
Annya Schneider	GCCSI
Eve Tamme	GCCSI
Anastasios Perimenis	CO2VE

Valentin Moens	ETN
Nora Hansen	IOGP
Hans Bolscher	Trinomics
Caterina de Matteis	IOGP
Luke Warren	CCSA
Giorgia Bozzini	ZEP
Per-Olof Granström	ZEP

1. Introduction and welcome

The Chair, **GS**, opens the meeting, welcomes everyone and highlights the meeting instructions. He informs that the quorum is present and gives feedback on ZEP membership, welcoming EBN as a new member. **GS** informs that a vote for the nomination of Stijn Santen as EBN representative to ZEP's Advisory Council has been conducted and he informs that the nomination was approved unanimously. He also welcomes Syrie Crouch (Shell) to the Advisory Council.

The agenda is adopted. The minutes from the December 2019 Advisory Council as well as the minutes from the ACEC calls in January and February are all approved.

GS shares some remarks from the engagement program rolled out in January, mentioning among other things that DG ENER will revise the TEN-E regulation and indicating the revision as a priority for ZEP. He highlights the upcoming first call of the Innovation Fund and the European Taxonomy for Sustainable Finance, asking ZEP networks to dedicate time to both topics.

2. Secretariat's Update

POG informs that ZEP secretariat will be working virtually for the foreseeable future, highlighting that the secretariat is following the instructions received from Belgian authorities. Online meetings will be privileged, including meetings with EU Institution stakeholders of the engagement plan.

POG follows up with an update on the actions from AC61. He indicates among other things that:

- The ZEP report on cost of storage is available on the website;
- ZEP has provided input to the European Commission on CCUS R&I priorities, together with EERA and with input from the SET-Plan Strategic Coordination Group;
- ZEP has received input from and met with CO2VE to discuss an update of the ZEP messages, where the participants concluded that the messages will stay as proposed during AC61.

POG gives an update on the recruitment procedure for a new staff member for ZEP. He informs that CCSA has proposed a service agreement that is now for decision with the ZEP-

C Directors, that the employment procedure has led to the selection of a candidate, and that the start of work will be managed from a health and safety point of view in relation to the virus, most likely in May 2020.

He also informs that the ZEP mid-term review that was initially planned at the end of March, will be postponed until end of April.

LW gives an update on the ZEP and ZEP-C accounts.

Isabelle Czernichowski (**IC**) asks clarification about ZEP's position on utilisation of CO₂. **GS** proposes taking the comment under agenda item 6.

3. Commission's Update

DG ENER

Jan Steinkohl (**JS**) gives an update for DG ENER. He informs that the Commission is working on several communications to be ready in Q2 2020, among others, on offshore renewable deployment and on smart sector integration.

He invites ZEP to provide input to the discussion on smart sector integration, analysing how CCS would feed into the topic. He informs that online meetings will take place to inform stakeholders about the upcoming consultation and communication. He notes that a consultation on smart sector integration is expected in April 2020. In this respect, **POG** highlights the ZEP report on CO₂ transport, which will be ready in April-May.

DG RTD

VK thanks ZEP for their input on R&I priorities. He informs that DG RTD is holding meetings to continue the discussion about the R&I priorities ahead of the first call of Horizon Europe (Q3-Q4 2020). He reiterates that CCS and CCU are included in the Clean Energy Transition Partnership, as well as the co-creation groups, with several DGs involved in the process.

4. Industrial Strategy

Gabriele Morgante (**GM**), DG GROW, gives an overview on the Industrial strategy, where he highlights that there is an understanding of the importance of CCUS for the industrial decarbonisation. He shortly mentions the Clean Hydrogen Alliance and that it would include both blue and green hydrogen.

Action: ZEP to gain knowledge about the European Clean Hydrogen Alliance and how CCS/CCU can contribute.

5. Policy Update (European Green Deal, SET-Plan)

GB gives an update on the European Green Deal policy developments, highlighting the Just Transition Mechanism as a funding instrument and the European Climate Law, setting the objective of climate neutrality by 2050.

POG gives a short update on the SET-Plan work, giving feedback from the Strategic Coordination Group meeting in February. He informs that a revision of the CCUS SET-plan targets will be discussed at Plenary on 30 April. He also highlights that a IAM modelling study on the pathway towards 2050 and the role of CCUS will be started and that this is planned to be followed by a CCUS roadmap to 2030.

LE asks ZEP to be prepared for a new narrative, communicating that all investments made to address the Coronavirus emergency will need to be in line with net-zero by 2050 and the role of CCS/CCU to achieve this goal.

Action: ZEP to prepare a narrative on EGD and CCUS in the context of economic crisis.

6. European Taxonomy for Sustainable Finance

GS gives an update on the European Taxonomy. He thanks the membership and, particularly, Equinor and Heidelbergcement for their direct contributions in the process. He stresses the guiding principles of the taxonomy: do-no-significant-harm principle, as well as the technology-neutral approach. He recalls that the Taxonomy defines CCS as applicable to all economic activities as a climate change mitigation activity, and informs that CCU could not be settled by the TEG, therefore a final decision is mandated to the Platform on Sustainable Finance. He asks ZEP's networks and TWGs to focus on unaddressed issues of the report such as CCU, waste-to-energy and BECCS.

GS also notes that:

- DAC is acknowledged for the purpose of Taxonomy,
- the manufacturing of blue hydrogen also qualifies as a sustainable activity under the taxonomy, with a higher threshold for direct emissions than in the previous report – he notes that this is a good development,
- multiple transport modalities are allowed by the Taxonomy, possibly linking to the ongoing discussions in the Innovation Fund,
- the matter of certificates of origins is yet to be clarified,
- the upcoming revision of the EU ETS, covering several transport modalities, will need to reflect the objectives of climate neutrality as well as the findings of the Sustainable Taxonomy.

Actions:

- TWG CCU Sink factor to settle the matter of LCA for CCU (noting that ISO14067 standard was not accepted by the TEG) and to prepare a position on CCU, providing scientific evidence to support the work of the Platform.

- Take a position on BECCS and waste-to-energy, providing input to the Platform. Use TWG Negative Emissions and the NWPE to support on policy and regulatory matters.
- Follow up on the matter of the thresholds referring to the average carbon intensity of the electricity for manufacturing of aluminium, hydrogen and chemicals, and the possible use of certificates of origin.

7. NW updates

LE gives feedback from NWPE meeting on 13 February, highlighting the priorities for the network: the revision of the TEN-E regulation, the Innovation Fund, Horizon Europe, CBAM and negative emissions.

He gives feedback from the Innovation Fund technical workshop on GHG avoidance methodology in February. He highlights that ZEP has provided input to DG CLIMA, stressing challenges with the design of the IF and making suggestions on how to solve these issues.

Marion Perelle (**MP**) from DG CLIMA gives an update on the timeline ahead of the first call for the Innovation Fund and shares some considerations. The workshop in March highlighted the criteria for the selection/eligibility (degree of innovation, project maturity and the due-diligence, scalability), adding that the Project Development Assistance will be in place for those projects that are not yet deemed mature.

The next meeting will be the IF Expert Group meeting (no date yet), possibly at the beginning of May. This meeting would be the last one before the first call, expected in mid-2020.

FN gives update on NWT, touching upon TWG Hydrogen and TWG Negative Emissions. He informs that the work on the report on CO₂ Transport is ongoing, and the report is expected to be concluded in April-May 2020. The network will take on board previous comments made during the meeting and it will liaise with NWPE to make sure that policy and regulatory sides of negative emissions are also covered. NWT will allocate tasks and propose a timeline for the work.

FN informs that a call of the TWG Hydrogen took place to kickstart the work. Co-chairs of the TWG are Robert de Kler from TNO and a representative from AirLiquide. **FN** highlights that cooperation with NWPE will be important to support the European Commission by providing input on the role of blue and green hydrogen in reaching climate goals.

8. ERG Updates

POG gives an update from the ERG on behalf of the Co-chairs. He recalls the ZEP conference at the European Parliament and recent press releases on Climate Law and the Industrial Strategy/Circular Economy Action Plan. Referring to the new situation, he mentions that engagements with the institutions has been postponed and rescheduled to online meetings. Looking ahead, he highlights the need for prioritisation and coordination between ERG and

the ZEP network. He also mentions that ZEP will co-host a session on climate neutrality for industry at the EU SEW in June.

GS asks that the AC mandates the ACEC to look at the revision of the TEN-E regulation and allows the ACEC to consider a range of modalities to enable to progress on the report. The ACEC shall look at the use of pipelines (repurposing) and at how pipelines will comply with net-zero GHG emissions by 2050. The AC accepts to mandate the discussion on TEN-E to the ACEC.

IC comes back to her comment on CCU in the ZEP messages and notes that it is difficult to establish a long-term timeline for CO₂ use in products. She highlights that, however, CCU is important for industrial clusters and some other sectors. **GS** proposes that the CCU Sink factor TWG, in the work on CCU methodology, will follow up with a telephone call to address the matter of a ZEP position on CCU.

Action: ACEC is mandated to look at the TEN-E regulation. ZEP input on the TEN-E regulation is to be prepared.

Action: ZEP secretariat/TWG CCU Sink factor will follow up with a telephone call on the ZEP position on CCU with interested members and observers.

9. AOB

No items noted.

Actions

Agenda item	Action	Owner	Timeline
4	Gain knowledge on and find a way to contribute to the Alliances on Clean Hydrogen and Low-carbon Industry.	ZEP secretariat	As soon as further information is available
5	Prepare narrative for ZEP communication on how CCS and CO ₂ infrastructure to achieving net-zero by 2050 in times of economic crisis.	ZEP secretariat/ERG	End-March 2020
6, 8	Prepare a position on CCU, providing scientific evidence to support the work of the Platform. Set up a telephone call on the ZEP position on CCU with interested members and observers.	TWG CCU	May 2020

6	Take a position on BECCS and waste-to-energy, providing input to the Platform.	NWT, NWPE	May 2020
6	Follow up on the matter of the thresholds referring to the average carbon intensity of the electricity for manufacturing of aluminium, hydrogen and chemicals, and the possible use of certificates of origin.	ZEP secretariat	As soon as possible
8	ZEP input on the TEN-E regulation – prepare ZEP input – ACEC is mandated to make decision.	ZEP secretariat	May 2020

Attendance

Name

Martijn Van de Sande
Luke Warren
Stale Aakenes
Lamberto Eldering
Rob van der Meer
Graeme Sweeney
Florence Delprat-Jannaud
Jannicke Bjerkas
Nils Rokke
Filip Neele
Helen Bray
Syrie Crouch
Mehmet Onal
Jonas Helseth
Angus Gillespie
Anastasios Perimenis
Valentin Moens
Isabelle Czernichowski
Stijn Santen
Vassilios Kougionas
Gabriele Morgante
Jan Steinkohl
Marion Perelle
Anne Cavendish
Nora Hansen
Stuart Hazeldine
Hans Bolscher

Organisation

RVO / ZEP Government Group representative
CCSA
Gassnova
Equinor
HeidelbergCement
Chair
IFPEN
Fortum
SINTEF
TNO
Shell
Shell
Shell
Bellona (**proxy from Frederick Hauge**)
Global CCS Institute
CO2VE
ETN
BRGM (**proxy from Didier Bonijoly**)
EBN
DG RTD
DG GROW
DG ENER
DG CLIMA
Equinor
IOGP
SCCS
Trinomics

Joseph Dutton
Charles Soothill
Constantin Sava
Marie Bysveen
Caterina de Matteis
Martin Snodgrass
Annya Schneider
Eve Tamme
Siri Eritsland
Brian Murphy
Lina Strandvåg Nagell
Giorgia Bozzini
Per-Olof Granström

E3G (proxy from Chris Littlecott)
Sulzer
GeoEcoMar
SINTEF
IOGP
BP (proxy from Liz Rogers)
GCCSI
GCCSI
Norwegian Ministry of Petroleum
ERVIA
Bellona
ZEP
ZEP

Agenda item 1: Introduction and welcome

Agenda Item 1.d. ACEC April 2020 Meeting Minutes

1. Introduction

GS, chair, welcomes the participants to the meeting. He verifies the quorum and asks the participants to adopt the meeting agenda. The agenda is adopted.

POG gives an update on the actions from the ZEP 62nd Advisory Council meeting. He highlights among other things that the TWGs on Negative Emissions and CCU Sink Factor Methodology are working to produce input to the Platform on Sustainable Finance. He highlights that all actions are included in today's meeting agenda and suggests discussing each action under the respective agenda item.

2. Coronavirus – crisis advocacy and communication

GS opens the discussion on the post-pandemic economic recovery package. **POG** gives a short background to the two items, linking to the pre-reads, and recalls that all EU economic commitments are not yet framed into the new financial framework and highlights initiatives from member states to respond to the economic crisis (i.e. Spain's proposal). Regarding advocacy, he highlights that we will be stuck in the virtual world for quite some time and notes the opportunities and importance of engaging with the institutions and governments. He also asks for input from the ACEC on how to best communicate our messages both internally and externally.

GS asks the ACEC for comments. The following points summarise the discussion:

- Waste-to-energy is a good opportunity for ZEP to engage and communicate;
- There is a need to use the momentum to propose realistic targets, which can be achieved with CCS and CCU;
- There is a need to send the message that CCS can be deployed in a short timeframe. A CCS project can unlock further investments in industrial hubs, clusters and infrastructure. CCS can contribute to climate change mitigation by 2025 and have a meaningful contribution also for 2030 targets;
- It is important to support CCS project promoters with external visibility, so that they can express the needs of the CCS industry. 'Blue hydrogen' should also be a core component of the narrative;
- The European Commission is launching its last calls of Horizon 2020 and it is important to engage with the European Commission to ensure that CCS, CCU and hydrogen are included in new funding programmes;

- The focus on CO2 transport and storage infrastructure is crucial and primary for ZEP;
- A strategic discussion on the future of the SET-Plan will be needed.

3. Network Technology

FN gives an update on several workstreams of Network Technology:

- The report on CO2 Transportation is at review stages. The key message is that technology is ready to be deployed at large-scale to enable industrial and energy decarbonisation. The report will be ready for approval at the June AC63 meeting;
- The TWG on Negative Emissions is producing a first report, clarifying basic definitions of negative emissions and giving an overview on current technologies. This first report will be ready for approval at the June AC63 meeting;
- The report on Hydrogen focuses on the need for blue hydrogen, which will be complementary to green hydrogen. The final report has a longer timeline and a first draft report should be ready to send to DG RTD in the beginning of May.
- On CCU and Sink Factor, **RvdM** explains the scope of the report and gives feedback from previous calls. The work is ongoing, and the plan is to present a final report at the ACEC in May 2020.

GS invites all to provide comments offline.

GS asks the ACEC to mandate him to approve the ZEP input to DG RTD on Hydrogen on their behalf. The document will then be submitted for regular approval at the Advisory Council meeting in June. ACEC agrees.

GS reminds the ACEC about his appointment to the Advisory Group of the 'Hydrogen for Europe' study. He refers that he has received a non-disclosure agreement to sign and shares concerns about it, given the open nature of the collaboration with the partners involved. He informs that he will seek clarification with the organisers of the study on the non-disclosure agreement.

4. Network Policy & Economics

LE gives an update on the consultations that are open for feedback. He informs that the Innovation Fund will have a three-month open window for expression of interest in June-July 2020. He informs that project promoters have secured a meeting with DG CLIMA to further discuss the role and opportunities for CCS projects.

POG draws the attention to the list of open consultations in the ERG section of the pre-reads and highlights the need for ZEP to send clear messages in order to have an impact. Regarding the upcoming consultation on the 2030 target, he clarifies that given

the diversity in member views, the focus for a ZEP response will be on the more general picture and policy asks.

These comments are highlighted in the discussion that follows:

- ZEP messages should focus on the role of large-scale decarbonisation and that CCS deployment will enable new, potential 2030 targets;
- Members will give their own responses linked to the direct targets;
- The need for more support from members possible new TWGs.

On the 'Taxonomy' consultation, **GS** notes that:

- As per previous ZEP positions, the third criteria for hydrogen manufacturing should be removed;
- Certificates of origin are missing in the current text. That might be an error of omission;
- The TWG on Negative Emissions should provide input on BECCS, DACCS and waste-to-energy;
- The TWG on CCU should also draft input for the Platform on Sustainable Finance.

MB refers to a question from the Norwegian government and asks if ZEP would be able to endorse the input – that is based on the joint ZEP-EERA document on CCUS R&I priorities – on the H2020 EGD call. **POG** highlights that this was brought up on Friday last week, that ZEP gave input but that it has not been circulated to the whole ACEC. He suggests that the input is discussed with the Chair offline. **GS** asks if the ACEC can agree to mandate him to make the final decision and the ACEC agrees.

5. ERG

GS goes through the list of open consultations and respective timeline. **POG** draws the attention to the ZEP position regarding the TEN-E regulation. He highlights that the Commission has not yet initialised a consultation but that the ZEP Secretariat will prepare and start drafting input to the Commission based on this. This will be sent to the ACEC for approval.

6. Draft Agenda AC63

The Chair asks the ACEC to submit any comments they may have to the proposed agenda to the secretariat.

7. Update on CCS from UK

As little time is left, the Chair asks all interested parties to send questions and comments to the ZEP secretariat on the note in the pre-reads. **LW** thanks **CG** for a comprehensive note.

8. AOB

The Chair recalls the next meeting date (19 May) and informs that ZEP will be attending the SET-Plan IWG9 plenary on 30 April. The meeting is concluded.

List of participants

Graeme Sweeney	Chair
Jonas Helseth	Proxy from Vice-Chair Frederick Hauge
Lamberto Eldering	Vice Chair
Nils Røkke	Vice Chair
Charles Soothill	Vice Chair
Rob van der Meer	Vice Chair
Helen Bray	
Marie Bysveen	
Arthur Heberle	
Filip Neele	
Giorgia Bozzini	
Chris Gent	
Per-Olof Granström	
Luke Warren	

Agenda Item 1: Introduction and welcome

1.e. ACEC May 2020 Draft Meeting Minutes

1. Introduction

GS, Chair, welcomes the participants to the meeting. He welcomes Meghann Kissane, new member of the ZEP Brussels team.

GS verifies the quorum. He outlines meeting rules and encourages questions to be raised in the chat function.

Chair moves to adopt meeting agenda. The agenda is adopted.

Chair moves to adopt draft minutes from the ACEC in April. Minutes are adopted. Chair notes that updates regarding the engagement plan, reports and Sustainable Taxonomy will be given in the meeting under respective agenda items.

2. CCUS in the recovery plan – for information

GS refers to pre-read and material from a meeting with the Cabinet of EVP Timmermans. He highlights that it was an excellent meeting and that ZEP was asked to put forward shovel-ready projects that may be considered by the European Commission for the post-pandemic recovery plan. **GS** thanks those who participated in the preparatory meeting and informs that a letter and the ZEP paper have been sent to EVP Timmermans and that we are awaiting a response.

POG informs that the preparatory meeting held with participants from ZEP membership and others interested in ZEP membership. He notes the strong focus on CO₂ infrastructure, enabling a kick-start of a European clean hydrogen economy, and what this can do regarding preserving jobs and industrial activity.

ZEP is in contact with the Cabinet and awaiting further information.

3. Clean Energy Transition Partnership – for information and approval

GS highlights that the CETP material was only received yesterday by the IWG9. He asks not to widely circulate this paper and gives the floor to **NR** for a presentation.

NR notes that he is ready to discuss the pre-read but with discretion. He highlights the following:

- The partnership is established, and it is led by AT, SE, IT, TR and some other MSs.
- The CETP includes transition initiatives, where CCUS is included. This is where we need to put our effort from ZEP's side: which countries would like to join, announce calls, receive proposals and sign off projects.
- The governance structure is yet to be defined.

- Hydrogen is not represented in the CETP, since it has its own partnership.
- The planned stakeholder group dialogue: consultations will take place for different thematic clusters and there are meetings foreseen for CCUS, which is included under renewable technologies – this needs to be fixed.
- There will be a kick-off meeting on 26 May and the consultation for CCUS is 4 June.

NR sums up the overview and adds that in terms of importance of CCUS, this will be where you can establish projects like ACT co-fund, and address items not in the Horizon Europe programme.

GS opens the floor for comments. A discussion with ACEC members follows and the following actions are identified:

- Coordinate the work with EERA.
- Engage the IWG9 consortium to get more information and to start preparing for upcoming meetings.

GS moves on to update from SET-Plan plenary on 30 April and asks **POG** to give a short update. He informs that the meeting was good and focused on development of work and overarching strategic discussions, including:

- An update on current targets.
- An agreement to propose new targets, due to the European Green Deal.
- An update on the forward work programme for 2020.

The next plenary meeting will be held on 29 October and the Coordination meeting on 7 July.

4. Network Technology

FN highlights four report outlines in the pre-reads: Transport, Negative Emissions, CCU and Sink Factor, and a report outline on clean hydrogen. He informs that a week will be granted for comments and input, with a final approval at the AC in June.

FN gives short backgrounds to the reports: Transport report – a large report of technical nature. The report is in the process of finalising the text. He highlights that there will be technical and non-technical summaries. The ‘Negative Emissions’ report aims to provide clarity on carbon removal definitions through brief, simple and clear illustrations.

A discussion with comments and input from ACEC members follow. **FN** notes that the report should further clarify the issue of upstream and downstream emissions and of the neutrality of biomass.

On clean hydrogen, **FN** informs that a brief text has been put together on the role of blue hydrogen and it will soon be sent to **GS** to read and approve. Then can be sent to European Commission as ZEP’s input.

RvdM gives presentation of the CCU Sink factor work, stressing that a lot of progress has been made. The concept is ready and there is need for further examples and graphs. The document can be finalised in the next two weeks. **RvdM** stresses that examples are key for the report and asks all ACEC members to send more. The timeline is to present the report at the AC for approval.

5. Network Policy and Economics

LE goes through pre-reads and highlights key points including the Innovation Fund, consultations and Sustainable Taxonomy. On Sustainable Taxonomy, **LE** asks **GS** for input. **GS** sees opportunity to reiterate ZEP's narrative on hydrogen production, and to propose a way out of the bottleneck for CCU (in section 5.11).

NWPE is also discussing setting up a new TWG on CO2 infrastructure for the revision of TEN-E regulation and strategy for integrated energy systems. This will be defined at the NWPE meeting in June.

LE recalls open consultations. ZEP will prepare draft responses for comments.

6. External Relations Group

GS gives floor to **JH** for ERG update.

JH states that much has been covered already in the meeting, such as the updates on Sustainable Taxonomy and the EVP Timmermans meeting.

GB gives a short update on the policy timeline, highlighting the first call of the Innovation Fund and the upcoming revision of the TEN-E regulation. By summer, the European Commission is expected to announce strategy for integrated energy systems. Hydrogen and low-carbon gases will play a big role.

LE give an update on the Northern Lights project: Three partners have made their final investment decision on the project and now the Norwegian government will have to approve the plan. All seems to be going in the right direction.

7. AC63

GS asks for input from ACEC members. He suggests adding the Clean Energy Transition Partnership.

8. AOB

GS adds final reminder that the AC meeting will take place on 10 June and will be a virtual meeting. **GS** thanks everyone for today's meeting.

List of participants

Graeme Sweeney	Chair
Jonas Helseth	Proxy from Vice-Chair Frederick Hauge
Lamberto Elderling	Vice-Chair
Nils Røkke	Vice-Chair
Charles Soothill	Vice-Chair
Rob van der Meer	Vice-Chair
Helen Bray	ERG Chair
Marie Bysveen	
Arthur Heberle	NWT Chair
Filip Neele	NWT Chair
Giorgia Bozzini	ZEP Secretariat
Chris Gent	ZEP Secretariat
Per-Olof Granström	ZEP Secretariat
Meghann Kissane	ZEP Secretariat
Luke Warren	ZEP Secretariat

Agenda Item 2: Secretariat Update

2.a. Finance update

Appended to this paper is the ZEP finance update.

2.b. ZEP-C financial report

Appended to this paper is the ZEP-C financial report.

2.c. New ZEP office staff member

Meghann Kissane has joined the ZEP office, working on Communications and Events. Welcome Meghann.

2.d. ZEP Mid-Term Review

A very positive European Commission mid-term review of ZEP (SSFZEP – 826051) was held on 27 May as a virtual meeting.

2.e. Follow up on actions from ZEP AC62

Gain knowledge on and find a way to contribute to the Alliances on Clean Hydrogen and Low-carbon Industry

The alliances were announced by the Commission in March 2020 together with the new Industrial Strategy. They are supposed to bring together investors with governmental, institutional and industrial partners.

The work is ongoing to finalise the Clean Hydrogen Alliance, which will probably be presented in July 2020. The approach will cover the full hydrogen value chain. It is worth noting that the Alliance promotes clean hydrogen and ‘clean’ has not yet been defined. It is highly likely that hydrogen from reformed natural gas with CCS will be included. The objective of the Commission is to achieve large-scale emissions reduction, therefore the GHG abatement potential will be an important element of the Clean Hydrogen Alliance and in line with EU’s climate objectives.

The Commission is looking at a private and public partnership, with a prominent role and involvement of industrial stakeholders in the process. The low-carbon alliance is still at a very early stage of development.

ZEP is interacting with the European Commission (meetings with DG CLIMA and DG RTD, extended notes are available under item 8. External Relations Group update)

regarding clean hydrogen and has given input and produced reports on R&I priorities, how [CCS can enable a kick-start of a European clean hydrogen economy](#) and, [A CCS industry to support a low-carbon European economic recovery and deliver sustainable growth](#).

An update on the Clean Hydrogen Alliance and Industrial Strategy is provided under agenda item 4 (Policy updates).

Prepare narrative for ZEP communication on how CCS and CO₂ infrastructure can help to achieve net-zero targets by 2050 in times of economic crisis.

A meeting with the head of EVP Timmermans' Cabinet resulted in an action for ZEP to bring together project promoters and owners with the Cabinet – possibly including EVP Timmermans himself – to discuss the role of CCS and CO₂ infrastructure in the post-pandemic economic recovery.

ZEP gathered members and other organisations that have the possibility to bring forward shovel-ready CCS projects for a preparatory meeting on 13 May, discussing and preparing a ZEP narrative paper, aimed for EVP Timmermans' Cabinet. This [ZEP paper](#) highlights:

- CCS will be key in the industrial transition towards net-zero.
- European CO₂ transport and storage infrastructure can pave the way for a climate-proof European economy, preserving jobs and economic growth.
- CO₂ infrastructure can kickstart a clean hydrogen economy and deliver carbon removals.
- Include CCS in the economic recovery stimulus – shovel-ready projects can make a difference.

The paper was shared with EVP Timmermans and his Cabinet on 15 May and has been shared with key stakeholders. We are awaiting a time slot for a meeting with EVP Timmermans and his Cabinet.

The European Commission's communication on 'Europe's moment: Repair and Prepare for the Next Generation' from 27 May, includes "carbon capture and storage and sustainable energy infrastructure".

Prepare a position on CCU, providing scientific evidence to support the work of the Platform. Set up a telephone call on the ZEP position on CCU with interested members and observers and Take a position on BECCS and waste-to-energy, providing input to the Platform

- CCU: ZEP has ongoing work in the TWG CCU Sink Factor Methodology. This will give a good overview and some guidance regarding first value assessments of projects, but it will not produce the input needed for the Taxonomy Platform, thus further work is needed to: (1) prepare a description on how CCU can be

eligible in the Taxonomy (evidence-based) and (2) produce proposed updates and new technical screening criteria for CCU.

- BECCS and Waste-to-Energy: preparations for the documentation needed for input to the Taxonomy Platform is planned to be developed within the TWG Negative Emissions.

The European Commission is now working to translate the outcomes of the TEG report into the first delegated act (on climate change mitigation and adaptation), which will be adopted by the end of 2020. In September 2020, the Commission will open a period of feedback on the draft delegated act, where technical input on screening criteria can be provided. Following the adoption of the delegated act in December 2020, the European Parliament and Council of the European Union will be granted a period of 4 months (extendible for 2 extra months) to examine the delegated act. One year on (Q2-Q3 2022), the European Commission intends to carry out the first revision of the delegated act. This will be another opportunity to provide technical expertise for matters that will not be included in the first delegated act.

For the Taxonomy Platform, ZEP is aiming to set up a 'working relationship' as soon as it has been instated, to build trust and become a natural 'go-to' place for questions regarding CCS and CCU. The European Commission is expected to launch a call for applications for experts in June 2020, which will be open for 4-8 weeks. The objective is for the Platform on Sustainable Finance to become operational in September 2020.

Follow up on the matter of the thresholds referring to the average carbon intensity of the electricity for manufacturing of aluminium, hydrogen and chemicals, and the possible use of certificates of origin.

ZEP is engaging with the European Commission and communicating:

- "For any electricity grid-connected clean hydrogen manufacturing to be defined as sustainable according to the Taxonomy, there is a need to correct an obvious error in the screening criteria for hydrogen manufacturing in the technical annex to the Taxonomy report. The third threshold, "Average carbon intensity of the electricity produced that is used for hydrogen manufacturing is at or below 100 gCO₂e/kWh", will effectively exclude all electricity grid-connected hydrogen manufacturing sites, regardless of technology used. This error is easily corrected. This third threshold is redundant and can be deleted, since the first threshold delivers the environmental benefit.

Regarding the direct error on the third threshold, ZEP exchanged previously with the European Commission with letters and input to the TEG and by providing feedback to the EC in April 2020. There is a possibility to give feedback to the European Commission now to correct factual errors and later this year through the upcoming consultation on the draft Delegated Act (September 2020), which will be published after the Taxonomy regulation has been approved (vote in plenary in the European Parliament 17 June).

ZEP is also communicating that, if the third threshold, as described above, will not be deleted, there will have to be some kind of guarantee (for example Certificates of Origin) that the grid-connected electricity used for hydrogen manufacturing is low-carbon. Otherwise Europe has to rely on very small units separated from the electricity grid and connected directly to installations of renewable electricity.

ZEP input on the TEN-E regulation – prepare ZEP input – ACEC is mandated to make a decision.

A draft ZEP position on the TEN-E regulation has been discussed in the ERG and the ACEC in May. A draft version of the input based on this position, aimed for the European Commission request for feedback by 8 June, is now being circulated for comments. This draft will be further described under updates from the NWPE below. ZEP is also preparing a reply to the European Commission's open consultation by 13 July.

Agenda item 2: Secretariat Update

2.a. Finance Update

Attached to this note is the 31 May ZEP-Communications financial management report. This covering note provides commentary on developments since the AC62.

2019 ZEP-C Budget

- 2020 Income and expenditure: The budgeted expenditure for 2020 is €178,500.
- ZEP-C started 2020 with a net equity position of €125,787.

Service agreement

- Taking the Advisory Council advice into account, a service agreement has been set up between ZEP-C and CCSA ABSL, following the support for an extended budget and the proposal to add a new member of staff in Brussels at ZEP AC61.
- The Service agreement defines that CCSA will provide professional assistance in the field of communication and event organising. ZEP-C and CCSA will consult, liaise and collaborate in order to agree on a monthly work program.
- The monthly service fee is €4,750, which is within the budgeted amount of €60,000 per year.

Budget management: Expenditure against 2020 budget

Activity	Contractor	Budget 2020	Comments	To date Spent	Comments	To Date Committed	Comments
Administration / Auditing	Adams accountants / Vandelanotte	€ 8 000		€ 850			
Website maintenance		€ 1 000		€ 0			
Legal advice	PWC	€ 4 000		€ 0			
Chair	Ardnacraggan Energy Services	€ 67 992		€ 28 330			
Contingency		€ 4 000		€ 946			
Communications and events		€ 85 000		€ 0			
Total		€ 169 992		€ 30 126		€ 0	

Spent: Actually paid or contractually due for delivered work
 Committed: Based on signed contracts, yet to be approved invoices or founded estimates

Spent + Committed € 30 126
Remaining total budget € 139 866

Cash management of ZEP Communications VZW / ASBL

Category	Source	Issued invoices	Comments	Pending invoices	Comments	Received payments	Comments
2019 contributions	O&G		Total	€ 120 000	BP, Shell, Equinor, Total		
	OEM						
	Others (confirmed)			€ 62 500	Heidelberg, Gassnova, Port of Rotterdam, EBN		
	Others (Potential)			€ 5 000	Sponsorship		

General	VAT return	€ 447	VAT declar 2020/05	€ 462	Invoices 2020 to be rec.	€ 1 455	REIMBURS 19 Q 4
Total outstanding / pending ZEP-C		€ 447		€ 187 962			

Cash situation (of 28 May 2020)

Current account (KBC - Business compact rekening)			€ 120 312
Savings account (KBC - Spaarrekening)			€ 101
Actual cash at bank and in hand			€ 120 414

Expenditure situation

Source	Outstanding invoices	Comments	Pending invoices	Comments
Short term creditors	€ 801		€ 8 328	VDL + CA + E & Y + Ardn.
Outstanding invoices in spent to date, to be paid	€ 801		€ 8 328	

Cash boundaries

Minimum virtual financial position (all creditors paid, no more income) € 111 285
Maximum virtual financial position (all creditors paid, all income realised) € 299 694

Forecast 2020

€ 125 787	Starting point 2020 (= Left over budget 2019)
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2020 Total Spend	Comments Relative to budget
€ 8 000	
€ 1 000	
€ 4 000	
€ 67 992	
€ 4 000	
€ 85 000	
€ 169 992	Total budget spent 2019

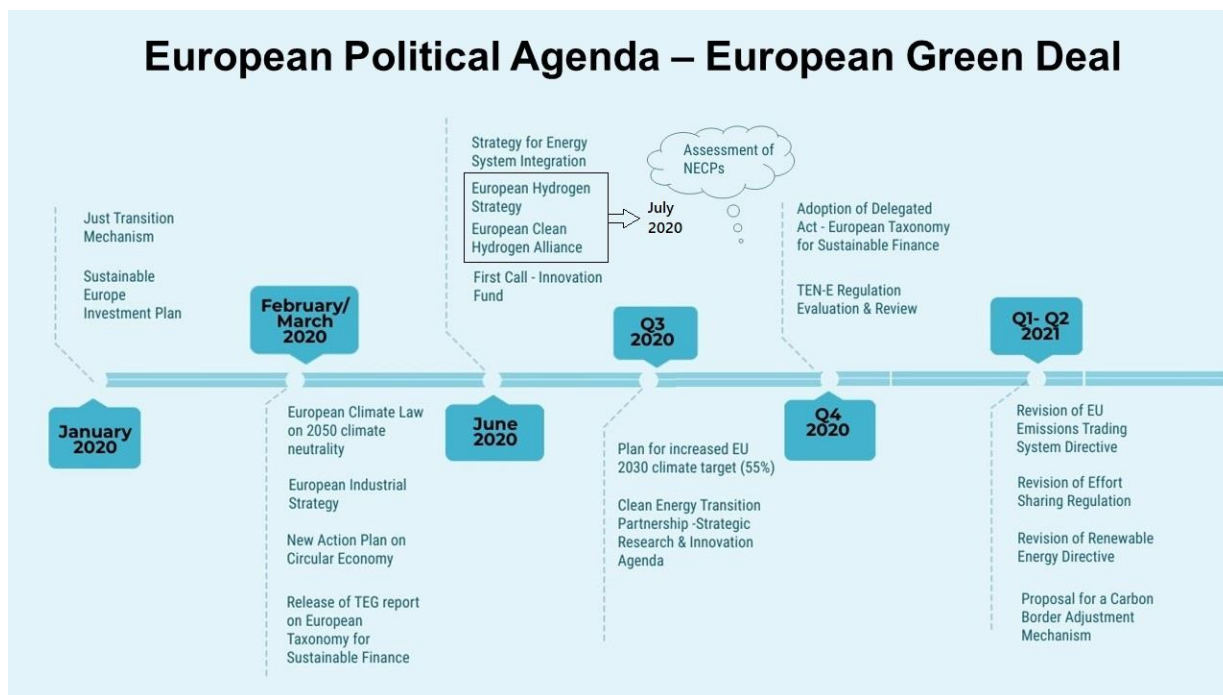
€ 120 000	
€ 0	
€ 62 500	
€ 5 000	

€ 187 500	Total forecasted income 2018
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143 294,74	Forecasted Left over budget 2020
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Agenda Item 4: Policy Updates

4.a. Timeline



4.b. General update

European Climate Law

The European Commission's legislative proposal for a European climate law was announced in March 2020. It sets the objective for the EU to achieve net-zero greenhouse gas (GHG) emissions by 2050. This proposal is part of the European Green Deal and it aims to make Europe the first climate-neutral continent by 2050, while boosting the competitiveness of European industry and ensuring a just transition for the regions and workers affected.

Key elements of the Commission's proposal are:

- Climate neutrality defined as net-zero greenhouse gas emissions.
- Increased intermediate targets for 2030: the aim of the proposal is to reduce GHG emissions by only 65% by 2050, compared to 1990 levels. The Commission would therefore present an impact-assessed climate target plan by September 2020, to increase the 2030 target from 40% to at least 50% and towards 55% compared to 1990 levels in a responsible way, and intends to propose to amend the climate law accordingly.

- The Commission would be empowered to adopt delegated acts setting out a trajectory to reach carbon-neutrality by 2050, starting from the 2030 target.

So far, the EU does not have a legally binding long-term emissions target. In November 2018, the Commission adopted the 'Clean Planet for All' strategy, aiming for a prosperous, modern, competitive and climate-neutral economy by 2050, and analysing scenarios to achieve net-zero GHG emission by 2050. In December 2019, the European Council endorsed the objective of achieving a climate-neutral EU by 2050, although one member state (Poland) cannot yet commit to this objective. On 5 March 2020, the Environment Council adopted the EU's long-term low greenhouse gas emissions development strategy for submission to the UNFCCC. The document simply refers to the December 2019 European Council conclusions and their endorsement of the climate-neutrality objective.

In the European Parliament, the proposal has been referred to the Committee on Environment, Public Health and Food Safety (ENVI), which appointed Jytte Guteland (S&D, Sweden) as rapporteur.

Net-zero means that GHG emissions must not exceed removals of GHGs. The proposed regulation would require EU institutions and member states to take the necessary measures to achieve the collective climate-neutrality objective, while considering fairness and solidarity among member states.

When setting the trajectory, the Commission would have to consider a broad range of factors including cost-effectiveness, competitiveness of the EU economy, fairness and solidarity, a just and socially fair transition, and technological, scientific and international developments.

By 30 September 2023, and every five years thereafter, the Commission would have to assess collective progress towards climate neutrality and on adaptation, the consistency of relevant EU and member state measures with the climate neutrality objective, and the adequacy of relevant EU and national measures for progressing on climate adaptation. If the Commission found a member state's measures to be inconsistent with the trajectory towards climate neutrality or inadequate with respect to adaptation, it could issue recommendations to that country.

Main features of draft report from the ENVI Committee are:

- Nationally binding targets to ensure that all member states reach net-zero GHG emissions by 2050.
- After 2050, the removals of greenhouse gas emissions should exceed emissions in the Union and all member states. This would complement the objective of 2050 climate neutrality.
- Higher ambition of 65% GHG emissions reduction (compared with 1990 levels) by 2030 and of 80-85% GHG emissions reduction (compared with 1990 levels) by 2040.

- Adoption of new intermediate targets by co-decision (i.e. regular legislative process, where the European Parliament and Council of the European Union are involved), instead of the delegated acts outlined in the Commission's proposal.
- Establishment of an independent 'European Panel on Climate Change' to ensure that scientific expertise and the best-available technologies are considered when setting the Union's measures to reach climate neutrality.
- Establishment of a European Union carbon budget, which sets out how much GHG emissions can be emitted to remain on track with the Paris Agreement commitment and climate neutrality by 2050. Such a carbon budget would be calculated for the entire European economy and it would be broken down by economic sector.
- Sectoral contributions to reduce GHG emissions should be outlined by each economic sector through a roadmap, describing how each sector can reduce emissions down to zero close to zero and by when. Each sector should also identify obstacles and opportunities, as well as technological solutions and investments that could support the decarbonisation.
- Maritime and aviation sectors should contribute to reaching intermediate and final climate targets.

Other committees have provided input to the draft report and can propose amendments to the European Commission's proposal by 4 June. Each committee will then adopt a final version of the reports they have produced and submit their amendments to the responsible committee (ENVI). The main committee (ENVI) will then vote on each amendment tabled by an opinion committee. The Rapporteur will guide the Committee on how to handle them. No date has yet been set for a debate in the Plenary.

Next steps:

- Debates and votes in the Committees – June – September 2020
- Vote on the European Parliament's position – October plenary meeting

Industrial strategy

As part of the European Industrial Strategy, the Commission is expected to launch several initiatives such as:

- European Clean Hydrogen Alliance, bringing together industries, governments and research organisations for the development of a hydrogen supply chain in Europe
- European Alliance for Low-carbon Industry, initially scheduled for Q3 2020, it will be closely connected to the Clean Hydrogen Alliance. .

The work is ongoing to finalise the Clean Hydrogen Alliance, which will probably be presented in July 2020. The approach will cover the full hydrogen value chain. It is worth noting that the Alliance promotes clean hydrogen and 'clean' has not yet been defined.

It is highly likely that hydrogen from reformed natural gas with CCS will be included. The objective of the Commission is to achieve large-scale emissions reduction, therefore the GHG abatement potential will be an important element of the Clean Hydrogen Alliance and in line with EU's climate objectives.

The Commission is looking at a private and public partnership, with a prominent role and involvement of industrial stakeholders in the process.

In the meantime, the European Parliament's own-initiative report on 'A new long-term strategy for Europe's industrial future' has been presented to the ITRE committee for debate. The rapporteur on the report is MEP Carlo Calenda (S&D, ITA), who was charged to prepare an initial draft for debate. The text was presented to the ITRE Committee members in May and a later debate is expected to take place within the committee in June, with the aim to adopt it in the European Parliament's September plenary meeting. Other committees will also release their opinion on the draft report, which will feed into the original proposed text.

Main features of the [European Parliament's own-initiative report](#) are:

- It recognises the role of a sustainable and green recovery to enhance the European Union's growth and green transition.
- It recognises the potential for low-carbon technologies and sustainable products across the whole industrial value chain, including for energy-intensive industries.
- It underlines that natural gas is important in the energy transition and hydrogen is a potential breakthrough technology.
- It calls on the European Commission to scale up and to facilitate the commercialisation of breakthrough technologies, supporting early-stage development and deployment of climate-neutral technologies and products.
- It acknowledges the importance of R&I activities carried out under Horizon Europe.

ZEP has been invited to provide input to the own-initiative report on the role of CCS, CO2 infrastructure and hydrogen.

Next steps:

- Presentation of the 'European Clean Hydrogen Alliance', July 2020.
- Debate and vote on the draft report 'A new long-term strategy for Europe's industrial future': June – July 2020.
- Vote in the plenary: 10 September 2020.

European Taxonomy for Sustainable Finance

Following the release of the [Technical Expert Group \(TEG\) Report](#) and [Technical Annex](#) and an engagement meeting with the Cabinet of Executive Vice-President Dombrovskis

(responsible for the file on ‘Sustainable Finance’), ZEP is now following three workstreams around the European Taxonomy:

- The regulation establishing a framework for Sustainable Finance. This text is the result of a series of negotiations between the European Parliament and the Council. It was approved by the [Council](#) on 15 April and it is now awaiting a second reading from the European Parliament’s plenary. The Council position at first reading reflects the agreement reached between Parliament and the Council in interinstitutional negotiations. Since the Committee on Economic and Monetary Affairs (ECON) and the Committee on the Environment, Public Health and Food Safety (ENVI), at their vote on 23 January 2020, already confirmed the outcome of those interinstitutional negotiations, the rapporteurs recommended that the [Plenary confirms the position of the Council at first reading](#). If a positive vote is cast during the European Parliament’s plenary on 17 June 2020, the regulation will be adopted.
- The delegated acts implementing the regulation will come into force by December 2020. In April, ZEP provided input to the consultation on one of the delegated acts – on climate change mitigation – as part of the legislative process. The European Commission is expected to publish a draft implementing act and open a second period for feedback and consultation.
- Once the regulation is adopted, the process to establish the governing body of the Taxonomy – i.e. the Platform for Sustainable Finance (‘Taxonomy Platform’) – will start. The platform will – in effect – govern the regulation on the European Taxonomy. It will be composed of public and private stakeholders and chaired by the EC and is expected to be in operation by the end of 2020. The Taxonomy Platform will be responsible for future revisions of the taxonomy regulation and delegated acts. The European Commission will be launching an application process for experts shortly. Nevertheless, it is clear that the platform will not start operating until the regulation is adopted.

There are some areas where the Technical Expert Group (TEG) did not have the time or the possibility to finalise the work:

- CCU is not eligible in the Taxonomy while CCS is.
- BECCS is not included in the Taxonomy.
- Waste-to-Energy is not included in the Taxonomy.

There is also (at least) one direct error in the TEG report:

- *The third threshold for Manufacturing of Hydrogen will effectively exclude all electricity grid-connected manufacturing sites* (including manufacturing of hydrogen from renewable electricity and manufacturing of aluminium):
 - it is not technology-neutral

- it is redundant, since the first threshold delivers the environmental benefit, and
- it will negatively impact the possibility for the EU to reach its climate targets.

Regarding the direct error on the third threshold, ZEP exchanged previously with the European Commission with letters and input to the TEG and by providing feedback to the EC in April 2020. The European Commission is now working to translate the outcomes of the TEG report into the first delegated act (on climate change mitigation and adaptation), which will be adopted by the end of 2020. In September 2020, the Commission will open a period of feedback on the draft delegated act, where technical input on screening criteria can be provided. Following the adoption of the delegated act in December 2020, the European Parliament and Council of the European Union will be granted a period of 4 months (extendible for 2 extra months) to examine the delegated act. One year on (Q2-Q3 2022), the European Commission intends to carry out the first revision of the delegated act. This will be another opportunity to provide technical expertise for matters that will not be included in the first delegated act.

With regards to the Platform on Sustainable Finance, the European Commission is expected to launch a call for applications for experts in June 2020, which will be open for 4-8 weeks. The objective is for the Platform on Sustainable Finance to become operational in September 2020.

Next steps:

- Vote on the Taxonomy regulation in the European Parliament, 17 June
- Call for applications (Platform on Sustainable Finance): June 2020
- Feedback period on draft delegated act: September/October 2020
- Adoption of the delegated act by the European Commission: December 2020

Revision of the TEN-E regulation

In February, the ITRE Committee voted in favour of a motion for resolution to open the process for revision of the TEN-E regulation. This regulation aims to assist national governments and companies to better interconnect electricity and gas infrastructure across national borders. By encouraging more integrated networks, the TEN-E Regulation aims to help encourage a more competitive and sustainable energy market with improved security of supply. It is intended to help identify Projects of Common Interests ('PCIs').

Since the resolution in February, the process at the European Parliament is on hold. On the other hand, the European Commission has started the legislative process with a public consultation on the TEN-E regulation, which will give input to the legislative proposal that will be presented in Q4 2020.

In earlier remarks to the ITRE Committee, Commissioner for Energy Kadri Simson stated that the revision of the TEN-E regulation would underpin a modern, clean European infrastructure. She confirmed that the revision would include electrification and the integration of clean electricity, decarbonising the gas sector and bringing clean solutions (like hydrogen) into the sector, and how to increase storage solutions. Her cabinet will explore how to retrofit the current pipelines to use them for clean hydrogen.

She noted that European energy infrastructure will need to be upgraded. This will require large investments and anticipated large funding from the Connecting Europe Facility, and possibly from the new Recovery Fund, to trigger further private investment.

Next steps:

- Deadline for feedback to the [Consultation](#): 13 July.
- Vote in the plenary on the ITRE Committee's Motion for Resolution: not tabled.
- Legislative proposal on revised TEN-E regulation: Q4 2020.

Strategy for Energy System integration

Commissioner for Energy, Kadri Simson, has announced an upcoming strategy for Energy System Integration (formerly, Strategy for Smart Sector Integration). She announced that the strategy will be a compass to guide future actions, setting out a vision of a future, integrated energy system: more circular, with greater direct electrification of end-use sectors, and with renewable and decarbonised fuels – including hydrogen – where electrification is not feasible, to decarbonise energy-intensive sectors.

The strategy will also consider existing obstacles for an integrated energy system and identify the concrete legislative and policy actions that the Commission will address in 2021 and beyond. Renewable gases, including hydrogen, will play a central role in the strategy. The Commission has also highlighted that the Strategy for Energy System Integration will coordinate and rely on the updated TEN-E regulation, as well as the upcoming Hydrogen strategy, which will focus specifically on the development and kick-off of a clean hydrogen economy.

In preparation for this strategy, the Commission has asked for feedback from stakeholders on the strategy roadmap by 8 June 2020.

Next steps:

- Presentation of the Strategy for Energy System Integration: 24 June 2020.

Hydrogen strategy

As part of the European Industrial Strategy, the European Commission highlighted a strong focus on hydrogen – an energy carrier that would support the decarbonisation of energy-intensive industries and the energy sector. The European Commission will

launch a 'Clean Hydrogen Alliance' under the Industrial Strategy to promote public-private partnerships on hydrogen and encourage investments, research and development for European hydrogen supply chain.

The Commission has also announced a European Hydrogen Strategy (expected in July 2020). Although the definition of 'clean' hydrogen has yet to be decided, the roadmap on European Hydrogen Strategy confirms that, in the next decade, the EU will fund both 'green' and 'blue' hydrogen. Commissioner Kadri Simson noted that production of large-scale hydrogen "would start with traditional hydrogen, moving to blue hydrogen and then to green hydrogen and blending it with natural gas", while infrastructure and electric capabilities are improved.

The full hydrogen value chain (production, transport, end-use) will be addressed in the strategy, with the aim to promote both demand and supply of clean hydrogen for Europe.

Commissioner Simson announced that there is a need for a strong policy framework for the implementation and development of a 'clean hydrogen economy', that will require cooperation with the private sector. She added that the hydrogen strategy is rooted in the recovery strategy, as hydrogen could bring jobs and growth and an upswing in investment and innovation.

Regarding funding, Horizon Europe will be important for continued investments in research. The [Innovation Fund](#) set up under the EU's Emissions Trading System should also receive €10 billion over the next 10 years in the form of emissions allowances to develop pilot projects and to bring down the cost of hydrogen production.

Next steps:

- European Hydrogen Strategy: July 2020.
- Launch of European Clean Hydrogen Alliance under the 'Industrial Strategy': Q3 2020.

2030 Climate Target Plan

The European Commission has confirmed in the updated workplan that it will carry out an impact assessment and put forward a legislative proposal to cut greenhouse gas emissions by at least 50% to 55% for 2030 (compared to 1990 levels) by Q3 2020. The impact assessment will also evaluate how each economic sector can contribute to the GHG emissions reduction in a gradual way. The new 2030 target will also shape the Commission's assessment of all relevant sectorial legislation (i.e. legislation on energy efficiency, renewable energy, effort sharing and the EU Emissions Trading System) by summer 2021. If approved, the updated and increased targets would be integrated into the European Climate Law.

In April, the European Commission started the legislative process by opening a period of time for feedback on a roadmap, and later launched an open consultation. The aim of the consultation is to collect opinions on the desired ambition level of climate and energy

policies, necessary actions in different sectors and specific policy design to increase climate ambition by 2030. It is open for feedback until the end of June 2020.

Next steps:

- Deadline for comments to the [open consultation](#): 23 June 2020.
- Proposal by European Commission in Q3 2020.

European Recovery Fund

On 27 May, the European Commission presented the European Recovery Fund, a €750 billion recovery instrument, embedded within a €1,110 billion multiannual financial framework (pending approval, 2021-2027). This fund will be granted by the European budget and it will entail a number of financial instruments to unlock further investments.

Of relevance for the CCUS community is the Strategic Investment Facility, aimed to incentivise private investment for key technologies and value chains. The Investment Facility will be created within the InvestEU funding programme and it will be able to unlock €150 billion (through the European Recovery Fund). The new Strategic Investment Facility will support cross-border investments to help strengthen and build European strategic value chains, notably those linked to the green and digital transition.

Through the Strategic Investment Facility, the European Commission plans on financing “technologies key for the clean energy transition, such as renewable and energy storage technologies, clean hydrogen, batteries, carbon capture and storage and sustainable energy infrastructure”. Horizon Europe will also be reinforced to support the investments in these technologies.

25% of the EU budget (currently under negotiation) will be dedicated to achieving the objectives of the European Green Deal, therefore it will be spent on climate investments for a clean, circular, competitive and climate-neutral economy. Moreover, the European Taxonomy for sustainable finance and the ‘do no harm’ principle will guide public investments in Europe’s recovery to ensure alignment with 2050 climate neutrality.

- 19 June 2020: member states will debate the proposal during the European Council meeting.

Agenda Item 5: Strategy for Energy System Integration

5.a. Presentation on European Strategy for Energy System Integration

Presentation on the topic and relevance by Mark van Stiphout, Deputy Head of Unit, DG ENER.

5.b. Short background

The European Commission is currently working on a Strategy for Energy System Integration to be released on 24 June 2020. Earlier this year, the Commission announced that the upcoming strategy would be at the core of a net-zero compliant energy system. Electrification, renewable gases and circularity represent the three pillars of the strategy, with the second one being particularly relevant for ZEP's work.

Under the second pillar on 'renewable and decarbonised gases and fuels', the European Commission is evaluating how low-carbon gases could contribute to a large-scale decarbonisation of the energy system, as well as of energy-intensive industries. Clean hydrogen and CCUS are included under this pillar. Strategic infrastructure – such as CO₂ and hydrogen infrastructure – that will support the EU's long-term decarbonisation goals will also feed into the strategy. In fact, the Strategy for Energy System Integration will have strong synergies with the revised TEN-E regulation and with the Hydrogen strategy, which will be presented as a stand-alone item in parallel to the Strategy for Energy System Integration.

To gather input and comments on the strategy, the European Commission opened a period of feedback on a [roadmap](#) until 8 June. ZEP has engaged the Policy and Economics Network to prepare a response. The proposed input – outlined below – was circulated for comments to the network. The input does not represent the final submitted text but provides an outline of the response.

5.c. ZEP input on the Strategy for Energy System Integration

Reference text from the European Commission can be found here: '[Roadmap on Strategy for Energy System Integration](#)'

ZEP's input is outlined below.

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) under Horizon 2020 Research and Innovation programme.

CO₂ infrastructure, CCS and hydrogen should be at the core of a truly integrated, climate-neutral energy system.

ZEP supports the EU's objective of climate neutrality by 2050. While designing a strategy for a net-zero compliant energy system, ZEP believes that a technology-neutral approach should be privileged. All low-carbon technologies, such as CCS and CCU, that are scientifically proven and readily available, should be deployed to support a cost-efficient trajectory to climate neutrality.

Through the upcoming strategy for energy system integration, the European Commission should especially support those projects that will underpin the development of cross-border CO₂ transport and storage infrastructure, thereby supporting projects along the CCS industrial chain. ZEP emphasises the importance of the strategic development of CO₂ infrastructure to ensure the large-scale decarbonisation of European industrial and energy sectors, while continuing to invest in the scale up of renewable energy sources. CO₂ transport and storage infrastructure is also instrumental in delivering early, large-scale volumes of low-carbon hydrogen produced from reformed natural gas¹ with CCS, which will enable many industrial processes to be redesigned to avoid CO₂ emissions.

There is no doubt that electrification will become an increasingly important feature of future energy systems. Any pathway to climate neutrality by 2050 in the European Union will require a deep electrification of our economy, with renewable energy sources as the primary source of power generation². Large-scale electrification will be a lengthy process that will happen over a considerable period of time. With a legally binding target of climate neutrality by 2050, electrification alone will not be a viable pathway for energy-intensive industries to decarbonise. Therefore, complementary methods of decarbonisation must be deployed – such as CCS and CCU – which can provide real emission reduction and abatement and ensure a cost-efficient transition³.

Unlocking the opportunities for clean hydrogen in an integrated energy system

Hydrogen has the potential to be applicable across many sectors. Today, the majority of hydrogen is produced from reformed natural gas, with CO₂ vented to the atmosphere⁴.

¹ By Steam Methane Reformers and Auto Thermal Reforming

² Shell Scenarios (based on IEA data), [A Climate Neutral EU by 2050](#), 2020; European Commission, [A Clean Planet for All](#), 2018

³ ZEP report, [Climate Solutions for EU Industry](#), 2017. The report argues that “while electrification can reduce CO₂ emissions in some industries and locations, the abatement potential is limited in sectors where CO₂ emissions are a product of chemical processes and not the combustion of fossil fuels. The amount of electricity required for large scale electrification of Europe's energy-intensive industry would necessitate levels of new low-carbon electricity generation that stretch the concept of feasibility”.

⁴ Hydrogen Council, [Path to Hydrogen competitiveness](#), 2020

In the short term, hydrogen produced with CCS can be applied on a large scale as a climate-neutral energy carrier before 2030 as part of the energy supply for heat-intensive and energy-intensive industries. This will deliver early emission reduction across several sectors and will allow for hydrogen production from renewables to develop and scale up as renewable generation capacity increases. In the long term, the already-existing hydrogen infrastructure – based on frontrunner projects – will support and encourage the development of electrolysis-based hydrogen, underpinning the establishment of a hydrogen economy.

The establishment of a hydrogen economy will be outlined in the upcoming Hydrogen strategy. Given that there are multiple objectives where clean hydrogen can play an important role, it is key that a European clean hydrogen strategy is coherent, consistent and technology neutral. In this regard, the revision of the TEN-E regulation for hydrogen transportation is critical. Retrofitting of existing natural gas infrastructure – an activity that is compliant with the European Taxonomy for Sustainable Finance⁵ – for clean hydrogen transportation should also be considered when discussing strategic infrastructure.

The European Commission can use and review national energy and climate plans with a view to assess the role and potential of decarbonised gases in the whole energy system in a credible way. To ensure a coordinated approach at the European level, it will be crucial that the member states' initiatives are coordinated among each other in order to support the development of cross-border infrastructure.

The role of decarbonised gases in an integrated energy system

The upcoming Strategy for Energy System Integration presents opportunities for a range of decarbonised gases to be considered. While the role of hydrogen in a net-zero economy is generally acknowledged, the European Commission should consider all options that would support the achievement of the EU's climate goals by 2050, creating a favourable policy framework for their production, transportation and use. In this regard, ZEP recalls the outcomes of the European Taxonomy for Sustainable Finance, which acknowledges the role of CCS as an economic activity delivering climate change mitigation⁶.

ZEP stresses that the screening criteria's third threshold for hydrogen manufacturing – proposed in the Annex to the Technical Report on European Taxonomy for Sustainable Finance⁷ – is redundant and that it should be removed⁸. It would effectively exclude any electricity grid-connected manufacturing of clean hydrogen, regardless of the technology, and thus negatively impact the action required to deliver climate goals.

⁵ European Commission, [Report on European Taxonomy for Sustainable Finance](#), 2020

⁶ European Commission, [Report on European Taxonomy for Sustainable Finance](#), 2020

⁷ European Commission, [Annex to the Technical Report on European Taxonomy for Sustainable Finance](#), 2020

⁸ Zero Emissions Platform, [CCS enables early and cost-efficient clean Hydrogen at scale](#), 2020

A European Strategy for Energy System Integration should therefore consider the use of low-carbon gases, providing clear definitions for carbon intensity that would comply with climate neutrality and enable a favourable policy landscape for their deployment.

Agenda Item 6: Clean Energy Transition Partnership and the role of CCUS

6.a. Presentation on Clean Energy Transition Partnership

There will be a presentation of the Clean Energy Transition Partnership (CETP) and the stakeholder dialogue by Dr Gerdi Breembroek, Adviser CCS and Geothermal Energy, Netherlands Enterprise Agency (RVO), Dutch representative in ERANET ACT and GEOTHERMICA, Co-Chair of Deep Geothermal IWG, IEAGHG delegate and part of the Clean Energy Transition Partnership coordination team.

6.b. Introduction and overview

Clean Energy Transition Partnership

At the AC 61 in December 2019, the Commission representatives outlined the upcoming new CETP. A new co-funded partnership under Horizon Europe that aims to address the challenges of a climate-neutral economy through R&I in clean energy technologies, thus accelerating the clean energy transition.

ZEP has followed the development and provided input focused on R&I priorities to DG RTD at different stages in this process, in coordination with EERA and the CCUS SET-Plan work. At ZEPs meeting with Patrick Child and Helene Chraye, DG RTD, on 29 April, the CETP was described as “the funding engine of the SET-Plan”. It was also clarified that CCUS is included in the scope of the member states’ proposal on the CETP.

A draft proposal for the CETP (20 May 2020) – [“European Partnerships under Horizon Europe – Partnership Proposal for Clean Energy Transition”](#) – has been submitted to the European Commission by a group of countries (AT, CH, ES, IT, NL, SE, TK). The objective is to bring together efforts to empower the energy transition and realise the EU’s aim of being a frontrunner; becoming the first climate-neutral continent. Based on the SET-Plan, the CETP complements other initiatives of Horizon Europe. It leverages significant regional and national public funding for multilateral RDI projects and increases impact through supportive additional activities. Specifically it is supposed to:

- Coordinate at least 25 national/regional energy R&I programs
- Increase transnational funding through calls budgeted with €100million/year
- Stimulate R&I private investments – pilot, demo and validation of implemented solutions across all of Europe
- Be a collaborative platform for R&I, funders and policy-makers.

The governance of the CETP and its relation to the SET-plan and the ETIPs is not defined/clarified.

Stakeholder dialogues to prepare the Strategic Research and Innovation Agenda

The group of countries that prepared the draft CETP has invited leaders of the SET-Plan IWGs and ERA-Nets (ETIPs have no direct contact role and are supposed to work via the IWGs) to the process of developing the Strategic Research and Innovation Agenda (SRIA) of the partnership. EERA has a special role as the editor in this process. A number of strategic stakeholder dialogues in thematic clusters have been planned for June-September 2020:

- First stakeholder dialogue June 2020,
- Open consultation (June-August),
- Draft SRIA in September 2020,
- Workshops October-November 2020,
- Set-plan conference 23-24 November,
- Finalised SRIA January 2021.

The Dialogues will be managed in clusters, where CCUS is placed in the thematic cluster "Renewable technologies 2". *This is a shortcoming and clearly limited, given that CCUS has a clear relation to all the included technologies and should therefore be seen as a cross-cutting item (included in all cluster discussions).*

Renewable Technologies 1	Renewable Technologies 2	Heating & Cooling Solutions	System Integration	Storage Systems and Fuels	Crosscutting
IWG PV	IWG Geothermal	IWG 5 Eff Buildings	IWG 4 Systems	IWG 5 Eff Buildings	Circularity
IWG CSP	IWG CCUS	IWG Geothermal	IWG 5 Eff Buildings	IWG Bioener & Fuel	Digitalisation
IWG Wind	IWG Ocean Ener	IWG Bioener & Fuel	IWG 3.2 ConsServ	IWG 4 Systems	Social Aspects
IWG Bioener	ERA-Net Geother	IWG 4 Systems	IWG Wind	ERA-Net Bioener	All IWGs and ERA-Nets
ERA-Net Solar	ERA-Net Ocean		IWG PV	ERA-Net SES	
ERA-Net Bioener	ERA-Net ACT		IWG Bioener & Fuel		
ERA-Net DemWind			ERA-Net SES		
			ERA-Net PV		
			ERA-Net DemWind		
Date					
29.05.2020	04.06.2020	05.06.2020	19.06.2020	26.6.2020	03.07.2020
FR 10:30 -12:00	Thu 10:30 -12:00	FR 10:30 -12:00	FR 10:30 -12:00	FR 10:30 -12:00	FR 10:30 -12:00

The IWG9 will have a very important role in this process and will actively participate and drive the CCUS issues, with support from ZEP and EERA and the IMPACTS9 subgroups and the wider CCUS community for feedback when needed.

Following advice of the ACEC, ZEP will coordinate the work with EERA in order to give the CETP and the stakeholder dialogue the right focus.

In parallel with the IWG9, ZEP should have a clear and direct role in the process, providing input from the key industry-led community, not to miss out on important aspects and in order not to duplicate work.

It will be crucial to attract as many member states/countries as possible as a basis. For interaction with the member states also the ZEP Government Group (where 13 governments participated in the latest meeting) will be important.

6.c. SET-Plan IWG9 plenary

In April 2020 the Implementation Working Group 9 on CCUS held its spring plenary meeting. At the meeting the IMPACTS9 consortium and the IWG9 co-chairs presented an update on the ongoing work, providing an update on the communications plan and on the reporting on targets. The discussion highlighted the need to review and update current targets and propose new ones, due to a completely new political scenario – the European Green Deal and the ambition of net-zero GHG emissions by 2050.

The Plenary agreed that the IMPACTS9 Consortium should start to work on new targets, engaging subgroups and other stakeholders, and propose a set of new targets for the Plenary's endorsement at the October plenary meeting.

The meeting also focused on the design of Horizon Europe and, in particular, the Clean Energy Transition Partnership, presented by the European Commission. The IWG9 will continue to engage on the subject.

Finally, an update on the forward work programme for 2020 was provided.

The next IWG9 Plenary meeting will take place on 29 October 2020.

Agenda Item 7: Review of Network Work Programmes

7.a. NWPE update

Since the February NWPE meeting, there have been no meetings. The next meeting is scheduled on Tuesday, 30 June 2020. Despite the initial plans for a physical meeting, it is highly probable that the meeting will become a virtual one.

The network has been active with several responses to consultations (ref. ERG update). Other priorities of the NWPE are funding programmes such as the Innovation Fund and Horizon Europe's Clean Energy Transition Partnerships. An update on the Innovation Fund is provided hereafter.

European Taxonomy for Sustainable Finance

Responding to a consultation from the European Commission, the TWG Sustainable Taxonomy and the ERG were engaged in the reply that was submitted. In preparation for the first Delegated Act on climate change mitigation and adaptation, the consultation aims at identifying a list of economic activities and technical screening criteria, building on the recommendations of the Technical Expert Group on Sustainable Finance (TEG).

In the response, ZEP highlighted that:

- Positive outcomes that will enable a first wave of CCUS projects to be realised should be preserved in the delegated act.

In the response, ZEP also stressed that some issues remain to be addressed and are crucial for projects:

There is a need to (1) prepare a description on how CCU can be eligible (evidence-based) and (2) produce proposed updates and new technical screening criteria for CCU.

- BECCS: It is unclear if there will be a positive mitigation within the timeframe of 2050, since an appropriate LCA for biomass feedstocks has not yet been done.
- Waste-to-Energy: the issue with WtE is what would have happened to the waste otherwise (recycling).
- Certificates of Origin: If the third threshold (average carbon intensity of the electricity produced that is used for hydrogen manufacturing is at or below 100 gCO₂e/kWh), as described above, will not be deleted, there will have to be some kind of guarantee (for example Certificates of Origin) that the grid-connected electricity used for hydrogen manufacturing is low-carbon. Otherwise Europe will

have to rely on very small units separated from the electricity grid and connected directly to installations of renewable electricity.

Previous comments on the “Taxonomy” work can be found under agenda items 2 (Secretariat’s Update) and 4 (Policy Updates).

Innovation Fund

As part of the ongoing ZEP engagement plan to reach out to institutional stakeholders, ZEP and members of the NWPE met with DG CLIMA to discuss and address concerns over the design of the upcoming first call of the Innovation Fund.

The timeline for the project promoters was clarified. DG CLIMA confirmed that the first expression of interest will be released in June/July 2020 as planned, opened for a three-month feedback period. After that, the European Commission will assess the applications and make the following selection:

- Some projects will be awarded a “Project Development Assistance”. These projects have not met the criteria and will therefore benefit from further assistance to make sure they are ready for the next rounds of applications.
- Some projects will go to the second stage of applications, with a final grant decision being made by Q4 2021.

During the meeting, DG CLIMA reiterated that the focus of the Innovation Fund is emissions avoidance. To qualify for IF funding, any application must show that the project is delivering emissions savings/avoidance.

DG CLIMA also confirmed that the Innovation Fund Expert Group will meet ahead of the launch of the call on 5 June 2020.

Extensive meeting notes are available under agenda item 8 – ERG update.

Input on the upcoming TEN-E regulation

The European Commission has started to work on the revision of the TEN-E regulation. As highlighted in the policy updates (agenda item 4), this regulation is extremely relevant for the development of cross-border CO₂ infrastructure, as well as for the development of clean hydrogen infrastructure. This workstream has been identified as a priority for the Network at the February Network meeting.

ZEP has engaged the network Policy & Economics to produce a response to the [consultation](#) open until 13 July. The outlined input - below – was circulated to the network for comments. It provides an outline of the response, yet it is not the final document.

This input builds on recommendations and guidance received during ERG calls and ACEC meeting in May 2020.

ZEP supports the European Union's commitment to climate neutrality by 2050, defined as net-zero greenhouse gas (GHG) emissions by 2050. To this end, carbon capture and storage (CCS) and carbon capture and utilisation (CCU) technologies play a crucial role. These technologies represent a readily available, cost-efficient pathway for the decarbonisation of industrial and energy sectors in the European Union. As shown by several modelling scenarios ^[1, 2], large volumes of CCS will be needed for the EU to achieve climate neutrality by 2050.

The development and large-scale deployment of cross-border, European CO₂ transport and storage infrastructure is crucial to reach the European Union's objective of net-zero GHG emissions by 2050. This infrastructure will enable clean, competitive energy and industrial sectors, early large-scale clean hydrogen and not least the delivery of significant volumes of carbon emission reductions and removals³.

CO₂ transport and storage infrastructure is crucial to link CO₂ emitters to storage sites and Europe is well positioned to develop cross-border, shared CO₂ transport and storage infrastructure. Connecting a capture site to storage requires the transportation of CO₂ either via pipeline or by other modalities such as ship, barge, truck, and rail. Investments to retrofit existing natural gas pipeline networks into CO₂ pipeline networks can be advantageous and cut initial costs of infrastructure. In this respect, the European Taxonomy for Sustainable Finance has included the retrofit of gas pipelines for low-carbon gas transportation as a sustainable investment in a net-zero economy. This approach would pave the way to cross-border CO₂ transport and storage infrastructure, to which industrial emitters and power plants can connect and decarbonise their production.

However, clear signals from policymakers will be needed to support and incentivise the deployment of CO₂ infrastructure. Large public investments will be needed in the initial stages, underpinned by a favourable European level policy framework designed to support industries, energy companies and member state governments.

The revision of the Trans-European Network for Energy regulation (TEN-E) should be in line with the European Green Deal and the European Taxonomy for Sustainable Finance, encompassing the principle of climate neutrality by 2050.

¹ European Commission, 2018. A Clean Planet for all A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy. Available at: https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_en.pdf

² IPCC, 2019, Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development, page 134, available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15_Chapter2_Low_Res.pdf

³ Include reference to ZEP paper on CCS and industrial hubs

Revised TEN-E guidelines should include:

- All CO₂ transport modalities – pipeline, ship, barge, truck, and train – should be included in a revised regulation, allowing for all European regions and industries to connect to the European infrastructure, and thus be eligible for funding under CEF. This should (as is the case in the European Taxonomy for Sustainable Finance) also be harmonised in relevant pieces of legislation connected to the TEN-E regulation such as the EU ETS and other funding programmes.
- In the revised TEN-E regulation, CO₂ storage should also be included as an essential component of a full-chain CCS project and part of the CO₂ infrastructure. CO₂ storage is a key element, as it delivers real climate change mitigation.
- Repurposing and retrofitting of natural gas pipeline networks for the transport of CO₂ and low-carbon gases (such as clean hydrogen) should be included in revised TEN-E guidelines.
- In order to create a level playing field and the conditions for long-term investments for CO₂ emitters across Europe, at the least non-discriminatory third-party access to cross-border CO₂ transport and storage infrastructure should be regulated.
- Once cross-border CO₂ infrastructure are in place, the production of early volumes of low-carbon hydrogen from natural gas with CCS can initiate, paving the way for a clean hydrogen economy. Subsequent investments in hydrogen infrastructure will not result in stranded assets (will prove strategic when scaling up and initiating transport and production of clean hydrogen), as over time hydrogen infrastructure will be increasingly utilised by hydrogen produced from renewable sources.
- A revised TEN-E regulation should include the development of hydrogen infrastructure. This will support the production and transportation of hydrogen, supporting EU's decarbonisation pathway.
- As the revised TEN-E regulation will drive the selection of the next Projects of Common Interest (PCI), it is vital to ensure that the next PCI lists are in compliance with climate neutrality by 2050, creating opportunities for cross-border CO₂ and hydrogen infrastructure projects to be further developed and scaled up.
- Funding mechanisms such as the Connecting Europe Facilities (CEF) and the EU ETS Innovation Fund should take into account these principles.

A revised TEN-E regulation should ultimately drive the transition towards a low-carbon economy, capitalising on the potential and opportunities of large-scale decarbonisation of European industrial and energy sectors.

New Temporary Working Group

As identified by the 2020 workplan for NWPE, the network will provide input on two workstreams on which the European Commission is seeking advice:

- Revision of the TEN-E regulation
- Strategy for Integrated Energy Systems (formerly, Strategy for Smart Sector Integration).

To provide solid input, ZEP is establishing a new temporary working group on CO₂ infrastructure. At the Network meeting in June, the scope of the TWG will be defined further.

Agenda Item 7: Review of Network Work Programmes

7.b. NWT Update

The latest network meeting was held on 5 March. The NWT TWGs have continued to work on four workstreams:

- Transport
- Negative Emissions
- Hydrogen
- CCU and Sink Factor Methodology

The network helped to identify priority areas for CCUS R&I activities, as requested by DG RTD. A document listing all technical and policy priorities was submitted to DG RTD as input for the Horizon Europe programme.

The next meeting is scheduled for 25 June 2020 and it will be an online meeting.

TWG CO₂ Transport

The report is appended as pre-read 7.c. and it is presented for approval.

The technical report highlights the opportunities and the challenges to CO₂ transportation in Europe. It is preceded by an executive summary for policymakers, which outlines the importance of the topic to officials at European institutions.

TWG Negative Emissions

The report is appended as pre-read 7.d. for approval.

The report provides an overview on basic definitions for carbon dioxide removals and shows the potential for carbon dioxide removals in reaching the objectives of the European Green Deal. While stressing that climate change mitigation should be the primary focus of all climate efforts, the report also presents some examples of industries that could become carbon negative and stresses the role of CO₂ infrastructure.

TWG Hydrogen

A five-page [report outline](#) has been finalised and shared with key stakeholders in the European institutions. The aim of the report is to stress the important role of blue hydrogen for the early large-scale deployment of a clean hydrogen economy and highlight how blue and green hydrogen can complement each other.

A second, more extensive report is expected during autumn 2020.

TWG CCU and Sink Factor Methodology

The CCU report will be circulated on Friday 5 June for approval. One week will be granted for feedback and comments.

Following several meetings, the TWG on CCU and Sink Factor Methodology has almost finalised a report on CCU and Sink Factor Methodology, building on previous ZEP reports. The matters of life-cycle analysis for CO₂ utilisation, methodology for emissions accounting, and a timeline were discussed extensively in the group.

Agenda Item 7: Review of Network Work Programmes

7.c. Compiled Transport report

The report is submitted for approval and it is appended as a separate file.

Agenda Item 7: Review of Network Work Programmes

7.d. Carbon Dioxide Removal report

The report is submitted for approval and it is appended as a separate file.

Agenda Item 7: Review of Network Work Programmes

7.e. CCU and Sink Factor methodology report

The report will be circulated for approval on Friday 5 June. A week for comments and reactions will be granted.

Agenda item 8: External Relations Group update

8.i. Feedback from ERG calls

Since the last Advisory Council meeting in March, the ERG has held two calls.

The first call focused on following up on the actions from the Advisory Council in March. The ERG also discussed the potential implications of COVID-19 on the European Green Deal policy package and aligned on the work plan for 2020, highlighting the support in communication and dissemination of the upcoming ZEP reports.

During the second call, the ERG discussed the recent developments in EU policymaking and the role that shovel-ready CCS projects can play in the post-pandemic green recovery plan. Sustainable Taxonomy, open consultations, the new ZEP reports, and external engagements were also discussed.

On the ZEP engagement programme, the discussion focused on the outcomes of the meetings and the actions to take. ZEP will bring together a coalition of project promoters to meet with the Cabinet of EVP Timmermans and discuss the role of CCS, CO₂, hydrogen, and infrastructure projects for the post-pandemic recovery. The coalition will be a broad group of stakeholders highlighting their support for CO₂ infrastructure as an enabler for blue hydrogen and negative emissions. For future meetings, the focus will remain on European institutions (either through virtual meetings or with written material).

Other remarks focus on the EUSEW, the Hydrogen for Europe Advisory Group, and a follow up on the SET-Plan plenary meeting.

The outcomes of these discussions are reflected hereafter in the update.

8.a CCUS in the recovery plan

Responding to the European Commission's request for shovel-ready projects for the green recovery plan – working group of ZEP members.

The meeting with the Cabinet of EVP Timmermans resulted in an action for ZEP to bring together project promoters and owners with the Cabinet – possibly EVP Timmermans himself – to discuss the role of CCS and CO₂ infrastructure in the post-pandemic economic recovery.

Therefore, the ERG agreed to bring together a coalition of project promoters to highlight what role CCS and CO₂ infrastructure can play, the importance of mobilising large

investments in low-carbon technologies to meet the goal of climate neutrality by 2050, and how industry can be supported in the economic recovery and climate transition.

Following a discussion with the ERG, the ZEP Secretariat reached out to ZEP members and other organisations that have shown interest in joining the membership to enquire about their participation. Twelve organisations were invited to a preparatory meeting on 13 May to discuss and prepare a ZEP narrative paper for EVP Timmermans' Cabinet. A meeting with EVP Timmermans is foreseen in the coming months, where executive managers from these organisations will participate.

The document submitted is available [here](#).

8.b ZEP update on consultations

Since the last AC meeting in March, ZEP responded to the following consultations and roadmap. In accordance with the guidance received during the ACEC meetings and ERG calls, the NWPE has been engaged in response to the following consultations:

- [Roadmap on 2030 Climate Target plan](#)
- [Roadmap on Carbon Border Adjustment Mechanism](#)
- Consultation on first delegated act of [EU Sustainable Taxonomy](#)
- Consultation on [European Climate Law](#).

It will be engaged in upcoming responses:

- [Questionnaire on 2030 Climate Target Plan](#)
- [Strategy for Integrated Energy Systems](#) (roadmap)
- [Roadmap on TEN-E revision](#) (roadmap and consultation).

8.c ZEP engagement plan

Meeting with Diederik Samsom, Riccardo Maggi, Aleksandra Tomczak

Participants: Diederik Samsom, Riccardo Maggi, Aleksandra Tomczak (Cabinet EVP Timmermans), Graeme Sweeney, Jonas Helseth, Per-Olof Granström, Giorgia Bozzini (ZEP)

Rationale for the meeting:

DG CLIMA is and will be in the driver's seat regarding the development of the framework for and the deployment of CCS and CCU. Engaging with the cabinet is crucial to bring forward ZEP's narrative on CCS technologies – ready for large-scale deployment, operational by 2025 and mature in terms of technology. The aim of the meeting was to introduce ZEP, highlight the importance of CO₂ infrastructure and the contribution of blue hydrogen to the transition towards net-zero.

Diederik Samsom is the Head of Cabinet of Executive Vice-President Frans Timmermans. He has a background in the Dutch branch of Greenpeace. He was joined by Riccardo Maggi and Aleksandra Tomczak. Both are members of the Cabinet and have responsibilities in the implementation of the European Green Deal, respectively on the economic side and the gas networks.

Some takeaways:

After a short introduction to ZEP, its governance structure, current workstreams and areas of interest, the discussion moved on to the investment plan which will be needed to recover from the economic crisis. It was stressed that:

- The European Green Deal will guide all investments that will be part of the recovery plan.
- Projects and sectors that can deliver on jobs and create value will be at the centre of the recovery plan.
- Hydrogen is one of the areas where big, public investments will be needed, and the EU could take the lead on this. CCS can contribute to a European hydrogen strategy, as the technology is mature, reliable and can ensure a large supply.

It was clarified that the EC is looking for a clear-cut recovery package.

The following discussion focused on the need for storage appraisal in the European Union and for the deployment of CO₂ infrastructure. It was highlighted that once CO₂ is captured on industrial plants, industries do not know how to dispose of it without transport and storage infrastructure; it is crucial and strategic. Investments to develop strategic and shared CO₂ infrastructure will unlock all the abatement potential of CCS. It was clarified by the EC that the abatement role of CCS is undisputed, although some issues with public perception of CCS remain. *“There is general acknowledgment that CCS will be an instrumental tool for climate neutrality by 2050”*.

The discussion moved on to CCU. ZEP recalled the outcomes of the Taxonomy and highlighted that a temporary working group within ZEP is producing a report on sink factor methodology, as well as a scientific methodology to account for GHG emissions avoidance to present to the Platform on Sustainable Finance.

The final part of the meeting focused on self-sustainability and business models for CCS, the need for initial subsidies to develop CO₂ transport and storage infrastructure, the role of CCS in energy system integration, and how energy-intensive industrial hubs would benefit from CCS. It was recognised that cement and steel industries would benefit from CCS, and other industries (waste-to-energy) were also starting to look at CCS. On the operability of the taxonomy, ZEP responds that it is a matter of political priorities – the taxonomy is ready to be operational.

Action: Bring together a coalition of ZEP members with Samsom to discuss needs for European CO₂ infrastructure.

Meeting with Vasco Ferreira, Cabinet of Commissioner Gabriel

Present: Vasco Ferreira, Cidalia Santos (Cabinet Commissioner Gabriel), Graeme Sweeney, Per-Olof Granström, Giorgia Bozzini (ZEP)

Rationale for the meeting

The cabinet of Commissioner Gabriel is responsible for Research and Innovation. Given the importance of the Horizon Europe programme for CCS and CCU, this meeting was informative and introductory.

Vasco Ferreira is a new member of the Cabinet of Commissioner Gabriel with responsibilities involving Horizon Europe and the European Green Deal in the Commissioner's cabinet.

Some takeaways:

After a short introduction to ZEP, its governance structure, its role under the SET-Plan Action 9 on CCS and CCU, co-chairing with the Netherlands and Norway, it was discussed that:

- The European Green Deal remains at the heart of the recovery plan. The last call of H2020 will be guided by the principles of the European Green Deal and it will be released in July.
- A hydrogen strategy is also in the pipeline, with the Commission taking on a coordinating role on different national strategies. The Clean Energy Transition Partnership and the Missions of Horizon Europe are also in preparation; here there was a proposal for ZEP to contact the chair of the climate (adaption) mission.
- The European Research Agenda will be relaunched with communication in June-July 2020, which is being prepared with a focus on bringing together the EU's and member states' R&I programmes and better coordination.

It was recalled that the final funding of Horizon Europe will ultimately depend on the MFF and the first call would be ready in 2021.

Vasco Ferreira highlighted the great interest to keep a close relationship with ZEP and asked for a renewed meeting during the summer.

Action: ZEP to keep close contact and to set up a renewed meeting in three months.

Meeting with Patrick Child, Hélène Chraye, Vassilios Kougionas (DG RTD)

Present: Patrick Child, Hélène Chraye, Vassilios Kougionas, Szilvia Németh (DG RTD), Graeme Sweeney, Luke Warren, Per-Olof Granström, Giorgia Bozzini (ZEP).

Rationale:

DG RTD is the homebase for ZEP and for CCUS SET-Plan. Horizon Europe, the Clean Hydrogen Alliance and Clean Energy Transition Partnerships are key areas of interest for ZEP and the CCUS SET-Plan, as well as the co-creation group on CCUS. The meeting helped to assess where and how ZEP can be of help to DG RTD.

Patrick Child is the Deputy Director-General in DG RTD Research and Innovation at the European Commission. He leads the policy for implementation, impact and sustainable investment strategies. Hélène Chrayer and Vassilios Kougionas also participated in previous meetings with ZEP on behalf of Unit D1 – DG RTD.

Some takeaways

After a short introduction to ZEP and recalling the recent input on CCUS R&I priorities for Horizon Europe provided to DG RTD, the discussion moves on to the design of Horizon Europe and specifically, missions and partnerships on mitigation and emissions reduction.

The discussion highlights that:

- The input on CCUS R&I priorities and work done by ZEP and IWG9 is useful and appreciated.
- The role of CCUS for industrial and energy applications (such as in the manufacturing of hydrogen) is recognised, and CCS and CCU are included in the member states' proposal for Horizon Europe.
- DG RTD has insisted on keeping CCUS in the scope of the member states proposal on the Clean Energy Transition Partnership (CETP), and it is now included in the proposal and the Clean Energy Transition Partnership – CCS and CCU will be instrumental in the clean energy transition.
- Patrick Child mentions the merits of the SET-Plan for the cooperation with member states, industry and academia, and also highlights that the CETP will be “the funding engine of the SET-Plan”.
- DG RTD is working on the design of missions and partnerships under Horizon Europe. They are also working on synergies with other European initiatives (IF, ETS, CEF) to streamline funding opportunities. This could provide substantial volumes of funding for large-scale demonstration projects.

The discussion also recalls the role of the European Green Deal as the guiding light for the new investments of the recovery plan. ZEP makes the point that CO₂ infrastructure is a strategic investment to make, paving the way for early, large-scale volumes of blue hydrogen. It is clarified by DG RTD that blue hydrogen will be included in the CETP, although the Commission intends to keep a strong focus on green hydrogen in the long-term perspective. In Horizon Europe, hydrogen will be covered by a Hydrogen Joint undertaking and it is clear that CCUS can contribute to a Hydrogen strategy.

Action: ZEP to provide input on the socio-economic importance of CCUS in the recovery, highlighting the rationale.

Meeting with Andrea Beltramello (Cabinet of EVP Dombrovskis)

Present: Andrea Beltramello, Clara Solzbacher (DG FISMA), Nina Hotop (DG FISMA), Graeme Sweeney, Per-Olof Granström, Giorgia Bozzini (ZEP).

Rationale for the meeting

EVP Dombrovskis is responsible for the European Taxonomy for Sustainable Finance. Continuous engagement with DG FISMA and the cabinet of EVP Dombrovskis is vital to promote CCS as an integral part of a European sustainable finance agenda. The meeting was called to discuss the outcomes of the Technical Expert Group (TEG) report and to start a dialogue with DG FISMA. It was also discussed how ZEP could liaise and interact with the Platform on Sustainable Finance.

Andrea Beltramello is a member of the Cabinet of EVP Dombrovskis. He is in charge of the Sustainable Finance package, working closely with DG FISMA. He was joined by Clara Solzbacher and Nina Hotop from DG FISMA.

Some takeaways

After an introduction to ZEP, its governance and membership, ZEP highlights its contributions to the work of the Technical Expert Group on Sustainable Taxonomy, both as a platform and with individual members.

The following discussion highlights:

- The Commission is assessing the socio-economic impact of COVID-19. The immediate priority is to support income, jobs and industries, and there will be many large-scale, public investments to support the recovery.
- A 'Renewed sustainable finance strategy' is out for consultation until 15 July and will be finalised by the end of the year.
- CCS is recognised as a key technology, transversal across activities and sectors under the TEG report.
- The delegated act governing the Taxonomy should be adopted by the end of the year. The Regulation should be adopted soon.
- The Platform on Sustainable Finance will be set up once the Regulation is in place. The Commission will soon start a call for experts from several sectors, countries, etc. The Platform will maintain an ongoing dialogue with the TEG. A call for applications to join the platform will be released in the coming weeks.

ZEP raised the point of the matters that could not be settled by the TEG and asked how to contribute to that discussion in the best way.

Action: Provide detailed input from ZEP on technical screening criteria for relevant matters that are not included in the Taxonomy and TEG report.

Meeting with Christian Holzleitner, Maria Velkova (DG CLIMA) on the Innovation Fund

Participants: Christian Holzleitner, Maria Velkova (DG CLIMA), Graeme Sweeney, Lamberto Eldering, Rob van der Meer, Brian Murphy, Stijn Santen, Per-Olof Granström, Giorgia Bozzini (ZEP).

Rationale for the meeting

This meeting was called to bring together project promoters and DG CLIMA to discuss key challenges and possible solutions for CCS projects in the run up to the first call of the Innovation Fund.

Some takeaways

After a short introduction confirming that the preparations are on track for a first call to be released in July, the project promoters highlighted key issues for CCS projects applying for IF funding:

- The counterparty risk is very high. The risks deriving from the interdependency of the full CCS chain (capture – transport – storage) are not taken into account by the Innovation Fund.
- The risk involved in a cluster of projects linked to transport and storage. If one or many of the clustered projects fails, the remaining projects and the transport and storage projects risk not being taken into account for the second stage of the Innovation Fund.
- From an industrial perspective, capture projects are in development in Europe, but without CO₂ transport and storage infrastructure in place, the risk for an industry is to capture large volumes of CO₂ without the possibility of disposing of it. Covering transport and storage under the IF is crucial to have the industry on board.

The Commission clarifies that the focus of the IF is mitigation and emission avoidance. Storage – therefore permanent sequestration and climate mitigation – is an essential component of the Innovation Fund, and without storage, a project will not be successful in the selection (vice versa regarding capture). There is no possibility to change this principle for the first call.

The Commission also highlighted that they will pay up to 60% of capex for capture projects + 60% of operating costs of the capture plant, therefore indirectly funding T&S. The maximum award is €200 million. They also highlighted that during the first phase, 40% of the 60% will be paid out and will not have to be paid back regardless of whether the projects result in emission avoidance or not.

Performance obligations on capture and storage sites are mentioned as a way to allow for more flexibility and solve at least a part of the counterparty risk. This means that if a capture project bails out at the FID stage, the storage project that is applying together

with the bailed-out capture project will not be penalised by the fact that it cannot commit to the original amount of stored CO₂.

The Commission stresses again that this matter will need to be addressed between the project promoters – in short, the companies need to take on this risk – and it will not be addressed by the European Commission. Other criteria such as maturity and project scalability will be evaluated at the selection stage. The commission very strongly advises to keep a conservative approach when it comes to volumes of emissions reduction while applying for IF funding.

Finally, on the timeline:

- Call published in July 2020
- Submission date in October 2020
- EC evaluation for first stage until February 2021
- Project development assistance awarded in Q1 2021
- Grant decision for projects that are approved in Q4 2021.

9. Final remarks and conclusion
