

ZEP Advisory Council 56

19th September 2018

Agenda Item 9: ERG update

9.a. ERG Update

Appended to this paper is an update for the ZEP External Relations Group.

9.a.I. IOGP – ZEP CCS Workshop

Appended to this paper are the minutes of the IOGP – ZEP CCS Workshop that took place on the 12th July.

9.a.II. Launch of ZEP report “Role of CCS in a Below 2 Degrees Scenario”

Appended to this paper is a transcript of the Politico story on the ZEP report “*Role of CCS in a Below 2 Degrees Scenario*”.

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Agenda Item 9.a: ERG update

ERG Co-chairs: Jonas Helseth (Bellona) & Jonny Stokes (Shell)

New ERG Co-chair

Sarah Kempe resigned as ERG Co-chair in May. Shell identified a replacement (Jonny Stokes) in June and his nomination was unanimously approved at the AC55 meeting in June. The ERG is delighted to welcome Jonny as the new Co-chair.

IOGP – ZEP CCS Workshop

ZEP held a workshop with IOGP on the 12th July at the IOGP offices in Brussels. The objective of the workshop “*Bringing CCUS to the next level*” was to initiate a discussion on CCUS advocacy, giving both ZEP and IOGP the opportunity to understand each organisation’s priorities, review existing activities and explore areas of collaboration.

Minutes of the workshop can be found as pre-read 9.a.I.

ZEP event on the EU Strategy for long-term greenhouse gas emissions reduction

On the 26th September, ZEP will be holding an event on the EU’s Strategy for long-term greenhouse gas emissions reduction (which is expected to be published ahead of COP24 in December). The event “*Low Emission, High Ambition: a Just Transition to a Net-Zero Europe*” will bring together delegates from industry, the European Institutions and civil society to discuss whether it is possible to have a long-term emissions reduction strategy without including CCUS; and to address some of the key debates around the value of CCUS to a net zero economy.

The agenda is still in development, however for now the *AC are invited to save the date in their diaries.*

Launch of ZEP report “Role of CCS in a Below 2 Degrees Scenario”

The ZEP report “Role of CCS in a Below 2 Degrees Scenario” was launched on the 25th July. The report and press release can be found [here](#). The report was covered in politico – a transcript of the story can be found as pre-read 9.a.II.

**IOGP-ZEP workshop
'Bringing CCUS to the next level'**

12.07.2018

Minutes

Participants

Helen Bray (HB) – Shell
Kim Byebruun (KB) – Shell
Dominique Copin (DC) – Total
Marine d'Elloy (MD) – ZEP
Paal Frisvold (PF) – Consultant
Arthur Heberle (AH) – Mitsubishi Hitachi Power Systems Europe
Jonas Helseth (JH) – Bellona
Gardiner Hill (GH) – BP
Bernard Hoffait (BH) – Total
Erling Kvadsheim (EK) – NOROG
Caterina De Matteis (CDM) – IOGP
François-Régis Mouton (FRM) – IOGP
Johan Scharpe (JS) – Exxonmobil
Christian Schwarck (CS) – IOGP
Anca Stoica (AS) – Shell
Graeme Sweeney (GS) – ZEP
Luke Warren (LW) – ZEP
Marta Yugo (MY) – Concaawe

Agenda items 1 & 2: workshop objectives and tour de table

Workshop objective:

Initiate a discussion on CCUS advocacy, giving the opportunity to both organisations to understand each other's priorities, review existing activities and explore areas of collaboration.

Attendees' expectations:

- Define the IOGP-ZEP relationship; create better coordination amongst existing CCUS stakeholders and create a broader coalition of stakeholders.
- Increase awareness of the legitimate role of CCS in climate mitigation, the socio-economic value of CCS for society and the urgent need for action.
- Fill the communication gap on CCUS.
- Learn more about both organisation's activities.
- Discuss forthcoming milestones at the EU level such as the Mid-Century Strategy, Member States National Plan, the Innovation Fund, Horizon Europe, etc.

Agenda item 3: CCUS and the upstream oil and gas sector

Presentation on IOGP

FRM presented IOGP's role, structure and objectives. IOGP has several committees (EU, Environment, Standards, Safety, etc.). The work of the committees is supported by the IOGP Secretariat, which allows reaching a wider audience. IOGP organises events, launches publications and has an expanding media programme.

The EU Committee is based in Brussels and promotes exploration and production in the EU and ensures a relevant role for oil and gas in the future EU energy mix. Its top five priorities are: access to resources, climate and air quality, gas advocacy, marine and environment, and security of supply/ EU market access. CCUS is part of the top ten priorities.

FRM and CDM presented IOGP's actions and activities on CCUS advocacy. IOGP works on improving cooperation with stakeholders and external outreach. For instance, IOGP is currently developing a map of existing CCS projects in Europe and well as projects under-development, aiming at providing industry with better visibility.

CDM briefly presented IOGP's CCUS advocacy timeline including key milestones (SET-Plan, Innovation Fund Delegated Act, etc).

DC, chair of the IOGP CCS Task Force, presented IOGP's key messages on CCUS as well as IOGP's high level objectives for CCUS:

- Making CCUS a key priority for the oil and gas industry
- Including CCUS and a coal-to-gas shift into the Integrated National Plans
- Including CCUS in the long-term EU energy and climate strategy

DC highlighted the need for a broader coalition of stakeholders including non-oil and gas sectors for the creation of a CCUS advocacy campaign in Brussels. DC also mentioned the necessity to avoid duplication of existing initiatives and stressed the role of blue hydrogen.

LW commented that there is an institutional barrier with regards to CCUS hydrogen at the EU level. LW added that the hydrogen community has so far largely been focusing on electrolyzers constraints. LW said that work on natural gas for hydrogen should be given stronger consideration.

GS explained that in Horizon Europe (Horizon2020's successor) hydrogen from natural gas is not considered as innovative and is thus excluded. GS said that the focus of the Commission seems to be on energy efficiency and renewable energy. Therefore, it will be necessary to engage the Commission on hard-to-mitigate sectors. GS added that ZEP contacted Hydrogen Europe to discuss these issues several times. Hydrogen Europe did not follow-up. Additionally, Hydrogen Europe talked about de-fossilisation at the consultation for the EU long-term emissions reduction strategy. GS, LW and DC agreed that there will be significant work to do in this space.

Presentation on Methane and Hydrogen with CCS

CS highlighted the essential role of natural gas in contributing to decarbonisation efforts. CS said that the current focus of the Commission is on biomethane and green gas, which will be important to address. In fact, CS explained that this may push DSO to switch their consumers from gas to electricity (as their portfolios include both products).

CS talked about the three CH₄-H₂ projects in Europe: Magnum, Leeds (heating), and Liverpool (industry) covering different economic sectors.

CS suggested the adoption of a systemic approach to trigger the development of hydrogen with CCS and create a new commercial model for CCS (regulated business approach).

CS explained that CCS worked where it has been integrated into energy supply projects (i.e. Sleipner). Therefore, CCS should be integrated into overall energy supply projects where hydrogen revenue streams can support the delivery and operation of the CCS component. This would allow avoiding the 'waste facility' financing challenge.

CS said that TSOs and DSOs are already familiar with this approach, which represents a typical way to finance EU gas infrastructure. CS explained that the DSO's regulatory asset base could be expanded to include H₂ and CCS, which would create some new finance opportunity for CCS and avoid big upfront payments. CS recognised that this would require a change in legislation.

GS agreed with CS's approach. GS added that relying on power-to-gas only would increase the cost for operators. LW welcomed CS's presentation and said he would be keen on following-up after the workshop. LW said that the UK Cost Challenge Task Force (CCTF) will deliver similar recommendation. LW added that Leeds and Liverpool projects are going in this direction. With regards to the CCTF, LW noted that there was a debate amongst stakeholders about the use of RAB models which needs to be considered.

JH said that there is often confusion in the discussion about gas-to-hydrogen, especially in Germany. It will be important to clarify and communicate that. JH added that the progression of renewables should benefit the power sector in priority and that natural gas should go to industry. If renewables are shared across all sectors there is a risk of delaying the decarbonisation of power.

AH said that a key point is that it is not possible to establish electrolyzers and solar energy in a short-time period to replace all current energy sources. AH mentioned the lack of acceptance for CCS in Germany and the example of Ketzin that shows that CCS is not a technical but a legal issue in Germany.

JH said it is important to nuance the message that 'CCS in Germany is dead' – because it was based on the debate on coal 10 years ago, it is different today. GS added that BMU now supports CCS for industry – but will be very quiet about it. GS added that Germany would not be storing in its industrial regions but in other regions such as in the Netherlands.

CS presented IOGP activities on hydrogen and natural gas. IOGP is currently engaging discussions across the gas chain to understand hydrogen penetration issues. IOGP is also exploring the possibility to undertake a study to map potential 'blue hydrogen' scenarios.

JH welcomed the presentation and said he would be happy to follow-up.

CS concluded that it will be important to integrate CCS in the gas chain using a RAB model, and added that CCS and hydrogen are mutually enabling.

GS commented that a RAB model is what ZEP proposed for the Innovation Fund through the Market Maker.

LW said that for the hydrogen story to be successful, it will be necessary to have a strong coalition of stakeholders, including other sectors than the oil and gas industry. LW added that there are important lessons to be learned from the coal industry.

FRM asked whether it is true that DSOs would be happy with 100% hydrogen in the gas network. FRM said it will be important to have this guarantee. FRM added that it will be important to be able to answer all safety-related questions.

LW said that gas distribution network companies in the UK are already looking at tackling safety-related questions. BEIS is also working on issues revolving around meters. FRM mentioned the Phoenix study in France.

FRM said that IOGP had met with Hydrogen Europe. It was agreed that it would be important to follow-up with Hydrogen Europe and get them involved. Hydrogen Europe has concerns with the Leeds project in case CCS does not get delivered in time for the hydrogen production process (venting process).

JS welcomed CS's presentation and said that from an advocacy perspective it will be challenging.

FRM said that IOGP was thinking of having a Pan-European communication campaign, in hydrogen from natural gas with CCS could feature.

GH welcomed the narrative developed by GH on hydrogen from natural gas with CCS. GH added that a clear distinction between domestic heat and heat for energy-intensive industries is needed in the hydrogen narrative.

Presentation: an overview of OGCI's work on CCUS

GH presented OGCI. It is a voluntary, CEO-led oil and gas industry initiative which aims at catalyzing meaningful actions on climate change through collaboration and engagement. It includes 10 member companies (IOCs and NOCs), representing around 1/5th of the world's oil and gas production.

GH explained the evolution of OGCI's since 2014. GH mentioned that 2018 was the 'methane year', whilst 2019 will be focused on CCUS. The objective is to increase investment in these

areas. OGCI prepares a teaser on CCUS which will be launched in September. OGCI also initiates outreach activities (i.e. with the World Bank) and collaborations (i.e. with the Breakthrough Energy Coalition and the Society of Petroleum Engineers on Storage resource Maturation System).

GH presented the four main focus areas for collective investment by OGCI, in addition to individual company action:

- Reducing methane emissions
- CCUS
- Transport efficiency
- Industry efficiency

OGCI currently has 3 active groups on CCUS: the executive committee, the group on pathways to commercialisation (WG1), and the group on storage (WG3).

WG1 has three tasks focused on the following aspects; policy, the value of CCS, and a CCUS narrative (working on a regional basis). WG1's objectives are:

- Identifying key qualifiers and milestones which will facilitate commercial CCUS deployment.
- Defining oil and gas company contributions towards pathways to CCUS commercialisation.
- Developing a clear understanding of different elements of CCUS cost reduction and whether/how oil and gas company collaboration can deliver against these elements.

GH said that OGCI aspires to be a catalyst for CCUS. GH highlighted that stakeholders should be talking about the 'roll-out of CCS' instead of the 'deployment of CCUS'.

OGCI commissioned the Element Energy and Vivid Economics report that reviews CCUS policy routes (published on 15th May 2018). A collaborative workshop is planned on alignment of CCUS value with IEAGHG, GCCSI, etc.

LW said that OGCI's work on SRMS with the SPE could help developing the SET-Plan R&I 4: establishing a European CO₂ storage atlas.

Action 1: GH and LW to follow-up and discuss how OGCI could best support the SET-Plan R&I4.

GH talked about regional support for CCUS deployment. OGCI contributed to the Cost Challenge Task Force (CCTF) report in the UK and organises regional events in the Gulf region and China. With regards to the CCTF, GH mentioned that the report strongly support the use of RAB models for infrastructure.

GH provided an overview of OGCI climate investments and investments to date.

GH said that OGCI does not have a specific focus on hydrogen at the moment; however, hydrogen is increasingly more discussed.

FRM suggested showcasing the work that OGCI does on CCUS such as the Energy Element and Vivid Economics report on CCUS policy.

JH commented on GH's slides saying that the term 'long-term storage' should be replaced by 'permanent storage'. Similarly, DC said that instead of saying 'CCUS requires rapid scale-up', stakeholders should say 'CCUS can deliver rapid scale-up'. LW and DC agreed that it is also important to highlight the sense of urgency in the CCUS narrative.

Agenda item 4: Regional perspective, the role of NOIAs

Bringing CCS to the next level: perspectives from the Norwegian Oil and Gas Association

EK presented NOROG's vision on CCUS and hydrogen. NOROG also focuses on hydrogen for energy storage.

NOROG sees CCUS as an enabler for hydrogen production. CCUS infrastructure can be utilised to produce clean hydrogen from natural gas and/or import CO₂ from Europe.

EK talked about Norway in relation to CCUS and hydrogen. AK said that Norway is a pioneer in CCS technology and can act as a sink for CO₂ emissions captured from Europe.

NOROG's activities on CCUS advocacy:

- High-level engagement with politicians; public advocacy (i.e. work on the Northern Light project).
- Collaboration with other NOIAs in the UK, Netherlands, and Denmark.

EK highlighted that there is still political resistance in Norway. Politicians tend to be frightened by the costs of CCS. EK added that CCS is still under-financed.

EK updated the group on the Commission's stakeholder consultation on the long-term strategy for emissions reductions. EK said that the consultation did not focus on CCS and provided very limited opportunities for involvement/engagement. EK said it will be necessary to convince politicians and decision makers in Europe of the importance of CCS. EK added that there is an essential need for CCUS advocacy in Europe.

EK said that NOROG prepared a letter on role of CCS and hydrogen directed to Miguel Arias Cañete.

Agenda item 5: Presentation of the Zero Emission Platform (ZEP) role of workstreams

GS presented the role of ZEP. GS said it serves as advisor to the European Commission on the research, demonstration and deployment of CCS. ZEP comprises a coalition of stakeholders, which work on achieving the following objectives:

- Enabling CCS to be a key technology for combating climate change for all CO₂ emitting sectors.
- Making CCS an investible technology by 2020.

- Accelerating next generation RD&D of CCS technology and the widespread development post 2020.

GS presented ZEP's organisational structure, including its Advisory Council, Government Group and Networks. Then, GS presented ZEP activities. ZEP published many reports and briefing papers on CCUS. ZEP also organised workshops and conferences, and developed an extensive engagement programme with key EU stakeholders and policy-makers. The ZEP Secretariat also supported the SET-Plan TWG9 (Technical Working Group 9 on CCUS) and currently supports the SET-Plan IWG9 (Implementation Working Group 9 on CCUS). GS explained that for support and coordination of the SET-Plan IWG9 will be launched in the autumn.

Action 2: Report 'Role of CCS in a below 2 degree scenario' to be distributed to the group.

Action 3: SET-Plan on CCU and CCS Implementation Plan to be distributed to the group.

GS said it will be necessary to brainstorm on how to deal with CCUS-sceptics at the EU level. GS reported that Commission officials said that the Commission's previous modelling work relies too heavily on CCS and that they are keen on hearing about and understanding other options.

HB asked whether ZEP could broaden its membership within the next six months. GS said that ZEP took the action of preparing a list of stakeholders to contact to broaden its membership. ZEP already includes many industrial stakeholders that are active in the Temporary Working Groups. Trade associations are not part of ZEP's membership, but their contribution is welcomed in the working groups. GS added that ZEP faced some difficulties in attracting new members in the past due to resource. GS welcomed the suggestion to re-shape or re-brand ZEP to make it more attractive.

Similarly, GS explained that ZEP has a duty for outreach and therefore can advocate for CCUS but has been restricted by limited resource. GS added that ZEP's technical foundations would give credibility to communication and advocacy.

GS talked about ZEP's future and challenges ahead.

FRM asked CDM to share ZEP's report.

Action 4: CDM to share ZEP reports with IOGP.

Agenda item 6. Brainstorming session on EU CCUS advocacy

CDM presented key milestones and a timeline of EU CCUS-related events.

FRM said that he would like to frame the discussions on emissions reductions around the following question: 'how to retain industry within the long-term emissions reduction strategy of the EU?'

PF said that the CCUS community currently lacks the legitimacy of the action. Therefore, it will be necessary to have a board stakeholder alliance at the EU level to carry a message, in an inclusive way that is also effective to Member States.

GH said it is necessary to make a clear distinction between the activities that are needed at the Commission level and at the Member State level – although both are needed, they are different.

LW mentioned that the review of the CCS Directive represents a true challenge for operators. It will require important work relatively soon. JRM and GS agreed and said that it would be an important conversation to have after the EU elections.

KB said that in some markets there is an important trust issue. Therefore it will be necessary to identify CCUS 'champions' to foster the dialogue with stakeholders and the general public. Additionally, all narratives related to CCUS need to be aligned. Additionally, CCUS should not appear to be 'over-technical'.

PF said the Chris Davies initiative intends to close the gap and get CCUS back on the agenda. PF added that it is clear from the workshop that more advocacy is needed.

LW said that the advocacy will need to be highly tailored as it is not easy to describe what CCUS does to different audiences. LW added that it is going to be about finding different champions who will be able to deliver the message to various parts of society.

LW mentioned that there is a lack a confidence with regards to CCUS, and policy-makers sometimes struggle to understand what is needed to incentivise industries to step up. It is important to think about how to make policy-makers confident. FRM said that this will be especially important in the forthcoming context of European elections.

PF said that work needs to be based on existing assets so as to use everyone's comparative advantages.

GS said that there is also the need for industrial players to create confidence, such as in Norway and in the Netherlands.

FRM asked if ZEP could raise its voice and circulate clear messages with regards to the Innovation Fund. GS confirmed that ZEP will be able to do so. ZEP attended the Consultations on the IF, met with several policy makers from the Commission, and drafted a paper as inquired by a director from DG CLIMA ('ZEP Position Paper: Funding CCS Market Makers through the Innovation Fund'), etc.

FRM asked what needs to be done for the CCUS community to have a voice in the long-term strategy for emissions reductions.

GH said that there is a need to come together as a group with a common message.

JH said that ZEP has the advantage of having a coalition of stakeholders that already exists and could be enhanced/ build on. JH added that the focus should be on how to broaden the coalition to sectors such as steel and cement.

KB highlighted the important role of NGO in the debate.

JH said Bellona has been working with Greenpeace. The problem is that most NGOs in Europe do not have staff with industrial expertise. There is a lack of resources which does not allow most NGOs to engage. JH said that there is a need for unions and industrials to step up. Messages around SMR + hydrogen can be a starting point.

GH said it would be crucial to have industry behind such initiative, at an extremely senior level, and ready to provide funding. Otherwise, there is a risk to repeat what happened in the UK.

GH said there is a need for CEO-level industry members to act together. GH said it is not about finding a champion but rather broadening the already existing coalition of stakeholders.

It was agreed that hydrogen stakeholders should be involved in the conversations.

The suggestion to create of a letter from industry supported by key leaders, in response to the long-term strategy for emissions reductions was discussed. This letter could be published and shared. Participants will follow-up on this idea.

JH said that the ZEP External Relations Group could undertake the advocacy activities discussed during the workshop if funding was made available.

HB explained that Shell and other stakeholders prepare a draft proposal for CCUS advocacy activities. HB said the document should be ready by the end of July and circulated in August.

Agenda item 7: Next steps

Objectives:

- Reach-out to a broader community of stakeholders including industry and unions
- Reach-out to NGOs (narrative around SMR + hydrogen can be a starting point)
- Ensure coordination with Member States

Key areas:

- Long-term strategy
- Pre and post EU elections engagement
- CCS Directive

Actions:

- ToR developed by Shell and shared with industrial sector to define further action and objectives
- Develop a cross-sector letter 'no long-term strategy without CCUS' and request support and signatures from CEOs of all industrial sectors (to be further discussed and defined)
 - idea to be discussed further

- IOGP-ZEP to explore further cooperation on hydrogen
- IOGP-ZEP to follow-up on discussion that ZEP will have with Mauro Petriccione
- Roadshow in Europe through SET-Plan, including connecting Member States
 - IOGP event in RO
 - IOGP EGM in PL
 - GN at COP 24. COP 24 could be another opportunity to align.
- Involve NGOs as soon as possible
 - In DE talk to WWF (as they recognise CCS) to change the narrative or at least do not block CCS.
 - NL
- New ZEP contract: explore opportunities for ZEP re-branding (changing the name?)

Other actions, listed throughout the document:

- Action 1: GH and LW to follow-up and discuss how OGCI could best support the SET-Plan R&I4.
- Action 2: Report 'Role of CCS in a below 2 degree scenario' to be distributed to the group.
- Action 3: SET-Plan on CCU and CCS Implementation Plan to be distributed to the group.
- Action 4: CDM to share ZEP reports with IOGP.

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Agenda item 9.a.II.: Politico story on ZEP report “Role of CCS in a Below 2 Degrees Scenario”

CLIMATE/REGULATION — CARBON CAPTURE AND STORAGE IN THE LONG RUN: Now that Brussels is working on its mid-century emissions strategy, Europe’s energy technology players are gearing up to convince the Commission of their role in the bloc’s future climate policies. The Zero Emissions Platform (ZEP), an alliance of oil and gas companies, scientists, academics and NGOs advocating for carbon capture and storage technology (CCS), on Wednesday came out with a [report](#) arguing that CO2 removal is a public good, and EU funds should be used to promote it. The Commission in its public consultation on the 2050 paper [acknowledges](#) that carbon capture, through technology or by planting forests, is necessary to reach the Paris agreement’s goal of keeping global warming to well below 2 degrees.

— **Industry for CCS:** Proponents argue CCS, by sucking up the carbon, allows heavy emitters to maintain production levels, and keep jobs and growth in the EU. Countries with heavy industry sectors like Germany, the Netherlands, Norway, France, Belgium, the U.K. and Poland are set to gain the most from CCS, they argue. Critics argue, however, say large-scale CCS deployment would discourage proactive industry efforts to cut emissions, it’s too expensive and there is no guarantee that the technology works (we’ve recently heard a Commission official echoing this line.)

— **Risky business:** ZEP agrees that costs are an issue, and that the private sector won’t commit unless there is a strong policy signal and support for rolling out CCS technology, including by facilitating transport and storage infrastructure. ZEP’s Graeme Sweeney argues there’s a need for EU innovation funds worth “hundreds of millions” that would need to be matched by EU countries to build a market. The industry also faces skepticism over whether the technology can work on a large scale. “The concern that people can have with underground storage can be avoided by storing offshore,” Sweeney said, pointing to Norway and efforts by [the port of Rotterdam](#).