

Call for feedback on the TEG report on EU Taxonomy

Response from the Zero Emission Technology and Innovation Platform (ZEP)

13th September 2019

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

ZEP would like to commend the approach developed by the Technical Expert Group on the inclusion of CCS in the taxonomy. Specifically, the recognition that CCS is a sustainable economic activity that can help to decarbonise existing industrial activities, such as manufacturing and electricity generation.

1. Climate Change Mitigation Activities

For each activity presented, please select the elements of the activity to which you would like to provide feedback

- Boundary of the activity
- Metric for substantial contribution criteria
- Threshold for substantial contribution criteria
- DNSH criteria
- International applicability of activity criteria

21.5 Manufacturing of Hydrogen

☒ Threshold for substantial contribution criteria

Capture technology has own definition in the same document which states capture technology qualifies if it *“enables the economic activity to operate under its respective threshold”* which for the case of hydrogen production could refer back to the 0.95 tCO₂/tH₂ or if the hydrogen unit is within a refinery this could refer to a refinery threshold – unclear and potentially impactful

The first two proposed thresholds under Manufacture of Hydrogen/Mitigations criteria, on page 205 in the report, appear to be in line with the overarching goals, based on life cycle analyses and clearly stating the criteria to promote truly sustainable development for investment. The third proposed threshold, however, *“Average carbon intensity of the electricity produced that is used for hydrogen manufacturing is at or below 100 gCO₂e/kWh (Taxonomy threshold for electricity production, subject to periodical update).”*, is clearly discriminating and not technology neutral:

- It would effectively exclude all electricity grid connected manufacturing sites and thus negatively impact the action required to deliver climate goals.
- It is unique to hydrogen and discriminatory against this manufacturing technique.
- It is redundant as the first threshold delivers the environmental benefit.

ZEP sees this as a clear and obvious error and would thus like to see the third threshold deleted.

Further on thresholds, it is important that the Taxonomy supports a rapid transition. Hence it's argued that the threshold should be higher at the start and then be tightened over time, aligned with 2050 targets. This to allow for retrofitting and hybrid solutions and to encourage a broader range of technologies and projects which will stimulate industrial projects and economic of scale. A threshold starting point of 4 tCO₂e/t hydrogen is sensible in the way that it will allow for retrofitting of e.g. SMR technologies and such project has the potential to significantly reduce emissions in the short to medium term. The threshold should be tightened in time towards the proposed threshold 0.95 tCO₂e/t hydrogen to reach 2050 targets.

Example calculations for natural gas reforming with CCS (Equinor value chain calculations):

- Based on 60 % capture rate and assuming EU South gas: 4 tCO₂/t hydrogen
- Based on 90 % CO₂ capture rate and assuming EU North gas: <0.98 tCO₂/t hydrogen

22.7 Production of Electricity from Gas Combustion

- ☒ Metric for substantial contribution criteria
- ☒ Threshold for substantial contribution criteria

The proposed threshold, "Facilities operating at life cycle emissions lower than 100gCO₂e/kWh, declining to 0gCO₂e/kWh by 2050, are eligible", to reduce life cycle emissions to 0gCO₂e/kWh would effectively exclude gas generation with CCUS technologies. Capture rates of 95-98% are expected to be possible with CCUS technologies, however 100% capture rates are very unlikely.

Given the importance of Gas CCUS technologies in reaching a net zero target we would encourage the TEG to amend the threshold to "Facilities operating at lower than 100gCO₂e/kWh with a trajectory to net-zero CO₂ emissions in 2050, are eligible. Criteria and methodology for Life Cycle of Emissions (LCE) and Life Cycle Analysis (LCA) should be introduced later and in line with EU policies."

22.8 Production of Electricity from Bioenergy

- ☒ Boundary of the activity

In the sector classification there should be a reference to the addition of CCUS technology to bioenergy facilities, resulting in the production of “negative emissions” through BECCS. Given the importance of BECCS to meeting emission reductions targets, a provision should be included to encourage the development of this technology.

Under the “Do no significant harm assessment” number 5 on Pollution – The “Do not transport feedstocks over long distances” section is an unnecessary provision that does not address the issue of air pollution directly. It is likely to act as a barrier to the efficient operation of markets and the development and deployment of BECCS technologies. Equally, this is a supply chain issue and so should be covered in 22.11, “Manufacture of Biomass, Biogas or Biofuels”. Instead, as discussed in 22.11, requirements should be placed on supply chain actors to meet all relevant local, national and international air pollution regulations (e.g. MARPOL regulations for shipping).

23.9 Direct Air Capture

- ☒ Boundary of the activity

The ISO standard reference for capture refers to integration in a power station. Here the ISO Standard ISO/TR 27912 “Carbon dioxide capture – Carbon dioxide capture systems, technologies and processes”, would be much more appropriate than the future standard ISO/CD 27919-2 for post-combustion capture integrated with a power plant.

23.11 Transport of CO₂

- ☒ Boundary of the activity
- ☒ Threshold for substantial contribution criteria

“Only pipelines which lead directly to an eligible permanent sequestration site are eligible”. This can be interpreted as the taxonomy is only eligible for pipeline transport of CO₂ and exclude other means of transporting CO₂.

Ship to ship or ship to well are very interesting possibilities, but under the proposed definitions they would be excluded from qualifying. Several new cross-border CO₂ projects in Europe that are currently applying to receive a PCI status rely on the shipping solution for CO₂ transport to permanent storage.

The shipping solution has several advantages for the start-up phase of a European CCS network:

- It offers an agile and tailored made solution for industrial sites with smaller volumes of CO₂ which are out of reach of CO₂ pipeline for economical or technical reasons. In contrast, a certain minimum capacity is needed to justify the rationale of constructing a CO₂ transport pipeline.
- The shipping solution increases the flexibility of the CCS chain in Europe as it allows to connect emitting sites to several sequestration sites and can add new CO₂ volumes from elsewhere.

- A ship-based CO₂ transport network increases the reliability of a CCS system in the event of technical issues in a sequestration site or a pipeline.
- Developing a shipping connection to a CO₂ source is likely be less time-consuming to establish, as the planning, permitting and construction of pipelines over longer distances will need considerable time and effort.

Investing in ship infrastructure could make CO₂ transport network expansion more feasible for emitters from various coastal parts of Europe to start with smaller CO₂ volumes, allowing for a gradual maturation of demand for CO₂ transport and storage. This would in turn contribute to reducing overall CO₂ transport costs, thereby making CCS more viable for emitters across Europe. Therefore, a shipping solution can support the industrial start-up of CO₂ capture, transport and storage and it will be essential for scaling up and achieving cost-reductions across the full CCS value chain.

The exclusion of the shipping solution from Taxonomy would not treat different capture projects – part of a CO₂ network – equally either: it would for instance give preferential treatment to a steel plant located close to pipeline connection against another steel plant located where there is no pipeline to transport CO₂ and which would therefore have to be carried out by ship.

In the same way, also transport of CO₂ in trucks could be an option for the first smaller start-up projects.

Hence, other means than CO₂ pipeline transport should be eligible for Taxonomy.

Links to evidence; <https://ccsnorway.com/>

Also referring to the proposed threshold above, the word “directly” could be interpreted from A to B “as the crow flies”. This may not be the most economic or efficient pathway for transport infrastructure. In some scenarios CO₂ could be transported to temporary onshore gas storage facilities, while awaiting shipping or as a temporary solution whilst regular maintenance is undertaken on CO₂ transport and storage facilities,

It is also recommended to include the standard ISO 27913: Carbon dioxide capture, transportation and geological storage – Pipeline transportation systems under Rationale.

2. Climate Change Adaptation

2.1. Do you consider that the qualitative criteria for adaptation apply equally to all sectors? (Y/N/IDK) Please Explain (2000 characters)

Yes

While the expected range of activities and absence of obvious quantitative criteria justify the proposed approach, reviewers of adaptation-related submissions must ensure compelling links for all activities to emissions reductions. That needs disciplined methodical practices. Otherwise, there is a risk that qualitative descriptions could invite creative or speculative applications for activities that have, at best, tenuous links to sustainability and emissions reductions.

2.2. Should the qualitative criteria be different? (Y/N/IDK) If yes, why and how? [Please provide a brief rationale for the proposed changes as well as links to published journals or articles as evidence] Explanation (3000 characters)

[No opinion here, input welcome from TWG]

Links to Evidence (1000 characters)

[As above if necessary]

2.3. Are the illustrative templates provided in the Technical Report useful for indicating the potential application of the criteria? (Y/N/IDK) Please explain what other information would be useful (3000 characters)

Yes.

[Do we have an opinion on what other information would be useful?]

2.4. Would any additional data or tools improve the usability of the Adaptation qualitative screening criteria? (Y/N/IDK) If yes, what additional data or tools? (2000 characters)

IDK

2.5. Are there areas of potential harm that the TEG should consider for DNSH criteria for the activities that make a substantial contribution to adaptation objectives? (Y/N/IDK)

I Don't Know

Draft

3. Usability of the Taxonomy

3.1. Do you expect to use the Taxonomy in your business activities in the short term (1-3 years) or long term (4+years)? (Y/N/IDK)
If yes, please indicate the timescale and specify the activities for which you will use the Taxonomy. (2000 characters)

[can ZEP comment on this?]

3.2. Can the Taxonomy be made more useful for disclosures related to your specific financial product? This question only covers financial products where disclosure obligations are foreseen by the Taxonomy proposal. (Y/N/IDK)
Which specific financial product(s) do you have in mind?

- Portfolio Management
- UCITS Funds
- Alternative investment funds
- Insurance-based investment portfolios
- Pension products and pension schemes

How could the Taxonomy be made more useful for Alternative Investment Funds? (2000 characters)

[Expect no comment from ZEP]

3.3. Can the Taxonomy be made more useful for your investment decisions in different asset classes? (Y/N/IDK)
Which asset class(es) did you have in mind?

- Public Equity
- Corporate bonds
- Green bonds
- Private Equity
- Real Estate
- Project Finance
- Green Loans
- Other Assets

How could the taxonomy be made more useful for Green Bonds? (2000 characters)

[Expect no comment from ZEP]

3.4. Is it sufficiently clear when the entire activities of a company or other entity should be considered as Taxonomy eligible (revenues or turnover), and when only expenditures by companies or other entities should be considered Taxonomy eligible? (Y/N/IDK)
If no, it is not sufficiently clear, please specify how this could be made clearer (2000 characters)

[Expect no answer from ZEP]

3.5. What practical tools or measures could be developed to facilitate the implementation of the taxonomy by financial actors? Please specify what these tools would be used for and provide sufficient explanation on how they can help to implement the taxonomy: (2000 characters)

[Expect no answer from ZEP]

3.6. What practical tools or measures could be developed to help non-financial companies assess what share of their economic activities are taxonomy-eligible? (3000 characters)

[Expect no answer from ZEP]

4. Future Development of the Taxonomy

4.1. What economic activities that can make a substantial contribution to the climate change mitigation objective should next be considered for the Taxonomy? (2000 characters)

Carbon utilisation technologies could have a climate change mitigation role, this can only be considered when an agreed lifecycle emissions analysis calculation methodology is endorsed by the European Commission.

Oil and gas refining activities

Retrofitting and reuse of installed oil and gas infrastructure for the (not pipelines) injection and storage of low-carbon gas and carbon dioxide. This infrastructure, particularly offshore infrastructure (wells, platforms etc) could be repurposed for CO₂ injection and permanent storage (and potentially in the future, H₂ storage in depleted reservoirs).

The manufacturing or generation activities with bioenergy and CCS, or biomethane derived hydrogen with CCS can result in negative emissions (net-removal of CO₂ from the atmosphere). GHG removal technologies should be assessed independently, as these activities should be considered more beneficial or sustainable than counterparts with other energy sources (renewable or fossil fuel with CCS).

4.2. Should any of the economic activities included in the Technical report be reconsidered as regards their inclusion in the taxonomy? (Y/N/IDK) If yes, please indicate what activity and explain why inclusion should be reconsidered (500 characters)

[No comment here]

4.3. For what economic activities should an illustrative template for substantial contribution to climate change adaptation be developed next? (2000 characters)

[same as 4.1?]