Statistics of the proposals received for the first large-scale call of the Innovation Fund in October 2020

Current State of Play & Next Steps

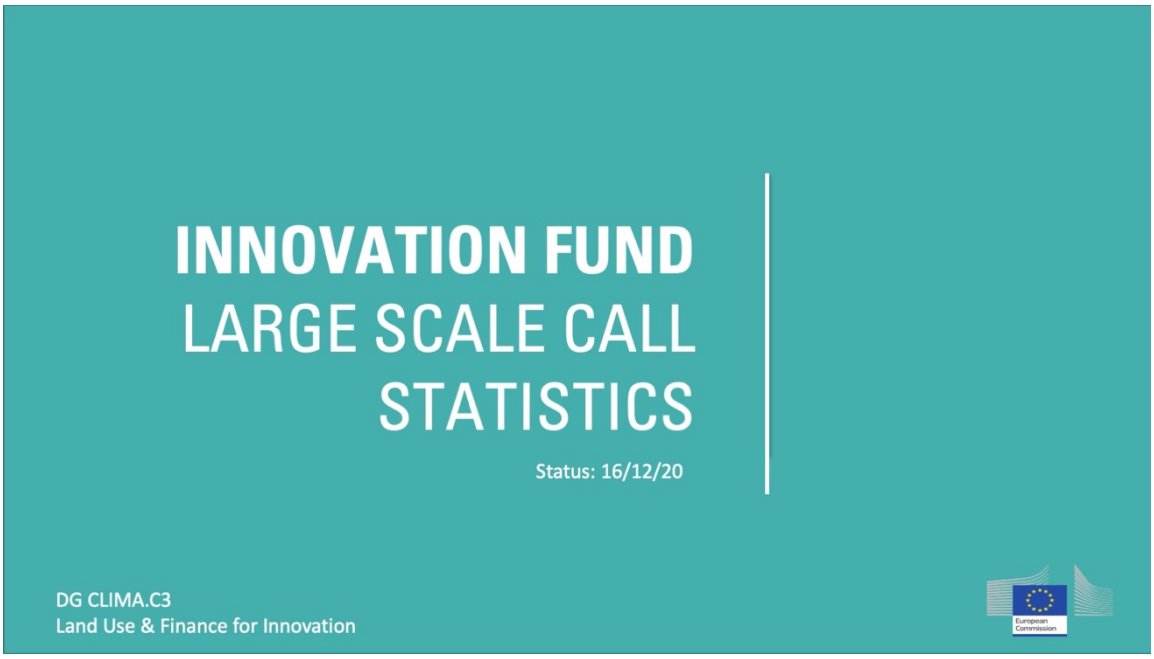
The first call for large-scale projects opened on 3 July with a budget of EUR 1 billion for breakthrough technologies for renewable energy, energy-intensive industries, energy storage, and carbon capture, use and storage. The call closed on 29 October 2020.

The next step in the first call of the Innovation Fund is the admissibility and eligibility check of all submissions. External evaluators will evaluate proposals that fulfil the admissibility and eligibility conditions against the award criteria.

Applicants will be informed about the results of the evaluation in the first quarter of 2021. The best ranked 70 projects will be invited to submit a full application for the second stage **by 23 June 2021**.

Rejected proposals that have the potential to improve their maturity may be invited for the project development assistance provided by the EIB. The information on the evaluation results from the second stage will be provided in the fourth quarter of 2021.

Grants will be awarded at the end of 2021.



Following the deadline for submitting applications on 29 October, DG CLIMA published high-level statistics (web news). This slide deck presents a deeper overview of the technology pathways proposed in the applications.

Disclaimer:

The following graphs show specific technological pathways in relation to the total number of proposals received. However, as some proposals combine several technologies, mapping a proposal to a single technology pathway has not always been possible. Thus, there are overlaps, and the presented numbers do not necessarily add up. Furthermore, information about proposals is only released at an aggregate level to safeguard the identity of the proposals.

311 proposals were submitted requesting in total **€21.7 billion** with the potential to avoid **1.2 $GtCO_2e$.**

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In response to the first call for large-scale projects of the Innovation Fund, the European Commission received 311 applications for innovative cleantech projects in renewable energy, energy-intensive industries, energy storage, and carbon capture, use and storage. The received proposals are located in all Member States, Iceland and Norway and the applicants have requested a total of EUR 21.7 billion of funding. The proposed projects promise to reduce around 1.2 billion tonnes of CO_2 during their operating period within the Innovation Fund.

LEGEND

Renewable Energy Sources

- Bio-electricity
- Hydro/Ocean energy
- Geothermal energy
- Renewable heating/cooling
- Solar energy
- Wind energy

Energy Intensive Industries

- Biofuels and bio-refineries
- Cement & lime
- Chemicals
- CO2 transport and storage
- Glass, ceramics & construction material
- Hydrogen
- Iron & steel
- Non-ferrous Metals
- Other
- Pulp & paper
- Refineries

Storage

- Intra-day electricity storage
- Other energy storage

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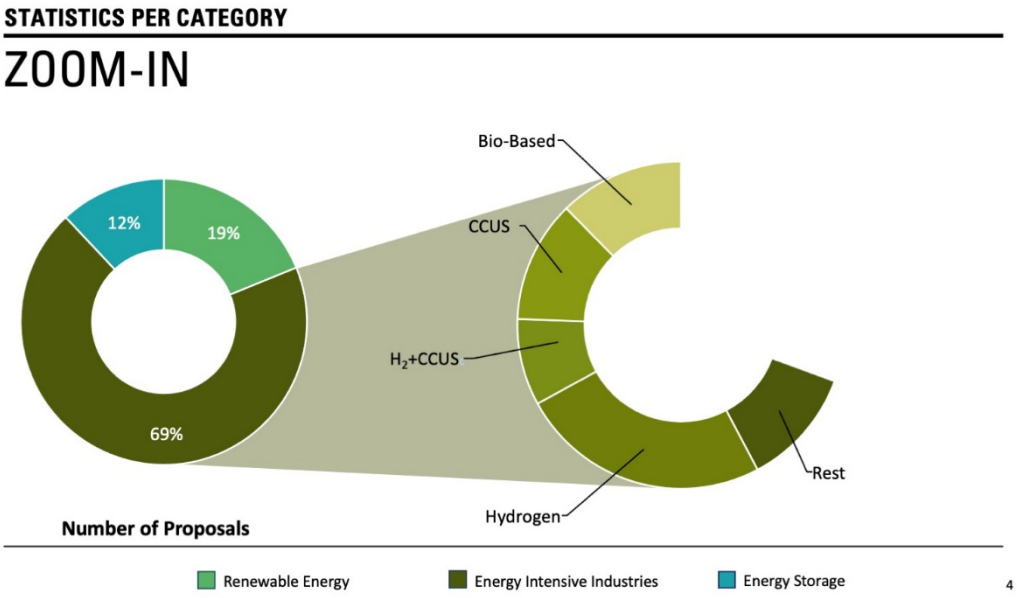
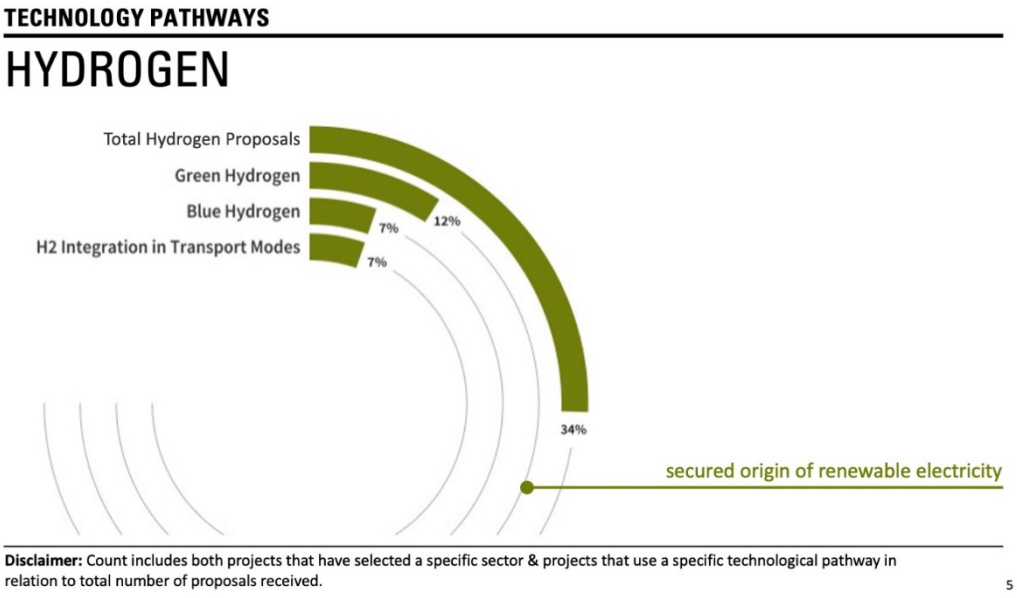


When zooming into the proposals received for "energy-intensive industries", three main pathways can be identified:

- Hydrogen (H_2),
- Carbon capture use and/or storage (CCUS), and
- Bio-based proposals.

There is a certain overlap between hydrogen and CCUS proposals. The overlap between bio-based and other technology pathways is not shown on the graph. Other pathways include recycling (e.g. scrap metal, plastics), pyrolysis, and electrification.

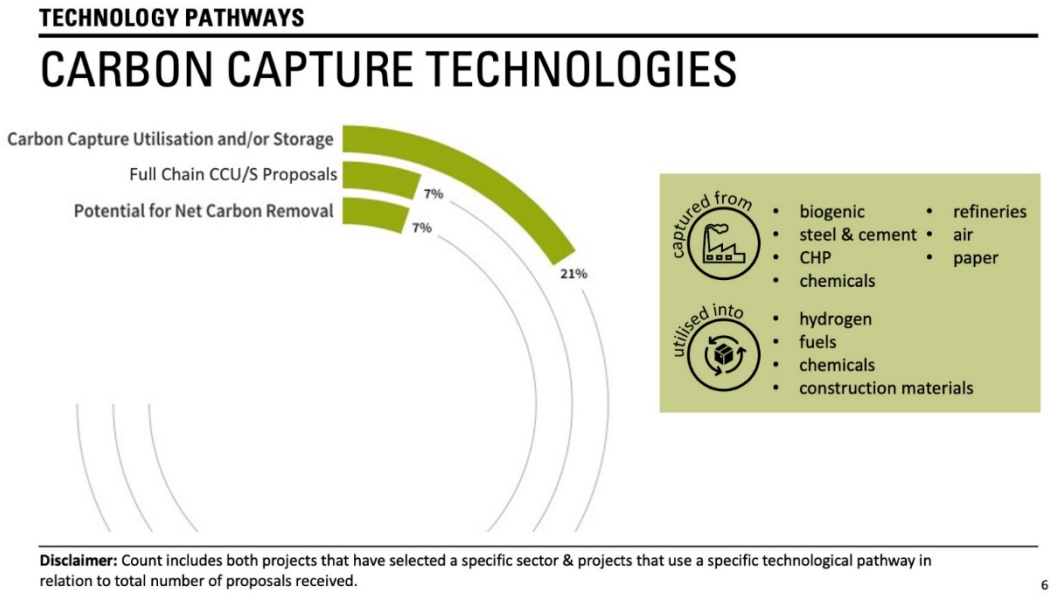
In terms of applicants, most of the proposals (directly and indirectly) involve more than one company, e.g. by including technology suppliers, feedstock or CO_2 providers, and their respective users. A variety of business models occur, e.g. applications by a single company or a consortium between the company carrying out the project and technology providers.



Deep dive: Hydrogen

We can zoom into hydrogen technologies, which involve hydrogen as a final or intermediary product:

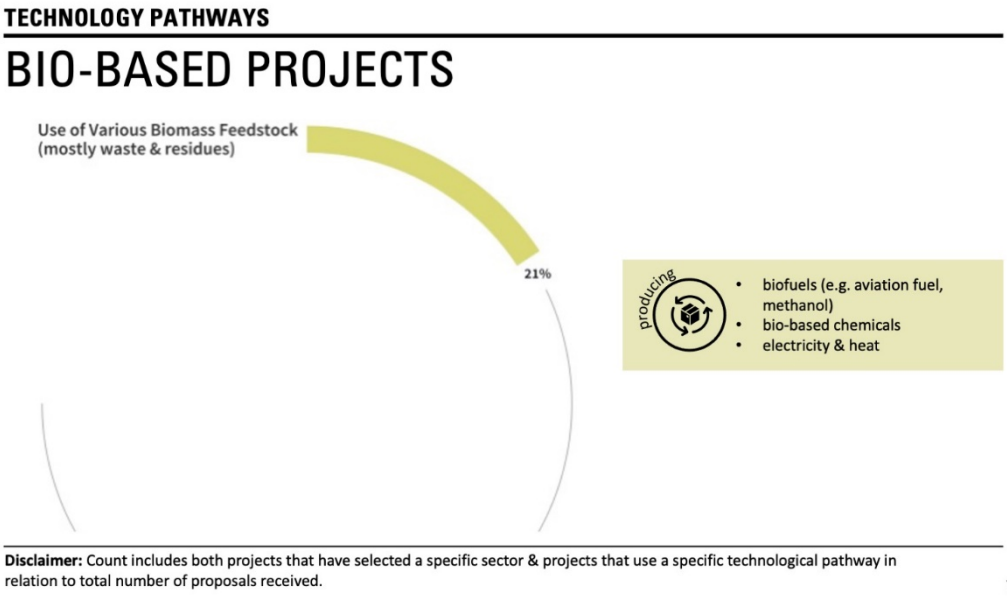
- About a third of all received proposals is related to hydrogen.
- 12% of the total number of received proposals can explicitly be considered green hydrogen. These proposals either intend to produce their own renewable electricity or conclude power purchase agreement to secure additional renewable electricity.
- About 7% of the proposals concern blue hydrogen (hydrogen produced from natural gas combined with CCS).
- The rest covers different varieties of hydrogen proposals that have not clearly indicated the source of electricity.
- A significant number of proposals (7%) have integrated hydrogen distribution and use to various transport modes (e.g. heavy-duty vehicles, buses, fuel cell and hydrogen vehicles, ships).



Deep dive: Carbon Capture

We can zoom into carbon capture technologies with the following observations:

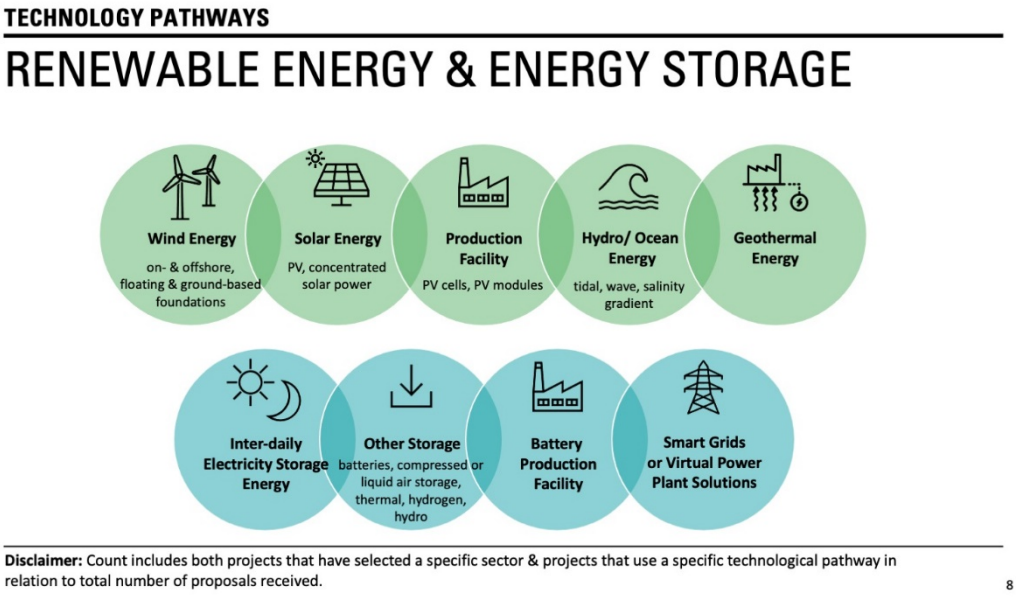
- Around a fifth of the total proposals is related to CCUS technologies.
- Most proposals focus on one part of the CCUS value chain, and only some proposals will integrate all aspects of the value chain from CO_2 capture to utilisation or storage. Some proposals capture CO_2 for storage but do not include the CO_2 storage site in the proposal.
- 7% of these proposals have the potential for net-carbon removals (negative emissions, net-carbon removals).
- CO_2 is captured from various sources: bio-refineries, ferrous and non-ferrous metal production, cement and lime, refineries, chemicals, bio- and geothermal combined heat and power (CHP) plants, Waste to Energy or ambient air.
- The CCUS proposals aim to result in the production of different products: electricity & heat, hydrogen, methanol, aviation fuels, methane, construction materials, other chemicals and other fuels.



Deep dive: Bio-based Products

We can zoom into bio-based products and technologies with the following observations:

- About a fifth of the total number of proposals consider various biomass feedstock, mostly waste and residues.
- The box on the right indicates the products covering the production of various biofuels, different bio-based chemicals, or combining chemicals and fuels.



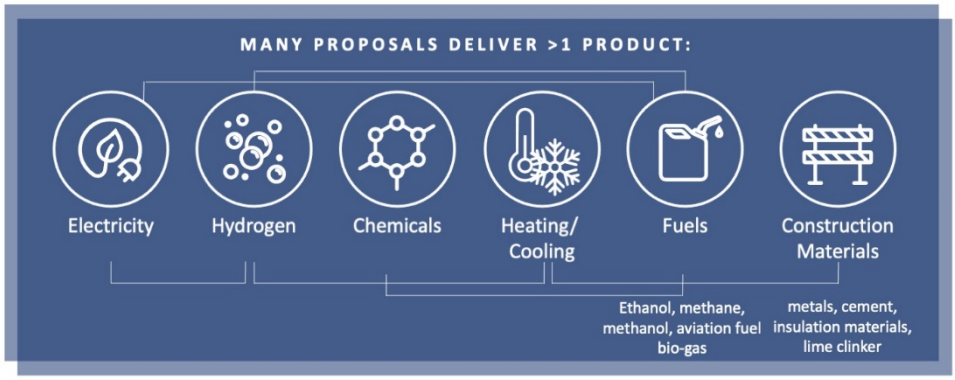
Deep dive: Renewable Energy & Energy Storage

Finally, we can zoom into renewable energy and energy storage technologies with the following observations:

- All types of technologies have been employed in the category of renewables: on- and offshore wind, floating and ground-based foundations, concentrated solar power (CSP), photovoltaics (PV), production facilities for PV cells and modules, as well as tidal, wave, salinity gradient and hydro energy, and deep geothermal energy.
- Many renewable energy proposals combine different renewable energy technologies such as combinations of CSP and PV, CSP and biomass, as well as wind and PV. Often variable renewable energy sources are combined with battery or thermal storage or the production of hydrogen.
- Many proposals aim to find solutions for the inter-daily electricity storage, while other proposals include other storage types - batteries, compressed or liquid air storage, thermal, hydrogen, and hydro storage.
- Some proposals cover demand-side measures by applying smart grids or virtual power plant solutions.
- Some applications concern production facilities for batteries.

TECHNOLOGY PATHWAYS

FINAL PRODUCTS



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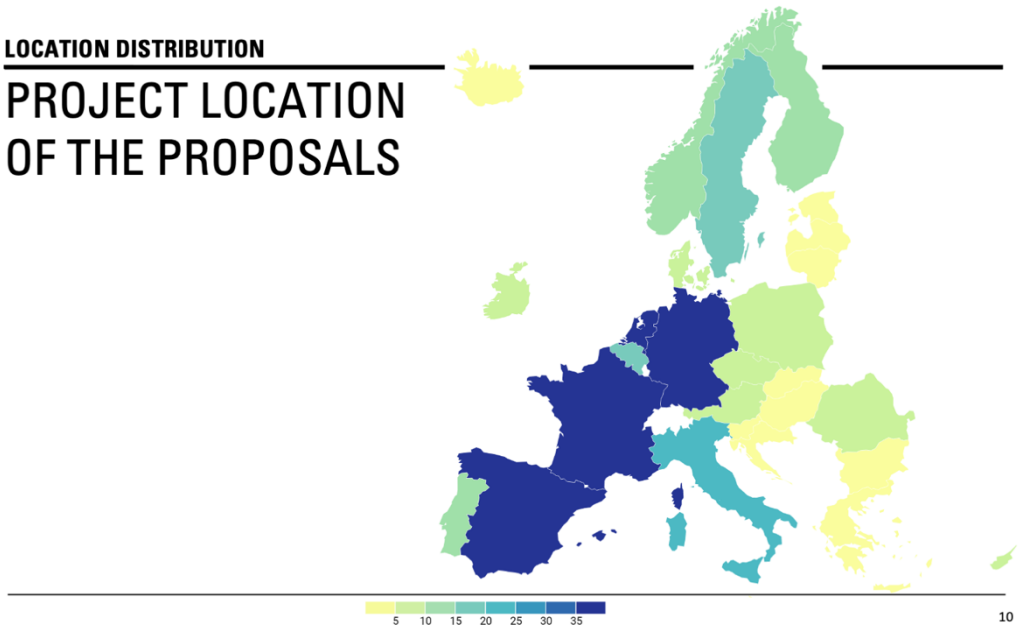
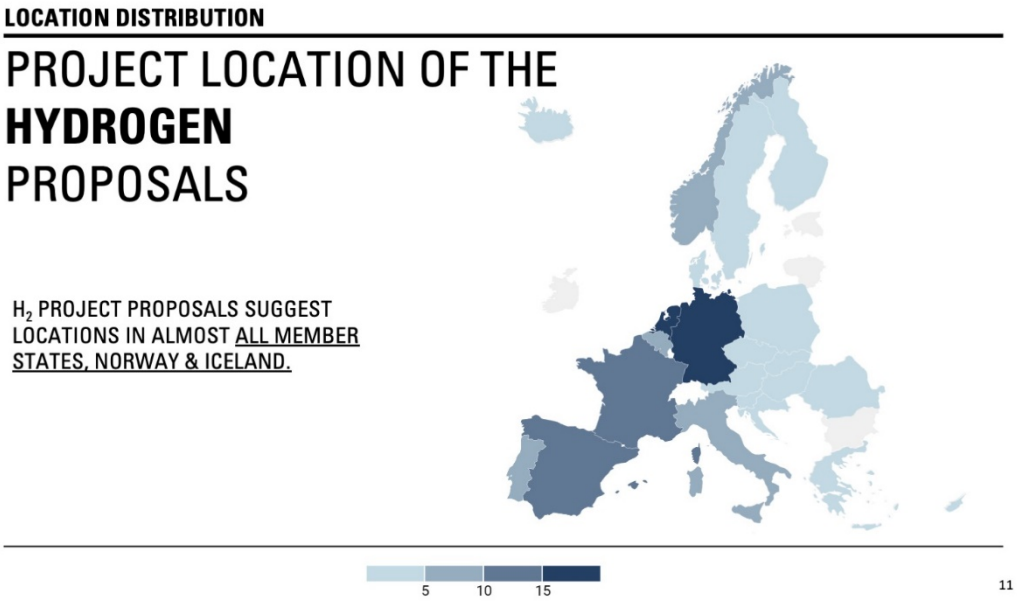
Overall, the majority of proposals deliver more than one final product. The combinations are displayed on this slide and cover several groupings such as chemicals with fuels or heating and cooling with fuels.

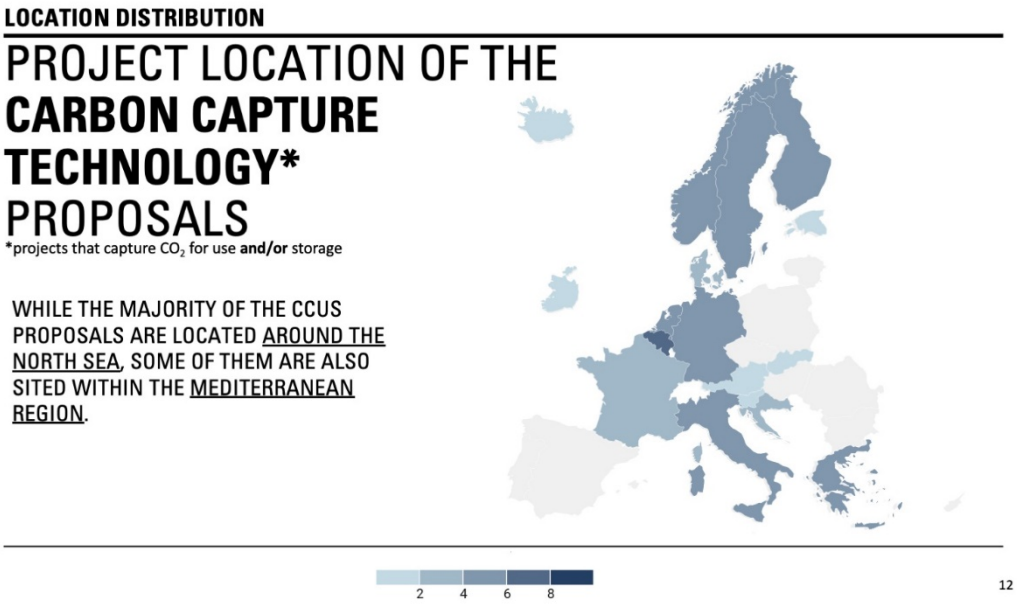


As already published in October (web news), this slide shows the geographical distribution of proposal locations among the Member States.

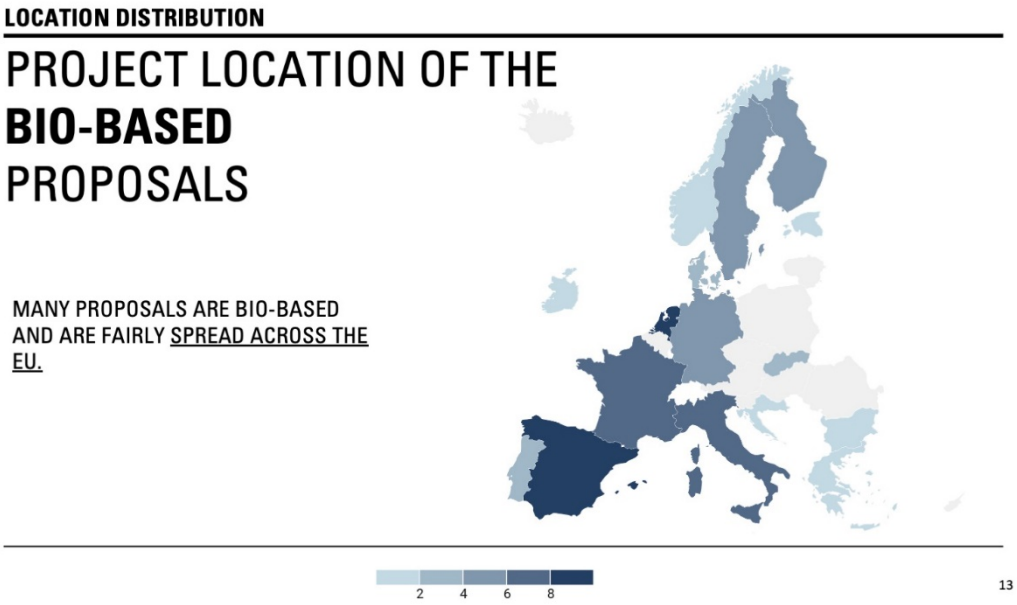


The following three slides show the geographical distribution of the main technology pathways for the energy-intensive industry related proposals.

Hydrogen proposals are located in almost all Member States, as well as Norway and Iceland.



A higher share of proposals is located in north-western Europe, but a fair number of proposals is also located in the Mediterranean.



Bio-based proposals are well distributed across Europe with higher numbers of proposals located around industrial hotspots.