



Progress of the European Green Deal & CCS strategy in Europe

CO₂GeoNet Autumn Webinar

20 September 2021

*Maria Velkova
DG Climate Action
European Commission*

The European Green Deal

- Climate action and preserving the environment are at the heart of the European Green Deal
- A plan to transform the EU into a modern, resource-efficient and competitive economy, ensuring:
 - no net emissions of greenhouse gases by 2050
 - economic growth decoupled from resource use
 - no person and no place left behind
- One third of the 1.8 trillion euro investments from the NextGenerationEU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal

European Climate Law to enshrine the 2050 climate-neutrality objective into EU law

2030 Climate Target Plan to further reduce net greenhouse gas emissions by at least 55% by 2030

Delivering the Green Deal

a small selection of Fit for 55 proposals

- Increasing the ambition of the **EU Emissions Trading System** from **-43% to -61%** (annual emissions reduction of 4.2% instead of 2.2%)
- Inclusion of **maritime transport**
- New separate emissions trading systems for **road transport and buildings** from 2026 for fuel suppliers: -43% in 2030
- **Social Climate Fund: €72 billion**
- Land Use, Forestry and Agriculture: new targets for **natural carbon removals**:
- More allowances for the Innovation Fund: to a potential total of €49 billion

-225 Mt

old target

-268 Mt

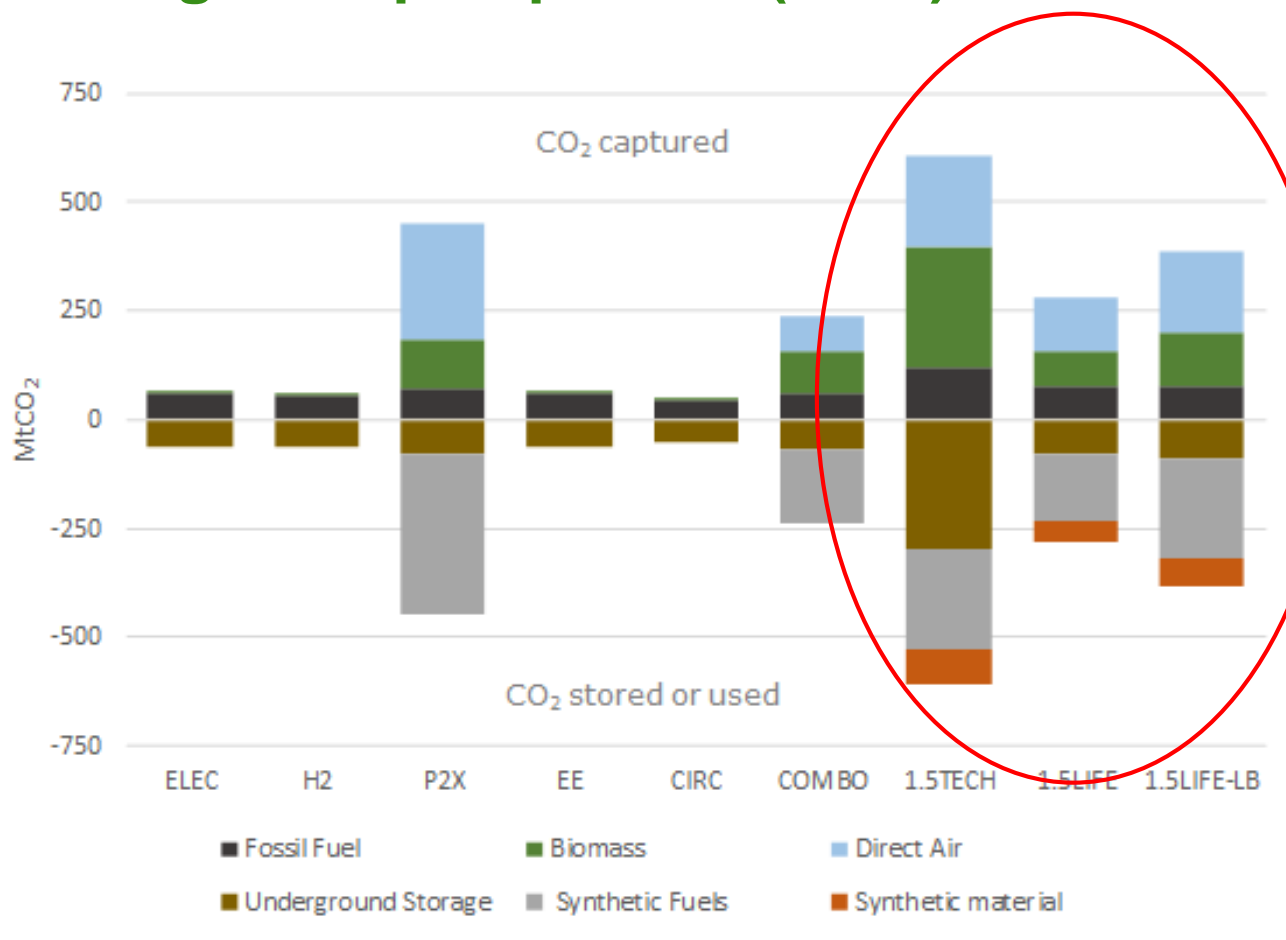
current carbon removals

-310 Mt

new target

Increased ambition (2030): Zero or very low carbon technologies and business concepts need to be developed and tested at scale in this decade

Long-term perspective (2050): Climate neutrality



- CCS will be required to reduce emissions of any remaining fossil fuels use (power sector, industry)
- Necessary for certain hard to decarbonize industrial processes
- CCS combined with biomass (BECCS) or direct air capture (DACCS): required to generate net carbon removals if we are to achieve climate neutrality
- Storage in materials (e.g. in plastics) is also seen as an option
- CCU fuels in some scenarios
- The modelling for the FF55 package has a much higher amount of recycled carbon and direct air capture than any other scenario before

Source: Scenario Analysis Results for CCUS, Vision for a Clean Planet by 2050

EU Policy for CCUS

- **CCS Directive:** ensures CCS is done safely for the environment and human health
- **EU ETS:** allowances do not need to be surrendered when CO₂ is geologically stored (CCS) but not for CCU (unless for production of PCC)
 - revised EU ETS will strengthen the carbon signal
 - no longer limits the scope of CO₂ transport to transport by pipeline, but includes all transport means;
 - some further CCU options can be included (for CO₂ permanently chemically bound in a product, future IA)
- **CCU fuels** are encouraged through the Renewable Energy Directive (RED2) as of 2021
 - the proposal for amended Renewable Energy Directive sets a sub-target for renewable fuels from non-biological origin (RFNBOs): 2,6% in 2030
- The legislative proposals of the **ReFuelEU Aviation Initiative** and **FuelEU Maritime Initiative** will ensure that there is sufficient demand for synthetic fuels based on CCU
















EU Policy for CCUS (cont.)

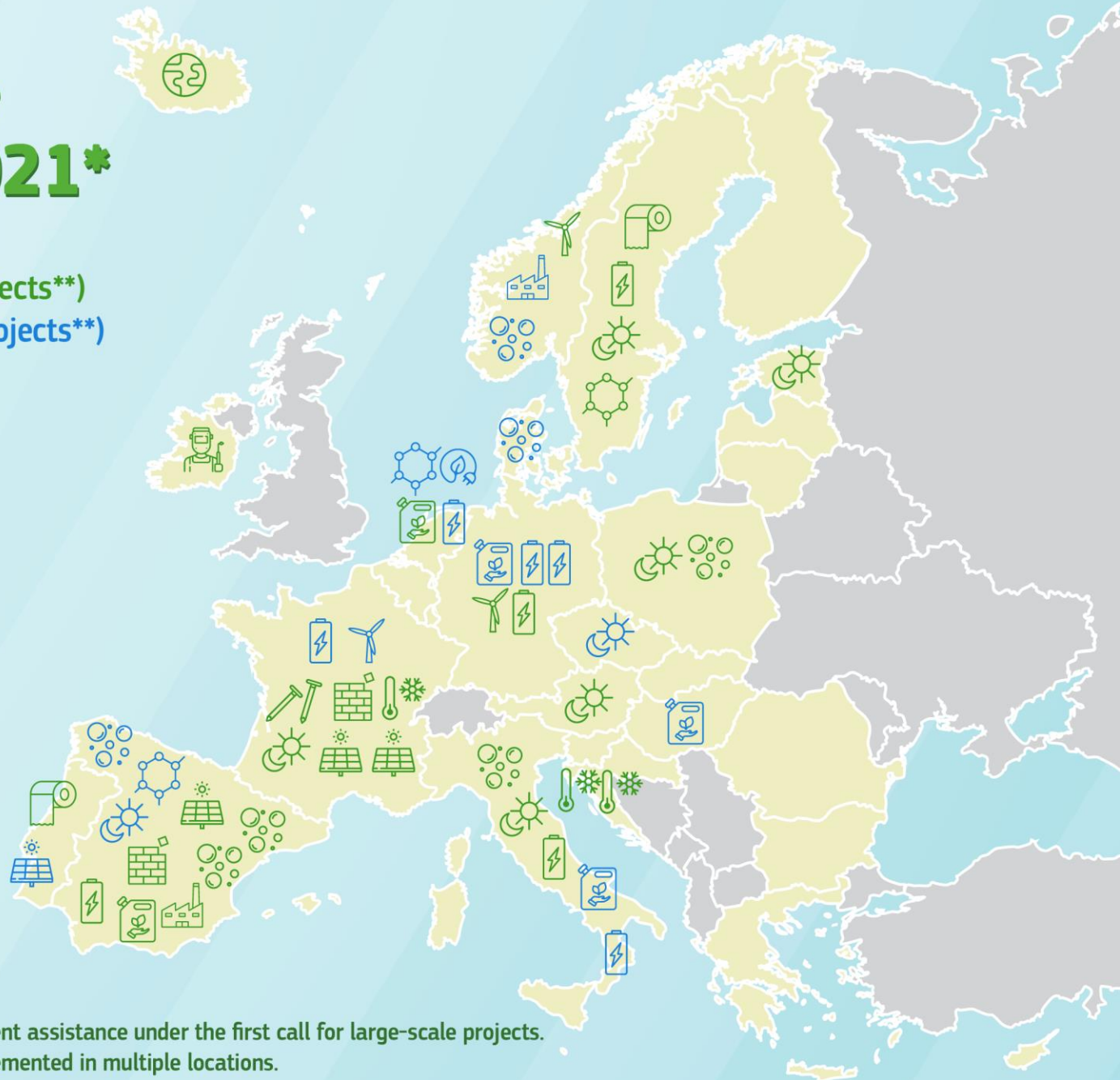
- EU certification systems based on the GHG performance for low-carbon basic materials and for carbon removals will be developed, so called '**carbon removal certificates**'
 - it may create incentives for CCU, DACCS, BECCS
 - forthcoming communication Restoring Sustainable Carbon Cycles (14 Dec 2021)
- Dedicated funding: **Horizon Europe, Innovation Fund, Connecting Europe Facility**
- **TEN-E**: TEN-E label and inclusion of pipelines in the regulation
- **Sustainable taxonomy**: CCS in, CCU maybe in the future

Successful projects under the Innovation Fund as of July 2021*

Green: Small-scale projects invited for grant preparations (32 projects**)

Blue: projects proposed for project development assistance (15 projects**)

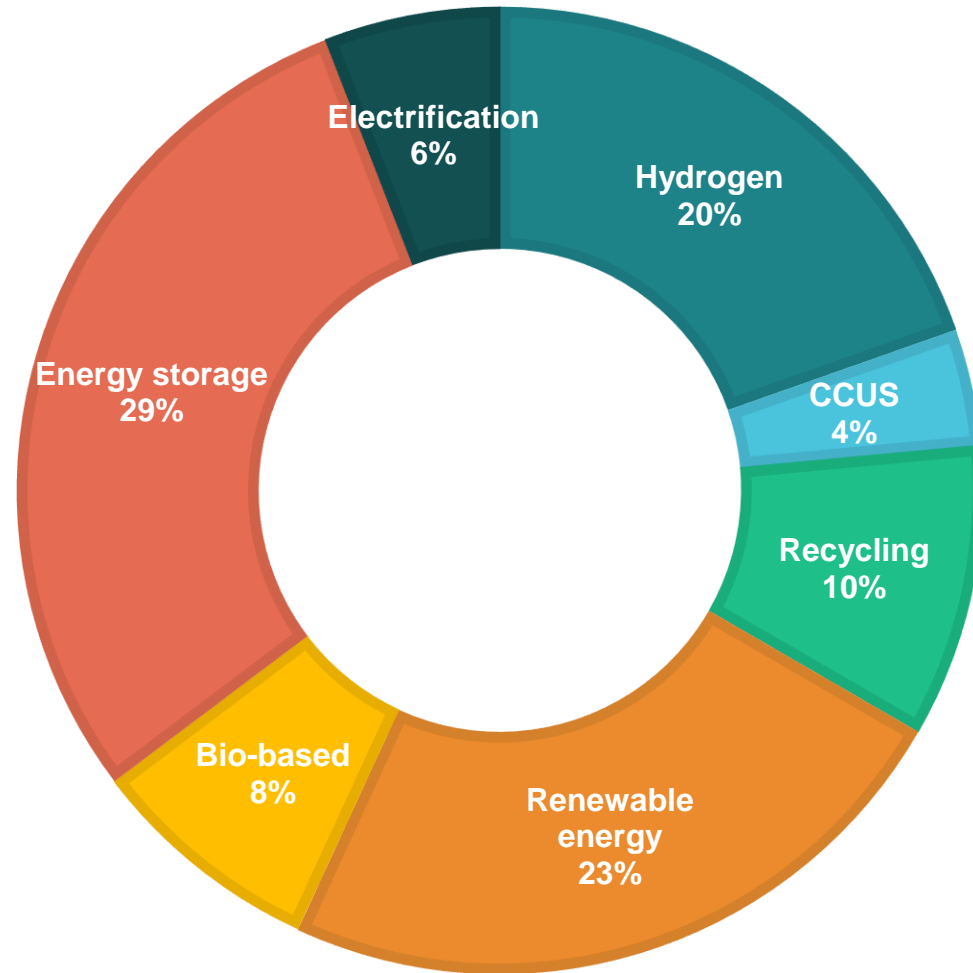
- | | |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  Biofuels and biorefineries |  Other energy storage |
|  Chemicals |  Bio-electricity |
|  CO ₂ transport and storage |  Pulp and paper |
|  Hydrogen |  Refineries |
|  Intra-day electricity storage |  Renewable heating/cooling |
|  Iron and steel |  Solar energy |
|  Non-ferrous metals |  Wind energy |
|  Glass, ceramics and construction material | |



*Projects offered a grant under the first call for small-scale projects and project development assistance under the first call for large-scale projects.

**The number of symbols is higher than the number of projects, as some projects are implemented in multiple locations.

32 successful small-scale projects



3 CCUS projects:

- **AGGREGACO2:** Fabrication of CO2 negative aggregates based on disruptive accelerated carbonation processes fueled by carbon capture in refineries
- **Silverstone:** Full-scale CO2 capture and mineral storage at the Hellisheidi power station
- **FirstBio2Shipping:** First Bio-LNG to marine shipping

8 Legend: High-level screening of applied technological pathways. Classification of projects can be overlapping.
Inner circle: applications received

1st Large scale call for proposals: state of play

311 proposals submitted from all MS

292 proposals admissible and eligible

117 proposals pass all minimum thresholds

70 proposals invited to second stage application

requesting **€6.7 billion**

with potential to avoid **402 MtCO₂e** over 10y

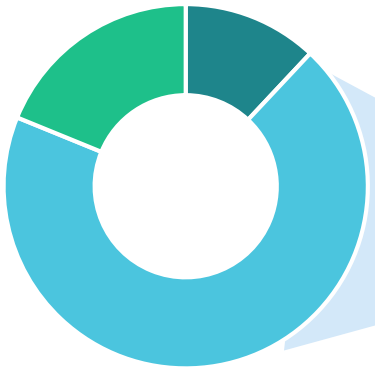
66 proposals submitted in 2nd stage

ZOOM-IN ON PROJECTS BY CATEGORY

Projects invited to 2nd stage cover all technologies

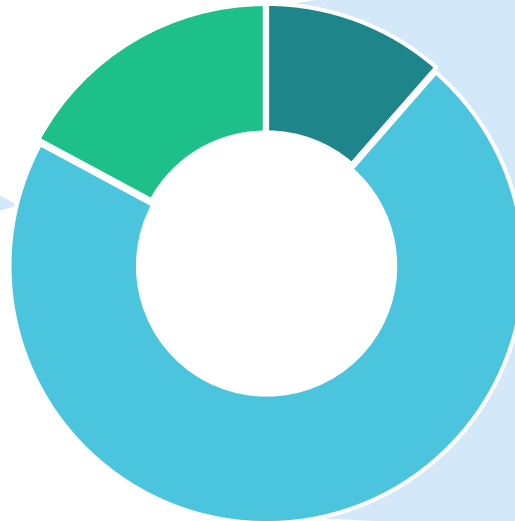
stable share of projects per pathway

Eligible projects by category

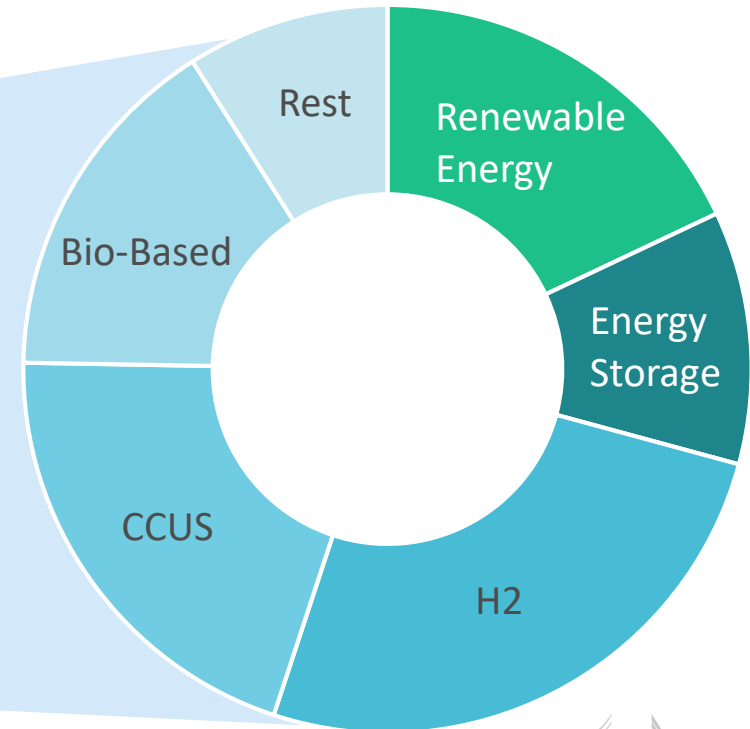


- Storage
- Energy Intensive Industry
- Renewable Energy

Projects invited for 2nd stage by category



Breakdown by technological pathway



Second call for large-scale projects

Grants

- Expected **launch of single-stage call** on **26 October 2021**
- Expected deadline for **submission** in **March 2022**
- Expected results in July 2022
- Expected **volume** of **EUR 1.5 billion**

Project Development Assistance

- Support for projects with high potential but not yet mature for grants
- Up to 20 beneficiaries expected
- Expected results in Q3 2022

Second call for small-scale projects

Grants

- Expected **launch** of call in **March 2022**
- Expected deadline for submission late August 2022
- Expected results in Q1 2023
- Expected **volume** of **EUR 100 million**

Project Development Assistance

- Support for projects with high potential but not yet mature for grants
- Up to 20 beneficiaries expected
- Expected results in Q2 2023

Thank you



ec.europa.eu/clima/



EUClimateAction



EUClimateAction



ourplanet_eu



EUClimateAction