



European Green Deal and CCS strategy for Europe

CO₂GeoNet Winter Webinar

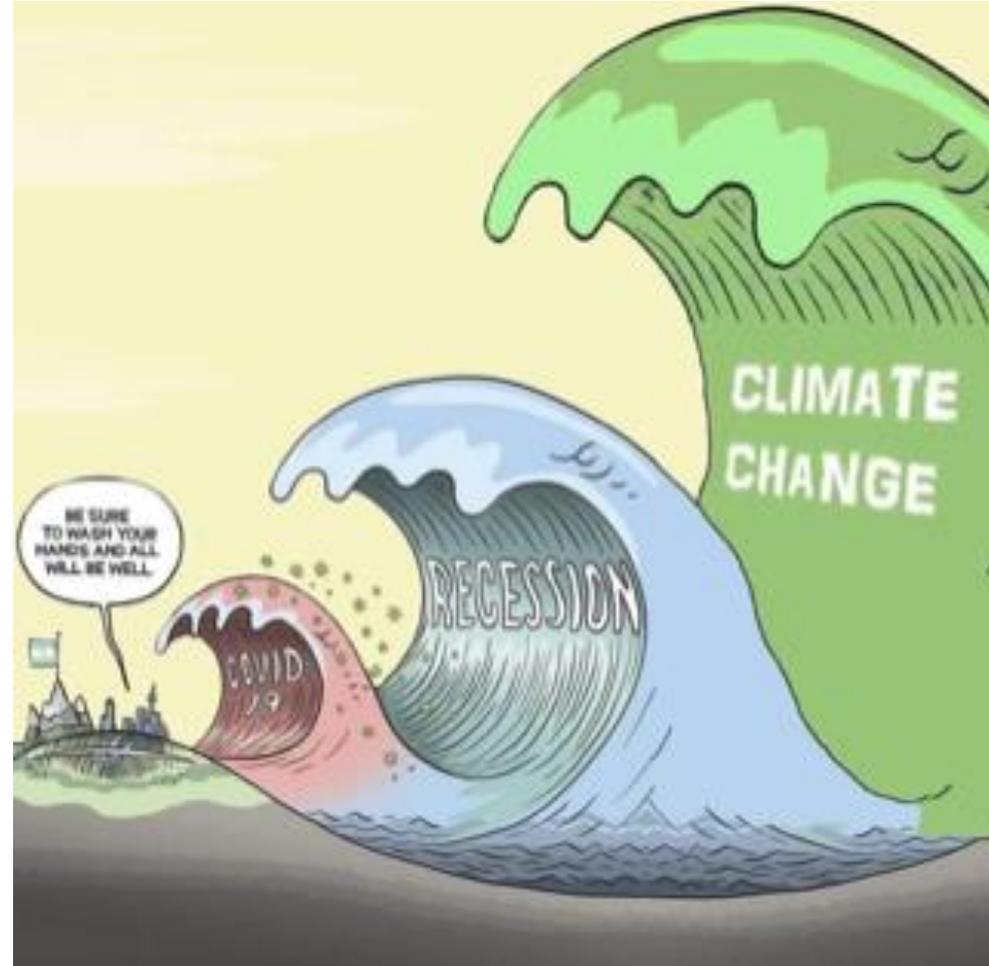
2 February 2021

Maria Velkova

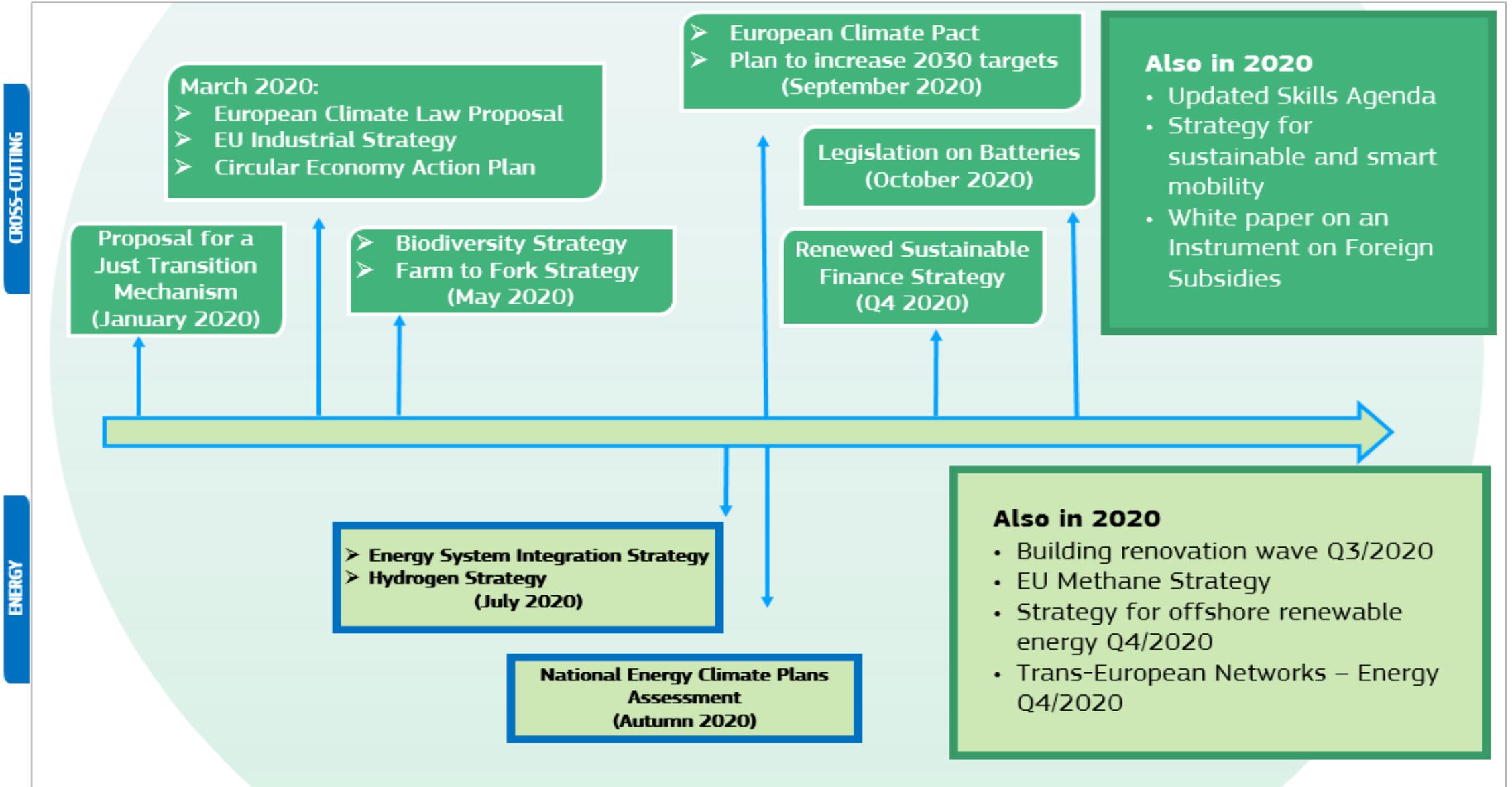
European Commission, DG Climate Action

Challenging times

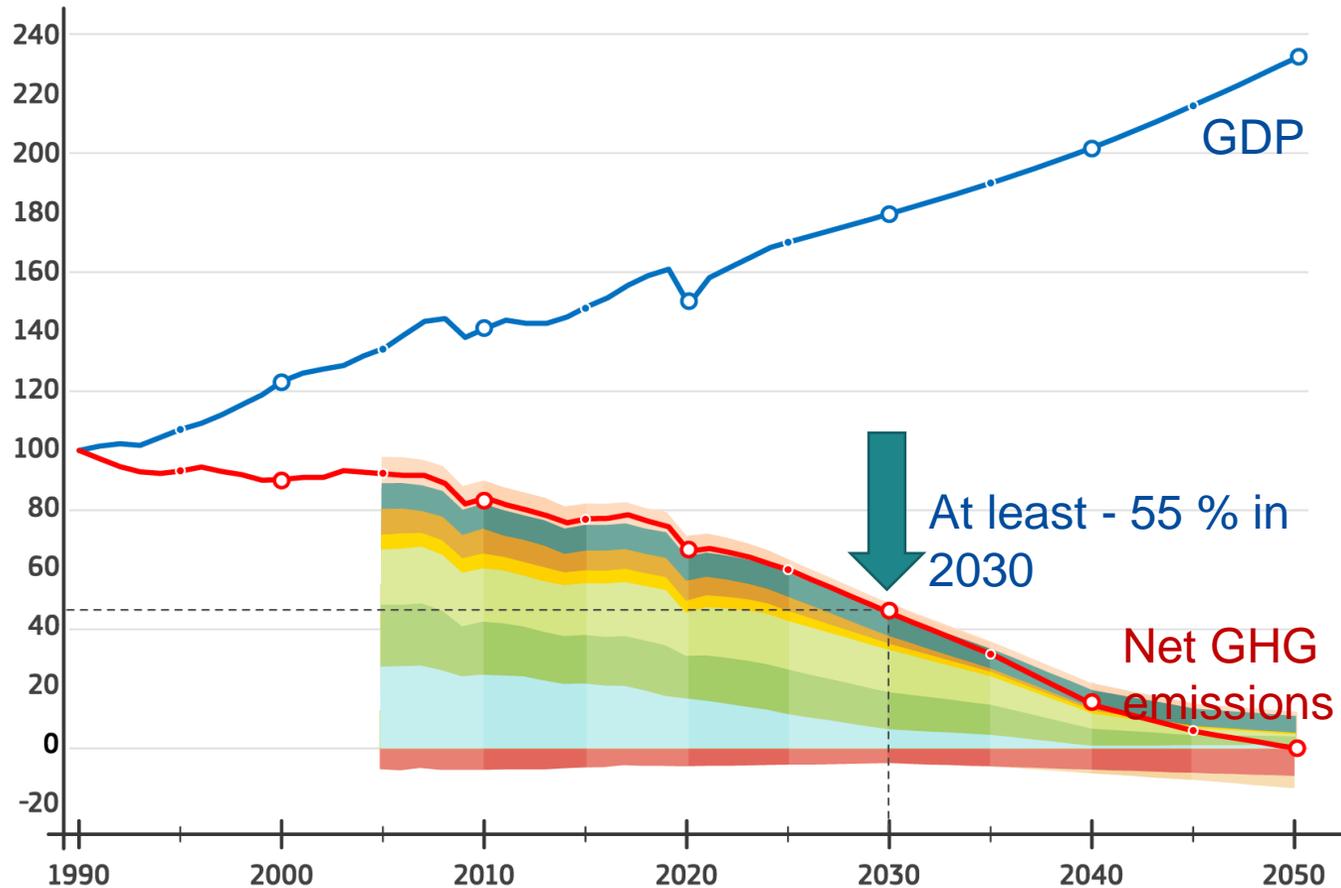
- **COVID-19 health crisis ongoing.**
- Unprecedented European response to address economic fall-out.
- **Global warming already reached 1.1°C**, impacts increasingly obvious, IPCC reports on 1.5°C, land and cryosphere warns about future impacts. Science sees increasing risks.



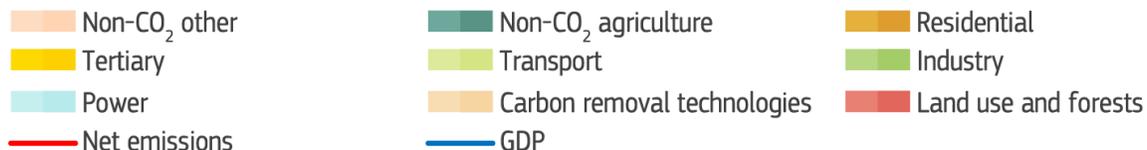
The European Green Deal



EU pathway to climate neutrality



- EU net GHG emissions and removals in 2019 reduced by an **estimated 25%** compare to 1990 while **GDP grew with 62%**.
- Existing targets **only achieve around 60%** greenhouse gas reductions in 2050.
- Existing climate target and legislation increase the **risk for carbon lock-in** and require back loading of action after 2030 to achieve climate neutrality by 2050.
- **Clearer and stronger investment signals** are urgently needed for today's investment planning and decisions to be coherent with the transition to climate neutrality.



EU Climate and Energy Policy

EU Climate law

EU climate neutral by 2050

2030 Climate Target Plan

Reduce GHG emissions by 55% by 2030

Sectoral policies ('Fit for 55')

EU ETS, Effort Sharing Decision, LULUCF, Renewable Energy & Energy Efficiency, CO₂ vehicle efficiency standards, fluorinated gases, Carbon Border Adjustment Mechanism

- Europe – first continent to become climate neutral in 2050
- Create legal certainty and predictability for business:
 - The target of at least 55% net greenhouse gas emissions reductions by 2030 compared to 1990 to be enshrined in the Climate Law
 - All sectors will need to contribute: Legal framework to be updated by June 2021
- **Real investments need to start now:** use the opportunities of Next Generation EU and Recovery and Resilience Plans *in addition* to existing funds
- Whole of society will need to take an active role: Climate Pact
- **Rally international support** in the coming months and years to raise ambition

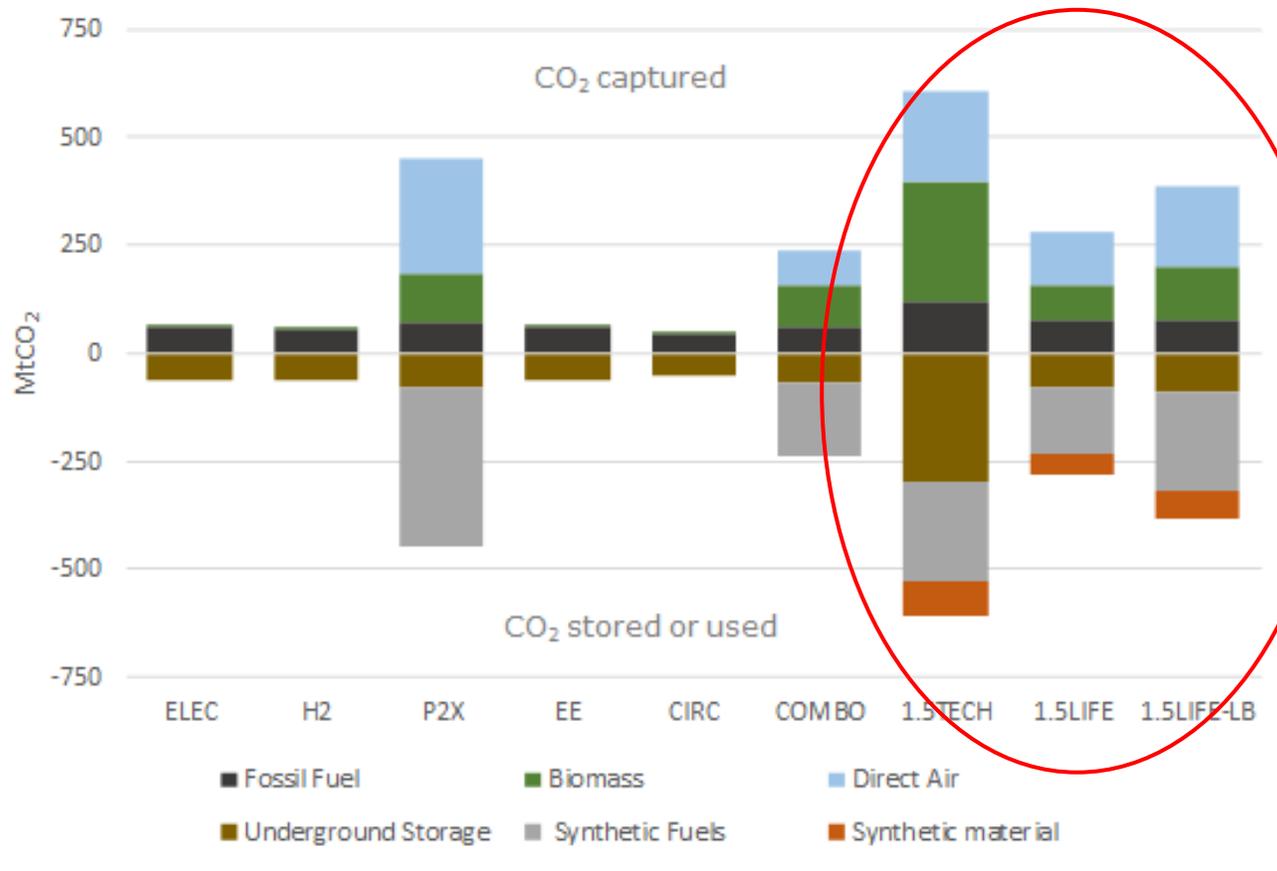
Sectoral transition (1)

- **Decarbonisation of the energy system is a priority:** 75% of EU greenhouse gas emissions
- **60% emission reductions by 2030 or more** compared to 2015 in buildings and power sector from rapid penetration of renewable energy, use of the energy efficiency first principle, electrification and energy system integration
- Use of fossil fuels will fall substantially. Coal for instance decreases by more than 70% compared to 2015
- By 2030, the **share of renewable electricity production will double to 65% or more**
- Industry and buildings can subsequently decarbonise, with **heating and cooling reaching a 40% renewable share by 2030**

Sectoral transition (2)

- **Clean hydrogen** crucial for decarbonising heavy-duty transport and, through its derivatives, the aviation and maritime sector.
- **Industry could decrease emissions by 25% by 2030** compared to 2015 through a combination of best practices, use of waste heat and increased electrification.
- **Projected increases in bioenergy use by 2030 are limited.** Bioenergy production best to come from better use of biomass wastes and residues, sustainable cultivation of energy crops, replacing the production of first generation food-crop-based biofuels.
- To prepare for a transition towards climate neutrality post 2030, **zero- and low-carbon technologies will need to be kick-started: tested at scale this decade.**

Scenario Analysis Results for CCUS Vision for a Clean Planet by 2050



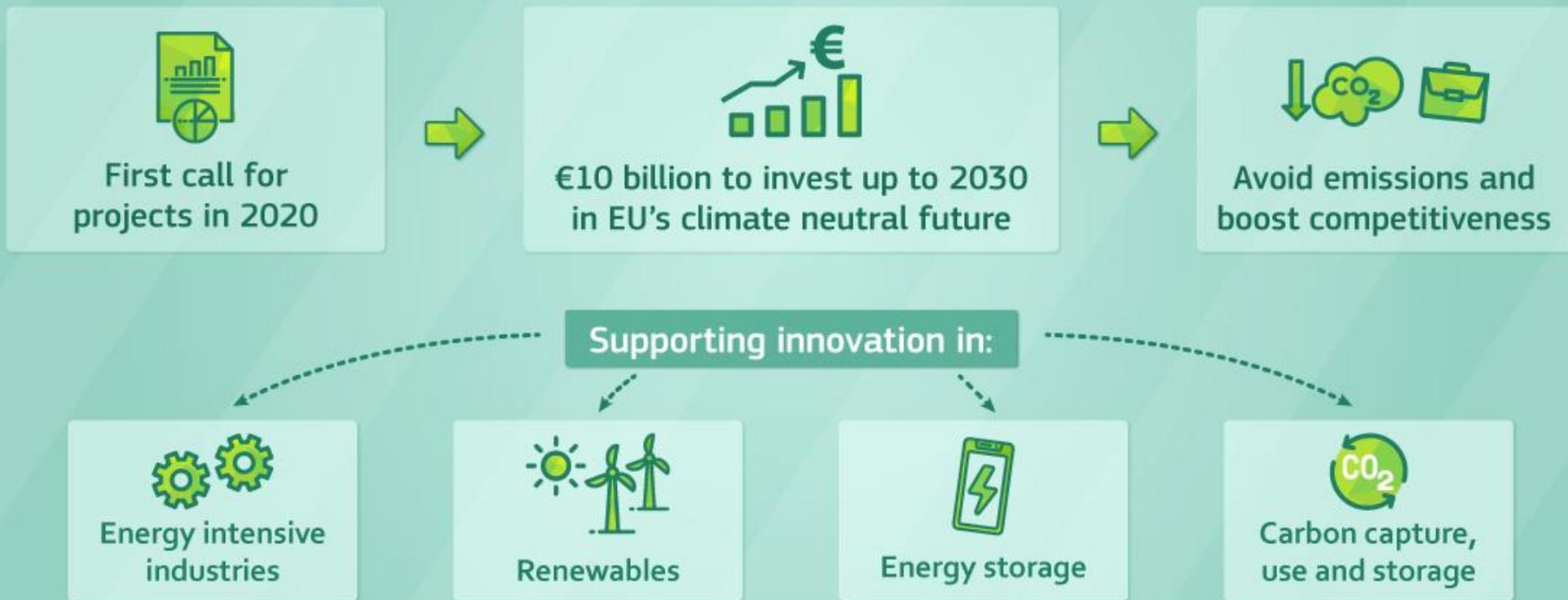
- CCS will be required to reduce emissions of any remaining fossil fuels use (power sector, industry)
- **Necessary for certain hard to decarbonize industrial processes**
- **CCS combined with biomass is required to generate negative emissions if we are to achieve climate neutrality**
- Storage in materials (e.g. in plastics) is also seen as an option
- CCU fuels in some scenarios

EU Policy for CCUS

- Increased ambition (2030) and long-term perspective (2050)
 - Zero or very low carbon technologies and business concepts need to be developed and tested at scale in this decade
- 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
 - Updated EU ETS will strengthen the carbon signal
- CCU fuels are encouraged through the Renewable Energy Directive (RED2) as of 2021
- EU certification systems based on the GHG performance for low-carbon basic materials and for carbon removals will be developed: CCU, BECCS
- Dedicated funding: Horizon Europe, Innovation Fund, Connecting Europe Facility

INNOVATION FUND

Driving clean innovative technologies towards the market



Funded by: EU Emissions Trading System

Innovation Fund key features

Volume of at least **EUR 10 billion** until 2030 (at EUR 20 carbon price)

Support of up to **60% of additional costs** related to innovative technology

40% of grant disbursed at financial close

Financed from the revenues of the **EU Emissions Trading System**

Support of additional capital **and** operating costs (up to 10 years)

60% of grant disbursed during 10-years operating period against GHG emission avoidance

Annual calls for large-scale and small-scale projects (CAPEX < EUR 7.5 million)

Single applicant or consortium

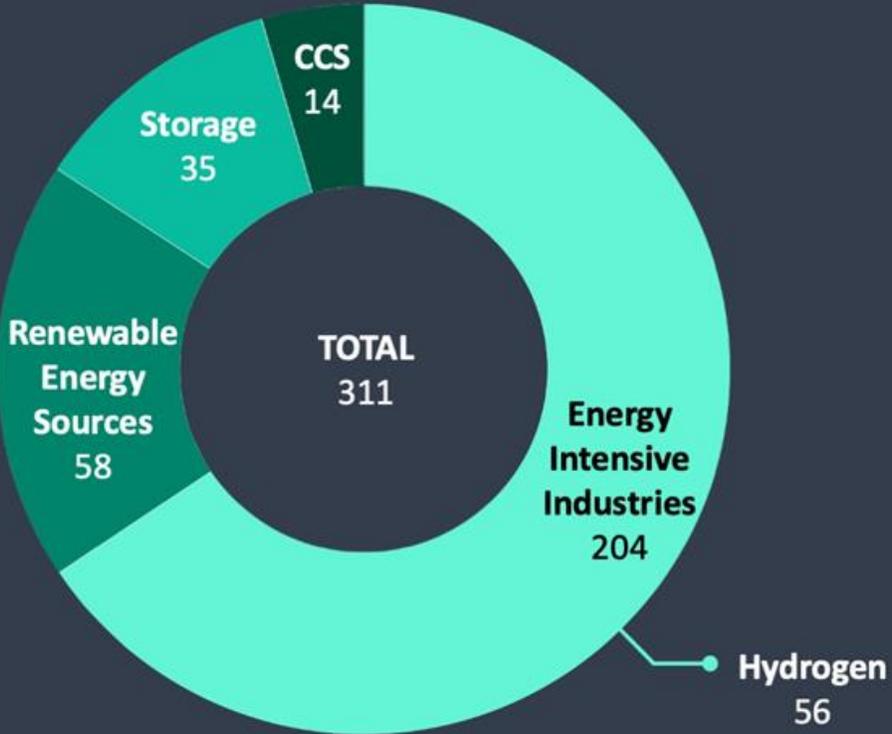
Project development assistance

1st call for large-scale proposals applications closed on 29 October 2020

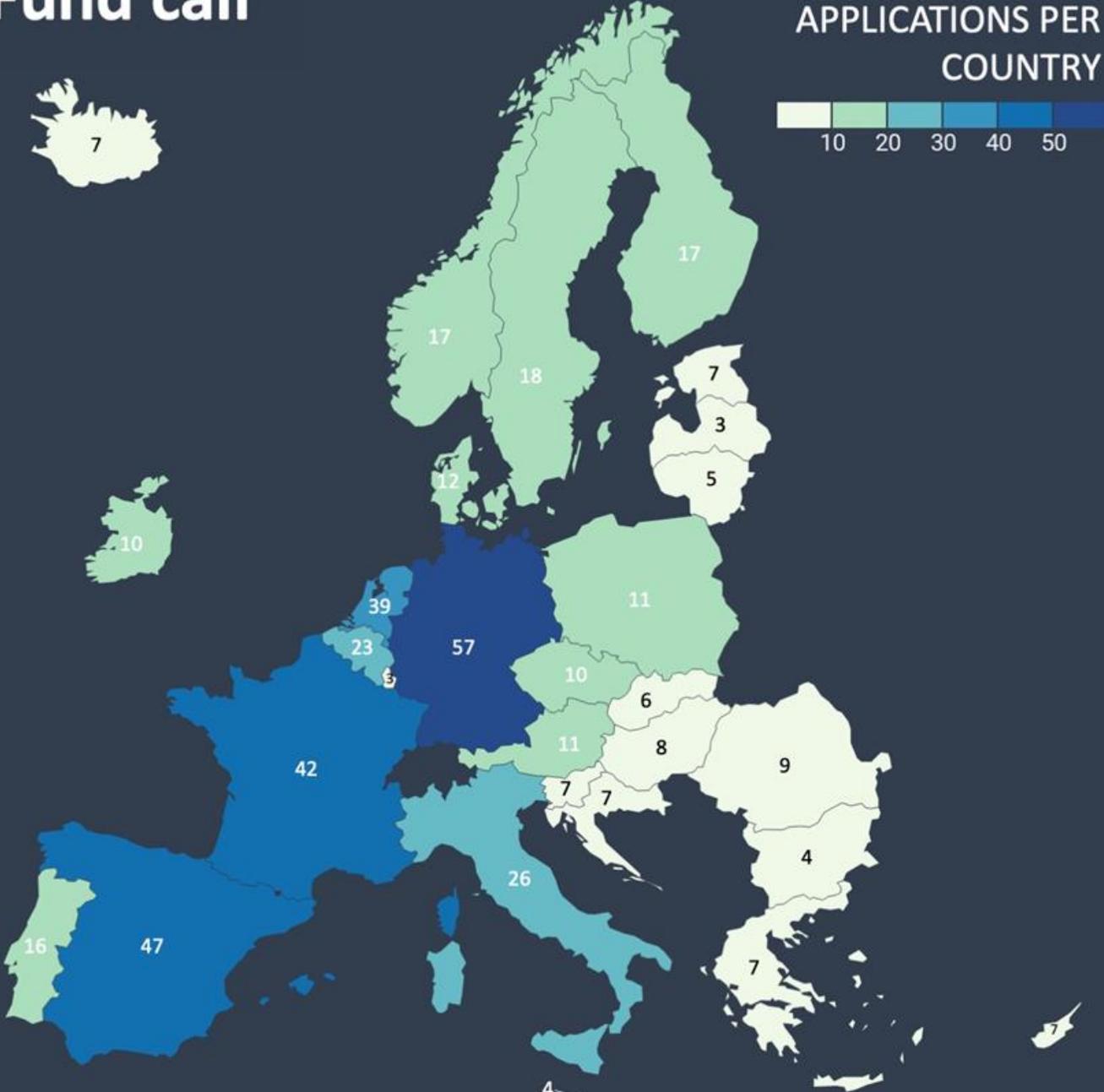
RESULT

**311 proposals were submitted
requesting in total €21.7
billion with the potential
to avoid 1.2 billion tCO₂e.**

Applications to first Innovation Fund call

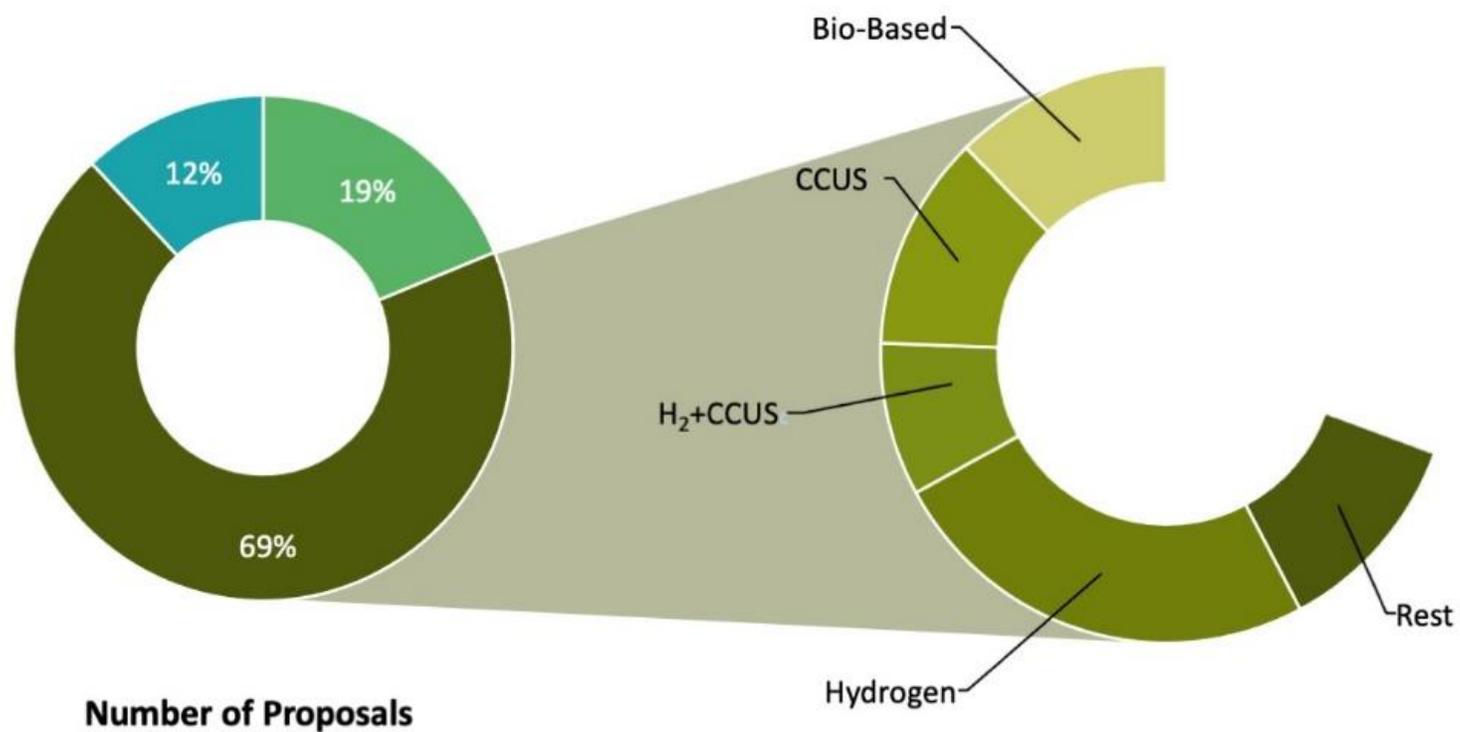


APPLICATIONS PER ACTIVITY
of which some are cross-sectoral applications



STATISTICS PER CATEGORY

ZOOM-IN



Number of Proposals

Renewable Energy

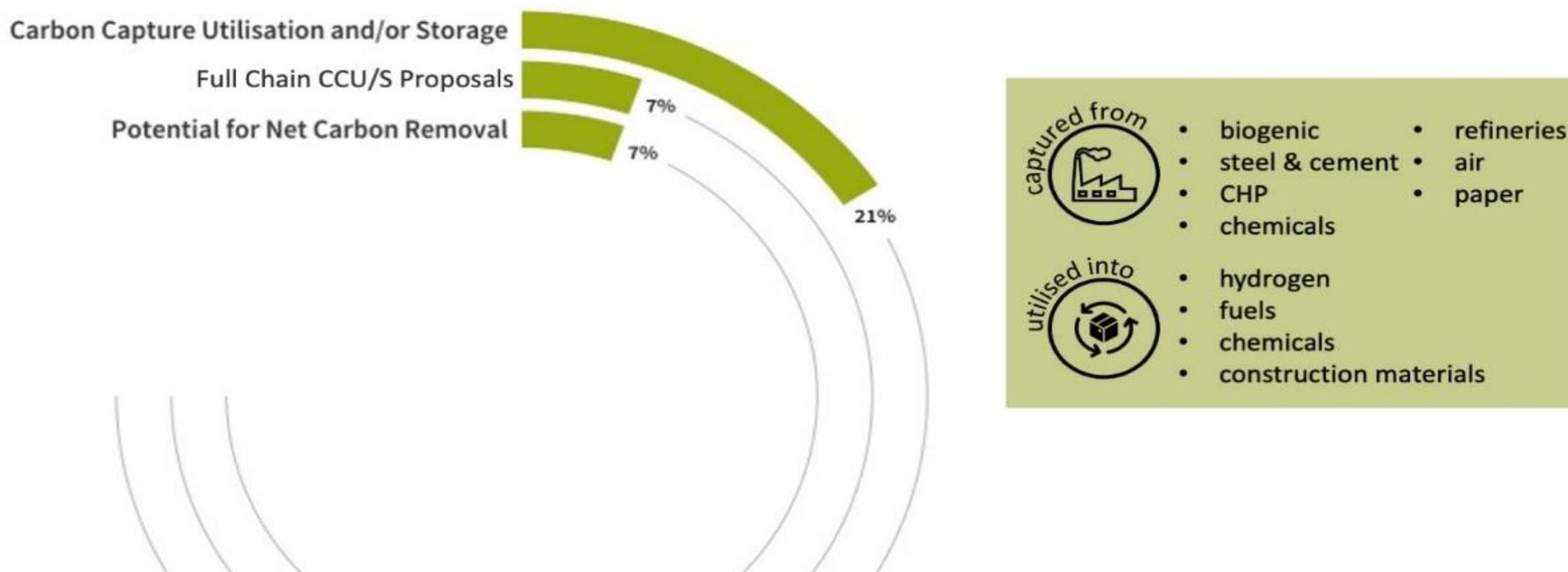
Energy Intensive Industries

Energy Storage

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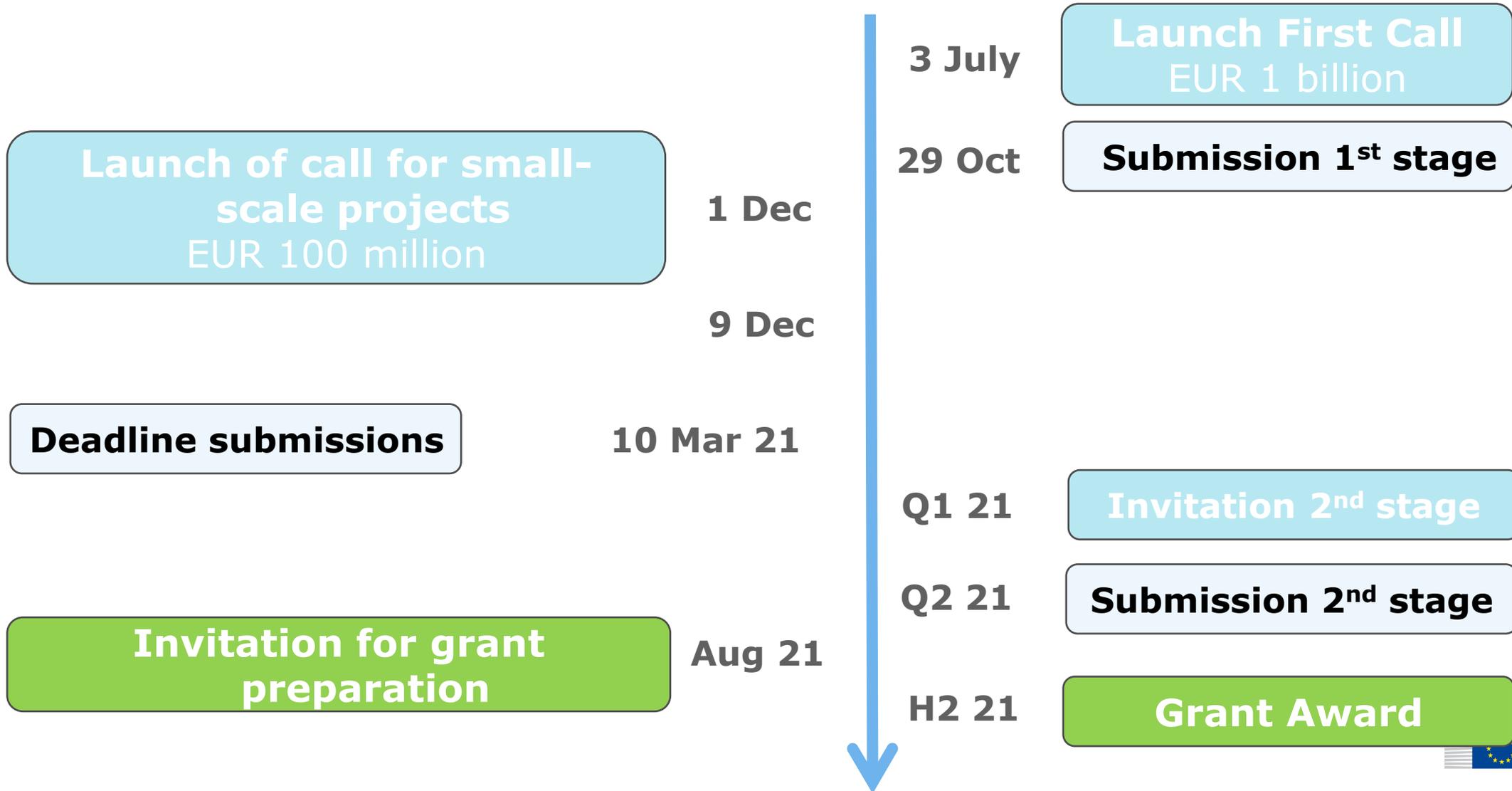
TECHNOLOGY PATHWAYS

CARBON CAPTURE TECHNOLOGIES



Disclaimer: Count includes both projects that have selected a specific sector & projects that use a specific technological pathway in relation to total number of proposals received.

Innovation Fund Calendar



Thank you



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