

# Innovation fund

Antti Arasto 3011.2023

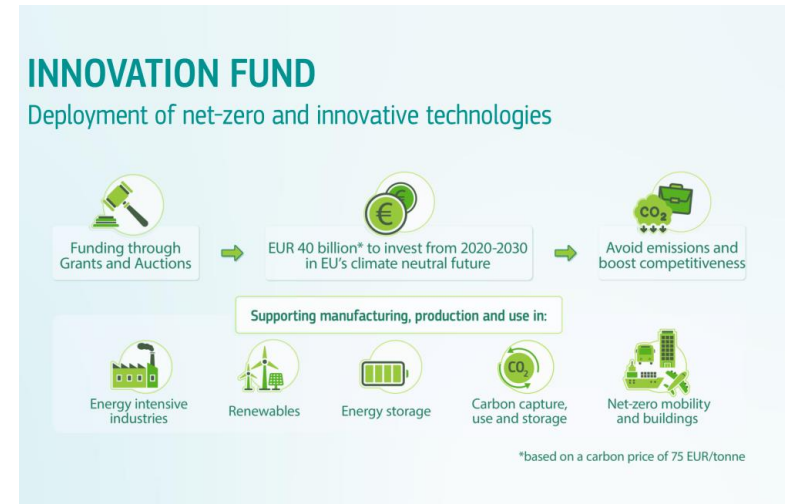
29/11/2023 VTT – beyond the obvious

# What is innovation fund

29/11/2023 VTT – beyond the obvious

# What is the Innovation Fund?

- The Innovation Fund is one of the world's largest funding programmes for the demonstration of innovative low-carbon technologies.
- In the EU, polluters have to pay for their greenhouse gas emissions via the Emissions Trading System (ETS). The money raised via the ETS is reinvested into the Innovation Fund: one of the world's largest funding programmes for innovative low-carbon technologies.



## In 2023, the revision of the EU Emissions Trading System Directive strengthened the Innovation Fund as follows:

- The overall size of the Innovation Fund has been increased from 450 million ETS allowances to approximately 530 million ETS allowances
- Scope changes: new sectors (e.g. maritime, aviation); introduction of medium-scale projects; application of the Do Not Significant Harm (DNSH) principle from 2025; stronger reference to multiple environmental impacts
- The introduction of new financial instruments (“Competitive Bidding”)
- Stronger attention to geographical balance, including through technical assistance to Member States with low effective participation.

# The Innovation Fund's goals

- help businesses invest in clean energy and industry
- boost economic growth
- create future-proof jobs
- reinforce European technological leadership on a global scale.

## Funding innovative projects focusing on:

- innovative low-carbon technologies and processes in energy-intensive industries, including products that can substitute carbon-intensive ones
- carbon capture and utilisation – CCU
- construction and operation of carbon capture and storage (CCS) facilities
- innovative renewable energy generation
- energy storage

- The Innovation Fund focuses on **highly innovative technologies** and **flagship projects** within Europe that can bring about significant emission reductions. It is about **sharing the risk** with project promoters and putting the spotlight on first-of-a-kind, highly innovative projects.
- The Fund aims to finance a **varied project pipeline**, achieving an optimum balance between a wide range of innovative technologies in all eligible sectors and countries. It covers all EU countries plus Norway, Lichtenstein and Iceland.
- The projects need to be sufficiently mature in terms of planning, business model and financial and legal structure.
- The fund awards grants through calls for proposals and through competitive bidding procedures (auctions).

# Strategic Technologies for Europe Platform

## STEP regulation and communication

- “Let's make sure that the future of our industry is made in Europe.”  
*European Commission President Ursula von der Leyen, State of the Union Address, 14 September 2022*
- The EU answer to the need to boost investments in critical technologies:
  - reinforce, leverage and steer [EU funds](#) to investments in deep, digital, clean and bio-technologies;
  - introducing the [Sovereignty seal](#), a European quality label for projects;
  - gathering all information about existing funding opportunities for STEP investments and relevant contact details of national authorities in the [Sovereignty portal](#).



Target investment areas



Contributing EU programmes



Sovereignty seal





## STEP and the Innovation Fund – part 1/2

- Innovation Fund to be **increased by €5 billion** (financed from MFF from 1 January 2024 to 31 December 2027):
  - the **biggest increase** in STEP (in total €10 billion financed from MFF)
  - for **supporting investments contributing to STEP objectives** (among others: supporting the **development or manufacturing of clean technologies**)
  - will enable to open calls for proposals to entities from MS whose **average GDP per capita is below the EU average** of the EU-27 calculated for the period 2015-2017
  - will result in overall investments of around €20 billion
- a **Sovereignty Seal** will be awarded to proposals contributing to the STEP objectives provided the proposals has been assessed and complies with the minimum quality requirements and regardless of whether the proposal has received funds.

## STEP and the Innovation Fund – part 2/2

- A number of proposals aim to cumulate IF grant and State aid (because of 60% of relevant costs rule)
- We are working to maximise synergies between IF and the State aid rules to ensure a more streamlined process:
  - further align IF award and State aid clearance criteria (work is already ongoing on minimum requirements on GHG and cost efficiency, incentive effect, indirect emissions, changes to IF relevant costs methodology);
  - streamline processes to ensure that the decision on State aid is taken at the same time as the IF funding decision, provided a complete notification by the MS occurs in due time;
  - such synergies are also being assessed for other selected EU instruments, including the European Innovation Council Fund.

# Net-Zero Industry Act (NZIA) adopted 16 March 2023

- **Wide definition for net-zero technologies** with nevertheless a focus on 8 specific areas
- Ambition: scale up net-zero technology manufacturing in the EU to provide at least 40% of the EU's annual deployment needs by 2030
- Target: 50 Mt/y CO<sub>2</sub> storage capacity in 2030



Solar photovoltaic and solar thermal



Hydrogen electrolyzers and fuel cells



Sustainable biogas/biomethane technologies



Battery/storage technologies



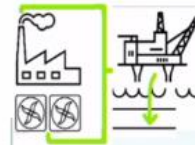
Heat pumps and geothermal energy technologies



Grid technologies



Onshore wind and offshore renewables



CO<sub>2</sub> Capture and Storage (CCS)

# Definition of small and medium-size projects

	Small-scale projects	Medium-size projects (NEW)	Large-scale projects
Current IF Regulations	Up to EUR 7.5 million	n/a	Above 7.5 million
Proposed changes	Up to EUR 20 million	Above EUR 20 million and up to EUR 100 million	Above EUR 100 million

# Third large scale call results

# Results overview

**239** proposals received



**195** admissible & eligible

**65** resubmissions



**41 pre-selected**

	Number of eligible proposals	Number of selected projects	Budget oversubscription
General	80	8	9x
Ind-Elec-H2	59	13	7x
Manufacturing	34	11	3x
Pilots	22	9	3x

# Innovation Fund projects pre-selected for grant

Topic LSC-01- GENERAL (8)\*

Topic LSC-02- INDUSTRYELEC&H2 (13)

Topic LSC-03- MANUFACTURING (11)\*

Topic LSC-04-PILOTS (9)



Cement and lime



Chemicals



Glass, ceramics and  
construction material



Hydro/Ocean energy



Hydrogen



Iron and steel



Manufacturing of components  
for energy intensive industries



Manufacturing of components  
for energy storage



Manufacturing of components  
for renewable energy



Non-ferrous metals



Refineries



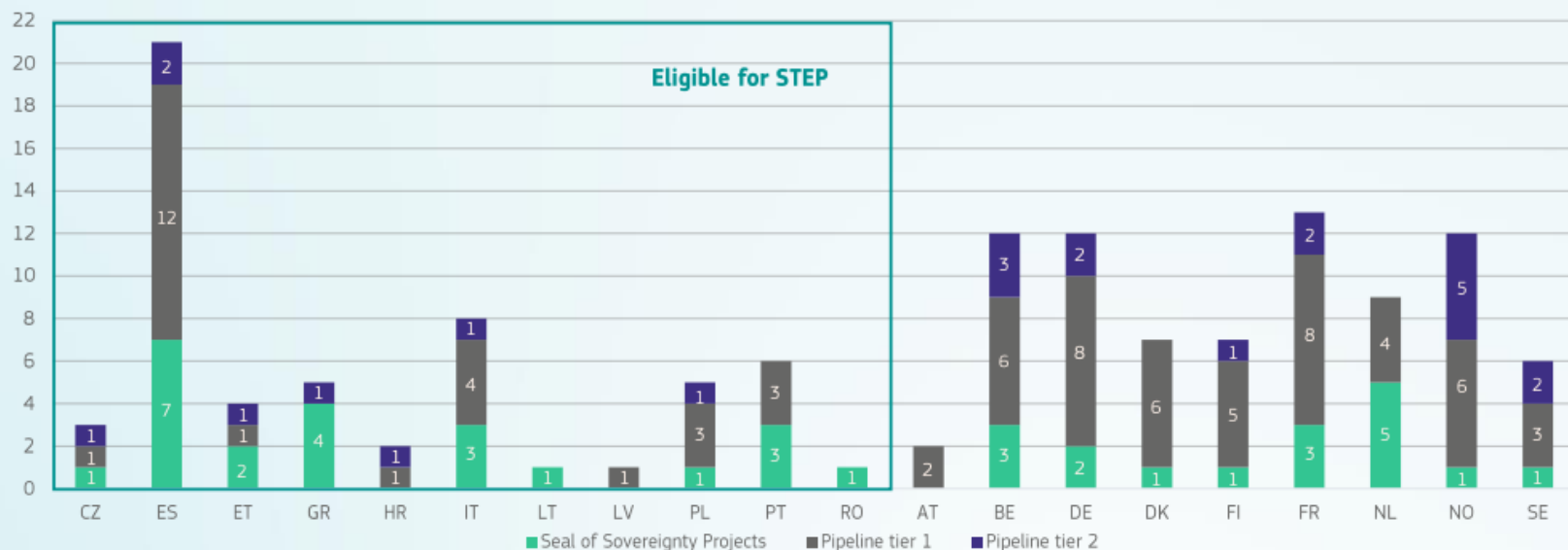
Wind energy



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

# Geographical distribution of proposals not selected but passing all or most evaluation thresholds

Project pipeline: Main country of project implementation\*\*\*



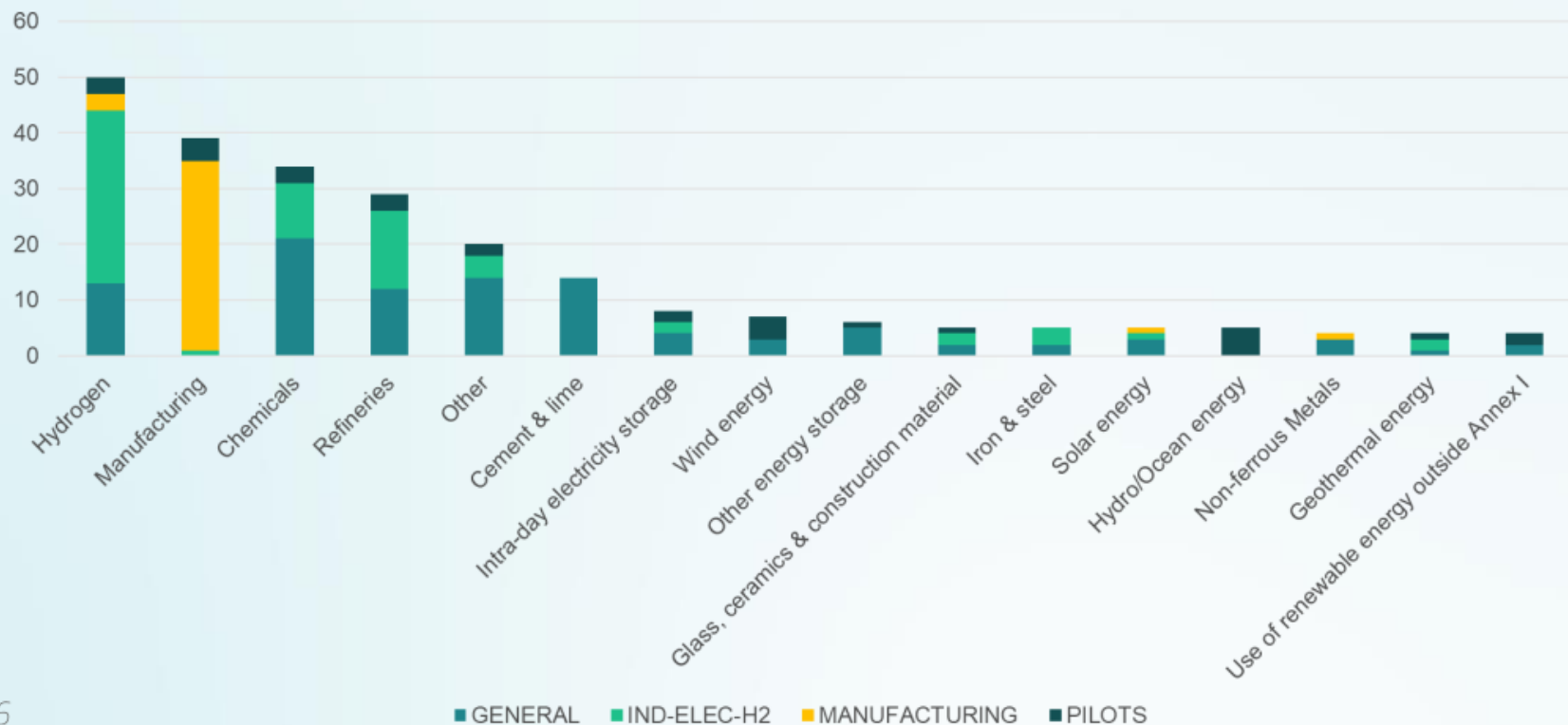
\* Tier 1: Projects that achieved at least 50% of project maturity scores and moved on to evaluation of Scalability

\*\* Tier 2: Projects that failed Tier 1 but passed Degree of Innovation

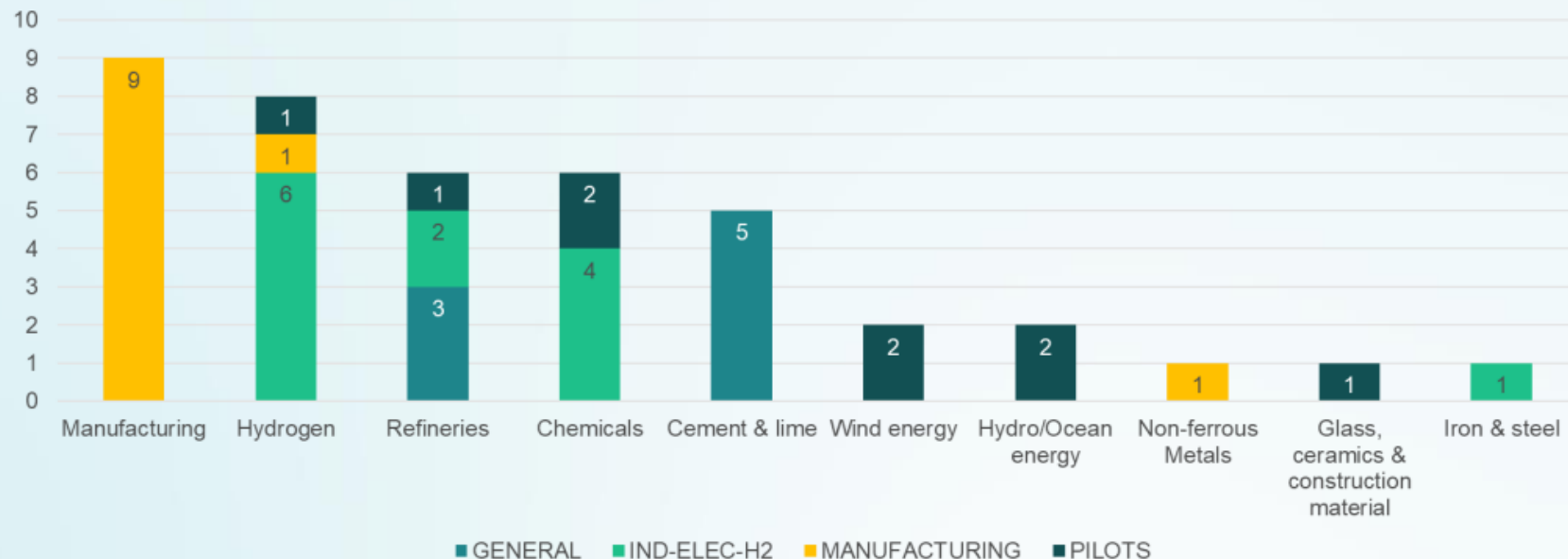
\*\*\*Some projects will be implemented in multiple countries. This is reflected on the map, but omitted in this and the following analysis for simplicity / readability



# Sectoral distribution – all proposals



# Sectoral distribution – projects



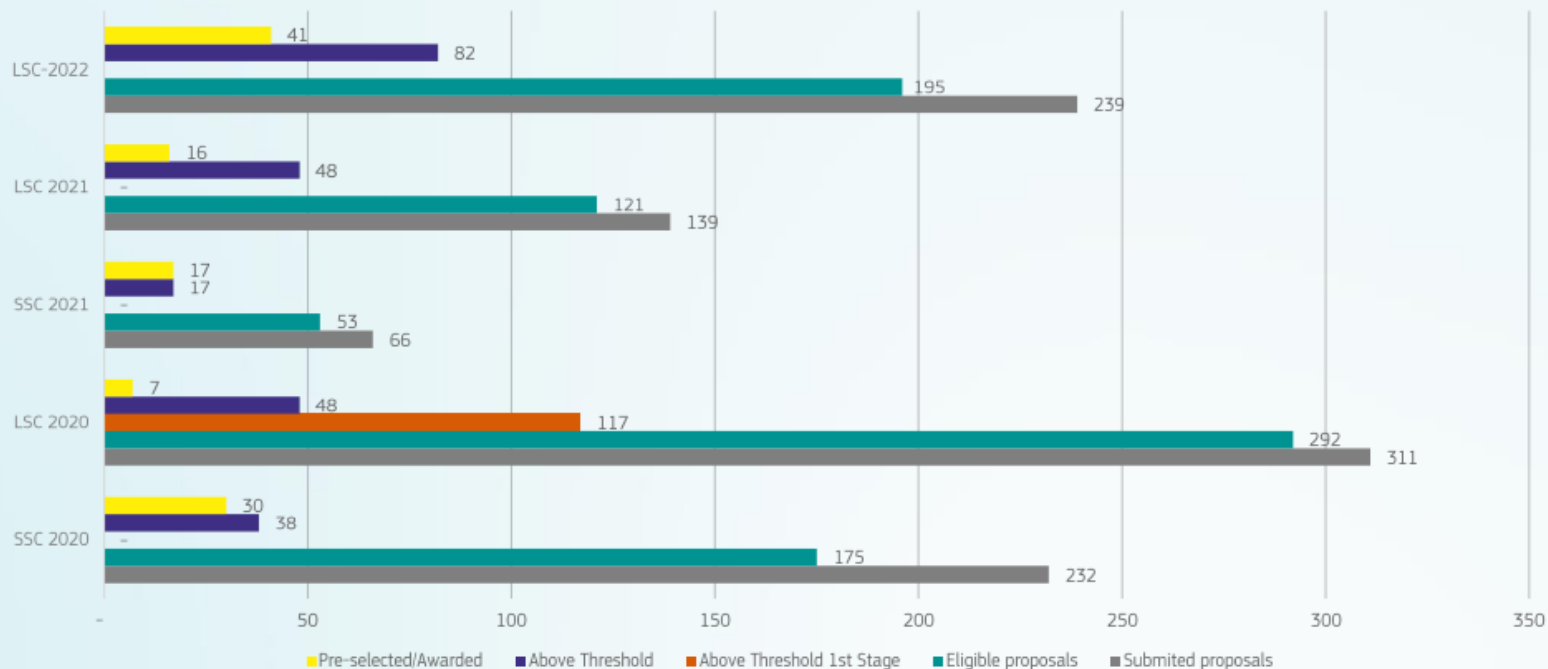
# Takeaways

- Oversubscription in the topics GENERAL and IND-ELEC-H2.
- A solid pipeline of promising proposals across all sectors.
- A higher budget would bring us closer to NZIA, H<sub>2</sub> Strategy and CO<sub>2</sub> targets.
- Geographical enlargement of the IF portfolio: 7 new countries get projects.
- Introduction of dedicated topics on MANUFACTURING and PILOTS resulted in higher visibility, more proposals and projects in these sectors.

# Since 2020

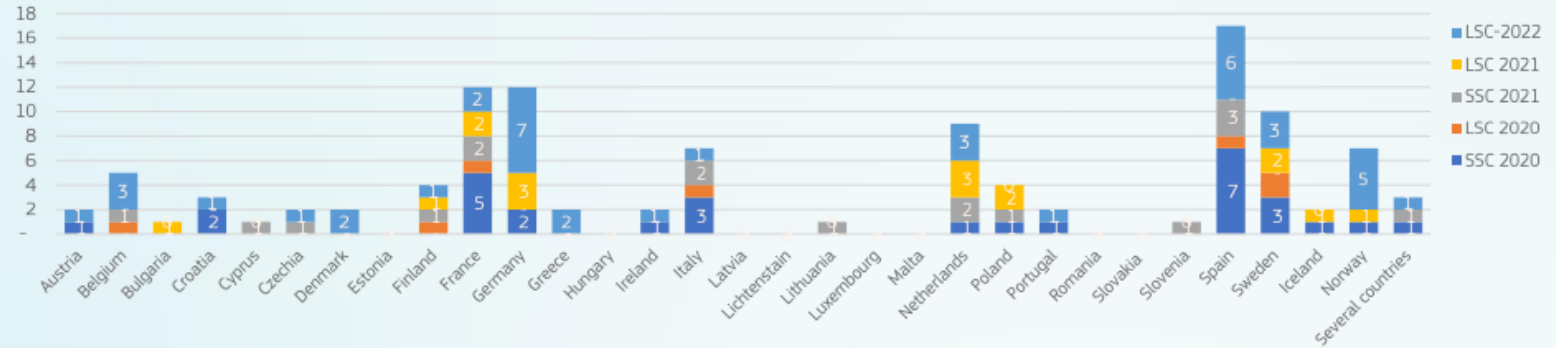
# Total number of projects

The IF supports **111 projects**, providing a total max. grant of **€6,7 billion**:

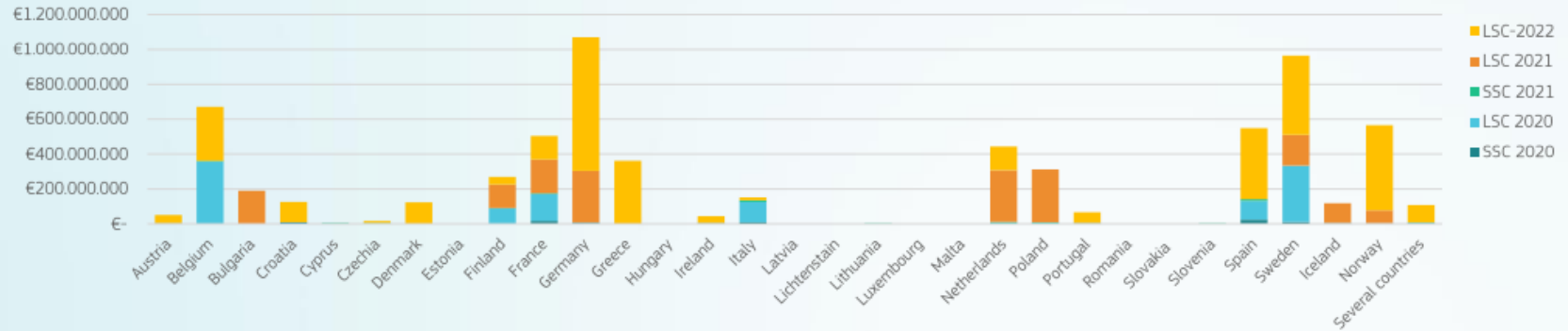


# Projects geographical distribution

Number of Projects by Country

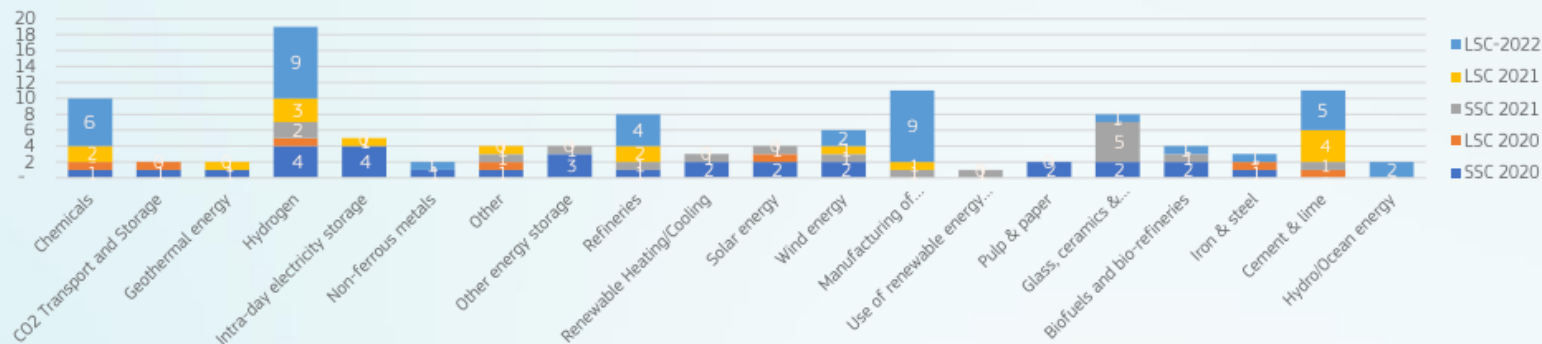


Maximum EU Grants (EUR) of selected projects by country

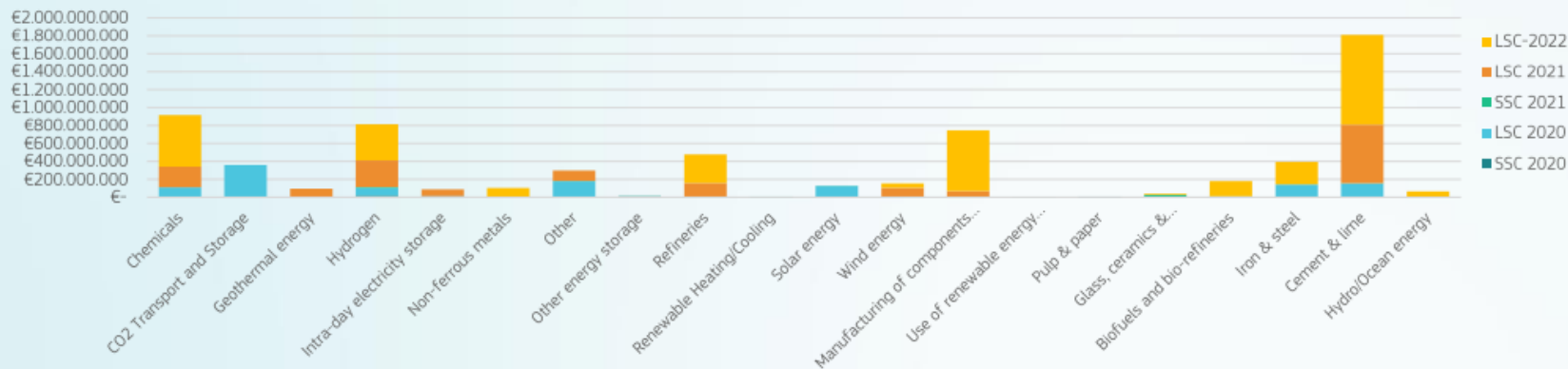


# Projects sectorial distribution

Number of Projects by Sector



Selected Grants (EUR) by Sector - detailed



# H2 bank

29/11/2023 VTT – beyond the obvious



# The European Hydrogen Bank (EHB)

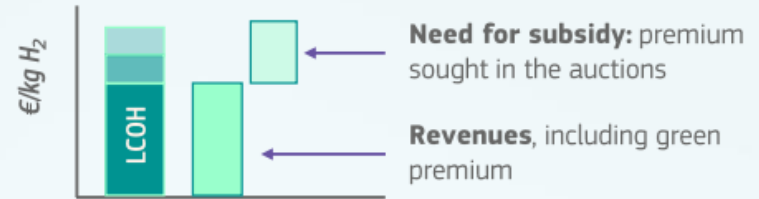
- Announced in the State of the Energy Union 2022 – linked to **REPowerEU** objectives
- Communication adopted on 16 March 2023
- Import auctions by DG ENER vs. **EU production incentives** by DG CLIMA
- **Pilot auction** scheduled to open 23 Nov 2023
- Terms & Conditions published on [DG CLIMA's website](#)



# IF23 Auction in a nutshell

- Budget: **€800mn**
- Auctioned good: **RFNBO hydrogen**
- Support in form of a **fixed premium** in €/kg of renewable hydrogen **produced** over **10 years**
- Bids **ranked on price** – budget allocated to projects with the lowest specific support requirements
- **Pay-as-bid** (no indexation to inflation)
- **Output based support**, upon verified and certified production of RFNBO volumes (no payments before entry into operation)
- **Semi-annual** payments

## Fixed-premium auction



## Bids ranked on price only



# IF 23 call

29/11/2023 VTT – beyond the obvious

# ETS Directive revision – what's new?

1



IF overall size increased from 450 million ETS allowances to ca. 530 million.

2



Scope: new sectors, medium-scale projects, DNSH from 2025, stronger reference to multiple environmental impacts.

3



New financial instruments (competitive bidding): Fixed premium, Contracts for Difference (CfDs) or Carbon Contracts for Difference (CCfDs), covering up to 100% of the funding gap.

4



Stronger attention to geographical balance.

# IF23 Call topics

Bottom-up approach covering all areas eligible in the general decarbonisation window(s) under **three topics by project size**:

	Small-scale projects	Medium-scale projects	Large-scale projects
Project size	Up to €20 million	Above €20 million and up to €100 million	Above €100 million

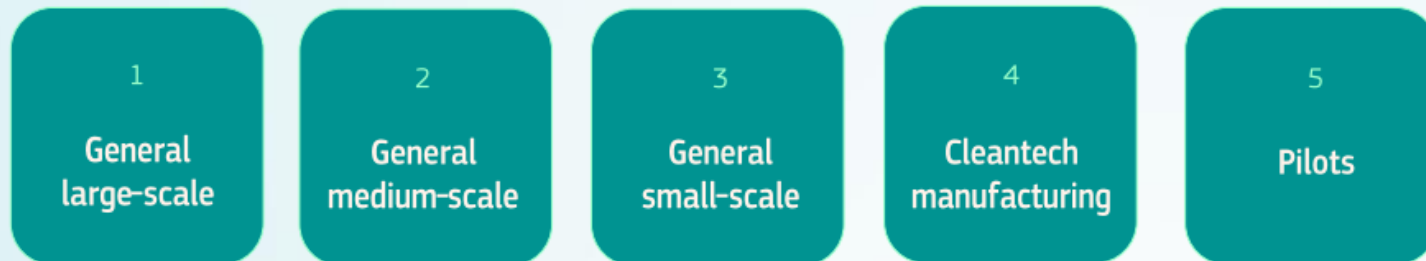
EU Green Deal Industrial Plan and Net Zero Industry Act's key priorities reflected by the continuation of two focused topics:

- manufacturing topic on innovative clean tech manufacturing;
- pilot proposals that focus on validating, testing and optimising highly innovative solutions.

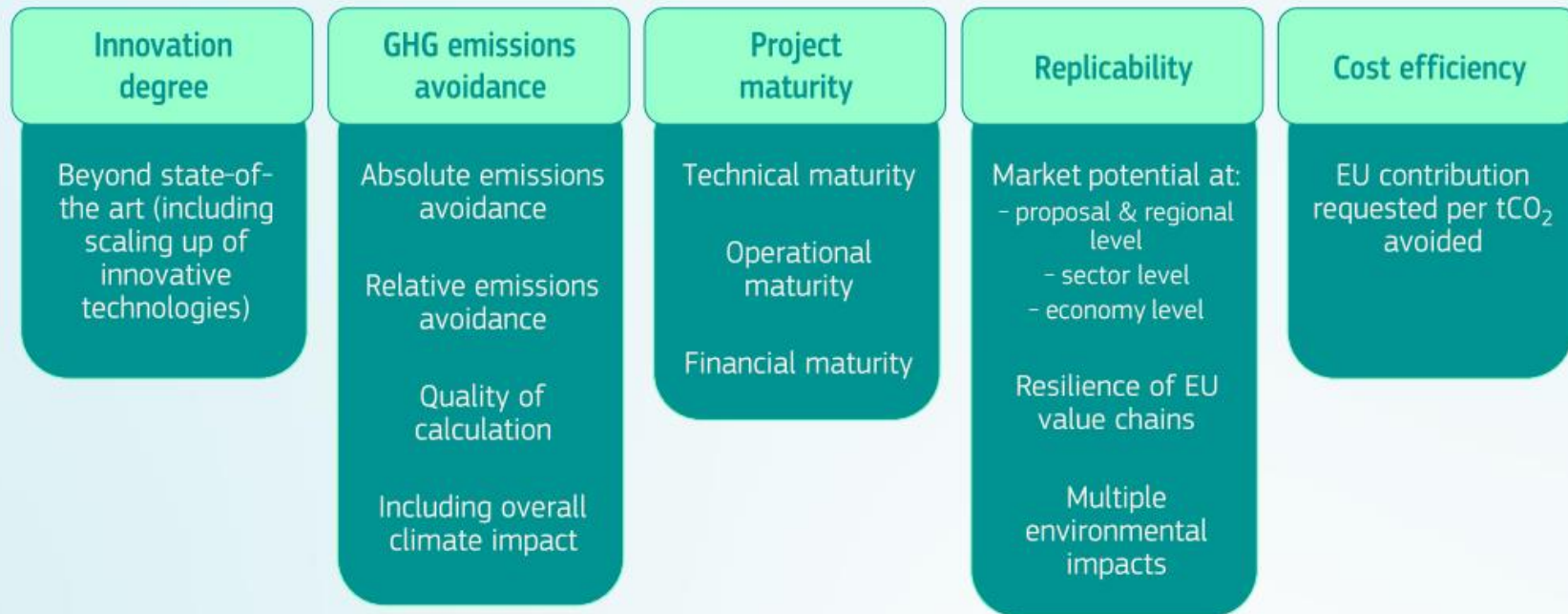
# IF23 Call structure

- Budget available: **€4 bn** + 20% flexibility reserve
- Call launch: **23 November** 2023 (planned)
- Call closure: **9 April 2024** (indicative)

## Topics:



# IF23 Call award criteria



**Bonus points:** net carbon removals, other GHG emissions, additional RES, maritime.







**IF23  
CALL**

**€4 BILLION  
TO SUPPORT YOUR  
NET-ZERO TECHNOLOGY PROJECT**

**INNOVATION FUND**  
*Funded by the EU Emissions Trading System*

**IF23  
AUCTION**

**€800 MILLION  
TO SUPPORT  
RENEWABLE  
HYDROGEN  
PROJECTS**



**INNOVATION FUND**  
*Funded by the EU Emissions Trading System*





# bey<sup>0</sup>nd

## the obvious