

INNOVATION FUND

Lessons learnt from the applications
to the 2020 calls

28 April - 10.00 CEST

First call for large-scale projects

Project overview – Update after
first stage

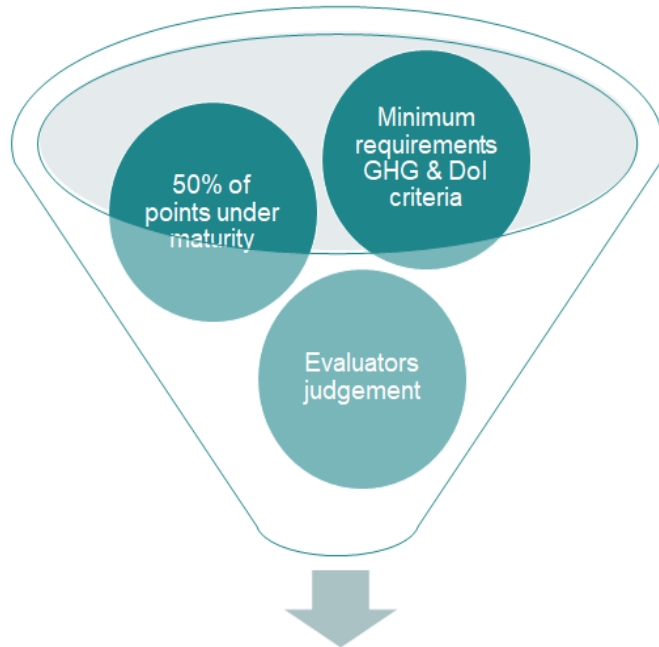
Call for large-scale projects

INNOVATION FUND
First call for large-scale projects

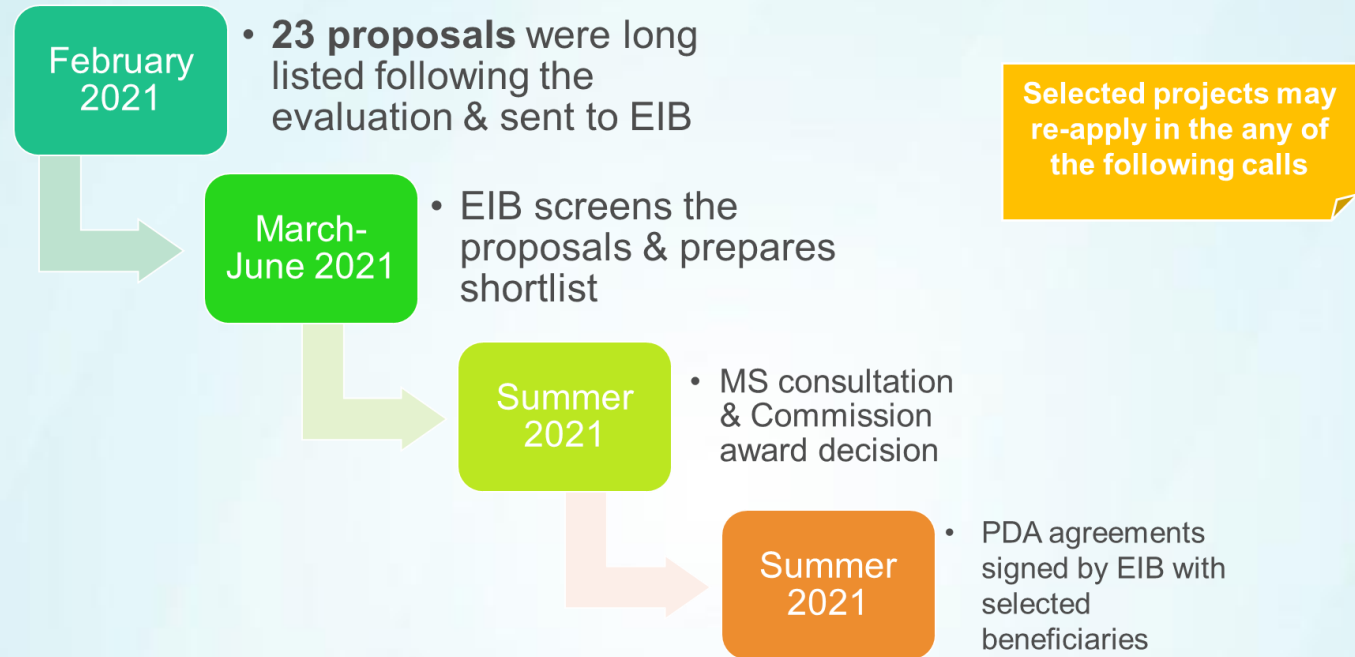


23 projects recommended for Project Development Assistance

INNOVATION FUND
First call for large-scale projects



Tailor-made to the specific projects, based on their needs identified during evaluation, to be provided by the European Investment Bank



**70 best projects
come from
across all
sectors and
technologies**

- Hydrogen
- CCUS
- Bio-based
- Renewables
- Storage

**70 best projects
excel on degree
of innovation
and project
maturity**

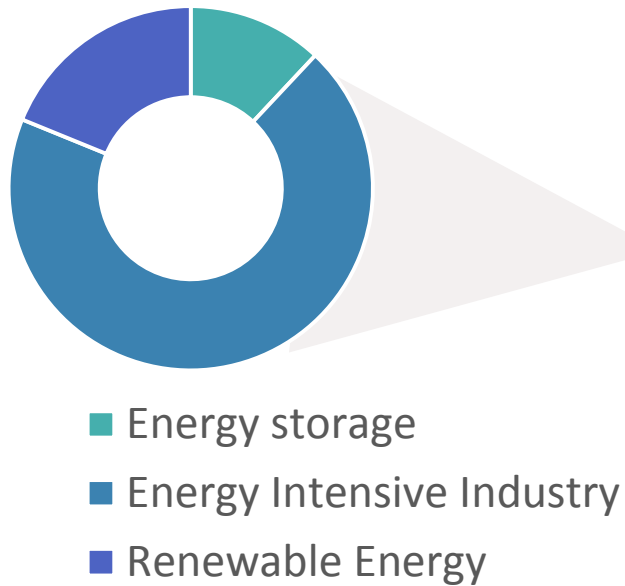
**A high number
of (very)
innovative
projects were
not selected due
to challenges on
project maturity**

ZOOM-IN ON PROJECTS BY CATEGORY

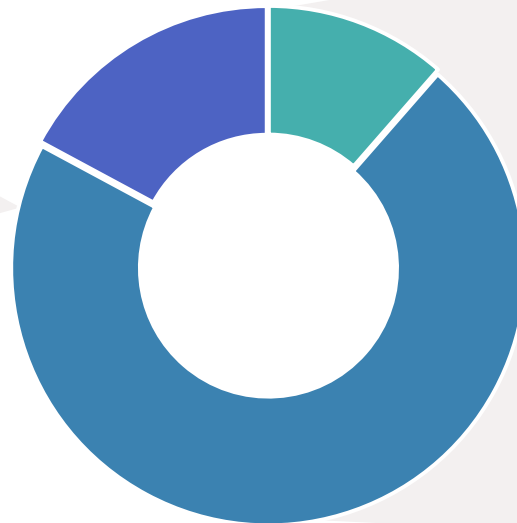
PROJECTS INVITED TO 2ND STAGE COVER ALL TECHNOLOGIES

STABLE SHARE OF PROJECTS PER PATHWAY

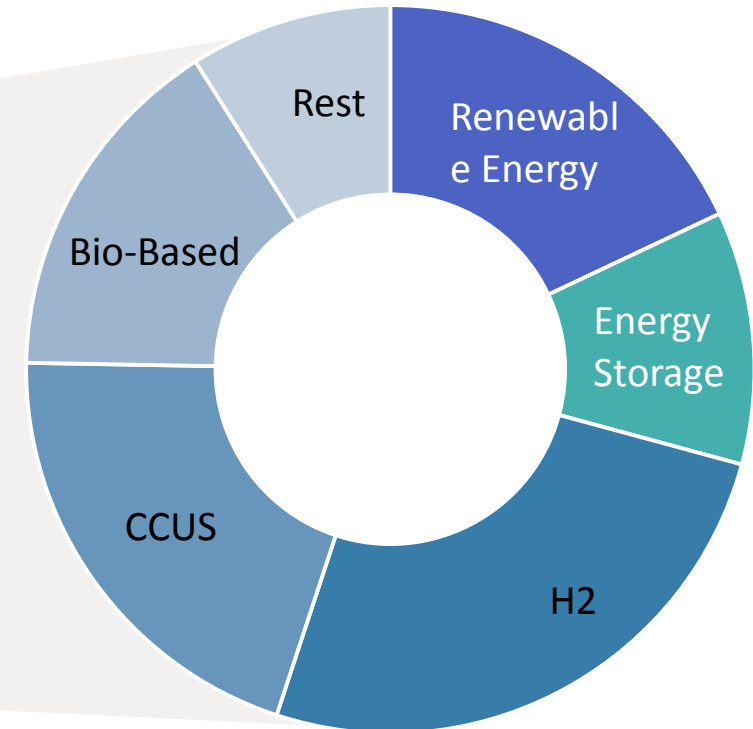
Eligible projects 1st stage by category



Projects invited for 2nd stage by category

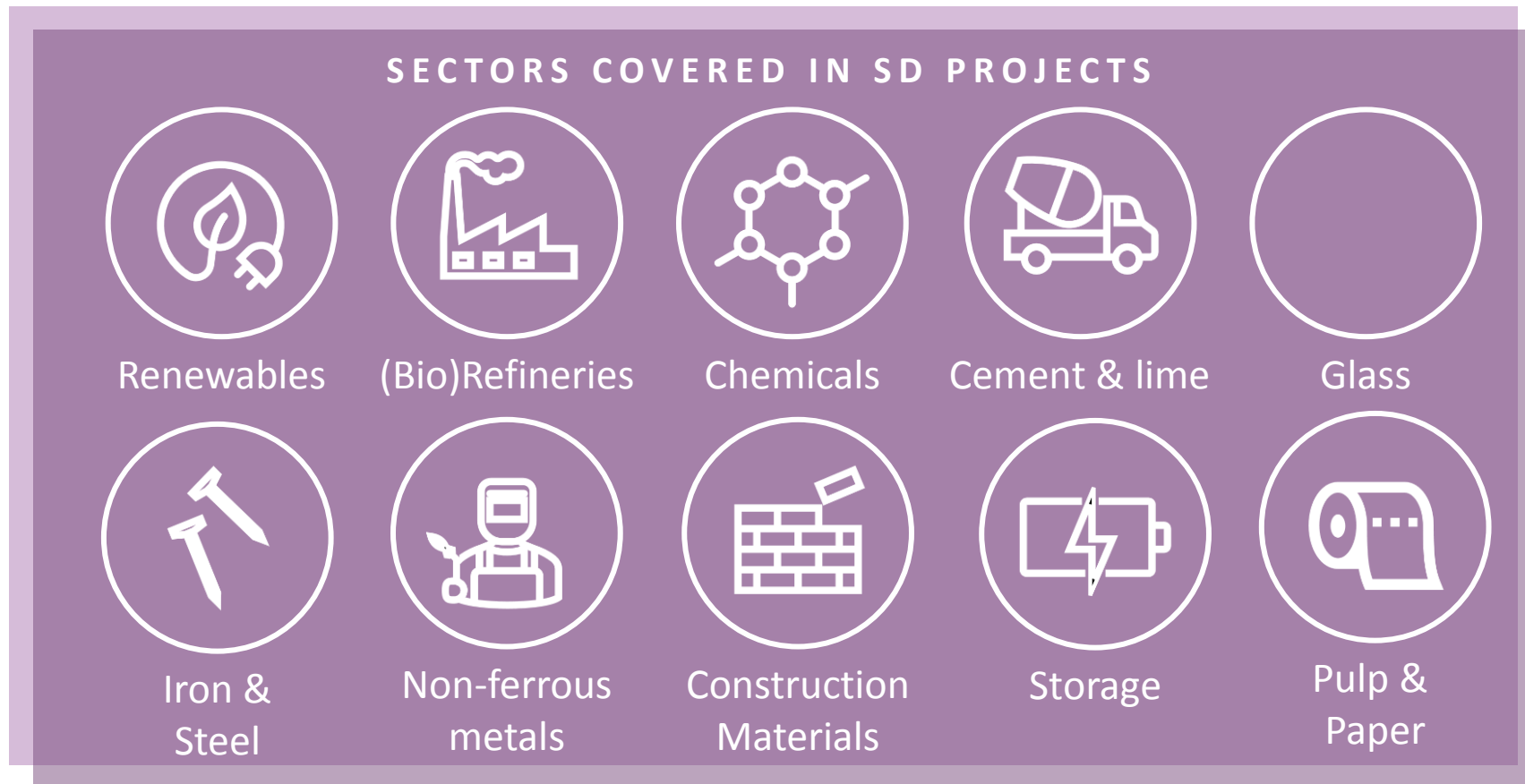


Breakdown by technological pathway

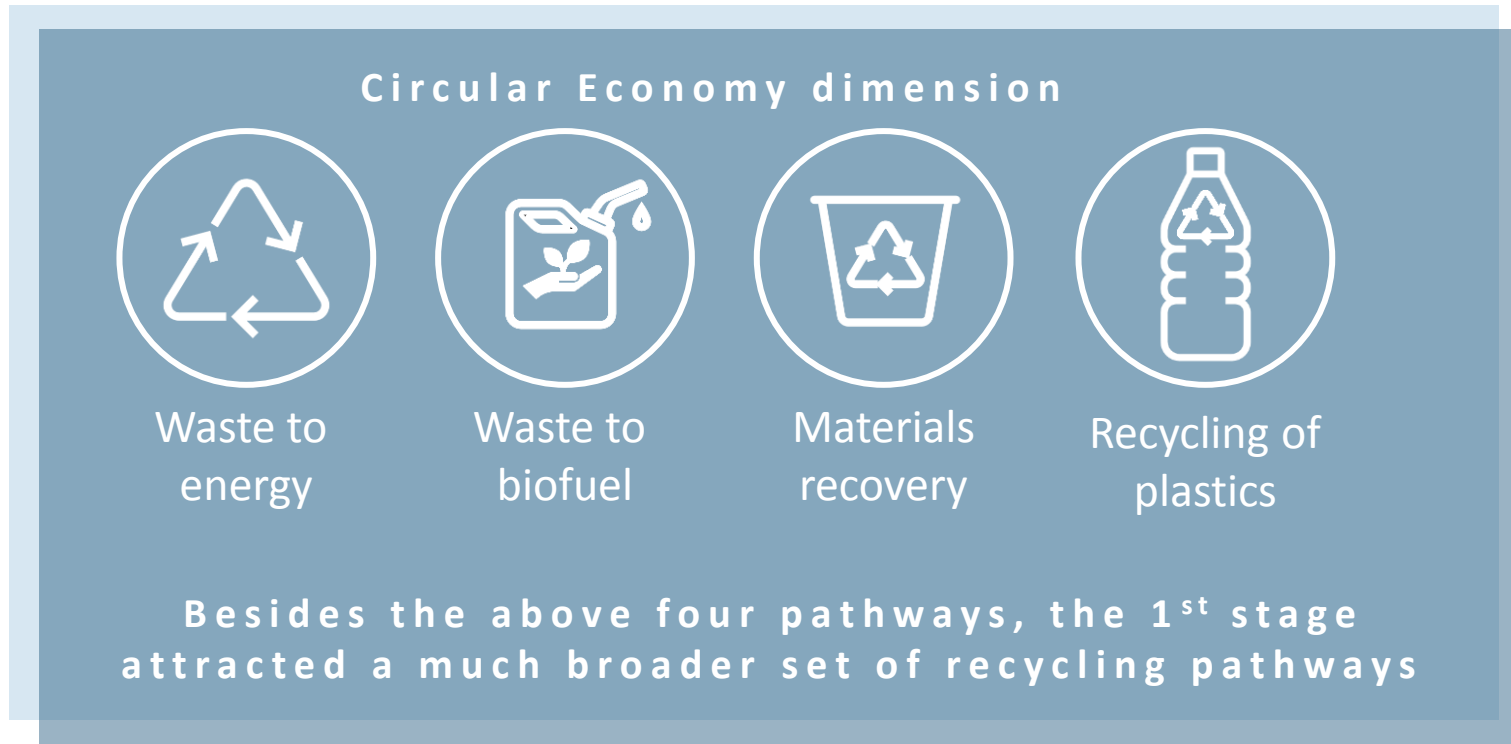


Legend: High-level screening of applied technological pathways. Classification of projects can be overlapping.

PROJECTS INVITED TO 2ND STAGE COVER ALL KEY SECTORS FOR THE LOW CARBON TRANSITION

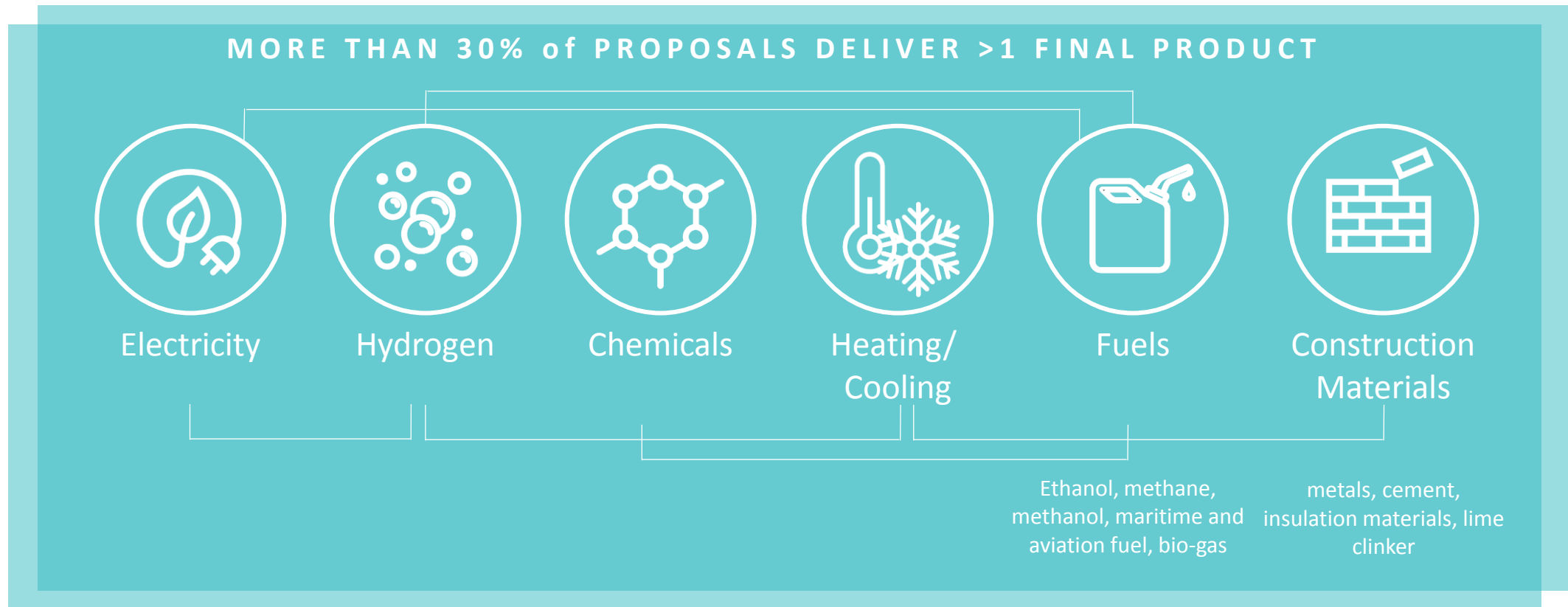


MANY PROJECTS INVITED TO 2ND STAGE ARE STRONG ON CIRCULAR ECONOMY



ZOOM-IN ON TECHNOLOGY PATHWAYS

MANY PROJECTS INVITED TO 2ND STAGE PRODUCE MULTIPLE PRODUCTS



HYDROGEN: TECHNOLOGICAL PATHWAYS INCLUDE PRODUCTION AND USE OF GREEN AND BLUE HYDROGEN



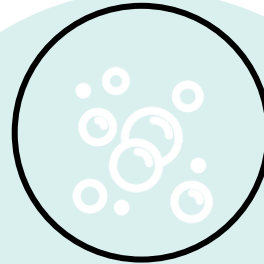
Green Hydrogen

Hydrogen production based on renewable electricity



Blue Hydrogen

Hydrogen production based on gas + CCS



Use of H₂

Several applications



With carbon utilisation

for methanol or ethanol

ZOOM-IN ON TECHNOLOGY PATHWAYS

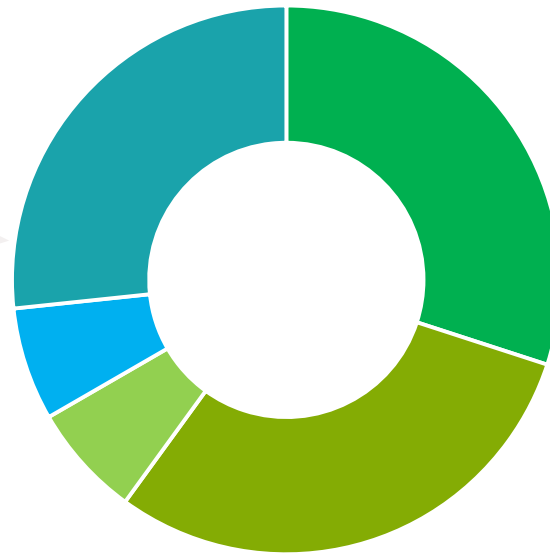
MORE THAN ¼ OF PROJECTS INVITED TO 2ND STAGE INVOLVE HYDROGEN USE OR PRODUCTION

Eligible projects 1st stage
by technology pathways



- Green H2 (electricity, PPA)
- H2 use
- Green H2 (biomass, waste)
- Blue H2
- CCU methanol or ethanol

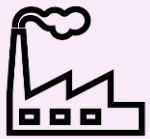
Projects invited for 2nd stage
by technology pathways



- **All projects** having H₂ as a final product have **renewable energy procurement strategy** (PPA) or will build additional renewable capacity.
- Some projects also use **biomass resources or waste to produce hydrogen**.
- Fewer than 10 projects **combine CO₂ and hydrogen in various CCU applications**.

Legend: High-level screening of technological pathways. Classification of projects can be overlapping.

CCUS: PROJECTS COVER THE ENTIRE CCUS VALUE CHAIN



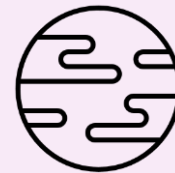
Carbon Capture

Biogenic, steel & cement, CHP, chemicals, refineries, paper, DAC



Carbon Utilisation

Fuels, chemicals, construction materials



With storage

All or part of the CO₂ will be stored

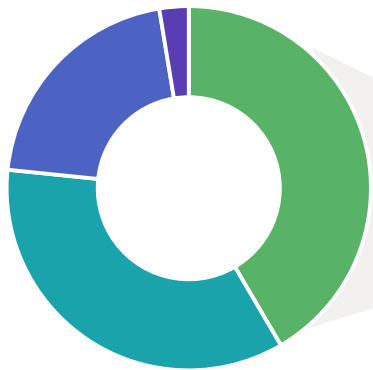


Removal

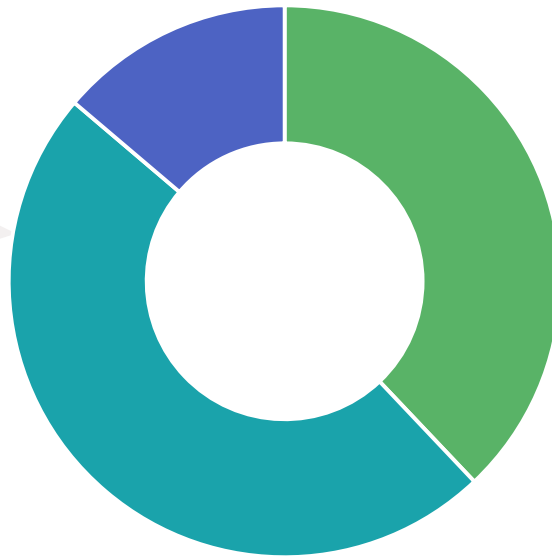
Including potential for net carbon removals

MORE THAN 20% OF PROJECTS INVITED TO 2ND STAGE HAVE (AT LEAST ONE) CCUS COMPONENT

Eligible projects 1st stage
by technology pathways



Projects invited for 2nd stage
by technology pathways



- CCU
- CCS
- Potential for net carbon removals
- Storage only

- Slightly more than half of the invited CCUS projects include carbon utilisation, and slightly less than half include carbon storage.
- No storage only projects were invited to 2nd stage.

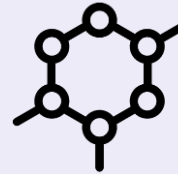
Legend: High-level screening of technological pathways. Classification of projects can be overlapping.

BIO-BASED PROJECTS: PROJECTS INVITED TO 2ND STAGE INCLUDE FUELS AND CHEMICALS PRODUCTION



Fuels

Bio-kerosene, ethanol, hydrogen, methane, LPG/LNG, bio-gas, methanol, bio-oil

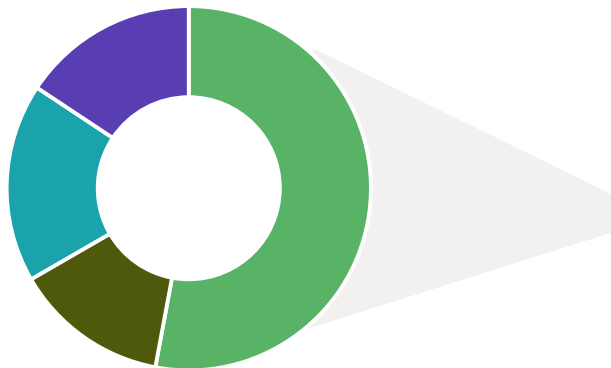


Bio-based chemicals

Hemicellulose, acetic acid, bio-char, polyacrylate, bio-FDCA, polystyrene, calcium carbonate, lignin, polymer

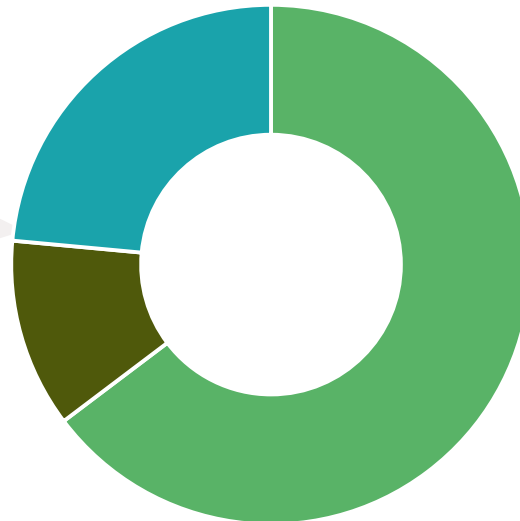
LESS THAN 20% OF PROJECTS INVITED TO 2ND STAGE ARE **BIO-BASED PROJECTS**

Eligible projects 1st stage
by technology pathways



- Fuels
- Aviation fuels (synthetic/ bio-based)
- Bio-based chemicals
- Other (e.g. electricity, heat)

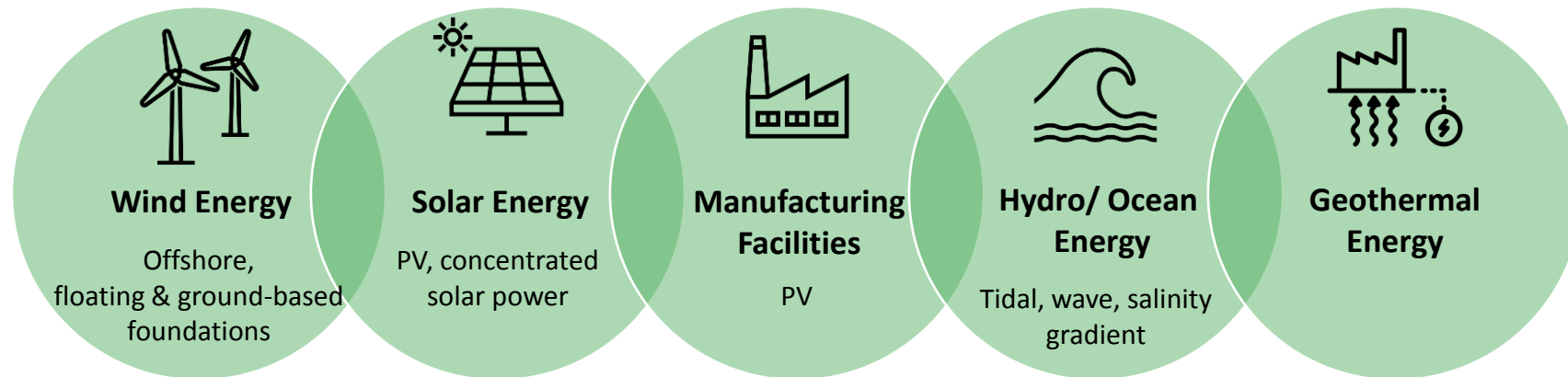
Projects invited for 2nd stage
technology pathways



- All bio-based projects invited to 2nd stage will produce fuels and/or chemicals.
- No bio-based production projects focused on electricity or heat only were invited to 2nd stage

Legend: High-level screening of technological pathways. Classification of projects can be overlapping.

RENEWABLE ENERGY: PROJECTS INVITED TO 2ND STAGE INCLUDE A LARGE RANGE OF TECHNOLOGIES

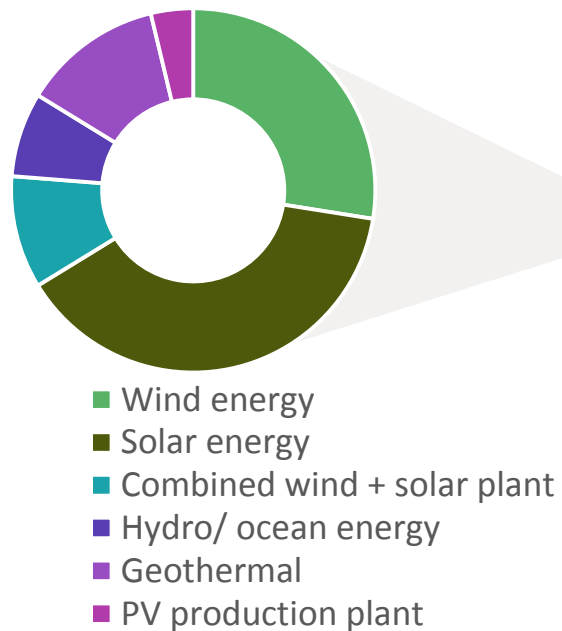


ZOOM-IN ON TECHNOLOGY PATHWAYS

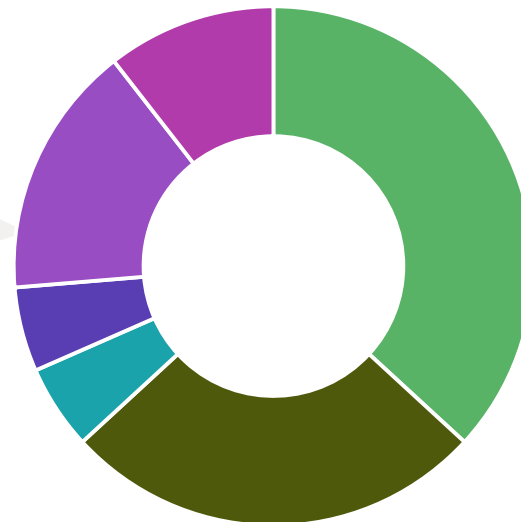
MORE THAN 20% OF PROJECTS INVITED TO 2ND STAGE INVOLVE INNOVATIVE RENEWABLE ENERGY

**The count here doesn't include projects in other sectors that use renewable energy resources such as green hydrogen and bio-based products.*

Eligible projects 1st stage
by technology pathways



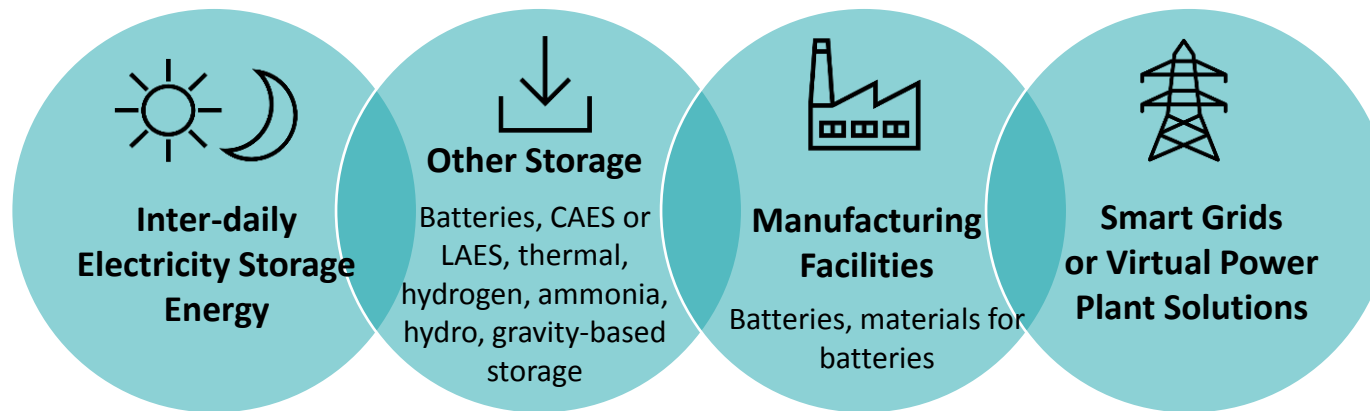
Projects invited for 2nd stage
technology pathways



- Projects invited to 2nd stage cover a large range of technologies, including production facilities.
- No innovative on-shore wind project are invited.

Legend: High-level screening of applied technological pathways.

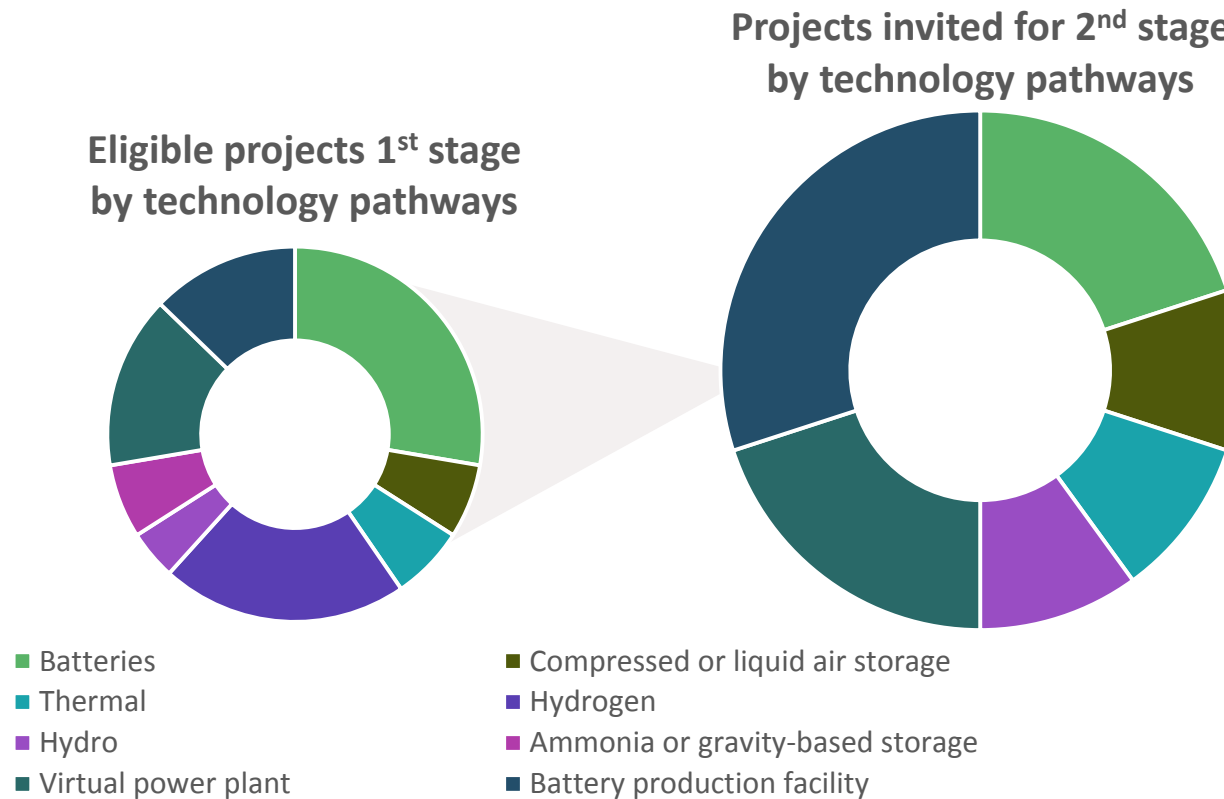
ENERGY STORAGE PROJECTS: PROJECTS INVITED TO 2ND STAGE COVER A RANGE OF INNOVATIVE TECHNOLOGIES



Legend: High-level screening of applied technological pathways. LAES = Liquid Air Energy Storage.

ZOOM-IN ON TECHNOLOGY PATHWAYS

MORE THAN 15% OF PROJECTS INVITED TO 2ND STAGE INVOLVE ENERGY STORAGE



- Projects invited to 2nd stage cover a range of innovative technologies, including production facilities.
- No hydrogen-based or ammonia / gravity-based storage projects are invited.
- Energy storage is an integral component of projects also in renewable energy and EII sectors.

Legend: High-level screening of applied technological pathways in the sectors of intra-day electricity storage and other energy storage.

311 proposals were submitted

292 proposals have been deemed admissible and eligible

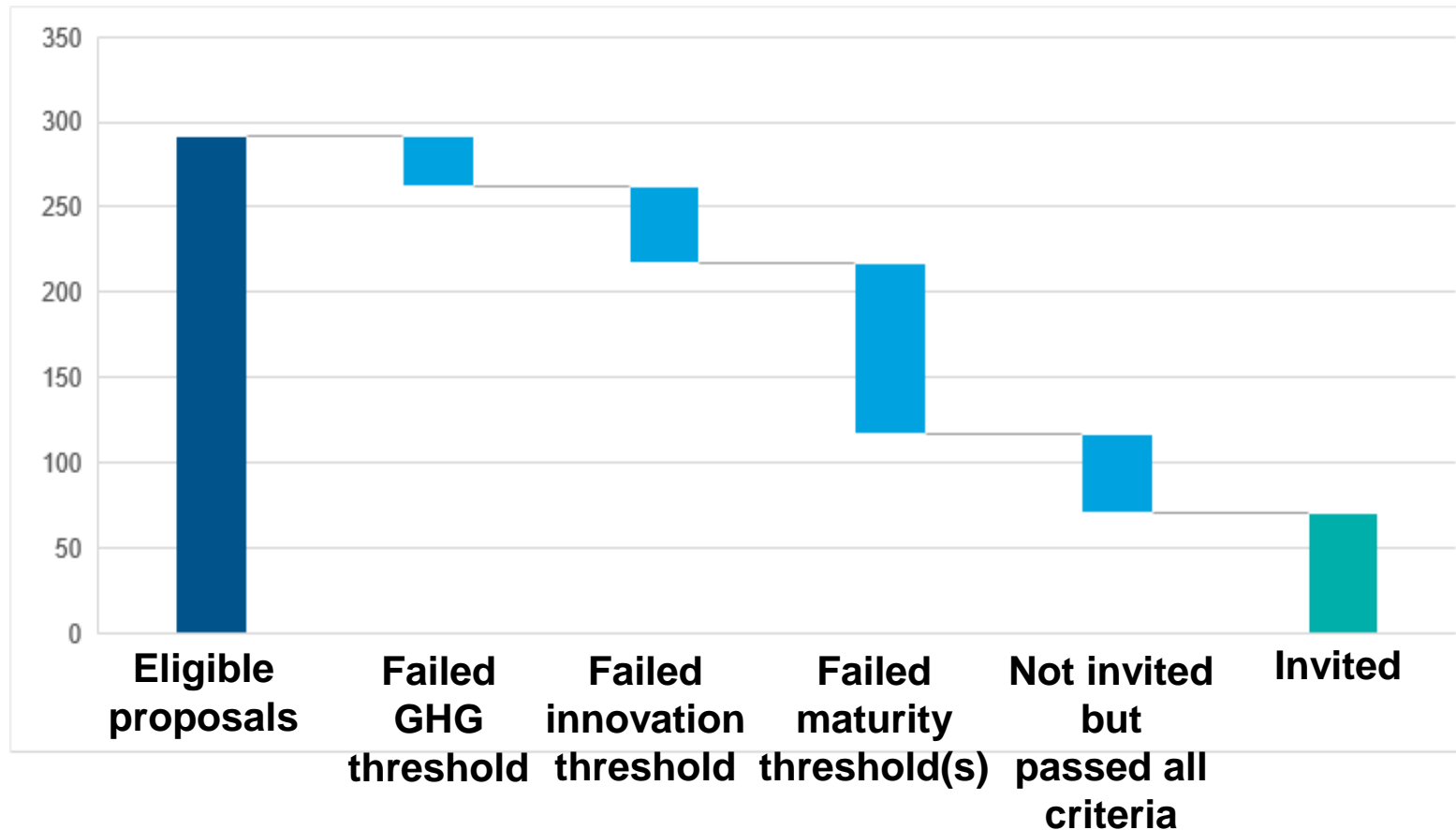
117 proposals pass all minimum thresholds

70 proposals are invited to second stage application

requesting **€6.7 billion**

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

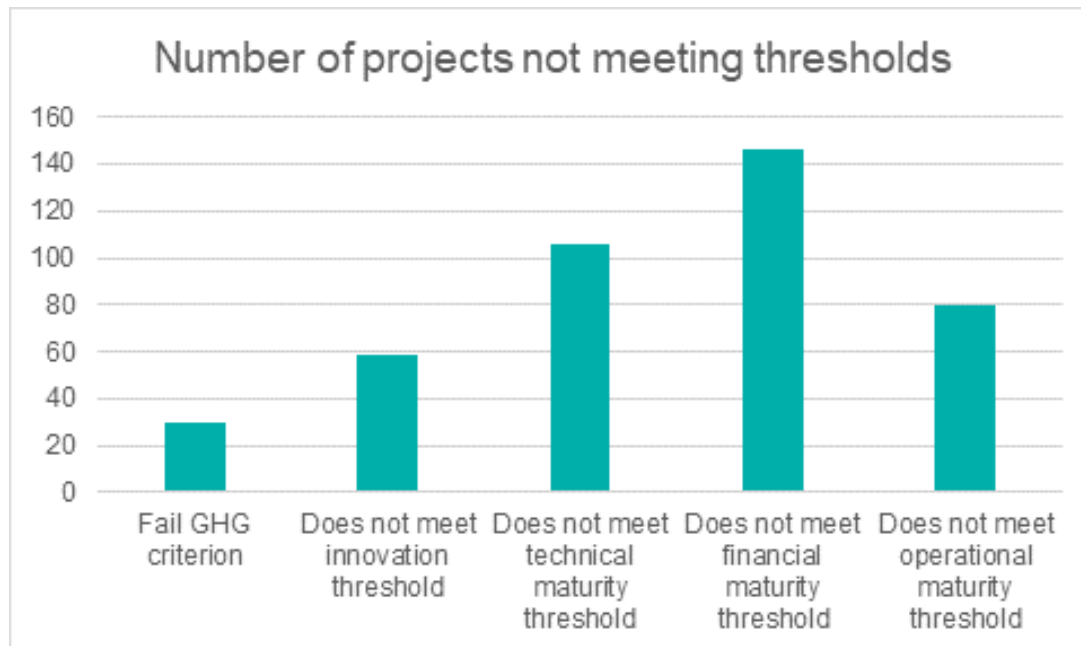
ON THE ROAD TO 2ND STAGE – HIGH NUMBER OF (VERY) INNOVATIVE PROJECTS FAIL ON MINIMUM THRESHOLDS FOR PROJECT MATURITY



- The high number of projects with good score on innovation but insufficient maturity highlights the opportunity for some projects to still improve further and stand a better chance of being invited in future calls

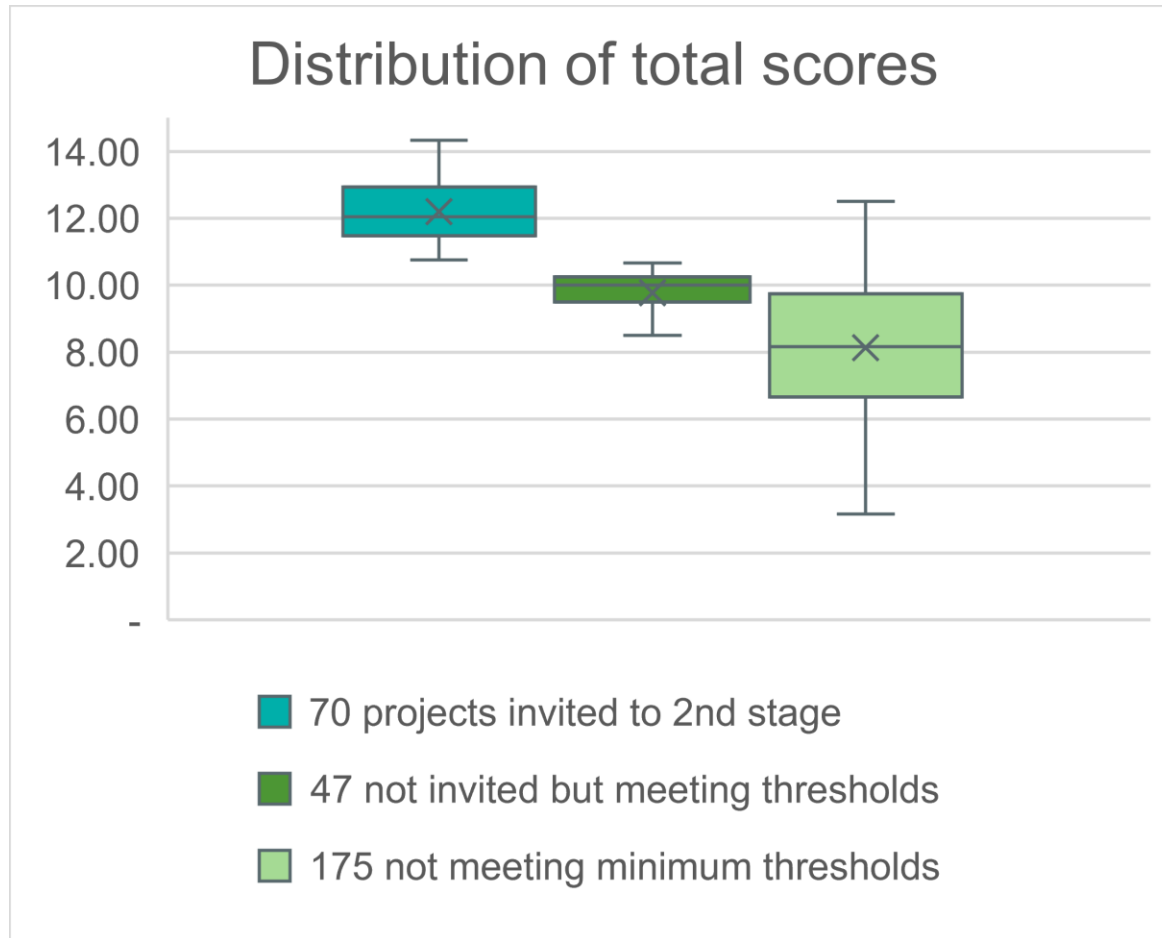
SUCCESS FACTORS

175 ELIGIBLE PROJECTS DID NOT MEET THE REQUIRED MINIMUM THRESHOLDS ON ONE OR SEVERAL CRITERIA

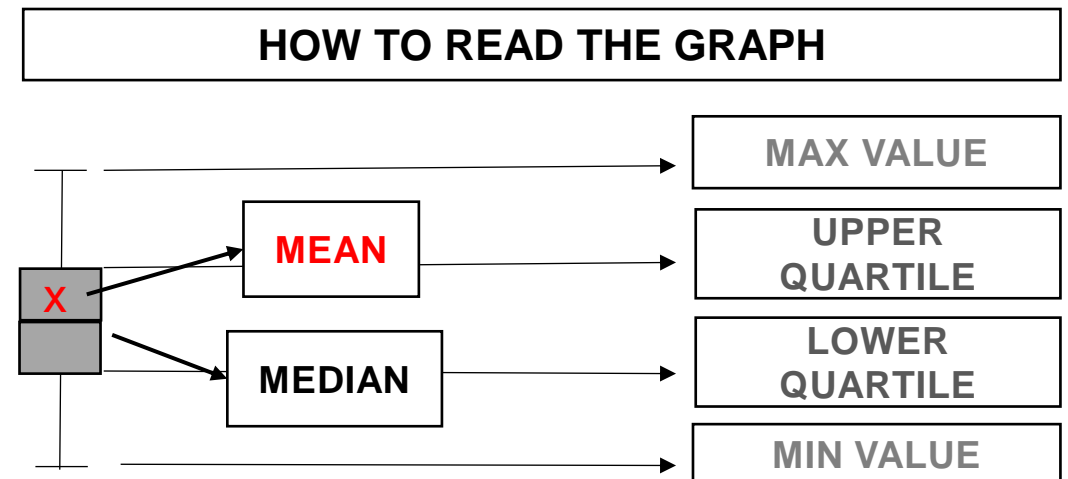


- 60% of all eligible projects failed to meet one or more thresholds
- Overall, the **Project Maturity criterion** proved the hardest for applicants, having three different components where minimum thresholds were required
- The **financial maturity** sub-criterion threshold proved the most challenging for applicants, being missed by over **50% of eligible projects**
- Around 1/5 of eligible projects fell below the Innovation threshold and 1/10 failed the GHG criterion due to manifest errors or not meeting the ETS benchmarks

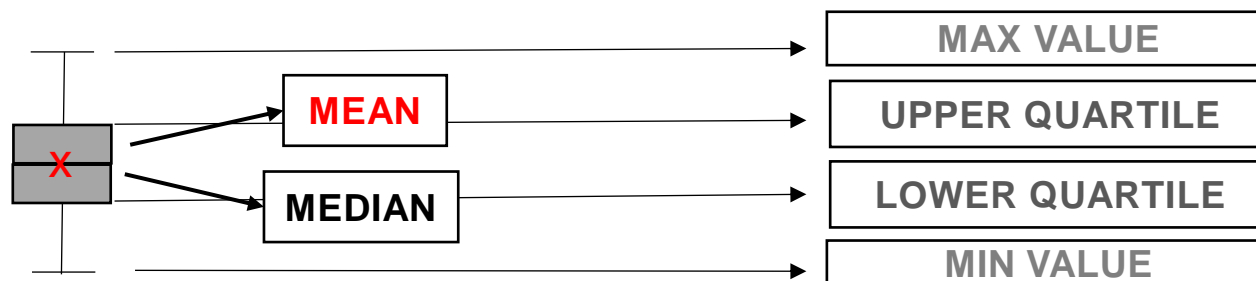
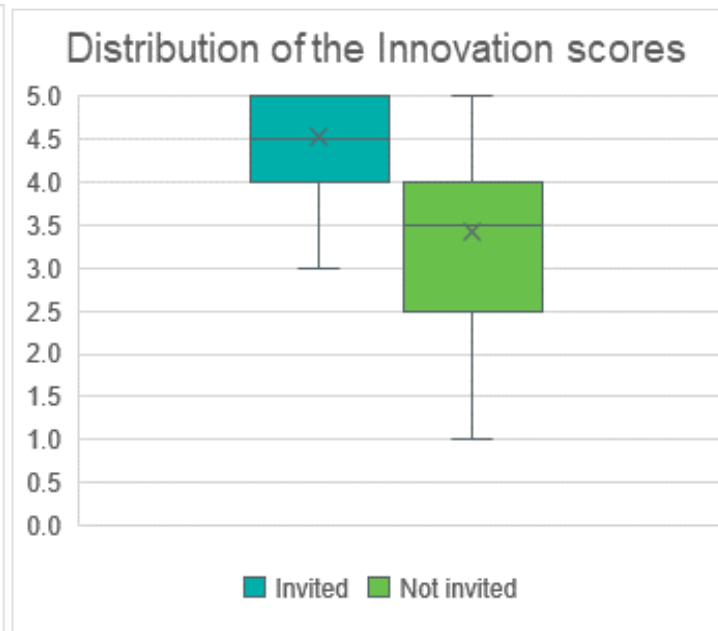
DISTRIBUTION OF TOTAL SCORES



- Projects invited to 2nd stage received very high marks, demonstrating strong overall quality level
- Number of projects with good total scores failed one or several thresholds



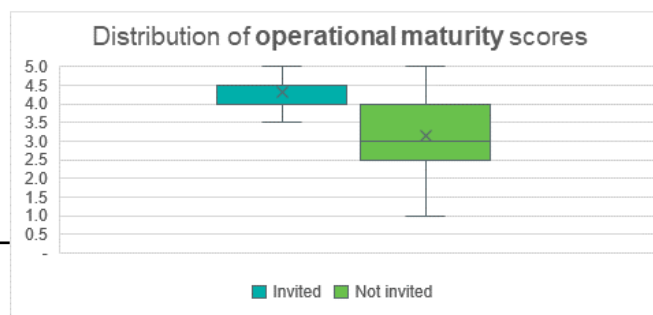
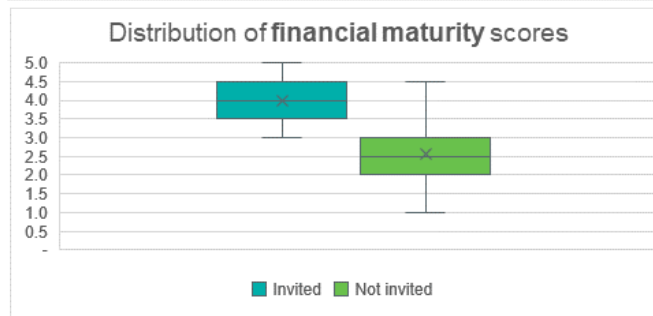
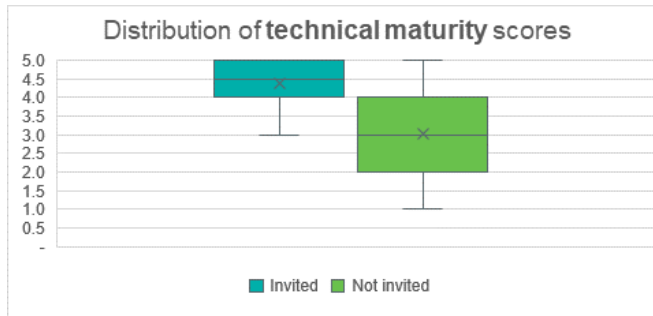
DISTRIBUTION OF SCORES ON THE 3 CRITERIA



- The majority of the invited projects succeeded because of high marks for both degree of innovation and project maturity

Legend: Not invited projects include both those meeting and those not meeting thresholds

INVITED PROJECTS USUALLY PROVIDE MORE DETAILS TO SUBSTANTIATE MATURITY LEVEL

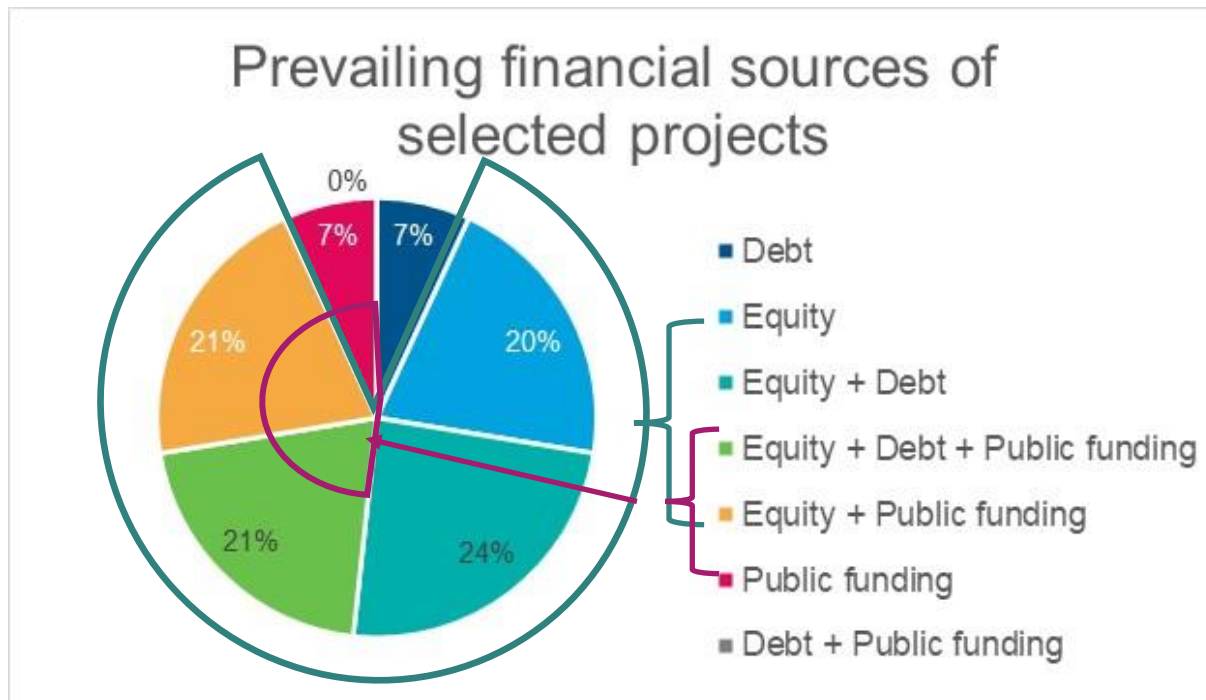


- Invited projects provided **more elements to better substantiate their maturity** (including high quality feasibility study, business plan and implementation plan).
- Most invited projects received a **top score on technical maturity** (success factors = FEED stage, pilot scale demonstration, detailed TRL score).
- Financial maturity appears to be a **key failure factor**, with a larger gap in scores between invited and not invited projects (see details on next slide).
- Most invited projects also **scored highly on operational maturity** (success factors = factual details in implementation plan, permits and EIA in progress).

Legend: Not invited projects include both those meeting and those not meeting thresholds

SUCCESS FACTORS – FINANCIAL MATURITY

FINANCIAL MATURITY APPEARS TO BE A KEY FAILURE FACTOR FOR MANY PROJECTS NOT INVITED TO 2ND STAGE



The overall lower scores on financial maturity in projects not invited to 2nd stage demonstrate high potential for improvement for projects across several areas:

- Diversity in financial sources, including secured equity funding: 85% of invited projects include some form of equity, whereas 48% of invited projects rely on public funding as well.
- Clarity of financial plan (100% of invited projects included a detailed financial plan)
- Financial viability from the start of the project (IRR of invited projects is on average 2.5% higher).

Thank you



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