GOBIERNO DE ESPAÑA

MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

Jornada informativa sobre el Fondo de Innovación de la Unión Europea

Madrid, 29 de febrero de 2024

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Jornada informativa sobre el Fondo de Innovación de la Unión Europea

Ignacio Sánchez

29 de febrero de 2024

Oficina Española de Cambio Climático

Ministerio para la Transición Ecológica y el Reto Demográfico

Contexto

En Europa

El Pacto Verde Europeo:

Convertir a Europa en el primer continente climáticamente neutro

Ley de cambio climático de la UE:

Objetivo vinculante de emisiones de gases de efecto invernadero netas nulas en 2050

Aumento de la ambición climática a 2030:

Aumentar el objetivo de reducción de emisiones de gases de efecto invernadero hasta el 55%

Presupuesto de la UE para 2021-2027 y "Next Generation EU":

Más de 1.750.000 millones de euros

→ 30% cambio climático

En España

Prioridad del Gobierno

Marco Estratégico de Energía y Clima

Ley 7/2020 de cambio climático y transición energética

Estrategia a Largo Plazo

Estrategia de Transición Justa

2030 - Plan Nacional Integrado de Energía y Clima

2030 - Segundo Plan Nacional de Adaptación

Estrategia de Economía Circular

Integración del paquete Fit for 55

El Fondo de Innovación de la Unión Europea

- Este Fondo es un instrumento clave para cumplir los compromisos de la UE bajo el Acuerdo de París y el objetivo de neutralidad climática para 2050.
- Desde su creación en 2019, como sucesor del programa NER300, el Fondo de Innovación está centrado en la demostración de tecnologías innovadoras bajas en carbono, particularmente para estos sectores:
    - Descarbonización industrial
    - Almacenamiento de energía
    - Captura de C y almacenamiento
    - Renovables innovadoras
- Su objetivo es ayudar a superar barreras tras la fase experimental.
- El Fondo de Innovación se nutre de los ingresos del mercado de comercio de emisiones de la UE, y financiará un estimado de 40.000 millones € entre 2020 y 2030.
- Realiza convocatorias cada 1-2 años, tanto para subvención de proyectos, como otras modalidades.
- Tras la aprobación del paquete Fit for 55, se ha modificado su Reglamento Delegado.

Nuestro papel en el Fondo de Innovación

- Los Estados Miembros participamos en el IFEG (Innovation Fund Expert Group) junto con otras organizaciones en determinados hitos:
  - Seguimiento y orientación a la Comisión.
  - Aspectos generales en la preparación de las convocatorias.
- Los EE.MM. en concreto, además:
  - Luz verde a la relación de proyectos preseleccionados
  - Elementos de índole financiera en las convocatorias
  - Punto Focal Nacional: Subdirección General de Mercados de Carbono (OECC)
- Y en España:
  - Difusión de la actividad del Fondo de Innovación: web del MITECO, eventos…
  - Coordinación interministerial
  - Buzón de consultas
- No participamos en la ejecución de las convocatorias

Participación de España en el Fondo de Innovación

España es líder en número de proyectos seleccionados para ayudas y PDA

	Convocatoria	LSC1	SSC1	LSC2	SSC2	LSC3*	SSC3**
UE	Presupuesto inicial (millones €)	1.000	100	1.500	100	3.000	100
UE	Proys. presentados	311	232	139	66	239	72
UE	Proys. seleccionados	7	30	16	17	41	17
UE	Proys. en PDA	15	10	15	3	23	tbc
UE	Ayudas concedidas (millones €)	1.100	109	1.800	62	3.617	65
UE	Reducción GEI 10 años (MtCO2e)	76	4,5	136	1,3	221	1,8
ES	Proys. presentados	41	41	16	12	34	6
ES	Proys. seleccionados	1	7	0	4	8	2
ES	Proys en PDA	3	2	4	1	3	tbc
ES	Ayudas concedidas (millones €)	107	25	0	14,7	>420	tbc
ES	Reducción GEI 10 años (MtCO2e)	3,4	0,4	0	0,7	>10,8	tbc

** No se incluyen en estas cifras las ayudas y reducciones de proyectos ubicados en varios Estados.*

*** Pendiente conocer las ayudas otorgadas a los proyectos seleccionados en SSC3, y cuáles son elegidos para PDA.*

MUCHAS GRACIAS

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The Innovation Fund

Introduction and calls for proposals

Javier GARCIA, Policy Officer, DG CLIMA
Maria ALFAYATE, Deputy Head of Unit, CINEA
Maria Jesus BAEZ, Senior Financial Engineering Manager, CINEA

29 February 2024
Spain

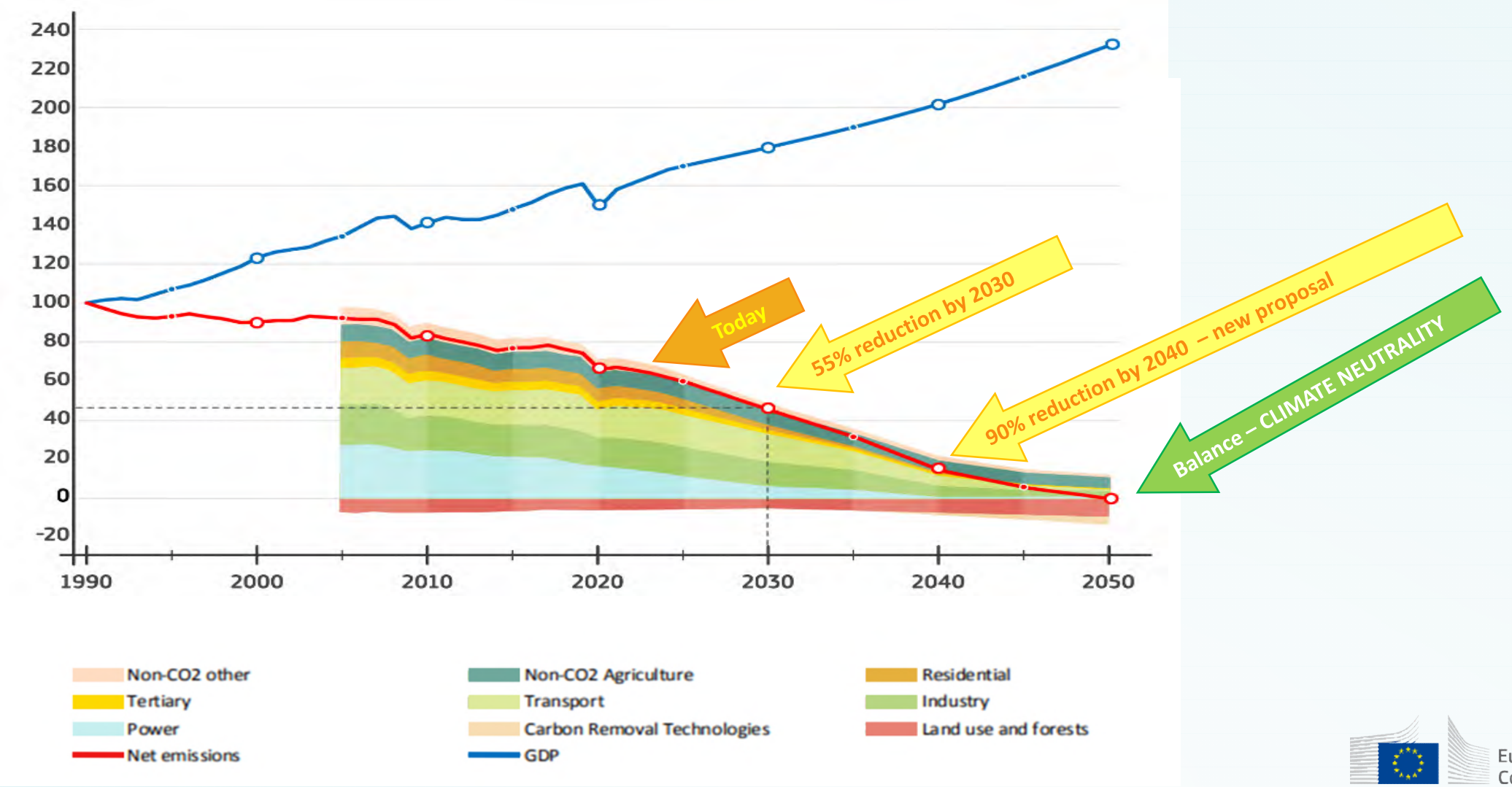
Content

European Commission

Policy landscape

European Commission

The EU's climate neutrality pledge for 2050



European Commission

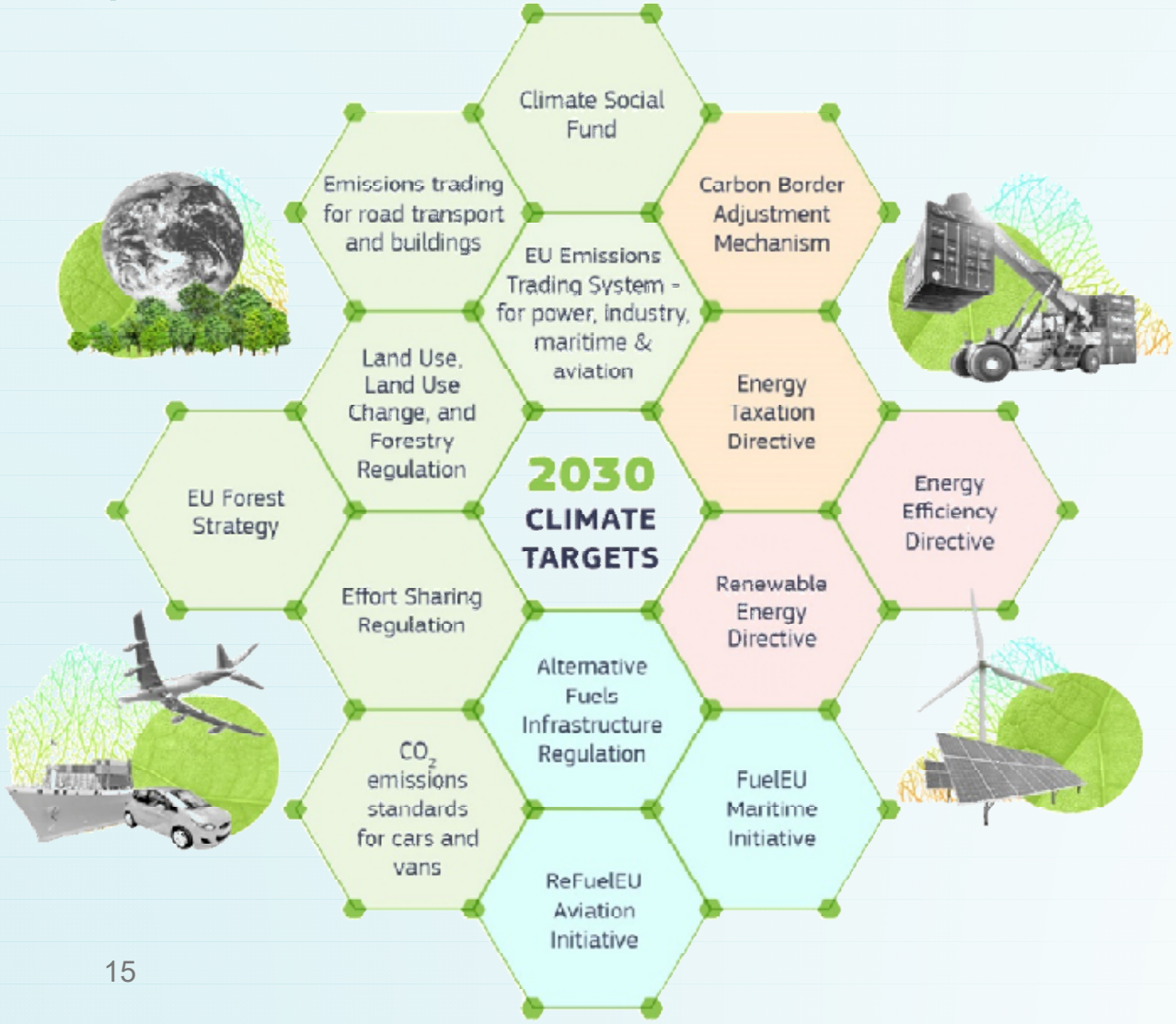
The European Green Deal

The European Green Deal is our roadmap for **making the EU's economy sustainable.** This can only happen if we turn climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

#EUGreenDeal

European Commission

The ‘Fit for 55’ package



- Aims to operationalise the EU’s increased climate target – ‘at least 55% greenhouse gas emissions reduction by 2030’
- Consists of a set of inter-connected proposals that strike a balance between pricing, targets, standards and support measures.
- Addresses most relevant policies – climate, energy, transport and taxation.
- Aims to deliver the transformational change needed in a fair, cost-efficient and competitive way.
- Reinforces the EU’s global leadership by action and by example in the fight against climate change.

Key changes following the Fit-for-55 package

Revised ETS Directive includes changes on:

1. The overall size of the Innovation Fund increased from 450 million ETS allowances to ca. **530 million ETS allowances.**

2. **Scope changes**: new sectors (e.g. maritime); medium-scale projects; DNSH from 2025; stronger reference to multiple environmental impacts.

3. The introduction of **new financial instruments** under the Fund ("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.**

European Commission

The Innovation Fund

European Commission

INNOVATION FUND

Deploying innovative net-zero technologies for climate neutrality

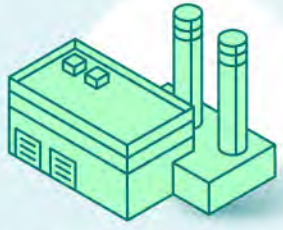
Funded by the EU Emissions Trading System

€40 billion* available between 2020-2030

regular calls and auctions

avoid GHG emissions, boost competitiveness

supporting innovation in:



Energy-intensive indsutries

Renewable energy

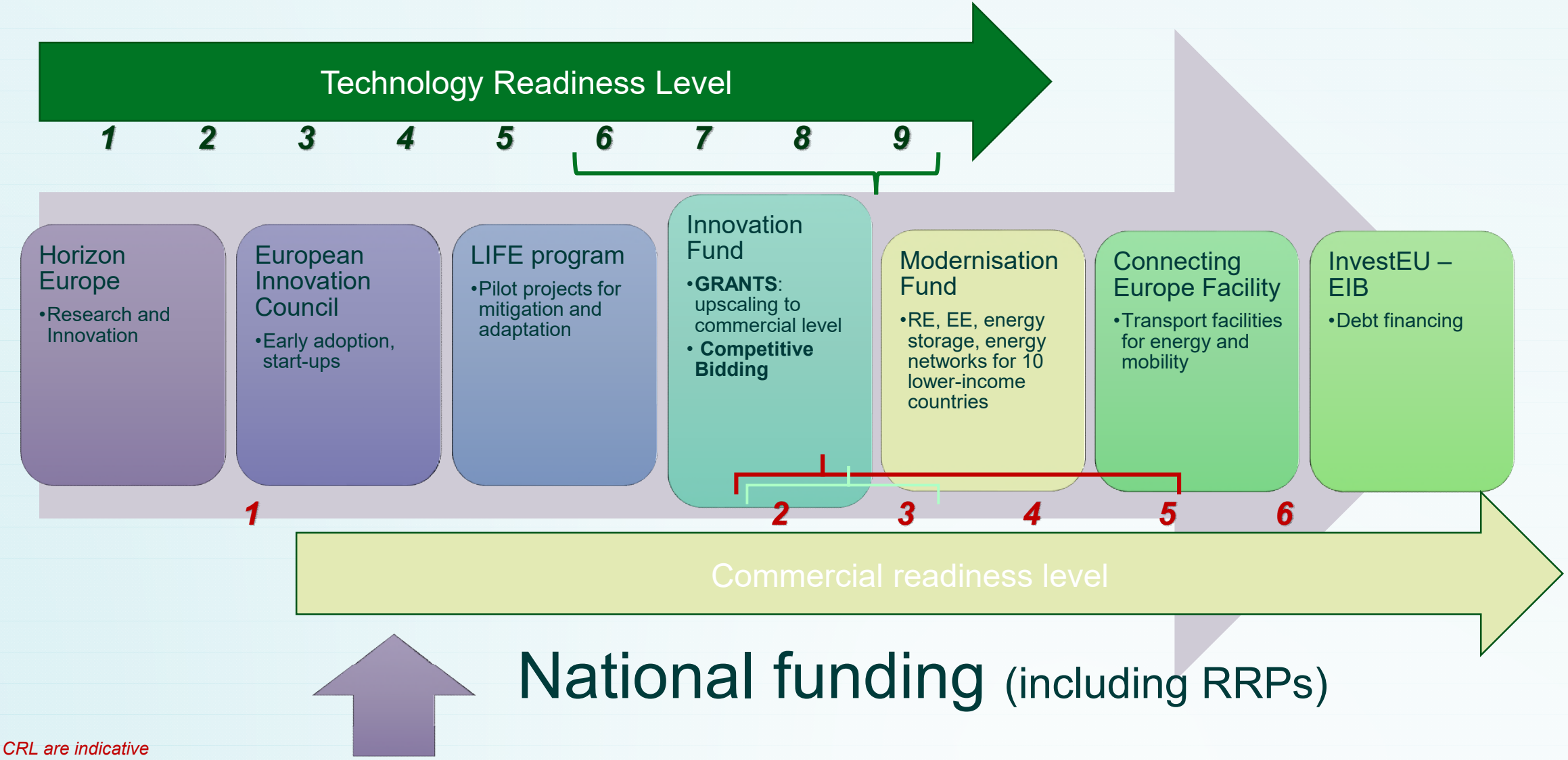
Energy storage

Carbon capture, use and storage

Net-zero mobility and buildings

*based on a carbon price of €75/tonne

Innovation Fund – targeted project portfolio



National funding (including RRPs)

TRL & CRL are indicative

The Innovation Fund can support urgent policy priorities, but holds a long-term line of bottom-up support across sectors

- **RePowerEU** objective of 10Mt of renewable H2 domestic production.
- **Net-Zero Industry Act**: clean tech manufacturing topic (€700 million in 2022, €1.4 billion in 2023).
- **European Hydrogen Bank:** first pilot auction under the Innovation Fund.
- **Wind package:** clean tech manufacturing topic and project development assistance.

Evolution of the Innovation Fund

LSC 2020
- EUR 1.1 billion
- 7 granted projects

SSC 2020
- EUR 109 million
- 30 granted projects

LSC 2021
- EUR 1.8 billion
- 16 granted projects

SSC 2021
- EUR 60 million
- 16 granted projects

LSC 2022
- EUR 3.6 billion
- 41 invited to Grant Agreement Preparation

SSC 2022
- EUR 100 million
- 72 applications submitted

IF 2023 Call
- EUR 4 billion
- Application starts on 23/11/2023

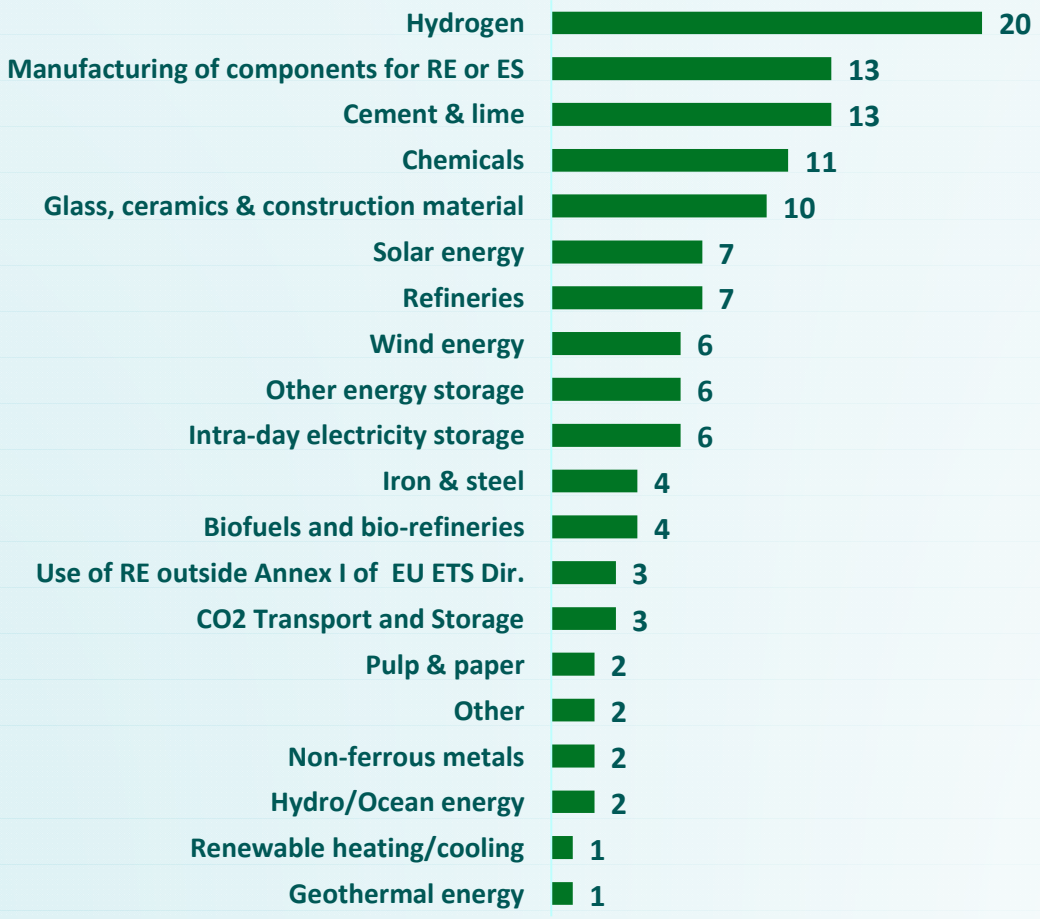
IF 2023 Auction
- EUR 800 million to renewable hydrogen producers
- Application starts on 23/11/2023 - Closed 08/02/24

Over EUR 3 bn already provided for low-carbon innovation projects

**GAP – Grant Agreement preparation*

Portfolio of ongoing and selected projects

2020 LSC, 2020 SSC, 2021 LSC, 2021 SSC, 2022 LSC*, 2022 SSC*



24 Countries

447 Mt CO_2 eq to be avoided

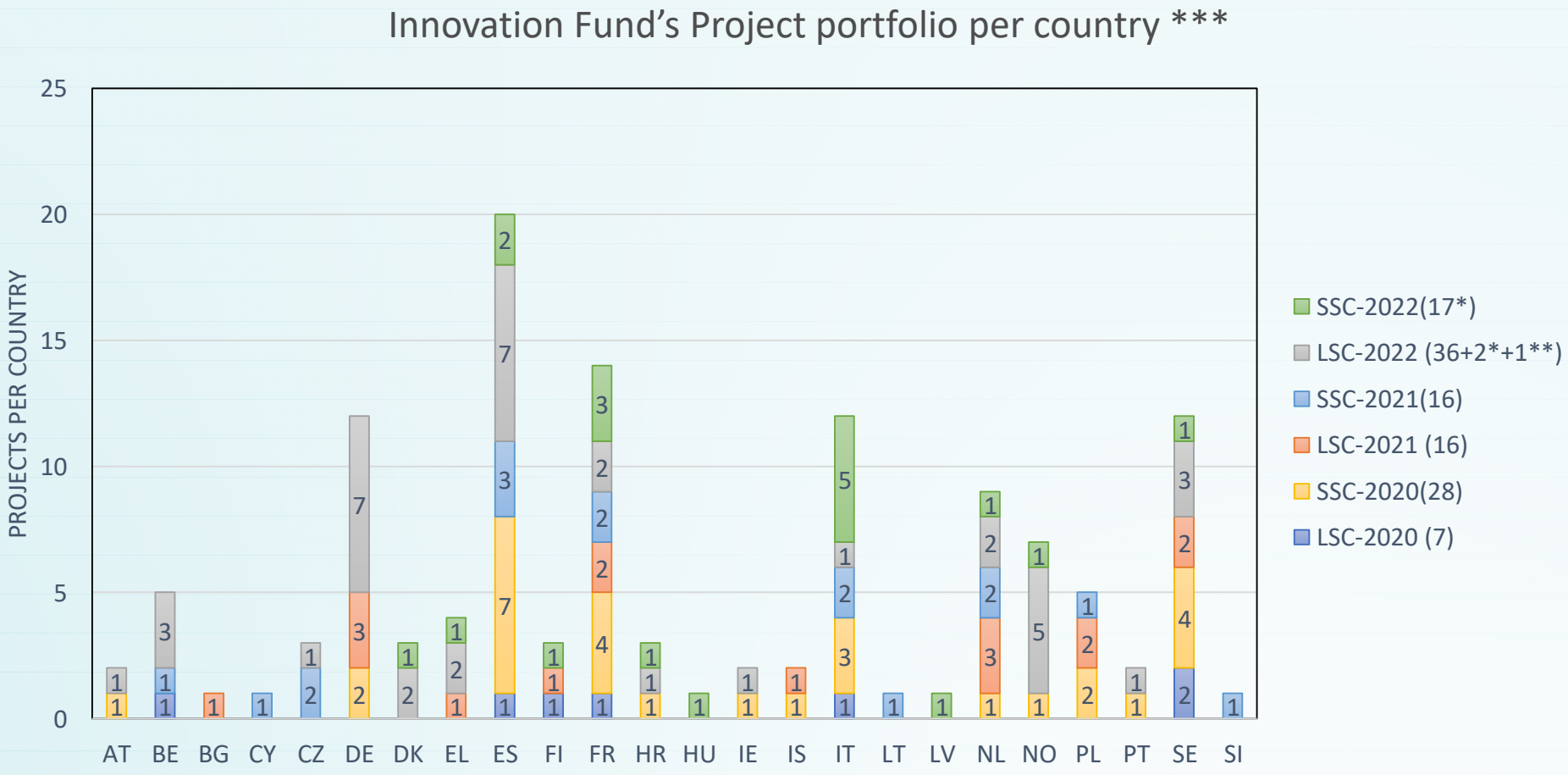
€ 6.64 Billion EU granted + ongoing GAP

Projects: 103 ongoing +20* invited

**Data includes ongoing projects and preselected proposals from SSC-2022+ one from reserve list LSC-2022 and two LSC-2022 currently under GAPs*

European Commission

Geographical Distribution - Project Portfolio



** Projects pre-selected / invited to GAP (17 SSC-2022* +2 LSC-2022* + 1 from LSC-2022 reserve list**)*
****Projects with locations in more than one MS have been represented for each MS where they are implemented*

European Commission

Spain

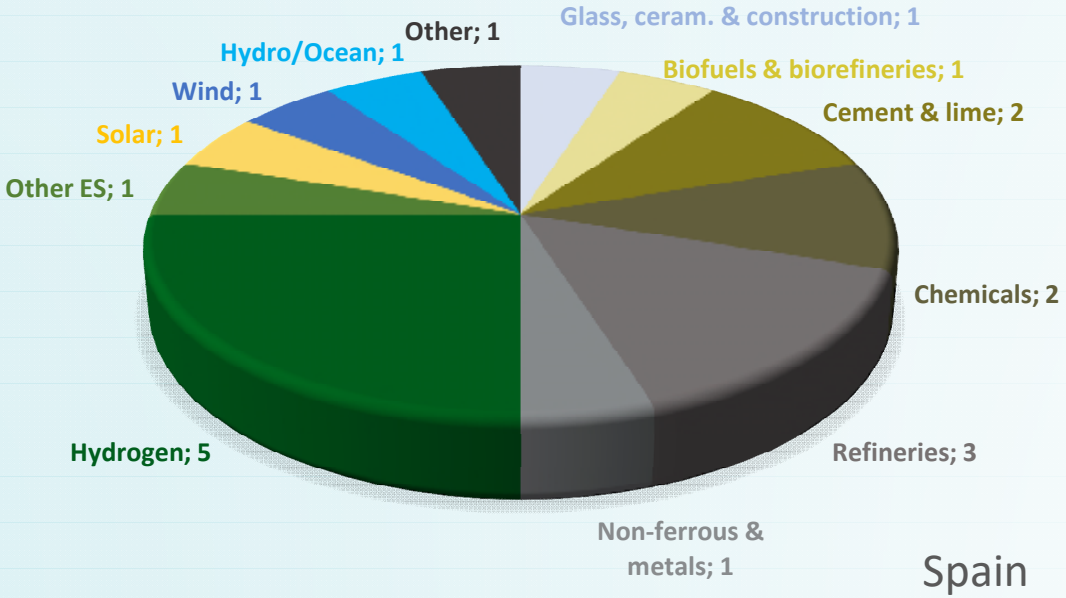
Ongoing & pre-selected projects (SSC 2022 + LSC 2022 reserve list)

20 Projects

743.3 million € EU contribution

15.8 $MtCO_2$ eq first 10 years

Sectoral distribution



Spain

European Commission

Spain (1)

Project acronym	Location	Call Name	Innovation Fund Grant (million EUR)	Expected GHG avoidance (ktCO2 eq)	Description	Project status
ECOPLANTA	El Morell, Tarragona	**LSC-**2020	106.4	3 444.3	Reduction of CO2 emissions in methanol production from municipal non-recyclable solid waste rejected by sorting centers to produce circular chemicals and advanced biofuels.	Pre-FC
AGGREGACO2	Bilbao	**SSC-**2020	3.2	28.4	Fabrication of CO2 negative AGGREGAtes based on disruptive accelerated carbonation processes fuelled by carbon capture in refineries.	Pre-FC
SKOFASS	Tudela	**SSC-**2020	1.6	15.29	First-of-a-kind technology, stand-alone processing plant for reconditioning industrial lubricants using an innovative Double Separation Technology (DST) to remove all contaminants from the used oil and return it to a clean, usable and high-grade product.	Entered into Operation
SUN2HY	Puertollano	**SSC-**2020	4.5	23.21	Pre-commercial plant based on photoelectrocatalytic technology for hydrogen production.	Pre-FC
W4W	Can Mata, Piera	**SSC-**2020	2.5	131.16	Cost competitive and grid-compliant biomethane from landfill gas using the WAGABOX® technology implemented in one of the largest landfills in Spain.	Entered into Operation

Previous calls
SSC 2022

European Commission

Spain (2)

Project acronym	Location	Call Name	Innovation Fund Grant (million EUR)	Expected GHG avoidance (ktCO2 eq)	Description	Project status
CO2-FrAMed	Ebro River Valley	**SSC**-2020	4.4	17.70	CO2-Free Agriculture for the Mediterranean region builds approximately 12 stand-alone large-power photovoltaic irrigation systems (PVI) not requiring back-up batteries and significantly reducing risks related to the integrity of the water distribution infrastructure.	Pre-FC
HYVALUE	Victoria -Gasteiz	**SSC**-2020	4.5	138.76	Novel upcycling production process based on an innovative circular business model for urban waste streams valorisation for the generation of high quality H2.	Pre-FC
GREENMOTRIL	Motril	**SSC**-2020	4.3	29.15	First European port able to operate off-grid while maintaining its basics services, based on a self-managed energy community which uses renewable energy and storage technologies and can intelligently manage power demand using advanced technologies.	Pre-FC
CIRQLAR	Galicia	**SSC**-2021	2.2	59.50	Positive displacement compression heat pump system, boosting heat and temperature integrated in a refinery production scheme to increase the process energy efficiency, flexibility, and sustainability.	Pre-FC
CLYNGAS	Alicante	**SSC**-2021	4.4	406.96	Substitution of petroleum coke in the cement industry by synthesis gas (syngas) generated from gasification of stabilised RDF	Pre-FC

Previous calls
SSC 2022

European Commission

Spain (3)

Project acronym	Location	Call Name	Innov. Fund Grant (million EUR)	Expected GHG avoidance (ktCO2 eq)	Description	Project status
SUSTAIN-SEA	Cantabria	**SSC**-2021	4.1	46.79	Deploy bound4blue innovation eSAILTM system for reduction of fuel use and GHG emissions of the maritime transport by using wind energy.	Pre-FC
BBRT	Tarragona	**LSC**-2022	100	2 387.59	BASF Battery Recycling Tarragona (BBRT) contributes to reducing the product carbon footprint of battery raw materials by 61% by keeping relevant raw materials like nickel (Ni), cobalt (Co), or lithium (Li) in the European circular value chain	Pre-FC
GREEN MEIGA	Begonte	**LSC**-2022	122.9	2 901.08	Unique integrated plant, with (i) an innovative hybridised H2 production system comprising Alkaline, PEM, SOEC and Co-SOEC systems, (ii) an integrated self-sustainable e-methanol production system, and (iii) an advanced CO2-capture system integrating enzyme-based and direct air capture technologies	Pre-FC

Previous SSC 2022 calls

European Commission

Spain (4)

Project acronym	Location	Call Name	Innov. Fund Grant (million EUR)	Expected GHG avoidance (ktCO2 eq)	Description	Project status
SEAWORTHY	Gran Canary Island	**LSC-2022**	26.0	25.56	First-of-a-kind technology capable of supplying green dispatchable power offshore due to the smart integration of wave energy converters, a wind turbine, and a full hydrogen system (electrolyser, storage and fuel cells) in a single semisubmersible platform.	Pre-FC
T-HYNET	Tarragona	**LSC-2022**	62.5	1 378.16	Deploy 150 MW capacity, pressurized alkaline electrolyser in REPSOL Petróleo site in the Tarragona Industrial area, operating 24/7 and producing 2,7 tonnes of renewable H2 per hour and O2.	Pre-FC
TRISKELION	Mugardos	**LSC-2022**	48.8	860.28	Manufacturing Green Methanol from hydrogen produced by the electrolysis of water using electricity from renewable sources and CO2 transformed and then captured from an existing cogeneration plant, and also the production of Green Liquid Oxygen.	Pre-FC
ASTURIAS H2 VALLEY	Asturias	**LSC-2022**	189.7	1 329.79	Power-to-Hydrogen Hub to produce and supply renewable hydrogen with electricity supply from renewable power plants (wind, solar).	Pre-FC

Previous calls
SSC 2022

European Commission

Spain (5)

Project acronym	Location	Call Name	Innov. Fund Grant (million EUR)	Expected GHG avoidance (ktCO2 eq)	Description	Project status
LuGaZ	Galicia	SSC-2022	[GAP]	51.60	Zero-waste facility to manage organic and non-hazardous waste generated in the dairy sector value chain. Combines a biogas plant with an innovative low scale upgrading syste m, a liquid treatment of digestate for water recovery, and a solid treatment for fertiliser production.	GAP
ERACLITUS	Valencia	SSC-2022	[GAP]	421.99	Cement production containing just 20% clinker to reduce CO2 footprint (from 544 to 191 kg/ton) and leveraging abundant materials like clay minerals and industrial waste.	GAP
GREENH2 LAROBLA	La Robla, León	LSC-2022	[GAP]	2 081.6	One of the largest electrolytic hydrogen production systems in the world (280 MW), 100% from renewable sources.	GAP

GREENH2LAROBLA – invited from the reserve list LSC-22

Previous calls
SSC 2022
From reserve list LSC-2022

European Commission

Project Development Assistance

EIB financial and technical experts provide Project Development Assistance (PDA)
to Innovation Fund eligible projects

Access Route 1

Application to IF Calls for Proposals

- **After submitting an IF grant application, and if unsuccessful**, your application may be eligible for PDA.
- PDA aims to **enhance the financial viability and improve the technical maturity of project proposals** for submission to future Innovation Fund Calls (although not compulsory) or other EU funding requests, national grant preparation or financing from private sources.

Access Route 2

OPEN PDA

- Project promoters who are interested in obtaining PDA support may **approach the EIB directly**.
- **Fund is a prerequisite** for consideration of Open PDA. **Eligibility for the Innovation**

EXTENDED PDA FROM 2024 ONWARDS

- ✓ Applying or benefitting from PDA is **not dependent** on submitting an application to the Innovation Fund.
- ✓ Under the extended PDA process, **new sectoral and geographic targets are in place, and a larger number of projects will be supported**.

More information on EIB webpage

Innovation Fund - Project Development Assistance (eib.org)

Contact us directly at:
ifpda@eib.org

Examples of PDA support

- Business Plan development
- Financial modelling
- Capital structuring
- Market research
- Risk analyses
- Investor packages
- Technology assessments
- Techno-economic studies
- Offtake strategies
- CapEx & OpEx reviews
- Life cycle assessments
- Cost benefit analyses

Technical assistance for all Member States

- Contract to be signed (1Q 2024)
- Duration: 18 months

Deliverables:

- Work programme for NCPs capacity building
- Online trainings (at least 5)
- Communication materials in all 26 languages, including assets for organising national InfoDays
- Annual meeting in Brussels

Outlook 2024

Analyse the project pipeline and stakeholder consultations

- The applications to the 2023 calls for grants and auctions and stakeholder consultations will inform policy decisions

Prepare next calls for proposals and auction for opening autumn 2024

- Based on lessons learnt and resources available

Strengthened Project Development Assistance (technical and financial support from the European Investment Bank (EIB) to improve project maturity)

- Geographical and sectoral balance. Priority for wind energy and maritime projects

Innovation Fund 2023 Call

Innovation Fund 2023 call in a nuthshell

Timeline

- Launch: 23 November 2023
- Deadline for application: 9 April 2024
- Results to be announced: Q4 2024

Grant distribution

- LUMP-SUM contribution grant up to 60% of relevant costs
- Up to 40% of grant at financial close
- Remaining amount of at least 60% after financial close
- Generally, at least 10% after Entry into operation.

Links

- Link to the information day and recording
- Link to Funding and Tenders portal

Topic	Topic budget
Large-scale projects	EUR 1 700 million
Medium-scale projects	EUR 500 million
Small-scale projects	EUR 200 million
Clean-tech manufacturing	EUR 1 400 million
Pilot projects	EUR 200 million
IF23 Call Total Budget +PDA	**EUR 4 billion + 20% flexibility reserve**

Eligible activities

Large, medium, and small-scale projects	Cleantech components manufacturing	Pilot projects
• **Innovation in low-carbon technologies and processes** in sectors listed in Annex I and Annex III to the EU ETS Directive 2003/87, including CCU • Construction and operation of projects for **CCS** • Construction and operation of innovative **renewable energy** and **energy storage technologies** • **Maritime and aviation** transport sectors: energy efficiency, sustainable alternative fuels, electrification, zero-emission propulsion technologies, wind technologies, innovative infrastructure in the maritime sector for EU container transhipment ports	• **Renewable energy installations** (in photovoltaics, concentrated solar power, on-shore and offshore wind power, ocean energy, geothermal, solar thermal, and others), including their connection to the electricity/heat grid • **Electrolysers and fuel cells** • **Energy storage solutions** covering batteries and other storage solutions for stationary and mobile use for intra-day and long duration storage • **Heat pumps**	• Construction and operation of projects **validating, testing and optimising highly innovative, deep decarbonisation solutions in all sectors** eligible for Innovation Fund support

New

Innovation Fund 2023 Call:
Admissibility & Eligibility, Award Criteria

European Commission

Admissibility and eligibility criteria

Admissibility

- Submitted **before** call **deadline**, electronically and using forms in the Submission System
- Complete all the application forms and include mandatory annexes

Eligibility

- Participants have to be **legal entities**; can be established anywhere in the world.
- Projects must be located in the **EEA** (EU Member States and Iceland, Liechtenstein, and Norway)
- The project must:
  - Reach **financial close within four years** after grant signature (maximum time to financial close)
  - **Operate at least** (minimum GHG emission avoidance monitoring period) **five years** after entry into operation
    - Except Small Scale Projects and PILOTS – at least **three years** after entry into operation
- Maximum grant amount **must not exceed 60% of the relevant costs**
- Eligible activities

Eligibility

- Participants have to be **legal entities**; can be established anywhere in the world
- Projects must be located in the **EEA** (EU Member States and Iceland, Liechtenstein and Norway)
- The project must:
  - Reach **financial close within 4 years** after grant signature (maximum time to financial close)
  - **Operate at least** (minimum GHG emission avoidance monitoring period) **5 years** after entry into operation
    - Except SSP and PILOTS – at least 3 years after entry into operation
- Project budget: the maximum grant amount **must not exceed 60 % of the relevant costs**

Topic	Project eligibility CAPEX
Large-scale projects	CAPEX > EUR 100 million
Medium-scale projects	EUR 100 million > CAPEX > EUR 20 million
Small-scale projects	EUR 20 million > CAPEX > EUR 2 .5 million
Clean-tech manufacturing	CAPEX > EUR 2.5 million
Pilot projects	CAPEX > EUR 2.5 million

Eligible activities per topic

Large, medium, and small-scale projects	Cleantech components manufacturing	Pilot projects
• **Innovation in low-carbon technologies and processes** in sectors listed in Annex I and Annex III to the EU ETS Directive 2003/87, including CCU • Construction and operation of projects for **CCS** • Construction and operation of innovative **renewable energy** and **energy storage technologies** • **Maritime and aviation** transport sectors: energy efficiency, sustainable alternative fuels, electrification, zero-emission propulsion technologies, wind technologies, innovative infrastructure in the maritime sector for EU container transhipment ports	• **Renewable energy installations** (in photovoltaics, concentrated solar power, on-shore and offshore wind power, ocean energy, geothermal, solar thermal, and others), including their connection to the electricity/heat grid • **Electrolysers and fuel cells** • **Energy storage solutions** covering batteries and other storage solutions for stationary and mobile use for intra-day and long duration storage • **Heat pumps**	• Construction and operation of projects **validating, testing and optimising highly innovative, deep decarbonisation solutions in all sectors** eligible for Innovation Fund support

New

Award Criteria

Degree of innovation	GHG emission avoidance potential	Project maturity	Replicability New	Cost efficiency New
• Innovation beyond state of the art (see Annex 1 of call text) at European level (except SSP – European or national) • Consider the ongoing Innovation Fund projects	• Absolute • Relative • Quality of the GHG emission avoidance calculation and minimum requirements	• Technical • Financial • Operational	• Efficiency gains • Further deployment • Resilience of EU industrial system • Multiple environmental impacts • Knowledge sharing	• Cost efficiency ratio (different formula for Pilot projects) • Quality of the cost calculation and minimum requirements

Degree of Innovation

Innovation in relation to the state of the art:

- State of the art
- Innovation beyond the state of the art

Quality, soundness, and reliability of the information provided

- **Application form, Part B:**
  - Section 1: Degree of innovation
- Feasibility study (mandatory annex)
- Any existing technical due diligence report (optional)

Degree of Innovation

- Innovation Fund aims at supporting projects beyond incremental innovation on a scale from intermediate to breakthrough, including scaling-up, considering the European level as reference point (for SSP topic the European or national level)

Very low / incremental innovation → Intermediate or strong → Very strong or breakthrough

Incremental innovation: minor changes or improvements to existing products, processes or business models; implies limited new knowledge / technology; such projects **will not be retained.**

Intermediate or strong: new or considerably changed technologies or processes or business models; novel combinations of mature technologies; scale-up of innovative technologies

Very strong or breakthrough: completely new technologies or processes or business models; innovations leading to significant changes that transforms entire markets or industries or creates new ones

Degree of Innovation: types of innovative actions

Innovation Fund aims at supporting technologies, business models and processes that are not yet commercially available, representing innovative solutions which are sufficiently mature for demonstration at pre-commercial/commercial scale

First-of-a-kind commercialisation or **large-scale commercial size demonstration** of technologies, processes or business models previously proven at pilot or smaller scale, or large-scale demonstration plants

A **second or more of a kind commercialisation**, under certain conditions. In particular, where the relevant costs remain a significant share of total costs that prohibit commercialisation without further public support. Innovation beyond incremental must still be demonstrated.

Innovative smaller demonstrations or pilot plants, targeting validation of innovative solutions in industrial environment.

Projects aimed at demonstrated **scaling up** of innovative techniques, processes and technologies for their broad roll-out, which contribute significantly to the decarbonisation of the IF sectors.

Lessons learned - Degree of innovation

- Check thoroughly **ANNEX 1** in call text
- Be clear, exhaustive and transparent
- Provide convincing and substantial evidence for your claims
- Make clear references to the feasibility study, where relevant

Describe	Identify	Provide evidence ->Feasibility study, GHG calc, other

• Relevant **state-of-the-art**
  • Technological aspects
  • Commercial aspects
• Consider **quantitatively**
  • Costs
  • Technical characteristics - Performance
  • TRL/SRL
	• How does your innovation go beyond state-of-the-art?
	  • **Compare** with other previous & ongoing **EU and IF projects**
	  • Include your geographical reference point
	• **Consider Barriers**
	  • for scaling up
	  • for technology integration
		• Compare **key performance data vs state-of-the-art**
		  • Relevant parameters
		  • Consider also energy efficiency and circularity
		• Provide **patent data** (when relevant)
		• Consider how will the innovation be implemented or integrated?

GHG emission avoidance potential

Absolute GHG emission avoidance

Relative GHG emission avoidance

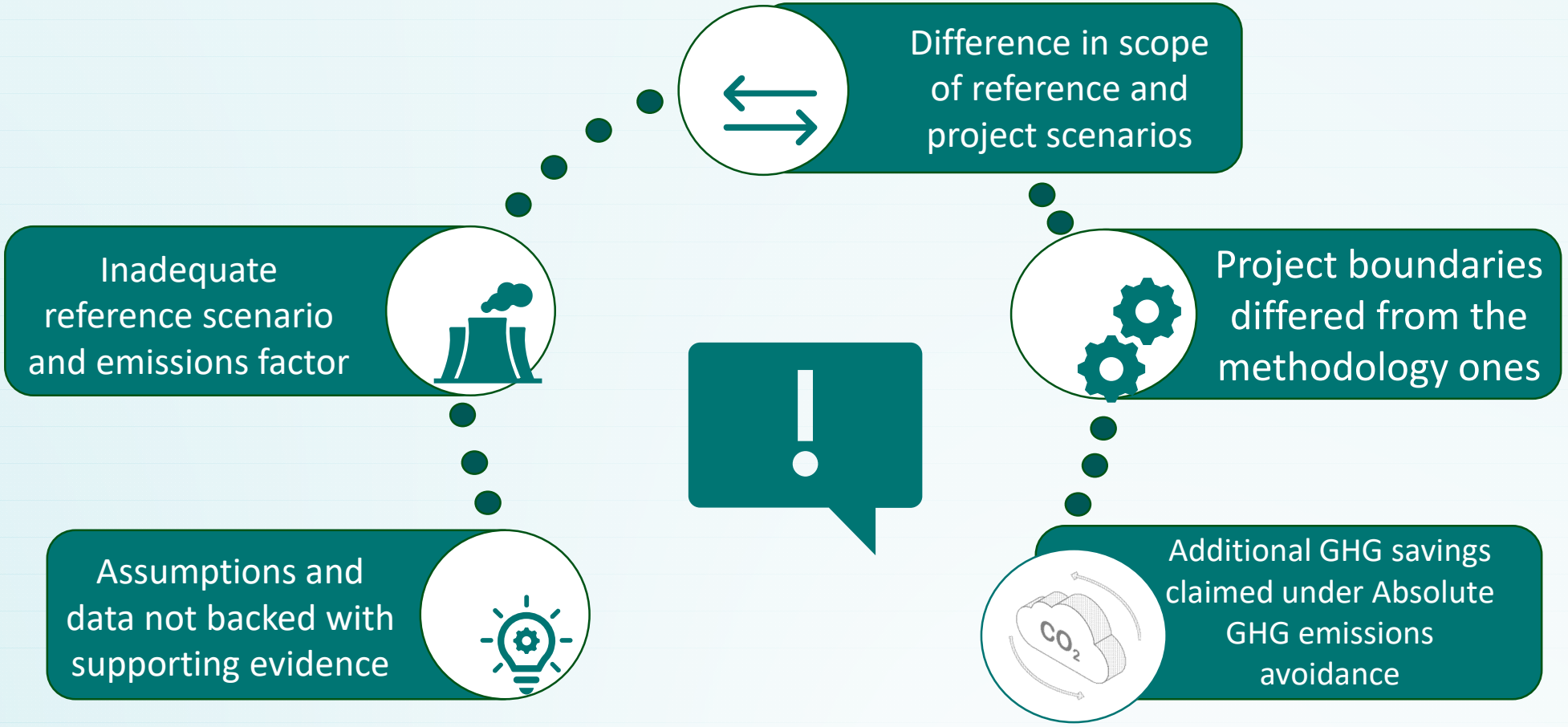
Quality of the GHG emission avoidance calculation and minimum requirements

- **Application form, Part B, sections:**
  - Section 2: GHG emission avoidance potential
    - 2.1 Absolute GHG emission avoidance
    - 2.2 Relative GHG emission avoidance
    - 2.3 Minimum requirements
- **GHG emissions avoidance calculator** (mandatory annex)

GHG emission avoidance potential (1)

- Quality of the GHG emission avoidance calculation and minimum requirements:
  - external experts will assess the quality and credibility of your calculation of GHG emission avoidance potential;
  - in case of issues in the quality of the calculation (including reliability and margin of uncertainty of key parameters and/or key assumptions), points may be reduced;
  - in case the calculation methodology is incorrectly applied or in case the Application documents have not been filled correctly, the score for this sub-criterion will be below the minimum threshold and the proposal will be rejected.

Main mistakes on GHG emissions avoidance



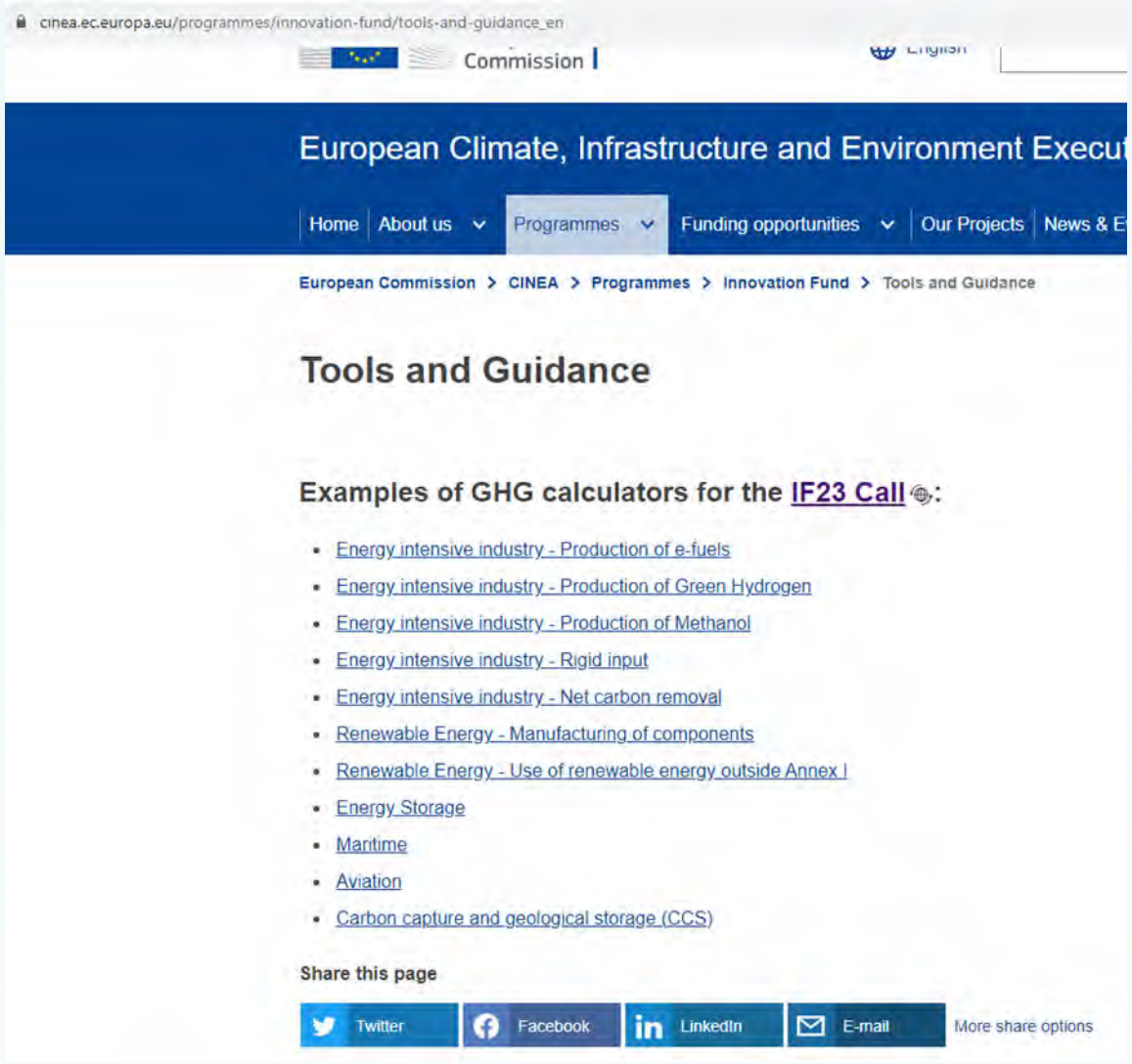
New features of the GHG Calculation criterion

Two new sections in the GHG calculation methodology and GHG calculators

- Maritime
- Aviation

A new set of filled examples in the templates

Tutorial on how to fill in the GHG Calculators



Project Maturity: Technical Maturity

Technical feasibility to deliver the expected output and GHG emissions avoidance

Technology risks and proposed mitigation measures

- **Application form, Part B, sections:**
  - Section 0: technical characteristics and scope / technology scope
  - 3.1 (technical maturity)
  - 3.4 (risk management)
- Feasibility study (mandatory annex)
- Any existing technical due diligence report (optional)

Project Maturity : Operational Maturity

Credible project implementation plan covering financial close, entry into operation and annual reporting after the entry into operation and related deliverables

Relevance and track record of the project management team and soundness of the project organisation

State of play and credibility of the plan for obtaining required permits, intellectual property rights or licences and other regulatory procedures

Soundness of the strategy for ensuring public acceptance

Address project's implementation risks (e.g. dependencies on other projects) and credible risk mitigation measures

Application form, Part B, sections:

- 3.3 - Operational maturity
- 3.4 - Risks and mitigation measures
- 7.1 - Work Plan
- 7..2 – Work Packages, activities, resources and timing

Timetable-Gantt chart (mandatory document)

Participant information (including CVs and previous projects, if any)

- Any existing due diligence report (optional)

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Lessons learned: Project maturity

Timeline

Define project timeline

- Comprehensive, realistic and consistent with technical and financial elements of your project

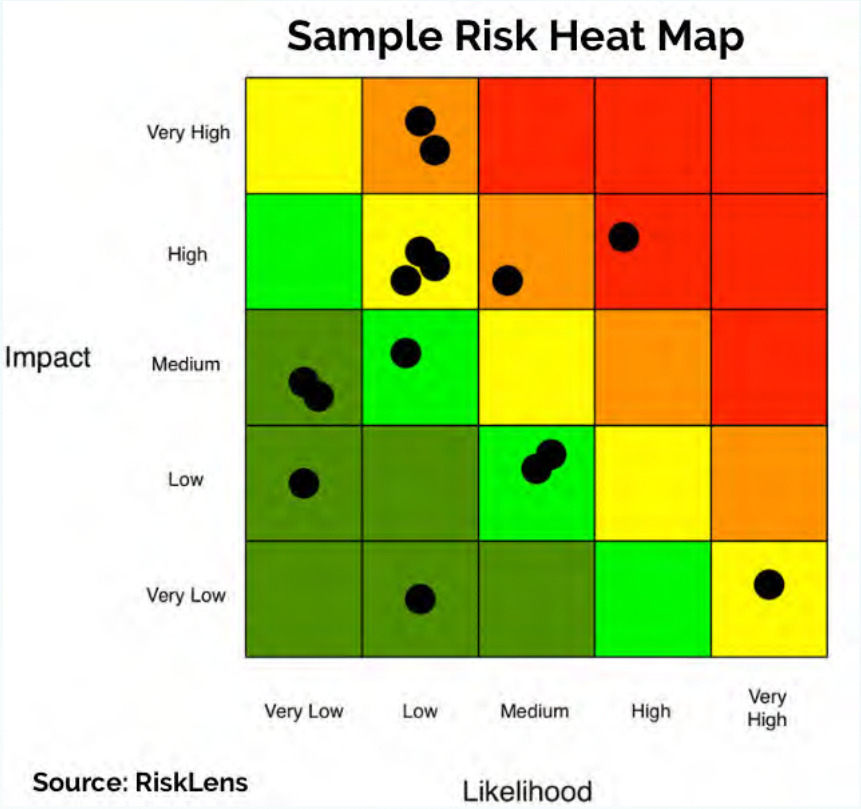
Risks

Identify Technical, financial and operational **risks**

- Provide a **comprehensive risk assessment**
- Ensure convincing **mitigation strategies** across all major risks

Evidence

- **Provide contractual evidence**
- E.g., letters of support, MoUs, indicative terms of agreement for off-take agreements, key suppliers, quotes from vendors, EPC parties



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Bonus points

Bonus	Scoring
1.The potential to deliver **net carbon removals**	1 point (half point 0.5 possible)
2. **Other GHG savings** from emissions sources that go beyond the boundaries established in the Innovation Fund methodology for the given sector	1 point (half point 0.5 possible)
3. Commitment to use **electricity from additional renewable sources or** to use **RFNBO hydrogen**	1 point (half point 0.5 possible)
4. For **Maritime sector** projects only: demonstrated potential to decarbonising the maritime sector and reducing its climate impacts	1 point (half point 0.5 possible)

New

Replicability

New

- Replicability in terms of efficiency gains
- Replicability in terms of further deployment
- Resilience of EU industrial system
- Potential in terms of multiple environmental impacts
- Quality and extent of the knowledge sharing

- **Application form, Part B, sections:**
  - 4.1 - Replicability
  - 4.2 - Knowledge sharing — Communication, dissemination and visibility
- **Knowledge sharing plan**
  - Mandatory document for all topics except INNOVFUND-2023-NZT-GENERAL-SSP (Small-scale projects)

Project Maturity: Financial Maturity – key points

Objective: assess the project capacity to reach Financial Close within 4 years or faster

- Project business plan and profitability
- Soundness of the financing plan
- Commitment of project funders
- Understanding of project business and financial risks

7 golden rules of Financial Maturity

Financial maturity

1. Ensure concrete evidence of the commitment from each project funder, in particular if your project is not profitable (NPV<0)

2. Check Business Plan assumptions, their detailed break down and credibility (the more evidence, the better)

3. Make sure your financing plan is robust enough (sources clearly identified with concrete evidence)

4. Follow our guidance on how to calculate your project WACC

5. Ensure consistency across all application documents

6. Identify & provide effective mitigation measures for key risks and add a sensitivity analysis

7. Provide evidence (main project contracts and financing agreements)

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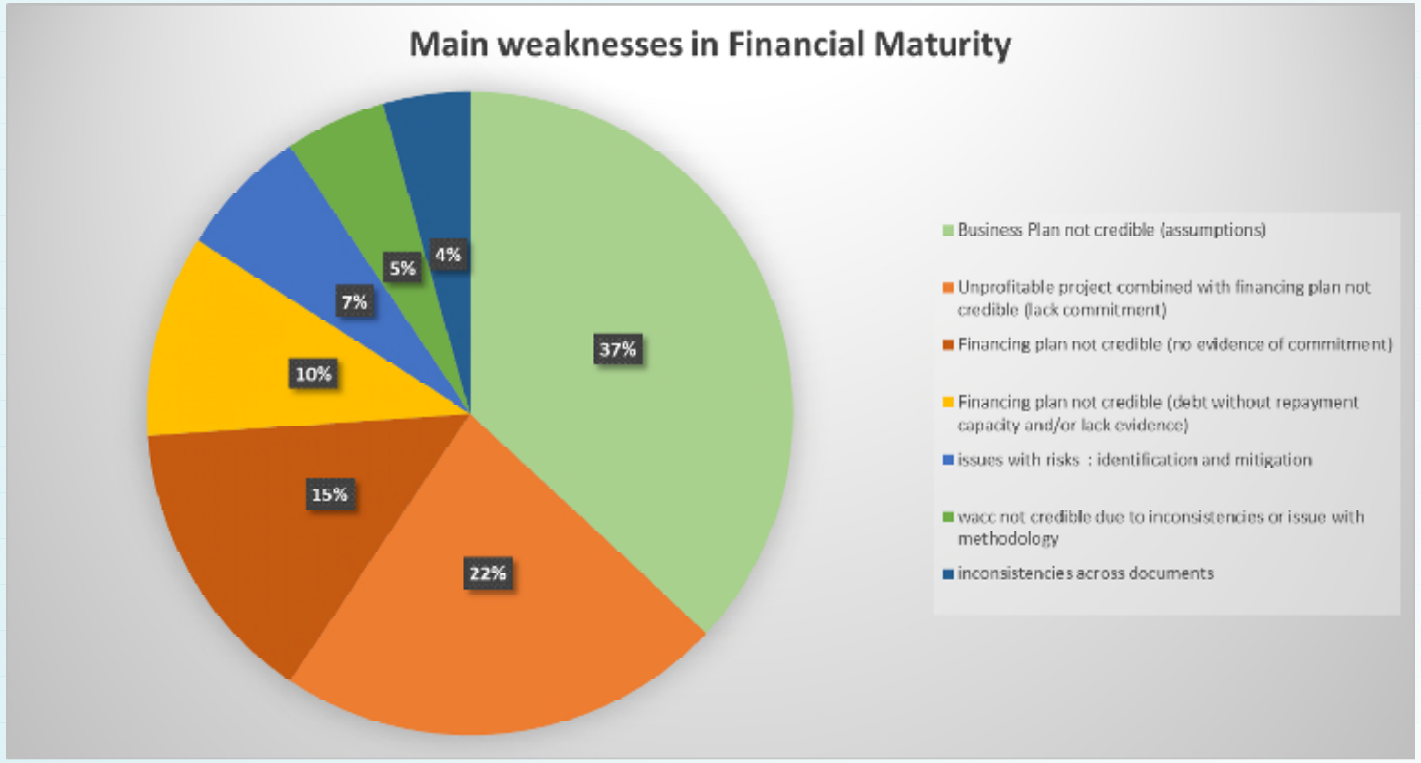
(*) if project is set of as a consortium, outline the main responsibilities and working arrangements of each project party

Main reasons for failure in Financial Maturity



- Issues with **Business Plan** credibility was the **most frequent weakness**
- Followed by **unprofitable projects showing a lack of commitment** from shareholders and then
- **Credibility of the financing plan** coupled with lack of commitment/evidence

Clearly **identify all funding sources** with their terms and conditions and the progress made in defining and/or negotiating them with funding counterparts.

Cost efficiency

$$= \frac{\text{Requested Innovation Fund grant + other public support *}}{\text{Absolute GHG emission avoidance}}$$

During 10 years after entry into operation

Maximum requested IF grant is 60% of total relevant costs

Applicants choosing not to apply for the maximum grant will be more competitive when ranked against other applicants in 'cost per unit performance' metric.

(*) Other public support must impact the same project (i.e. the case of cumulation) and include State aid or funding from the EU funding programmes

For public support received during operation, the rule is to add the undiscounted amount during the first ten years of operation

Cost efficiency– key points

- **Cost efficiency is split in two parts :**
  - One automatic
  - One “qualitative” on how the computation of Cost Efficiency ratio was made
- **Cost efficiency has minimum requirement for all topics €200/tCO_2eq except for Pilots.** If cost efficiency ratio is equal to or above €200/tCO_2eq, cost efficiency score will be zero and proposal will be rejected
- **For Pilots** where projects are more costly: **less stringent formula** for cost-efficiency criterion is applied: **12 – (12 x (cost efficiency ratio/2000).** If cost efficiency ratio is equal to or above €2000/tCO_2eq, cost efficiency score will be zero but proposal will not be rejected

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Main reasons for failure in Cost Efficiency quality

Several measures have been taken in the documentation to grasp address the points mentioned above:

- Further streamlining the Relevant Cost (RC) methodologies and simplifying the WACC computation by proposing default values for Beta and ERP.
- Clarifying even more the eligible costs for the RC computation in the guidance.
- Locking calculation cells in the FIF.

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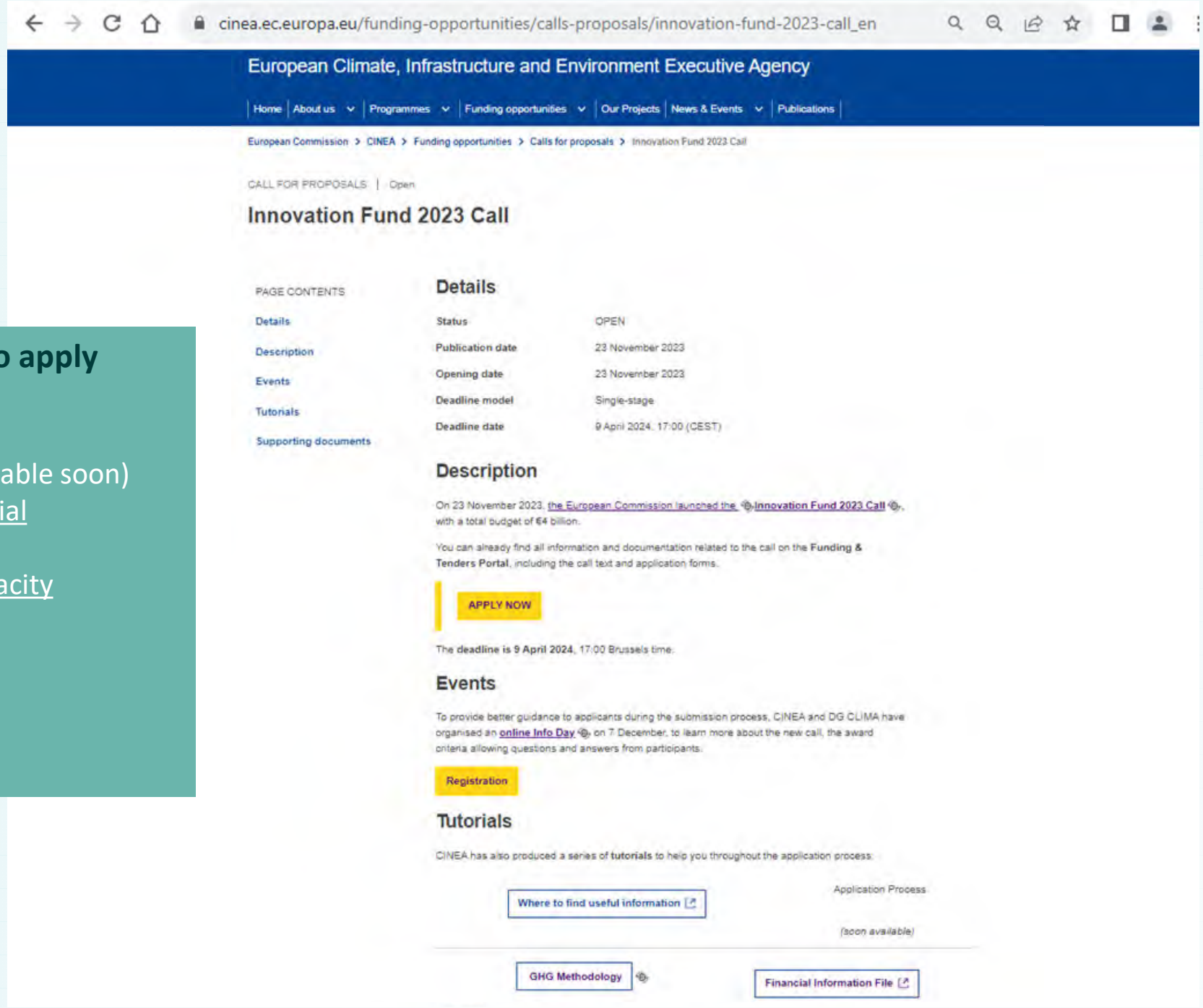
How to apply & some recommendations

How to apply

Check all relevant information to apply

- Funding and Tenders Portal link
- Application process tutorial (available soon)
- Financial Information Sheet tutorial
- GHG Methodology tutorials
- Legal validation and financial capacity assessment process tutorial
- Info Day recording and slides
- Where to find useful information
- Innovation Fund dashboard
- FAQ



Some Recommendations

- Read carefully the call documents and understand well the requirements (including the admissibility and eligibility ones)
- Get familiar with and follow the call methodologies and guidance (GHG and relevant costs)
- Before submitting, please check consistency between different parts and documents of your application
- Help is available:
  - Lessons learned and info-day recordings
  - Tutorial on the application procedure
  - FAQ
  - Innovation Fund helpdesk
  - IT helpdesk
  - The existing Innovation Fund projects – dashboard

*Recording, the presentation and extra slides on lessons learned from LSC 2022 are available on CINEA website

Innovation Fund 2023 Auction

- Closed on 8 February 2024 -

European Commission

The European Hydrogen Bank

- Announced in the State of the Energy Union 2022 – linked to **REPowerEU** objectives
- Communication adopted on 16 March 2023
- **Pilot auction** opened on 23 November 2023
- **Auctions-as-a-service**

European Hydrogen Bank proposed activities

Domestic market creation
Fixed premium auction(s) under the Innovation Fund (DG CLIMA)

Imports to the EU
Instrument for renewable hydrogen imports TBD (DG ENER)

Transparency and coordination

- Demand assessments
- Hydrogen flows
- Infrastructure needs
- H_2 cost data

Existing European financing instruments
InvestEU
Structural funds
Innovation Fund grants

Existing international financing instruments
Concessional loans
Blending
Guarantees

IF23 Auction objectives

Putting Europe's net-zero industry in the lead:

Reducing the cost gap between renewable and fossil hydrogen in the EU

Allowing for **price discovery** and renewable hydrogen **market formation**

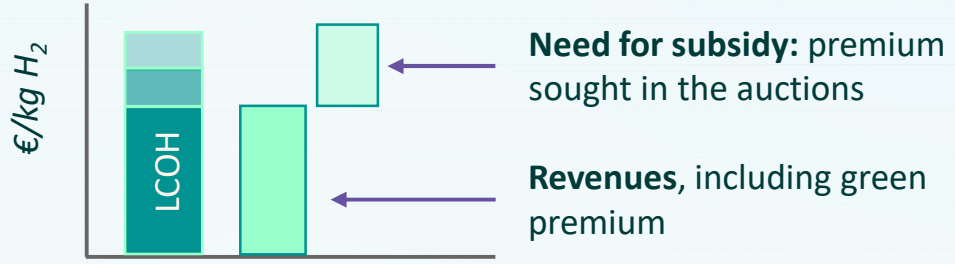
De-risking European hydrogen projects

Reducing administrative burdens

simplicity and implementation speed in mind…

- Budget: **€800 million**
- 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
- Other award criteria assessed **Pass/Fail**
- **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

Results of the pilot auction so far

- **132 proposals** received
- From **17 countries** of the EEAs
- Total **8.5GW** in proposed installed capacity of electrolyzer
- Total planned production of **8.8 million tons** of RFNBO H2 over 10 years

Next steps on the IF23 Auction

- First results are expected in May 2024
- Grant agreements signed with awarded projects by November 2024
- Lessons Learnt exercise for the preparation of the next round of auctions – draft Terms and Conditions planned for May 2024
- Auctions-As-A-Service: member states invited to participate with national budget on next rounds of auctions.

Important to know

Forthcoming events

IF23 Auction

- Lessons Learnt exercise May 2024

IF23 Call

- 23 November 2023 - 9 April 2024
- Link to application

Innovative Clean Tech Conference 2024

- 11 April 2024
- Cleantech Conference 2024 (europa.eu)
- Hybrid event

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Join as project evaluator for Innovation Fun

- Technical expert
- Financial expert
- GHG expert
- Rapporteur

Sign up as an Expert (europa.eu)

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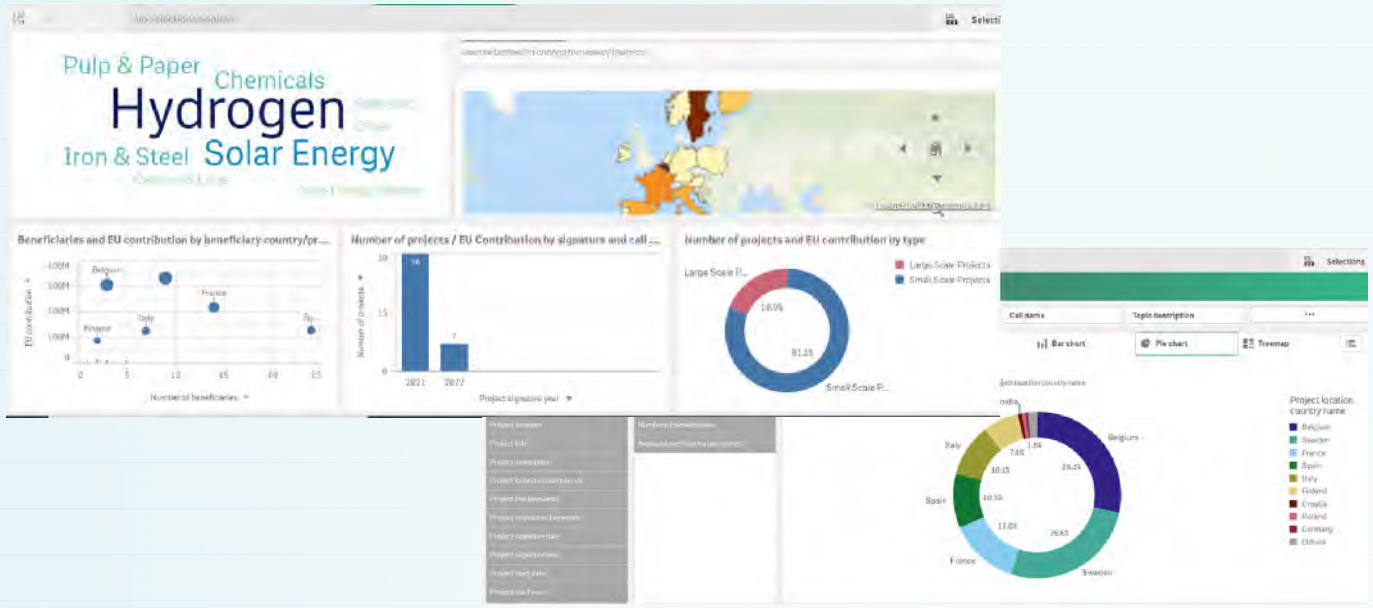
IF dashboard



Available on [CINEA's website]

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More information

All (past) call documents available on the Funding and Tenders Portal including:

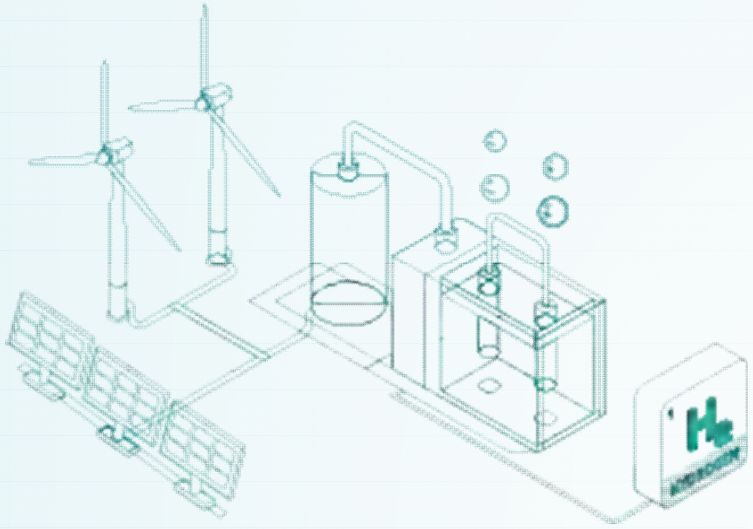
- ✓ Guidance and calculation tools on GHG emissions and relevant costs
- ✓ Frequently asked questions

https://europa.eu/!QB67by

Further info, planning of new calls, recorded webinars and videos available on the IF Website:

https://europa.eu/!rx34Dt

And more videos available on YouTube:
https://bit.ly/2WxK8w7



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Let’s keep in touch

climate.ec.europa.eu

cinea.ec.europa.eu/programmes/innovation-fund_en

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CINEATube

clima-innovation-fund@ec.europa.eu

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European Climate, Infrastructure and Environment Executive Agency

@ourplanet_eu

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Thank you

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MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

Jornada informativa sobre el Fondo de Innovación de la Unión Europea

Madrid, 29 de febrero de 2024

Instrumentos nacionales de financiación para proyectos de hidrógeno renovable competencia de MITECO

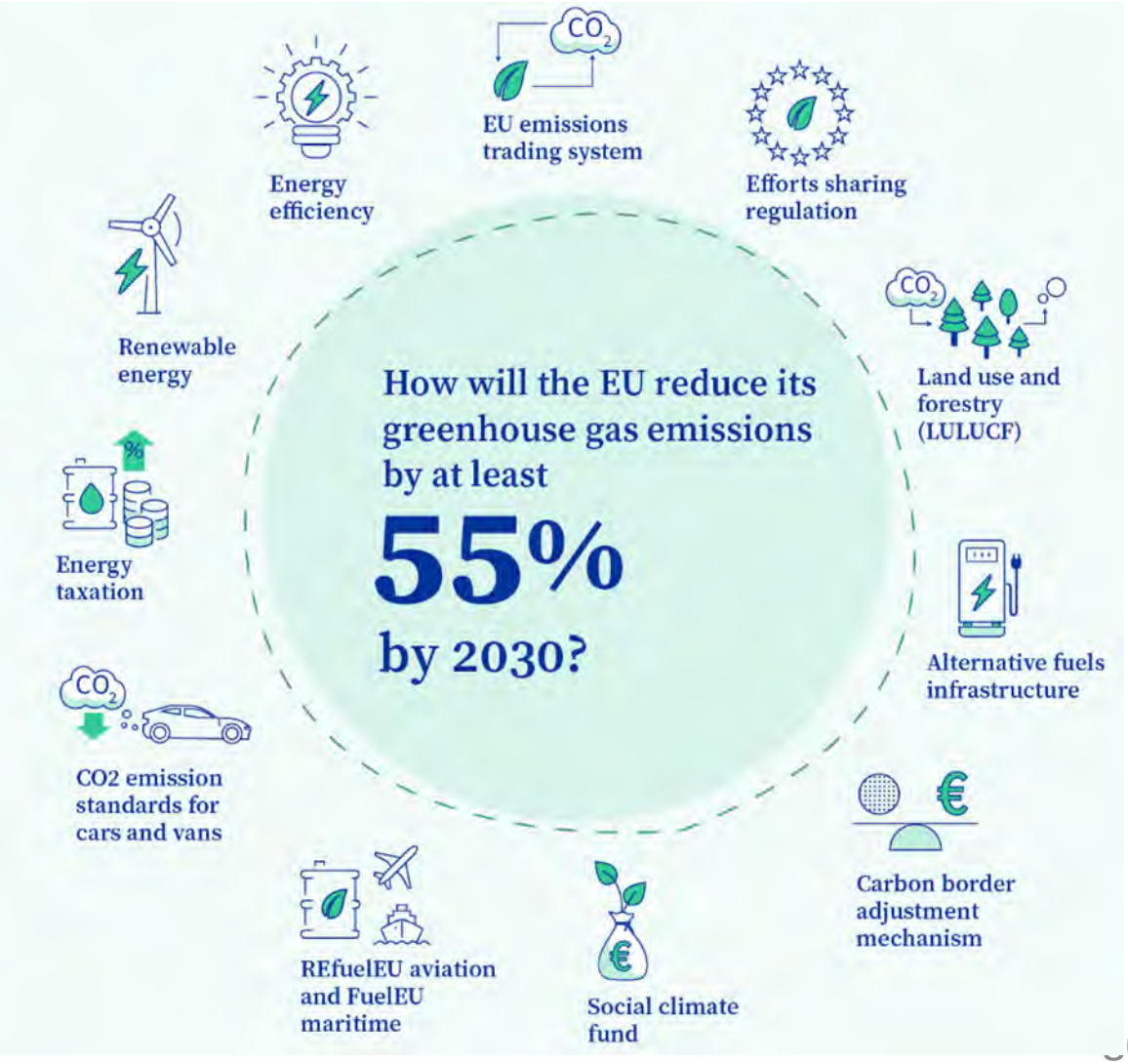
Isidoro J. Romero Cerrato
Subdirección General de Hidrocarburos y Nuevos Combustibles
Dirección General de Política Energética y Minas
Secretaría de Estado de Energía

1

Contexto Energético

1. Contexto energético – Contexto Europeo

- ***Objetivo UE***: Alcanzar la neutralidad climática en 2050.
- El paquete "***Fit for 55***" reformas dedicadas a la revisión o aprobación de Reglamentos y Directivas para alinear las normativas europeas con objetivos en política climática y cumplir objetivos a 2030. Aplicables al hidrógeno:
  - Revisión de la Directiva de Energías Renovables (DERIII)
  - Refuel Aviation, Refuel Maritime, AFIR
  - Nueva Directiva y Reglamento gas natural, gases descarbonizados e Hidrógeno
- "***Plan REPower EU***": aumentar la producción de hidrógeno a 10 millones de toneladas en 2030 e importar 10 millones de toneladas más de hidrógeno.



2. Contexto nacional. Hoja de Ruta del Hidrógeno. Una apuesta por el hidrógeno renovable

2030 **60 medidas**

500.000 t/año de consumo de hidrógeno, principalmente gris, utilizado como materia prima en refinerías (alrededor del 70%) y fabricantes de productos químicos (25%)

1. Contexto nacional – Estrategia energética española

- **Revisión del Plan Nacional Integrado de Energía y Clima 2023-2030 (en borrador)**
- Estrategia a Largo Plazo para una Economía Descarbonizada en 2050

PniEC Energía y Clima

- At least 32% reduction of GHG emissions with respect to 1990
- At least 48% penetration of RES
- At least 44% improvement in energy efficiency
- 81% RES in electricity generation

2030

INCREMENTO DE AMBICIÓN H2 RENOVABLE Y MEDIDAS ESPECÍFICAS

11 GW electrólisis

MEDIDA 1.10: Descarbonización del sector industrial
MEDIDA 1.13: Descarbonización sector marítimo
MEDIDA 1.14: Descarbonización sector aviación
MEDIDA 1.16: Desarrollo del H2 renovable
MEDIDA 4.12: Corredor Ibérico del Hidrógeno. H2MED

- Ley 7/2021, de 20 de mayo, de Cambio Climático y Transición Energética → *Artículo 12. Promoción de gases renovables.*

2

Avances regulatorios

2. Avances regulatorios recientes

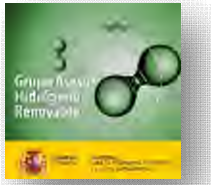
Modificaciones legislativas y reglamentarias:

- Marco regulatorio canalizaciones aisladas y líneas directas (RD-ley 6/2022 y RD-ley 18/2022)
- Procedimiento de gestión del sistema de garantías de origen del gas procedente de fuentes renovables (Orden TED/1026/2022).
- Exención cargos eléctricos para electrolizadores (Orden TED/1312/2022)
- Tramitación simplificada EIA electrolizadores (RD 445/2023 que modifica Ley 21/2013 de evaluación ambiental)
- Propuesta de Orden Ministerial de fomento de combustible renovables en transporte (sometida a audiencia pública a finales 2023)→ Incluye modificación OM procedimiento gestión Garantías de Origen
- Habilitación provisional a los gestores de la red de transporte de gas natural como gestores de la red troncal de H2 (RD-ley 8/2023)

Avance en expedientes europeos bajo Presidencia Española del Consejo:

- Aprobación y publicación DERIII, Refuel Aviation, Refuel Maritime, AFIR
- Acuerdo en trílogos para nueva Directiva y Reglamento gas, gases descarbonizados e H2

Grupo Asesor del H2 Renovable



- Finalizados trabajos subgrupos técnicos. Cerrando documento final de propuestas del sector. Continuidad.

2. Próximos pasos regulatorios

- ***Transposición de Directivas y Aplicación de nuevos Reglamentos europeos***:
  - Directiva y Reglamento de gas natural, gases descarbonizados e H2
    - Marco regulatorio nacional para las redes H2
  - DERIII
    - Objetivos nacionales de RFNBO en transporte, transporte marítimo e industria
  - Refuel Aviation
    - Implantación de obligación suministro SAF y SAF sintético
  - AFIR
    - Implantación objetivo Hidrogeneras en Red TEN-T
- ***Revisión de la Hoja de Ruta del H2 una vez aprobada revisión del PNIEC***
- ***Activación proceso planificación red eléctrica (Modificación puntual + nueva planificación)***
- ***Continuidad mecanismos de apoyo al H2 renovable***

3

Instrumentos de financiación

3. Instrumentos de financiación. PERTE ERHA

COMPONENTE 9: Hidrógeno renovable, un proyecto país

Objetivo: Posicionar a España como **referente tecnológico en producción y aprovechamiento de hidrógeno renovable**, facilitando las condiciones para que el hidrógeno renovable pueda contribuir de forma significativa a la descarbonización de la economía y al posicionamiento tecnológico e industrial de España y la UE.

1.555 MEUR de los cuales alrededor de 600 M€ adjudicados hasta la fecha

Cadena de valor

CADENA DE VALOR

- Programa 1 (11,9 MEUR)
- Programa 2 (37,5 MEUR)
- Programa 3 (100 MEUR)
- Programa 4:
  - 1ª convocatoria (40 MEUR),
  - 2ª convocatoria (en valoración)

Proyectos singulares y pioneros

PIONEROS

- 1ª convocatoria (150 MEUR)
- 2ª convocatoria (150 MEUR)

H2 I+D+i IPCEI Hy2Tech

IPCEI

- **Hy2Tech** → Aprobado RD 4/2023 regula concesión ayudas (47 MEUR)
- Tres resoluciones de concesión aprobadas (H2B2, SENER, NORDEX)
- **Hy2Use** → En elaboración RD. 7 Proyectos autorizados por la COM
- **Hy2Move** → En fase de notificación

3. Instrumentos de financiación. Adenda al PRTR

ADENDA AL PRTR - COMPONENTE 31: REPower EU

Objectivo: *Mejora de las infraestructuras energéticas, descarbonización de la industria, aumento de la producción y consumo de hidrógeno verde, despliegue de energías renovables, apoyo a la cadena de valor de estas industrias y pobreza energética.*

NEXT GEN EU

ADENDA
SEGUNDA FASE DEL PLAN DE RECUPERACIÓN, TRANSFORMACIÓN Y RESILIENCIA DEL REINO DE ESPAÑA

C31.I2: Hidrógeno renovable

Desarrollo de la producción y uso de hidrógeno renovable, a través de líneas de apoyo a la aplicación de esta tecnología en diferentes sectores económicos, así como para la participación de empresas nacionales en proyectos y consorcios europeos, principalmente Proyectos de Interés Común Europeo, reforzando las actuaciones ya previsto en el Componente 9 del PRTR.

1.600 M€ adicionales para H2 renovable

- Líneas pendientes de ejecutar (Clusters)
- Continuación líneas existentes (Pioneros, Cadena de Valor, nuevas oleadas IPCEIs)

3. Instrumentos de financiación. Adenda al PRTR

ADENDA AL PRTR - COMPONENTE 31: REPower EU

C31.I3: Cadena de valor de EERR y almacenamiento
Refuerzo de la autonomía estratégica de la UE

750 M€ para proyectos de fabricación de equipos de EERR, incluidos electrolizadores

NextGenEU

ADENDA
SEGUNDA FASE DEL PLAN DE RECUPERACIÓN, TRANSFORMACIÓN Y RESILIENCIA DEL REINO DE ESPAÑA

Nueva línea de ayudas a proyectos de cadena de valor y economía circular.

Bases y primera convocatoria en consulta pública previa hasta el 15 de Marzo → https://www.miteco.gob.es/es/energia/participacion/2024/detalle-participacion-publica-k-663.html

3. Instrumentos de financiación. PERTE ERHA

COMPATIBILIDAD CON OTROS PROGRAMAS DE AYUDA

Cadena de valor

Proyectos singulares y pioneros

- Ayudas en el marco del Reglamento general de exención por categorías (RGEC)
- *(Art.9. del Reglamento (UE) 2021/241 por el que se establece el Mecanismo de Recuperación y Resiliencia,* desarrollado en las resoluciones de concesión correspondientes):
  - Las líneas bajo el MRR **son compatibles con otras ayudas (nacionales, europeas, o cualesquiera) para la misma actuación siempre que:**
    - **No se financie el mismo coste elegible**
    - **No se supere el coste de la actividad subvencionada**
    - **De forma acumulada las ayudas no superen los límites de aplicación**
  - **Se pueden apoyar <u>distintas fases</u> de un mismo proyecto que impliquen costes claramente diferenciables**.

H_2 I+D+i IPCEI Hy2Tech

- Ayuda de Estado autorizada por Decisión de la COM
- *(RD 4/2023 Hy2TECH): Incompatible con otras ayudas que se otorguen para la misma finalidad, procedentes de cualesquiera administraciones públicas o entes públicos o privados, nacionales, de la Unión Europea o de otros organismos internacionales*
- Resto de oleadas (Hy2USE, Hy2MOVE) las condiciones se establecerán en el Real Decreto por el que se regule la concesión de la Ayuda Estatal.

Gracias

bzn-h2renovable@miteco.es

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MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

Jornada informativa sobre el Fondo de Innovación de la Unión Europea

Madrid, 29 de febrero de 2024

#innovacion
#ayudascdti
#asesoramiento
#internacionalizacion

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MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CDTI INNOVACIÓN

Instrumentos de financiación para proyectos innovadores – CDTI

Carlos Toledo

Carlos.Toledo@cdti.es

NCP Cluster 4 Industry

Horizon Europe. Industrial Leadership

Directorate of European Programmes and Regional Cooperation

HORIZONTE EUROPA

@HorizonteEuropa

Índice

- Financiación CDTI
- Financiación Horizonte Europa
  - Sinergias Clúster 4 Industria
  - Sinergias Clúster 5 Energía

Índice

- Financiación CDTI
- Financiación Horizonte Europa
  - Sinergias Clúster 4 Industria
  - Sinergias Clúster 5 Energía

Ayudas del CDTI a la I+D+I

OBJETIVO: **promover la innovación y el desarrollo tecnológico** de las empresas españolas

Financiación de Proyectos de I+D+I

AYUDAS PARCIALMENTE REEMBOLSABLES

SUBVENCIONES

Fondos en 2022: 891 M€ para financiación de proyectos (35% en subvención)

Plan de Recuperación, Transformación y Resiliencia

HORIZONTE EUROPA
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Division de Programas de la UE

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CDTI INNOVACIÓN

Ayudas Parcialmente Reembolsables

Proyectos de Investigación y Desarrollo

Proyectos de Innovación

- Ayudas a tipo de interés fijo por debajo de mercado (hasta el 85% del presupuesto elegible)
- Tramo No Reembolsable (hasta el 33%)
- Largo periodo de amortización (hasta 15 años)
- Convocatorias permanentemente abiertas
- Sin restricción sobre el sector o tecnología a desarrollar

PROGRAMA CERVERA

Proyectos Transferencia Cervera

(convocatoria abierta, en concurrencia no competitiva)

BENEFICIARIOS	Pequeñas y medianas empresas Midcaps (independientes, <1.500 trabajadores)
PROYECTO	Investigación y desarrollo (1-3 años de duración) Desde 175.000 € / 11 Áreas tecnológicas
CENTROS GENERADORES DE CONOCIMIENTO	Subcontratación de al menos el 10% del presupuesto con: Centros generadores de conocimiento (Centros Tecnológicos, Universidades, Centros de Investigación, OPIS)
FINANCIACIÓN	**Ayuda parcialmente reembolsable hasta el 90 % presupuesto** ***Tramo no reembolsable 33% sobre el total de ayuda concedida***
ANTICIPOS **AMORTIZACIÓN**	Hasta 35% de la ayuda (limite 250.00 euros) 10 o 15 años (2-3 carencia)

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CDTI INNOVACIÓN

Subvenciones

- Convocatorias en régimen de **concurrencia competitiva** con plazos determinados de presentación
- Generalmente dirigidas a **sectores y tecnología específicas**
- Alto contenido en Investigación
- Principalmente financiadas con fondos MRR → principio **DNSH** (no perjuicio al medio ambiente)

Misiones Ciencia e Innovación

Cervera Centros Tecnológicos

Neotec

Plan Tecnológico Aeronáutico

Ecosistemas de innovación

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Convocatoria Ecosistemas de innovación

- Se financiará la **actuación de los gestores de Ecosistemas de Innovación basados en Redes de Excelencia Cervera.**
- **Beneficiarios: Agrupación de 4 – 8 entidades**: (Empresas, Organismos públicos de investigación, Universidades, Institutos de investigación sanitaria, Centros Tecnológicos y Centros de apoyo a la Innovación, Asociaciones y fundaciones, Administraciones Públicas). Obligatorio: a**l menos una empresa y un Centro de Excelencia Cervera**.
- **Presupuesto proyecto: 1-3 M€. / Ayuda: Subvención 50% (Ppto Convocatoria 13,4 Meu)**
- Proyectos vinculados a las **11 tecnologías prioritarias Cervera**
- CONVOCATORIA : hasta 12 de marzo de 2024

Convocatoria **MISIONES CIENCIA E INNOVACIÓN (Transmisiones)**

- Desarrollo de grandes proyectos estratégicos de I+D **en áreas concretas** (entre ellas **ENERGÍA SOSTENIBLE**), identificadas por su relevancia para los retos futuros de España
- Proyectos **colaborativos con 2 tipologías**:
  - Misiones Grandes Empresas. 3 a 8 empresas (1 pyme)
  - Misiones PYMES. 3 a 6 empresas (pymes)
- **Presupuesto** 2023: **70 M€**
- **Subvención** hasta límites de intensidad máximos: 65% Gran Empresa, 75% Mediana Empresa y 80% Pequeña Empresa

MÁS INFORMACIÓN EN

www.cdti.es (Ayudas a la I+D+I)

buzones de contacto

PIDI

perspectivacdti.es revista-e

última hora cdti

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- Financiación CDTI
- Financiación Horizonte Europa
  - Sinergias Clúster 4 Industria
  - Sinergias Clúster 5 Energía

EUROPEAN UNIO

Qué es Horizonte Europa

Es la propuesta de la CE para un programa de investigación e innovación basado en la excelencia con un presupuesto de inicialmente 100.000 M€ para siete años (2021-2027)

- Reforzar la base científica y tecnológica de la UE
- Acelerar la capacidad de innovación europea, su competitividad y la creación de empleo
- Avanzar en las prioridades de la ciudadanía y dar soporte a nuestro modelo socioeconómico y nuestros valores

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CDTI
@CDTIoficial

#HorizonEU

RCH &
ROGRAMME
2027

Características generales del Programa

Competitivo: No hay asignación previa de fondos a los países UE.

Gestión centralizada: Comisión Europea (CE) o agencias delegadas (REA, CINEA, HaPEA, EISMEA).

De forma general, **las prioridades de I+D+I** que financia el programa **las marca la CE** a través de las convocatorias y programas de trabajo

Algunas **convocatorias de temática abierta** (“bottom-up”): Ciencia Excelente (MSCA, ERC) y EIC.

Contribuir a alcanzar los **objetivos políticos de la Unión Europea**

Horizonte Europa (2021-2027)

Pilar 1
Ciencia excelente

- Consejo Europeo de Investigación
- Acciones Marie Skłodowska-Curie
- Infraestructuras de investigación

Pilar 2
Desafíos mundiales y competitividad industrial europea

Clústeres

- Salud
- Cultura, creatividad y sociedad inclusiva
- Seguridad civil para la sociedad
- Mundo digital, industria y espacio
- Clima, energía y movilidad
- Alimentación, bioeconomía, recursos naturales, agricultura y medio ambiente

- Centro Común de Investigación

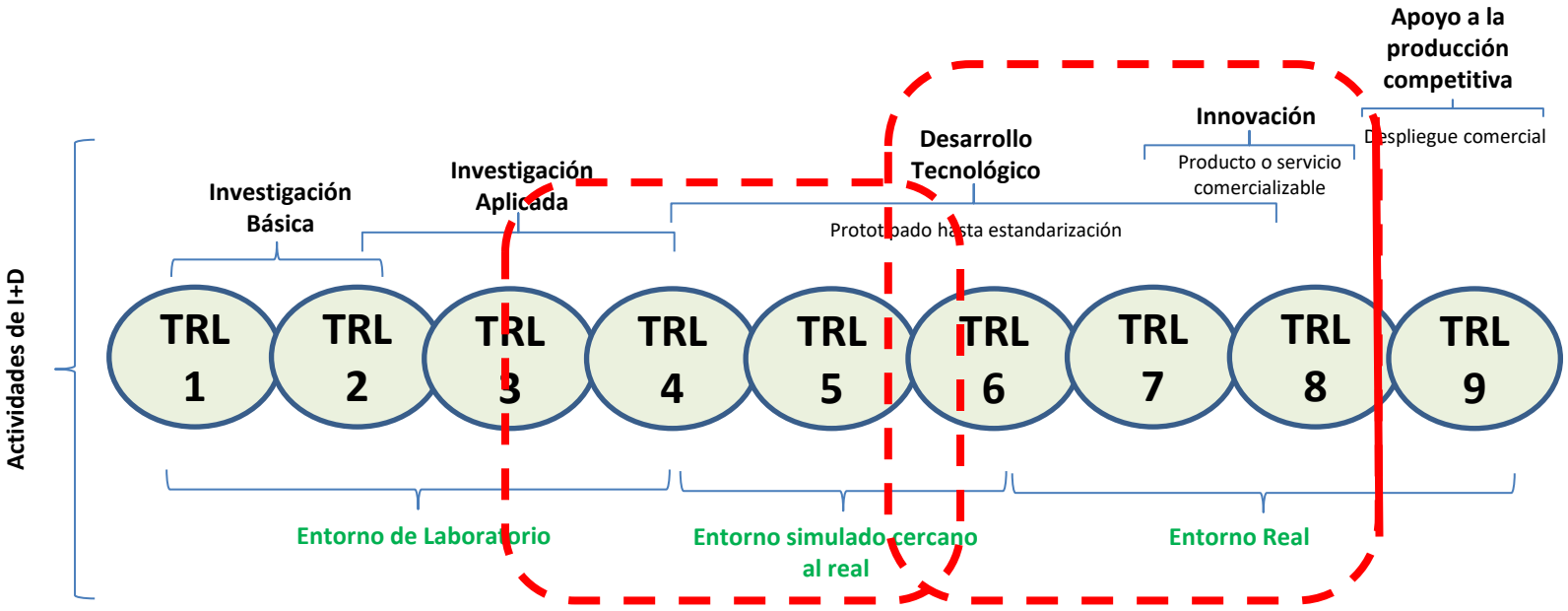
Pilar 3
Europa innovadora

- Consejo Europeo de Innovación
- Ecosistemas europeos de innovación
- Instituto Europeo de Innovación y Tecnología

Ampliar la participación y fortalecer el Espacio Europeo de Investigación

- Ampliar la participación y difundir la excelencia
- Reformar y mejorar el sistema europeo de I+i

Tipología más común de proyectos colaborativos del Pilar-II de HE



Acciones de Investigación e Innovación (RIA)
100 % de financiación

Acciones de Innovación (IA)
Hasta 100 % - Org.sin ánimo lucro
Hasta 70% - Empresas

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Horizonte Europa (2021-2027)

Destination 1: Twin green and digital transition

Cluster 4 Industria

Manufacturing

Construction

Process Industry

Destination 2: Increased Autonomy in Key Strategic Value Chains for Resilient Industry

Raw Materials

Advanced Materials

Value Chains - Business

Programa de Trabajo. Convocatorias 2024

Cluster 4 Industria

DESTINATION 1: Twin green and Digital Transition. Energy Intensive industries

PROCESSES4PLANET

HORIZON-CL4-2024-TWIN-TRANSITION-01-32: Optimisation of **thermal energy flows** in the process industry (IA)
HORIZON-CL4-2024-TWIN-TRANSITION-01-35: Turning **CO2 emissions** from the process industry to feedstock (IA)
HORIZON-CL4-2024-TWIN-TRANSITION-01-34: **Renewable hydrogen** used as feedstock in innovative production routes (RIA)
HORIZON-CL4-2024-TWIN-TRANSITION-01-38: **Hubs for circularity** for industrialised urban peripheral areas (IA)
HORIZON-CL4-2024-TWIN-TRANSITION-01-41: **Breakthroughs** to improve process industry resource efficiency (RIA)

CSP The Clean Steel Partnership

*The use of financial products under the InvestEU Fund for further commercialisation of R&I outcomes. For the energy-intensive industries in particular, **links with the Innovation Fund** are important.*
*The inclusion of a **GHG avoidance methodology is recommended** (that could follow **Innovation Fund methodology**)*

HORIZON-CL4-2024-TWIN-TRANSITION-01-44: **Digital transformation** and ensuring a better use of industrial data, which can optimise steel supply chains (IA)
HORIZON-CL4-2024-TWIN-TRANSITION-01-46: **CO2-neutral steel production** with hydrogen, secondary carbon carriers and electricity OR innovative steel applications for low CO2 emissions (RIA)

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Horizonte Europa (2021-2027)

Cluster 5 –Clima Energía y Movilidad- Areas de Intervención

Destination 1 – Climate science

Climate science

Destination 2 – Cross-cutting solutions

- Batteries
- Cities
- Breakthrough technologies
- Citizen and stakeholder engagement

Destination 3 – Energy supply

- Renewable energy
- Energy system, grids and storage
- CCUS
- Cross-cutting activities

Destination 4 – Energy demand

- Buildings
- Industry

Destination 5 - Clean and competitive solutions for all transport modes

- Zero-emission road transport
- Aviation
- Waterborne transport
- Transport-related health and environmental issues

Destination 6 - Transport and Smart Mobility services

SINERGIAS con Horizonte Europa

Cluster 5- Energía Topics 2024

PV/Wind/Wave /Energy Carrier

HORIZON-CL5-2024-D3-01-01: Alternative equipment and processes for advanced manufacturing of PV technologies
HORIZON-CL5-2024-D3-01-03: Demonstration of improved intermediate renewable energy carrier technologies for transport fuels
HORIZON-CL5-2024-D3-01-08: Demonstration of sustainable wave energy farms
HORIZON-CL5-2024-D3-01-16: Demonstration of innovative pumped storage equipment and tools in combination with innovative storage management systems

Storage

HORIZON-CL5-2024-D3-02-05: PV-integrated electric mobility applications
HORIZON-CL5-2024-D3-02-09: Demonstrations of innovative floating wind concepts

CCUS

HORIZON-CL5-2024-D3-02-11: CCU for the production of fuels
HORIZON-CL5-2024-D3-02-12: DACCS and BECCS for CO2 removal/negative emissions

Energy Efficiency in Industry

HORIZON-CL5-2023-D4-01-06: Integration of renewable heat or industrial waste heat in heat-to-cold conversion systems to generate cold for industrial processes
HORIZON-CL5-2024-D4-01-03: Alternative heating systems for efficient, flexible and electrified heat generation in industry

The **exploitation plan** should include preliminary plans for scalability, commercialisation, and deployment (feasibility study, business plan) indicating the possible funding sources to be potentially used (**in particular the Innovation Fund).**

The **exploitation plans** should include preliminary feasibility study and business plan also indicating the possible funding sources to be potentially used (such as private equity, InvestEU, EU Catalyst Partnership and the **Innovation Fund**)

Topics CCUS: …Proposals have to include the potential for the proposed CCU solution(s) as CO2 mitigation option through conducting an LCA (Life Cycle Assessment) in line with **guidelines developed by the Commission, such as the Innovation Fund GHG methodology** and the relevant ISO standards and the EU Taxonomy Regulation

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+info sobre programas y ayudas CDTI
para
proyectos de I+D empresarial e innovación

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GOBIERNO DE ESPAÑA

MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

Jornada informativa sobre el Fondo de Innovación de la Unión Europea

Madrid, 29 de febrero de 2024