Innovation Fund Info Day in Slovenia

2022 Call for large-scale projects under the Innovation Fund and upcoming opportunities

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European Commission

Agenda

1. Policy context
2. Results achieved so far and portfolio of projects in Slovenia
3. Presentation of the third large scale call and RePowerEU topics
4. Upcoming this small scale call and auctions
5. Award criteria and practical tips related to the application
6. Q&A

EU Emissions Trading System

INNOVATION FUND

Driving clean innovative technologies towards the market

First call for projects in 2020

€38 billion* to invest up to 2030 in EU's climate neutral future

Avoid emissions and boost competitiveness

Supporting innovation in:

Energy intensive industries

Renewables

Energy storage

Carbon capture, use and storage

*depending on the carbon price.

Funded by: EU Emissions Trading System

1. Innovation Fund contribution to the European Green Deal

- The Innovation Fund focuses on **highly innovative technologies** and **flagship large-scale demonstration or first-of-a-projects** within EU, in NO and IC that can deliver significant GHG emission reductions.

- **Innovative technologies in "hard to abate" sectors** are needed to reach carbon neutrality.

- The Innovation Fund has awarded projects on green hydrogen, CC(U)S, PtX, negative emissions amongst others – that **must be demonstrated by 2030** so that they can be **mainstreamed and help achieve climate neutrality by 2050**.

- **Around 200 Mt CO2eq of GHG abatement** expected under combined 1st and 2nd large-scale calls and 1st small-scale call

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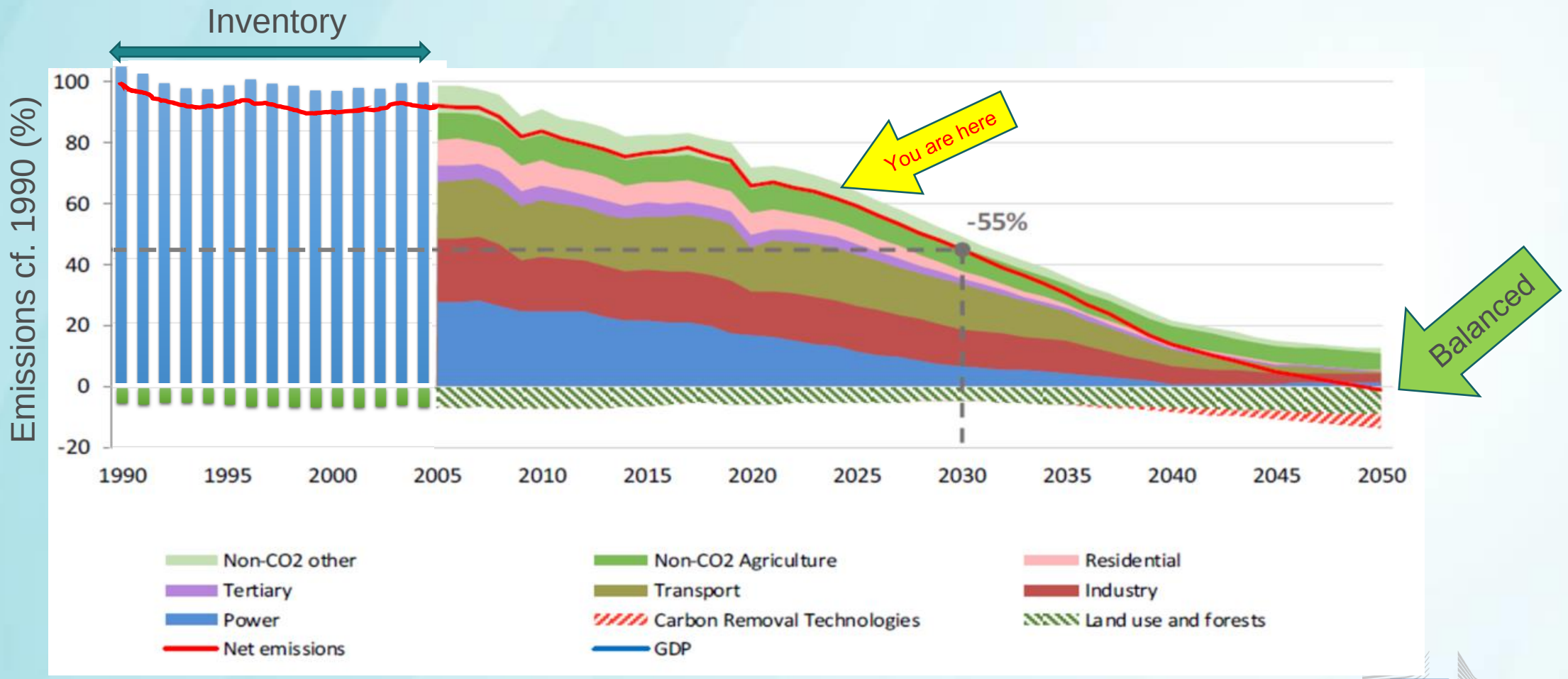
1. IF and our pathway to climate neutrality



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1. Innovation Fund contribution to the European Green Deal

- To make the IF even better suited for the task, the **revision of the IF** was part of proposal for **revised ETS Directive under "Fit for 55" package** – trilogues are currently ongoing on the following issues on a number of issues, among which:
  - **Increased number of allowances from ETS to fund the IF**
  - New instrument to provide support to projects proposed: **competitive bidding** and (**carbon) contracts for difference** – currently under preparation
- Other improvements could be made in the revised Delegated Act in 2023 (e.g. improving outlook for medium-sized projects)
- The work is on-going to **broaden the portfolio of instruments** under the Innovation Fund via financial instruments (**InvestEU** and partnership with the **Breakthrough Energy Catalyst**)

1. Key features of Innovation Fund

Financed from the revenues of the EU Emissions Trading System

450 million allowances plus unspent revenues from NER 300 Programme

Volume: EUR 38 billion* until 2030 (depending on carbon price)

**at EUR 75 / tCO2*

Grants: Large projects: Support of up to 60% of additional capital and operating costs (up to 10 years)
Small projects: up to 60% of CAPEX

Grants: Up to 40% of grant disbursed at financial close

Grants: At least 60% of grant disbursed during construction and up to 5-**years** monitoring period against GHG emission avoidance

Pilots and Small scale projects – shorter **3 years** period

Grants: Annual calls for large-scale and small-scale projects

Single applicant or consortium
Projects must be implemented in the EU, NO and IC

Project development assistance by EIB

Large-scale projects: CAPEX above EUR 7,5 million

Small-scale projects: CAPEX up-to EUR 7,5 million

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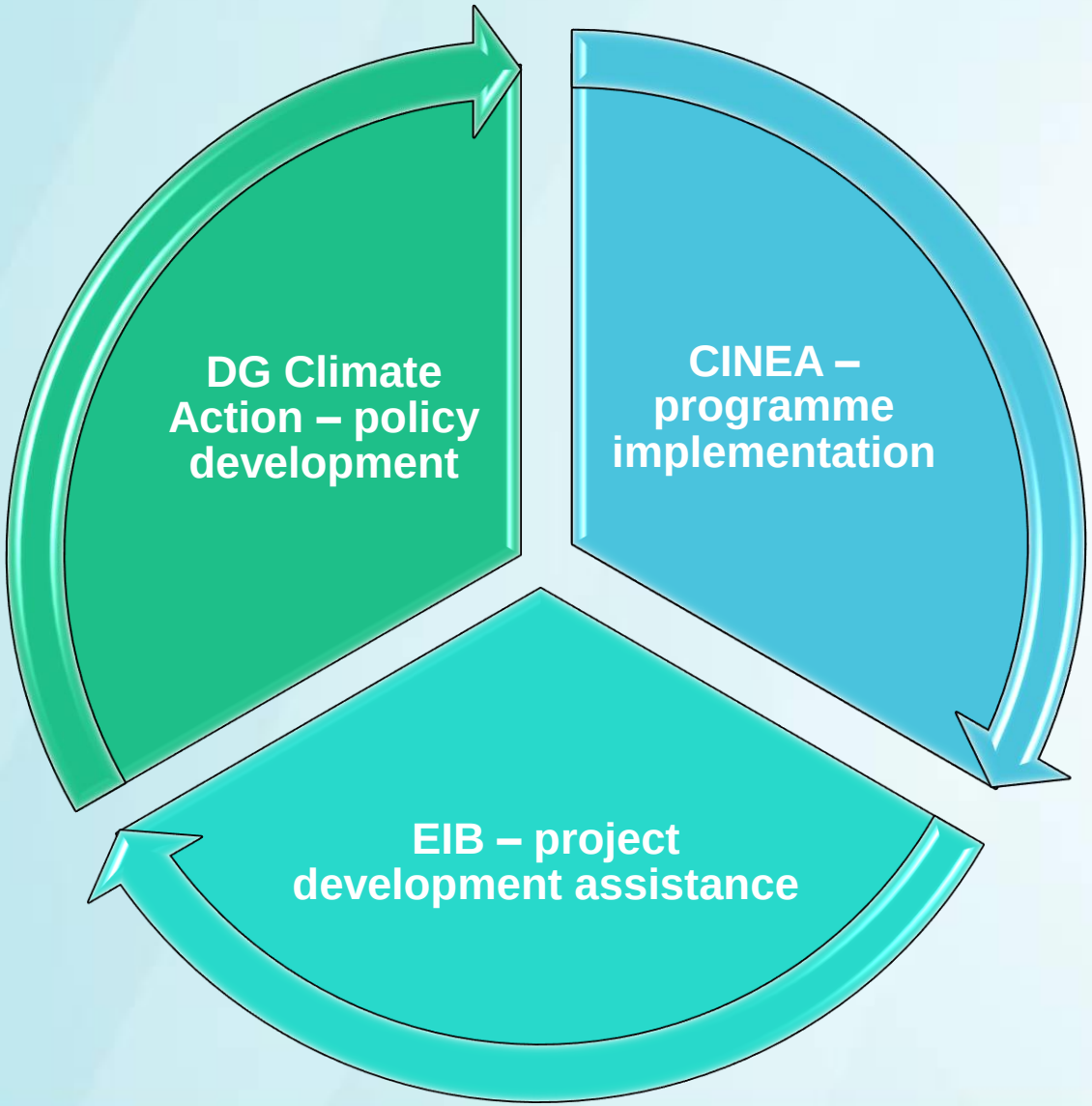
1. Innovation Fund - Governance



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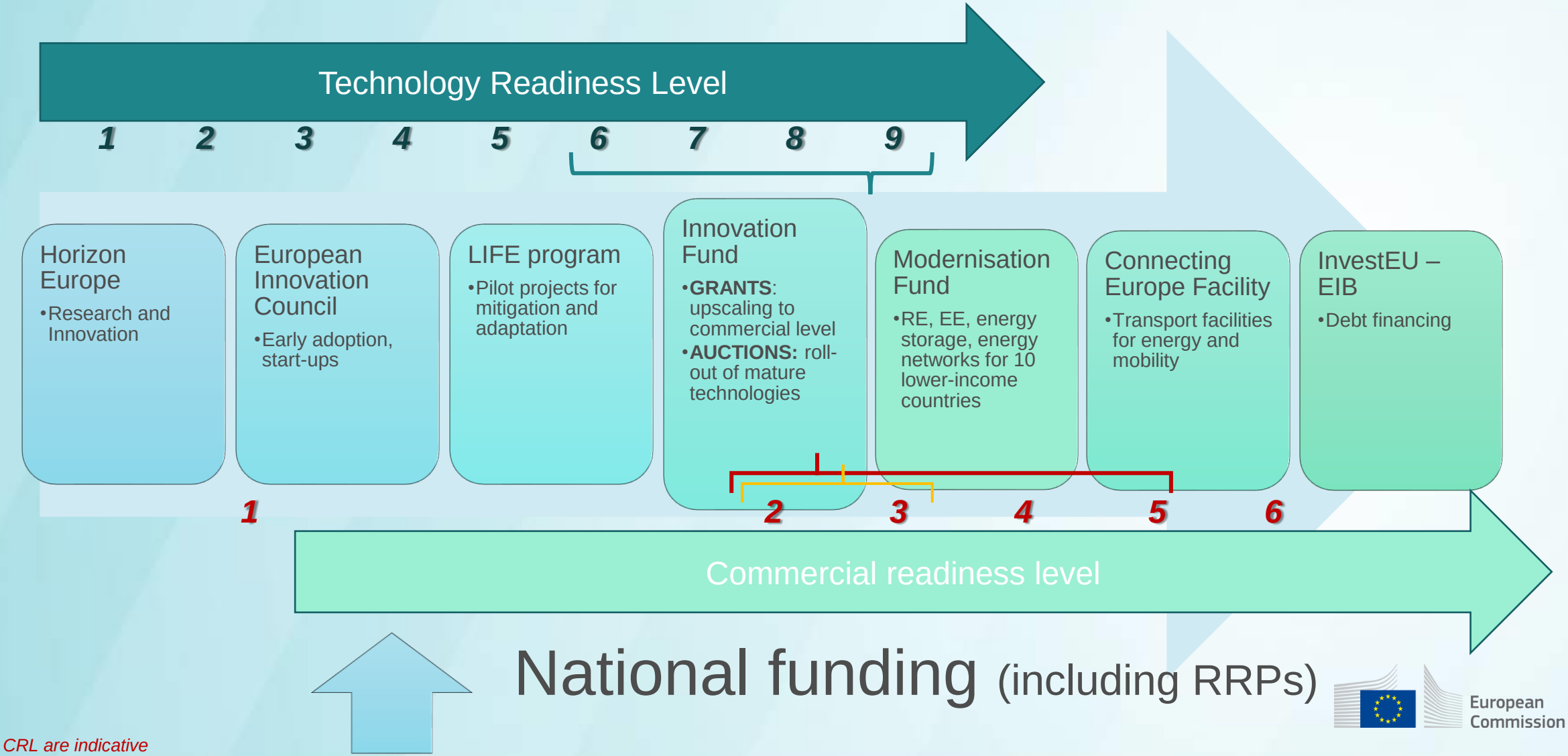
1. Innovation Fund in the EU programmes landscape



TRL & CRL are indicative

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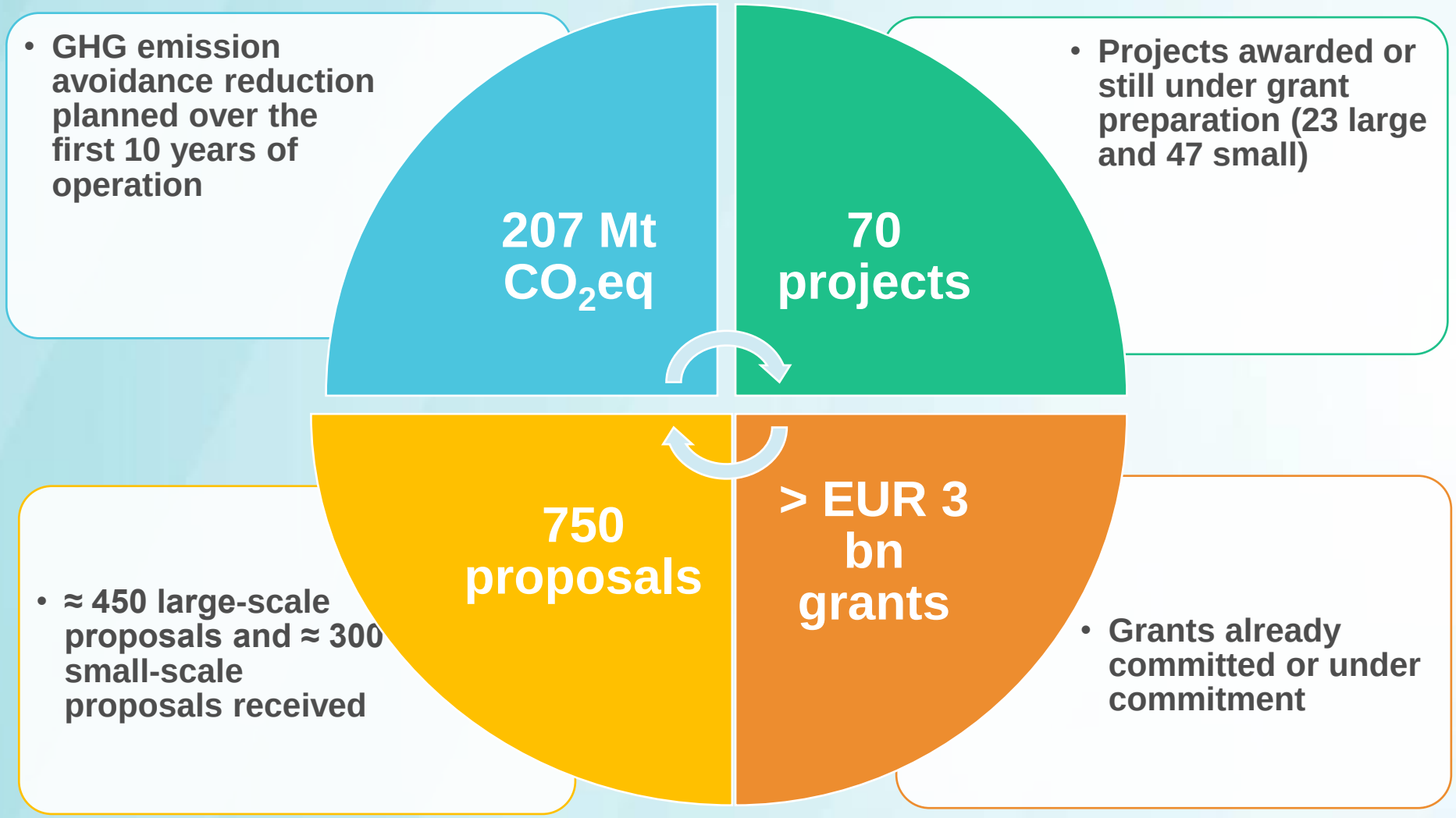
2. Results achieved (November 2022) – key indicators



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2. On-going project in Slovenia

1 Project

2.2 million € EU contribution

98,384 t CO_2 eq first 10 years

Previous calls
SSC 2021

BEAR (SSC-2021)- Hrastnik, Zasavje

HyBrid rEgenerative glAss fuRnace
The project will demonstrate a first of-a-kind hybrid end-fired regenerative furnace with a more than 40% electrical melting share and throughput capacity of 170 tons of glass per day

98,384 t CO2 eq avoidance |
EUR 2.2 million EU Contribution

Energy Intensive Industries

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3. 2022 large-scale projects call: key features

Launch 03 Nov. 2022
Deadline 16 March 2023
Results Q4 2023

€ 3 billion for grants
+
Project Development Assistance

Four topics

AWARD CRITERIA

Degree of innovation

GHG emission avoidance*

Project maturity

Scalability

Cost efficiency

*incl. quality of calculations, net carbon removals and other GHG emission savings (bonus point)

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.

Sli.do
#IFLSC2022

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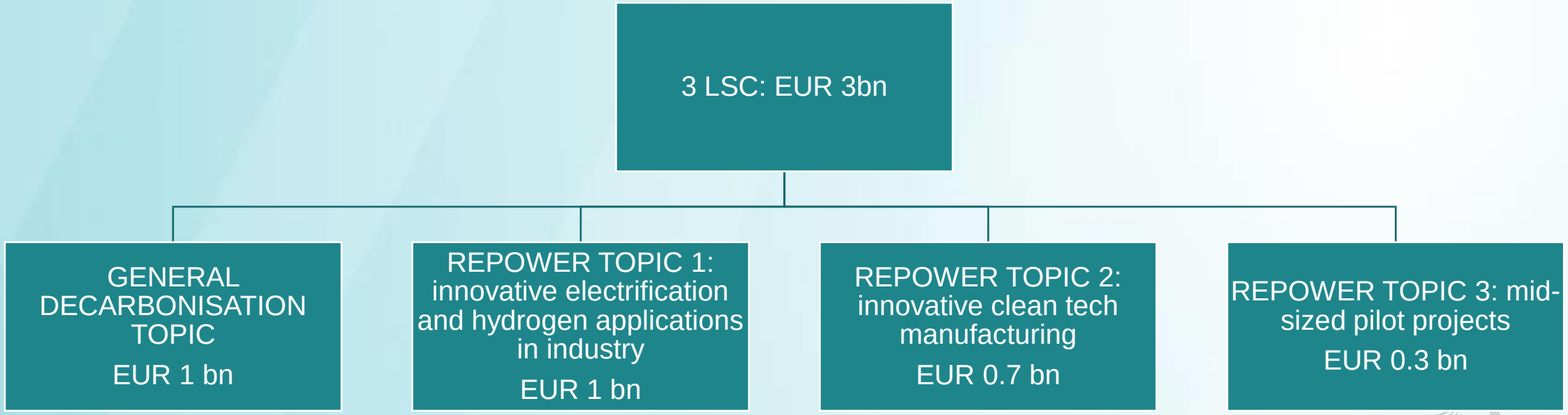
3. Innovation Fund and the REPowerEU Plan

- Budget made available for **3LSC: € 3bn** + 20% flexibility reserve
- In the 3LSC, thanks to **increased budget** and to **reflect the REPowerEU priorities**, the Innovation Fund will become **more focused** by creating 3 dedicated topics
- Launch: 03 Nov 2022, Deadline 16 March 2023, Results Q4 2023



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3. What will be funded?

- The Innovation Fund focuses on **highly innovative technologies** and **flagship projects** within Europe that can bring on significant GHG emission reductions. It is about **sharing the risk** with project promoters to help with the **commercial-scale demonstration or first-of-a-kind** commercial projects and **pilots**.
- We aim to finance a **project pipeline** of a wide range of innovative technologies in all eligible sectors and Member States, Norway and Iceland. **Sectoral and geographical balance** is an objective for the whole timeframe of the programme.
- At the same time, the projects need to **be sufficiently mature in terms of planning, business model as well as financial and legal structure.**
- The fund supports also **cross-cutting projects** on innovative low-carbon solutions that lead to emission reductions in multiple sectors, for example, through industrial symbiosis.

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3. General Decarbonisation Topic

The following **activities can be funded** under this topic:

- activities that support innovation in low-carbon technologies and processes in sectors listed in **Annex I to the EU ETS Directive**, including environmentally safe carbon capture and utilisation **(CCU)**, as well as **products substituting carbon-intensive ones** produced in sectors listed in Annex I
- activities that help stimulate the construction and operation of projects that aim at the environmentally safe capture and geological storage of CO_2 **(CCS)**
- activities that help stimulate the construction and operation of innovative **renewable energy** and **energy storage technologies**.

Carbon capture and utilisation can be funded if the capture of CO_2 occurs within one of the activities listed in Annex I, or if the utilisation of CO_2 results in products substituting carbon-intensive ones from the sectors listed in Annex I, even if carbon is captured outside the activities of Annex I.

3. REPowerEU Topic: Innovative industry electrification and hydrogen

- **A.** Activities that support the **innovative direct electrification of industry** replacing conventional fossil fuels use, both in sector-specific and cross-sectoral uses.
- **B.** Activities that support **innovative hydrogen production and applications** (i.e. hydrogen use as an energy carrier/reducing agent/feedstock) in industry.
  - **B.1 those where the main innovation lies in the use of hydrogen in industrial applications.** As the focus in this topic is to reduce the use of and the dependence on fossil fuels, the use of fossil fuel-based hydrogen is excluded from this topic.
  - **B.2 those where the main innovation lies in renewable hydrogen production** and production of hydrogen-derived renewable fuels (i.e. renewable fuels of non-biological origin) and feed-stocks.
- Projects can include either one or both of the activities described under B.1 and B.2.

3. REPowerEU Topic: Innovative Clean Tech manufacturing

The following activities can be funded under this topic: construction of manufacturing facilities and their operation to produce specific components for:

- **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** for stationary and mobile use for intra-day and long duration storage;
- **heat pumps**.

This topic is targeted at **the innovation in manufacturing of components.** Components, in line with GHG methodology guidance, are to be understood to **include also final equipment** such as wind turbines, solar panels, batteries, heat pumps or electrolysers.

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3. REPowerEU Topic: Innovative Clean Tech manufacturing

- Topic is targeting those **components that are a significant factor** in the performance and/or cost of the final equipment.
- Activities relating to the **recycling of critical materials** to be used in the above equipment categories or components thereof may also be funded under this topic.
- Equipment and components can be **sold on the EU market and in third countries**.
- The topic seeks to enhance the Union's innovation and technological leadership in clean tech manufacturing. Activities that can be funded include those where the main innovation lies in the **product as well as in the production processes**.
- Innovation can concern one or several steps of the manufacturing process.

Excluded activities: use of innovative components (including the final equipment) in power/heat generation/energy storage/production of hydrogen. (but see Topic General)

Excluded activities: testing new components/final equipment (but see Topic Pilots)

3. REPowerEU Topic:Mid-sized pilots

- Construction and operation of **pilot projects that focus on validating, testing and optimising** highly innovative, **deep decarbonisation solutions** in sectors eligible for Innovation Fund support.
- In this topic, **a higher degree of innovation is expected** than in the other topics

  → to be demonstrated under *Degree of Innovation* award criterion
- Pilot projects should prove an **innovative technology or solution** in an operational environment, but not yet large scale demonstration or commercial production.
- BUT the projects can entail **limited production/operation** for testing purposes, including delivery to/from potential customers for validation.
- **Project viability** rather than project profitability is to be demonstrated

  → to be assessed under the *Financial Maturity* award criterion
- The **maximum amount of Innovation Fund grant** for an individual project under this topic is limited to **EUR 40 million**.

3. REPowerEU Topic: Mid-sized pilots

- **Projects should focus on deep decarbonisation**, i.e. technology that has the potential to be fully compatible with a 2050 climate neutrality objective. The pilot installation itself should have a very low level of residual emissions or result

  → to be demonstrated under *Relative GHG reduction* award criterion that project achieves, for industrial installations covered by the EU ETS, at least 75% reductions below the relevant ETS benchmark. For other projects, the relative emission avoidance should be at least 75%.

- If the project is successful, the proposed **technology should move to the next stage** of a large-scale demonstration or first-of-a-kind commercial production

  → to be demonstrated under *Scalability* award criterion

- It is expected that projects will be more costly and thus less stringent formula **for cost-efficiency criterion** is applied: 12 – (12 x (cost efficiency ratio / 2000)
- The project can have monitoring period of **at least 3 years after entry into operation** (instead 5 for other LSC projects).

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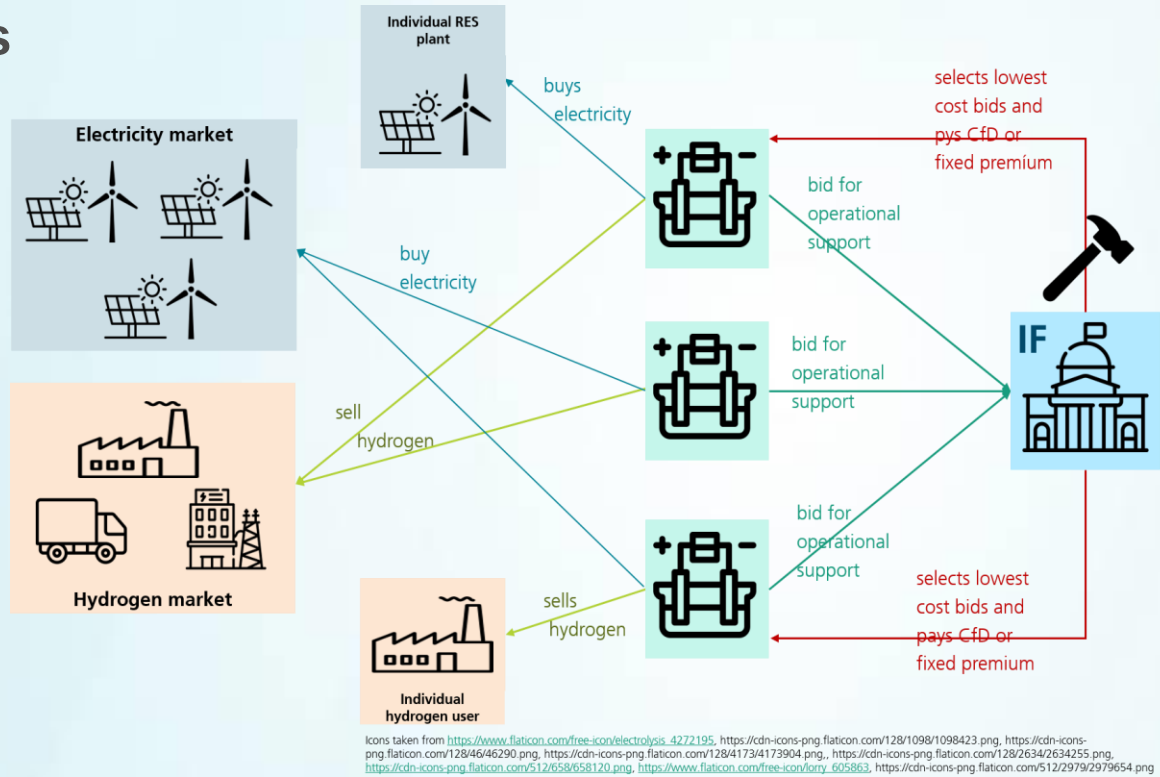
4. Competitive bidding and EU Hydrogen Bank

- Following the proposal for the **revision of the ETS Directive**, the Commission has been working on **developing auction mechanisms**
- Multiple advantages are expected.
- **First auctions will focus on renewable hydrogen production** and **hydrogen-based production processes.**
- **“EU Hydrogen Bank”** announced in this year’s **State of the Union address.**
- Auctions under the umbrella of the Innovation Fund are currently considered as a main implementation option for the **domestic side of the “EU Hydrogen Bank”. International side is also under development.**



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2023 Small-scale call

2023 Small-Scale Call

Open on 30 March

Deadline 19 September

Call text similar to 2022 SSC to encourage resubmissions + clarifications and examples

July 2023

In-depth workshop on how to write a successful proposal

Focused and strategic promotion of the call in less represented countries and sectors

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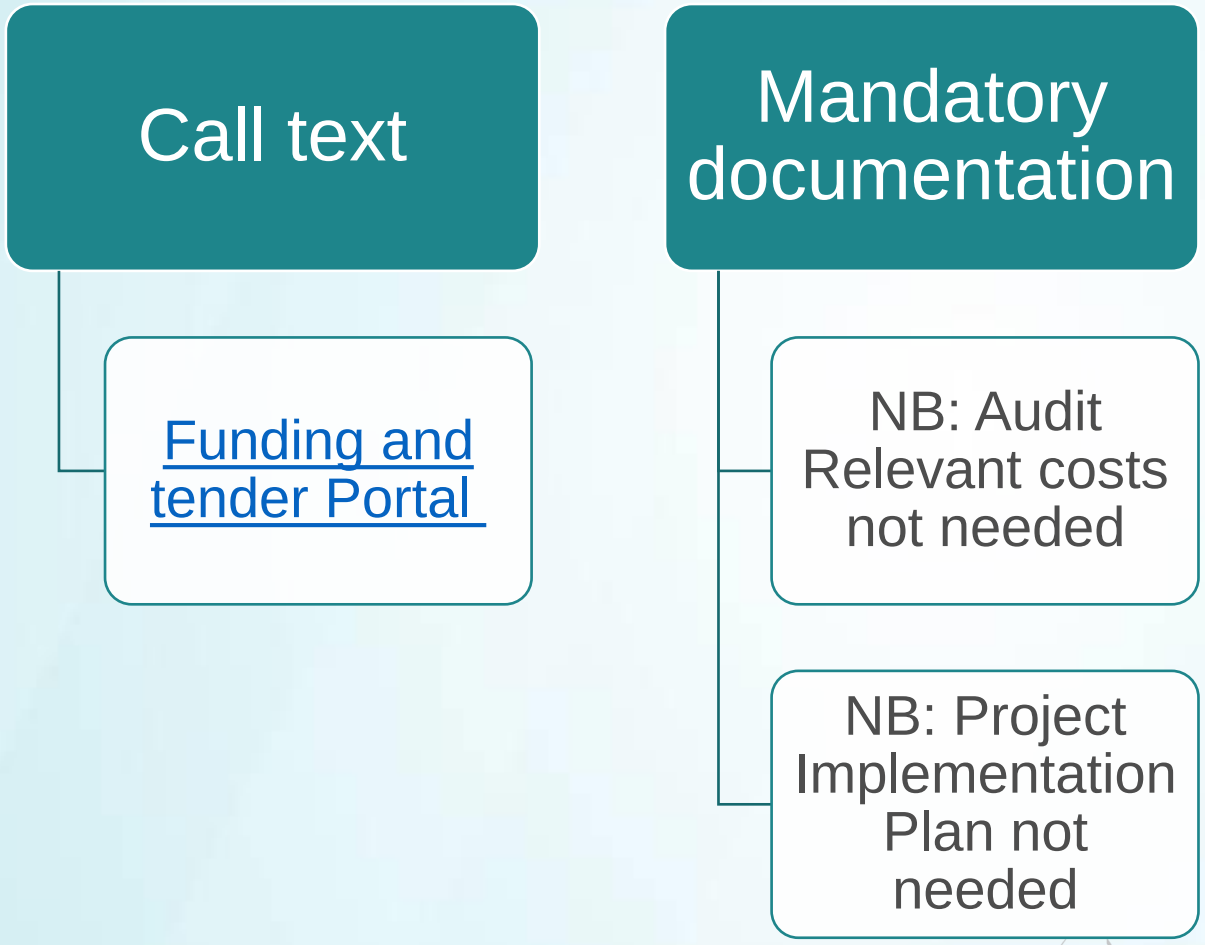
Call text and mandatory documentation

Please find more information on the mandatory documents and how to apply in the following tutorial and in the CINEA website



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3. Award criteria

DEGREE OF INNOVATION

Innovation beyond state-of-the-art

- at European level for LSC
- at national level for SSC

- **NEW**: consider the ongoing InnovFund projects
- **NEW**: Double weight for pilots and manufacturing topics

GHG EMISSIONS AVOIDANCE

- **Absolute** emissions avoidance *(compared to sector depending on median avoidance)*
- **Relative** emissions avoidance
- **Quality and credibility** of the calculation and minimum requirements

* **NEW**: additional minimum requirement for PILOT projects

PROJECT MATURITY

- Technical maturity
- Financial maturity
- Operational maturity

- **NEW:** Double weight for industry and manufacturing topics

SCALABILITY

- Efficiency gains: costs & resources
- Further technology or solutions deployment
- Quality and extent of the knowledge sharing plan

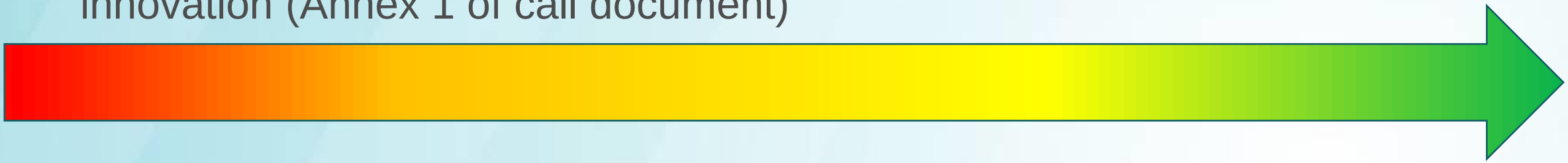
COST EFFICIENCY

- Cost efficiency ratio (i.e. the EU contribution requested per tCO2 avoided)*
- Quality and credibility of the relevant costs calculation

* **NEW**: different formula for PILOT projects

Degree of Innovation

The Innovation Fund aims to support projects that go beyond incremental innovation (Annex 1 of call document)



Incremental innovation, the degree of innovation is very low since only minor changes or improvements are made to existing products, processes or business models, projects which will deliver only incremental innovation **will not be retained.**

Intermediate or strong degree of innovation is present in new or considerably changed technologies or processes or business models for the production or delivery of existing or new products or services

Very strong or breakthrough degree of innovation is present in completely new technologies or processes or business models or completely new products or services, which substitute existing products or business models

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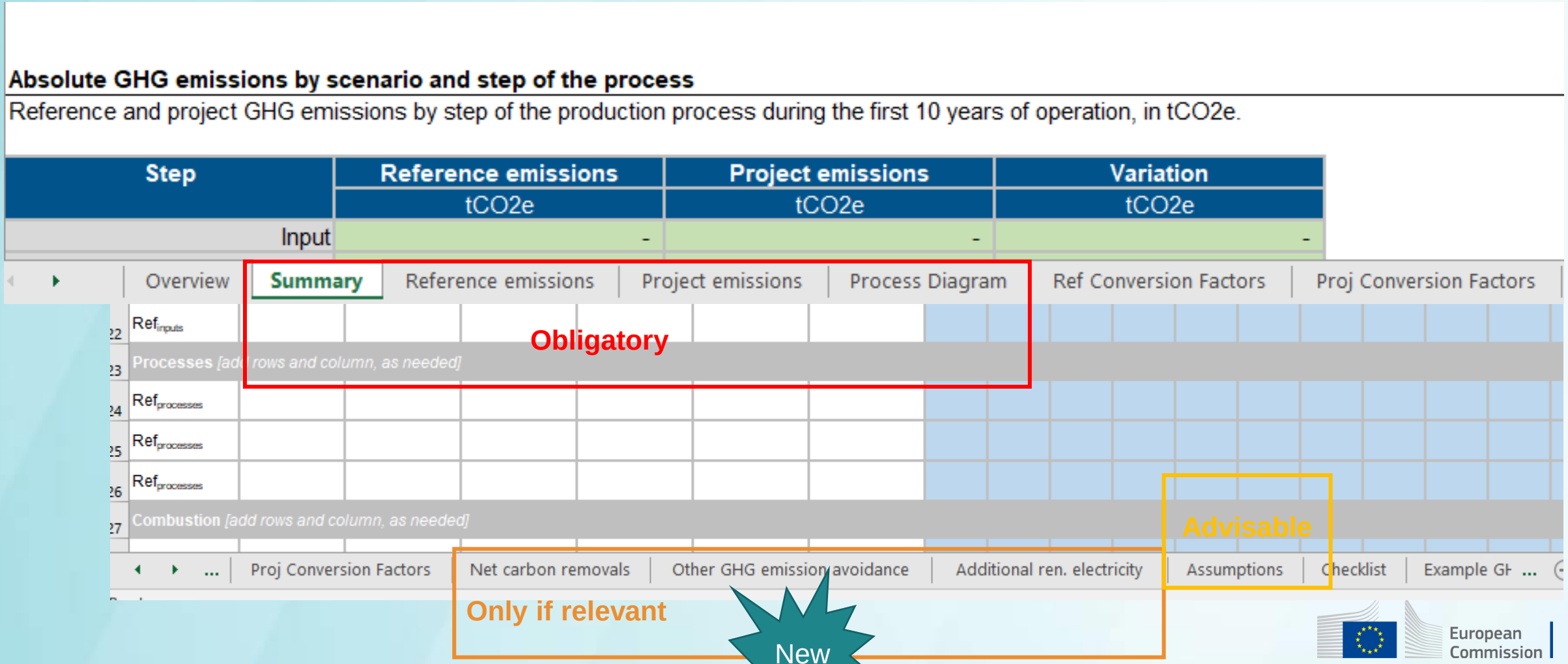
DoI: how to make your proposal successful

- Clearly describe the innovation in the individual elements of the proposed solution and, if relevant, of their combination and their respective degrees of innovation
- Clearly describe the state of the art as a benchmark against which the assessment of the innovation(s) is made (include geographical reference point)
- Evaluators need to be convinced by the application, so substantiate well the performance advancements compared to state-of-the-art solution, provide credible performance data. Consideration of innovation needs to take into account at least plant design; operating approach; construction; performance; reliability & availability; maintenance and economics.

GHG: calculation tools must be used
Examples available

New

Scalability tab no longer available



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GHG - Minimum requirements

Comparison with EU ETS benchmark emissions (only for projects producing products with a EU ETS benchmark)

Calculate the GHG emissions per unit of product according to the EU ETS methodology and compare with the equivalent EU ETS benchmark(s) applicable at the time of the application and confirm that the project emissions are lower than the EU ETS benchmark emissions.

Sustainability of biomass (only for projects using biomass as feedstock)

Projects using biomass as feedstock must confirm that the biomass used will at least meet the sustainability requirements of the Renewable Energy Directive. The biomass feedstock must either be listed in Part A of Annex IX of the Directive or be certified as low indirect land use change (ILUC)-risk as defined by Commission Delegated Regulation (EU) 2019/8072.

Additional requirement for "PILOT" projects

New

At least 75% emissions reductions below the relevant ETS benchmark for industrial installations covered by the EU ETS. For other projects, the relative emission avoidance should be at least 75%

Bonus points

New

Bonus	
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**: projects that propose to use significant amounts of electricity from the grid are encouraged to demonstrate whether they are using additional electricity of renewable origin and whether they are adding to the deployment of renewable energy	1 point (half point 0.5 possible)

Main mistakes on GHG emissions avoidance

Difference in scope of reference and project scenarios

Adoption of inadequate reference scenario and emissions factor

Project boundaries differed from the methodology ones

Assumptions and data not backed with supporting evidence

Additional GHG savings claimed under Absolute GHG emissions avoidance

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Project Maturity - Technical Maturity

Objective: assess the technical maturity of the proposed projects

Technical feasibility to deliver the expected output and GHG emissions avoidance

Technology risks and proposed mitigation measures

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

Technical Maturity

Feasibility study

- The feasibility study is a **mandatory annex**: it should include information in line with the minimum content indicated in section 5 of the call text:
  - Project description (background information, objectives, resource and feedstock availability and yield potential, expected project outputs, innovation)
  - Location analysis and strategic overlook (site, site plans, stakeholders involvement and acceptance)
  - Technical maturity assessment (technology readiness, technology process, suppliers of technology, feasibility of achieving project outputs)
  - GHG avoidance and key consumptions figures
  - Environmental and socio-economic impacts and mitigation measures
  - Techno-economic feasibility
  - Risks and mitigation measures (including heat map)

Content of feasibility study changed

Technical Maturity

How mature is your technology: **Describe the actual readiness level of your technology/solution**

Resubmissions are welcome, particularly if the readiness of your **technology has improved**

Ensure consistency between project implementation plan, feasibility study, business plan and GHG calculations

1 **Provide a thorough analysis and technical description**

- Be concise and focus on key facts and figures

2 **Justify and provide evidence for the claimed expected output, e.g.:**

- Evidence and performance data from previous stage/site/pilot
- Third party confirmations, quotes from vendors or suppliers, signed letters of agreements or head of terms

3 **Analysis of technical risks and their mitigation is required**

- Use due diligence report when available

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Financial Maturity – key points

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

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

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Credibility of the Business Plan

- Make sure that the financial projections are coherent with the assumptions detailed in the business plan and used in the other application documents.

- Fully describe and substantiate the main revenues and cost assumptions: provide and justify volumes, prices assumed, write a clear narrative for your assumptions and make sure they are coherent with your thorough market assessment and technical feasibility assessment.

- Provide a clear and full breakdown of CAPEX with references and justifications.

- Make sure that the scope of activities of your business model and business plan match the scope of the project you submit, that the assets and costs of the project are borne by the applicant and grant beneficiaries.

Credibility of the Financing Plan

- Highlight the financing structure indicating whether the debt will be raised at the level of the corporate entity or of the project, and the level of recourse to the project shareholders
- If the project is planning to raise external debt, justify the key terms assumed, expected cash flows and that this debt level and repayment profile is in line with market standards. If possible, provide letters from banks/debt investors to support these assumptions
- **If a project has low profitability and/or subject to high volatility of cash flows, we expect strong evidence of commitment from sponsors.**

The 7 golden rules of FM

1. Clearly outline project scope, legal structure (*) and potential interdependencies with other projects

2. Identify & provide <u>effective</u> mitigation measures for key risks

3. Ensure your business plan is fully funded and provide evidence of funding commitment

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

5. Give evidence of preliminary contract

6. Substantiate and justify your business assumptions

7. Assess market, competitive landscape and commercialisation

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

Project Maturity : Operational Maturity

Objective: assess the prospects of the project for its successful deployment

- **Project implementation plan**
- **Permits, Rights, Licences and Regulatory procedures**
- **Public acceptance of the project**
- **Project management team and project organisation**
- **Operational risks and proposed mitigation measures**

- **Application form, Part B, sections:**
  - 3.3 - Operational maturity
  - 3.4 - Risks and mitigation measures
  - 6.1 - Work Plan
  - 6.2 – Work Packages, activities, resources and timing
  - Timetable
- Timetable-Gantt chart (mandatory document)
- Any existing due diligence report (optional)

New

Project implementation plan **no longer mandatory** as separate document: all information integrated in Part B of the application form

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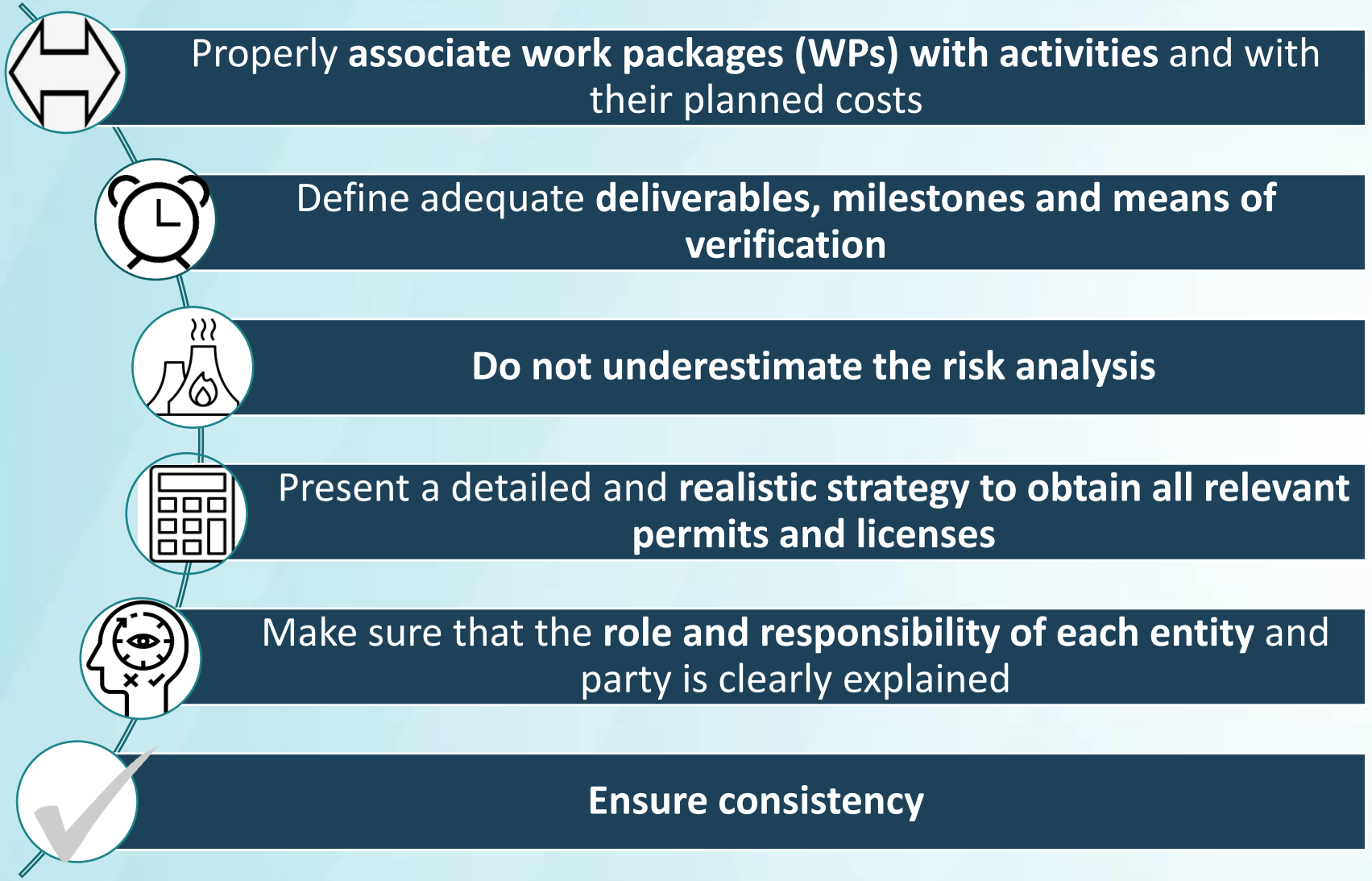
Operational Maturity



Scalability

Objective: assess the scalability and the knowledge sharing

Scalability in terms of efficiency gains

Scalability in terms of further technology or solutions deployment

Quality and extent of the knowledge sharing

- Efficiency gains:
  - expected technology **cost reductions**;
  - **efficient use of resources** or other ways to address resource constraints notably in terms of **reduction of use** and **more efficient use** of critical raw materials biomass and other scarce resources, and in terms of **circularity, recycling and recyclability** of such resources.
- Scalability in terms of further technology or solutions deployment:
  - at project site and possible transfer to other sites;
  - at sector level, regionally or across the EU economy or globally;
  - + potential for technology
  - transfer beyond sector

Follow the guidance provided in the Application form, section 4

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Scalability: how to make your proposal successful

Cover in a **clear and exhaustive manner** all the points in the Part B and substantiate them, avoid vague statements as evaluators will be asked whether the claims you made are credible;

- underpin your claims with evidence and analysis
- be realistic in your growth expectations
- address well the resource constraints and any limiting factors for further scale-up

Cost efficiency

Requested Innovation Fund grant

=

Absolute GHG emission avoidance

During 10 years after entry into operation

Maximum grant is 60% of total relevant costs

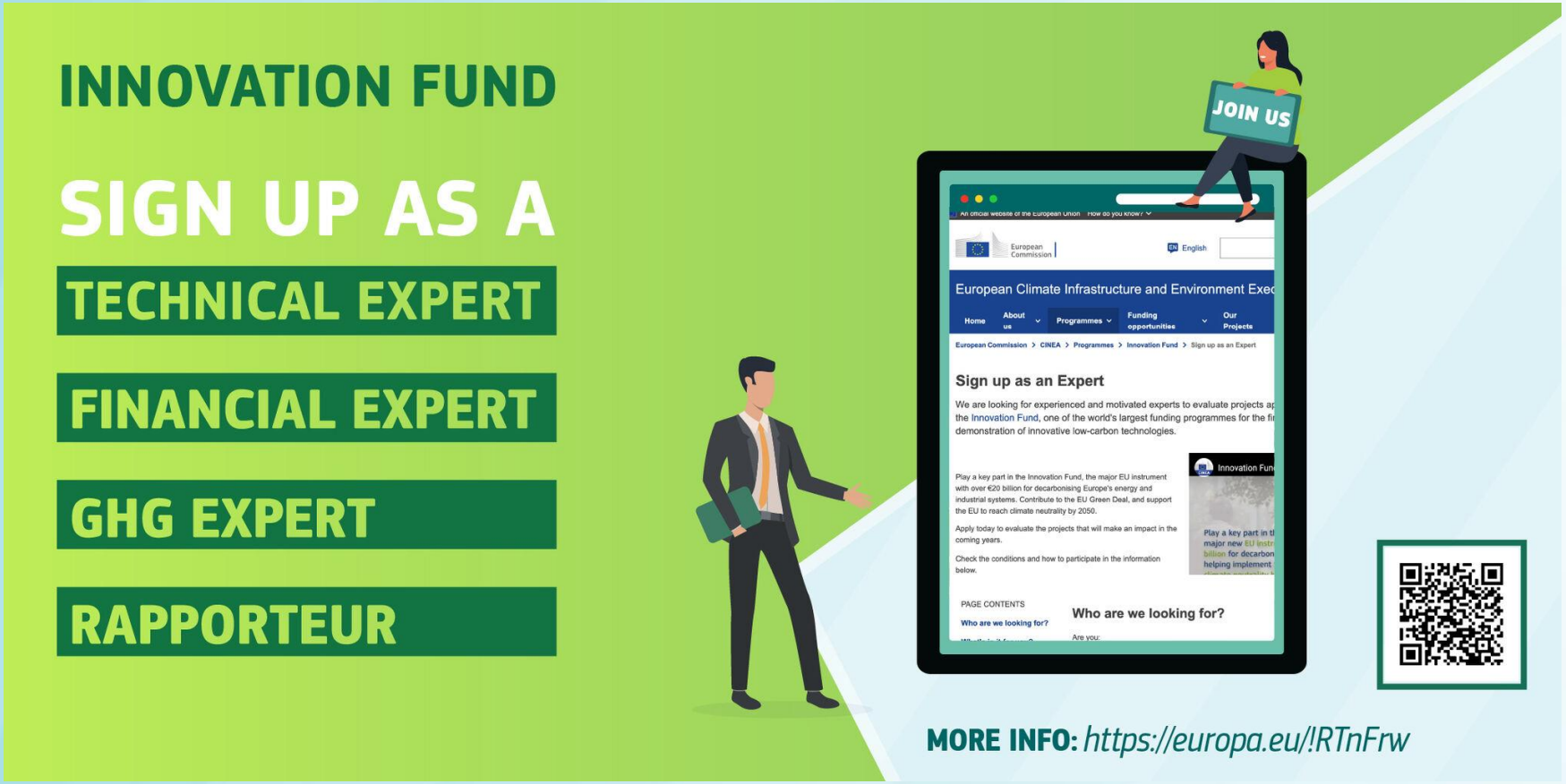
Applicants choosing not to apply for the maximum grant will be more competitive when ranked against other applicants in 'cost per unit performance' metric. However if the project will receive project specific state-aid, this must be added to the requested IF grant amount in the numerator of the formula

New

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:
  - Innovation Fund helpdesk
  - IT helpdesk
  - Lessons learned and info-day recordings
  - Tutorial on the application procedure
  - Video on the financial model summary sheet
  - Recording of the infoday and lessons learned

Join as project evaluator



- Individual evaluation from your office/home at your best convenience
- Consensus group with other experts from your office/home

[Sign up as an Expert (europa.eu)]

European Commission

Key events

19 January 2023

[Financing Innovative Clean Tech conference]

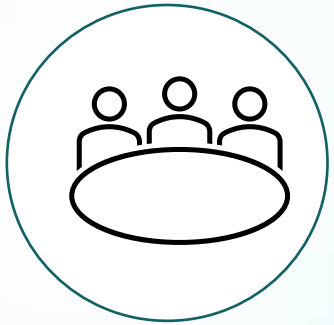
8 February 2023

[European Framework Programme for R&I - Innovation Fund Synergies Workshop]

16 March 2023 17:00

Large-scale call Submission Deadline

Spring 2023



Launch Small-Scale call 2023

European Commission

Where to find 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

Innovation Fund - YouTube

https://bit.ly/2WxK8w7

European Commission

Thank you

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

@cinea_eu

European Climate, Infrastructure and Environment Executive Agency

CINEATube

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