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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the implementation of the Innovation Fund, including the review referred to in Article 24 of Regulation (EU) No 1031/2010

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1. INTRODUCTION

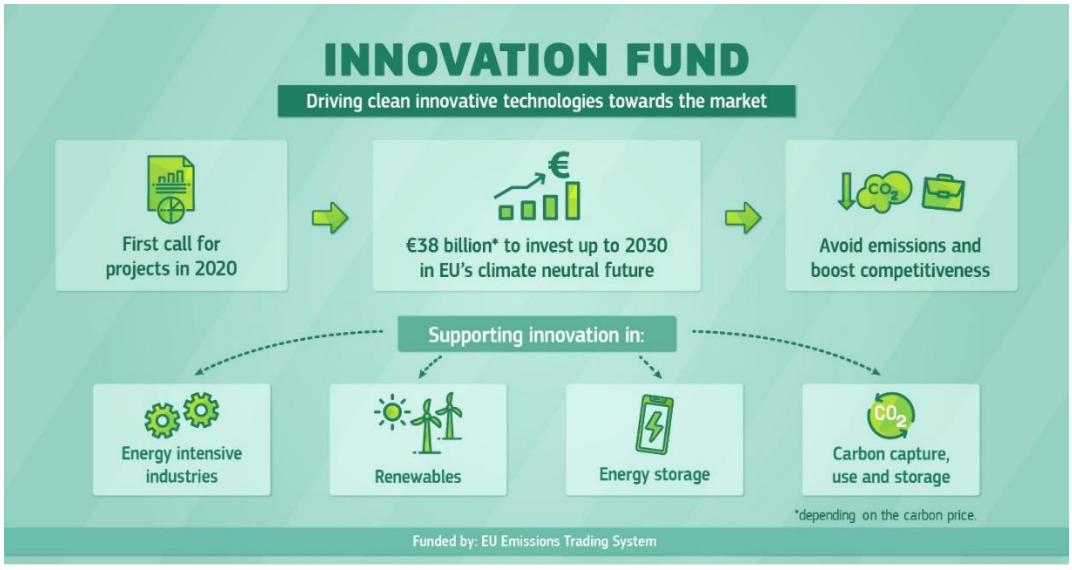
The Innovation Fund is one of the world's largest funding programmes for the commercial demonstration of innovative low-carbon technologies, aiming to bring to market industrial solutions to decarbonise Europe and support its transition to climate neutrality. Among the wide range of financial instruments available on the EU level, it plays a unique role due to its size and focus on the last steps in the rollout of innovative clean tech.

Endowed with more than EUR 38 billion[1] financed from the auctioning of EU Emissions Trading System allowances, the Innovation Fund targets:

- Energy intensive industries, including environmentally safe carbon capture and utilisation (CCU) that contributes substantially to climate change mitigation, as well as products that substitute carbon intensive ones;
- Environmentally safe capture and geological storage of CO_2 (CCS) projects;
- Innovative renewable energy generation technologies; and,
- Energy storage technologies.

Its goal is to create the right financial incentives for companies to invest in clean tech now and to empower them to become global clean tech leaders.

Figure 1: Overview of the Innovation Fund



[1] Depending on carbon price, the volume is estimated using EUR 75 / tCO2 as carbon price.

The proposed revision of the ETS Directive put forward by the Commission in July 2021 as part of Fit for 55 package[2] is aimed to further strengthen the Fund by increasing the number of ETS allowances and therefore the budget available to the Fund, extending its scope to maritime, road transport and buildings sector.

DG Climate Action has the overall responsibility for the Innovation Fund, including defining the volume and policy priorities of calls for proposals and their essential elements and adopting the award decisions. The European Climate Infrastructure and Environment Executive Agency (CINEA) is tasked with running the calls for proposals, evaluations, grant preparation and signatures and daily follow up of projects. The European Investment Bank provides project development assistance. Member States are consulted on the financing decisions and list of selected projects, while their role is essential for reaching to potential applicants on their territory and supporting them in project application (e.g. through support schemes) and implementation (e.g. through facilitating permitting).

1.2. Purpose of this report

According to Article 23(6) of Delegated Regulation (EU) 2019/856 of 26 February 2019 supplementing Directive 2003/87/EC of the European Parliament and of the Council with regard to the operation of the Fund (hereafter "the Delegated Regulation"), the Commission shall report annually to the Council and to the European Parliament on the progress of the implementation of the Fund.

This report fulfils the requirement for 2020 and 2021 by summarising the results of the first two calls of the Fund that were available only at the end of 2021: the first call for large-scale proposals (defined as projects with total capital expenditure above EUR 7.5m) and the first call for small-scale proposals (defined as projects with total capital expenditure below EUR 7.5m). The first call for large-scale proposals opened on 3 July 2020 and the results were announced on 16 November 2021, while the first call for small-scale proposals opened on 1 December 2020 and the results were announced on 27 July 2021.

This report analyses the results of these calls and their contribution to the aims of the Fund, while focussing on lessons learnt and policy relevant conclusions.

Although the 2nd call for large-scale projects was launched on 26 October 2021 and the 2nd call for small-scale projects on 31 March 2022, these calls are still ongoing, therefore their results will be reported in the second Innovation Fund report.

Article 24(3) of the Auctioning Regulation[3] provides that the Commission shall review the amount of allowances remaining to be auctioned after the Innovation Fund award decision of each call for proposals, and other aspects related to the Innovation Fund operations. Such

[2] EU economy and society to meet climate ambitions (europa.eu)

[3] Commission Regulation (EU) No 1031/2010 of 12 November 2010 on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a system for greenhouse gas emission allowances trading within the Union EUR-Lex - 02010R1031-20191128 - EN - EUR-Lex (europa.eu)

reviews shall take place every two years, with the first review taking place no later than 30 June 2022. This present report also fulfils this purpose.

2. OUTCOME OF THE FIRST TWO INNOVATION FUND CALLS

2.1. Private interest in the Innovation Fund

Thanks to an extensive communication campaign and over 30 awareness-raising workshops with numerous EU industry associations and Member States throughout 2019 and 2020[4], both calls attracted an impressive number of applications: 311[5] for the large-scale and 232[6] for the small-scale. Applications covered all eligible sectors and Member States, thereby helping meeting the Fund's objective to fund projects in a broad sectoral and geographical spectrum.

The number of applications shows that industry is interested in developing clean tech solutions that contribute to EU climate neutrality, and that the Fund can select from a varied portfolio of green projects that need support and leverage private capital. Compared to the applications to the large-scale one, the first call for small-scale proposals attracted fewer applications from energy-intensive industries and carbon capture, use and storage, but more applications from the renewables and energy storage sectors.

2.2. Quality of the applications

The Commission provided extensive call-specific assistance to applicants throughout the application procedures for both calls. The overall quality of applications was high, leading to strong competition between projects in both calls. However, the quality of applications was lower for the small-scale call, as evidenced by the lower number of proposals meeting all minimum thresholds.

For each call, the Commission and CINEA organised dedicated webinars[7] and info days. Call texts were explained in detail, potential applicants' questions answered and explanatory material was provided to facilitate companies in preparing their applications. In parallel, a dedicated helpdesk answered over 1500 questions in total for both calls. After the calls closed, a report on best practices that could help potential applicants was presented and published[8].

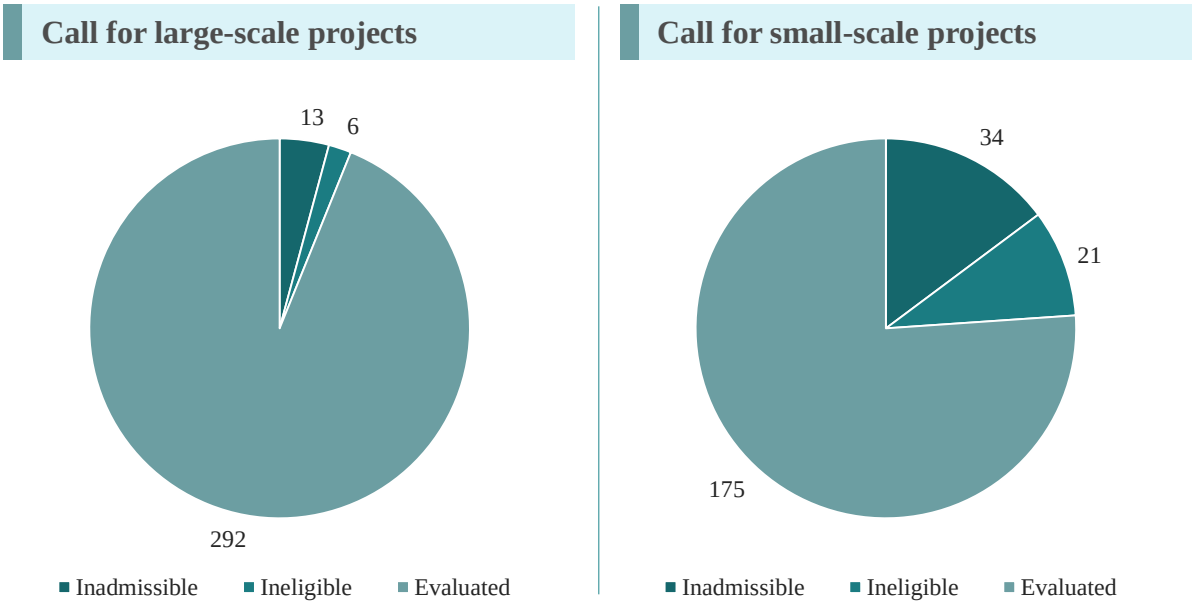
For the first call for large-scale proposals, out of the 311 applications received, 19 (5%) were found inadmissible or ineligible at the first stage[9]. For the first call for small-scale proposals, out of the 232[10] applications received, 55 projects (24%) were found inadmissible or ineligible, 2 were disregarded (test proposals), leading to a total of 175 eligible proposals competing for grants (see Figure 2).

[4] Policy development (europa.eu) under Stakeholder Engagement
[5] First Innovation Fund call for large-scale projects: 311 applications for the EUR 1 billion EU funding for clean tech projects
[6] First Innovation Fund call for small-scale projects: 232 applications for the EUR 100 million EU funding for small clean tech projects
[7] Large-scale projects (europa.eu) and Small-scale projects (europa.eu) under Webinars
[8] policy_innovation-fund_best_practice_en_0.pdf (europa.eu)

[9] The Delegated Regulation allows conducting large-scale calls in one or two stages, whereas small-scale calls are run in one stage. The first large-scale call was conducted in two stages.

[10] 232 initial applications of which 2 were disregarded before evaluation.

Figure 2: Number of eligible and admissible proposals by call



Projects were selected based on five award criteria defined in the Delegated Regulation and the call texts (for small-scale projects, the award criteria were simplified):

1. Degree of innovation;
2. Effectiveness of greenhouse gas emissions avoidance;
3. Project maturity;
4. Scalability; and
5. Cost efficiency.

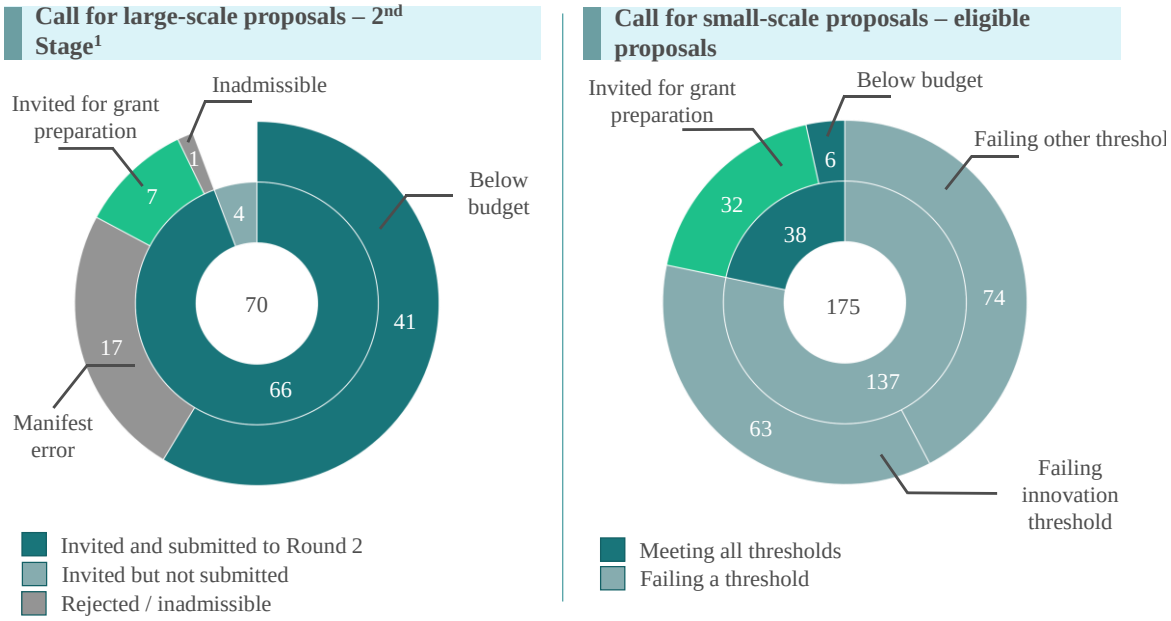
Overall, projects in the first call for large-scale proposals scored higher than the small-scale proposals on the award criteria, with stronger competition between projects (see Figure 3). In the large-scale call, which consisted of two rounds of evaluation, the 70 best-ranked, eligible proposals from the first stage were invited to the second stage. Of those 70 invited, 66 proposals were submitted. Ultimately, seven projects were invited for grant preparation, while 41 high-scoring projects (i.e., they passed the minimum threshold on all award criteria) could not be financed due to insufficient budget in the call for large-scale proposals.

In the first call for small-scale proposals, from the 175 proposals evaluated, 137 were not meeting all award thresholds. There were only 6 proposals that were above all thresholds but could not be financed due to insufficient budget and 32 projects were invited for grant preparation. Ultimately, grants were awarded to 30 projects while two projects withdrew.

The evaluation of the award criteria shows significant differences in the distribution of the median score between the two calls. In the 1st LSC more proposals scored above all thresholds so the competition for funding was stronger (41 above threshold and seven awarded), while in the first call for small-scale proposals only 38 proposals scored above the

award thresholds and 32 were awarded. However, the awarded proposals in the small-scale call scored relatively higher than the ones awarded in the large-scale call.

Figure 3: Level of competition between projects in the first large scale and small-scale call - final ranking



The Commission is continuing its efforts to assist companies applying to the Fund with multiple webinars for each call, guidance documents and best practices reports, as well as innovative tools, such as the self-check questionnaire developed for the second small-scale call.

The very high number of applications for both calls and the significant oversubscription of the budget predicted strong competition for funding and therefore only few projects were awarded grants, while many projects passing all thresholds did not receive support, especially in the large-scale call. This indicates that companies have serious interest in the Fund and therefore the Commission increased the size of the second large-scale call with 50% and is also making it easier for projects from the first round of calls to re-apply by amending the Delegated Regulation to allow for a single stage application.

2.3. Requested grants vs. available budget

The projects applying for both calls, but especially for the large-scale one, requested much higher funding than the amounts available under the respective calls. Therefore, the Commission maximised the call budgets by using the 20% flexibility in line with the Financing Decision. The projects applying for the first call for large-scale proposals requested a total of EUR 21.7 billion, massively oversubscribing the available budget of EUR 1 billion. For the first call for small-scale proposals, the oversubscription was slightly less

pronounced: the requested budget was EUR 12.1 billion, 10 times the available budget. To address the oversubscription, the Commission maximised the call budgets by using the 20% flexibility in line with the Financing Decision, and awarded grants for EUR 1 145 586 747 in the first call for large-scale proposals and EUR 109 163 733 in the first call for small-scale proposals.

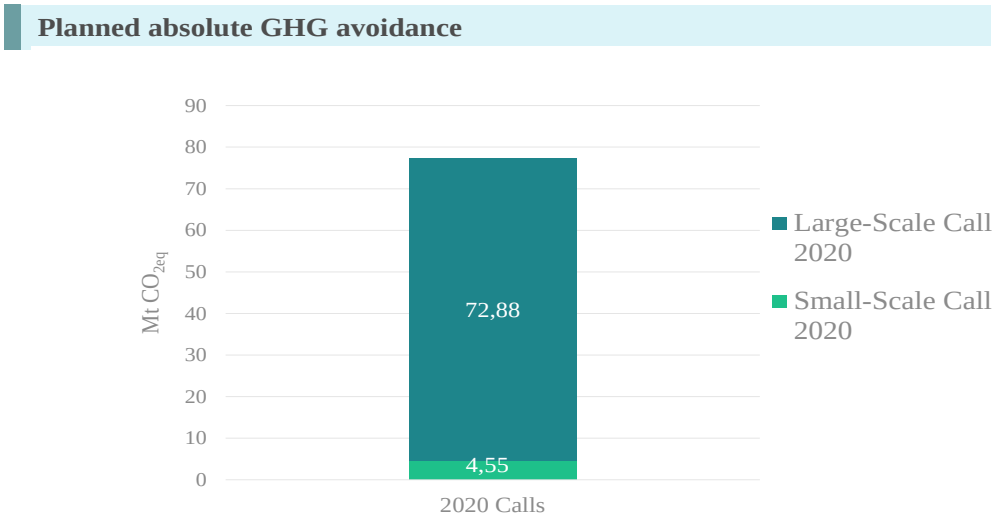
2.4. Contribution of Innovation Fund projects to EU climate neutrality

2.4.1. Greenhouse gas emissions reductions

The first two Innovation Fund calls are supporting projects with significant potential to reduce greenhouse gas emissions and contribute to EU climate neutrality.

The projects awarded grants in the first round of Innovation Fund calls indicate a reduction of 77.4 Mt CO_2eq over their first 10 years of operation. The first emission reduction results can be expected as of 2023 with the entry into operation of first awarded projects.

Figure 4: Expected absolute GHG emissions avoidance over 10 years of operation of the awarded projects



2.4.2. Highly innovative projects with significant potential for scalability

The first two Innovation Fund calls support highly innovative projects that will facilitate the transition to climate neutrality of entire industrial ecosystems. Projects have to offer more than incrementally innovation in comparison to the state-of-the-art in the EU to be considered for funding, while more often they are evaluated as very strong or breakthrough innovations. The awarded projects have substantial potential for scalability, showing the opportunity to trigger further GHG reductions by transferring the technology or its application to other sites

and sectors, and entailing cooperation of different actors in the regional and European economy.

First call for large-scale projects

The projects evaluated at the first stage of the first call for large-scale proposals showed a wide variety of technological pathways and innovative clean-tech solutions[11]. This variety was maintained in the second stage of the call, and the seven awarded projects.

Under the first call for large-scale proposals, the seven selected projects[12] address challenges in diverse sectors: steel, chemicals (ammonia, methanol, ethylene oxide), hydrogen (green and blue), PV cells production, cement, CCU concrete, electricity, heating and cooling. The awarded projects will be game changers and drive the decarbonisation in their sectors, Member States and regions.

The technologies applied are breakthrough and first-of-a-kind at the scale proposed with a wide scalability potential across sectors and the economy:

- 1,2Mt/y (25% of steel production in Sweden) direct reduction steel plant based on renewable hydrogen in HYBRIT Demonstration.
- 500MW electrolyser in HYBRIT Demonstration, 50MW electrolyser in SHARC
- 3 GW factory of bifacial heterojunction photovoltaic cells (B-HJT) manufacturing in TANGO
- CO_2 capture in cement (K6), steam methane reforming, ammonia and ethylene oxide production (Kairos@C), preparation for CCU for refineries in SHARC
- First-of-a-kind ship for CO_2 transport in Kairos@C
- 4 projects supplying CO_2 for geological storage in various locations in the North Sea (Kairos@C, BECCS@STHLM, SHARC, K6)
- Conversion of municipal solid waste to methanol rather than energy recovery through incineration in ECOPLANTA
- Net carbon removals in BECCS@STHLM

The main locations of the projects are Belgium, Italy, Sweden (2), France, Spain and Finland, but through the transport and storage of CO_2 the Netherlands and Norway will be indispensable partners.

The solid project pipeline of close to 300 applications for the first call for large-scale proposals call shows a very wide variety of technological pathways that can lead to the green transition of multiple sectors.

Within the energy-intensive industries category, three main technological pathways were identified: i) hydrogen, ii) carbon capture use and/or storage and iii) bio-based solutions, while at the same time a number of projects employ more than one of these main pathways and combine with other technical solutions. Other common pathways are recycling (e.g. scrap

[11] Statistics of the proposals received for the first large-scale call of the Innovation Fund in October 2020.docx (europa.eu)

[12] policy_funding_innovation-fund_large-scale_successful_projects_en.pdf (europa.eu)

metal, plastics), pyrolysis, gasification and electrification. A significant number of proposals (7%) within the energy-intensive industry category have integrated hydrogen distribution and use to various transport modes (e.g. heavy-duty vehicles, buses, fuel cell and hydrogen vehicles, ships). About a fifth of the total number of proposals consider various biomass feedstock, mostly waste and residues.

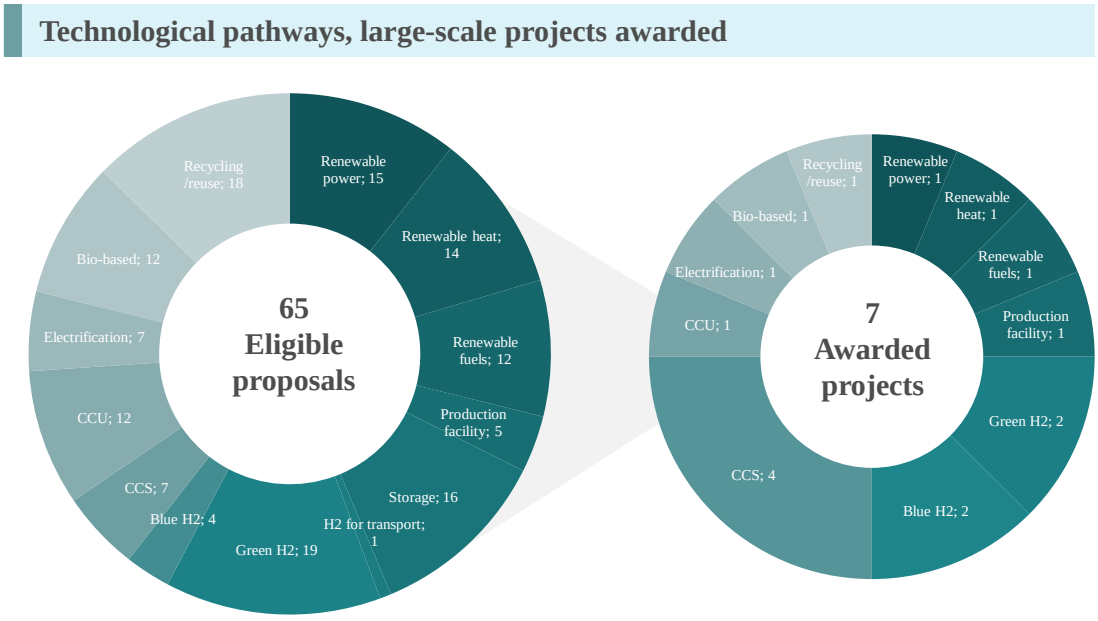
Within the CCUS category, most proposals focus on one part of the CCUS value chain and the CO_2 is captured from various sources (bio-refineries, ferrous and non-ferrous metal production, cement and lime, refineries, chemicals, bio- and geothermal combined heat and power plants, Waste to Energy or ambient air), and aim to produce different products (electricity & heat, hydrogen, methanol, aviation fuels, methane, construction materials, other chemicals and other fuels).

Within the renewables category, all main types of technologies can be found: on- and offshore wind, floating and ground-based foundations, concentrated solar power, photovoltaics (PV), production facilities for PV cells and modules, tidal, wave, salinity gradient and hydro energy, deep geothermal energy. Many renewable energy proposals combine different renewable energy technologies such as combinations of CSP and PV, CSP and biomass, wind and PV. Often variable renewable energy sources are combined with battery or thermal storage or the production of hydrogen.

Within the energy storage category, many proposals aim to find solutions for the intra-day electricity storage, while other proposals include other storage types such as batteries, compressed or liquid air storage, thermal, hydrogen, and hydro storage. Some proposals cover demand-side measures by applying smart grids or virtual power plant solutions, while others concern production facilities for batteries.

Figure 5: Technological pathways of first call for large-scale proposals: applications, invited to second stage and awarded projects [13]

[13] policy_innovation-fund_lsc_statistics_en_0.pdf (europa.eu)



First call for small-scale projects

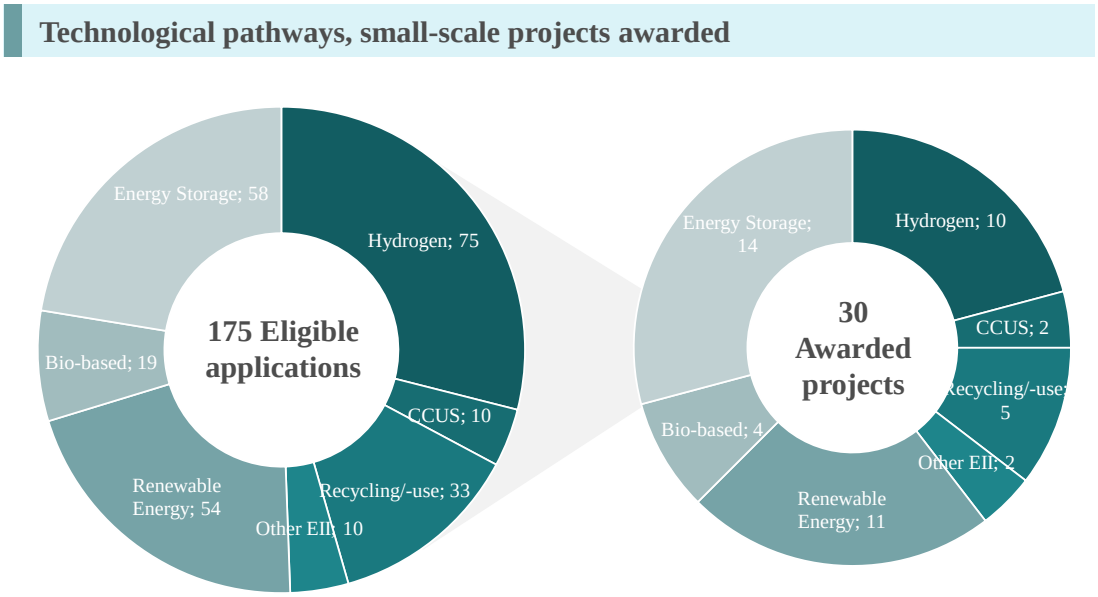
Under the first call for small-scale proposals, 30 projects were awarded grants[14] and the main characteristics of some of the projects are highlighted below:

- Introducing first-of-a-kind technologies in new sectors: e.g. develop the first mobile thermal battery by recovering 6 GWh per year of industrial waste heat to provide energy where district heating or cooling infrastructures are absent (WH project) or build and operate one of the world's first Airborne Wind Energy array with a capacity to produce 1.2MW of renewable power (NAWEP project);
- Applying first-of-a-kind technologies to existing industrial processes: e.g. regenerate high quality oil from used oil, thus helping to avoid the need to produce virgin fossil-based oil (SKFOAAS) or breakthrough technology to enhance the recovery of bio-methane and improving its quality to make it grid-compliant, using existing landfill gas (W4W);
- Introducing a novel combination of existing technologies: e.g. produce low carbon aggregates, by combining activities from a refinery, a waste treatment company and a construction materials producer (AGGREGACO2) or transform a seaport into the first European port able to operate off-grid, based on a self-managed energy community using 6 300 MWh of renewable energy per year (GREENMOTRIL) or combine technologies from airborne wind energy, solar photovoltaics and redox flow battery storage, supplying 73% of the baseload energy consumption needed at a gas storage (AQUILON);
- Substituting existing technologies: e.g. introduce an innovative retrofit solution to substitute fossil-fuels with a biomass fuel in a pulp mill's lime kiln (LK2BM).

[14] Small-scale projects (europa.eu)

The projects applying for the first call for small-scale proposals also show a wide variety of technological pathways in smaller sectors and innovative solutions in new sectors and markets. The technology pathways of the 30 projects which signed a grant agreement can be regrouped in seven bigger technological pathways, with most projects covering energy storage, renewable energy and hydrogen.

Figure 6: Technological Pathways first call for small-scale proposals (awarded projects)



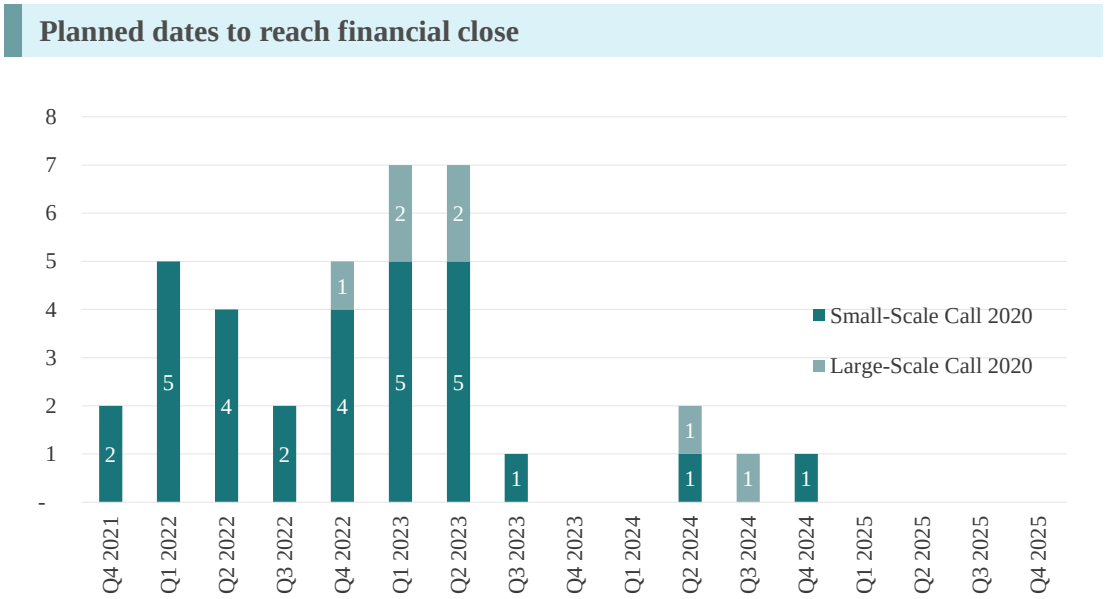
2.4.3. Mature projects

The first two Innovation Fund calls are supporting projects with high financial and business maturity.

As the Innovation Fund aims to support clean-tech solutions which can be deployed fast, projects have to reach financial close[15] within maximum four year from grant signature, i.e. in 2025-2026 at the latest for the first two calls. The graph below illustrates that of the 37 awarded projects, 20 (54%) are expecting to reach financial close within one year, 13 (35%) within 2 years and 4 (11%) within 3 years. Small-scale projects plan to reach financial close relatively faster which correlates with their smaller costs and usually simpler financial structure.

[15] In the framework of the Innovation Fund, financial close is defined as: the moment in the project development cycle where all the project and financing agreements have been signed and all the required conditions contained in them have been met.

Figure 7: Number of projects planning to reach financial close per quarter[16]



Furthemore, all projects awarded a grant in the first Innovation Fund calls plan to enter into operation by 2026, demonstrating a high level of operational maturity. Most of the projects, 29 out of 37, plan to enter into operation by Q1 2025. This would ensure emission reductions already before the end of the decade.

2.4.4. Project development assistance for less mature projects

The Innovation Fund has a special facility – Project Development Assistance[17] - to improve the maturity of projects through high-quality technical and financial advisory support provided by the European Investment Bank (EIB), and tailored to the needs of the projects. The Project development assistance aims to benefit especially small-scale projects and projects in lower-income Member States to help achieve a geographically balanced distribution of the Innovation Fund support. The project development assistance is available to both large and small-scale projects, and can help increase their chances of reaching financial close and entering into operation. A Contribution Agreement on providing project development assistance was signed with the European Investment Bank in April 2021 and is already being implemented.

Under each call, up to 20 proposals rejected for a grant are being offered project development assistance: under the first call for large-scale proposals, 15 proposals were invited[18] to access project development assistance worth EUR 4.4 million, and under the first call for small-scale proposals, 10 projects were awarded project development assistance worth EUR 1.7 million.

[16] Data based on application form and adapted when necessary, based on latest information from project coordinators.

[17] https://ec.europa.eu/clima/eu-action/funding-climate-action/innovation-fund/project-development-assistance_en

[18] 14 Large-Scale proposals signed a project development assistance support agreement with the EIB, as one project withdrew from the process.

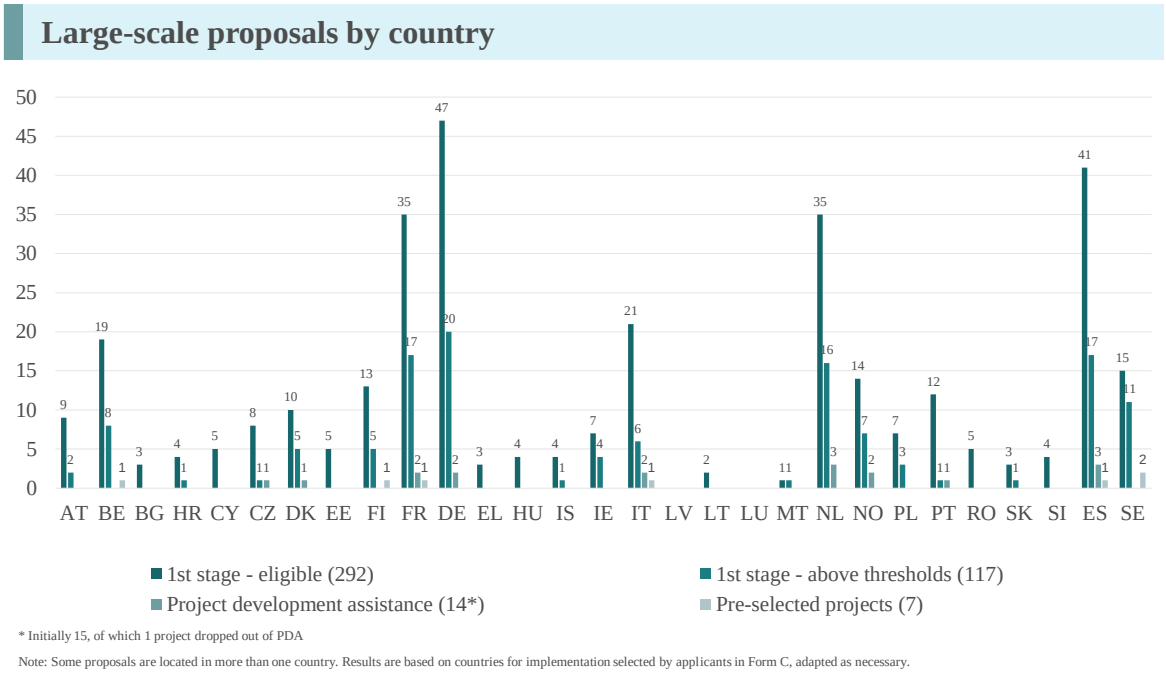
Projects awarded project development assistance also cover a very large range of technology pathways: from green hydrogen and synthetic aviation fuels in energy intensive industries to energy storage. The expectation is that these projects re-apply for future Innovation Fund calls, contributing to the creation of a continuous pipeline of excellent projects to be funded. In terms of geographical location, project development assistance is contributing in reaching a good spread of Innovation Fund-supported projects among Member States as well.

Future calls will aim to use even more the potential of project development assistance to support projects in underrepresented countries and smaller applicants.

2.4.5. Geographical and sectoral balance

The Innovation Fund aims to achieve geographical and sectoral balance in its lifetime until 2030. As illustrated below, the two calls concluded received applications from almost all Member States, projects are developed in many Member States, albeit with a lower representation in Eastern Europe. There are many cross-sectoral and cross-border projects with significant potential to decarbonise whole regions and sectors, beyond national and sectoral borders.

Figure 8: First call for large-scale projects: proposals by country

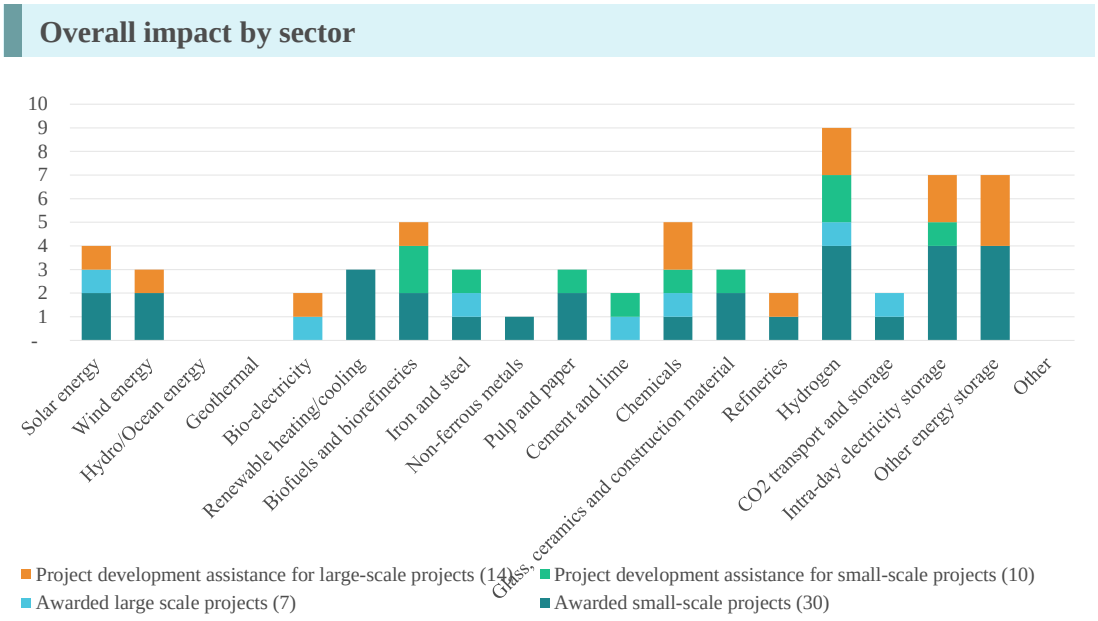


While implementing the Fund, the Commission will seek to further broaden the geographical balance through three specific avenues. First, the regular calls for small-scale projects with costs under EUR 7.5 million can be better suited to companies from smaller Member States which are looking to invest in clean tech at a smaller scale. Second, the project development assistance provided by the European Investment Bank to large and small projects can help companies prepare better applications and increase their chances to receive an Innovation Fund grant. Third, the Commission established a network of national contact points on the

Innovation Fund in all EU Member States, Iceland and Norway[19] that can provide information to potential applicants about the Fund and its interactions with national funding instruments and other EU programmes available in each Member State.

Projects from nearly all sectors have been supported through the first two calls. The technological pathways of applying and awarded projects as outlined in Section 2.4.2. illustrate the variety of the project pipeline and shows that the Innovation Fund can serve all sectors currently eligible and potentially eligible in the future. For example, the Innovation Fund has already supported projects relevant to waterborne and road transports and until 2030 it can support the green transition of the whole EU economy, by funding clean tech solutions spanning from energy generation, to energy-intensive industries, transport, buildings and agriculture. The figure below illustrates the impact of the Innovation Fund per sector so far.

Figure 9: Innovation Fund impact by sector



2.4.6. Financial support tailored to the projects' needs

The Innovation Fund support is tailored to the market needs and risk profiles of the supported projects. This helps attract additional public and private resources.

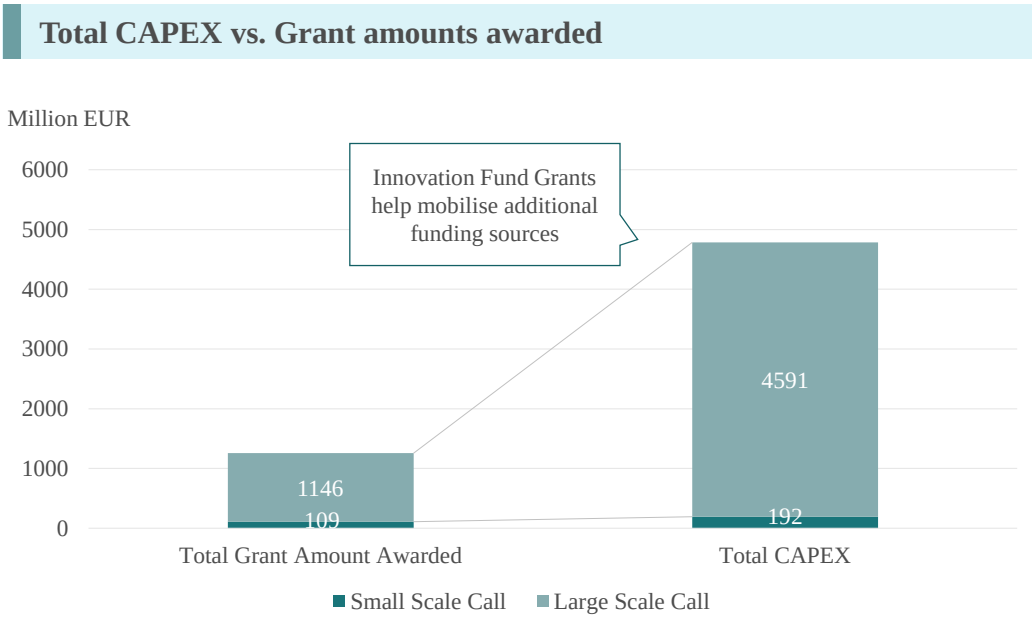
The initial budget (EUR 1 100 000 000) for the first two Innovation Fund calls has been entirely allocated and the 20% budget flexibility allowed under the Financing Decision[20] has also been used to address the budget oversubscription.

[19] National Contact Points (europa.eu)
[20] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/wp_innovfund-2020_en.pdf

The total expected capital expenditures (total CAPEX), as calculated and communicated by applicants in their applications, is used as a proxy measure for total expected investment volumes mobilised by the Fund grants.

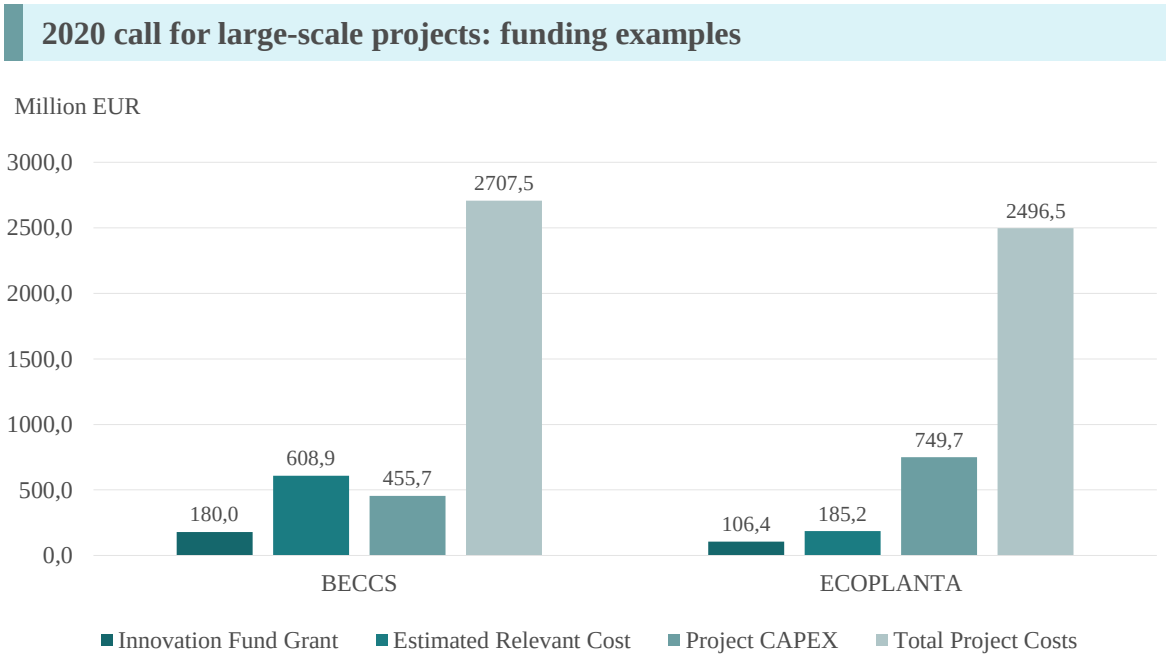
The total expected CAPEX of all awarded projects in the 2020 calls amounts to EUR 4 783 136 117 (91% of which under the large-scale call, and 9% under the small-scale call). Figure 12 shows that Innovation Fund grants will leverage investments 4 times bigger than their volume.

Figure 10: Total grants awarded vs. CAPEX under the first Innovation Fund calls



The total expected CAPEX of the awarded projects significantly exceeds the Innovation Fund grants awarded. This illustrates the need for additional private and public investments into these clean tech solutions, the commitment of companies to find financing for their green innovative solutions and shows the positive leverage effect of the Innovation Fund grants.

Figure 11: First call for large-scale projects: funding examples



2.5. Contribution to other EU policy objectives

2.5.1. Circular economy, Energy Efficiency and Renewable Energy

The awarded projects will bring other environmental benefits to the European economy within the framework of the European Green Deal, and support EU strategies related to hydrogen, sector integration, and circular economy. For example, awarded projects will:

- Advance deep-decarbonisation solutions for energy intensive industries such as Hydrogen DRI[21] in the steel sector or CCUS solutions for the cement industry;
- Bring solutions to facilitate the system integration of renewables such as offering the provision of renewable electricity during peak demand through the use of second-life car batteries;
- Promote sector coupling and indirect electrification through green hydrogen production for hard-to-electrify sectors;
- Support the application of circular economy and energy efficiency principles at various levels, through for example recycling of material residues and use of heat that would otherwise be lost, and the cooperation of different industries; Support the replacement of fossil-fuels and the deployment of additional innovative renewable energy capacity such as wind energy, solar energy, and geothermal power.

[21] Hydrogen Direct Reduced Iron

2.5.2. Positive spillovers to other sectors

While the Innovation Fund aims to support the decarbonisation of the energy and industry sectors, through the production and use of renewable energy carriers, including hydrogen and synthetic fuels, the Innovation Fund has been able to support a wide variety of projects with application in sectors currently not covered by the ETS such as maritime, road and railway transport and agriculture:

- Supporting the development of new sectors and/or markets: e.g. production of hydrogen for zero-emissions transportation (H2 VALCAMONICA and ZE PAK green H2) or replace fossil-based plastics (TLP Production);
- Decarbonizing the maritime transport through the production of low-carbon bio-liquefied natural gas (bio-LNG) to replace conventional maritime fuel (FirstBio2Shipping). Three other relevant projects are supported through project development assistance: a pusher vessel combining a battery and a fuel cell in freight transport (HyPush); a large sailing cruise ship featuring an innovating wind propulsion technology (WAVE) and a zero-emission vessel powered by a large-scale fuel cell system will exclusively use green hydrogen from renewable sources (HYDROGEN EU-ROPAX);
- Benefiting agriculture with integrated large-power photovoltaic irrigation systems (PVI) that do not require back-up batteries and significantly reduce risks related to the integrity of the water distribution infrastructure (CO2-FrAMed);
- Contributing to reducing emissions in transport infrastructure: a seaport (GREENMOTRIL) and an airport (PIONEER) will maximize their use of renewable energy.

2.5.3. Social and economic benefits

The awarded projects will also bring social and economic benefits such as enhanced growth of new sectors (e.g. production of green hydrogen), creation of quality jobs in the green transition, support for local economies and cooperation between different industries to foster innovation and sustainability. Further, they will lead to specific economic benefits, for example by lowering prices of new technologies and products and creating new markets. The Innovation Fund can also help address the social and labour markets aspects of a fair green transition.

2.5.4. Synergies with other funding instruments

The Innovation Fund aims to ensure synergies with other investment support instruments, such as InvestEU or lending programmes of the European Investment Bank, and other relevant EU funding programmes, such as Horizon Europe or Connecting Europe Facility.

INVESTEU PROGRAMME

Since attracting additional public and private resources is a fundamental objective of the Fund, it is important that there are synergies with InvestEU, which is the EU's flagship tool to support investment (via loans and other types of support) needed for recovery, green

growth, employment and a just transition. Cumulation of InvestEU and Innovation Fund funding for a specific project is possible. Furthermore, the European Investment Bank is implementing the so-called Green Transition thematic product[22] under the InvestEU Programme. The Green Transition product will be available for highly risky projects with high policy added value eligible under the sustainable infrastructure and research, innovation and digitalization policy windows. The product will benefit from a top-up from the Innovation Fund[23] aiming to further support deep decarbonization projects in energy and industry sectors.

EU-Breakthrough Energy Catalyst (BEC) partnership will enable to enlarge the impact of the Green Transition product. This partnership brings together the European Commission, the European Investment Bank and Breakthrough Energy Catalyst[24]. A Memorandum of Understanding between these parties was signed at the COP26 in Glasgow. The partnership seeks to mobilise up to EUR 820 million (USD 1 bn) for innovative projects in the EU between 2022 and 2027.

In January, Breakthrough energy Catalyst Europe published a request for proposals[25] for large-scale projects. The call focuses on the fields of clean hydrogen, sustainable aviation fuels, direct air capture and storage, and long-duration energy storage. EU funding for the partnership comes from Horizon Europe[26] (in the form of grants to be used as blending for selected operations) and the Innovation Fund (in form of a top-up of the EU guarantee available to de-risk EIB lending), managed under InvestEU GT product. Catalyst funding (in the form of grants and equity funding) comes from philanthropies and corporates. Both the European Investment Bank and Breakthrough Energy Catalyst will provide equivalent amounts of financing for the projects.

EXAMPLES OF SYNERGIES ACHIEVED BY AWARDED PROJECTS

Effective and operational synergies with other Union programmes notably to promote faster dissemination and uptake of research and innovation results and to enable the pursuit of common objectives and common areas for activities has been anchored in the objectives of different Union progammes.

[22] EIB, Relevance of Thematic Impact Finance for Innovation Fund eligible projects (6.7.21 presentation to the 8th Meeting of the IFEG). Available at: https://ec.europa.eu/clima/system/files/2021-07/20210706_ifeg_4_en.pdf

[23] The Commission Decision C(2021) 7404 of 19.10.2021 on the activities related to the Innovation Fund, serving as the financing decision for 2021 and as a decision launching the second calls for proposals and its Annex

[24] https://www.breakthroughenergy.org/scaling-innovation/catalyst

[25] EU-Catalyst Partnership: Request for proposals of pioneering green technology projects is launched | European Commission (europa.eu)

[26] Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe, Annex IV, Art. 15 details synergies between the Innovation Fund and Horizon Europe, and Council Decision (EU) 2021/764 of 10 May 2021 establishing the Specific Programme implementing Horizon Europe, section 5.1 lays out the need for complementarity between the Innovation Fund and Cluster 5 of the Horizon Europe programme.

Several of the awarded projects under the first round of Innovation Fund calls already demonstrate the existing strong synergies between the Fund and other EU and national funding mechanisms:

- Six projects are building on prior work supported under Horizon Europe predecessor programmes - Horizon and FP7 (CarBatteryReFactory, CO2-FrAMed, GtF, Silverstone, TLP and TANGO);
- Three projects have also benefitted from the support of other EU instruments such as NER300, the LIFE programme and the CEF transport call (CCGeo, FirstBio2Shipping and HELEXIO line); and,

Apart from this, five out of the seven awarded large-scale projects have already or are planning to receive financial support from national or regional authorities (Kairos-at-C, BECCS at STHLM, K6, HYBRIT demonstration and SHARC). The financial supports may constitute State aid within the meaning of Article 107 TFUE. The Commission has exclusive competence to assess the compatibility of State aid measures with the internal market and Member States need to notify any such aid pursuant to Article 108 TFEU.

2.5.5. Knowledge-sharing on clean-tech solutions

To ensure cost reductions and accelerated commercialisation of clean technologies across Europe, the Innovation Fund is supporting knowledge-sharing among projects and stakeholders on clean tech solutions.

The Delegated Regulation requires that grant agreements are conditional on knowledge sharing by the grant beneficiary. The project proponent is to submit a knowledge-sharing plan at the application stage covering the full project cycle. These knowledge-sharing requirements are critical to safeguard the public interest while respecting non-disclosure of commercially sensitive information. They facilitate market penetration of the demonstrated technologies and lower risks in the transition to large-scale production and use of low-carbon products. Knowledge sharing has to start at grant award to build on learnings of challenges met and strategies for overcoming them in the critical phase between grant award and financial close, as well as between financial close and start of operation. The first reports on knowledge-sharing are expected to be submitted by the awarded projects in 2022-23. Later on, during the operation phase, knowledge-sharing efforts will focus on the technological deployment of the projects.

In 2020 and 2021, over 10 virtual events were successfully organised to support all types of stakeholders to understand better the current and potential developments of clean tech solutions in the EU, such as specific knowledge-sharing event for innovative clean tech projects "From NER300 to the Innovation Fund"[27], clean tech financing conferences[28], webinars on the application process for the Fund and the lessons learned[29]and a general Innovation Fund event during the 2020 Sustainable Energy Week. The Commission organised regular meetings of the Innovation Fund Expert Group to discuss with Member

[27] From NER 300 to the Innovation Fund: knowledge-sharing for innovative clean tech projects (europa.eu)
[28] First Financing Innovative Clean Tech virtual conference (europa.eu)
How can the Innovation Fund foster innovative clean tech small-scale projects? (europa.eu)
Delivering on the European Green Deal: Financing clean technology with the Innovation Fund (europa.eu)
[29] Events and webinars (europa.eu)

States and industry representatives the implementation and future orientations of the Fund. In addition, DG CLIMA and/or CINEA participated in multiple events organised by third parties to increase the knowledge and awareness of the Fund.

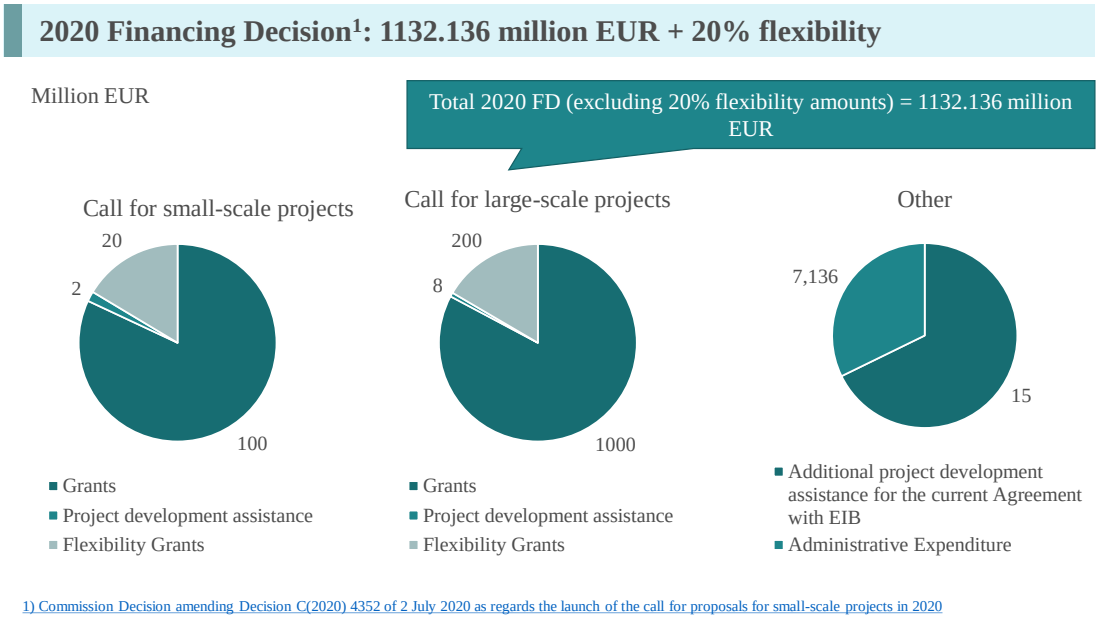
2.6. Review referred to in Article 24, paragraph 3, of Regulation 1031/2010

According to the second subparagraph of Article 24(3) of Regulation 1031/2010 (also known as the Auctioning Regulation), the Commission shall review every two years the amount of allowances to be auctioned for the Innovation Fund, paying particular attention to *'the support available for future calls for proposals, the maximum amount of the Innovation Fund support available for project development assistance, the part of the total amount of the Innovation Fund support available for the call to small-scale projects reserved by the Commission, the support foreseen for the awarded projects as well as the disbursement and the recovery rate'.*

This part of this report constitutes the first such review.

The amount available for each call for proposals, including the maximum amount available for project development assistance, is determined in each financing decision and call text. The graph below summarises the 2020 Financing Decision.[30]

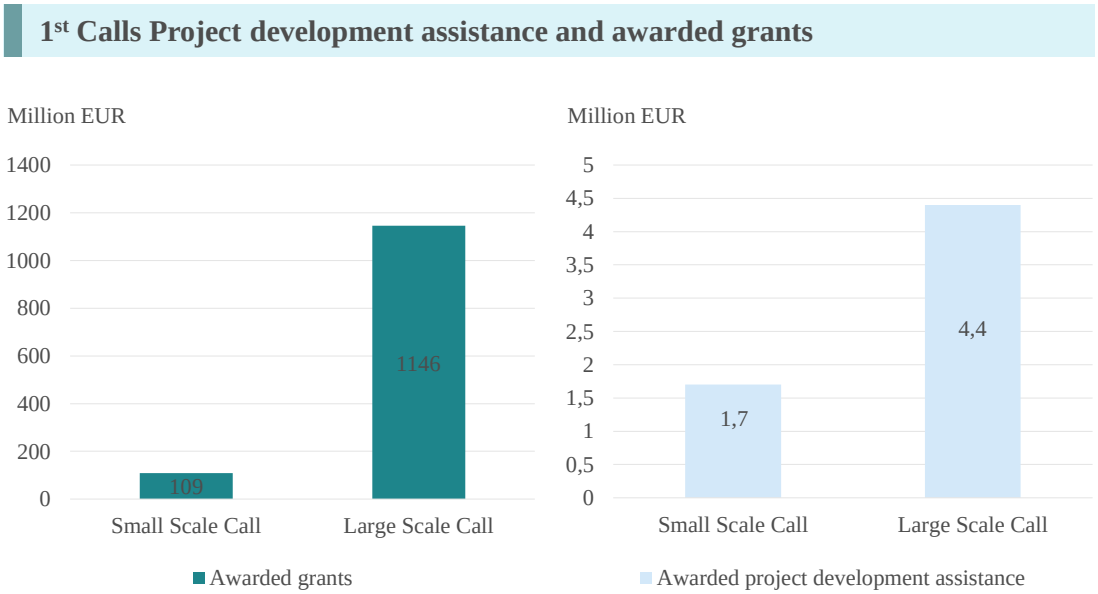
Figure 12: Financing Decision 2020



The graph below shows the total amounts of grants and of project development assistance awarded under each call.

[30] Commission Decision amending Decision C(2020) 4352 of 2 July 2020 as regards the launch of the call for proposals for small-scale projects in 2020

Figure 13: Grants and project development assistance amounts under each call



The table below summarises the number of allowances auctioned for the Innovation Fund for 2020 and 2021, and the funds available (EUR) available on the Innovation Fund account in mid-May 2022.

	End 2020	**End 2021**	**13/5/2022**
Number of allowances	50,000,000	40,000,000	15,582,000
Assets available (EUR m Nominal amount)	1,335,841,072	4,146,382,569	5,434,617,254

The assets available include the amounts committed to projects that have received grants from the first two calls. No payments have been made yet to Innovation Fund projects.

Overall, the pace of auctioning of Innovation Fund allowances addresses the need of clean tech projects. In the context of the RePowerEU Plan, it was decided that the Commission will double the funding available for the 2022 Large Scale Call of the Innovation Fund this autumn to around EUR 3 billion. Specific REPowerEU windows will be instituted to support (1) electrification and hydrogen applications in industry, (2) clean tech manufacturing and (3) mid-sized pilot projects for validating highly innovative solutions.

3. Conclusions and Next Steps

The first two calls of the Fund gathered very big interest from businesses and received applications that by far exceed the available budget of each call, creating strong competition among clean-tech projects. This clearly shows the strong and varied clean-tech project pipeline that the Fund can support in its next calls, which calls to further upscale the budget. A third call for large-scale projects is planned for autumn 2022.

The calls for small-scale projects play a unique role in supporting projects with smaller capital costs (between EUR 2.5 and 7.5 million) but with decarbonisation potential in new sectors and in smaller EU Member States. The second call for small-scale projects opened on 31 March 2022 with a budget of EUR 100 million and projects can apply until 31 August 2022.

Already with the first two calls and the projects benefiting from project development assistance, the Innovation Fund was able to support projects across the eligible sectors and countries. The Fund has several instruments to further encourage geographical and sectoral balance of awarded projects. There is the special facility of project development assistance provided by the European Investment Bank to promising but not yet mature projects, the network of national contact points, the helpdesk replying to applicants' questions for each call, the multiple targeted webinars and info days, the self-check questionnaire. These instruments have shown to help companies prepare their applications for the Fund. The Commission will further develop and exploit these tools to enhance the geographical and sectoral balance of the Fund.

In terms of the governance, the clear definition of responsibilities (between the European Commission, the European Climate, Infrastructure and Environment Executive Agency, the European Investment Bank and the Member States) and the collaboration between these entities have delivered an effective implementation of the Innovation Fund within the foreseen timelines. .

The REPowerEU Communication[31] recognised the Fund as one of the key instruments to accelerate industrial decarbonisation, outlining three avenues.

Firstly, increased revenues due to the higher carbon price can enable larger calls. Based on the experience of the first calls, the project pipeline indicates that the market can absorb an increase of the available budget, while keeping the approach that only highly innovative, high impact and market-ready projects get funding.

Secondly, the Innovation Fund can broaden its portfolio of instruments for support of clean tech projects. For instance, an EU wide competitive bidding mechanism (e.g. Contracts for Difference or Carbon Contracts for Difference) for specific technology baskets can be a powerful instrument to encourage the production and cost-effective deployment of low-carbon solutions. Such an instrument is already proposed by the Commission as part of the Fit for 55 package.

Thirdly, while preserving a bottom-up and excellence-based approach, the Innovation Fund can become more focused on strategic priorities, as put forward in the REPower EU Plan[32].

[31] COM(2022)108, REPowerEU: Joint European Action for more affordable, secure and sustainable energy, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions

[32] COM(2022)230, REPowerEU Plan, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions