eurelectric
powering people

Innovation Fund

A eurelectric position

April 2018

eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:
- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

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WG Climate Change

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KEY MESSAGES

- An appropriately designed and technologically neutral Innovation Fund with no predefined technology list should facilitate achieving the EU targets in a cost-effective manner and provide the right conditions for competition between projects at sector level.

- Clear and transparent selection procedure criteria are needed to enable non-discriminatory facilitation process for development of projects. A flexible administrative procedure is required to allow adapting to the inherently changing nature of innovation development.

- Grants could be fostered by revolving financial solutions. Project's feasibility shall place a major role in financial decision making.

- The Innovation Fund should not be a qualifier for additional support as it may result in too high criteria for financing on national level.

- Technology readiness level (TRL) should not be the sole based solely on technology readiness categories but also take into account other project specific criteria with qualitative assessment on a case-by-case basis.

- Competitiveness inside and outside Europe is important. Therefore, the Innovation Fund should focus on supporting technologies which have the potential to become competitive and promote the EU industry in the global arena.

With the new EU target to increase the annual CO2 emissions reduction from the current level of 1.74% to 2.2% per year in the ETS sectors from 2021, it is only through further technological and market development that this goal can be achieved in a cost-effective manner. Since the presentation of the Commission's proposal for the EU ETS post-2020 framework, different ideas have emerged as to how the newly created Innovation Fund, which will follow the current NER300 program, should be structured to enhance further low-carbon innovation in Europe. The experience gained through the two NER300 calls for projects represents a key asset on which the Innovation Fund should build.

Learning from the NER300 experience

NER300 has been addressing the right stage of development, clearly positioning itself at a later stage than the R&D phase. It is essential to continue providing this type of support to enable crossing the gap between a finalized development and a market uptake. A meaningful real-site full scale demonstration project requires large investment while still remaining a risky step. The type and impact of NER300 makes a significant difference. Particularly, the grant element in the innovation support scheme has been of high importance, providing the necessary incentive to allow private investment. Such a grant combined with financial instruments maximizes the leverage effect.

NER300 addresses several technologies and provides a fair level-playing field, which avoids picking winners and losers by making inadequate choices between competing technologies. For maximum impact, the future Innovation Fund should be designed to allow quick adaptation to the inherently changing nature of innovation development. Adding additional layers of constraints to an already risky and difficult innovation environment would clearly limit the possible positive impact of the Innovation Fund.

Defining innovation

Innovation should be defined in a very careful manner as the concept may vary from case to case. The Innovation Fund should not be a qualifier for additional support as it may result in too high criteria for financing on national level. Additionally, there should be a clear additionality of the Innovation Fund. The definition of other funding instruments such as Horizon 2020 or Connecting Europe Facility and their potential combination should be clearly described to provide guidance for project promoters. It is also advisable to create a strong combination between Member State's support and Innovation Fund with other funds despite the differences among Member States' funding schemes and their bureaucratic complexity.

Targeting the right technology readiness level

Technology readiness level (TRL) should not be based solely on technology readiness categories, but also take into account other additional project specific criteria with qualitative assessment on a case-by-case basis. Besides TRL, some institutions already introduced market readiness levels, which could be an opportunity for self-assessment of projects to define what type of support is needed be it grants only or a combination of grants with other financial instruments. Also, it may be worth considering to start with TRL7 as it seems to be the first level where the gap between R&D and innovation needs to be closed. For utilities, manufacturing readiness level (MRL) may be equally important as other indexes. Technology boundaries should be set widely enough to allow for development and uptake of cross-cutting technologies in each sector and such projects should

be additionally rewarded during appraisal phase for financing. Sector specific technology range would allow demonstration at technology, process and integration level.

Multiple technologies are required to succeed

It is hard to forecast which technology innovation will deliver the most improvements in terms of GHG reductions. In fact, a whole spectrum of technology innovations will be needed so a list of eligible technologies should remain open. As decarbonisation of the industry and power sector will be enabled by process and product innovation, the Innovation Fund should support both.

A successful transition towards a low-carbon energy system requires a holistic approach of the Innovation Fund, which enhances flexibility of the system through integration of various technological solutions throughout the entire energy value chain e.g.: onshore and offshore wind, photovoltaic farms, centralised and decentralised storage solutions, waste-to-energy, demand-side response, e-mobility, smart charging infrastructure with vehicle to grid solutions, decarbonisation of industrial processes, optimal adaptation of existing and new technologies to local circumstances, cross-sector projects and smart grid solutions. Furthermore, CCS/CCU will have to play an increasingly important role for all industry sectors as they can ensure a smoother energy transition without creating harmful shortages that can negatively impact the economy or the energy market.

Mature technologies have a role to play

A lot of incremental innovation is possible in mature technologies which should remain eligible. Strong R&D and financial backing is required to improve performance of existing low-emission technologies, but these improvements can subsequently be applied on a large scale to existing installations for increased impact. Focus on the 'take-up' of already existing technologies in different environments and under different conditions must be also made to enable replicability of innovative technologies. The levelised cost of electricity should be used as benchmark to calculate the viability of these projects.

Synergies between sectors facilitate decarbonisation

Possible synergies between different utilities and sectors can also be explored and general flexibility must be increased. Innovative technologies contributing to the decarbonisation of multiple sectors shall be supported as they help reduce CO2 emissions.

The energy and transport sectors in particular are capable of creating many synergies as demonstrated in the first Connecting Europe Facility Synergy call. As an example, Vehicle to Grid technologies allow electric mobility to provide flexibility services to the electricity system, increasing its capability to further integrate renewable generation efficiently accelerating decarbonisation while reducing its cost. The revenue that electric vehicle users receive from the services provided to the grid, contribute to closing the gap between the total cost of ownership of electric and traditional vehicles. This provides a boost to the deployment of e-mobility, which helps decarbonising the transport sector.

Key challenges for European innovation

Political and regulatory uncertainties together with innovation and performance risk are among key stumbling blocks for successful corporate low-carbon innovation investments. For project developers and utilities, predictability can be impeded by public acceptance, price of carbon,

financing, profitability, reliability and confidentiality of data for business models, problems with integration of projects into grid, and new business lines and models: shift from commodities to services, performance contracts and cooperation schemes.

Competitiveness inside and outside of Europe is also important so the Innovation Fund should also focus on supporting technologies which have the potential to become competitive and promote the EU industry in the global arena. Priority should be given to breakthrough technologies and evolutionary improvement as Member States are at different stages of the energy transition and their respective economies and sectorial strategies often differ significantly. Projects should also have a significant size in order to address first of a kind demonstration needs.

To address some of these challenges, clear and transparent selection procedure is needed which enables a non-discriminatory facilitation process for project development (e.g. on-line Q&A where applicants send questions and answers which are subsequently made publicly available). Staged calls for a better planning of proposal preparation, on a six-month basis, and proceeding directly with full project proposal are preferable, followed by a negotiation phase.

Financial approaches and products

The financial approach taken should be flexible enough to address the actual financing needs of valuable projects. Depending on the type of investment, there may be a need for a grant support, longer tenors for debt financing provided that they offer below market interest rates, other risk-sharing facility or a combination of the above. Grants are vital to boost innovation and provide an initial incentive to start innovating, reducing the risk of the technological development and demonstration of new technologies. Grants should be used to facilitate bridging existing financial gaps to make innovative investments feasible. Grants could be fostered by revolving financial solutions yet project's feasibility shall place a major role in financial decision making.

In addition to grants, all other existing financial products such as debt financing, mezzanine finance, equity finance, guarantees and the combination of thereof can be useful instruments to allow for appropriate risk-sharing. Structuring financial products in an appropriate way by combining grants and subsidized loans can facilitate the development and quick adoption of breakthrough innovation in the EU particularly in case of large projects. In this respect, it is important to ensure flexibility which allows for partly tailor made solutions at least at the level of projects' portfolio.

Conventional project finance remains an essential financial instrument for post-R&D phase. For early stages, project finance alone is not an adequate financing instrument but needs to be complemented by grants, equity or equity-like financial instruments. Low-carbon innovation can also benefit from emerging financing business models. Corporate finance merged with other financial sources such as existing public-private financial vehicles allow for financial engineering that can facilitate efficient structuring of the investment's funding.

To unleash innovation and private investment milestone based financing should be made possible. Milestones should be project specific, but some general principles could also be envisaged: suppliers' selection, permits and authorization, major orders, construction etc. Financing should be made directly to the industries without any intermediary role or involvement of Member States. By working directly with industries, the Innovation Fund can really boost the investments needed reducing the time consuming procedures.

Yet, Member States should also be able to co-finance projects on a voluntary basis from other public funds, including KIC and ESIF, assuming general state aid criteria are met. Financing criteria among different programmes should therefore be aligned to ease the entire process. Simplifying the administrative procedure with a view to allow for cross qualification would facilitate the process in case of request for additional support.

Flexibility and evolutionary form of financing throughout the project's development are key to success. Financial support could take the form of initial grant to start de-risking the project and supporting feasibility and engineering studies, moving to refundable payment for prototyping and pure financial instruments for construction. Refinancing should be enabled when the advancement of project leads to the decrease of perceived risk. Such repayments would liberate transaction funds to finance other projects.

The funding characteristics must be clear since the first stage, avoiding misunderstandings and lack of information. The possibility to get a grant in the first stage of the investment enhances the investor's interest in the research phase. A 0% cost subsidized loan could be a useful instrument in the first spread stage for small and medium projects, just as subsidised loans, to allow for spreading the developed technologies which are already in place with a high maturity term and in the process to standardised agreements and contracts.

In order to match the risk profile of low-carbon innovations, the Innovation Fund should above all provide development and investment grants in combination with subsidised loans during the project's lifetime. In addition, fiscal incentives at national level and European level could be created to support the innovation projects and reduce the bureaucratic burden. Grants and de-risking instruments such as EFSI could enhance and mobilise the private investment ensuring projects can be bankable. This support could be adequate for some projects during the commercialisation phase, perhaps in combination with grants.

EURELECTRIC pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability

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