

Programme: EU-HORIZON 2020 Societal challenges - Secure, Clean and Efficient Energy - 2014-2020

Call:

LC-SC3-ES-9-2019

Topic/s:

Specific Challenge:

Beyond direct efficiency gains and cost savings, digitalization holds the potential to catalyse fundamental, system-wide changes in Energy Systems and Networks. As digitalisation advances, a highly and cross-sectoral interconnected system of energy systems and infrastructures can emerge, with increasing opportunities for integration of renewables and efficient energy management. Electricity is likely to be the first energy sector impacted, digitisation enabling stronger connections to the heating and cooling sector, in particular in buildings and the mobility sector.

Digitalisation can also foster enhanced the participation of stakeholders in local, regional and European value chains. Local communities and prosumers may gradually begin to leverage the opportunities for their involvement in energy communities and energy transactions and boost European innovation and businesses.

In order to achieve this, energy stakeholders must work hand in hand with highly innovative newcomers and lateral thinkers that have a “digital mindset” (e.g.: the block chain community) and also integrate the know-how and experience from other sectors. The approach should also engage potential customers such as infrastructure operators, local industries or communities and end-users in value chains from the local and regional up to the European and global levels.

Therefore, support is needed for the development of future digital platforms, applications and business which maximize benefits for European citizens while incentivising a sustainable, secure and resilient energy system where data protection is guaranteed. Coordinated transnational Research, Demonstration and Innovation actions has the potential to make a large impact.

Scope:

Proposals should coordinate national (or regional) energy and Information and Communication Technology (ICT) research, demonstration and innovation programs and pool the necessary financial resources with a view to implementing joint calls for proposals resulting in grants to third parties with EU co-funding in this area.

The scope of activities should include

The establishment of transnational innovation ecosystems for technology, systems and services that support designing, implementing and testing technical and

business services for the future energy systems, building on available ICT platforms and tools; these should enable the participation of SME's and start-ups and develop scalable, customizable and replicable solutions applicable from local through interregional and up to global level.

The coordination and linking of living labs[1] that facilitate the development and testing of prototypes, bringing innovative solutions from TRL4 (proof of concept) to TRL7. This shall enable the sharing of development and test facilities, allowing testing with hundreds of nodes representing real life operating conditions including failures, behaviour and misuse of the solution, as well as gaining experiences for the design of new market and business models.

Connect networks of procurers in different countries and regions, which gather potential buyers and users of the solutions at an early stage, in order to help to understand the needs and requirements for more and more software dominated solutions.

Activities to connect start-ups and investors to reflect on market driven applications.

Establish methodologies and transnational process chains in conformance with European standards, such as SGAM/M490 and ISO/TR 28380, to implement and achieve interoperability of electronic data exchanges in heterogeneous energy-related ICT systems.

Coordinate their work with NRA's, ENTSO-E, the DSO organisations and other stakeholders and take into account, build on, and work with Digitisation of Energy projects, funded under the following topics:

LC-SC3-ES-5-2018-2020: TSO – DSO – Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation

DT-ICT-11-2019: Big data solutions for energy;

DT-ICT-10-2018: Interoperable and smart homes and grids;

SU-DS04-2018-2020: Cybersecurity in the Electrical Power and Energy System (EPES): an armour against cyber and privacy attacks;

LC-SC3-EE-13-2018-2019-2020: Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side as energy resource.

Proposals should make use of state of the art innovation methodology (such as co-creation, design thinking, policy lab) to the community of solution designers to ensure high quality and highly dynamic communication between involved stakeholder groups. Proposals should include the set-up of a knowledge platform and promote transnational mutual learning.

Requirements in terms of funding rates for the ERA-NET Co-fund instrument can be found in the General Annexes of the work programme.

The Commission considers that proposals requesting a contribution in the range of EUR 10 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

Overall, proposals are expected to enhance the collaboration of regional and national ICT and energy programs and their stakeholder communities, to leverage associated research and innovation / development funds and existing tools and outcomes from former European initiatives like e.g. the Internet of Energy projects FINSENY[2] and FINESCE[3] and contribute to the objectives of SET-Plan Action 4 on 'Increasing the resilience and security of the energy system'[4]. Proposals should also contribute to develop need driven implementation environments on regional and local levels.

More specifically, proposals are expected to:

Accelerate the development of transnational innovation ecosystems, promote the engagement of innovative SME's and start-ups in digital energy systems and solutions, contribute to create new business opportunities, growth and jobs in European regions;

Foster the emergence of transnational initiatives and living labs, rationalise the use of test facilities, produce robust approaches to the use of digital systems;

Activate networks of procurers so as to reach the critical mass needed to develop global solutions that can be customised to local / regional needs;

Emulate local innovation forces and close to market thinking of start-ups and investors;

Promote the development of interoperable solutions enabling wider impact and use of applications, systems and services.

Delegation Exception Footnote:

This activity directly aimed at supporting public-public partnerships with Member States and associated countries, technology platforms with industrial partners and earth observation networks is excluded from the delegation to INEA and will be implemented by the Commission services.

Cross-cutting Priorities:

ERA-NET

[1] A living lab is a user-centered, open-innovation ecosystem often operating in a territorial context (e.g. city, agglomeration, region), integrating concurrent research and innovation processes (co-creation), potentially relying on a public-private-people partnership.

[2] <http://www.fi-ppp-finseny.eu/>

[3]<http://www.finesce.eu/>

[4]<https://setis.ec.europa.eu/actions-towards-implementing-integrated-set-p...>

show less...

AG1 priority fields: Energy; ICT

Call Budget: 10000000,00€

Co-funding type:

Co-funding type: € euro

Opening date: 14 Nov 2018

Deadline date: 27 Aug 2019

Call presentation and documents: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunit...>