



Horizon 2020 EGD CALL

Area 2 - Clean, affordable and secure energy

Topic LC-GD-2-1-2020: Innovative land-based and offshore
RE technologies and their integration into the energy system

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Area 2 - Topic LC-GD-2-1-2020

- Land-based and offshore renewables must become main energy source to make Europe climate-neutral.
- This has to happen while ensuring stability and resilience of energy system.
- General policies: Clean Planet for all, SET-plan, New Circular Economy strategy, SDG's United Nations.

(Proposals to clearly indicate which subtopic is addressed !)

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Subtopic 1:

The development of land-based renewable energy technologies and their integration into the energy system

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-2-1-2020>

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Subtopic 1 (land-based RE)

SPECIFIC CHALLENGE

RE-based district heating and cooling (DHC) and cogeneration of heat and power (CHP) can play key role in energy system integration & decarbonisation [see also COM2020(299)].

Challenges are robustness, reliability, flexibility to respond to peak demands, effective & efficient combination of different RES, cost-effectiveness, affordability, specific conditions in regions of Europe.

Digital solutions as possible enabler.

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Subtopic 1 (land-based RE)

SCOPE

Projects to develop innovative solutions for either district heating and/or cooling systems or CHP.

Solutions to satisfy significant or possibly total share of energy demand by means of combining different RES.

Projects to combine at least two or more RES and/or two or more RE technologies.

Seasonal load (DHC) or daily/seasonal load (CHP) + RES availability to be considered.

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Subtopic 1 (land-based RE)

SCOPE (cont'd)

(DHC) Integration of sources of otherwise wasted excess heat or cold + interfacing with existing distribution networks can be considered.

(CHP) Minimum electrical generation capacity of targeted system: 2,5 MW (electrical efficiency to go well beyond the state of the art).

Energy efficiency & cost-effectiveness optimization + Adaptability to existing systems for a representative variety of network conditions to be addressed.

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Subtopic 1 (land-based RE)

SCOPE (cont'd)

Sustainability of proposed solutions to be assessed in environmental, social and economic terms.

Requirements of the final users to be taken into account.

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Subtopic 1 (land-based RE)

EXPECTED IMPACT

Reduction of:

- greenhouse gas emissions
- air pollutants emissions
- use of fossil fuels

DHC / CHP systems based on onshore, local RE & designed to be adaptive and scalable according to the energy demand

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Subtopic 1 (land-based RE)

- TYPE OF ACTION:

Research and Innovation action

- EXPECTED EU CONTRIBUTION PER PROJECT:

EUR 3 to 6 million

- TARGET TRL: 4-5

(technology validated in lab -
technology validated in relevant
environment)

- TOTAL INDICATIVE TOPIC BUDGET: EUR 18 million

- DEADLINE :

26-01-2021 – 17.00 hrs BXL time

(at least highest ranking, above-threshold DHC / CHP proposals to be funded)

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Subtopic 1 (land-based RE)

FAQs

Question: How do you ensure that the waste heat is "sustainable" meaning that it does not lock-in fossil generation?

Reply: The call text asks to assess the sustainability of the proposed solutions in environmental, social and economic terms.

Question: For proposals that want to electrify district heating, should the RE capacity be directly linked to the facility?

Reply: If applicants choose the approach to electrify district heating, they have to demonstrate that the electricity is RE-based.

Question: Are hybrid solutions in the scope?

Reply: Hybrid solutions are in the scope and they count for the RES (or RE technologies) that they combine.

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Subtopic 2:

Demonstration of innovative technologies to enable future large scale deployment of offshore renewable energy

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-2-1-2020>

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Subtopic 2 (offshore RE)

SPECIFIC CHALLENGE

Build out of offshore renewable energy needs to ensure cost efficiency, fostering a green economy and protecting the environment and biodiversity.

Build a modern infrastructure to seamlessly integrate the power of offshore resources in the energy system.

Making use of the potential of different European sea basins.

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Subtopic 2 (offshore RE)

SCOPE

Projects must demonstrate at sea critical offshore renewable energy innovations, notably:

- offshore renewable energy power generating systems – (floating) wind, wave, tidal and/or solar systems on a floating or fixed bottom substructure

and/or

- grid infrastructure

and may address

- power to X/battery /storage systems to increase the resilience

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Subtopic 2 (offshore RE)

SCOPE (cont'd)

Grid infrastructure some more detail....

- grid infrastructure: -real life demonstration of innovative DC, AC/DC hybrid technologies (e.g. multivendor Multi-terminal HVDC systems, grid forming converter, HVDC diode rectifiers, modular multilevel converter, DC Circuit Breaker
 - for floating innovative dynamic inter-device/inter-array cable and connections

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Subtopic 2 (offshore RE)

SCOPE (cont'd)

The innovative demonstration actions might be part of a larger project or already making use of existing infrastructure. Multi-functional platforms can be considered.

Proposals should address also the following:

- Industrial design and manufacturing processes,
- Regulatory, market and financial challenges.
- Marine spatial planning issues as well as currently known barriers such as costs, public acceptance
- Environmental monitoring plan respecting regulatory framework

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Subtopic 2 (offshore RE)

SCOPE (cont'd)

The project consortium should demonstrate how it contributes to knowledge building and innovation.

The project should clearly demonstrate a proposed pathway to obtaining necessary permits for the demonstration actions and financial close for the whole action.

The project has to include a clear go/no go moment ahead of entering the deployment phase.

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Subtopic 2 (offshore RE)

EXPECTED IMPACT

Roll-out of large-scale deployment of offshore renewable energy, considering existing or alternative (decentralised) systems and all other environmental (like GHG reductions), ecological, social and economic impacts along the value chain.

Increase incentives for investment and economies of scale in offshore bringing down costs and create new business models and services.

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Subtopic 2 (offshore RE)

- TYPE OF ACTION:

Innovation action

- EXPECTED EU CONTRIBUTION PER PROJECT:

EUR 20 to 35 million

- TARGET TRL: 7

(system prototype demonstration in operational environment)

- TOTAL INDICATIVE TOPIC BUDGET: EUR 68 million

- DEADLINE:

26-01-2021 – 17.00 hrs BXL time

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Subtopic 2 (offshore RE)

CALL CONDITIONS (cont'd)

At least highest ranking proposal addressing Offshore renewable energy power generating systems and the highest ranking proposal addressing Grid infrastructure will be funded, provided it attains all thresholds.

This condition to ensure a balanced portfolio will also considered to be met if one project addressing both aspects is funded.

Thank you



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