Funding opportunities in HORIZON 2020 and Interreg Baltic Sea Region Programme

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HORIZON 2020

Funding opportunities in HORIZON 2020

- **What is Horizon 2020?**
- **What is a Work Programme ?**
- **Secure, Clean and Efficient Energy**
- **Carbon Capture and Storage**

What is Horizon 2020?

- Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020)
- The first calls for proposals for Horizon 2020 were published on **11 December 2013**.
- Its simplified rules and submission and grant management tools should facilitate participants' tasks. For practical guidance, see the H2020 online manual.
- H2020 supports SMEs with a new **instrument** that runs throughout various funded research and innovation fields, so it should be easy for SMEs to find opportunities in many calls.
- By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on

❖ excellent science
❖ industrial leadership
❖ and societal challenges.

- The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.

What is a Work Programme ?

- Funding opportunities under Horizon 2020 are set out in multiannual work programmes, which cover the large majority of support available.
- The work programmes are prepared by the European Commission within the framework provided by the Horizon 2020 legislation and through a strategic programming process integrating EU policy objectives in the priority setting.
- The main Horizon 2020 work programme comprises **18 thematic sections** and the general annexes describing general rules such as standard admissibility conditions and eligibility criteria, types of action, selection and award criteria, etc.
- Each thematic section is self-contained, and describes the overall objectives, the respective calls for proposals, and the topics within each call.
- The Horizon 2020 work programme is complemented by the separate work programmes for the European Research Council, Euratom, the Joint Research Centre and the Strategic Innovation Agenda for the European Institute of Innovation and technology (EIT).

First work programme

- There are considerable changes between the previous research framework programme FP7 and Horizon 2020.
- First of all, work programmes are **biannual** under Horizon 2020, to allow better preparation of applicants.
- Secondly, Horizon 2020 takes a challenge-based approach giving the researchers more freedom to come up with **innovative technology solutions**.
- **Cross-cutting actions** have also been introduced under Horizon 2020.
- Last but not least, **Technology Readiness Level (TRL)** should be applied under this Programme in order to better specify the scope of activities.

First work programme
General Annexes
G. Technology readiness levels (TRL)

- G. Technology readiness levels (TRL)
- Where a topic description refers to a TRL, the following definitions apply, unless otherwise specified:
- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – system prototype demonstration in operational environment
- TRL 8 – system complete and qualified
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

Societal Challenges

Societal Challenges

Horizon 2020 reflects the policy priorities of the Europe 2020 strategy and addresses major concerns shared by citizens in Europe and elsewhere.

Funding will focus on the following challenges:

- 1. Health, demographic change and wellbeing;
- 2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy;
- 3. Secure, clean and efficient energy;
- 4. Smart, green and integrated transport;
- 5. Climate action, environment, resource efficiency and raw materials;
- 6. Europe in a changing world - inclusive, innovative and reflective societies;
- 7. Secure societies - protecting freedom and security of Europe and its citizens.

Societal Challenge 3:

Secure, Clean and Efficient Energy

Secure, Clean and Efficient Energy

- **The Energy Challenge** is designed to support the transition to a reliable, sustainable and competitive energy system.
- To make the transition to a competitive energy system, we need to overcome a number of challenges, such as increasingly scarce resources, growing energy needs and climate change.
- **The Energy Challenge** is structured around seven specific objectives and research areas:
- Reducing energy consumption and carbon footprint
- **Low-cost, low-carbon electricity supply**
- Alternative fuels and mobile energy sources
- A single, smart European electricity grid
- New knowledge and technologies
- Robust decision making and public engagement
- Market uptake of energy and ICT innovation.

- A budget of €5 931 million has been allocated to non-nuclear energy research for the period 2014-2020.
- Out of this figure, more than €200 million is earmarked to support European Institute of Innovation and Technology activities, subject to a mid-term review.

Main priorities

- The first work programme for "Secure, Clean and Efficient Energy" is split into the following focus areas:
- **Energy Efficiency**
- **Low Carbon Technologies**
- **Smart Cities & Communities**

Low Carbon Technologies

- It is important to develop and bring to market affordable, cost-effective and resource-efficient technology solutions to decarbonise the energy system in a sustainable way, secure energy supply and complete the energy internal market
- Research activities within this area cover:
- Photovoltaics
- Concentrated Solar Power
- Wind energy
- Ocean Energy
- Hydro Power
- Geothermal Energy
- Renewable Heating and Cooling
- Energy Storage
- Biofuels and Alternative Fuels
- **Carbon Capture and Storage**

HORIZON 2020
WORK PROGRAMME 2014-2015
Secure, clean and efficient energy

- Enabling the decarbonisation of the use of fossil fuels during the transition to a low-carbon economy
- LCE 15 2014/2015:
- Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS

Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS: Specific challenge

- The EU is committed to an overall reduction of greenhouse gas emissions of at least 80% by 2050. Nonetheless, fossil fuels will continue to be used in Europe's power generation as well as in other industrial processes for decades to come.
- Therefore, the 2050 target can only be achieved if the emissions from fossil fuel combustion in the power generation sector and energy intensive industries are eliminated from the system.
- This will require the application of Carbon Capture and Storage (CCS). The assessments made in the context of the EU's Roadmap for the transition to a competitive low carbon economy in 2050 and the Energy Roadmap 2050 see CCS as an important technology contributing to decarbonisation scenarios in the EU, with 7% to 32% of all power generation using CCS by 2050.
- The application of CCS to industrial sectors other than power (e.g.steel, cement, lime, chemical industry, refining) is expected to deliver half of the global emissions reduction from CCS by 2050.
- In the near future, these industrial applications will open up new opportunities and avenues for CCS that can accelerate its deployment.
- For all applications, the demonstration of CO_2 storage is of major importance.
- Therefore, two key challenges in the short -term for driving CCS to deployment are geological storage and the application of CCS to industrial sectors other than power, including bio-CCS.

Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS:

Scope:

- Proposals should address one of the respective key challenges as presented above, or a combination of them. Focus should be on progressing technologies that already reached TRL 4-5 to TRL.
- For geological storage, projects should enable, under "real life" conditions, the development and demonstration of best practices for the entire storage cycle, from site characterisation to operation, risk assessment, monitoring and mitigation/remediation of leakage, and including education and training. Knowledge sharing as well as early and sustained engagement of the local community is essential.
- In line with the Union's strategy for international cooperation in research and innovation international cooperation is encouraged, in particular collaboration activities between EU project(s) under this topic and non-EU projects (e.g. from Australia and/or North-America).
- For industrial applications, proposals should aim at integrating CCS technology in the best possible way so as to optimise the use of energy in the capture process, minimise process efficiency losses, achieve a suitable CO_2 purity for transport and storage, and maintain the quality of the industrial end product.
- Piloting under realistic conditions is required to significantly lower the energy penalty and capture costs.
- Collaboration with industrial end users is essential. Knowledge sharing as well as early and sustained engagement of the local community is essential.
- For geological storage, the Commission considers that proposals requesting a contribution from the EU of between EUR 9 to 16 million would allow this specific challenge to be addressed appropriately.
- For industrial applications, proposals requesting a contribution from the EU of between EUR 4 to 9 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS

- ***Expected impact:*** Demonstration of safe and environmentally sound CO_2 storage will play a key role in optimising the safe operation of storage sites and in fine-tuning regulatory issues, in promoting confidence in CO_2 storage and building public awareness of CCS.
- The cost- and resource-effective application of CCS in industrial operations will expand the available options for CCS and provide a stepping stone to its wider deployment.
- Pilot-scale demonstration projects should contribute to accelerating the development and deployment of CCS through an enhanced and effective cooperation in research and innovation between various stakeholders and Member States, thereby allowing a more efficient use and stronger leverage of financial resources and promoting knowledge sharing.

- ***Type of action****:* Research & Innovation Actions

HORIZON 2020

- Proposals to WP 2014-2015 have already passed step one application process.
- The successful proposals have deadlines for the second step proposals in April/May 2015.
- The new WORK PROGRAMME 2016-2017 are under preparation now and have already been reviewed at national levels.
- The new WORK PROGRAMME will come soon (probably summer or early autumn)

HORIZON 2020
DRAFT WORK PROGRAMME 2016-2017
(Version 27 February 2015)
Secure, clean and efficient energy

Enabling the decarbonisation of the use of fossil fuels during the transition to a low-carbon economy

- LCE 24 - 2016: New generation high-efficiency capture processes
- LCE 25 - 2016: Utilisation of captured CO2 as feedstock for the process industry
- LCE 26 - 2016: Cross-thematic ERA-NET (European Research Area Network) on Applied Geosciences
- LCE 27 - 2017: ERA-NET Cofund on Large-Scale Demonstration of CCS
- LCE 28 - 2017: Highly flexible and efficient fossil fuel power plants
- LCE 29 - 2017: CCS in industry, including Bio-CCS
- LCE 30 - 2017: Geological storage pilots

Interreg Baltic Sea Region Programme 2014-2020

Funding priorities of the new programme

- (1) Strengthening research, technological development and innovation;
- (6) Preserving and protecting the environment and promoting resource efficiency;
- (7) Promoting sustainable transport and removing bottlenecks in key network infrastructures.

In addition, relevant aspects related to thematic objectives

- 3 (SME support),
- 4 (low carbon economy)
- 5 (climate change)

should be considered within these thematic objectives.

Interreg Baltic Sea Region Programme

General information

- The **overall objective** of the Programme is to strengthen the integrated territorial development and cooperation for a more innovative, better accessible and sustainable Baltic Sea Region.
- The Programme promotes **transnational cooperation and integration** by projects addressing common key challenges and opportunities of the region.
- Its added value is the transnational dimension of the supported actions and investments.
- The Programme exploits opportunities and addresses issues ***which cannot (sufficiently) be dealt with by single countries but require a joint response by partners from several countries from the Baltic Sea Region.***

Interreg Baltic Sea Region Programme

General information

The Programme develops a leverage effect on regional development by investing in the institutional capacities of the Programme's target groups.

Improved institutional capacity in the Programme context is understood as:

- Enhanced institutionalised knowledge and competence;
- Improved governance structures and organisational set-up;
- More efficient use of human and technical resources (databases, technical solutions, infrastructure etc.);
- Better ability to attract new financial resources; and
- Increased capability to work in transnational environment

Programme priorities

- The Programme is divided into four priority axes addressing the transnational key challenges and opportunities of the Baltic Sea Region:
  - 1. Capacity for innovation
  - 2. Efficient management of natural resources
  - 3. Sustainable transport
  - 4. Institutional capacity for macro-regional cooperation

Priority 2 ‘Efficient management of natural resources’

- supports transnational cooperation enhancing capacity of public authorities and practitioners to ensure better environmental status of the Baltic Sea Region waters and to strengthen the resource-efficient growth.
- It will help in developing integrated approaches to reducing nutrient loads and decreasing discharges of hazardous substances to the Baltic Sea and the regional inland waters.
- Moreover, the Priority supports development and testing of governance and funding models as well as technological solutions for production and distribution of renewable energy and for improved energy efficiency.
- Lastly, it aims at strengthening the sustainable and resource-efficient blue growth in the Baltic Sea Region.

Specific objectives related to priority 2:

Efficient management of natural resources

- **Specific objective 2.1 'Clear waters':**

To increase efficiency of water management for reduced nutrient inflows and decreased discharges of hazardous substances to the Baltic Sea and the regional waters based on enhanced capacity of public and private actors dealing with water quality issues

- **Specific objective 2.2'Renewable energy':**

To increase production and use of sustainable renewable energy based on enhanced capacity of public and private actors involved in energy planning and supply

- **Specific objective 2.3 'Energy Efficiency'**

To increase energy efficiency based on enhanced capacity of public and private actors involved in energy planning

- **Specific objective 2.4 'Resource-efficient blue growth':**

To advance sustainable and resource-efficient blue growth based on increased capacity of public authorities and practitioners within the blue economy sectors

Programme area

- The Programme area covers eleven countries. It comprises the EU Member
- States:
- € Denmark: the whole country
- € Estonia: the whole country
- € Finland: the whole country
- € Germany: the States (Länder) of Berlin, Brandenburg, Bremen, Hamburg, Mecklenburg–Vorpommern, Schleswig–Holstein and Niedersachsen (only NUTS II area Lüneburg region)
- € Latvia: the whole country
- € Lithuania: the whole country
- € Poland: the whole country
- € Sweden: the whole country

Programme area

- In addition, three partner countries outside the EU will take part in the
- Programme:
- € Belarus: the whole country
- € Norway: the whole country
- € Russia: St Petersburg, Arkhangelsk Oblast, Vologda Oblast, Kaliningrad
- Oblast, Republic of Karelia, Komi Republic, Leningrad Oblast, Murmansk
- Oblast, Nenetsky Autonomous Okrug, Novgorod Oblast, Pskov Oblast.
- **Norway** will participate in the Programme with own funding. The participation
- of **Belarus and Russia** is planned based on funding allocated from the European
- Neighbourhood Instrument (ENI), but specific implementing provisions are still
- under discussion.

Horizontal principles

- Sustainable development,
- equal opportunities and
- non-discrimination,
- as well as equality between men and women,

are three major horizontal principles that constitute an integral part of EU policy and the Programme. The supported projects have to promote these principles whenever possible.

- In practical terms, projects should reflect the horizontal principles in outputs and results.
- Projects should consider what their overall influence as regards these principles is.
- Projects should highlight in the application form how these horizontal principles are integrated in project activities and outputs.

In addition, projects should mention the specific measures they plan to take at the operational level (i.e. project management) to follow these principles.

- The promotion of the horizontal principles will be considered as a positive factor in the project selection for funding.

EU Strategy for the Baltic Sea Region(EUSBSR).

- The Programme objectives are very much in line with the objectives of the EUSBSR.
- The aim is to maximise the synergies and leverage effects of the Programme on other financing sources for implementation of the EUSBSR.
- Therefore, applicants are encouraged to get acquainted with the action plan to the EUSBSR and consider the possible contribution of the project to a priority area or a horizontal action of the strategy.
- Detailed information regarding the EUSBSR can be found under http://www.balticsea-region-strategy.eu/
- .

Programming period 2014-2020

The EUSBSR is a part of the strategic framework for 2014-2020

Funding in the programming period 2014-2020

- **The EU Common Strategic Framework (CSF) provides a set of diversified tools and significant funding capacities through both mainstream and joint cooperation activities.**
  - The European Structural & Investment Funds (ESIF): ERDF, ESF, CF, EMFF, EAFRD
- **From partial alignment in 2007-13 to full embedding of EUSBSR in ESIF.**
- **Co-operation is the key in the process of linking the EUSBSR and future programming period**. A thematic approach is the key element in alignment.
- **Funding possibilities via other European Union Funds:**
  - Connecting Europe Facility, Horizon 2020, LIFE + programme, COSME, Erasmus for all, new environment action programme etc.
- **Seed Money Facility**
  - Swedish Institute, IB.SH, CBSS, Nordic Council of Ministers.
- **Non-EU Funds**
  - International Instruments: e.g. International Banks such as European Investment Bank, Nordic Investment Bank;
  - national/regional & territorial instruments, other programmes and funding sources.

Who are the partners?

- National (governmental), regional, or local authorities
- "Bodies governed by public law" (e.g. public research and training institutions, public business development institutions)
- Associations formed by one or several regional or local authorities
- Associations formed by one or several bodies governed by public law
- Bodies established under public or private law for the specific purpose of meeting needs in the general interest, not having an industrial or commercial character, and having legal personality (e.g. private non-profit organisations).

Who are the partners?

The Programme strongly encourages projects to apply

- cross-sectorial and multi-level approach whenever possible.
- In practical terms, projects should involve relevant organisations from different sectors and various administrative levels directly or in a consultative way.

How to apply for funding?

- When applying for funds, applicants follow a two-step approach. During the first step, the project idea owners submit a
- concept note
- If the concept note is accepted by the Monitoring Committee, the decision making body of the Programme, the applicant will be invited to develop the project idea further and submit a complete
- application form.

- The two-step approach is a new feature of the Programme during the period 2014 to 2020.
- It is intended to save resources for all parties: applicants, assessors and decision makers.
- Resources to compile and assess concept notes are significantly lower than for fully fledged applications.
- The rate of successful applications is expected to increase considerably. The duration of the full application procedure from the call for concept notes through to the start of projects is expected to be approximately one year.

Thank you for attention