



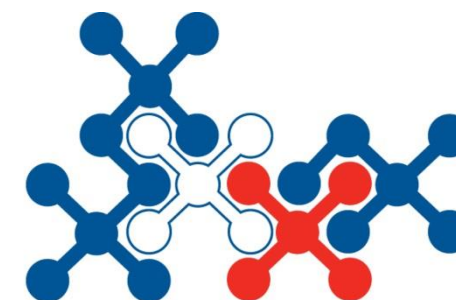
EaPPLUS

Eastern Partnership +



1st Webinar, 21 February, 2017

Energy and Environment – Dates 2017



National Contact Point
in P O L A N D



Project: 'STI International Cooperation Network for EaP Countries Plus (EaP PLUS)'

Aim: to stimulate cooperation between researchers from the EaP countries and EU MS and enhance the active participation of the Eastern Partnership countries in Horizon 2020 Framework Programme.



Name / Institution





11 Webinars are planned on Horizon 2020 and Innovation

Project duration: September 2016 – September 2019

Project website: <https://www.eap-plus.eu/>



Name / Institution



1st Webinar, 21 February, 2017

*Horizon 2020 – Energy and Environment –
important dates in 2017*

This webinar will deal with:

- Horizon 2020 – basic information,
- Energy within the Horizon 2020 – important deadlines in 2017,
- Environment within the Horizon 2020 – important deadlines in 2017.
- Questions and Answers.



Contact: Olga Zyrina, olga.zyrina@kpk.gov.pl

Name / Institution



21 February 2017

ENERGY

in Horizon 2020

Maria Śmietanka PhD.
Secure, Clean and Efficient Energy

National Contact Point for Research Programmes of the EU
Institute of Fundamental Technological Research Polish Academy of Sciences
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This presentation is based on materials from EC and/or Ministries and Agendas of RP

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).

It promises more breakthroughs, discoveries and world-firsts by taking **great ideas from the lab to the market**.



Horizon 2020 is **open to everyone**, with a simple structure that reduces red tape and time so participants can focus on what is really important.

HORIZON 2020

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION



Who can apply?

Consortium - Minimum 3 beneficiaries
from 3 different EU Member States or
H2020 associated countries
(AC)



Main project types

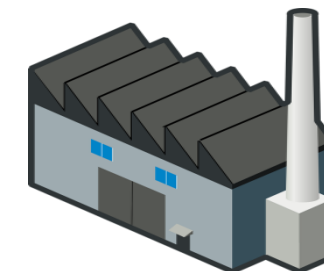
- **Research and Innovation actions (RIA)**

Collaborative research projects



- **Innovation actions (IA)**

Produce plans & arrangements or designs for new, altered or improved products, processes or services



- **Coordination and support actions (CSA)**

Accompanying measures (standardisation, dissemination, policy dialogues etc.) no research



Energy? What's inside?



System approach



New
technologies



Demonstration,
pilots



Social,
economical
and law
aspects



Integration into
a smart system



Assistance in
implementation



Work Programme

HORIZON 2020 - Work Programme 2016 - 2017
'Secure, Clean and Efficient Energy'

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EN

Horizon 2020

Work Programme 2016 - 2017

10. 'Secure, Clean and Efficient Energy'

Important notice on the second Horizon 2020 Work Programme

This Work Programme covers 2016 and 2017. The parts of the Work Programme that relate to 2017 are provided at this stage on an indicative basis. Such Work Programme parts will be decided during 2016.

(European Commission Decision C (2015)6776 of 13 October 2015)

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-energy_en.pdf

Energy efficiency - EE



Heating and cooling



Consumers



Buildings



Industry, Products and Services



Finance for Sustainable Energy

19.01.2017 do 07.06.2017

Kod	Temat	M€
<u>EE-02</u>	Improving the performance of inefficient district heating networks	4
<u>EE-06</u>	Engaging private consumers towards sustainable energy	5
<u>EE-09</u>	Engaging and activating public authorities	7
<u>EE-11</u>	Overcoming market barriers and promoting deep renovation of buildings	8
<u>EE-14</u>	Construction skills	
<u>EE-15</u>	Increasing capacities for actual implementation of energy efficiency measures in industry and services	11
<u>EE-16</u>	Effective implementation of EU product efficiency legislation	
<u>EE-18</u>	Energy efficiency of industrial parks through energy cooperation and mutualised energy services	
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EE-02 Improving the performance of inefficient district heating networks



- Economically and energetically effective solutions
- Retrofitting of existing networks
- Sustainable business and organization models
- 1 – 2 mln euro for project



Coordination
and support
action



FF-06 Engaging private consumers towards sustainable energy

- Clearly defined consumers groups
- Innovative actions to motivate consumers to change their behaviour in order to save energy in the buildings
- Engaging of consumers organizations
- Actions in different parts of Europe
- Gender issues
- 1 – 2 mln euro for project

Coordination
and support
action



EE-09 Engaging and activating public authorities

- engaging public authorities,
- public sector - an important driver in supporting a market transformation towards more efficient energy **systems, buildings, products, services, behaviour** for increased uptake of energy efficiency solutions,
- peer to peer learning for public authorities across Europe,
- between EUR 1 and 2 million.

Coordination
and support
action



EE-11 Overcoming market barriers and promoting deep renovation of buildings

- overcoming market barriers (not necessarily technological) to deep renovation within the value chain Any building type may be included (public or private, residential or non-residential)
- "deep renovation" (at least 60% energy savings compared to pre-renovation levels)

Coordination
and support
action





EE-14 Construction skills

- upgrading or setting up large-scale qualification and training schemes
- address coordination and accompanying measures (e.g. voluntary certification schemes, accreditation, mutual recognition, incentives to encourage the participation of craftsmen, sustainability of the schemes, etc.) (Running training actions will not be in the scope of the proposal.)
- increase the number of skilled building professionals and/or blue collar workers across the building value chain
(designers, architects, engineers, building managers, technicians, installers, etc.)



Coordination
and support
action

EE-15 Increasing capacities for actual implementation of energy efficiency measures in industry and services



- Capacity building programmes for qualified and/or accredited experts carrying out energy audits
- Staff trainings and capacity building programmes to enhance corporate policy towards energy efficiency, energy culture (motivations, behaviour change, mitigation of perceived risks and barriers) and sustainable supply-chain initiatives.
- between EUR 1 and 2 million

Coordination
and support
action

EE-16 Effective implementation of EU product efficiency legislation



- building up the monitoring, verification and enforcement of the EU's energy-related products policy
- should not replace activities that are under the responsibility of Member States, but should add European value to them (e.g. execution of joint activities, exchange of information, development of common methods, protocols or checklists, etc.)



Coordination
and support
action

EE-18 Energy efficiency of industrial parks through energy cooperation and mutualised energy services



- improve the energy efficiency of industrial parks (or neighbouring businesses)
- unlocking the market potential for energy cooperation and by supporting the demand and offer of mutualised high-quality energy services
- implementation of energy cooperation between businesses, implementation of joint energy services

Coordination
and support
action



EE-19 Public Procurement of Innovative Solutions for energy efficiency



- enabling a group of procurers (buyers group) to undertake a PPI procurement for innovative solutions for, products, services buildings (NZEB, renovation) which are not yet available on a large-scale commercial basis, and which have energy performance levels that are better than the best levels available on the market
- should lead to the first application / commercialisation of the innovative solution, in order to assure its market uptake
- between EUR 1 and 2 million
- funding rate limited to 35% of the total eligible costs to leverage co-financing from the procurers



EE-22 Project Development Assistance

- provided to public and private project promoters,
- to build technical, economic and legal expertise needed for project development and leading to the launch of concrete investments,
- investments will be launched before the end of the action which means that projects should result in signed contracts
- focuses on small and medium-sized energy investments of at least EUR 7.5 million to EUR 50 million
- contribution from the EU of between EUR 0.5 and 1.5 million.



Coordination
and support
action



EE-23 Innovative financing schemes

- development or replication of innovative financing schemes
- Analyse impacts of existing financial instruments and requirements for up-scaling
- capacity building on innovative financing for specific groups of stakeholders such as Member States, public authorities, energy agencies, energy consultants, and the financial sector, led by or involving professional federations or associations at the national level as appropriate

Coordination
and support
action



EE-24 Making the energy efficiency market investible



- Development, demonstration and promotion of frameworks for the standardization and benchmarking of energy efficiency investments (labelling schemes, project rating methodologies and risk assessment tools, etc.)
- Gathering, processing and disclosing large-scale data on actual financial performance of energy efficiency investments, in order to create a track record for energy efficiency in different sectors
- Targeting institutional investors (e.g. public pension schemes) in order to increase the share of their funds invested in energy efficiency, or to develop specific funds or investment products.

Coordination
and support
action

Low carbon energy- LCE



Renewable energy **LCE06 – LCE23**



11.05.2016 – 07.09.2017

Code	Topic	Budget
LCE-10-2017	Reducing the cost of PV electricity	10
LCE-11-2017	Near-to-market solutions for reducing the water consumption of CSP Plants	12
LCE-12-2017	Near-to-market solutions for the use of solar heat in industrial processes	8
LCE-14-2017	Demonstration of large >10MW wind turbine	25
LCE-16-2017	2nd Generation of design tools for ocean energy devices and arrays development and deployment	7
LCE-17-2017	Easier to install and more efficient geothermal systems for retrofitting buildings	8
LCE-18-2017	EGS in different geological conditions	10
LCE-19-2016-2017	Demonstration of the most promising advanced biofuel pathways	15
LCE-20-2016-2017	Enabling pre-commercial production of advanced aviation biofuel	10

LCE-10-2017

Reducing the cost of PV electricity

- reduction of the cost of PV electricity by optimising the PV system energy yield and lifetime and decreasing cost at module, balance-of-system component or system configuration levels.
- bringing the technology from TRL 5-6 to 6-7
- Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged
- between EUR 7 to 10 million
- considerable reduction of cost per kWh

**Innovation
Action**



LCE-11-2017

Near-to-market solutions for reducing the water consumption of CSP Plants

- demonstrate cost-effective technical solutions which significantly reduce or replace the water consumption of CSP plants
- demonstration shall take place in a region with very good solar resource values
- Interdyscyplinarne badania dotyczące zasobów wodnych i kwestii społecznych
- Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged
- between EUR 10 to 12 million
- TRL 7 shall be achieved at the end of project

**Innovation
Action**

LCE-12-2017

Near-to-market solutions for the use of solar heat in industrial processes

- demonstrate **less complex** and **cost effective** technical solutions which significantly increase the share of solar heat in industrial processes
- **easily integrated** into existing industrial plants
- Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged.
- TRL 7
- between EUR 5 to 8 million



Innovation
Action

LCE-14-2017 Demonstration of large >10MW wind turbine

- challenge is to demonstrate and construct a full scale >10MW turbine
- provide proof of a significant cost reduction potential
- Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged
- engage and involve local communities
- TRL 7
- between EUR 20 to 25 million

**Innovation
Action**



LCE-16-2017

2nd Generation of design tools for ocean energy devices and arrays development and deployment

- Based on the experience with the first ocean energy arrays the design tools can be developed further and a 2nd generation of advanced tools is foreseen which will have a significant positive effect on future devices and arrays.
- Economic analysis of supply chains and (potential) markets and assess economic feasibility
- TRL 6 shall be achieved at the end of project
- between EUR 5 to 7 million

Innovation
Action

LCE-17-2017 Easier to install and more efficient geothermal systems for retrofitting buildings

- easy to install and efficient underground coupling systems for retrofitting existing types of buildings
- make geothermal energy a standard source of heat and cold in building renovation
- difficulties in drilling in built environments must be taken into consideration
- Synergies may be considered with activities initiated under the Energy Efficiency call topics EE-10-2016 and EE-11-2016
- TRL 7
- between EUR 5 to 8 million

**Innovation
Action**

LCE-18-2017

EGS in different geological conditions

- testing enhanced geothermal systems (EGS) to ensure reservoir productivity in different geological settings and energy production at competitive costs
- up-scaling existing EGS systems
- Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged.
- TRL 7
- between EUR 6 to 10 million

**Innovation
Action**

LCE-19-2016-2017 Demonstration of the most promising advanced biofuel pathways

- One of the following:
 - Biofuels from the carbon content in flue gases of industrial wastes through biochemical and/or biological conversion;
 - Biofuels from aquatic biomass;
 - Liquid biofuels from wastes and residues (forest, agricultural, the organic fraction of municipal and industrial wastes
- public acceptance, market and regulatory barriers
- socio-economic and environmental aspects from a life-cycle perspective
- moving technologies that reached already TRL 5-6 to TRL 6-7
- between EUR 10 to 15 million

Innovation
Action

LCE-20-2017 Enabling pre-commercial production of advanced aviation biofuel

- novel industrial demonstration projects
- the most promising advanced aviation biofuel production pathways
- aviation biofuel must be fully compliant with international aviation fuel standards
- Environment, economic and social issues including health and safety should be considered
- moving technologies that have already reached TRL 5-6 to TRL 6-7
- Between 5 to 10 million



**Innovation
Action**

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PROGRAMÓW BADAWCZYCH UE

21st February 2017



HORYZONT 2020

HORIZON 2020, **Challenge 5: Climate action, environment, resource efficiency and raw materials**

dr Magdalena Głogowska

National Contact Point for EU Research Programmes
Institute of Fundamental Technological Research - PAS

www.kpk.gov.pl

W niniejszej prezentacji wykorzystano materiały udostępnione m.in. przez KE i/lub Ministerstwa oraz Agendy RP



Societal Challenges: funding (€ million, 2014-2020)

1. Health, demographic change and wellbeing	7 472
2. Food security, sustainable agriculture, marine and maritime and inland water research & the Bioeconomy	3 851
3. Secure, clean and efficient energy *	5 931
4. Smart, green and integrated transport	6 339
5. Climate action, environment, resource efficiency and raw materials	3 081
6. Europe in a changing world - inclusive, innovative and reflective societies	1 309
7. Secure societies - protecting freedom and security of Europe and its citizens	1 695

Societal Challenge 5: Climate action, environment, resource efficiency and raw materials



Objective: *"to achieve a resource – and water – efficient and climate change resilient economy and society, the protection and sustainable management of natural resources and ecosystems, and a sustainable supply and use of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and eco-systems."*

Societal Challenge 5: focus for 2016-17



- ✓ Increased emphasis on delivering innovative solutions
- ✓ Transformative agenda
- ✓ Systemic approach to innovation
- ✓ Unlocking private and public investment in future solutions
- ✓ Large-scale demonstration projects with replication potential

Societal Challenge 5: key objectives for 2016-2017

Climate action

- Climate services
- Low-carbon Europe
- Arctic dimension

Nature-based solutions:

- for territorial resilience
- for sustainable cities

Raw materials

Systemic eco-innovation for a circular economy

Mainstreaming water R&I

Sustainable growth by harnessing:

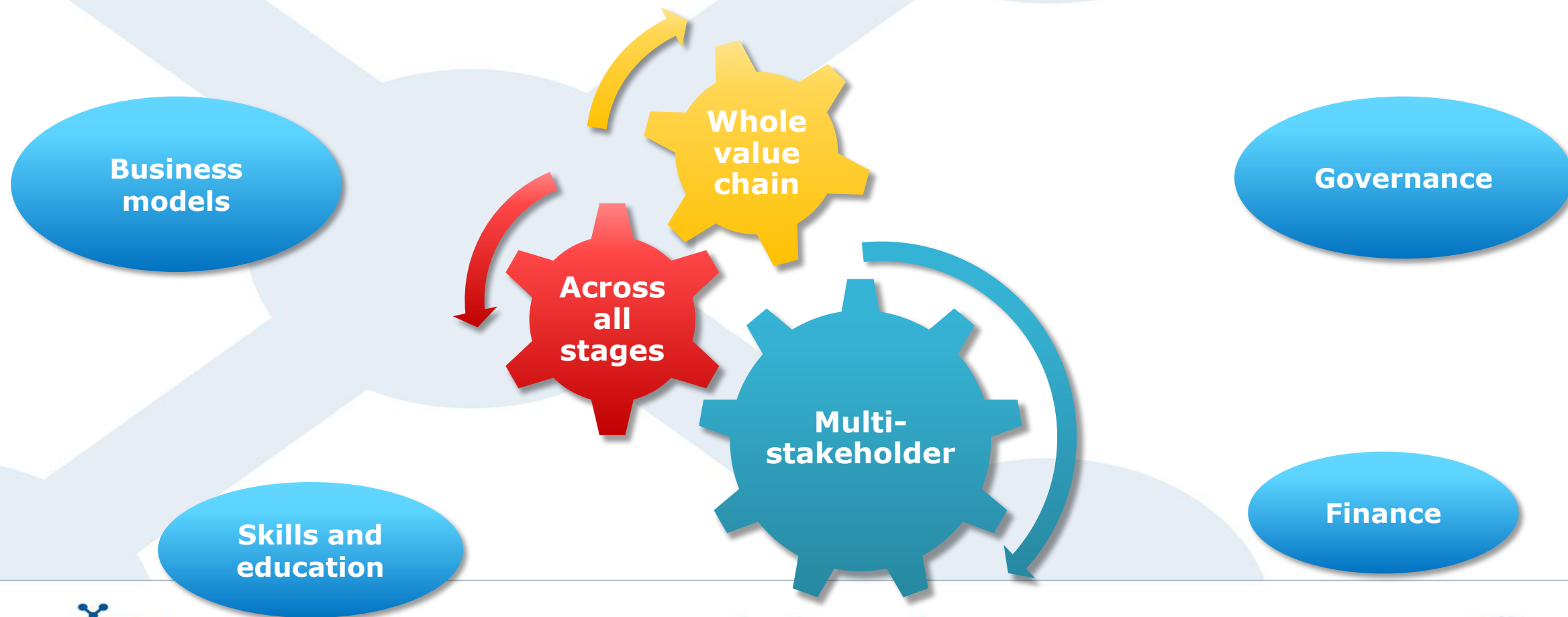
- Earth observation data
- Cultural heritage

Budget SC5 - 2017

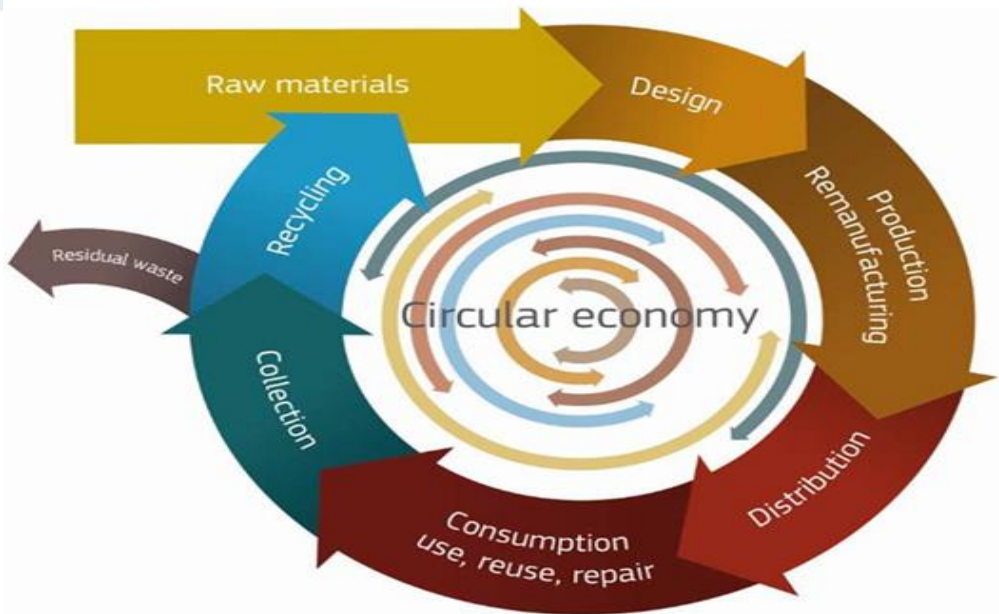
	2017 Budget (EUR million)
Call Greening the economy (SC5)	223.60
INDUSTRY 2020 IN THE CIRCULAR ECONOMY call in the area of Cross-cutting activities (Focus Areas) of the WP	74.00
SMART AND SUSTAINABLE CITIES call in the area of Cross-cutting activities (Focus Areas) of the WP	44.00
BLUE GROWTH call (SC2)	10.00
SUSTAINABLE FOOD SECURITY call (SC2)	10.00
SME INSTRUMENT call	36.00
TOTAL	397.00

...a new step...

Systemic Eco-Innovation Covering all forms of innovation



... Circular Economy



- ❖ demonstrating the economic and environmental feasibility of the circular economy
- ❖ supporting systemic innovation to obtain a systems-wide transformation
- ❖ reorganising production & consumption to maintain or enhance the value of products, components, materials and resources throughout the value chain and the life of the products
- ❖ decoupling creation of wealth and jobs from resource consumption

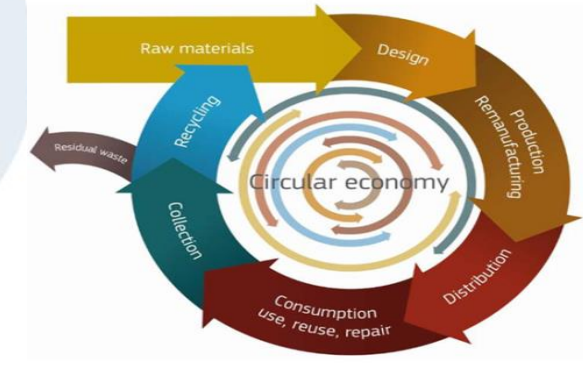
...a new Focus Area: Industry 2020 in the Circular Economy Cross-cutting call

Where you can find it?

- ✓ Horizon 2020 - Cross-cutting activities (Focus Areas)
 - General introduction
 - Circular Economy section

What is inside?

- ✓ Description of **Systemic Eco-innovation**
- ✓ Topics for SC5 in 2017 – total budget 70 M€
- ✓ Topic descriptions
- ✓ Topics open: 8 Nov. 2016
- ✓ First deadline: 7 March 2017



Water



- ✓ mainstreamed through WP 2016-2017,
as part of the systemic approach
- ✓ harnessing strong potential for European industry to become global market leader
- ✓ continuity with 2014-2015 Focus Area call on 'Water Innovation: Boosting its value for Europe'

Water

- **Topics in call 'Greening the Economy'**
- **Water in the context of the circular economy**
- **Topic identifier: CIRC-02-2016-2017**
- **Types of action: IA Innovation action**

Opening date: two-stage

- **08 November 2016 Deadline:**
- **2nd stage Deadline: 07 March 2017 17:00:00**
- **05 September 2017 17:00:00**



Nature-based solutions

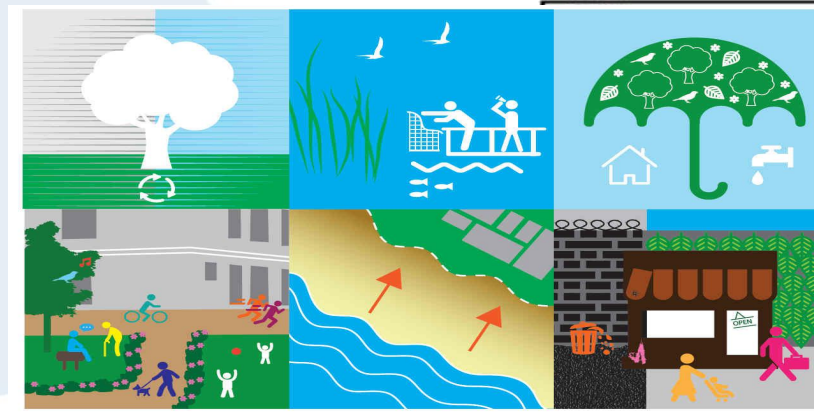


- ✓ inspired or supported by nature
- ✓ economic, social and environmental benefits and resilience
- ✓ systemic, resource-efficient locally adapted interventions
- ✓ more nature and natural features into cities and landscapes

➤ **positioning Europe as world leader in innovation through nature-based solutions**

Nature-based solutions

- how?

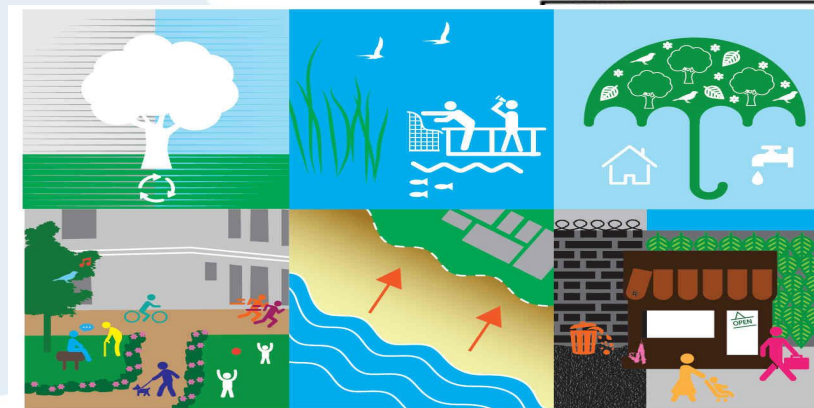


- EU framework and evidence base for cost-effectiveness and benefits of nature-based solutions
- co-design, co-implementation and upscaling of systemic, multi-purpose solutions through large scale demonstration projects, 'living labs'
- a market for nature-based solutions (demand and supply)
- innovative multi-stakeholder platform
- international co-operation on nature-based solutions to global challenges

- **Sustainable cities through nature-based solutions**
- **Nature-based solutions for territorial resilience**

Nature-based solutions

- calls



- **Topics on Sustainable cities through nature-based solutions are in cross-cutting call 'Smart and Sustainable Cities'**

Total indicative budget in 2017: €40M

- **Topics on Nature-based solutions for territorial resilience in call 'Greening the Economy'**

Total indicative budget in 2017: €12M

For both calls:

- **Topics open: 8 Nov. 2016**
- **First deadline: 7 March 2017**

Cultural heritage for sustainable growth



- ✓ A more dynamic approach to cultural heritage, beyond mere conservation
- ✓ cultural heritage as a production rather than a cost factor and a strategic resource
- ✓ cultural heritage as a catalyst for regeneration, sustainable development, economic growth and quality of life
- ✓ European reference framework and robust EU-wide evidence

Cultural heritage for sustainable growth

- **Topics in call 'Greening the Economy'**
- **Total indicative budget for this topic in 2017: €10M**
- **Topic opens: 8 Nov. 2016**
- **First deadline: 7 March 2017**



Climate services



- ✓ building Europe's capacity to respond to and improve resilience to climate change
- ✓ strengthening significantly the nascent global market for demand-driven climate services
- ✓ addressing both climate change mitigation and adaptation needs

Towards a low-carbon Europe



- ✓ deepening the analysis of possible and cost-effective trajectories for Europe to achieve its medium and long-term climate objectives
- ✓ maximising societal benefits and economic prosperity

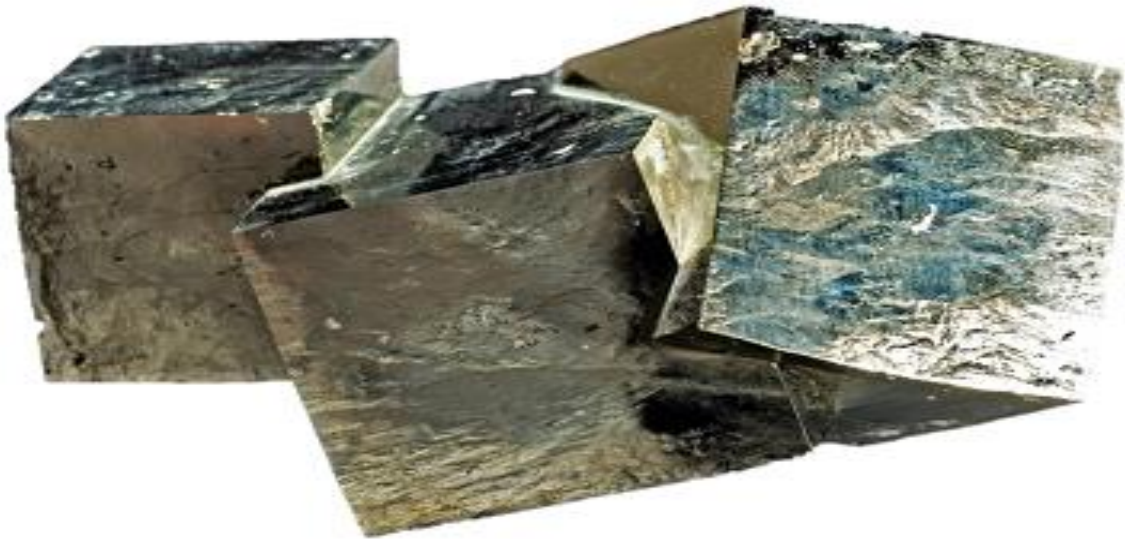
Climate services and Towards a low-carbon Europe

- **Topics in call 'Greening the Economy'**
- **Total indicative budget for these topics in 2017: €47M**
- **Topics open: 8 Nov. 2016**
- **First deadline: 7 March 2017**



Raw materials

- ✓ securing the EU's supply of primary and secondary raw materials through **Research and Innovation**



Raw materials



- **Topics in call 'Greening the Economy'**
- **Total indicative budget for these topics in 2017: €19,5M**
- **Topics open: 8 Nov. 2016**
- **First deadline: 7 March 2017**

Raw materials

Topics:



- **SC5-13 – 2016 - 2017: New solutions for sustainable production of raw materials**
- **SC5-14 – 2016 - 2017: Raw materials Innovation actions**
- **SC5-15 – 2016 - 2017: Raw materials policy support actions**
- **SC5-16 – 2016 - 2017: Raw materials international co-operation**

Earth observation



- ✓ maximising the benefits for European citizens of the Earth observation infrastructure
- ✓ developing innovative services to support more sustainable production and consumption patterns and resilient societies
- ✓ completing the in-situ component of GEOSS and Copernicus
- ✓ enabling the sharing and full, open and unrestricted access to validated Earth observation datasets
- ✓ engaging with the private sector to leverage emerging technologies and develop services

Earth observation

- **Topics in call 'Greening the Economy'**
(and in 2017 in call 'Sustainable Food Security – Resilient and resource-efficient value chains')
- **Total indicative budget for this topic in 2017: €15M**
- **Topic opens: 8 Nov. 2016**
- **First deadline: 7 March 2017**



Partner search tool



Horizon 2020: partner search tool for Societal Challenge 5

This tool supports potential applicants for the Horizon 2020 Work Programme of Societal Challenge 5 “Climate action, environment, resource efficiency and raw materials” in finding partners and building a consortium for a project proposal.

Just go to <http://partnersearch.ncps-care.eu/> and you will find a short step-by-step information on how to register and how to post a partner offer or partner search.

Furthermore, lots of useful information can also be found on the project website: <http://www.ncps-care.eu/>

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