

L'APRE per i finanziamenti europei delle tecnologie energetiche

Perugia, 11 Novembre 2016

CHIARA POCATERRA

APRE - EU Horizon 2020 National Contact Point Secure, clean and efficient energy



Excellent Science

- **European Research Council**
 - Frontier research by the best individual teams
- **Future and Emerging Technologies**
 - Collaborative research to open new fields of innovation
- **Marie Skłodowska Curie actions**
 - Opportunities for training and career development
- **Research infrastructures** (including e-infrastructure)
 - Ensuring access to world-class facilities

Industrial Technologies

- **Leadership in enabling and industrial technologies**
 - ICT, nanotechnologies, materials, biotechnology, manufacturing, space
- **Access to risk finance**
 - Leveraging private finance and venture capital for research and innovation
- **Innovation in SMEs**
 - Fostering all forms of innovation in all types of SMEs

Societal Challenges

- Health, demographic change and wellbeing
 - Food security, sustainable agriculture, marine and maritime research & the bioeconomy
-
- Smart, green and integrated transport
 - Climate action, resource efficiency and raw materials
 - Inclusive, innovative and reflective societies
 - Secure societies
- 

European Institute of Innovation and Technology (EIT)

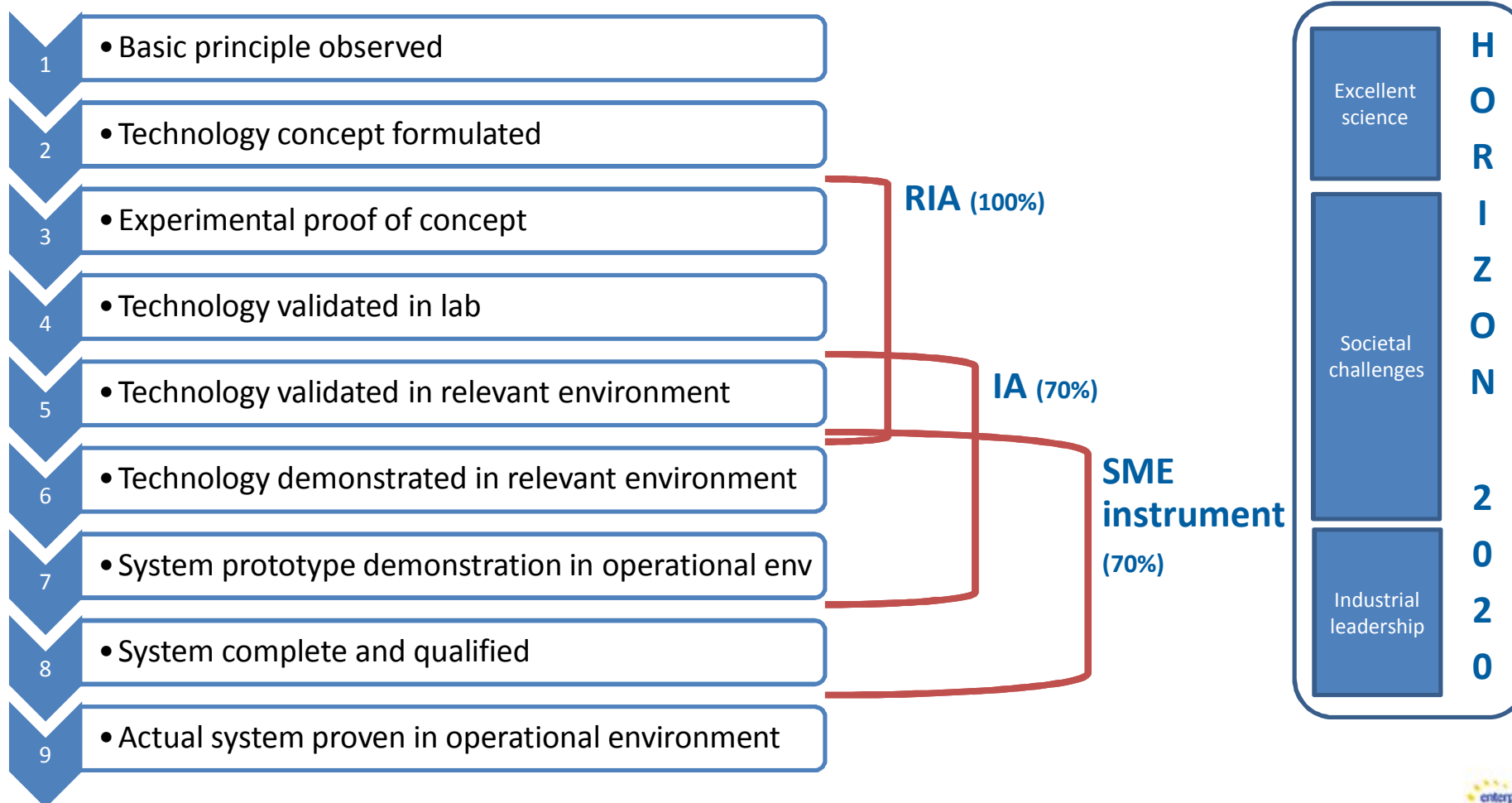
Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)



Technology Readiness Level



Secure, clean and efficient energy

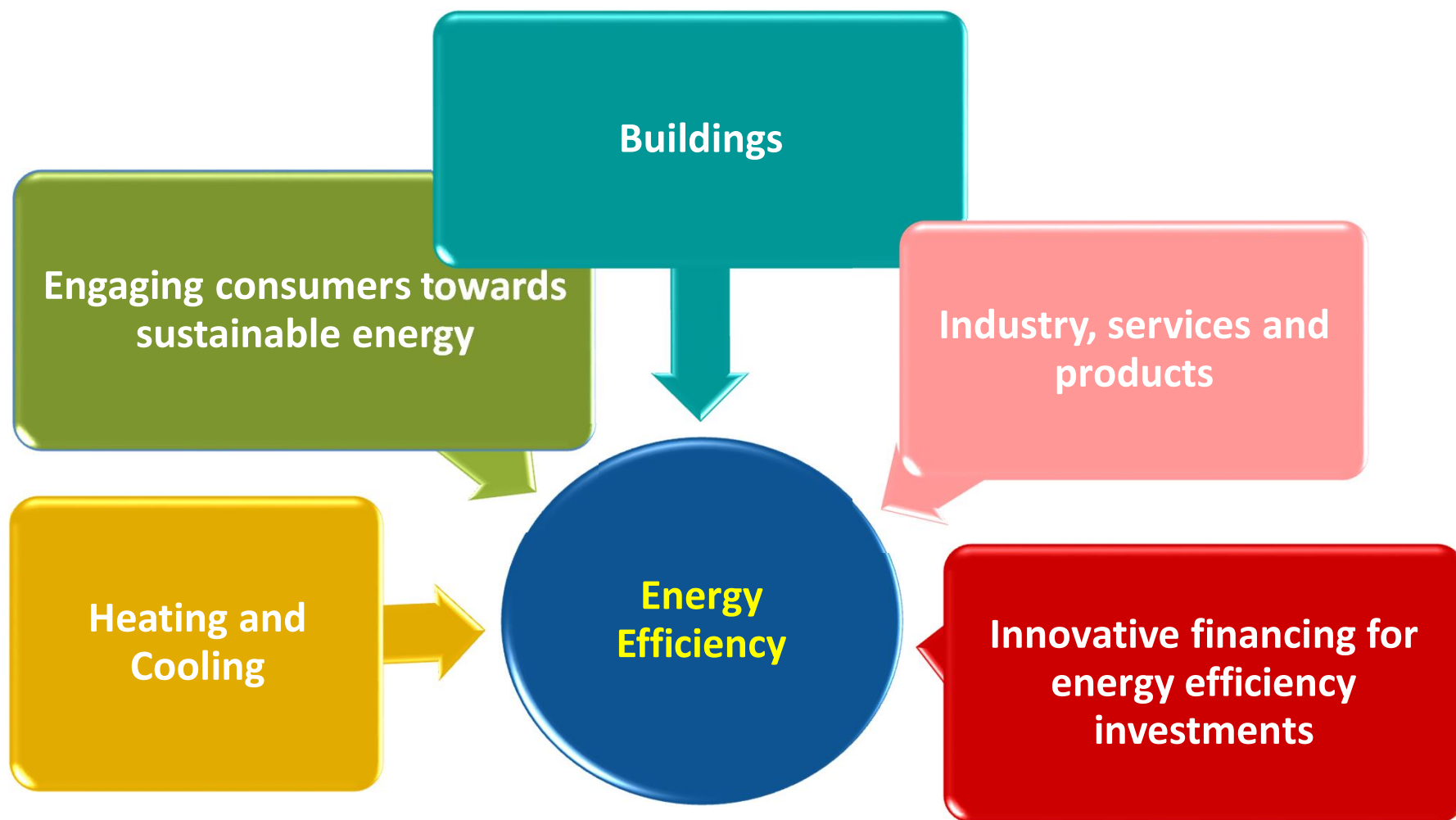
- ❖ Energy Efficiency (EE)
- ❖ Low Carbon Energy (LCE)
- ❖ Smart and Sustainable Cities (SCC)
- ❖ SME instrument
- ❖ Prizes



Call

Energy Efficiency (EE)

Sub-areas Energy Efficiency



Energy Efficiency 2017 Call

INNOVATION ACTIONS

EU support: 70%
1 to 6 M€ / project

49.000.000 €

CLOSING **19 January 2017**

COORDINATION AND SUPPORT ACTIONS

EU support: 100%
0,5 to 2 M€ / project

55.000.000 €

CLOSING **7 June 2017**

Energy Efficiency 2017 Call

Heating and Cooling

INNOVATION ACTIONS

EU support: 70%

EE-01-2017: Waste heat recovery from urban facilities and re-use to increase energy efficiency of district or individual heating and cooling systems

EE-04-2016-2017: New heating and cooling solutions using low grade sources of thermal energy

COORDINATION AND SUPPORT ACTIONS

EU support: 100%

EE-02-2017: Improving the performance of inefficient district heating networks

Energy Efficiency 2017 Call

Engaging consumers
towards sustainable
energy

INNOVATION ACTIONS

EU support: 70%

EE-07-2016-2017: Behavioural change toward energy efficiency through ICT

COORDINATION AND SUPPORT ACTIONS

EU support: 100%

EE-06-2016-2017: Engaging private consumers towards sustainable energy

EE-09-2016-2017: Engaging and activating public authorities

Energy Efficiency 2017 Call

Buildings

INNOVATION ACTIONS

EU support: 70%

EE-12-2017: Integration of Demand Response in Energy Management Systems while ensuring interoperability through Public Private Partnership (EeB PPP)

COORDINATION AND SUPPORT ACTIONS

EU support: 100%

EE-11-2016-2017: Overcoming market barriers and promoting deep renovation of buildings

EE-14-2016-2017: Construction skills

Energy Efficiency 2017 Call

Industry, services and
products

INNOVATION ACTIONS

EU support: 70%

EE-17-2016-2017: Valorisation of waste heat in industrial systems (SPIRE PPP)

EE-20-2017: Bringing to market more energy efficient and integrated data centres

COORDINATION AND SUPPORT ACTIONS

EU support: 100%

EE-15-2017: Increasing capacities for actual implementation of energy efficiency measures in industry and services

EE-16-2016-2017: Effective implementation of EU product efficiency legislation

EE-18-2017: Energy efficiency of industrial parks through energy cooperation and mutualised energy services

Energy Efficiency 2017 Call

**Innovative financing
for energy efficiency
investments**

INNOVATION ACTIONS

EU support: 70%

--

**COORDINATION AND SUPPORT
ACTIONS**

EU support: 100%

EE-22-2016-2017: Project Development Assistance

EE-23-2017: Innovative financing schemes

EE-24-2016-2017: Making the energy efficiency market investible

Industry, services and
products

Energy Efficiency 2017 Call

**PUBLIC PROCUREMENT OF
INNOVATIVE SOLUTIONS**

EU support: 35%

EE-19-2017: Public Procurement of Innovative Solutions for energy efficiency

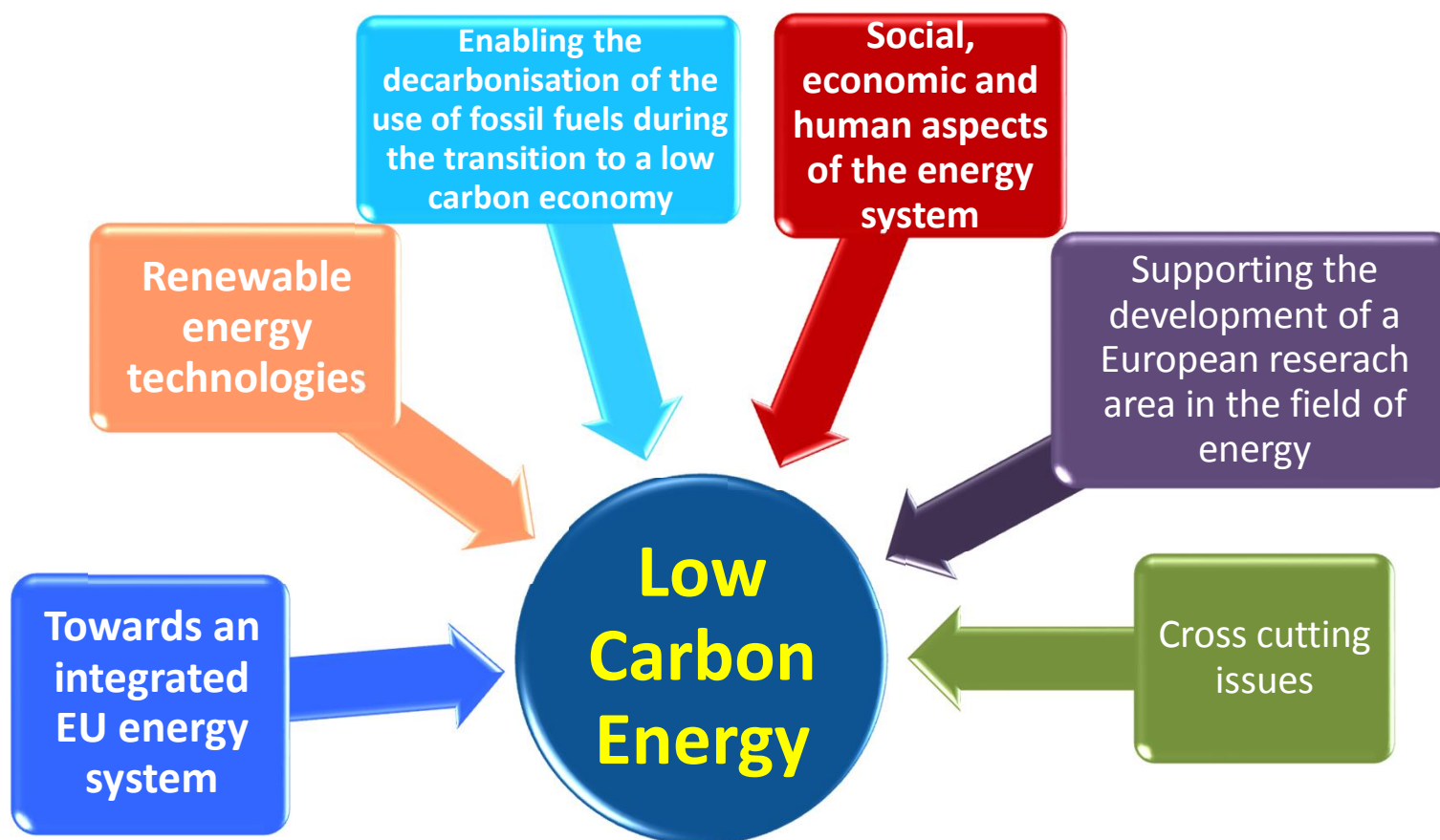
“Prepare and implement the PPI procurement and PPI contracts within the timeframe of the project to ensure the first application / commercialisation of the innovative solutions.”



call

Low Carbon Energy (LCE)

Sub-areas Competitive Low Carbon Energy



Renewable
energy
technologies

The challenges

- “ The highest priority will be given to support the next set of technologies that should be readied for cost-competitiveness and introduced in the market as soon as possible (offshore wind, certain areas of PV, CSP, tidal and wave energy, and geothermal energy)
- “ The next level of priority will be given to continue support those technologies that have started to reach cost-competitiveness but where continued efforts are needed to increase this, broaden it to the full sector, and build out the European industry position (on-shore wind, areas of PV, advanced biofuels, and solar heating and cooling)
- “ To continue appropriate levels of support for new and emerging technologies (e.g. advanced and solar fuels, ocean thermal energy conversion (OTEC), saliency gradient energy, etc.), to fully mature technologies where further innovation remains important (hydropower, PV-thermal) and to replace critical pollutant/expensive materials by ecofriendly/sustainable materials.

Topics of 2017 (1st Stage)

Type of Action : Research and Innovation Actions (RIA)

Topic	Activity	Budget (€)
LCE-06-2017	New knowledge and technologies	20,000,000
LCE-07-2016-2017	Developing the next generation technologies of renewable electricity and heating/cooling	64,500,000
LCE-31-2016-2017	Social Sciences and Humanities Support for the Energy Union	10,000,000
	Total	94,500,000

Stage 1: Deadline 29 November 2016

Stage 2: August 2017

Topics of 2017 (Single Stage)

**Deadline
 5 January 2017**

Type of Action : Research and Innovation Actions (RIA)[mainly]

Topic	Activity	Budget (€)
LCE-08-2016-2017	Development of next generation biofuel technologies	10,000,000
LCE-21-2017 (CSA)	Market uptake of renewable energy technologies	15,000,000
	Total	25,000,000

Topics of 2017 (Single Stage)

**Deadline
 16 February 2017**

Topic	Activity	Budget (€)
LCE-35-2017* (ERA-NET Cofund)	Joint Actions to foster innovative energy solutions in renewable energy technologies	26,000,000
LCE-36-2016-2017 (CSA)	Support to the energy stakeholders to contribute to the SET-Plan (geothermal energy)	600,000
	Total	26,600,000

*** Topics with 2 cut-off dates: 16/02/2017 & 07/09/2017**

Topics of 2017 (Single Stage)

**Deadline
 7 September 2017**

Topics (IA)	Activity	Budget (€)
LCE-10-2017	Reducing the cost of PV electricity	10,000,000
LCE-11-2017	Near-to-market solutions for reducing the water consumption of CSP Plants	12,000,000
LCE-12-2017	Near-to-market solutions for the use of solar heat in industrial processes	8,000,000
LCE-14-2017	Demonstration of large >10MW wind turbine	25,000,000
LCE-16-2017	2nd Generation of design tools for ocean energy devices and arrays development and deployment	7,000,000
LCE-17-2017	Easier to install and more efficient geothermal systems for retrofitting buildings	8,000,000
LCE-18-2017	EGS in different geological conditions	10,000,000
LCE-19-2016-2017	Demonstration of the most promising advanced biofuel pathways	15,000,000
LCE-20-2016-2017	Enabling pre-commercial production of advanced aviation biofuel	10,000,000
	Total	105,000,000

Topics of 2017 (Single Stage)

**Deadline
 14 February 2017**

Topic	Activity	Budget (€)
LCE-01-2016-2017 (RIA)	Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables: distribution Network	19,000,000
LCE-04-2017 (IA)	Demonstration of system integration with smart transmission grid and storage technologies with increasing share of renewables	65,290,000
LCE-05-2017 (RIA)	Tools and technologies for coordination and integration of the European energy system	30,000,000

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

The challenges

- “ Fossil fuels will be used in Europe's power generation as well as in industrial processes for decades to come.
- “ Meeting our 2050 climate target requires an evolution towards a decarbonised yet robust and secure energy system.
- “ A forward-looking approach to carbon capture and storage (CCS) and carbon capture and use (CCU) for the power and industrial sectors will be critical to reaching the 2050 climate objectives in a cost-effective way.
- “ The integration of (fluctuating) renewable electricity generation in our energy system requires new solutions for fossil fuel power plants to provide highly flexible yet efficient back-up power to stabilise the grid.
- “ Shale gas can contribute to our energy security, provided that all issues around the environmental impact are adequately addressed.

Topics of 2017 (Single Stage)

**Deadline
 5 January 2017**

<p>LCE-27-2017 Measuring, monitoring and controlling the potential risks of subsurface operations related to CCS and unconventional hydrocarbons</p>	<p>€ 15</p>
<p>LCE-28-2017 Highly flexible and efficient fossil fuel power plants</p>	<p>€ 15</p>
<p>LCE-29-2017 CCS in industry, including Bio-CCS</p> <p>LCE-30-2017 Geological storage pilots</p>	<p>€ 20</p>



call

Smart and Sustainable Cities (SSC)

Topics of 2017

Type of Action : Innovation Actions (IA)

Topic	Activity	Budget (€)
SCC-1-2016-2017	Smart Cities and Communities lighthouse projects	69,500,000
SCC-02-2016-2017	Demonstrating innovative nature-based solutions in cities	44,000,000

SCC-1-2016-2017: **Deadline 14 February 2017**

SCC-02-2016-2017: **Deadline 07 March 2017 (First stage)**

05 September 2017 (Second stage)



call

SME instrument

Fase 1: concetto e valutazione della fattibilità



Input:

Idea/Concept in "**Business Plan I**"
 (~ 10 pages)

Main Activities:

Feasibility of concept
 Risk assessment
 IP regime
 Partner search
 Design study
 Pilot application

Output: elaborated "**Business plan II**"

Lump sum: around 50.000 €

~ 6 months

Fase 2: R&D, dimostrazione, market replication



Input:

"**Business plan II**" + "**Description of activities under Phase 2**" (~ 30 pp.)

Main Activities:

Development Prototyping
 Testing
 Piloting
 Miniaturisation
 Scaling-up
 Market replication

Output: investor-ready

"**Business plan III**"

0,5-2,5 (5) M€ EC
 funding

~ 12 to 24 months

Coaching

Fase 3: Commercializzazione



Input:

"**Business plan III**"
 +

Opportunities:

'**Quality label**' for successful
 Phase 1 & 2

Easier access to private finance

Support via networking, training,
 coaching, information, addressing
 i.a. IP management, knowledge
 sharing, dissemination

SME window in the EU financial
 facilities (debt facility and equity
 facility)

No direct funding

Le scadenze SME Instrument 2016-2017

2016	
<u>Fase 1</u>	<u>Fase 2</u>
24/02/2016	03/02/2016
03/05/2016	14/04/2016
07/09/2016	15/06/2016
09/11/2016	13/10/2016
2017	
<u>Fase 1</u>	<u>Fase 2</u>
15/02/2017	18/01/2017
03/05/2017	06/04/2017
06/09/2017	01/06/2017
08/11/2017	18/10/2017

call

Prizes

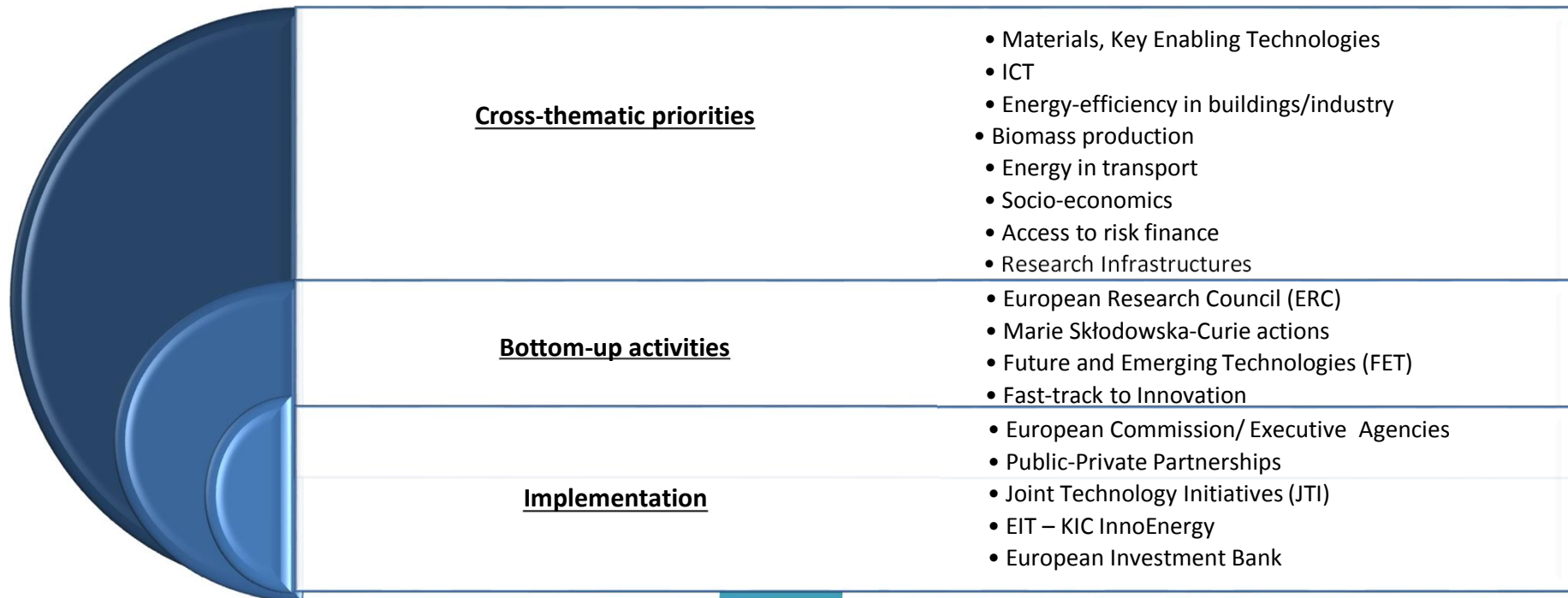


Prizes

	Budget	Deadline
Horizon prize for Integrated Photovoltaic System in European Protected Historic Urban districts	750,000	26 September 2018
Horizon prize for CO2 REUSE	1,500,000	3 April 2019
Horizon prize for LOW CARBON HOSPITAL	1,000,000	3 April 2019


Horizon 2020 offers many opportunities also outside the Energy Challenge

More than **400 M€ / year** for energy issues available in other programme parts -> check topics of other H2020 parts



PARTNER SEARCH APRE

<http://partnersearch.apre.it/>


APRE
Partner Search Services

[Home](#)
[Partner Search Database](#)
[Upload your partner search](#)
[Profile Database](#)
[Upload your profile](#)

home > profile database

Profiles Database

Search your profile by keywords Search

or choose a theme below

Excellence Science

N. of ongoing Profiles

› Future and emerging technology technology	110
---	-----

Industrial Technologies

Leadership in enabling and industrial technologies (LET)

N. of ongoing Profiles

› ICT	142
› Nanotechnologies, materials, biotechnology, manufacturing	0
› Space	17

Societal Challenges

N. of ongoing Profiles

› Health, demographic change and wellbeing	136
› Food security, sustainable agriculture, marine and maritime research & the bioeconomy	154
› Secure, clean and efficient energy	143
› Smart, green and integrated transport	87
› Climate action, resource efficiency and raw materials	129
› Inclusive, innovative and reflective societies	1
› Security society	56

Useful Links

- [Horizon 2020](#)
- [National Contact Points](#)
- [Participant Portal](#)
- [Helpdesk](#)

Further Information

- “ **Horizon 2020 Helpdesk - Research Enquiry Service:**
<http://ec.europa.eu/research/index.cfm?pg=enquiries>
- “ **Energy National Contact Points (NCPs) Network:**
<http://www.c-energy2020.eu/>
- “ **Enterprise Europe Network:**
<http://een.ec.europa.eu/about/branches>
- “ **Participant Portal:**
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>



GRAZIE PER L'ATTENZIONE!

APRE
Agenzia per la Promozione della Ricerca Europea
via Cavour, 71
00184 - Roma
www.apre.it
Tel. (+39) 06-48939993
Fax. (+39) 06-48902550

Chiara Pocaterra
pocaterra@apre.it
Enrico Mazzon
mazzon@apre.it