HORIZON 2020
Secure, clean and efficient energy challenge

National Information Day - Portugal

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Outline

• EASME
• H2020 structure and overview
• H2020 Societal Challenges
• Secure, clean and efficient energy:
  • Energy Efficiency
  • Smart Cities and Communities
  • Low carbon energy
• Final notes
EACI → EASME

• Executive Agency for Small and Medium-Sized Enterprises

• The EASME replaces the EACI (Executive Agency for Competitiveness and Innovation)

EASME

• Most of the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises – COSME

• Part of Horizon 2020, in particular:
  • The SME instrument
  • The Energy Efficiency part of ‘Secure, Clean and Efficient Energy’;
  • The calls for proposals in the fields of waste, water innovation and sustainable supply of raw material under the challenge ‘Climate action, Environment, Resource Efficiency and Raw Materials’

• Some areas of the ‘Industrial leadership’ challenge:
  • part of the Leadership in Enabling and Industrial Technologies
  • Innovation in SMEs and
  • The Sustainable Industry Low Carbon Scheme (SILC II)

• The EU programme for the Environment and Climate action (LIFE)
• The European Maritime and Fisheries Fund (EMFF)
• The legacy of the Intelligent Energy – Europe programme and the Eco-innovation initiative
EASME

Unit B1 Energy

• Manages the Energy Efficiency part of ‘Secure, Clean and Efficient Energy’ challenge
• The same team that was managing the IEE programme (EACI's EE+RES units)

Contact details:
EACI-IEE-enquiries@ec.europa.eu
HORIZON 2020

The New EU Framework Programme for Research and Innovation

2014-2020
Horizon 2020

• A **single programme** bringing together three separate programmes/initiatives*
• Coupling **research** to **innovation** – from research to retail, all forms of innovation
• Focus on **societal challenges** facing EU society, e.g. health, clean energy and transport
• **Simplified access**, for all companies, universities, institutes in all EU countries and beyond

* The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)
Basic principles

• **2-year work programme** to allow for better preparation of applicants
  ➤ One call BUT several deadlines and different evaluation processes
  ➤ Topics can be repeated BUT challenges could change
• **Challenge-based approach** (not prescribing technology options)
• Cross-cutting actions
• Focus areas
• Use of **TRLs** to specify scope of activities
• Indicative **project size** range
• Grant signature within **8 months** from the deadlines
Time to grant

Deadline
Informing Applicants
Grant signature

0
5
8

Months
Technology Readiness Levels

**TRL 0:** **Idea.** Unproven concept, no testing has been performed.

**TRL 1:** **Basic research.** Principles postulated and observed but no experimental proof available.

**TRL 2:** **Technology formulation.** Concept and application have been formulated.

**TRL 3:** **Applied research.** First laboratory tests completed; proof of concept.

**TRL 4:** **Small scale prototype** built in a laboratory environment ("ugly" prototype).

**TRL 5:** **Large scale prototype** tested in intended environment.

**TRL 6:** **Prototype system** tested in intended environment close to expected performance.

**TRL 7:** **Demonstration system** operating in operational environment at pre-commercial scale.

**TRL 8:** **First of a kind commercial system.** Manufacturing issues solved.

**TRL 9:** **Full commercial application,** technology available for consumers.
Horizon 2020 (2014-2020)

R&D - Public Private Partnerships

Market uptake activities

2007-2013: FP 7 → First application → Intelligent Energy Europe
Relevant type of actions

Research and Innovation Actions (RIA)
They are actions with Research and Development activities as the core of the project intending to establish new scientific and technical knowledge and/or explore the feasibility of a new or improved technology, product, process, service or solution:

- may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment
- may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment

100% funding rate
Relevant type of actions

Innovation Actions (IA)

'Innovation action' means an action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

70% funding rate (100% for non-profit legal entities)
Overlaps RIA / IA

• 'prototyping', 'testing', 'demonstrating' and 'piloting' not specific to innovation activities; they are also used to describe research and development activities (100% funding)
• In the case of a Research and Innovation action, these activities are undertaken on a small scale prototype, in a laboratory or simulated environment
• Innovation projects may include limited research and development activities.
• **Type of project expected, funding and Technology Readiness Level scale indicated in the WP topics**
Relevant type of actions

Coordination and Support Action (CSA)

Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries. Substantially similar to FP7.

100% funding rate
Horizon 2020

Participants portal

The single entry point for beneficiaries

Three priorities

1. Excellent science
2. Industrial leadership
3. Societal challenges
Priority 3. Societal challenges

• Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport, etc.) cannot be achieved without **innovation**.

• Breakthrough solutions come from **multi-disciplinary collaborations**, including social sciences & humanities.

• Promising **solutions** need to be **tested, demonstrated and scaled up**!
1. Health, Demographic Change and Wellbeing
2. Food security, Sustainable agriculture and forestry, Marine, Maritime and Inland water, Research and the Bio-economy

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 - ENERGY

Call for proposals 2014-2015*

- Energy Efficiency
  - 21 topics

- Smart Cities & Communities
  - 6 topics

- Low Carbon Energy
  - 22 topics

*documents for Call 2015 are only indicative and may be subject to changes
Structure of the topics

1. SPECIFIC CHALLENGES
   • What is/are the problems? / where do we want to get?
   • Background information

2. SCOPE
   • Where should proposals focus? / areas of action?
   • Specific information

3. EXPECTED IMPACT
   • e.g. What is the impact in terms of energy saved/RES triggered / investment / jobs created / stakeholders engaged / technology innovation, etc.

Important note: challenges are not prescriptive. Proposers need to come up with solutions/proposals that are excellent, high-impact and use resources effectively.
Energy Efficiency
H2020-EE-2014 / 2015

Topics in 4 main areas:

1. Buildings and consumers: EE1 - EE12
2. Heating and cooling: EE12 - EE14
3. Industry and products: EE15 - EE18
4. Finance for sustainable energy: EE19 - EE21
EE 1: Manufacturing of prefabricated modules for renovation of buildings, PPP

**Challenges:** Lower cost, ease building integration process, and lead to reduction in total buildings primary energy consumption.

**Scope:** Mainly demonstration activities.

**Impact:** Energy savings, reduction renovation costs and time, etc.

**TRL:** 5-7

**Type of action:** IA (70%)
Note on Public-Private Partnerships in Horizon 2020

The objectives of PPPs are:

• To solve problems together with industry
• To strengthen European industrial leadership
• To facilitate prioritisation of R&I in line with Europe 2020 objectives and industry needs
• To strongly commit industry to joint objectives
Two types of PPPs in Horizon 2020

**Contractual PPPs:** budget is only committed on an annual basis through H2020 calls in WPs, prepared on the basis of an industry-developed multi-annual roadmap and a contractual arrangement which specifies an indicative 7 years EU funding, and the commitments of industry to match this and to additional investments outside the PPP calls with high leverage factors, but not legally binding.

**Joint Technology Initiatives:** like the contractual PPPs, but with ring fenced 7 year budget, the JU launching the calls (where derogations to H2020 are possible) and with the additional commitments of industry outside the calls inserted in the legislation.
# PPPs in Horizon 2020

## Joint Technology Initiatives
- Innovative Medicines (IMI)
- Clean Sky
- Single European Sky ATM Research (SESAR)
- Fuel Cells and Hydrogen (FCH)
- Electronic Components and Systems (ECSEL - old ARTEMIS + ENIAC)

**New:**
- Bio-based Industries (BBI)

## Contractual PPPs
- Factory of the Future (FoF)
- Energy-efficient Buildings (EeB)
- Green Vehicles (EGVI)
- Future internet (5G)
- Sustainable Process Industry (SPIRE)
- Robotics
- Photonics
- High Performance Computing
For more information:

Information days on Research PPP (16-17/12/2013):
http://ec.europa.eu/research/industrial_technologies/information-day-for-ppp-2013_en.html

Energy-Efficient Buildings Association (E2BA):
http://www.e2b-ei.eu/default.php

Sustainable Process Industry through Resource and Energy Efficiency Association (A.SPIRE):
http://www.spire2030.eu/
EE 2: Building design for new highly energy performing buildings, PPP

Challenges: Development and demonstration of solutions which reduce cost of new buildings with at least NZE performance levels and accelerate market uptake.

Scope: Demonstration projects where buildings are active contributors to production and environmental quality (e.g. for new districts planned), etc.

Impact: Increase the number of 'nearly zero-energy' buildings.

TRL: 5-7

Type of action: IA (70%)
EE 3: Energy strategies and solutions for deep renovation of historic buildings, PPP

**Challenges:** Innovative, affordable, non-invasive, reversible solutions to deliver significant improvements in energy efficiency. Insulation, monitoring technologies and systems, integration of renewables, etc.

**Scope:** Demonstrate the effectiveness of the technologies, methodologies, systems or tools developed and prove the replication potential.

**Impact:** Optimised design and implementation of renovation projects for historic buildings.

**TRL:** 4-6

**Type of action:** RIA (100%)
EE 4: Construction skills

**Challenges:** Addressing the gap in knowledge and skills in the construction sector through building on BUILD UP Skills.

**Scope:** Upgrade or establishing large-scale qualification and training schemes in order to increase the number of skilled building workers. Includes also qualification and skills of middle and senior level building professionals.

**Impact:** e.g. 1 million Euro of EU support = increase the skills of at least 2000 craftsmen.

**Type of action:** CSA (100%)
EE 5: Increasing energy performance of existing buildings ... and creating a market for deep renovation

Challenges: Process and organisation innovations and creating a market for deep renovation. Removing market barriers. Product and process innovation, etc.

Scope: Development, testing and/or implementation of regulations, decision-making tools for renovation strategies, quality standards and enabling conditions to finance deep renovation of buildings, etc.

Impact: e.g. renovation of existing buildings towards high energy performance, should result in energy savings of at least 25 GWh/year per million EUR of EU support

Type of action: CSA (100%)
EE 6: Demand response in blocks of buildings

Challenges: Demand response can increase users participation in energy markets and profit from optimal price conditions, making the grid (heat, cold, electricity) more efficient and contributing to the integration of renewable energy sources.

Scope: Cost effective, real time optimisation of energy demand, storage and supply in blocks of buildings with the help of intelligent energy management systems.

Impact: Demonstrate demand response at the level of blocks of buildings, quantify energy, cost saving, etc.

TRL: 6-7

Type of action: IA (70%)
EE 7: Enhancing the capacity of public authorities to plan and implement sustainable energy policies and measures

**Challenges:** Public authorities play a key role in the reduction of EU energy consumption and the increase of renewable energy capacity.

**Scope:** Empowering public authorities to plan, finance and implement ambitious sustainable energy policies and plans. Especially sectors with high energy saving potential. Capacity building.

**Impact:** e.g. Impacts must be measured in terms of number of public officers influenced and number of new or improved policies and plans.

**Type of action:** CSA (100%)
EE 8: Public procurement of innovative sustainable energy solutions.

Challenges: Considering the large volume of public spending (19% of EU GDP, or roughly EUR 2,200 billion in 2009), the public sector constitute an important driver to stimulate market transformation.

Scope: Reducing barriers to sustainable energy public spending through e.g. sharing best practice and involve central purchasing organisations.

Impact: 1 million Euro of EU support is expected to trigger the launch of public tenders for the purchase of sustainable energy products, buildings or services resulting in savings of more than 25 GWh.

Type of action: CSA (100%)
**EE 9: Empowering stakeholders to assist public authorities in the definition and implementation of sustainable energy policies and measures**

**Challenges:** While public authorities have an important role to play to develop energy efficiency policies and plans, the latter require the full involvement of private stakeholders and the civil society for their effective implementation.

**Scope:** Projects to target specific actors among stakeholders (utilities, industry, financing institutions, non-gov. org., consumer associations, interest groups, trade unions...). Large scale capacity building or engagement activities.

**Impact:** *e.g.* influence hundreds of stakeholders playing a key role in the definition and successful implementation of national, regional or local policies.

**Type of action:** CSA (100%)
EE 10: Consumer engagement for sustainable energy

**Challenges:** Residential use of energy is responsible for 28% of EU energy consumption. The barriers to consumer energy saving have been known for more than 30 years but are still present.

**Scope:** Reducing market barriers through changing behaviour of consumers using market segmentation and focus on "action", e.g. through use of social innovations and comparative ICT solutions and educational activities or tools.

**Impact:** e.g. each million € of EU support expected to deliver annual energy savings of around 10% for at least 5,000 households (around 8 GWh/year of savings).

**Type of action:** CSA (100%)
EE 11: New ICT-based solutions for EE

**Challenges:** Motivate and support behavioural change to achieve greater EE taking advantage of ICT.

**Scope:** Creation of innovative IT ecosystems that would develop services and applications making use of information generated by energy consumers or captured from sensors and micro generation.

**Impact:** e.g. accelerate wide deployment of innovative ICT solutions for energy efficiency.

**Type of action:** RIA (100%).
EE 12: Socioeconomic research on energy efficiency

**Challenges:** formulate long-term strategies and define cost-effective policies, policy makers.

**Scope:** Foresight socio economic activities informing the debate on the development and monitoring of EE strategies looking to the horizon 2030 and beyond. Multiple benefits of EE or evolution of social, economic, cultural and educational barriers. Priority to development of micro-economic analysis of the updated EE measures.

**Impact:** e.g. examples of positive impacts on energy efficiency policy development

**Type of action:** CSA (100%)
EE 13: Technology for district heating and cooling

Challenges: District heating and cooling systems need to be more efficient, intelligent and cheaper.


Impact: e.g. reduce the energy consumption of space and water heating by 30 to 50% compared to today's level.

TRL: 4-6

Type of action: RIA (100%)
EE 14: Removing market barriers to the uptake of efficient heating and cooling solutions

Challenges: Action is needed to remove non-technological (including legislation) barriers to exploit the full potential of efficient heating and cooling solutions.

Scope: Innovative measures to accelerate the replacement of old, inefficient pace heaters and packaged cooling systems with products having A +++ to A+ energy labels. Inspection of heating and cooling systems.

Impact: e.g. significant impacts should also be measured in terms of investment made by stakeholders in sustainable energy.

Type of action: CSA (100%)
EE 15: Ensuring effective implementation of EU product efficiency legislation.

**Challenges:** By 2020 full implementation of the EU product efficiency legislation should be one of the most important contributions to the EU energy efficiency target.

**Scope:** Building up monitoring, verification and enforcement of the EU's related products policy.

**Impact:** e.g. every million Euro of EU support is expected to generate at least 15 GWh/year of energy losses avoided from non-compliance.

**Type of action:** CSA (100%)
EE 16: Organisational innovation to increase energy efficiency in the industry

**Challenges:** The industry sector could further reduce its consumption by at least 13%, etc.

**Scope:** Removing market barriers like lack of expertise and information on energy management. Uptake of cross-cutting innovative technologies. Industrial systems efficiency benchmarking. Sector specific technology pathways. Energy management in SMEs and industry. Human and organisational change.

**Impact:** e.g. every million Euro of EU support is expected to result in savings of at least 25 GWh per year.

**Type of action:** CSA (100%)
EE 17: Driving energy innovation through large buyer groups

**Challenges:** Buyers of energy-related products can foster innovation by specifying energy performance levels that are higher than the best levels available on the market.

**Scope:** Actions where groups of buyers can set higher-than-available performance levels which manufacturers of sustainable energy products are called to meet through product innovation.

**Impact:** New energy-using or -producing products with at least 25% better performance than the best available products

**Type of action:** CSA (100%)
EE 18: New technologies for utilization of heat recovery in large industrial systems..., SPIRE

Challenges: Heat recovery represents an important and unexplored opportunity for reducing energy use in industrial processes and in heating and cooling.

Scope: Research and demonstration of technologies to recover waste heat from industrial processes. Validation at real production conditions with demo sites, testing in industrial facilities.

Impact: e.g. viable solutions and technologies allowing recovering at least 15% of process heat, etc

TRL: 4-7

Type of action: RIA (100%)
EE 19: Improving the financeability and attractiveness of sustainable energy investments

**Challenges:** Sub-optimal levels of investment in sustainable energy (in particular energy efficiency) are linked to a lack of trust of investors and financiers in the financial viability of sustainable energy measures, etc.

**Scope:** Activities that foster dialogue with and between financial market actors, standardisation and valuation entities, industry, public authorities, consumers and property owners.

**Impact:** Reduced uncertainty as regards investments into sustainable energy in terms of increased investors' confidence and trust

**Type of action:** CSA (100%)
EE 20: Project development assistance for innovative, bankable and aggregated sustainable energy investment schemes and projects

Challenges: Mobilise all relevant stakeholders, draw up investment inventories, develop feasibility studies, financial engineering instruments, and to address legal and procurement issues.

Scope: Project development assistance support to Public and private project promoters such as public/private infrastructure operators, retail chains, cities and SMEs/industry, leading to innovative, bankable sustainable energy investments schemes.

Impact: Every million Euro of Horizon 2020 support must trigger investments worth at least EUR 15 million

Type of action: CSA (100%)
EE 21: Development and market roll-out of innovative energy services and financial schemes for sustainable energy

**Challenges:** The deployed public funds have to be matched and multiplied by private sector capital, to address the financing gap.

**Scope:** Roll-out of business models for innovative EE services. Replication of successful innovative financing solutions. Implementation of large-scale capacity building for public authorities and SMEs to set-up or use innovative financing schemes for sustainable energy.

**Impact:** e.g every million Euro of EU support invested into the relevant activities is expected to deliver savings of at least 25 GWh/year

**Type of action:** CSA (100%)
## Call Energy Efficiency: Budget

<table>
<thead>
<tr>
<th>Topics*</th>
<th>2014 (M€)</th>
<th>2015 (M€)</th>
<th>Source</th>
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<td>EE1, EE2</td>
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<td>PPP</td>
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<td>EE18</td>
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<td>32,8</td>
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<td>Market uptake in Buildings, Consumers, Industry and Products</td>
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<td>Empowering public authorities and its stakeholders</td>
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<td>EE19, EE20, EE21</td>
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<tr>
<td>Finance for sustainable energy including project development assistance</td>
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* Corresponds to the topic code in the work-programme
## Call Energy Efficiency: Deadlines

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<td>EE2, EE18</td>
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Energy efficiency call
Single entry point for queries

Contact the EASME Energy Unit team via:

EACI-IEE-enquiries@ec.europa.eu
SCC1: Lighthouse Projects

- 4-5 projects
- €90m

Call 2014

SCC2: Data Collection
- €1m

SCC4: Public Procurers' Networks
- €1m

Call 2015

SCC3: System Standards
- €1m

SCC5: Solutions Competition
- €1m

5-6 projects
€106m
Innovate: Go beyond what exists

- **Concerto in FP6** (2000-2006)
- **Smart Cities in FP7** (2007-2013)

- Take to the next level

- [www.concerto.eu](http://www.concerto.eu)

22 projects
58 communities
Integrate

- 3 dimensions
- In same location
Replicate

• 2-3 Lighthouse cities
• 2-3 Follower cities
• Multi-sector input
• Embedded in urban plans
Administration

• ≥2 years monitoring
• Costs
• Time to grant
• Financial viability
• Commitment
## Call Smart cities & communities: Budget

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<td>SCC2</td>
<td>Developping framework for monitoring</td>
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<td>SCC3, SCC5</td>
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Call Smart Cities and Communities
Single entry point for queries

Alexander.KOLOMYJ\textunderscore CZUK@ec.europa.eu
THE EU FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

Competitive Low-Carbon Energy
H2020-LCE-2014 / 2015

Topics in 9 areas:

1. New knowledge and technologies: LCE1
2. RES electricity and heating/cooling: LCE2-4
3. Modernising the European electricity grid: LCE 5-7
4. Energy storage technologies: LCE8-10
5. Sustainable biofuels for transport: LCE 11-14
6. Decarbonisation of the use of fossil fuels: LCE 15-17
7. Support European Research Area: LCE 18-19
8. Social, environmental and economic aspect: LCE 20-21
9. Cross-cutting issues: LCE 22
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<tr>
<td>LCE 1</td>
<td>2 &gt; 3-4</td>
<td>RIA</td>
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<tr>
<td><strong>Renewable electricity and heating/cooling</strong></td>
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<td>LCE 4</td>
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- **New knowledge and technologies**
- **Developing the next generation technologies of renewable electricity and heating/cooling**
- **Demonstration of renewable electricity and heating/cooling**
- **Market uptake of existing and emerging renewable electricity, heating and cooling technologies**
<table>
<thead>
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<td>LCE 5</td>
<td>Innovation and technologies for the deployment of meshed offshore grids</td>
<td>6-7 &gt; 8</td>
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<td>LCE 6</td>
<td>Transmission grid and wholesale market</td>
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<td>LCE 7</td>
<td>Distribution grid and retail market</td>
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<td>LCE 8</td>
<td>Local/small scale storage</td>
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<td>LCE 9</td>
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<td>LCE 10</td>
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<td><strong>Enabling the decarbonisation of the use of fossil fuels</strong></td>
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<td>LCE 15</td>
<td>Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS</td>
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<td>Highly flexible and efficient fossil fuel power plants</td>
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<td>Social, environmental and economic aspects of the energy system</td>
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<td>LCE 20 The human factor in the energy system</td>
<td>RIA, CSA</td>
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<td>LCE 21 Modelling and analysing the energy system, its transformation and impacts</td>
<td>RIA</td>
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<td>Cross-cutting issues</td>
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<td>LCE 22 Fostering the network of National Contact Points</td>
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## Call Competitive low-carbon energy:

### Budget (M€)

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<td>LCE22</td>
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* Corresponds to the topic code in the work-programme.
Call Competitive low-carbon energy: Deadlines

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* Corresponds to the topic code in the work-programme
Call Competitive low-carbon energy
Single entry points for queries

• Call coordination & LCE1: Philippe Schild
• LCE2 & LCE3: Fabio Belloni (PV), Piero de Bonis (CSP & RHC), Matthijs Soede (Wind & Ocean), Geothermal (Susanna Galloni) & Hydropower (Erich Naegele)
• LCE4 & LCE14: Maria Velkova
• LCE11, LCE12 & LCE13: Maria Georgiadou
• LCE15, LCE16 & LCE17: Jeroen Schuppers
• LCE18, LCE20, LCE21, LCE22: Martin Huemer
• LCE19: Arnaud Mercier

Corresponds to the topic code in the work-programme
Email: name.surname@ec.europa.eu
Final notes

• Strong participation by SMEs will be promoted
• Around 20% of the total budget for societal challenges (and LEITs) to go to SMEs
• A new SME instrument will be used across all societal challenges as well as for the LEITs
• A dedicated activity for research-intensive SMEs in 'Innovation in SMEs'
• 'Access to risk finance' will have a strong SME focus (debt and equity facility).
Final notes

Call SIE: SMEs and Fast track to Innovation for Energy

• Stimulating the innovation potential of SMEs for a low carbon and efficient energy system (SME Instrument)
  - Phase 1: feasibility study (i.e. risk assessment, market study, innovation strategy development...)  
  - Phase 2: innovation project with emphasis on demonstration and market replication (i.e. prototyping, testing, miniaturisation, design...)  
  - Phase 3: commercialisation phase; access to financial facilities of the "Access to Risk Finance"

• Fast Track to Innovation - Pilot
  - Continuously open call, bottom-up driven logic, <5 legal entities, <3M€
Final notes

Other parts of H2020 of direct relevance to Energy

- LEIT – KET materials, nano, electronics, manufacturing, processing
- FET-open and FET-pro-active
- Research Infrastructures
- ERC, EIT
- SME instrument

Close links

- Transport (societal challenge)
- Agriculture, marine, bio-economy (societal challenge), including Blue growth (strategic focus area)
- Climate action, resource efficiency, raw materials (societal challenge)
- Secure societies (societal challenge)
Thank you for your attention

H2020 general website:

National contact point:
http://www.gppg.fct.pt/h2020/