Energy Information Day
14th - 15th September 2015

THE EU FRAMEWORK PROGRAMME
FOR RESEARCH AND INNOVATION

HORIZON 2020

Energy Efficiency Calls 2016-2017

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WP 2016-2017 – Energy Efficiency:

• responds to **policy challenges & priorities**
• builds on the **Scoping Paper, the SET-Plan Integrated Roadmap priorities**

**In this context the WP:**

• focuses on **consumer-related issues**
• proposes more topics in **heating and cooling**
• introduces a multi-level approach to eliminate market barriers to **finance for energy efficiency**
Policy agenda

- 2020 & 2030 Framework for Climate and Energy
  
- Energy Union and its third pillar – Energy Efficiency

Concrete actions:

1. EU Energy Efficiency legislation implementation and review
2. Strategy for Heating and Cooling
3. New Deal for energy consumers
4. EU framework to finance Energy Efficiency
Energy Efficiency legislative framework: implementation & review

Review
Energy Efficiency Directive

Review
Energy Labelling and Ecodesign Directives

Review
EPBD*

*Public consultation until 31/10/2015
Heating & Cooling Strategy

- Communication foreseen by end of 2015,
- Broad consultation of stakeholders
- Input to legislation review

Tackling heating and cooling consumption in buildings, industry, **linking with electricity** system, **waste heat** recovery
Consumers

**New deal for energy consumers:**
empowering the consumer, deploying demand side response, using smart technologies, protect vulnerable customers, ...

**EE WP 2016-2017 :**
- A specific consumer-focused area with four dedicated topics
- Consumer-oriented approach in other parts
EU framework to finance Energy Efficiency

100 bn € investments/year needed to achieve EE targets

Existing framework:
EFSI, ESIF, H2020, Smart Finance for Smart Buildings

Challenges:
• Aggregation - Project development assistance
• De-risking - Standardisation and benchmarking
• Market based culture - Innovative financing schemes
H2020 budget of nearly 80 billion € (2014-2020)

- **Industrial Leadership**: EUR 17.0 billion
- **Excellent Science**: EUR 24.4 billion
- **European Institute of Innovation and Technology**: EUR 2.7 billion
- **Other**: EUR 3.2 billion
- **Euratom (2014-2018)**: EUR 1.6 billion
- **Societal Challenges**: EUR 29.7 billion

A single programme coupling research to innovation
<table>
<thead>
<tr>
<th>Societal Challenges</th>
<th>Budget 2014-20 (EUR billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Health, demographic change and wellbeing</td>
<td>7.5</td>
</tr>
<tr>
<td>2. Food security, sustainable agriculture and forestry, marine and maritime and</td>
<td>3.9</td>
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<tr>
<td>inland water research and the Bioeconomy</td>
<td></td>
</tr>
<tr>
<td><strong>3. Secure, clean and efficient energy</strong></td>
<td><strong>5.9</strong></td>
</tr>
<tr>
<td>4. Smart, green and integrated transport</td>
<td>6.3</td>
</tr>
<tr>
<td>5. Climate action, environment, resource efficiency and raw materials</td>
<td>3.1</td>
</tr>
<tr>
<td>6. Inclusive, innovative and reflective societies</td>
<td>1.3</td>
</tr>
<tr>
<td>7. Secure societies</td>
<td>1.7</td>
</tr>
</tbody>
</table>
### Secure, clean and efficient energy

<table>
<thead>
<tr>
<th>Call</th>
<th>2016 (M€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency</td>
<td>93</td>
</tr>
<tr>
<td>Smart Cities and Communities</td>
<td>60.5</td>
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<tr>
<td>Competitive Low-Carbon Energy</td>
<td>351.54</td>
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<tr>
<td>SME Instrument</td>
<td>46</td>
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<tr>
<td>Fast Track to Innovation</td>
<td>13.7</td>
</tr>
<tr>
<td>Other actions (e.g. tenders; ELENA; InnovFIN...)</td>
<td>107.91</td>
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</tbody>
</table>
Energy Efficiency

Types of action

**Research & innovation**
Actions that establish new knowledge or develop more energy-efficient technologies and solutions.
*EU funding rate: 100%.*

**Innovation**
Actions that demonstrate the viability of new technologies and solutions or support their first deployment in the market.
*EU funding rate: 70%.*

**Coordination & support**
Actions that improve skills, mobilise large-scale investments or facilitate EU policy implementation.
*EU funding rate: 100%.*

Funding areas

- Heating & Cooling
- Consumers
- Buildings
- Industry, Services & Products
- Innovative financing for Energy Efficiency
<table>
<thead>
<tr>
<th>Code</th>
<th>Topic</th>
<th>Type</th>
<th>Budget (M€)</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE-03</td>
<td>Standardised installation packages integrating renewable and energy efficiency solutions for heating, cooling and/or hot water preparation</td>
<td>IA</td>
<td>34</td>
<td>21 Jan</td>
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<tr>
<td>EE-04</td>
<td>New H/C solutions using low grade sources of thermal energy</td>
<td>RIA</td>
<td>30</td>
<td>15 Sep</td>
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<tr>
<td>EE-05</td>
<td>Models &amp; tools for heating and cooling mapping and planning</td>
<td>RIA</td>
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<td>EE-07</td>
<td>Behavioural change toward energy efficiency through ICT</td>
<td>RIA</td>
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<tr>
<td>EE-08</td>
<td>Socio-economic research on consumer's behaviour related to energy efficiency</td>
<td>RIA</td>
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<tr>
<td>EE-10</td>
<td>Supporting accelerated and cost-effective deep renovation of buildings (EeB-PPP)</td>
<td>IA</td>
<td>16</td>
<td>21 Jan</td>
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<tr>
<td>EE-17</td>
<td>Valorisation of waste heat in industrial systems (SPIRE-PPP)</td>
<td>IA</td>
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<tr>
<td>EE-06</td>
<td>Engaging private consumers towards sustainable energy</td>
<td>CSA</td>
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<td>EE-09</td>
<td>Engaging and activating public authorities</td>
<td>CSA</td>
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<tr>
<td>EE-11</td>
<td>Overcoming market barriers and promoting deep renovation of buildings</td>
<td>CSA</td>
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<tr>
<td>EE-13</td>
<td>Cost reduction of new Nearly Zero-Energy buildings</td>
<td>CSA</td>
<td>30</td>
<td>15 Sep</td>
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<tr>
<td>EE-14</td>
<td>Construction skills</td>
<td>CSA</td>
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<tr>
<td>EE-16</td>
<td>Effective implementation of EU product efficiency legislation</td>
<td>CSA</td>
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<td>EE-24</td>
<td>Making the energy efficiency market investible</td>
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<td>EE-25</td>
<td>Development and roll-out of innovative energy efficiency services</td>
<td>CSA</td>
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<tr>
<td>EE-21</td>
<td>ERA-NET Cofund actions supporting Joint Actions towards increasing energy efficiency in industry and services</td>
<td>ERA-NET</td>
<td>5</td>
<td>15 Sep</td>
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<tr>
<td>EE-22</td>
<td>Project Development Assistance</td>
<td>CSA</td>
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<td>15 Sep</td>
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<tr>
<td>Code</td>
<td>EE Call 2017 Topics</td>
<td>Type</td>
<td>Budget (M€)</td>
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<td>EE-01</td>
<td>Waste heat recovery from urban facilities and re-use to increase energy efficiency of district or individual heating and cooling systems</td>
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<td>RIA</td>
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<td>EE-20</td>
<td>Bringing to market more energy efficient and integrated data centres</td>
<td>IA</td>
<td>30</td>
<td>19 Jan</td>
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<tr>
<td>EE-17</td>
<td>Valorisation of waste heat in industrial systems (SPIRE PPP)</td>
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<td>30</td>
<td>19 Jan</td>
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<tr>
<td>EE-12</td>
<td>Integration of Demand Response in Energy Management Systems while ensuring interoperability (EeB PPP)</td>
<td>IA</td>
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<td>19 Jan</td>
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<tr>
<td>EE-02</td>
<td>Improving the performance of inefficient district heating networks</td>
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<td>19 Jan</td>
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<td>EE-06</td>
<td>Engaging private consumers towards sustainable energy</td>
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<tr>
<td>EE-15</td>
<td>Increasing capacities for actual implementation of energy efficiency measures in industry and services</td>
<td>CSA</td>
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<td>07 June</td>
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<td>EE-16</td>
<td>Effective implementation of EU product efficiency legislation</td>
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<td>47</td>
<td>07 June</td>
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<td>EE-18</td>
<td>Energy efficiency of industrial parks through energy cooperation and mutualised energy services</td>
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<td>07 June</td>
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<td>EE-19</td>
<td>Public Procurement of Innovative Solutions for energy efficiency</td>
<td>PPI</td>
<td>47</td>
<td>07 June</td>
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<tr>
<td>EE-23</td>
<td>Innovative financing schemes</td>
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</table>
Heating and Cooling - Overview -

Challenge

Moderate the demand, increase energy efficiency in supply, maximise use of local sustainable and renewable energy sources and achieving affordable costs
• EE-03 (IA): Standardised installation packages integrating renewable and energy efficiency solutions for heating, cooling and/or hot water preparation

• EE-04 (RIA): New heating and cooling solutions using low grade sources of thermal energy

• EE-05 (RIA): Models and tools for heating and cooling mapping and planning
Example: STORM project

**STORM project**

Development of a generic controller for district heating and cooling (DHC) networks:

- Applicable to a wide range of DHC networks.
- Enables increased use of waste heat, energy exchange and renewable energy sources in the DHC networks.
- Demonstrated in 2 sites Mijnwater at Heerlen (NL) and Växjo (SE).

**Duration:** 03/2015 - 08/2018 (42 months)

**Budget:** 1,972,126 €

**Coordinator:** VITO, BE

**Partner:** research organisations, energy experts, industry, and ICT

**Partners countries** (SE, NL, FR)

**Expected Impact:**

- Energy savings (30-50%)
- Increased share of local waste and renewable source of thermal energy

**Website:** [http://storm-dhc.eu](http://storm-dhc.eu)
Challenge

Removal of existing barriers to the development of Energy Efficiency in Buildings
Buildings
- Topics 2016 -

- EE-10 (IA): Supporting accelerated and cost-effective deep renovation of buildings through Public Private Partnership (EeB PPP)
- EE-11 (CSA): Overcoming market barriers and promoting deep renovation of buildings
- EE-14 (CSA): Construction skills
Example: MORE-CONNECT

- An Innovation Action (IA) for development of technologies and components for prefabricated and modular renovation

- 7 demonstration projects
  - 189 apartments and 13 houses
  - >15 500 m² renovated
  - >3 GWh energy savings

- 9 SMEs + 9 Universities, Research Centres and Industry Clusters
Challenge

Tackle technological and non-technological barriers faced by large companies and SMEs in order to improve their energy efficiency
Industry, services and products  
- Topics 2016 -

- **EE-17 (IA):** Valorisation of waste heat in industrial systems (SPIRE PPP)
- **EE-16 (CSA):** Effective implementation of EU product efficiency legislation
- **EE-21 (CSA):** ERA-NET Cofund actions supporting Joint Actions towards increasing energy efficiency in industry and services
Example: I-ThERM project

Industrial Thermal Energy Recovery Conversion and Management (I-ThERM):
Development and demonstration of technologies and processes for efficient and cost effective heat recovery from industrial facilities in the temperature range 70°C to 1000°C:
- Integration of the technologies with the existing energy system
- Focus on two-phase innovative heat transfer technologies, leading to energy and greenhouse gas emission savings of around 15%

Duration: 10/2015 - 04/2019 (42 months)
Budget: 3,996,169 €
Coordinator: Brunel University London
Partners: RTD and technology providers, large and SME users
Partner countries: Italy, France, Spain, Germany, United Kingdom, Cyprus and Greece
Expected Impact:
- Energy savings around 15 %
- Economic performance with payback periods of less than 3 years
Engaging consumers towards sustainable energy
- Overview -

**Challenge**

Achieve a deeper understanding of consumer behaviour and motivation structures and inform, engage and activate consumers.
Engaging consumers towards sustainable energy

- Topics 2016 -

• **EE-07 (IA):** Behavioural change towards energy efficiency through ICT

• **EE-08 (RIA):** Socio-economic research on consumer's behaviour related to energy efficiency

• **EE-06 (CSA):** Engaging private consumers towards sustainable energy

• **EE-09 (CSA):** Engaging and activating public authorities
**Example: TRIBE project**

**TRaIning Behaviours towards Energy efficiency (TRIBE):**

Development of a social game to enhance energy efficiency habits:

- Linked by ICT to real time data collected from 5 pilot public buildings
- Hosting ca. 1300 regular users (employees) and around 12 000 eventual users (visitors)
- Aims to engage around 750 000 players by the end of the project
- Targeted average energy savings in the pilots is 25% of the current energy consumption

**Duration:** 03/2015- 03/2018 (36 months)
**Budget:** 2,000,032 €
**Coordinator:** CIRCE (Centro de Investigación de Recursos y Consumos Energéticos), Spain
**Partners:** universities, research institutions and companies
**Partner countries:** Spain, Turkey, Austria, France, Sweden

**Expected Impact:**

- Energy savings (15-30%)
- Accelerate wide deployment of innovative ICT solutions for energy efficiency

**Website:** [http://tribe-h2020.eu](http://tribe-h2020.eu)
Example: BRISKEE Project

- Provide empirical evidence for the magnitudes of discount rates accounting for differences across households, technologies and countries
- Elaboration of 2 existing models: FORECAST-Residential, Invert/EE-Lab
- Assessment of macro-level impacts with EU-wide model (ASTRA)
- Communicate and disseminate empirical findings to policy makers, national experts, the research community and the general public.

Duration: March 2015 to Sept 2017
Budget: 1 029 133 EUR
Coordinator: Fraunhofer Institute for Systems and Innovation Research (Fraunhofer ISI)

Partners:
- Grenoble Ecole de Management (F)
- Cardiff University (UK)
- TECHNISCHE UNIVERSITAET WIEN (AT)
- European Council for an Energy Efficient Economy (SE)
Innovative financing for energy efficiency investments
- Overview -

Challenge

Address the gap between financial sector and energy efficiency projects and thus improve supply of large-scale finance at a low cost for energy efficiency investments
Innovative financing for energy efficiency investments - Topics 2016 -

• EE-22 (CSA): Project Development Assistance
• EE-24 (CSA): Making the energy efficiency market investible
• EE-25 (CSA): Development and roll-out of innovative energy efficiency services
Project Development Assistance – 26 projects in 13 countries

- **Bundling / EPC projects:**
  - Paride (IT), Accelerate (ES), ENSAMB (NO), BEAM-GRAZ (AT), GLEE AM (PT), MARTE (IT), 2020TOGETHER (IT), BEENERGI (ES), FESTA (IT), SUNSHINE (LV)

- **Investment funds, citizen financing:**
  - L-CIF (UK), OTR (UK), RESCOOP MECISE (EU)

- **On-bill finance / PACE schemes:**
  - NewInRetro (UK), PadovaFIT (IT), PSEE Alsace (FR)

- **District heating:**
  - BOWEN (NL), Energy4flexibility (NL), HUKMREGE2012 (HU), Efidistrict (ES)

- **Public ESCO schemes:**
  - POSIT'IF (FR), ESCOLIMBURG (BE), ESCOSC (NL)

- **Traditional financing schemes:**
  - Solrod (Biogas, DK), ZagEE (municipal buildings, HR), SOLANOVA (condominiums, HU)

- €633 million investments planned
Example: SUNSHINE (Latvia)

- PDA SUNSHINE (Latvia)
- Low-energy refurbishment with guaranteed energy savings in 80 multifamily buildings in the Baltics
- Addressing the cash-flow problems of ESCOs through developing a forfeiting fund
- Minimum 60% energy savings targeted
- €30 million investment after 36 month

- Partners:
  - RIGAS TEHNISKA UNIVERSITATE (Latvia)
  - RENESCO SIA
  - 5 further local partners plus experts from NL

- Duration: March 2015 to Jan 2018
How to submit a good proposal?
Eligible countries:

EU28

+ 12 Associated Countries

+ Any third countries (under certain conditions)

+ Turkey, Israel, Moldova, Ukraine

Most topics of the Energy Efficiency Call will require min 3 partners from Member States or Associated Countries.
Calls and Submission Service (Available without login)

http://ec.europa.eu/research/participants/portal
Evaluation

• Award criteria:
  1. Excellence
  2. Impact
  3. Quality & efficiency of implementation

• Only the best proposals not requiring negotiations will be selected
• Fair and equal treatment of all proposers
• Based on the criteria announced in the Call
• Confidential process, no conflicts of interest
• Independent external experts
Lessons learned:

• *Start early, a good proposal needs time and evolution. Input from real partners. Be on time for the deadline*

• *"Excellence": your chance for your selling points. Make choices, focus, have a clear direction, remove unnecessary elements, innovate. Win by explaining.*

• *"Impact": Be ambitious. Quantify. Plan activities to monitor your performance. Keep links to your actual work plan.*

• *"Resources: Invest time into your work plan - this is the opportunity to convince evaluators that you can materialise your vision. Invest time into your resource planning -bottom up.*
While perfect proposals to not exist

• *We look forward to excellent proposals, with convincing impact from the best possible use of resources*

• *Submitted by motivated and inspired project teams*

• *Aiming to deliver and 'make a change'*
Information Resources

- **H2020 Portal**
- **National Contact Points**
- **Participant Portal H2020 Helpdesk**
- **Mailbox**: EASME-ENERGY@ec.europa.eu
  - No pre-proposal checks
- **Horizon2020 and FP7 projects**
  - CORDIS database
- **300+ Intelligent Energy Europe (IEE) projects, including various information platforms**
Upcoming Events

• **National Information Days**
  - Contact your National Contact Point for information

• **District Heating/Cooling Brokerage Event, Brussels 7th October**

• **Research Public Private Partnership Info Day, 16th October**

• **Energy Efficiency Call Information Day, Brussels, 8th December**
IEE Project database

http://ec.europa.eu/energy/intelligent/projects/

Projects database

Search an item...

Browse by

Sector
All

Date
Start

Country
All

End

Apply

Last updated projects

Collaboration for Housing nearly zero-energy renovation (COHERENO)
Start date 01/04/2013 - End date 31/03/2016 (Ongoing)
Integrated Initiatives>EE + RES in Buildings
The objective of COHERENO is to strengthen collaboration of enterprises in innovative business models for realizing Nearly Zero Energy Building (NZEB) renovations in single family owner occupied...

Solar Thermal in Major Renovations and Protected Urban Areas (URBANSOLPLUS)
Start date 01/06/2011 - End date 31/05/2014 (Closed)
Small-scale applications>Renewable energy (ALTENER)>Heating and Cooling
Article 13 of the 2009/28/EC Directive requires minimum share of renewables for new buildings and major renovations. Given the current very low construction rate for new buildings, renovation play...
BUILD UP – The portal for BUILDINGS
ManagEnergy is a technical support initiative of the Intelligent Energy - Europe (IEE) programme of the European Commission which aims to assist actors from the public sector and their advisers working on energy efficiency and renewable energy at the local and regional level.
Thank you for your attention