The Multiannual Financial Framework 2014-2020:

**Key challenge:** stabilise the financial and economic system while taking measures to create economic opportunities.

1. **Smart & inclusive growth** (€451 billion)
2. **Sustainable growth, natural resources** (€373 billion)
3. **Security and citizenship** (€16 billion)
4. **Global Europe** (€58 billion)
5. **Administration** (€61.6 billion)

(figures are given in constant prices)
What is Horizon 2020?

- The European Union programme for research and innovation for 2014-2020 with a budget of €77 billion (in current prices that include inflation, comprising both the TFEU and Euratom parts).

- A core part of Europe 2020, Innovation Union & European Research Area:
  - Responding to the economic crisis to invest in jobs and growth.
  - Addressing people’s concerns about their livelihoods, safety and environment.
  - Strengthening the EU’s global position in research, innovation and technology.
What is new?

- **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) – There is a separate programme for Euratom activities
Three priorities

- Excellent science
- Industrial leadership
- Societal challenges
Horizon 2020 – Overall budgets

Total budget H2020: EUR 74,83 billion.

Societal challenges: EUR 29,37 billion.

**Energy Challenge:** EUR 5,69 billion.
Priority 3.
Societal challenges

Why:

• 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.
A single programme covering the whole innovation cycle to bring bright research ideas to the market

R&D, Public Private Partnerships

Market uptake activities

FP 7

Intelligent Energy Europe

Market uptake: At least 15% of the overall budget of Energy Challenge.
Eligible countries:

EU28

+ Associated Countries:
  - Albania
  - Bosnia and Herzegovina
  - Faroe Islands
  - Former Yugoslav Republic of Macedonia
  - Iceland
  - Israel
  - Moldova
  - Montenegro
  - Norway
  - Serbia
  - Switzerland (partial association)
  - Turkey
  - Ukraine
Systemic approach of the Energy Challenge

- Develop new technologies
- Demonstrate technologies in real-life
- Support deployment
- Integrating components into a smart system
- Social, economic and regulatory context

Energy system transformation
Energy Challenge - Areas and responsible services

Energy Efficiency (EE)
• Heating and Cooling
• Engaging consumers
• Buildings
• Industry, Services and Products
• Innovative financing
  ➢ ENER.C3

Competitive low-carbon energy Technologies (LCE)
• Energy system (grids, storage)
  ➢ ENER.C2
• Renewable energies
  ➢ RTD.G3
• Decarbonising fossil fuels
  ➢ RTD.G2

Smart Cities and Communities (SCC)
• Light-house demonstration projects
  ➢ ENER.C2

SME instrument (SIE)
Bottom-up
Energy calls 2016-2017 budget distribution

Total budget 2016-2017: EUR 1 344 million

* Other Actions = actions not implemented through calls for proposals
Implementation of the Energy Challenge

**Commission**
(policy-related actions)

**EASME**
(Energy efficiency, SME instrument)

**INEA**
(Low-carbon energy, Smart Cities and Communities)

**Joint Undertaking Fuel Cells and Hydrogen (FCH JU)**

**European Commission**
- Defines strategy, objectives and priority areas/work programmes
- Makes programme decisions
- Evaluates the programme and the Agency's performance

**Executive Agency**
- Organises Calls for proposals
- Monitors the technical and financial implementation of projects
- Ensures sound financial management
- Manages project life-cycle
H2020 EE 2016-2017 WP: Policy context

Energy Union Roadmap → WP 2016-2017

- EU Energy Efficiency legislation implementation.
- New Deal for Energy Consumers.
- Heating and Cooling Strategy.
- EU support to finance energy efficiency.

WP 2016-2017

- Policy enabling actions: EED, energy efficiency products legislation, EPBD.
- A specific consumer-focused area.
- More dedicated topics on heating and cooling.
- Building business case for energy efficiency.
Energy Efficiency calls: Funding areas

- Heating and cooling
- Engaging consumer
- Industry, services and products
- Innovative Financing
- Buildings
Energy Efficiency Calls

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%.
## Heating & Cooling Topics 2016-2017

### Innovation in waste heat recovery and reuse technologies (in cities and industry).

- *Topics EE-1-2017, EE-17-2016-2017, EE-20-2017*

### District heating networks: innovation in urban waste heat reuse in DH, replication of efficient retrofitting of DH networks.

- *Topics EE-1-2017, EE-2-2017*

### Research and innovation of efficient and low-carbon H&C technologies.

- *Topic EE-3-2016, EE-4-2016-2017*
<table>
<thead>
<tr>
<th>Consumer engagement Topics 2016-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaging private consumers towards sustainable energy.</td>
</tr>
<tr>
<td>• <em>Topic EE-6-2016-2017</em></td>
</tr>
<tr>
<td>Behavioural change toward energy-efficiency through ICT.</td>
</tr>
<tr>
<td>• <em>Topic EE-7-2016-2017</em></td>
</tr>
<tr>
<td>Socio-economic research on consumer's behaviour related to energy efficiency.</td>
</tr>
<tr>
<td>• <em>Topic EE-8-2016</em></td>
</tr>
<tr>
<td>Engaging and activating public authorities.</td>
</tr>
<tr>
<td>• <em>Topic EE-9-2016-2017</em></td>
</tr>
</tbody>
</table>
Buildings – Topics 2016-2017

Deep renovation of buildings.

- Topics EE-10-2016 (EeB-PPP), EE-11-2016-2017

Demand response in energy management systems.

- Topic EE-12-2017 (EeB-PPP)


- Topic EE-13-2016

Construction skills.

- Topic EE-14-2016-2017
Industry, services and products
Topics 2016-2017

- Capacity building in industry and energy services for industrial parks.

- Waste heat recovery / Energy symbiosis in industrial systems.
  - Topic EE-17-2016-2017 (SPIRE-PPP)

- Joint energy-efficiency R&I efforts in industry & services (ERA-NET Cofund).
  - EE-21-2016

- Effective implementation of EU product legislation.
  - Topic EE-16-2016-2017

- Energy efficient and integrated data centres.
  - Topic EE-20-2017

- Public procurement of innovative energy efficiency solutions.
  - Topic EE-19-2017
Financing Energy Efficiency
Topics 2016-2017

- **Aggregation - Project development assistance.**
  - *Topic EE-22-2016-2017*

- **De-risking - Standardisation and benchmarking and innovative financing schemes.**
  - *Topic EE-24-2016, EE-23-2017*

- **Market based culture - Energy efficiency services.**
  - *Topic EE-25-2016,*
<table>
<thead>
<tr>
<th>Code</th>
<th>EE Call 2016 Topics</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>
</tr>
<tr>
<td>EE-04</td>
<td>New H/C solutions using low grade sources of thermal energy</td>
<td>RIA</td>
<td>16</td>
<td>21 Jan</td>
</tr>
<tr>
<td>EE-05</td>
<td>Models &amp; tools for heating and cooling mapping and planning</td>
<td>RIA</td>
<td>30</td>
<td>15 Sep</td>
</tr>
<tr>
<td>EE-07</td>
<td>Behavioural change toward energy efficiency through ICT</td>
<td>IA</td>
<td>5</td>
<td>15 Sep</td>
</tr>
<tr>
<td>EE-08</td>
<td>Socio-economic research on consumer's behaviour related to energy efficiency</td>
<td>RIA</td>
<td>8</td>
<td>15 Sep</td>
</tr>
<tr>
<td>EE-10</td>
<td>Supporting accelerated and cost-effective deep renovation of buildings (EeB-PPP)</td>
<td>IA</td>
<td>15 Sep</td>
<td>15 Sep</td>
</tr>
<tr>
<td>EE-11</td>
<td>Valorisation of waste heat in industrial systems (SPIRE-PPP)</td>
<td>IA</td>
<td>8</td>
<td>15 Sep</td>
</tr>
<tr>
<td>EE-06</td>
<td>Engaging private consumers towards sustainable energy</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-09</td>
<td>Engaging and activating public authorities</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-11</td>
<td>Overcoming market barriers and promoting deep renovation of buildings</td>
<td>CSA</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>EE-13</td>
<td>Cost reduction of new Nearly Zero-Energy buildings</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-14</td>
<td>Construction skills</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-16</td>
<td>Effective implementation of EU product efficiency legislation</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-24</td>
<td>Making the energy efficiency market investible</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE-25</td>
<td>Development and roll-out of innovative energy efficiency services</td>
<td>CSA</td>
<td></td>
<td></td>
</tr>
<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></td>
</tr>
<tr>
<td>EE-22</td>
<td>Project Development Assistance</td>
<td>CSA</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Topic</td>
<td>Type</td>
<td>Budget (M€)</td>
<td>Deadline</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------</td>
<td>-------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<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>
<td>IA</td>
<td>30</td>
<td>19 Jan</td>
</tr>
<tr>
<td>EE-04</td>
<td>New H/C solutions using low grade sources of thermal energy</td>
<td>RIA</td>
<td>16</td>
<td>19 Jan</td>
</tr>
<tr>
<td>EE-07</td>
<td>Behavioural change toward energy efficiency through ICT</td>
<td>IA</td>
<td>47</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-20</td>
<td>Bringing to market more energy efficient and integrated data centres</td>
<td>IA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-17</td>
<td>Valorisation of waste heat in industrial systems (SPIRE PPP)</td>
<td>IA</td>
<td>47</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-12</td>
<td>Integration of Demand Response in Energy Management Systems while ensuring interoperability (EeB PPP)</td>
<td>IA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-02</td>
<td>Improving the performance of inefficient district heating networks</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-06</td>
<td>Engaging private consumers towards sustainable energy</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-09</td>
<td>Engaging and activating public authorities</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-11</td>
<td>Overcoming market barriers and promoting deep renovation of buildings</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-14</td>
<td>Construction skills</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-15</td>
<td>Increasing capacities for actual implementation of energy efficiency measures in industry and services</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-16</td>
<td>Effective implementation of EU product efficiency legislation</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-18</td>
<td>Energy efficiency of industrial parks through energy cooperation and mutualised energy services</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-19</td>
<td>Public Procurement of Innovative Solutions for energy efficiency</td>
<td>PPI</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-23</td>
<td>Innovative financing schemes</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-24</td>
<td>Making the energy efficiency market investible</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
<tr>
<td>EE-22</td>
<td>Project Development Assistance</td>
<td>CSA</td>
<td>8</td>
<td>07 June</td>
</tr>
</tbody>
</table>
Calls and Submission Service
(Available without login)

http://ec.europa.eu/research/participants/portal
Information Resources (I)

- **H2020 Portal.**
- **National Contact Points:**
  http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html
- **Participant Portal H2020 Helpdesk.**
Information Resources (II)

- **Mailbox:** [EASME-ENERGY@ec.europa.eu](mailto: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.
Thank you for your attention