
European Commission
THE EU FRAMEWORK PROGRAMME
FOR RESEARCH AND INNOVATION
HORIZON 2020
Energy Efficiency and market uptake of energy innovations
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Energy Efficiency

- EU 2020 Targets
- Energy Efficiency Directive
- Energy Performance Building Directive
- Eco Design Directive

The key barriers are both technological and non-technological

Technological

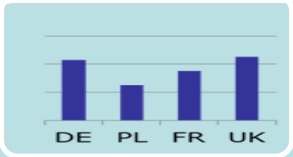
- Materials and components -design and design tools
- Deep renovation
- Industry (process industry and fabrication)

Administrative

- Building capacity and skills
- Exchange of best practice

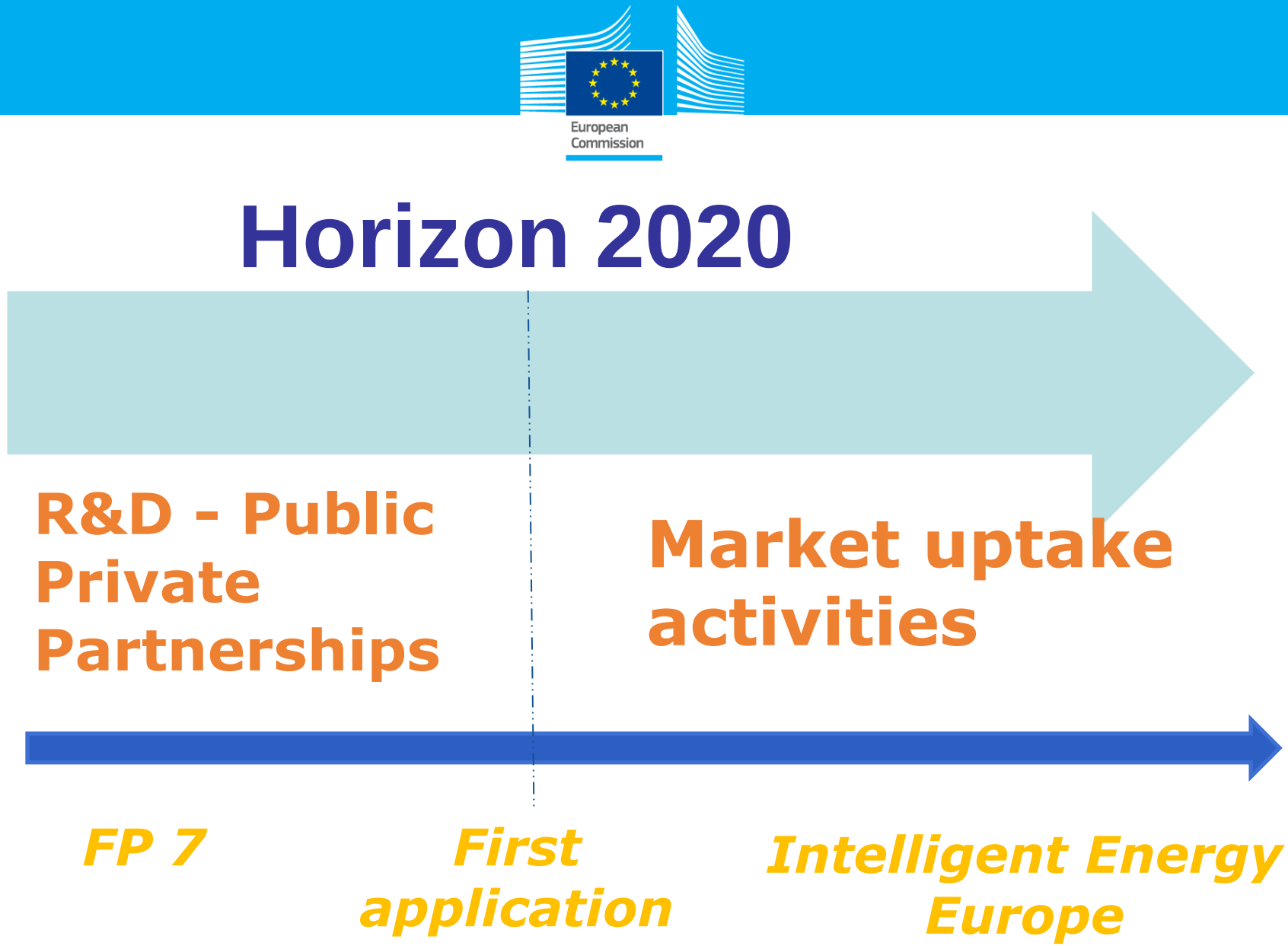
Financial

- Creating favourable market conditions
- Replicating successful business models
- Preparing the ground for investments



Regulatory

- Shaping policy development and implementation
- Tackling regulatory barriers
- Informing stakeholders and fostering commitment


European Commission
Horizon 2020
R&D - Public Private Partnerships
Market uptake activities
FP 7
First application
Intelligent Energy Europe

ENERGY CHALLENGE (2014-2015)

Low Carbon Energy	Smart Cities & Communities	Energy Efficiency	SMEs and Fast Track to Innovation

Energy Efficiency

Focus area WP addresses 4 main areas:

A) Buildings and consumers
B) Heating and cooling
C) Industry and products
D) Finance for sustainable energy

A) Buildings and consumers (1/4)

EE 1: Manufacturing of prefabricated modules for renovation of buildings, PPP: Lower cost, ease building integration process, and lead to reduction in total buildings primary energy consumption. Mainly demonstration activities.

EE 2: Building design for new highly energy performing buildings, PPP: Development and demonstration of solutions which reduce cost of new buildings with at least NZE performance levels and accelerate market uptake. Demonstration projects where buildings are active contributors to production and environmental quality (e.g. for new districts planned)

EE 3: Energy strategies and solutions for deep renovation of historic buildings, PPP: Innovative, affordable, non-invasive, reversible solutions to deliver significant improvements in energy efficiency. Insulation, monitoring technologies and systems, integration of renewables etc.

A) Buildings and consumers (2/4)

EE 4: Construction skills. Addressing the gap in knowledge and skills in the construction sector through building on BUILD up Skills with focus on upgrading or establishing large-scale qualification and training systems in order to increase the number of skilled building workers.

EE 5: Increasing energy performance of existing buildings through process and organisation innovations and creating a market for deep renovation. Removing market barriers. Product and process innovation. Development, testing and/or implementation of regulations and enabling conditions to finance deep renovation of buildings.

EE 6: Demand response in blocks of buildings. Cost effective, real time optimisation of energy demand, storage and supply in blocks of buildings with the help of intelligent energy management systems.

Footnote 9 in the WP: building on the experience of IEE: Topics EE4, EE5, EE7, EE8, EE9, EE10, EE14, EE15, EE16, EE17, EE19, EE20, EE21, LCE4 and LCE14 as well as relevant 'Other Actions'

A) Buildings and consumers (3/4)

EE 7: Enhancing the capacity of public authorities to plan and implement sustainable energy policies. Empowering public authorities to plan, finance and implement ambitious sustainable energy policies and plans. Especially sectors with high energy saving potential. Capacity building.

EE 8: Public procurement of innovative sustainable energy solutions. Reducing barriers to sustainable energy public spending through e.g. sharing best practice and involve central purchasing organisations.

EE9: Empowering stakeholders to assist public authorities in the definition and implementation of sustainable energy policies and measures. 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.

A) Buildings and consumers (4/4)

EE 10: Consumer engagement for sustainable energy. Reducing market barriers through changing behaviour of consumers using market segmentation and focus on "action" part of AIDA. E.g. through use of social innovations and comparative ICT solutions and educational activities or tools.

EE 11: New ICT-based solutions for EE. Motivate and support behavioural change to achieve greater EE taking advantage of ICT. Creation of innovative IT ecosystems that would develop services and applications making use of information generated by energy consumers or captured from sensors and microgeneration.

EE 12: Socioeconomic research on energy efficiency. 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**.**

B) Increasing energy efficiency in heating and cooling

EE 13: Technology for district heating and cooling. Develop, demonstrate and deploy a new generation of highly efficient, intelligent district cooling and heating systems. Bring down heat distribution losses. Develop optimisation, control, metering, planning and modelling tools. New solutions for low temperature heat recovery and recirculation.

EE 14: Removing market barriers to the uptake of efficient heating and cooling solutions. 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.

C) Industry and products (1/2)

EE 15: Ensuring effective implementation of EU product efficiency legislation. Building up monitoring, verification and enforcement of the EU's related products policy.

EE 16: Organisational innovation to increase energy efficiency in the industry. 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.

C) Industry and products (2/2)

EE 17: Driving energy innovation through large buyer groups. 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.

EE 18: New technologies for utilization of heat recovery in large industrial systems, considering the whole energy cycle from the heat production to the delivery and end use. Research and demonstration of technologies to recover waste heat from industrial processes. Validation at real production conditions with demo sites, testing in industrial facilities.

Finance for sustainable energy

EE 19: Improving the financeability and attractiveness of sustainable energy investments. Activities that foster dialogue with and between financial market actors, standardisation and valuation entities, industry, public authorities, consumers and property owners.

EE 20: Project development assistance for innovative, bankable and aggregated sustainable energy investment schemes and projects. 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.

EE 21: Development and market roll-out of innovative energy services and financial schemes for sustainable energy. 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.

Call Energy Efficiency: Deadlines

Topics*	2014	2015
EE1, EE3, EE18	20/03/2014	
EE4, EE5, EE7, EE8, EE9, EE10, EE11, EE12, EE13, EE14, EE15, EE16, EE19, EE20, EE21	05/06/2014	
EE2, EE18	09/12/2014	
EE5, EE6, EE7, EE9, EE10, EE11, EE13, EE14, EE15, EE16, EE17, EE19, EE20, EE21		10/06/2015

*** Corresponds to the topic code in the work-programme**

Call Energy Efficiency: Budget

Topics*	2014 (M€)	2015 (M€)
EE1, EE2	8	9
EE3	5	
EE18	8	8
EE6, EE12, EE13	8,5	13,35
EE11	8,5	8,5
EE4, EE5, EE7, EE8, EE9, EE10, EE14, EE15, EE16, EE17	34,5	32,8
EE19, EE20, EE21	25	26,5

*** Corresponds to the topic code in the work-programme**

Market uptake in Low Carbon Energy

- *LCE 4 : Market uptake of existing and emerging renewable electricity, heating and cooling technologies*

- *LCE 14 : Market uptake of existing and emerging sustainable bioenergy*

Call 2014

Data Collection €1m

Public Procurers' Networks €1m

Call 2015

System Standards €1m

Solutions Competition €1m

Lighthouse Projects

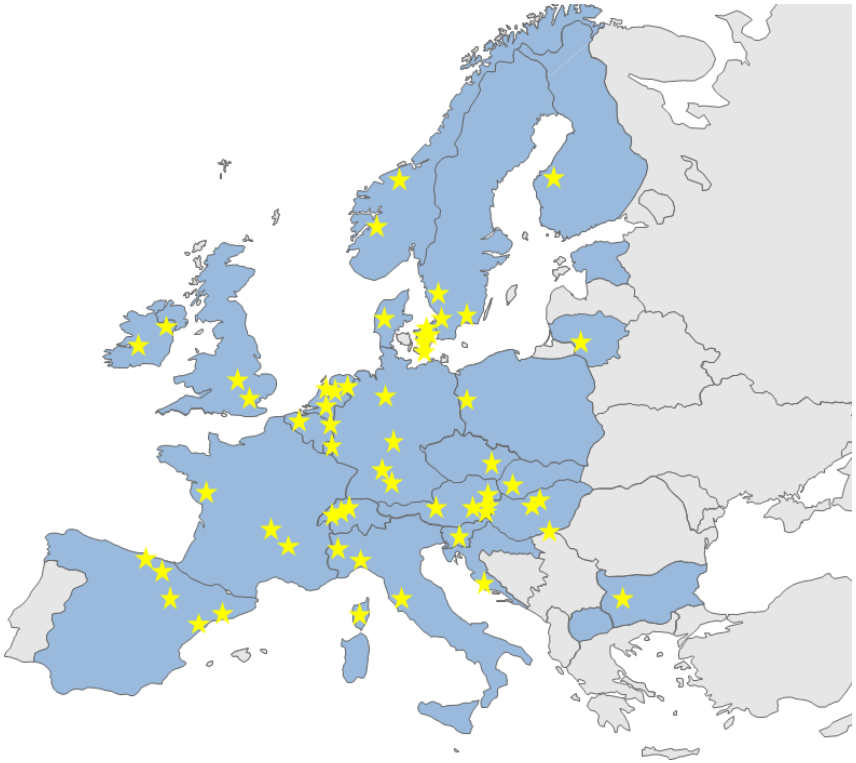
€90m

4-5 projects

€106m

5-6 projects

Innovate: Go beyond what exists



- *Concerto =22 projects, 58 communities*
- *Take to the next level*
- www.concerto.eu

- ***Lighthouse projects***
  - *Innovate*
  - *Integrate*
  - *Replicate*

- ***Ensuring***
  - *Embedded in urban plans*
  - *Follower cities*
  - *Commitment of partners*
  - *Financial Viability*

Thank you for your attention

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