



**Horizon 2020 Information Day, Minsk, Belarus
24 February 2014**

Horizon 2020: Work program for
2014-2015, with focus on
- Secure, clean and efficient
energy*

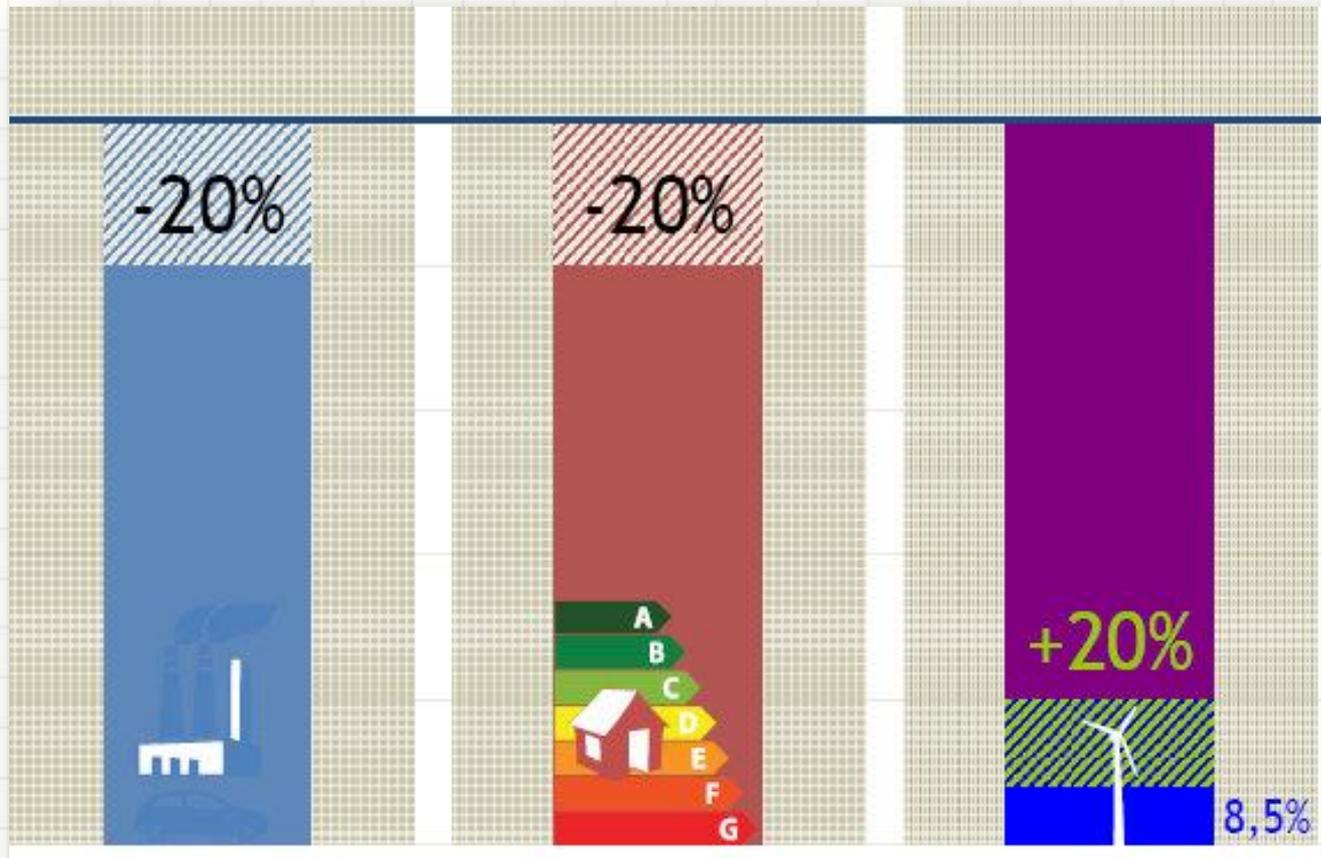
Presented by:

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NCP-Poland, Energy Coordinator

*source: documents/materials of the European Commission

3 x 20 to 2020

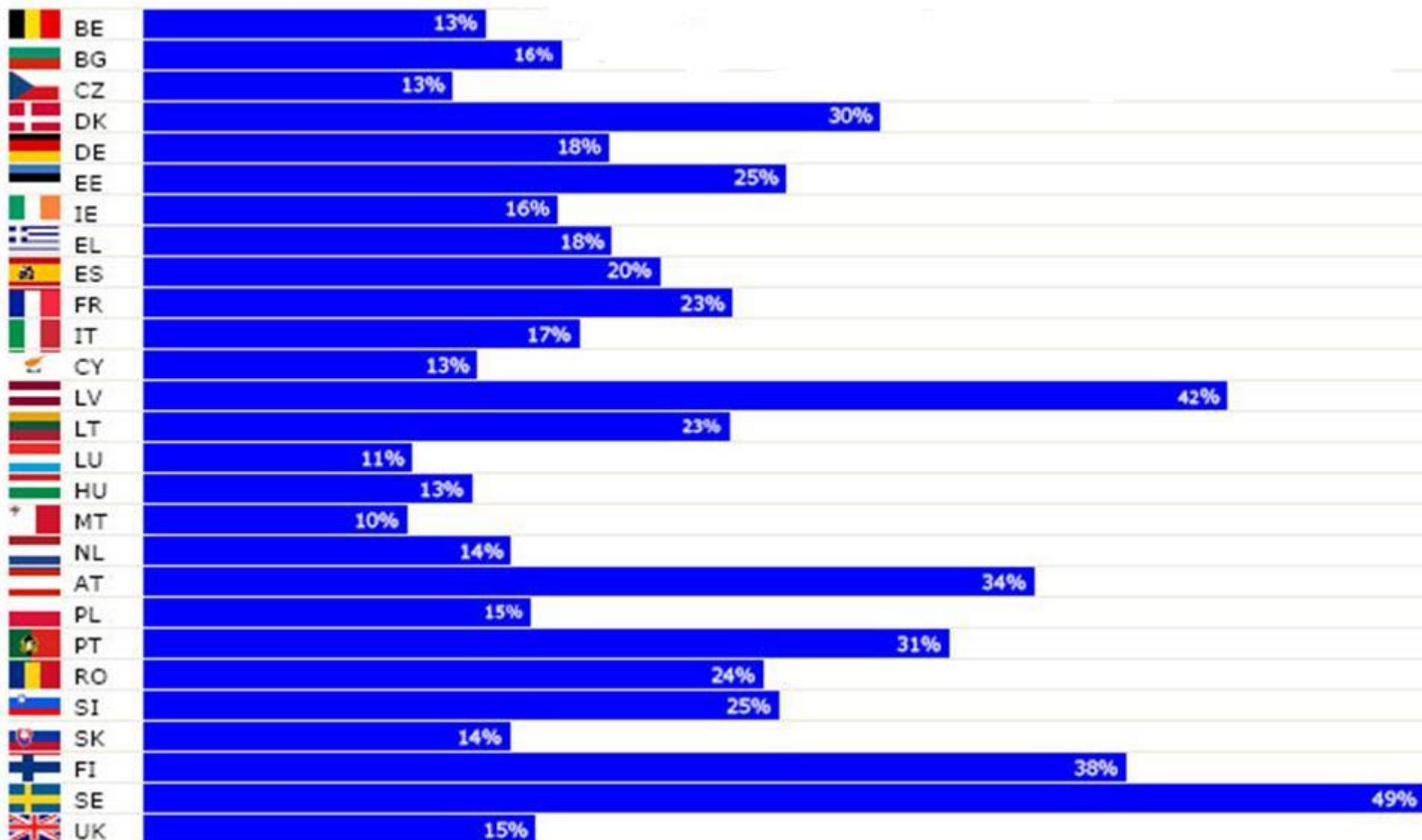


CO2 reduction

Energy reduction

Share of RES

Different country, different comitment



Current policy framework for energy efficiency

EU 2020 Targets

Energy Efficiency Directive

Energy Performance Building Directive

Eco Design Directive

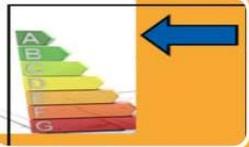
H2020: exploiting the potentials

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

Focus areas

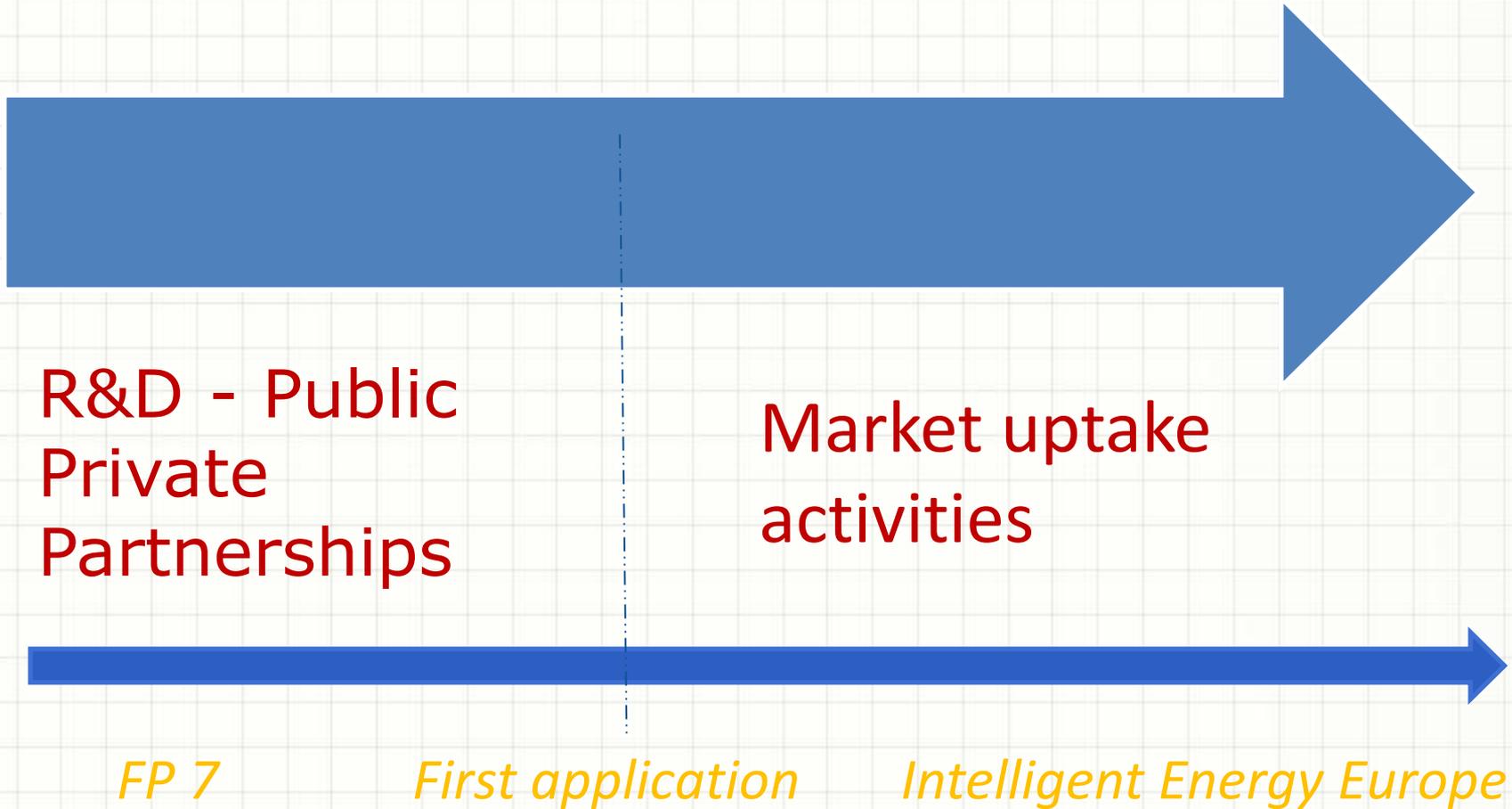
Horizon 2020 Secure, clean and efficient energy

Low carbon
economy

Energy
efficiency

Smart cities
and
communities

Horizon 2020



Basic principles

General across H2020

- **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

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.



Societal challenge 3
Secure, clean and efficient energy

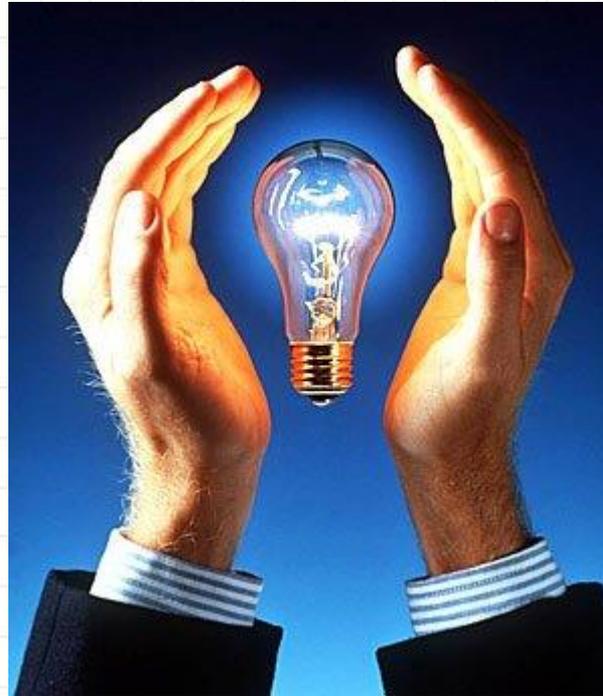
Five Calls

- 1. Energy efficiency**
- 2. Smart cities & communities**
- 3. Competitive low-carbon energy**
- 4. SME's and Fast Track to Innovation for Energy**
- 5. Euratom Fission**

Indicative Call budgets

Calls	2014 (M€)	2015 (M€)
Energy Efficiency	97,5	98,15
Smart Cities and Communities	92,32	108,18
Competitive Low-Carbon Energy	359,1	372,33
SMEs and Fast Track to Innovation	33,95	37,26
<i>Part B – other actions</i>	75	61
Euratom Fission	48,3	39,6
<i>Part B – other actions</i>	0,3	15,0

Energy Efficiency



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 (I/II)

Technology for building materials and components

- **Building design for new highly energy performing buildings**
- **Addressing the gap in knowledge and skills in the construction sector**
- **Increasing energy performance of existing buildings through process and organisation innovations and creating a market for deep renovation**
- **Demand response in blocks of buildings**
- **Enhancing the capacity of public authorities to plan and implement sustainable energy policies**

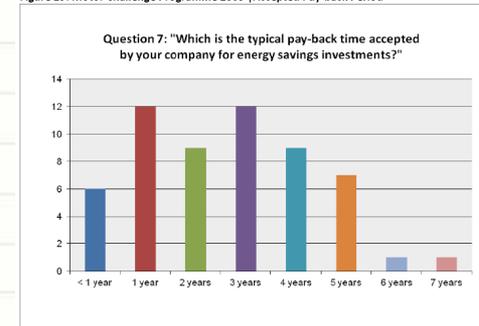
A) Buildings and consumers (II/II)

- **Public procurement of innovative sustainable energy solutions**
- **Empowering stakeholders to assist public authorities in the implementation of sustainable energy policies and measures**
- **Consumer engagement**
- **New ICT-based solutions for energy efficiency**
- **Socioeconomic research on energy efficiency**

B) Increasing energy efficiency in heating and cooling

- Technology for district heating
- Removing market barriers to the uptake of efficient heating and cooling solutions

Figure 29: Motor Challenge Programme 2009 | Accepted Pay-back Period



Sample 24 | answered = 24, skipped = 0

C) Industry and products

- **Ensuring effective implementation of EU product efficiency legislation**
- **Organisational innovation to increase energy efficiency in industry**
- **Driving energy innovation through large buyer groups**
- **Development and demonstration of energy efficient products, processes and services by SMEs**

C) Industry and products

- **Ensuring effective implementation of EU product efficiency legislation**
- **Organisational innovation to increase energy efficiency in industry**
- **Driving energy innovation through large buyer groups**
- **Development and demonstration of energy efficient products, processes and services by SMEs**

D) Finance for sustainable energy

- **Increasing energy efficiency through improving the financeability and risk profile of energy efficiency investments across sectors**
- **Development of credible pipeline of innovative EE investment projects**
- **Development and market roll-out of innovative energy services**



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*	Short-hand Description	2014 (M€)	2015 (M€)
EE1, EE2	EeB PPP: Pre-fabricated modules and New Energy Efficient Buildings	8	9
EE3	EeB PPP: Historic Buildings	5	
EE18	SPIRE Topic PPP: Heat recovery	8	8
EE6, EE12, EE13	Demand response in building blocks, socio- economic research and technology for DHC	8,5	13,35
EE11	ICT for energy efficiency	8,5	8,5
EE4, EE5, EE7, EE8, EE9, EE10, EE14, EE15, EE16, EE17	Market uptake in Buildings, Consumers, Industry and Products Empowering public authorities and its stakeholders	34,5	32,8
EE19, EE20, EE21	Finance for sustainable energy including project development assistance	25	26,5

* Corresponds to the topic code in the work-programme



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ENERGY EFFICIENCY RESEARCH & INNOVATION

H2020-EE-2015-2-RIA

Sub call of: [H2020-EE-2014-2015](#)

Publication date	2013-12-11	Deadline Date	2015-06-10 +17:00:00 (Brussels local time)
Budget	€21,850,000	Main Pillar	Societal Challenges
Status	Open	OJ reference	OJ C361 of 11. December 2013

Call description

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Topics and submission service

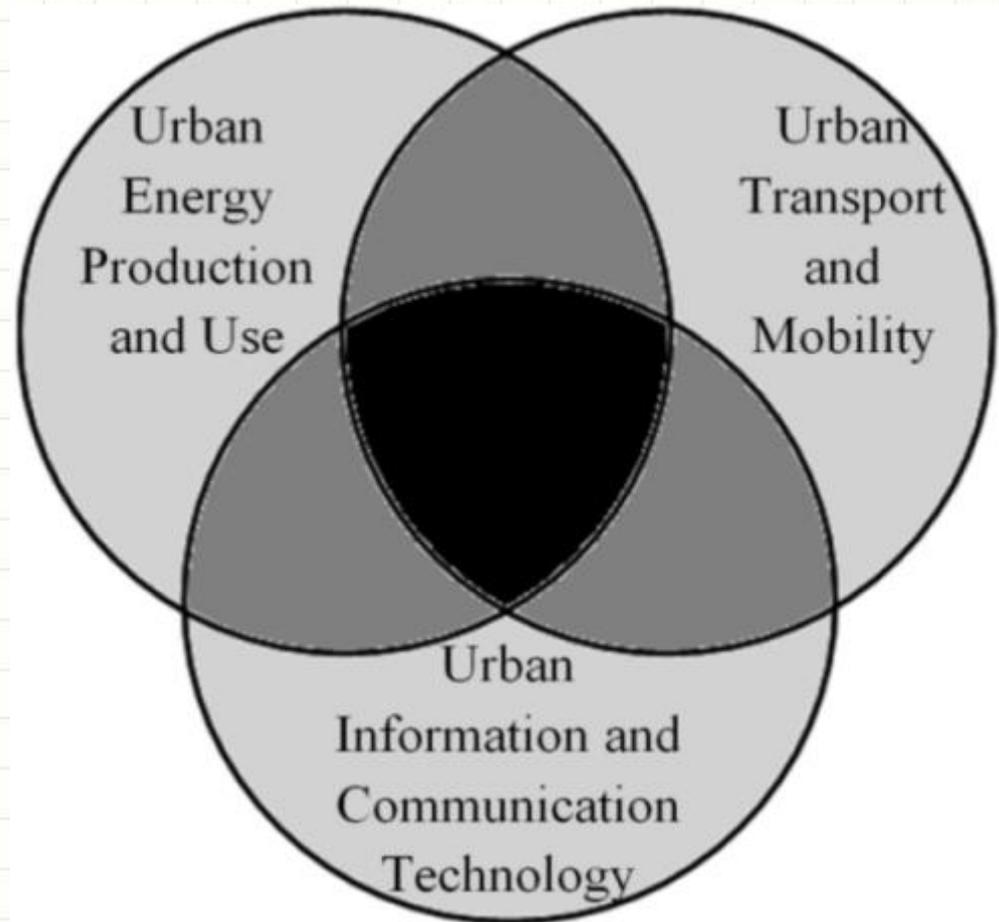
- [EE-06-2015: Demand response in blocks of buildings](#)
- [EE-11-2015: New ICT-based solutions for energy efficiency](#)
- [EE-13-2015: Technology for district heating and cooling](#)

Smart cities & communities



Integration

- 3 sectors
- In same location



Innovate: Go beyond what exists



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

Call 2014

Data Collection
€1m

Call 2015

System Standards
€1m

Lighthouse Projects

€90m

4-5 projects

€106m

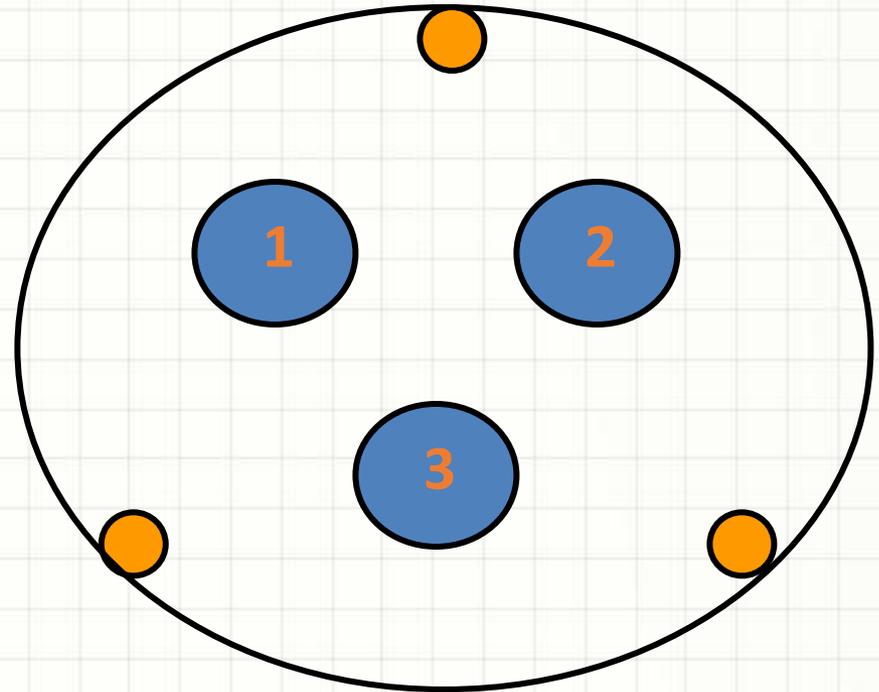
5-6 projects

Public Procurers'
Networks €1m

Solutions
Competition €1m

Replicate

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



Call Smart cities & communities: Deadlines

Topics*	2014	2015
SCC1	07/05/2014	
SCC2, SCC4	07/05/2014	
SCC1		03/03/2015
SCC3, SCC5		03/03/2015

* Corresponds to the topic code in the work-programme

Call Smart cities & communities: Budget

Topics*	Short-hand Description	2014 (M€)	2015 (M€)
SCC1	SCC solutions	90,32	106,8
SCC2	Developping framework for monitoring	1	
SCC3	Developping system standard		1
SCC4	Public procurers networks	1	
SCC5	Prize		1

* Corresponds to the topic code in the work-programme



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CALL – SMART CITIES AND COMMUNITIES

H2020-SCC-2014

Sub call of: [H2020-SCC-2014-2015](#)

Publication date	2013-12-11	Deadline Date	2014-05-07 +17:00:00 (Brussels local time)
Budget	€92,320,000	Main Pillar	Societal Challenges
Status	Open	OJ reference	OJ C361 of 11 December 2013

Call description

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Topics and submission service

- [SCC-02-2014: Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice identification](#)
- [SCC-04-2014: Establishing networks of public procurers in local administrations on smart city solutions](#)
- [SCC-01-2014: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse](#)

Competitive Low-carbon Energy



Competitive low-carbon energy

- New knowledge and technologies
- Renewable electricity and heating/cooling
- Modernising the single European electricity grid
- Providing the energy system with flexibility through enhanced energy storage technologies
- Sustainable biofuels and alternative fuels for the European transport fuel mix
- Enabling the decarbonisation of the use of fossil fuels during the transition to a low-carbon economy
- Supporting the development of a European Research Area in the field of Energy
- Social, environmental and economic aspects of the energy system

Call Competitive low-carbon energy: Deadlines

Topics*	2014		2015
LCE1, LCE2, LCE11, LCE15, LCE16	01/04/2014 (Stage 1)	23/09/2014 (Stage 2)	
LCE22	01/04/2014		
LCE4, LCE7, LCE8, LCE10, LCE14, LCE18	07/05/2014		
LCE1, LCE2, LCE11, LCE15, LCE17	03/09/2014 (Stage 1)		03/03/2015 (Stage 2)
LCE3, LCE12, LCE19, LCE20	10/09/2014		
LCE3, LCE12, LCE19, LCE21 LCE4, LCE5, LCE6, LCE9, LCE14			03/03/2015
LCE18			28/04/2015
LCE13			05/05/2015

* Corresponds to the topic code in the work-programme

Call Competitive low-carbon energy: Budget (M€)

Topics*	Short-hand Description	2014	2015
LCE1	New knoweldge & tech.	20	
LCE2, LCE11	RES – Research	60*	59*
LCE3, LCE12	RES - Demonstration	73*	80*
LCE4, LCE14	Market uptake	20	20
LCE5, LCE6, LCE7	Smart grids	60	71,48
LCE8, LCE9, LCE10	Storage	44,15	26
LCE13	Joint topic with Brazil		10
LCE15, LCE16, LCE17	CCS & other	33	35
LCE18	ERANET	34,25	57,85
LCE19	Coordination of MS	3	3
LCE20	Socio-Eco.	10,5	
LCE21	Socio-Eco.		10
LCE22	NCP Network	1,5	

* Corresponds to the topic code in the work-programme

Call Competitive low-carbon energy : Budget

The share of the EU contribution benefitting one single technology area:

- 1) from topics LCE 2 and LCE 11, research & innovation actions in the field of renewables (electricity, heat, cooling and fuels), shall **not exceed 25%** of the total budget dedicated to these topics,
- 2) from topics LCE 3 and LCE 12 , innovation actions in the field of renewables (electricity, heat, cooling and fuels), shall **not exceed 33%** of the total budget dedicated to these topics.



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CALL FOR COMPETITIVE LOW-CARBON ENERGY

H2020-LCE-2014-1

Sub call of: [H2020-LCE-2014-2015](#)

Publication date	2013-12-11	Deadline Date	2014-04-01 +17:00:00 (Brussels local time)
Budget	€113,000,000	Stage 2	2014-09-23 +17:00:00 (Brussels local time)
Status	Open	Main Pillar	Societal Challenges
		OJ reference	OJ C361 of 11 December 2013

Call description

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- 2013-12-20 16:34:22

Support for SMEs

- Target: **20%** of EU funding to SMEs
- **All topics** welcome SME participation
- **SME instrument** (topic SIE1):
 - Completely **bottom up** but only open for SMEs
 - **3 phases**: feasibility study, innovation project, commercialisation phase
 - Total budget 2014-2015: **EUR 71 million**
- **Additional topics** explicitly encouraging SME participation:
 - Energy efficiency in buildings (EE1, EE3), in industry (EE15, EE18) and access to finance (EE19)
 - Smart Cities and Communities (SCC4, SCC5)

International cooperation

Concrete examples from the work programme 2014-2015:

- Advanced biofuels – Coordinated call with **Brazil** (LCE13)
- CCS – cooperation with **Australia, North-America** (LCE15)
- Shale gas – cooperation with **US, Canada** (LCE16)
- Smart Cities and Communities – e.g. with **China** (LCE18)
- Tools for handling nuclear accidents – cooperation **Japan, US, Ukraine and Russia**



Contact Call "Energy Efficiency"

Contact the Energy Efficiency team via:

EACI-IEE-enquiries@ec.europa.eu



Contact

Call Smart cities & communities

Contact via the call coordinator:

Alexander.Kolomyjczuk@ec.europa.eu



Contact

Call Competitive low-carbon energy

Contact via the call coordinator:

Philippe.Schild@ec.europa.eu

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 (directly paid from Energy SC budget)
- JRC direct actions (IET, IPTS)

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 very much for your attention!

More information:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/index.html>