Presentation of the EeB cPPP Multi-annual Roadmap 2014-20

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Information Days of the Research PPPs, 16-17th December 2013
• Largest EU single activity and biggest industrial employer
• Highly fragmented, 95% of the enterprises are SMEs
• Turnover decreased during the crisis, not yet recovered
• Buildings use 40 % of total EU energy consumption
• The built environment generates 1/3 of GHG in Europe
• Replacement rate is very small (1 to 2 % per year)
• The renovation of the existing stock is a real challenge
• The built environment affects life and work of citizens
Novel technologies and systemic solutions are needed, optimised leveraging on research at EU scale and customised at local scale.
addressing the challenge of producing more, while consuming less material, using less energy and creating less waste and pollution. The focus will be on the development and integration of the adaptive production systems of the future, with particular emphasis on the needs of European SMEs, in order to achieve advanced and sustainable manufacturing systems and processes.

1.5.2. Technologies enabling Energy-efficient buildings

Reducing energy consumption and CO₂ emissions by the development and deployment of sustainable construction technologies, implementation and replication of measures for an increased uptake of energy-efficient systems and materials in new, renovated and retrofitted buildings. Life-cycle considerations and the growing importance of design-build-operate concepts will be key in addressing the challenge of a transition to nearly zero energy buildings in Europe by 2020 and the realisation of energy-efficient districts through the engagement with the wide stakeholder community.

1.5.3. Sustainable and low-carbon technologies in energy-intensive process industries

Increasing the competitiveness of process industries, such as chemical, pulp and paper, glass, or non-ferrous metals and steel by drastically improving resource and energy efficiencies and
... and contractual PPPs

From COM(2013) 494 final (July 10, 2013)

« Public-private partnerships in Horizon 2020: a powerful tool to deliver on innovation and growth in Europe:

• Complementing the JTIs, the Commission in FP7 also engaged in structured partnerships with the private sector to seek direct input into the preparation of the work programmes in areas which were defined upfront and which are of great industrial relevance.
• Contractual public-private partnerships are being considered in the following areas:
  • Factories of the Future
  • Energy-efficient Buildings
  • Green Vehicles
  • Future Internet
  • Sustainable Process Industry
  • Robotics
  • Photonics
  • High Performance Computing
From an end-use driven approach...
...to a value chain and «challenge based» approach
Need to create an innovation eco-system

Active role of architects, designers, users and clients in retrofitting/refurbishment projects
Building pillars (1/2)

SYSTEMIC APPROACH
Multidisciplinarity and cross-sectoriality

THE DISTRICT DIMENSION
Building pillars (2/2)

GEOCLUSTERS

"GOLD" approach

"GEO-CLUSTERS are transnational areas where strong similarities are found in terms of climate, culture, building typology, energy price, GDP, policies and regulations, etc."

Promote Sustainable Partnerships

International cooperation

- Lessons learnt
- Best practices
- Failures modes
- .....
User is key for impact

Prosumers
General objectives

• Develop technologies and solutions enabling to speed up the reduction in energy use and GHG emission in line with the 2020 goals, e.g. through a higher renovation rate of the building stock at lower cost and to meet regulatory needs

• Develop energy efficient solutions in order to turn the building industry into a knowledge-driven sustainable business, with higher productivity and higher-skilled employees

• Develop innovative systemic approaches for buildings and districts, helping to improve the competitiveness of EU building industry by providing cost-effective, user-friendly, healthy and safe products for smart cities

Creation of a solid foundation for continuous innovation
Key research areas

- Technologies for acceleration of building stock renovation
- Interactive and sustainable buildings embedded at district and city scale
- Ensuring energy performance during service life
Specific objectives

To develop, integrate and demonstrate **new technologies** in:

• **Innovative construction** e.g. building envelope, multi-target design, materials and pre-fabrication methods, approaches adapted to public buildings or commercial/private-housing ones

• **Systemic, cost-effective, mass-customised, high-performing, and minimally invasive building-retrofitting solutions** integrating innovative energy equipment and storage

• **Interactive sustainable buildings** for energy neutrality/positivity in a block of buildings

• **Performance monitoring tools** to ensure energy efficiency during the service life, by providing the full performance predicted at the design phase and long-lasting quality to the end-user, in combination with durable components
Priorities

- Innovation friendly **procurement, regulation and standardisation**
- Standardised **benefit assessment** methods and metrics
- Market mechanisms, **business models** and supporting financial incentives
- Training/building **skills**
Full synergy and complementarity with major initiatives

Integrated Roadmap

The process for the development of the Integrated Roadmap continued with the kick-off meeting of the Working Group organised on 1st October 2013, in Brussels and chaired by the JRC/SETIS. The Working Group is tasked to formulate the content of the different parts of the Integrated Roadmap.

On 17th September 2013, the development of the Integrated Roadmap was initiated with a kick off meeting in Brussels, chaired by the Commission and attended by Member State representatives and experts, who comprise the Working Group and are responsible to draft the Integrated Roadmap.

On 2nd May 2013, the Commission published a Communication setting out a strategy to enable the EU to have a world-class technology and innovation sector, fit for coping with the challenges up to 2020 and beyond. As part of the key measures put forward in this Communication is the development of an Integrated Roadmap under the guidance of the SET Plan Steering Group and based on expert-based input, which will incorporate the key principles and measures identified in the Communication.

The Integrated Roadmap will consolidate the (updated) technology roadmaps of the SET Plan while retaining the technology specificities; cover the entire research and innovation chain from basic research to demonstration and support for market roll-out; and identify clear roles and tasks for the various stakeholders such as the EERA, the EIs, the EIT, relevant European PPPs and other stakeholders such as universities, investors and financiers, while promoting synergies and interactions between them.

The Integrated Roadmap will prioritise the development of innovative holistic solutions, which will respond
Conclusions

The ambition is to turn energy efficiency into sustainable business extending the scope of the EeB PPP within H2020

– To accelerate, to recover and to become globally competitive…
– …through a focused set of RDI priorities
– …with a strong industry commitment

The PPP is a part of the whole EC strategy

– With an envisaged return on investment

  • Speed up renovation rate
  • Increase economic activity and mobilize investments in RDI
  • Shape a renewed skilled work force
  • Reduce energy needs and CO₂ emissions
  • Improve quality of life of EU citizens

– Keeping track of progress and impact
Thanks for your attention

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