

The Energy-efficient Buildings PPP: research for low energy consumption buildings in the EU

- Development of innovative construction and retrofitting technologies;
- Definition of the research priorities in close collaboration with the EU construction sector;
- New market opportunities for EU companies;
- New jobs for high skilled EU professionals.



What is the challenge?

The construction sector is crucial to EU environment and energy policies as buildings use 40 % of total EU energy consumption and generate 36% of greenhouse gases in Europe. While the replacement rate of existing stock is very small (1-2% per year), the construction sector is on the critical path to decarbonise the European economy by 2050. This is a unique opportunity for sustainable business growth provided that products and related services for both new and refurbished buildings are affordable and of durable quality. Yet, the sector is highly fragmented (over 95% SMEs) and sensitive to economic cycles.

What is the Energy-Efficient Buildings (EeB) PPP?

The EeB is a partnership between the European Commission and the private sector as represented by the Energy Efficient Buildings Association (E2BA), an initiative of the European Construction Technology Platform. The multiannual EeB roadmap is the document containing the research and innovation priorities of the private sector, which are essential

inputs for the design of the research work programmes by the European Commission. To improve transparency, this partnership is based on a contractual agreement between the Commission and the industry partners, setting out the objectives, commitments, key performance indicators and outputs to be delivered.

What results and benefits can we expect?

The EeB cPPP intends:

- to create and integrate technologies and solutions enabling to reduce energy consumption and GHG emissions in line with the 2020 goals;
- to turn the building industry into a knowledge-driven sustainable business, with higher productivity and higher skilled employees;
- to develop innovative and smart systemic approaches for green buildings and districts, helping to improve the competitiveness of the EU building industry.

Quantitative objectives of EeB are:

- to increase private investment in research & innovation up to 3% of turnover;

- to create 10 new types of high-skilled jobs implemented through knowledge transfer and training;
- to develop the technology to reduce energy and CO2 by 50% and by 80% respectively compared to 2010 levels;
- to present at least 100 demonstration buildings and districts, which are expected to be retrofitted with ICT-based solutions and monitored to reduce up to 75% energy use.

What is the budget?

An indicative financial envelope from the European Union budget of EUR 600 million for the period 2014-2020 is allocated for the EeB research and innovation activities. The final budget contributions will be set out in the periodic Horizon 2020 work programmes. The private side commits to engage the stakeholder community to invest funds in research and innovation activities specific to the partnership domain within the Horizon 2020 Framework Programme.

How will it be run?

The PPP research and innovation activities will be co-funded under Horizon 2020 and will be subject to the Framework Programme rules for participation and dissemination. PPP activities will be based on a continual stakeholder dialogue between the private and the public bodies involved in the initiative. The technological objectives are guided by the 2014-2020 multi-annual roadmap, developed by the research and industrial stakeholders and validated in a Europe-wide open consultation process.

The European Commission ensures a fair, open and transparent implementation through annual calls for proposals and a rapid proposal-to-grant process under Horizon 2020.

The EeB will build on an existing partnership. Most of the EeB projects financed during the first period are still in progress. The implementation of the Energy-efficient Buildings PPP has so far funded 105 research projects for a total amount of EUR 546 million of public funding. The EeB PPP has also had a leverage effect on research and innovation investments by focusing on more industry-relevant activities, helping to attract both large and small to

The EeB cPPP, supports a wide variety of research activities for the EU buildings sector:

3ENCULT - Energy Efficiency solutions of Cultural Historical Buildings. Buildings constructed before 1945 can potentially reduce up to 30% of the emissions of the whole EU building stock while keeping their historic value. The project has been developing the technology to potentially change the life of 120 million EU citizens who are living in those buildings.

BEEM UP - Energy Efficiency for Massive market Uptake. BEEM-UP develops the technology and all necessary collaboration schemes leading to reducing energy consumption in building by 70% with huge replication potential. This could considerably speed up the renovation of the EU building stock. The project demonstrated in one of the case studies that energy consumption can be reduced by 76% while increasing the rental payment by only EUR 50/month.

NANOPCM: New Advanced iNsulatiOn Phase Change Materials. The new materials developed in NANOPCM increase their insulation properties as the temperature of the wall increases. The breakthrough progresses of NANOPCM have been tested in extreme climates with excellent results. It could reduce energy consumption and CO2 emissions in tomorrow's buildings by 30%.



medium-sized industrial partners.

Useful links

EeB cPPP:
www.ec.europa.eu/research/industrial_technologies/energy-efficient-buildings_en.html

E2B Association:
www.e2b-ei.eu