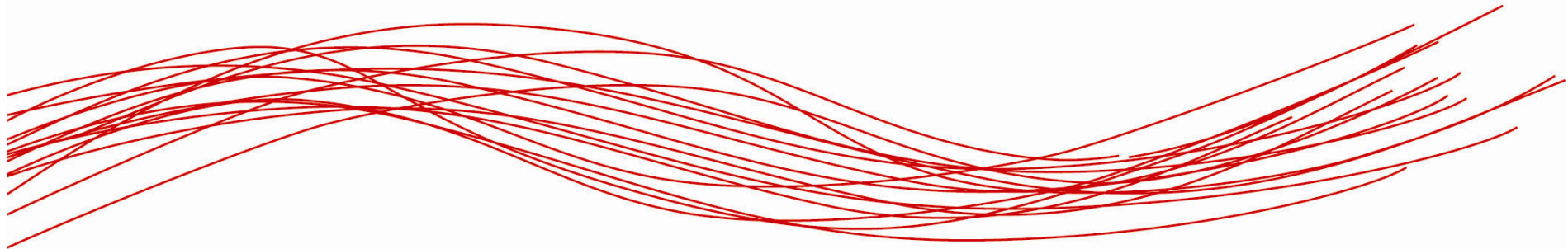




Energy Efficient Buildings NMP Topics



Info day, Brussels, 9 July 2010

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Energy Efficient Buildings PPP Vision

European energy efficient buildings initiative (EeB)

Deliver, implement and optimise concepts for

buildings and districts

that have the technical, economic and societal potential to drastically

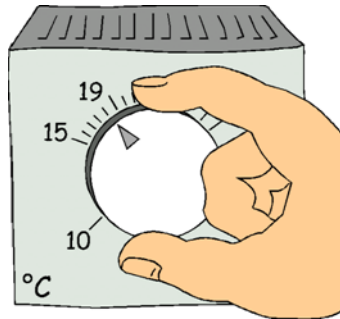
decrease the energy consumption and the
carbon dioxide emissions

from existing and new buildings throughout the European Union.



TOPICS

- **EeB.NMP.2011-2 « New solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings»**
- **EeB .NMP.2011-4 « Geoclusters approach to support European energy-efficiency goals »**



EeB .NMP.2011-2 « New solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings»

Technical Content/scope:

**Largest part of energy use
Existing residential stock is the main target**

Objectives :

- ✓ **Focus on space heating and domestic hot water**
- ✓ **To deliver cost effective solutions suitable for Retrofitting**
- ✓ **To be applied widely within buildings or districts**
- ✓ **Holistic approach (ventilation, humidity...)**
- ✓ **End users acceptance**
- ✓ **Active participation of industry (SMEs) is expected**





« New solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings»

Deliverables :

- ✓ **Development, Integration, demonstration and validation of reliable systems for a better comfort in order to provide new solutions easy to install with low maintenance and simplifying logistics.**
- ✓ **Appropriate measurement and analysis tools to validate the energy performance**
- ✓ **Solutions should be compatible with the district dimension**

« New solutions for energy generation, storage and use related to space heating and domestic hot water in existing buildings»

Funding Scheme :

Large Collaborative projects

Impacts :

The overall efficiency of new solutions should be $\geq 50\%$ compared to actual situation



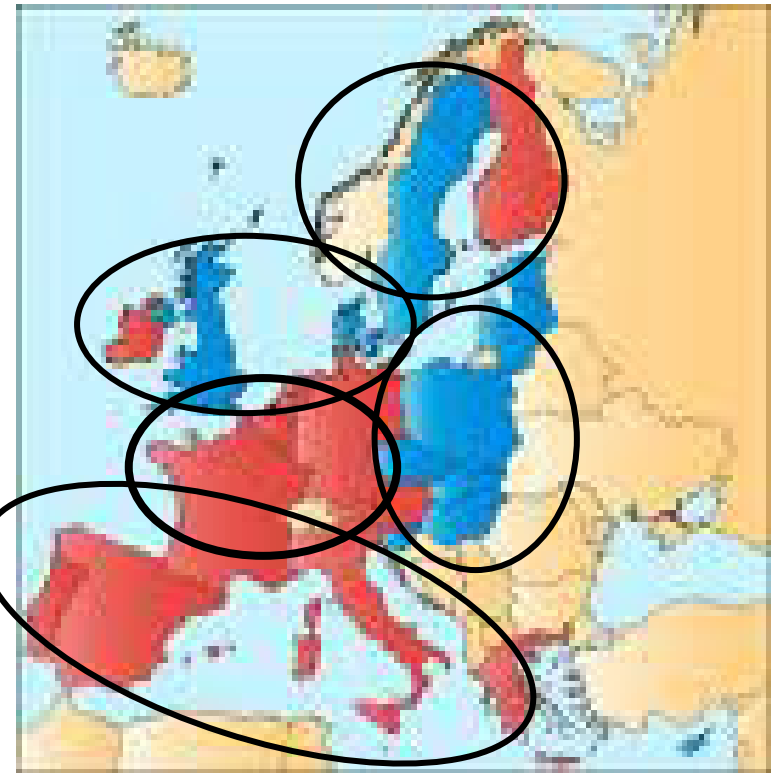
EeB .NMP.2011-4 « Geoclusters approach to support European energy-efficiency goals »

Technical Content/scope:

Environment of the building stock varies widely across EU
Regional/local aspects are often influencing the decision

Objectives :

- ✓ **Focus regional or local preferences**
- ✓ **Identifying homogenous or similar area**
- ✓ **Wide participation within the value chain**
- ✓ **2020 support**



« Geoclusters approach to support European energy-efficiency goals »

Deliverables :

- ✓ **Repository of structured information on all EU methods and tools in EE and construction**
- ✓ **Develop a technology map showing similar technologies and R&D challenges**
- ✓ **Identify appropriate business strategies for an higher impact**
- ✓ **Solutions should take into account LCC**
- ✓ **At least 2 Geoclusters clearly identified**

« Geoclusters approach to support European energy-efficiency goals »

Funding Scheme : Coordinated Action

Impacts :

To speed up the deployment of the adequate solutions at a suitable dimension with :

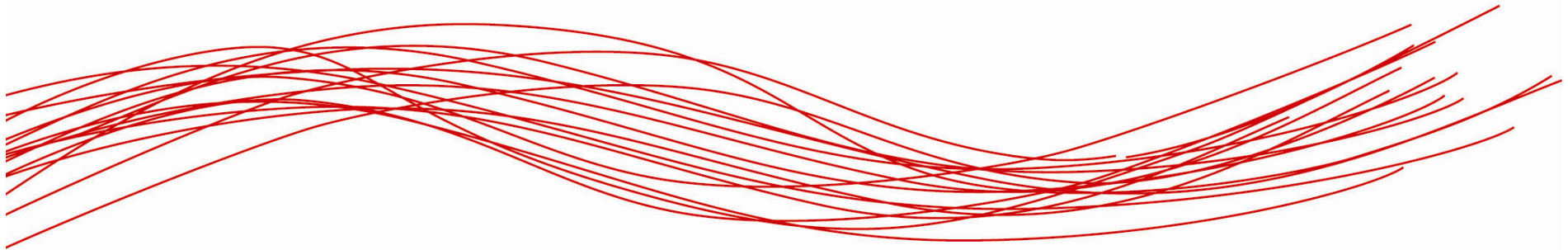
- ✓ **Clear definition of requirements and specifications for technology development and integration**
- ✓ **Fine tuning of demonstrators available to maximise the impact**
- ✓ **Identification and involvement of all value chain stakeholders including non-technological aspects**

Thank you for your attention

Questions?



Energy Efficient Buildings NMP Topics



Info day, Brussels, 9 July 2010

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EeB.NMP.2011-3 Energy saving technologies for buildings envelope retrofitting

Background:

- very large existing building stock in Europe,
- retrofitting represents a major challenge and has the highest potential to transform existing and occupied buildings (commercial and residential) into energy-efficient buildings.

Objective:

There is a clear need to develop new technologies and strategies for buildings with reduced energy consumption and increased indoor comfort (noise, glare, moisture, etc.).

while taking account of the

- ▶ social acceptance by the buildings' users and
- ▶ return on investment.



«buildings envelope» Technical content/scope

S&T focus

development of

- new materials
- products,
- components,
- systems

compatible with existing building functions and aesthetics for the building envelope

Targets

- The basement, roof and walls
- Compatible with district level concept
- The building structure is not the primary target.

«buildings envelope» Deliverables

Cost-efficient and easy to install modular solutions with maintenance considerations that will

- clearly contribute to reach **energy saving targets** for existing buildings in the short/medium term
- not hinder the **future integration** of renewable energy sources in the existing building stock.

Funding scheme: **Large-scale integration collaborative projects.**



«buildings envelope» Impacts

- **industrial relevance and impact** - active participation of industrial partners (criteria Implementation and Impact)
- **demonstrate** the possibility to reach at least the energy efficiency of new buildings according to current national regulations.
- **clear benefits both to owners and tenants.**
 - ▶ The return on investment should be kept below 7 years
 - ▶ the economic performance of the proposed solutions should be demonstrated by costing the service life.
- **Non technological barriers should be properly addressed.**
 - ▶ Both **societal acceptance** and making **wide-scale commercial application** feasible are crucial.
 - ▶ **impact on the occupants and users** should be considered.
 - ▶ ...
- **The re-use and/or recycling of building blocks and components removed during the renovation process,**

14/07/2010



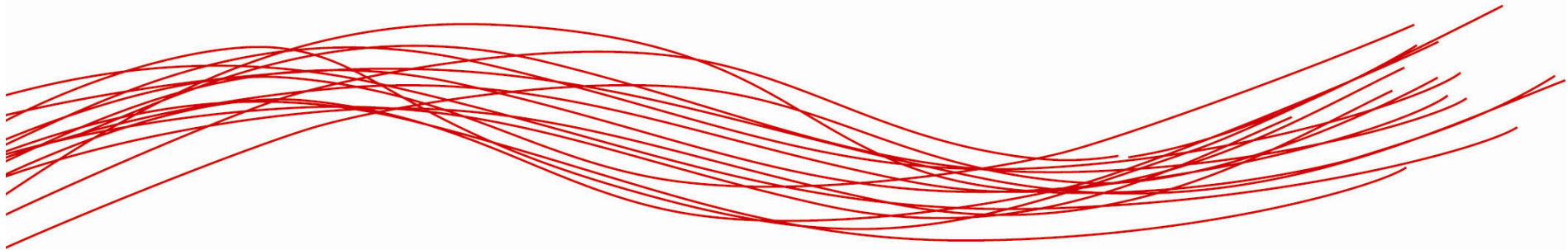
Thank you for your attention

Questions?



EeB-NMP.2011.1

Materials for new energy efficient building components with reduced embodied energy



Info Day PPP – 9th July 2010

European Commission
Research DG - Unit G3 Value-Added
Materials
Monique Lévy

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14/07/2010





Importance of embodied energy

- Embodied energy is the quantity of energy needed to manufacture a material, component...
- Energy embodied in materials may represent a high percentage of the energy spent in the whole life cycle of a building
- Improvements in energy efficiency in buildings put more emphasis on embodied energy of materials (low energy buildings...)



Research Objectives

- Development of new multifunctional materials offering:
 - Low embodied energy
 - Higher level of properties, specially thermal and acoustic
- Innovative new approaches to materials and materials life cycles going beyond State of the Art



Materials and components

- Materials for building components with reduced embodied energy
- Improve understanding and application of a particular material
- AND
- Improve understanding and optimisation of material combinations and their synergistic function
- Strong focus on final performance properties rather than individual material performance
- Deliver at least one fully operational component



Environment, Health and Safety aspects

- Responsible, sustainable and environmentally friendly approach
- Assessment through LCA of each solution
- Integration of waste (recycling) in the production cycle of new materials
- Where appropriate, health and safety research and/or assessment

Options in Research Proposals

- Standardisation
- Dedicated modelling
- Production of (certified) reference materials



Expected Impacts

- Reduction of embodied energy at component level compared to 2005 values: at least 50%
- Reduction of cost compared to existing solutions: at least 15%
- Improved durability of components
- Quantification of impact on energy efficiency at building level in Europe
- Contribution to achieving European Policies



Other characteristics

- Large-scale integrating collaborative project
- Active participation of industrial partners, including SMEs represents an added value
- Participation of public authorities may be considered
- Publication of call: 20th July 2010
- Evaluation: 6th to 28th January 2011



Thank you for your attention!

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INFODAY on Research PPPs
Brussels 9th July 2010
Energy-Efficient Buildings – PPP



Opportunities in the 2011 ENVIRONMENT Call

Andrea Tilche
European Commission
Research DG
Environmental Technologies

14/07/2010





Environmental Technologies 2011 Call

Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-1 Technologies for ensuring, monitoring and /controlling a « high quality indoor environment » particularly in relation to energy efficient buildings

« Definition » A “high quality indoor environment” should be safe, healthy, comfortable, and accessible, should prevent accidents, and provide positive stimulation to users, and facilitate independent living and/or participation in society.

THE CHALLENGE

- **Reducing energy consumption challenges traditional methods of design, construction, commissioning and maintenance of buildings**
- **Retrofitting is highly relevant for vast majority of  building stock**



Environmental Technologies 2011 Call

Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-1 - **RESEARCH FOCUS**

- **Improved indoor environment predictive and monitoring tools for design and retrofitting**
- **Efficient products, systems and processes for commissioning and maintenance management of buildings that ensure a high quality indoor environment**
- **Recommendations for new policies and regulations within the EU**

**Up to 2 projects with an upper funding limit of EUR 2 500 000.
Funding scheme: Collaborative project (small or medium-scale
focused research project)**

14/07/2010





Environmental Technologies 2011 Call Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-1 - **IMPORTANT CONSIDERATIONS**

- **Consider the interests of stakeholder groups**
- **Demonstrate, in practice, the potential impacts of the tools, technologies or processes developed in a selected range of diverse building contexts**
- **Present convincing strategy for the effective dissemination, exploitation, take-up in practice and mainstreaming of results**
- **Address non-technical barriers to be overcome**
- **Ensure a substantial participation of industry, (which should include SMEs)**



Environmental Technologies 2011 Call Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-2 Operational guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative

THE CHALLENGE

- **Need to assess and measure environmental sustainability of EeB-PPP technological developments in a consistent and scientifically sound way using LCA in accordance with the International reference Life Cycle Data System (ILCD)**

**Up to 1 project with an upper funding limit of EUR 500 000.
Funding scheme: Coordination and Support Action (Supporting Action)**

14/07/2010





Environmental Technologies 2011 Call

Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-2 - **RESEARCH FOCUS**

- **Developing specific operational guidance that tailors the general ILCD handbook for application to future products**
- **Related training material and courses for practitioners in industry**
- **Dissemination of results in particular to the EeB community and projects**



Environmental Technologies 2011 Call Energy-Efficient Buildings – PPP

EeB.ENV.2011.3.1.5-2 - **IMPORTANT CONSIDERATIONS**

- **Focus only on guidance, data collection and LCA execution will be the subject of later calls**
- **All results should be delivered within max 1 year from starting**