Smart-ECO

Sustainable Smart Eco-Buildings in the EU

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Smart-ECO

SSA Strategic Support Action under FP6

FP6 Project **Cluster** Eco-Building

- INTECO Build
- ECO BUILD
- SMART-ECO

Aim to provide **additional value** to R&D projects under FP6

Sustainable Smart Eco-Buildings in the EU Smart-ECO

Project Aim

- evaluate technical and non-technical innovations relative to a stakeholder supported vision for sustainable building

Primary Objectives

- establish a vision for sustainable European eco-buildings considering the requirements of stakeholders' views
- prioritize elements of the vision with associated requirements
- identify innovations based on their potential relative to vision and requirements
- communicate the vision, innovations, requirements and metrics

Smart-ECO Concept

Anchor

- Sustainability in building construction (ISO 15392)
- Holistic life cycle approach
- Performance concept
- Sustainability “tripod”

Vision

- Identify and establish vision for 2010 to 2030
- Anchored in business environment
  - Standards, policies, directives, international agendas
- Agreed by wide range of stakeholders
- Documented relevance – ambitious but realistic

Innovations supporting the vision

- Evaluation of potential contribution

Smart-ECO Vision Overview

Key Statement (ISO 15392:2008):

- Buildings contribute to sustainable development when designed and operated to match the appropriate fitness for use, with minimum adverse environmental impacts, while encouraging improvements in economic, social and cultural aspects at local, regional and global levels.

Core Aspects of the Vision for Sustainable Smart Eco-Buildings:

- Apply general principles of sustainability in building construction
- Life Cycle perspective
- Adaptable throughout service life, end of life strategy
- Minimized adverse environmental impact
- Healthy, comfortable and safe for users
- Provide / maintain economic value over time
- Provide social and cultural value
- Integrated processes, involvement of interested parties
- Designed to meet the needs individually and collectively
- Integrated into regional strategy
- Accessible for all
- User friendly, simple and cost efficient in operation, measurable performance

Vision and Innovation

Vision

- Ambitious but realistic goal

Requirements

- Performance requirements, guiding development towards vision

Challenges

- Trends supporting or hindering development towards the vision
- New concerns due to societal, technical, economic changes

Innovations

- Technical and non-technical “new” approaches

Solutions

- Applied innovation solving a challenge

Contribution Potential

- Qualitative or quantitative description of contribution towards the vision
- Based on development and potential scenarios

Innovation

Innovations

- Technical and non-technical new approaches
- Embedded in current technical or procedural systems
  - Incremental rather than disruptive
- “New” relative to current practice
  - Regional difference

Providing Solution

- Applied innovation solving a challenge
- Resolving conflicts of interest
- Providing better performance
- Not creating new challenges

Contribution Potential

- Efficiency of innovation
- Market ability, scale of application
- Technological and cultural applicability
- Context dependent application potential
- Impact on sustainability aspects

Validating through stakeholder involvement

Stakeholder involvement

- draft vision and innovations established by the project partners
- executive summaries / shortlists circulated for commenting to broad range of stakeholders (230 + individuals)
- full documents scrutinized and discussed with key-stakeholders offering significant expertise in sustainability and buildings
- Results and process disseminated for information and commenting through the global contact network of CIB
- publications and newsletters spreading the content to target audiences
- Multiple feedback loops allow to adjust

Goal with stakeholder involvement

- Gain feedback
- Strengthen relevance
- Research perspective & business perspective
- Involvement = participation = dissemination = realisation

Evaluation

Innovation supporting development towards vision

Link to

- Vision and its elements
- Challenges and solutions
- Requirements based on vision
- Requirements interpreted to challenge
- Potential contribution to resolve challenge and become solution
- Qualitative description
- Quantitative metrics linking to requirements

Dissemination & Exploitation

Workshops and Conferences

- Directed towards stakeholders & broader
- Final conference at CIB Conference Manchester 2010

Newsletters

- CIB Newsletters
- www.cibworld.nl

Publications

- Scientific Journals
- Conferences
- Magazines
- Targeted Information Leaflets

Standardisation

- Feeding of results into ISO, “application guidance”

Smart-ECO project partners

1. BMG, Sweden
2. CSTB, France
3. Tallinn Technical University, Estonia
4. Servitec, Italy
5. TNO, The Netherlands
6. SINTEF Byggforsk, Norway
7. FH-Soest, Germany
8. Politecnico di Milano, Italy
9. Endoenergy Systems Ltd, UK
10. MACE, UK
11. Hywel Davies Consultancy, UK
12. CIB, The Netherlands