



CIB NEWS ARTICLE

International Council for Research and Innovation
in Building and Construction

Providing a global network for international exchange and cooperation in research and innovation in building and construction, in support of an improved building process and of improved performance of the built environment.



Smart-ECO
Sustainable Smart
Eco-Buildings in the EU

Sixth Framework Programme
Priority 6.1.3.1.2.1
ECO-Buildings



April 2010

Workshop on Sustainable and Smart-ECO Buildings



13 May 2010, Salford, United Kingdom

This Workshop marks the culmination of a major project (the Smart-ECO project), which set out more than two years ago to investigate what a smart sustainable building should look like in the future, to review recent innovations, and to evaluate the present and future practicability of incorporating those innovations in smart sustainable building. The Coordinator of the project, Christer Sjöström, will speak about the project in the Major Plenary Session at 9am.

The workshop, which begins at 11.30 am will be introduced by Wim Bakens, Secretary General of CIB. Speakers actively involved in the project will then describe how the project was carried out, including the use of a stakeholder group to keep the work grounded in practical reality so that the project outcomes will be applicable to the real world.

A Summary Report on the project will be released at the Workshop and will be available for free download soon after the Congress.

With the benefit of the knowledge gained during the project, members of the team involved will describe

the specific challenges meeting the building and construction sector as a result of the path towards Sustainable Construction. Sustainable use of resources, energy efficiency and conservation, and life cycle perspectives in building, etc, are discussion topics. The Workshop is created around a cluster of R&D projects financed by the European 6th framework programme for research, and specifically the project "Sustainable Smart-ECO buildings in the EU; Smart-ECO" (www.ecobuildings.info and www.smart-eco.eu)

Project Background

Smart-ECO is an SSA (Specific Support Action) coordinated by the University of Gävle in Sweden to set up a network of stakeholders from the built sector able to create a generic vision framework for ECO-buildings, to determine what innovations could be useful for realising the vision, and to identify those elements that have the highest potential impact. The main technical work packages have addressed and developed the vision for sustainable smart ECO-buildings, identified the main innovations which could be used to realise the vision, and performed an evaluation of the innovations in order to identify those

which will have the most effect on realising the vision that has been formulated, all the while anchoring the work and the findings with a carefully selected group of stakeholders.

Vision

The vision for sustainable Smart ECO-buildings in the EU, outlines an ambitious direction of development for the time-frame 2010 to 2030. The vision is based on the state-of-the-art in international standardization as well as on recently conducted R&D projects. The established vision reflects the ISO "General Principles of Sustainability in Building Construction" and has been broken down into 9 topics. The vision has been supported by with the stakeholder panel and has gained the attention of the international standardization community as well as of the UNEP-SUN programme.

Innovations to support the Vision

The vision and related requirements have been translated into a matrix displaying the elements of the vision, associated requirements, thematic fields and associated problems, and, ultimately, approaches to overcoming the problems. This matrix serves to identify technical and non-technical innovations that by reducing problems or by providing solutions can contribute to a development in line with the established vision. Innovations may well have a regional character, or may vary in appropriateness and efficiency due to different preconditions. The innovations have been identified and discussed with involvement from the stakeholder panel.

Evaluation of the Innovations

The evaluation identifies those innovations that are understood to contain the largest potential for a development that is in line with the established vision. Consequently, these identified innovations should be given most attention in the near future. The evaluation applies a "simultaneous multi-criteria approach" in order to avoid sub-optimisation. Sustainability in its complexity is an ambitious topic to be handled appropriately, involving a holistic approach covering relevant sustainability aspects, technical performance and functionality, as much as it concerns the life cycle.

Anchoring with stakeholders

As part of the project a Stakeholder Group comprising some 230+ technical experts, industrialists, property developers, materials experts, architects, builders, demolition companies and educationalists has been set up, with the purpose of following and guiding the project work. A core of this group with a total of 66 experts has been active in assisting the project by

commenting and providing valuable feedback on the technical work carried out, using questionnaires.

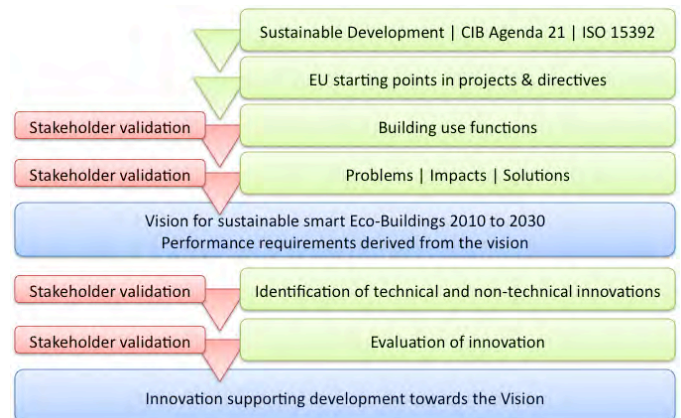


Figure illustrating the Smart-ECO project process with special focus on involvement of stakeholders

The main observations and results of the Smart-ECO project will be released and discussed at the Workshop. The findings will be presented by key actors active in the project, and the aim is an in-depth discussion on future directions for Sustainable and Smart-ECO buildings.

Workshop Programme and Speakers

The Workshop Programme divides the discussions into 4 topics, as shown below, and will run from 11.30 am until 1 pm. The discussion on each topic will be chaired by Hywel Davies, CIBSE.

- Sustainable and Smart-ECO buildings; intro
Wim Bakens, Secretary General, CIB
- The Vision 2010 - 2030, the Requirements, and the Policies supporting Sustainable Building
Alexandra Lebert, CSTB
Michael Schmidt, ICCR
- Innovations supporting the Vision and the Evaluation of achievements. Anchoring with Practice, the Smart-ECO stakeholder process
Stefano Saldini, Mace
Leo Bakker, TNO
Gurvinder Virk, Endoenergy Systems Ltd
- Exploitation and the way forward. Standardisation as a means
Wolfram Trinius, Christer Sjöström, Univ. Gävle, and Panel of Speakers

The Speakers

The Workshop will be introduced by Wim Bakens, Secretary General of CIB, who strongly supported the launching of the EU-funded Smart-ECO project and promoted CIB's engagement in the project consortium. He is also responsible for CIB's active involvement with UNEP-SBCI, and for the drafting of a Sustainable Building Procurement Handbook for ultimate use internationally.



Christer Sjöström is Professor in Building Materials Technology at KTH and University of Gävle, Sweden, specialised in performance over time analyses of materials, products and systems, Co-ordinator of the EU-project "Smart-ECO", Chairman of ISO TC59/SC14 on Design Life of Buildings, former President of CIB.



Wolfram Trinius, is researcher at the University of Gävle focussing on economic and environmental life cycle assessment and performance based building. He chairs international standardisation working groups in the field of sustainable construction and runs an R&D consultancy in Hamburg.



Alexandra Lebert works as research and development engineer in the "Environment" team of CSTB, Grenoble, where she is involved in the field of environmental performance of construction products and buildings and in the development of the software ELODIE, evaluating the environmental impact of buildings using EPDs.



Stefano Saldini works with MACE in London UK, focussing on design management and coordination of multi-disciplinary teams, engineering design, the implementation of strategies related to sustainability and energy use. He is in charge of pre-construction engineering on the London 2012 Olympics, which is one of the largest regeneration projects in Europe.



Michael Schmidt is research fellow and board member at "The Interdisciplinary Centre for Comparative Research in the Social Sciences" in Vienna, Austria. He is coordinator of the EU-project "ECO-BUILD" focussing on policies supporting the implementation of the Eco-Building concept.



Leo Bakker is research fellow with TNO, in Delft, the Netherlands. He is focussing on the use of smart systems in buildings for enhanced and sustainable operation.



Gurvinder Singh Virk is the Managing Director of Endoenergy Systems Ltd, a university start-up in the UK set up to develop and exploit renewable energy technologies for the built sector. He is a technical expert in control engineering and robotics and also holds the position of Professor of Robotics at Massey University, Wellington, New Zealand.



Hywel Davies is Technical Director of the Chartered Institution of Building Services Engineers, responsible for the development of technical guidance and publications relating to energy using systems in buildings and the energy, comfort and indoor environment aspects of buildings.



Information

For further information on Smart-ECO please visit the designated website at www.smart-eco.eu

CIB published the following 5 News articles about the Smart-Eco project:

- [Smart-ECO Report 1 – March 2008](#)
- [Cluster Ecobuildings – Report 1 - December 2008](#)
- [Smart-ECO Report 2 \(The Vision\) – December 2008](#)
- [Smart-ECO Report 3 \(Innovation\) – April 2009](#)
- [Smart-ECO Report 4 \(The Final Vision\) November 2009](#)

CIB will shortly publish a news article about the Smart-ECO Summary Report and where it can be free downloaded.

For detailed information about the CIB World Building Congress see [here](#).