

# Integrating Environmentally Responsive Elements in Buildings

## ANNEX 44

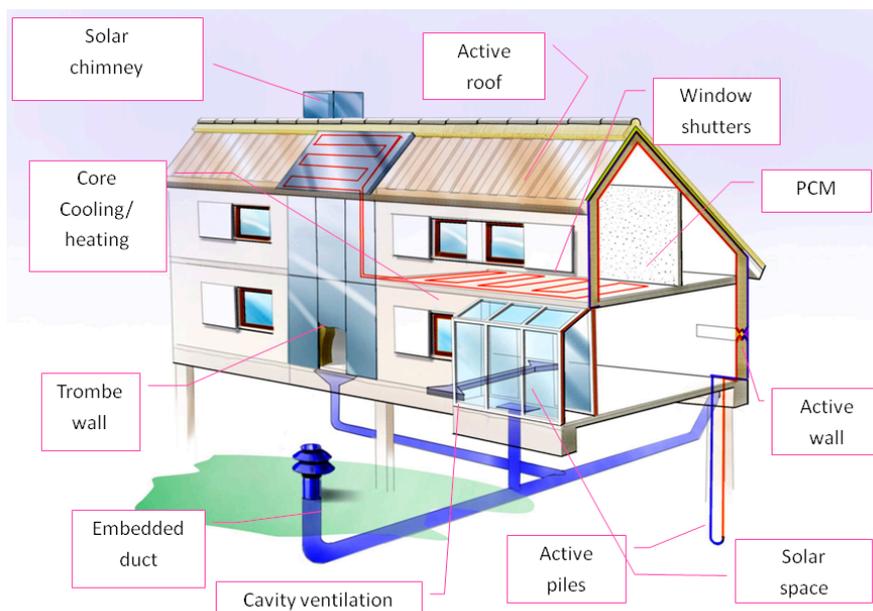
Research into building energy efficiency over the last decade has focused on efficiency improvements of specific building elements and building services systems. Significant improvements have been made, and whilst most building elements still offer opportunities for efficiency improvements, the greatest future potential lies with technologies that promote integration. In this respect responsive building elements are essential technologies for the exploitation of environmental and renewable energy resources. In the development of responsive building concepts the challenge is to achieve an optimum combination of responsive building elements, and integration of these with the building services systems and renewable energy systems to reach an optimal environmental performance.

The outcomes of the EBC project “Integrating Environmentally Responsive Elements in Buildings”

provide guidance on responsive building elements and their integration within new responsive building concepts. They present guidelines and procedures for the design of responsive building concepts, including the estimation of the environmental performance of responsive building elements.

### PRODUCTS

- State-of-the-Art Reports
- Experts’ Guide on Responsive Building Elements
- Experts’ Guide on Responsive Building Concepts
- Designing with Responsive Building Elements



*Responsive building elements.*

## INTERNATIONAL ENERGY AGENCY

The International Energy Agency (IEA) was established as an autonomous body within the Organisation for Economic Co-operation and Development (OECD) in 1974, with the purpose of strengthening co-operation in the vital area of energy policy. As one element of this programme, member countries take part in various energy research, development and demonstration activities. The Energy in Buildings and Communities Programme has co-ordinated various research projects associated with energy prediction, monitoring and energy efficiency measures in both new and existing buildings. The results have provided much valuable information about the state of the art of building analysis and have led to further IEA co-ordinated research.

## EBC VISION

By 2030, near-zero primary energy use and carbon dioxide emissions solutions have been adopted in new buildings and communities, and a wide range of reliable technical solutions have been made available for the existing building stock.

## EBC MISSION

To accelerate the transformation of the built environment towards more energy efficient and sustainable buildings and communities, by the development and dissemination of knowledge and technologies through international collaborative research and innovation.



*Kvernhuset school, Norway has been studied in the project.*

### Project duration

Completed (2004 - 2011)

### Operating Agent

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### Participating countries

Austria, Canada, Denmark, France, Italy, Japan, Norway,  
Poland, Portugal, Sweden, the Netherlands, United Kingdom,  
USA

### Further information

[www.iea-ebc.org](http://www.iea-ebc.org)