

# ABOUT ANNEX 3 I

## Mandate and Content Overview



### Annex 3 I

#### Energy-Related Environmental Impact of Buildings



International Energy  
Agency



Energy Conservation in Buildings and  
Community Systems Programme



ANNEX 3 I

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## INTRODUCTION TO ANNEX 31

### Mandate

Annex 31 is a project established under the auspices of the International Energy Agency's (IEA) Agreement on Energy Conservation in Buildings and Community Systems.

The mandate for the Annex 31 working group is to provide information on how to improve the Energy-Related Environmental Impact of Buildings. More specifically, Annex 31 has focused on how tools and assessment methods might improve the energy-related impact of buildings on interior, local and global environments. The ultimate objective is to promote energy efficiency by increasing the use of appropriate tools by practitioners.






Tools stimulate communication, make energy and environmental efficiency quantifiable and ultimately make it possible to set goals and monitor performance.

### Mission Statement

Through collaborative research and communications we will encourage development and application of appropriate tools and assessment methods for improving the energy-related environmental impacts of buildings.

### Membership

Fourteen countries participated in Annex 31, each supplying one or more experts to the Annex 31 meetings, and by supporting the on-going research work writing undertaken by these experts, and their colleagues, within their national organizations and agencies. Names of all the individuals who participated in the Annex 31 work are listed in Links to Participants and Agencies, together with their affiliations and addresses. Experts participating in Annex 31 are typically architects, engineers or scientists. All have brought to the work both a practical and academic understanding of buildings and environmental issues. Many have been involved with the development of methods and tools within their organizations and countries.

Participating Country	Special Role	National Representatives and Key Authors
 Australia		Peter Stewart, Peter Edwards
 Canada	Operating Agent	Peter Russell, Sebastian Moffatt, Thomas Green
 Denmark		Ebbe Holleris Petersen, Klaus Hansen
 Finland	Sub-task leader: Resources	Ilari Aho, Jari Shemeikka
 France	Sub-task leader: Theory	Sylviane Nibel, Serge Sideroff

	Germany	Sub-task leader: Web site	Thomas Lutzkendorf, Karsten Tanz
	Japan		Noriyoshi Yokoo
	Netherlands	Sub-task leader: Application	Chiel Boonstra, Marjo Knapen
	New Zealand		Michael Camilleri
	Norway		Trine Dyrstad Pettersen
	Sweden		Wolfram Trinius, Mauritz Glaumann
	Switzerland		Annick Lalive d'Epina
	United Kingdom		Nigel Howard, Roger Baldwin
	U.S.A.	Sub-task Leader: Case studies	Donald Fournier

## Process and Outputs

Representatives from all participating countries met as group on at least six occasions, over a period of three years. Sub-committees undertook to research and document the emerging assessment methods and tools, both nationally and internationally. A number of original technical reports were produced on a broad scope of subjects, ranging from theory to application. This original material was then condensed into a series of 4 Core Reports and 7 Background Reports, each with a similar style and level of detail. In addition, an Annex 31 Highlight Report has been prepared summarizing the key findings of the project. All of these outputs are presented on the CD-ROM and on the project website, <http://www.annex31.org>, with links to other complementary web sites.



**Figure 1**

*Annex 31 Participants, Gabriola Island, Canada, 1998*

The result is a fairly comprehensive overview of the theory and practice of life cycle impact assessment (LCA) tools for buildings, presented at varying levels of sophistication. The results also include descriptions of all types of tools, an international directory of tools, advice on the design of LCA tools, and a glossary of terms.

## Primary Audiences

Annex 31 has addressed a number of audiences, including:

- Policy developers, Regulatory Groups and others who may wish to encourage or mandate the use of tools and methods;
- Educators and researchers;
- Practitioners, including design professionals; and
- Tool developers.

The Core Reports have been written for an informed and technical reader familiar with the building sector. No specialized knowledge of environmental assessment methods or tools is required.

## BACKGROUND ON THE INTERNATIONAL ENERGY AGENCY

The International Energy Agency (IEA) was established in 1974 within the framework of the Organisation for Economic Co-operation and Development (OECD) to implement an international energy program. A basic aim of the IEA is to foster co-operation among the twenty four IEA participating countries and to increase energy security through energy conservation, development of alternative energy sources and energy research, development and demonstration.



## Energy Conservation in Buildings and Community Systems

The IEA sponsors research and development in a number of areas related to energy. The mission of one of those areas, the ECBCS – Energy Conservation for Building and Community Systems Programme, is to facilitate and accelerate the introduction of energy conservation, and environmentally sustainable technologies into healthy buildings and community systems, and commercialisation. The objectives of collaborative work with the ECBCS R&D program are directly derived from the on-going energy and environmental challenges facing IEA countries in the areas of construction, energy markets and research. ECBCS addresses major challenges and takes advantage of opportunities in the following areas.



- exploitation of innovation and information technology;
- impact of energy measures on indoor health and usability;
- integration of building measures and tools to changes in lifestyles, work environment alternatives, and business environment.

The ECBCS programme is mainly undertaken through a series of research projects called “Annexes”. Overall control of the agreement is maintained by an Executive Committee (ExCo), which monitors existing projects and initiates new annexes on topics in which international collaborative effort is clearly beneficial.

## ACKNOWLEDGEMENTS AND KEY CONTACTS

### Acknowledgements

Annex 31 has benefited from participation by many agencies and individuals from the member countries. Names and contact information are listed in the Links to Participants and Agencies section. Authors of research reports are noted on the first page of each original research report available in the reference materials.

Each of the participants in Annex 31 contributed valuable material to the final reports, and their effort is greatly appreciated.

Substantial research and writing was undertaken with great dedication by two of the section leaders: Sylviane Nibel (F), and Thomas Lützkendorf (De). Marjo Knapen and Chiel Boonstra (NL) also contributed significantly as section leaders for tool applications and comparisons.

Completion of the final reports, CD-ROM and web site were managed by Thomas Green (Ca, Operating Agent), with coordination support from Nils Larsson (Ca), project work led by Sebastien Moffatt (Ca), and web site construction by Thomas Lützkendorf (De) and Woytek Kujawski (Ca).



Figure 2

*Annex 31 Meeting, Stockholm,  
1997*

## Agencies

Table I below provides a list of Agencies that have sponsored participants, and provided financial support for Annex 31.

Australia	Energy Research Development Corporation
Canada	Canada Mortgage and Housing Corporation
Denmark	Danish Energy Agency
Finland	National Technology Agency Tekes, VTT Building Technology
France	Agence de l'Environnement et de la Maîtrise de l'Energie ADEME (French Environment and Energy Agency)
	Plan Urbanisme Construction et Architecture (PUCA), du Ministère de l'Équipement, des Transports et du Logement (French Ministry of Housing)
	Electricité de France (EDF) (Electricity of France)
	Centre Scientifique et Technique du Bâtiment (CSTB) (French Building Research Centre)
Germany	Bundesministerium für Bildung und Forschung bmf+f
	Bundesministerium für Wirtschaft BMWi
Japan	Institute of Building Energy Conservation (IBEC)
The Netherlands	Novem
New Zealand	BRANZ, the Building Research Levy and the Foundation for Research Science and Technology's Public Good Science Fund
Norway	Ecobuild
Sweden	Royal Institute of Technology
Switzerland	Federal Office of Energy (BFE), Bern
UK	Building Research Establishment (BRE)
USA	US Department of Energy

**Table I** *List of Annex 31 Sponsoring Agencies*

For names of all the Annex 31 members, participants, and contact information, refer to the report [Links: Annex 31 Participants and Agencies](#).

