



Annex 36 Newsletter

Improving the Learning & Teaching Environment

International Energy Agency - Energy Conservation /Buildings and Community Systems (ECBCS)

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International Energy Agency Established – ECBCS Formed – Annex 36 Identified

25 Member Countries

The Council of the Organization of Economic Cooperation established the International Energy Agency (IEA) in 1974. The IEA is the energy forum for 25 Member countries. An agreement on an International Energy Program established the Agency. 33% of the world's energy is consumed in non-industrial buildings (NIB) includes schools. In terms of the total energy, NIB sector equals the entire transport sector.

In recognition of the significance of such energy use, the IEA has established an Implementing Agreement on Energy Conservation in Buildings and Community Systems (ECBCS). ECBCS is to undertake research and provide an international focus for building energy efficiency. Tasks are undertaken through a series of annexes directed at energy saving technologies and activities that support their application in practice.

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IEA Goals

Energy Efficiency

The IEA set as its goals the following:

- ◆ To maintain and improve systems for coping with oil supply disruptions;
- ◆ To promote rational energy policies in a global context through cooperative relations with non-Member countries, industry and international organizations;
- ◆ To operate a permanent information system on the international oil market;
- ◆ To improve the world's energy supply and demand structure by developing alternative energy sources and increasing the efficiency of energy use;
- ◆ To assist in the integration of environmental and energy policies. ◀

How can Annex 36 help you?

What to expect:

1. An "Energy Concept Advisor" identifying technical retrofit measures in Educational Buildings. This electronic interactive source book will provide design guidelines, design examples and decision and design tools for the retrofit (renovation) process.
2. A Case Studies Document providing examples of different educational facilities that have incorporated various energy efficiency strategies in retrofit and renovation projects. Detailed analysis of the before and after energy use will be

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Results are also used in the formulation of international and national energy conservation policies and standards of member nations.

IEA Future Buildings Forum discussed the challenges associated with renovation of NIB. Educational buildings (kindergartens, schools, training centers and universities) was identified as a sector in each IEA country requiring retrofits or renovations and are large consumer of energy. Unfortunately, energy efficiency is one element in renovation rarely incorporated in designs. The major reason is lack of information and knowledge of energy's importance and impact on the learning and teaching environment by the decision-makers and building users: the students, educators and administrators.

The IEA ECBCS realized the importance education will play in shaping how technology and society is changed in the 21st century and the role educational buildings and its energy efficiency will contribute. A document is needed to relate to the decision-makers and educators the importance of energy efficiency in the consideration in retrofitting of existing educational buildings. The document would be known as an "**ENERGY CONCEPT ADVISER**" (ECA). The ECA would provide information and details for the design professional to use in the designing of energy efficiency retrofit projects. The ECA will include information on relative cost factors and life cycle cost considerations for both the educators and the design professionals.

*The **ENERGY CONCEPT ADVISOR** would provide information and details for the design professional to use in the designing of energy efficiency retrofit projects.*

The IEA ECBCS labeled the work required to accomplish the ECA as "Retrofitting in Educational Buildings-Energy Concept Adviser for Technical Retrofit Measures" and was Labeled Annex 36, being the 36th task established under (IA).

The structure and goals of the Annex 36 were developed for presentation to the IEA Executive Committee in May of 1999 for approval through two

meetings held in Berlin and Denmark in late 1998 and early 1999. The October 1999 in France established specific sub-tasks and timelines with the next meeting in the United Kingdom refining these subtasks and beginning actions. The Annex will be completed in the spring of 2003 with the issuance of the "Concept Adviser" on disk or a permanent web site in each of the participating countries. Follow the ANNEX progress beginning in October 2000 on the Annex 36 web-site. Watch for an announcement of the web site address on the IEA /ECBCS Web Site www.ecbcs.org. ◀

Annex 36

Objective and Sub Tasks

The Annex is structured through four sub-tasks with an overall objective and the goal of developing the "Concept Adviser".

Annex 36 Objective:
Provision of tools and guidelines for energy-efficient retrofitting for decision makers and designers to improve the learning and teaching environment of educational buildings.

- ◆ **Selection and Analysis of Existing Information (Sub task A)**
Objective – Develop a compendium of energy related information – Give an overview on technologies, requirements, etc.
- ◆ **New Case Studies (Sub Task B)**
Objectives -- Demonstrate the feasibility of energy and environmental concepts for educational buildings in the 21st Century through case studies, design guidelines, etc.
- ◆ **Software Development & Analysis Methods (Sub Task C)**
Objective – Develop Software tools to support Decision makers – Collect and evaluate detailed analysis methods and simulation procedures: Audit procedures, check lists, etc.

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incorporated. Note: Retrofit is the upgrading of a particular building system with out regard to the other systems. A renovation is when all elements of the building are upgraded and changed to meet the program or other needs of the program.

3. An overview of Simple and Detailed Design and Calculation tools will be provided for decision-makers and designers.
4. A report on the Energy Audit and Operating Procedures, including check lists and evaluation of special retrofit measures. ◀

Objective and Sub Tasks Continued from page 2

- ◆ **Documentation and Dissemination (Sub Task D)**
Objective – Compile Annex research results and transfer to information and use by decision-makers and design practitioners: Web site, new articles, new letters and collection of existing articles
- ◆ **Concept Advisor**
Objective – Provide an electronic interactive source book: **Case Studies, Design Advice; Design Tools and other data needed for decision makers.** ◀

Case Studies Needed

Planned Educational Retrofitting

To assist in the development of one of the deliverables of the annex, "CASE STUDIES REPORT", request information dealing with educational buildings that has undergone energy renovation or retrofitting be submitted for review and evaluation to each countries representative. Contact your Country representative for information required for submission. ◀