



# Annex 36 Newsletter

## Improving the Learning & Teaching Environment

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

<http://www.annex36.bizland.com>

Volume 3, Issue 1

April 2002

### Annex 36 in Oak Ridge, Tennessee



*October 22 -25, 2001*

The 5<sup>th</sup> meeting of the Annex 36 was held at Oak Ridge, Tennessee, United States, on October 22-25, 2001. There were 14 attendees from seven countries.

Based on input from members, Jan de Boer discussed the most recent modifications made to the Concept Advisor. Mr. de Boer explained that the Concept Advisor basically consist of three parts:

*See Oakridge continued on page 2*

### INSIDE THIS ISSUE

- 2** Norway Representative
- 3** Design Forum at Hesler Hall, University of Tennessee
- 3** Concept Advisor
- 4** Membership Listing & Upcoming Meetings

### ...and in the City of Lights



*March 3, 2002*

An intermediate meeting of Annex 36 was held at hotel Mercure Gare de Lyon in Paris, France, on March 3, 2002 and was attended by 14 participates from seven countries.

The purpose of the meeting was to define the method of calculation to be used in the "Concept Advisor" and which input data will be needed for the calculations. The instrument was redefined as the "decision makers' design aid".

Jan de Boer presented the structure and status of the Concept Advisor. The Concept Advisor will include case studies, recommendations, technology chapters, a benchmarking tool, a calculation tools for concept development and utilities. The Concept Advisor will be provided on the website

*See Paris continued on page 3*

- ◆ Recommendations for design problems
- ◆ A calculation tool for assessing retrofit measures
- ◆ A calculation tool for assessing success of energy related upgrades.

Larry Schoff listed the problems decision-makers face: inside temperature/climate, indoor air quality (IAQ), humidity problems, high staff and student illnesses. He advised structuring the recommendation on IAQ, costs and construction.

The Annex members agreed that an intermediate one-day meeting should be held primarily for work on the user-interface for the definition of the building and the HVAC system. Calculation methods can be divided into cooling, lighting, ventilation, heating system, water consumption, and costs and will then be decided.

George Criss and project engineers made a presentation regarding the renovations to Hesler Hall on the campus of the University of Tennessee. (See *Hesler Hall*~page 3) Members later visited the building.

Annex Members also visited Oak Ridge National Labs (ORNL). Achilles Kariogiz from the Building System Research Department made a presentation on moisture in roof and walls. Ed Vineyard from the Building Equipment Program provided an overview on reduction of thermal distribution losses and peak loads in residential systems.

Annex members then toured the research labs, and the testing center of roofing materials. The center test properties including quality endurance, and reflectivity. ◀

## Meet new Annex IEA member:



**Kari Thunshelle**

Norwegian Building Research Institute

Ms. Thunshelle has a Master of Science in Mechanical Engineering, graduated from the Norwegian Institute of Technology, Trondheim 1995, department of Air Conditioning and Refrigeration.

Kari worked for about 5 years as a consultant engineer in a firm named Techno Consult. She initially dealt with the engineering of HVAC systems. The last three years were spent concentrating on indoor climate matters; e.g., measurement of indoor climate, HVAC-systems and classified areas, indoor air survey and verification of causes for reported nuisances, follow-up on cleanliness in the building process, survey of health- and environmental damaging matters.

Less than six months ago, Ms. Thunshelle began at the Norwegian Building Research Institute, RTD-Department Building Services. She now works with both Annex 36 and Annex 35, HybVent, Control Strategies for Hybrid Ventilation in New and Retrofitted Office Buildings. ◀

## Hesler Biology Building University of Tennessee

Hesler Biology Building, constructed in 1935, is the primary teaching facility for Biological Services at the university. It also contains faculty and administrative offices, research laboratories and support space.

The project consists of the complete renovation of the interior of the building including the replacement of the building systems. Exterior improvements include window replacement and masonry repairs.



Members at Hesler Hall

After the presentation and the tour, Annex Members made several recommendations that included encouraging the project engineers:

- ◆ To ensure that the retrofitted windows maintain the historical look of the building.
- ◆ To join "Rebuild America" which would provide heating and cooling demand simulations free of charge.
- ◆ To consider improvements to the roof
- ◆ To include the introduction of a meter for the consumption of energy
- ◆ To include occupancy sensors automatic dimming for artificial lighting in classroom.
- ◆ To keep old inner walls for use of building mass. ◀

and also available on a CD that would prevent sluggish calculations due to waiting on downloads from the server. Calculations would be based heating demand, heating systems, cooling, lighting, and energy costs. ◀

## The Concept Advisor

*An Educational Decision-Maker Tool  
to Improve Energy Efficiency as well as  
the Teaching and Learning  
Environment*

The ultimate goal of Annex 36 is to produce a tool to assist Educational Building Decision-Makers while still in the development of a construction project. This tool will improve their new or existing buildings through the identification and calculation of potential energy savings.

The Concept Advisor will also suggest systems or design elements to be considered for inclusion in the design. During the past two years data has been gathered from all members of the Annex, with the majority of the design work on the platform and system centered with Annex members at Fraunhofer Institute of Building Physics, Stuttgart, Germany. This electronic tool will incorporate an interactive source book of information which will include design concepts, design advise, design and decision programs, and case studies.

The Concept Advisor will be finalized at the next meeting in Finland and will be tested during the next year. The final product will be released in the fall of 2003. ◀

## Member Listing:

### Denmark:

Ove Mørck, Cenergia Energy Consultants,  
[ocm@cenergia.dk](mailto:ocm@cenergia.dk)

Kirsten Engelund Thomsen, BY og BYG  
Danish Building and Urban Research Inst.,  
[ket@by-og-byg.dk](mailto:ket@by-og-byg.dk)

### Finland:

Timo Kauppinen, VTT Building Technology,  
[timo.kauppinen@vtt.fi](mailto:timo.kauppinen@vtt.fi)

Jorma Pietilainen, VTT Building & Transport,  
[jorma.pietilainen@vtt.fi](mailto:jorma.pietilainen@vtt.fi)

### France:

Gerard Guarracino, ENTPE,  
[gerard.guarracino@entpe.fr](mailto:gerard.guarracino@entpe.fr)

Richard Cantin, ENTPE,  
[richard.cantin@entpe.fr](mailto:richard.cantin@entpe.fr)

### Germany:

Hans Erhorn, Fraunhofer Institute of Building  
Physics, [erh@ibp.fhg.de](mailto:erh@ibp.fhg.de)

Heike Kluttig, Fraunhofer Institute of Building  
Physics, [hk@ibp.fhg.de](mailto:hk@ibp.fhg.de)

Jan de Boer, Fraunhofer Institute of Building  
Physics, [jdb@ibp.fhg.de](mailto:jdb@ibp.fhg.de)

Fritz Schmidt, University of Stuttgart,  
[fritz.schmidt@ike.uni-stuttgart.de](mailto:fritz.schmidt@ike.uni-stuttgart.de)

Raphael Haller, University of Stuttgart,  
[raphael.haller@po.uni-stuttgart.de](mailto:raphael.haller@po.uni-stuttgart.de)

Ingo Lütkemeyer, University of Applied Sciences  
Bremen, [ilue@fba.hs-bremen.de](mailto:ilue@fba.hs-bremen.de)

### Greece:

Euphrosyne Triantis, Nat. Tech. University of  
Athens, [etrianti@orfeas.chemeng.ntua.gr](mailto:etrianti@orfeas.chemeng.ntua.gr)

### Italy:

Styliani Fanou, ENEA,  
[styliani.fanou@casaccia.enea.it](mailto:styliani.fanou@casaccia.enea.it)

### Norway:

Karin Buvik, SINTEF,  
[karin.j.buvik@civil.sintef.no](mailto:karin.j.buvik@civil.sintef.no)

Kari Thunshelle, Norwegian Building  
Research Institute, [kth@byggforsk.no](mailto:kth@byggforsk.no)

### Poland:

Tomasz Mróz, Poznan University of  
Technology, [tomasz.mroz@put.poznan.pl](mailto:tomasz.mroz@put.poznan.pl)

Radoslaw Gorzenski, Poznan University of  
Technology,  
[radoslaw.gorzenski@put.poznan.pl](mailto:radoslaw.gorzenski@put.poznan.pl)

Stanislaw Mierzwinski, Silesian University  
of Technology,  
[kowito@kowito.ise.polsl.gliwi.ce.pl](mailto:kowito@kowito.ise.polsl.gliwi.ce.pl)

### UK:

Richard Daniels, Architects & Bldg. Branch  
Dept for Ed. & Employment,  
[RichardDaniels@dfes.gsi.gov.uk](mailto:RichardDaniels@dfes.gsi.gov.uk)

### USA:

Lorenz Schoff, US Dept. of Energy,  
[lschoff@rev.net](mailto:lschoff@rev.net)

**Visit the IEA Annex 36 website**

<http://www.annex36.bizland.com>

## Upcoming Meetings

<i>Date</i>	<i>Location</i>
April 2002	Oulu/Helsinki, Finland
Fall 2002	Greece
May 2003	Denmark
Fall 2003	Germany