

International Conference

# TOWARDS NET ZERO ENERGY BUILDINGS

Aalborg University (Sydhavnen), AC Meyers Vænge 15, Copenhagen **Tuesday April 30, 2013**



The building sector is identified as the sector providing the largest potential for CO<sub>2</sub> reduction in the future and many countries across the world have set very ambitious targets for energy efficiency improvements in new and existing buildings.

The conference will present Danish as well as international pilot projects and initiatives on zero energy buildings. It will present the latest research and experiences as well as examples of international cooperation initiated by IEA on building energy efficiency.

International Conference

# TOWARDS NET ZERO ENERGY BUILDINGS

Program [Tuesday April 30, 2013](#)

08.00 – 09.15

**Arrival and conference registration**

09.15 – 09.40

**Opening of Conference**

Mayor Ayfer Baykal, Technical and Environmental Administration, Municipality of Copenhagen

09.40 – 10.30

**International Research Activities on Energy-Efficient Buildings**

IEA ECBCS Research Strategy and Programme, Chairman Andreas Eckmanns, SwissFederal Office of Energy, Switzerland.

Towards Net Zero Energy Solar Buildings, Operating Agent SHC Task 40 / ECBCS Annex 52, Josef Ayoub, Concordia University, Canada

10.30 – 10.45

**Break**

10.45 – 12.30

**Visions of the Danish Government for Energy-Efficient Buildings**

Minister of Climate, Energy and Buildings, Martin Lidegaard

**The Danish Energy Strategy and Implications for the Building Sector**

Peter Bach, Danish Energy Agency

**Best Practice Policies for Low Carbon and Energy Buildings**

Jens Laustsen, Global Building Performance Network

**Danish Research Activities on Zero Energy Buildings and Smart Grids**

Strategic Research Centre for Zero Energy Buildings, Head of Centre, Per Heiselberg, Aalborg University, Denmark  
Smart Grid - IPower, Søren Østergaard Jensen, Danish Technological Institute, Denmark

12.30 – 13.30

**Lunch**

13.30 – 15.00

**Session A: Understanding NetZEB**

- Overview of existing nZEB definitions in EU, Eike Mausell, Bergische Universität Wuppertal, Germany
- NZEB definition evaluation tool, (to be decided)
- Implications of definition on energy systems, Federico Noris, EURAC Research, Italy
- LCE analysis of buildings - Taking the step towards Net Zero Energy Buildings, Björn Berggren, Skanska, Sweden

**Session B: Active Houses - methodology and examples towards NZEB**

- Introduction to the new Active House specifications and the evaluation methods, Carsten Rode, Danish Technical University, Denmark
- Active House case studies of field performance as a benchmark in 2020 regulation, Lone Feifer, VELUX, Denmark
- Experience with the design on energy efficient buildings with focus on concepts and solutions for new build and renovation projects, Susanne Kuehn, Rockwool Scandinavia, Denmark
- Development of 'free' groundwater cooling system for future buildings, Grundfos, Denmark

### **Session C: NetZEB Grid Interaction**

- NetZEB in a future 100% renewable energy system, Henrik Lund, Aalborg University, Denmark
  - High resolution indicator for grid interaction, Jaume Salom, IREC – Institut de Recerca en Energia de Catalunya, Spain
  - Mapping NetZEB in an energy system context, Bernd Møller, Aalborg University, Denmark
  - Using the thermal performance to obtain zero energy buildings, Henrik Madsen, Danish Technical University, Denmark
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15.00 – 15.30

### **Break**

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15.00 – 16.00

### **Session D: NetZEB Modeling and Design**

- Modelling and design of Net-zero energy solar buildings and integration of dynamic building envelope systems, Andreas Athienitis, Concordia University, Canada
- Demand side optimization in smart and green buildings, Guiseppe Constanco, Danish Technical University, Denmark
- Will building-class (near ZEB) ever meet cost optimum requirements? Kim B. Wittchen, SBI/Aalborg University, Denmark

### **Session E: Lessons learned from NetZEB Case Studies**

- Annex 52 cases studies, Michael Donn, Victoria University of Wellington, New Zealand
- Recommended building solutions, Francois Garde, Universite de la Reunion, Reunion Islands
- Lessons learned from the Danish BOLIG+ project, Søren Dyck Madsen, The Ecological Council, Denmark

### **Session F: NetZEB PhD project achievements**

- Cost optimization in NetZEB supply system design, Christian Milan, Aalborg University, Denmark
  - Intelligent glazed facades, Frederik Winther, Rambøll, Denmark
  - A trade-off between energy savings and energy production. Cost analysis of a multi-storey Net ZEB, Anna Marszal, Aalborg University, Denmark
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16.00 – 16.45

### **Near Zero Energy Buildings – Pushing innovation to the limit.**

Signe Kongebro, Henning Larsen Architects, Denmark

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16.45

### **Closing of Conference**

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17.00

### **Networking reception**

## ORGANIZERS

The Conference is organised by the Strategic Research Centre for Zero Energy Buildings in cooperation with the Danish Strategic Research Council, the Danish Energy Agency, the IPower research project.

The Strategic Research Centre for Zero Energy Buildings ([www.zeb.aau.dk](http://www.zeb.aau.dk)) was established in 2009 by a grant from the Danish Council for Strategic Research and is a co-operation between Danish research institutes and private industries to deliver the necessary basis for a longterm sustainable development in the building sector.

IEA SHC Task 40 / ECBCS Annex 52 Net Zero Energy Solar Buildings ([www.task40.iea-shc.org](http://www.task40.iea-shc.org)) was initiated in 2008 and this year a final working meeting is held in Copenhagen with participation of about 60 researchers from 20 countries.

## SECRETARIAT

For additional information, please contact professor Per Heiselberg, Aalborg University

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## LANGUAGE

English will be the official language. No translation is foreseen.

## REGISTRATION

Participants should register through the website [www.zeb.aau.dk](http://www.zeb.aau.dk) before April 19, 2013.

The conference fee is DKK 1500.

Registered participants will be invoiced.

## VENUE

The Conference will take place at:

Aalborg University

AC Meyers Vænge 15

2450 Copenhagen SV