

Second Announcement

Brussels, Belgium

19- 20 March 2013

International Workshop

Ventilative Cooling

Need, Challenges and Solution Examples

Workshop description

The current development in building energy efficiency towards nearly zero energy buildings represents a number of new challenges to design and construction of buildings. One of the major new challenges is the increased need for cooling present in these highly insulated and airtight buildings, which is not only present in the summer period but also in the shoulder seasons and in offices even during occupied hours in winter. In most post-occupancy studies of high performance buildings in European countries elevated temperature levels is the most reported problem, especially in residences.

Ventilative cooling can be an attractive and energy efficient solution to avoid overheating of both new and renovated buildings. Ventilation is already present in most buildings through mechanical and/or natural systems and it can both remove excess heat gains as well as by increasing air velocities widening the thermal comfort range. As cooling becomes a need also outside the summer period the possibilities of utilizing the cooling potential of low temperature outdoor air increases considerably.

This is the reason why the interest in ventilative cooling has increased in the last few years and a number of new initiatives have arisen with the purpose to raise awareness of the technology, to overcome perceived barriers and to develop the technology for future application.

The objective of this workshop is to discuss how and when strategies for increased ventilation with outdoor air can reduce the cooling load while maintaining good indoor environmental quality? This includes:

- presentation of built examples to document the need and potential of ventilative cooling as well as the status of present approaches
- discussion and identification of the design challenges related to prediction and evaluation of the cooling need and the risk of overheating in high performance buildings
- presentation and discussion of perceived barriers and challenges in standards and existing building regulations for application of ventilative cooling
- presentation and discussion of new ideas and solutions

In addition to the workshop proceedings, an expected outcome of the workshop includes guidance and suggestions to focus areas for new activities for the venticool platform and R&D directions for the new research activity of the International Energy Agency (IEA): "ECBCS Annex 62 Ventilative Cooling".

This event is organized with the technical and/or financial support of the following organizations:



International Energy Agency
Energy Conservation in
Buildings and Community
Systems Programme



International
Energy Agency



venticool
the european platform for ventilative cooling

Programme

Tuesday

March 19, 2013

13⁰⁰ – 14⁰⁰

Registration and sandwich lunch

14⁰⁰ – 14³⁰

Welcome to seminar

by venticool platform and by Operating Agent of ECBCS Annex 62

14³⁰ – 15⁴⁵

Ventilative Cooling Needs and Potential

Moderator discussion: Max Sherman, LBL, US

- Urban heat island, climate change and impact on ventilation for cooling, Maria Kolokotroni, Brunel University, UK
- Personal control over indoor climate and the use of operable windows in summer (Tuesday), Atze Boerstra, Eindhoven University of Technology, Netherlands
- Ventilative cooling potential of outdoor air now and in the future, Per Heiselberg, Aalborg University, Denmark

15⁴⁵ – 16⁰⁰

Break

16⁰⁰ – 17³⁰

Ventilative Cooling in Buildings

Moderator discussion: Per Heiselberg, Aalborg University, Denmark

- Energy concept of a passive school in Heusden-Zolder, Joerie Alderweireldt, 3E, Belgium
- A ventilative cooling system in a School Building, Imola, Italy, Mario Grosso, Politecnico di Torino
- Passive Cooling with natural ventilation rate, a case study, Pier Nicola Currà, Archefice associati, Ital
- Examples of built naturally cooled buildings, Florentzos Florentzou, EPFL, Switzerland.

19⁰⁰ -

Walking Dinner through Brussels

Wednesday

March 20, 2013

9⁰⁰ – 10³⁰

Ventilative Cooling in Standards and Regulations

Moderator discussion: Rémi Carrié, INIVE, Belgium

- Ventilative cooling in relation to the CEN M/480 work, Jaap Hogeling
- Ventilative cooling in building regulations – Country reports by Anne Marie Bernard (France), Karsten Duer (Denmark), Max Sherman (US), Maria Kolokotroni (UK), Bas Knoll (NL)

10³⁰ – 11⁰⁰

Break

11⁰⁰ – 12³⁰

Prediction of Cooling Need and Overheating Risk

Moderator discussion: Maria Kolokotroni, Brunel University, UK

- Challenges in the prediction of cooling need and overheating risk, Jan Hensen, Eindhoven University of Technology, Netherlands
- Free Cooling is not Free, Jean Lebrun, Belgium
- Natural ventilation design tools, applications in commercial buildings, Stephen Ray, MIT, US
- Sensitivity of night cooling performance to room/system design: surrogate models based on CFD, K. Goethals, Ghent University, Belgium

12³⁰ – 13¹⁵

Lunch break

13¹⁵ – 14⁴⁵

New Solutions and Technologies

Moderator discussion: Jan Hensen, Eindhoven University of Technology, Netherlands

- Ventilative cooling experiences by Renson: lessons learned and solutions, Ivan Pollet, Renson Ventilation, Belgium
- Application of PCM-related systems in the effective use of ventilative cooling, Baboo Gowreesunker, Brunel University, UK
- Progress made in research and design of stratum ventilation, Zhang Lin, City University of Hong Kong, PR China
- New solution for modern passive cooling and heat redistribution, Bas Knoll, TNO, Netherlands

14⁴⁵ – 15⁰⁰

Break

15⁰⁰ – 15⁴⁵

Round table discussion with industry experts (EVIA, Velux, Naventa, WindowMaster, ES-SO, consultancy engineers)

Moderator: Peter Wouters

15⁴⁵ – 16⁰⁰

Closing session

Summary of workshop discussions and conclusions, Per Heiselberg, Aalborg University, Denmark

Organizers

The workshop is organized by **INIVE** (International Network for Information on Ventilation and Energy Performance, www.inive.org) on behalf of the **AIVC** (Air Infiltration and Ventilation Centre, www.aivc.org) and **venticool** (the European platform for ventilative cooling, www.venticool.eu).

Secretariat

For additional information, please contact Stéphane Degauquier at INIVE EEIG (c/o BBRI): Avenue P. Holoffe 21, B-1342 Limelette, Belgium ☎ +32.2.655.77.11 📠 +32.2.653.07.29 @✉ sd@bbri.be

Language

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

Fee

The workshop fee is 302.50 € (VAT included). This fee includes participation to the workshop, documentation, the lunches and coffee breaks of the workshop days, and the walking dinner on Tuesday evening in the city centre.

In the case you would like to attend also the workshop 'Securing the quality of ventilation systems in residential buildings: status and perspectives' organized before the workshop 'Ventilative cooling', we will be very pleased to offer a discount of 20%. More information is also available on the AIVC, INIVE, TightVent and VentiCool websites.

Registration

Participants should enrol by returning the registration form available on the AIVC, INIVE, TightVent and VentiCool websites and pay the registration fee before March 1st, 2013.

Hotel accommodation

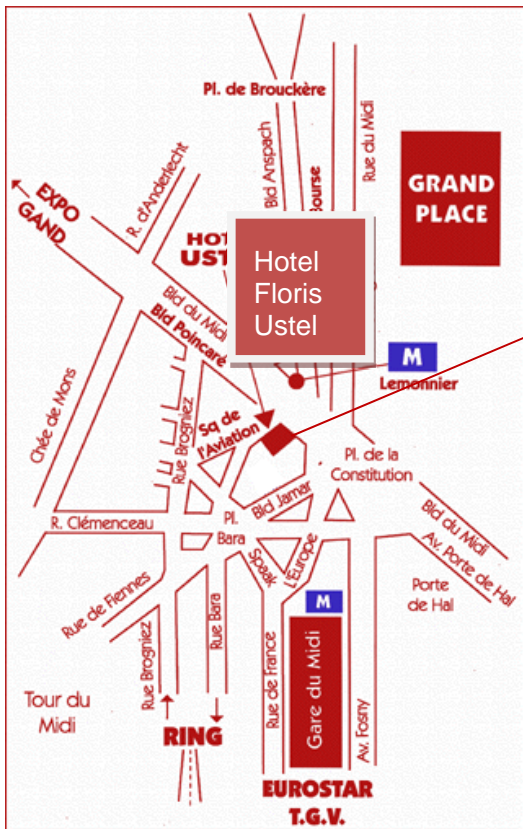
The website www.hotelscombined.com can be very useful.

As this period is very busy due to other important international events in Brussels, we advise you to reserve your hotel as soon as possible.

Venue

The workshop will take place in the offices of the Belgian Building Research Institute (CSTC-WTCB) Boulevard Poincaré 79, 1060 Brussels, Belgium.

It is within walking distance of Brussels South train station, and not far away from the city centre (10 min walking).



How to get to our offices

If you come by plane or by train, the easiest way to get to the hotel is to go take a train to Brussels South station (Brussel Zuid – Bruxelles Midi).

By plane: trains run to the South Station every 15 or 20 minutes train from Brussels National Airport to Brussels South Station. Journey time: approx. 30 minutes. Fare: approx. 2.50 €. You can also take a taxi from the airport, but according to your arrival time, it can take longer than by train, due to traffic jam.

By train: the high speed trains stop at Brussels South station. 5 minutes by foot from the Brussels South Station. From the main hall, follow the direction 'Tour du Midi – Zuidertoren' and walk along the railways till the Boulevard Poincaré. Our offices are located on your left side.

By metro (map enclosed): Line 3 – Stop at Lemonnier. 2 minutes by foot to our offices. Our offices are just in front of you.

By car (map enclosed): we advise to use the paid private parking of the South Brussels Station (5 min by foot).