



Foreword

2013 marked the start of IEA EBC Annex 62 and thus a four-year period with great developments in the field of ventilative cooling. This year, the annex is coming to a closure and finds its participants working hard to deliver the project's final outcomes.

The publication of the state-of-the-art review on ventilative cooling was completed in November 2015 followed by the on-going setting up of the Ventilative Cooling Application Database in October 2016. The first drafts of a Guide Book, a Source Book and a book of Case Studies have already been developed and will be further elaborated before the official publication in the end of 2017. Annex participants have published research results in peer-reviewed journals and conference proceedings.

IEA EBC Annex 62 continues to build on activities in collaboration with venticool, with the 38th AIVC and 4th venticool conference in Nottingham, UK fostering among others targeted sessions dedicated to the annex's outcomes. So please mark September 13-14 on your calendar for this key event.

We hope this issue will give you a good overview of these activities. We wish you a pleasant reading.

The venticool team



IEA EBC Annex 62 Ventilative Cooling Symposium, Vienna, October 14, 2016

DI Philipp Moherndl, Institute of Building Research & Innovation, Austria

On the 14th of October 2016 the Austrian Ministry of Transport, Innovation and Technology (Isabella Zwerger MSc) and the Institute of Building Research and Innovation (DI Dr. Peter Holzer) held a symposium on Ventilative Cooling in Vienna. Aside from the international experts from the IEA- EBC annex 62 participating countries, Austrian stakeholders and other interested parties took part in the event.

The programme included general topics such as the potential and principles of ventilative cooling, which were presented by Per Heiselberg, professor at Aalborg University, Department of Civil Engineering. Maria Kolokotroni, professor at Brunel University London, Department of Mechanical, Aerospace and Civil Engineering, presented a recently developed technical component which makes use of Phase Change Materials (PCM) and Christoph Speer, introduced a new counter flow heat exchange ventilator which is currently being developed at the University of Innsbruck, Unit for Energy Efficient Buildings.

The symposium was rounded up by the presentation of the renovation of the university building of Innsbruck and the results of its long term monitoring by Harald Malzer, Passivhaus Institute Innsbruck, and Christoph Lügmeier, e7 Energie Markt Analyse GmbH. Peter Holzer then presented a short term analysis of two smaller projects in Vienna making use of ventilative cooling from the Institute of Building Research and Innovation.

The results of the presentations were lively discussed by the audience and the offer of internationally transferring knowledge was widely accepted.

The presentations are now available and can be downloaded here.

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Feedback from the IEA EBC Annex 62 Ventilative Cooling expert meeting in Vienna, Oct 12-14, 2016

Per Heiselberg, Aalborg University, Department of Civil Engineering, Denmark

25 delegates from 12 countries attended the 6th expert meeting. The hosts were the Austrian Ministry of Transport, Innovation and Technology (Isabella Zwerger) and the Institute of Building Research & Innovation (Dr. Peter Holzer), who in conjunction with the expert meeting also organised the "Ventilative Cooling Symposium 2016". One of the most important issues at this meeting was the discussion of the test of newly developed energy performance indicators for ventilative cooling, which potentially could be included in energy performance regulations. Secondly, based on the best practices in building regulations in relation to ventilative cooling collected among participating countries, a common case has been developed to compare and evaluate the different national approaches and compliance tools. The results will be summarised highlighting similarities and differences and recommendations on minimum requirements for compliance tool calculations for ventilative cooling will be provided.



IEA EBC Annex 62 Ventilative Cooling expert meeting in Vienna, Oct 12-14, 2016

A database of existing ventilative cooling systems includes 118 buildings from 15 countries with a systematically documentation of characteristics, used technologies, typical components and control strategies depending on climate,



building type and building design. 68 of the buildings are added to the venticool platform at the moment. More cases will be added in 2017. The results of Annex 62 will be presented in a Guide Book, a Source Book and in a book of Case Studies. The first drafts of these publications have been developed and will be further elaborated before the official publication in the end of 2017. The next and 7th Annex 62 Expert Meeting will be in Lisbon, Portugal on May 15-17, 2017. The host of the meeting will be FCUL (Prof. Guilherme Carrilho da Graça).

13 -14 September 2017 - 38th AIVC, 6th TightVent & 4th venticool conferences in Nottingham, UK

The 38th AIVC- 6th TightVent & 4th venticool conference "Ventilating healthy low-energy buildings" will be held on 13 and 14 September 2017 in Nottingham, UK. The event will place its focus on:

- thermal comfort and ventilative cooling (the application of ventilation to cool indoor spaces and reduce overheating risk in buildings);
- air infiltration through cracks in the building envelope and ductwork;
- the relationships between ventilation, indoor air quality and health.

The conference will consist of 3 parallel tracks largely devoted to airtightness issues, ventilative cooling, ventilation in relation to IAQ and health. It will consist of a mixture of well prepared and structured sessions focused on the conference topics, presentations on invitation and presentations arising from the call for papers. Contributions are invited in the areas of research, development,

application, and market and legislative implementation of ventilation and infiltration. Preference will be given to abstracts focusing on airtightness, ventilative cooling, ventilation, IAQ and health relationships. Specific topics of interest on ventilative cooling include:

- Potential for ventilative cooling strategies;
- Ventilative cooling in energy performance regulations;
- Design approaches and control strategies for ventilative cooling and case studies;
- Thermal comfort and ventilation;
- Coupling of ventilation with cooling systems;
- Ventilative cooling technologies and components;
- IAQ and acoustical issues.

Important dates:

- Deadline for abstract submission: February 15, 2017
- Notification of abstract acceptance: April 1, 2017
- Deadline for paper submission: May 31, 2017

Selected papers will be invited for submission to special issues of the 'Energy & Buildings' journal, the 'International Journal of Ventilation' and REHVA journal.

The conference is organised by the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), TightVent Europe (the Building and Ductwork Airtightness Platform), and venticool (the international platform for ventilative cooling); and Brunel University London, the University of Nottingham and the Chartered Institution of Building Services Engineers (CIBSE)

Visit the conference website <http://aivc2017conference.org> for further information and to submit your abstract.

IEA EBC Annex 62 “Ventilative Cooling” Summer course



Lisbon, 15-19 May 2017

In many countries, most office buildings, and an increasing fraction of residential buildings, use mechanical cooling even when an optimized natural ventilative cooling (VC) system could meet cooling comfort and fresh air requirements. This five-day summer course will introduce students to the capabilities and limitations of VC using a design case study approach.

The course will be thought by VC experts who are currently participating in IEA ANNEX 62. By the end of an intense work week the students will be asked to present their VC solution for a school and discuss the expected system performance (predicted using building thermal and airflow simulation). The course will be taught in the University of Lisbon campus (15-19th of May 2017). Course instructors: Per Heiselberg, Maria Kolokotroni, Hilde Breesch, Annamaria Belleri, Maria Justo Alonso, Guilherme Carrilho da Graça, Peter Holzer, Michal Pomianowski, Maurizio Cellura, Florentzous Florentzou, Paul O’Sullivan, Hisashi Kotani

This course is targeted to PhD and MSc students with an interest in VC and thermal simulation. Please see the course plan in the next page. Cost: 450€. For more information please email afilsilva@fc.ul.pt

Course plan

Day	Monday (theory)	Tuesday (practical)	Wednesday (seminar)	Thursday (VC design)	Friday (VC design)
9:30 11:00	Ventilative cooling (VC) strategies and systems	Laboratory modelling of VC system performance	I-Presentation of Annex 62 Ventilative Cooling II-Methods and Tools for prediction of VC performance	Thermal comfort and IAQ standards for VC	Student work: simulation of VC school (II)
11:15 12:45	VC potential & Effects of climate change	VC modelling exercises at FCUL experimental facilities: weather exposed NV test room	III-Reliable ventilative cooling solutions and technologies IV-Presentation of ventilative cooling case studies	Development of VC design solutions	Development of school VC solutions Calculation of comfort and IAQ performance indicators Preparation of presentation
14:00 15:30	Simplified modelling of VC & simple design rules	VC modelling exercises at FCUL experimental facilities: wind tunnel	Presentation of course exercise: VC design for a school	Thermal and airflow simulation of VC (II)	Student presentations and discussion
16:00 17:30	Field monitoring of VC system performance	Urban hike in Lisbon to visit Ventilative Cooling examples: 7000 seat multi event venue and kindergarten	Thermal and airflow simulation of VC (I)	Student work: simulation of VC school (I)	

IEA EBC Annex 62 sets up Ventilative Cooling application database

IEA EBC Annex 62 released an Application Database containing buildings from several countries which make use of Ventilative Cooling. Each datasheet holds basic building specifications as well as information about Ventilative Cooling Site Design Elements and Ventilative Cooling Architectural Design Elements. Further descriptions of Technical Components, Control Strategies and Building Energy Systems are also given and allow a better understanding of the implementation of Ventilative Cooling.

The setting up of the database is an ongoing project. Further contributions are still possible and very welcome.

Please refer to ventilative.cooling@building-research.com for more detailed information.

The database is now available at the IEA-EBC annex 62 - venticool website: <http://venticool.eu/annex-62-publications/ventilative-cooling-application-database/>

venticool becomes Associated Partner of the Covenant of Mayors



Covenant of Mayors
for Climate & Energy

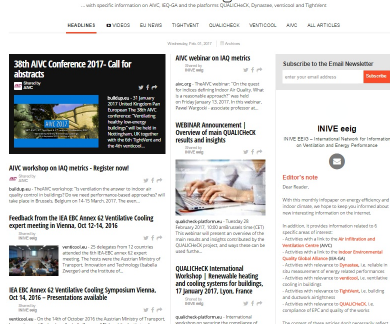
Heralded as the “world’s biggest urban climate and energy initiative” by Commissioner Miguel Arias Cañete, the Covenant of Mayors for

Climate & Energy brings together thousands of local and regional authorities voluntarily committed to implementing EU climate and energy objectives on their territory. New signatories now pledge to reduce CO2 emissions by at least 40% by 2030 and to adopt an integrated approach to tackling mitigation and adaptation to climate change. For further information please visit: <http://www.covenantofmayors.eu/>

Energy Efficiency and Indoor Climate in Buildings

Energy Efficiency and Indoor Climate in Buildings Energy Efficiency and Indoor Climate in Buildings has just been released. This monthly online newspaper contains relevant information on the Air Infiltration and Ventilation Centre (AIVC), the international platform on ventilative cooling (venticool) & IEA EBC annex 62-ventilative cooling, the building and ductwork airtightness platform (TightVent Europe), the Indoor Environmental Quality- Global Alliance (IEQGA), the QUALICHeCK project and the Dynastee network. The paper is available at the first of every month at: <http://news.inive.org/> Subscribe to get informed on a regular basis on the platforms' activities.

Energy Efficiency and Indoor Climate in Buildings



What is ventilative cooling?

Ventilative cooling refers to the use of natural or mechanical ventilation strategies to cool indoor spaces. This effective use of outside air reduces the energy consumption of cooling systems while maintaining thermal comfort. The most common technique is the use of increased ventilation airflow rates and night ventilation, but other technologies may be considered as well. Ventilative cooling is relevant in a wide range of buildings and may even be critical to realize renovated or new NZEB.

What is venticool?

venticool is the international ventilative cooling platform launched in October 2012 to accelerate the uptake of ventilative cooling by raising awareness, sharing experience and steering research and development efforts in the field of ventilative cooling. The platform supports better guidance for the appropriate implementation of ventilative cooling strategies as well as adequate credit for such strategies in building regulations. The platform philosophy is to pull resources together and to avoid duplicating efforts to maximize the impact of existing and new initiatives.

Disclaimer

Conclusions and opinions expressed in contributions to the venticool Newsletter represent the author(s) own views and not necessarily those of venticool partners.

venticool
the international platform for ventilative cooling

