

Foreword

June 2018 marks the completion of the International Energy Agency's Energy in Buildings and Communities Programme (IEA- EBC) Annex 62 Ventilative Cooling, after a four-year working period, with the last year mainly focused on finalising the project's deliverables.

A proposal for a new Annex on Resilient Cooling, has now been submitted for approval within the IEA-EBC Executive Committee. The participants at the 39th AIVC - 7th TightVent & 5th venticool joint conference: "Smart ventilation for buildings" in Juan-les-Pins, France on 18-19 September 2018, will be able to attend a topical session devoted to this subject.

This venticool newsletter highlights our recent and joint activities including detailed information on past and upcoming events and announcements of newly released publications in the field of ventilative cooling and beyond. To find out more about our activities, please visit our website, follow us on twitter and Linked In and **subscribe** to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings".

We wish you a pleasant reading.

The venticool team



Highlights of the AIVC 2017 Conference in the June 2018 issue of the REHVA journal!

The June 2018 edition of the REHVA Journal has just been released, including a selection of articles presented at the 38th AIVC & 4th venticool Conference: "Ventilating healthy low-energy buildings" held on 13-14 September 2017, in Nottingham, UK.

Specific articles include:

- Ventilative Cooling on the test bench – Learnings and conclusions from practical design and performance evaluation; P.Holzer, P.Stern & T.Psomas
- Ventilative Cooling in International Case Studies – Lessons Learned; P.D.O'Sullivan, A.O'Donovan, G. C.da Graca & G. Zhang
- Study shows that unhealthy homes lead to reduced health; J.Ashok, A.Hermelink, N.Galiotto, P.Foldbjerg, K.B.Milling Eriksen & J.Christoffersen
- Analyses of 1,000 ductwork airtightness measurements in France; A.Bailly Mélois & B.Moujalled
- Building and ductwork airtightness requirements in Europe; V.Leprince, F.R.Carrié & M.Kapsalaki
- Affordable and replicable renovation of social housing fulfilling indoor climate and energy targets thanks to seven replicable renovation elements; N.Galiotto, P.Foldbjerg, J.Christoffersen, T.F.Asmussen & S.Pauquay
- Reintroduction of Natural Ventilation to a Historic Opera House; J.Thompson, M.Donn & G.Baird
- Development of a compact Counterflow Heat Recovery Fan; C.Speer & R.Pflugler
- Uncertainties due to steady wind in building pressurisation tests; V.Leprince & F.R.Carrié

To download and read the full journal please visit :
<https://www.rehva.eu/publications-and-resources/rehva-journal/2018/032018.html>

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REHVA Journal June, 2018

Register now for the 39th AIVC & 5th venticool conference, 18 -19 September 2018, Juan-les-Pins, France

150 abstracts from 26 countries have been accepted for presentation at the 39th AIVC- 7th TightVent & 5th venticool conference "Smart ventilation for buildings" to be held on 18 and 19 September 2018 in Juan-les-Pins, France.

The conference will place its focus on:

- Smart ventilation, Indoor Air Quality (IAQ) and health relationships
- Ventilation and Airtightness
- Ventilative cooling – Resilient cooling

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.

Specific topics of interest on ventilative cooling-Resilient cooling include:

- Thermal comfort and ventilation;
- Coupling of ventilation with cooling systems;
- Ventilative cooling (design, technologies, components, controls, case studies);
- Bioclimatic architectural design towards better summer

- performance
- Technologies of passive cooling and overheating prevention
- Personal comfort control during the hot season
- Efficient part-time or zonal cooling, including options of precooling
- Technologies and control strategies towards energy flexible buildings

Confirmed topical sessions include:

- Rationale behind ventilation requirements and regulations
- Integrating uncertainties due to wind and stack effect in declared airtightness results
- Ductwork airtightness: Ongoing work in some European countries
- Sensors for smart ventilation
- Smart ventilation control strategies
- Performance of heat recovery ventilation systems in practice
- Residential cooker hoods
- IAQ metrics
- French initiatives for indoor air quality
- Demand controlled ventilation in French buildings – 35 years of wide scale experience
- Commissioning of ventilation systems – Improving quality of installed ventilation systems
- Measurement accuracy of air flow and pressure difference
- Air cleaning as supplement for ventilation
- New annex on resilient cooling
- BIM and Construction 4.0 opportunities in relation to ventilation and airtightness

Confirmed keynote speakers:

- Emmanuel Acchiardi, French Ministry of Housing
- Nicolas Doré, French Environment and Energy Management Agency (ADEME)
- Jarek Kurnitski, REHVA Vice-president – Chair of the Technology and Research Committee
- Philippe Moseley, Executive Agency for Small and Medium-sized Enterprises
- Bjarne Olesen, ASHRAE president – Technical University of Denmark.

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

The conference is organised by:

- CETIAT, the French technical centre for the heating, ventilation and air conditioning industries
- ADEME, the French environment and energy management agency
- INIVE, the International Network on Ventilation and Energy Performance 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).

For more information and to register, please visit:

<http://www.aivc2018conference.org>



IEA-EBC Annex 62 New Publications | Ventilative Cooling “Source Book”, “Case Studies” and “Design Guide”

Annex 62 “Ventilative Cooling” of the IEA Technology Collaboration Programme: Energy in Buildings and Communities, just released three new publications!

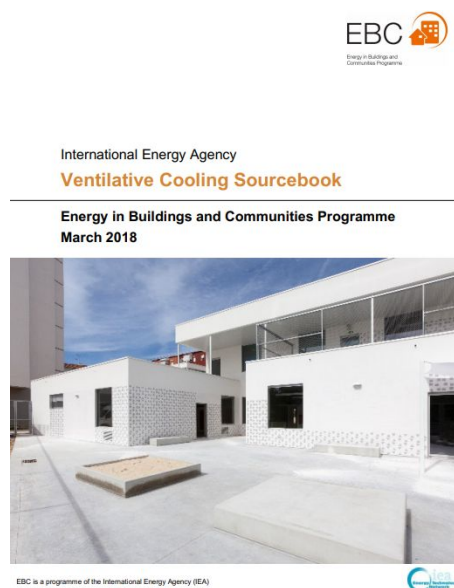
The **Source Book**, describes various elements necessary for the successful implementation of ventilative cooling systems in detail and gives hands on information on their application and control strategies. Furthermore algorithms for air flow estimation as well as key performance indicators are stated. Short summaries of national projects, ranging from the use of ventilative cooling application in schools and frozen food supermarkets to thermal comfort investigations, conducted within the course and by the participants of the annex are presented in the middle section of this document. The sourcebook also offers an overview of software simulation tools and their ability to represent ventilative cooling in thermal calculations and concludes with the comparison calculation of a test case scenario.

The **Design Guide**, provides an introduction to the principles of the ventilative cooling technology as well as methods to express and evaluate its potential and performance. The guide focuses on the design process and how calculation and simulation tools can be used for design, for design evaluation and for risk analysis. It also describes how to control ventilative cooling in the operation phase. By summarizing the outcome of the use of ventilative cooling in a number of case studies, it also illustrates typical designs, performance expectations and lessons learned.

The **Case Studies**, aggregates and summarises all 15 case study buildings collected in subtask C of the

annex. This summary presents the key characteristics and information about the design, simulation and operational performance of the case study buildings. In addition, it compares the use of different ventilative cooling solutions in different buildings and different climates and provides a general introduction to the case study brochures where more detailed information is contained for each building.

All reports are available at: <http://venticool.eu/annex-62-publications/deliverables/>



Cover page of IEA-EBC annex 62
"Ventilative Cooling Sourcebook"

Ventilative cooling April 2018 Webinars – Recordings & slides now available!

The recordings and the slides of our recent webinars: “Surventilation & confort d’été” and “Ventilative cooling and summer comfort: Freevent project in France” held on the 24th and 25th of April, 2018 and jointly organised by the FREEVENT project and venticool in cooperation with the Air Infiltration and Ventilation Centre (www.aivc.org), are now available online at: <http://venticool.eu/venticool-events/webinars-2/>. Check them out!

Proposal for IEA EBC Annex on Resilient Cooling!

The global need for cooling in buildings is rising rapidly. As a result the aims of nearly zero energy and nearly zero carbon buildings (nZEB and nZCB) are challenged. The development of robust low energy and application of low carbon cooling solutions on a large scale will play a key role in the transformation of the building stock towards nZEB and nZCB – both existing and newly built. A bundle of appropriate solutions seem to be available, but suffer from obstacles which keep them from mass application. Other solutions are promising subjects to research. A proposal for a new Annex on Resilient Cooling, submitted within the IEA-EBC Executive Committee aims to address these challenges. It will analyse low carbon and low energy cooling solutions, identify obstacles and potentials, develop advanced solutions and encourage the use of robust low energy and low carbon cooling solution on a large scale. The Annex draft text has been submitted to the IEA-EBC Executive Committee for approval. For further information please contact Peter Holzer at: peter.holzer@building-research.at

AIVC March 2018 Workshop "Ventilation for Indoor Air Quality and Cooling" - Presentations available

The presentations of the AIVC workshop held on 23 March 2018 in Sydney, Australia "Ventilation for Indoor Air Quality and Cooling" are now available for download. Please visit the AIVC website at: <http://aivc.org/event/23-march-2018-workshop-sydney-au-ventilation-indoor-air-quality-and-cooling> to access the event's presentations and programme as well as further information on the event.

25 June, 2018 | 1st European conference “BIM and energy performance of buildings”

The market uptake of BIM (Building Information Modelling) is rapidly growing in nearly all European countries and one can assume that this trend will continue and even accelerate in the coming years. In practice, there was until recently in most countries little to no attention for BIM as a support tool for the regulatory assessment of the energy performance of buildings. A smart use of BIM can be a win-win situation for both areas, whereby there surely are still several bottlenecks and challenges ahead of us. This first conference aims to present the status of BIM and opportunities and challenges regarding BIM use for the regulatory assessment of the energy performance of buildings. The aim is also to explore possibilities and challenges for an accelerated

interaction/integration. The programme will cover visions of needs, on-going research and development work as well as demos of already existing solutions and panel discussions. This conference is organised by INIVE EEIG on behalf of the QUALICHECK platform (www.qualicheck-platform.eu).

Event details:

- **When:** 8:30 – 17:00 , Monday 25th June, 2018
- **Where:** Auditorium Hadewijch, Brussels (close to Brussels North train station)

Further information on the programme, registration, etc. can be found at:

<http://venticool.eu/wp-content/uploads/2018/03/Flyer-2-BIM-conference.pdf>

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.

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