

Foreword

The upcoming 9th venticool conference titled "Ventilation, IEQ and health in sustainable buildings" is scheduled to take place in Copenhagen, Denmark, along with the 43rd AIVC and the 11th TightVent conferences on October 4-5, 2023. The conference agenda will consist of 12 topical sessions, including 4 sessions focused on or linked to resilient ventilative cooling (namely:

"Importance of good resilient building design and standards to ensure good ventilative cooling performance to reduce overheating and environmental impact", "Annex 80: resilient cooling of buildings", "Summer comfort and energy efficiency in hot periods: interest of mixed mode cooling and need of occupant feedback" & "Personalized Environmental Control Systems (PECS) operation and evaluation"). The conference will also feature a range of presentations on this topic from the call for abstracts.

This edition of our newsletter will also provide updates on the May 2023 Advisory Board of Practitioners meeting, organized by Annex 80 - venticool & AIVC, and offer insights into recently published works. Last but not least, you can find product news from our partners on the final page of our newsletter. Please visit our [website](#), follow us on [twitter](#) and [LinkedIn](#) and subscribe to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings" to find out more about our activities. We wish you a pleasant reading!

The venticool team

@venticool



Feedback from the 7th meeting of the Advisory Board of Practitioners for Annex 80 & venticool & AIVC

On May 31st, Annex 80 scientists, practitioners, and planners as well as representatives from the building cooling associated industry gathered for the 7th meeting of the Advisory Board of Practitioners. This board, an initiative of Annex 80, AIVC and venticool, was founded to put results of scientific research into action by establishing strong ties to practitioners and to include their practical experience in future research projects.

11 participants attended the meeting which focused on the "Resilient Cooling Guidebook" which is now being developed in collaboration with REHVA. Prof. Vincenzo Corrado (Politecnico di Torino, IT) made a first introduction of the resilient cooling design guide. Philipp Stern (Institute of Building Research & Innovation, AT) followed with a presentation on the resilient cooling design process. The last presentation by Fuad Baba (Université de Sherbrooke, CA) looked into a resilient cooling application case study.

In between the presentations the participants discussed the questions listed below and brought in valuable feedback for further improvements to the guidebook.

1. Which design guidelines do you currently use in your daily practice to design or develop resilient cooling technologies?
2. Concerning the new design guideline...Is there something you would add?...Is there something you would change?...Is there something you like to know more about?...Do you have any other comments?
3. Concerning the proposed design process...Does it differ from your current practice? Would you implement it?...Where do you see barriers?...What are the strengths?
4. Do you think that the case study presented illustrates well the application of

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resilient cooling design?

The next meeting of the Advisory Board of Practitioners will be held in September or October 2023. Further information with the exact date and topic of the meeting will follow in the coming weeks.

If you are interested to join the board, please contact Philipp Stern at philipp.stern@building-research.at.



4-5 October 2023 – 43rd AIVC – 11th TightVent-9th venticool conference in Copenhagen, Denmark

The 9th venticool conference “Ventilation, IEQ and health in sustainable buildings” will be held on 4 & 5 October 2023 in Copenhagen, Denmark together with the 43rd AIVC & 11th TightVent conference. The conference will take place at the premises of Aalborg University Copenhagen.

As we spend most of our time in commercial and residential facilities, it is important for our society to look at how these spaces impact the environment and the people in them. This task is important for building and facility managers, maintenance managers, energy managers as well as experts and researchers concerned with adopting sustainable and healthy practices for an organization. From indoor environmental quality point of view, sustainable buildings prioritize the quality of life and the wellbeing of the buildings’ occupants and at the same time reduce negative environmental impacts. A building that, in its design, construction or operation, reduces negative impacts on our climate, also reduces their occupants’ risk of related health problems and provides a more pleasant indoor environment,

as well as increases occupants’ satisfaction.

The conference will consist of 3 parallel sessions largely devoted to Smart ventilation, Indoor Air Quality (IAQ) and health; Building and ductwork airtightness; Ventilative cooling – Resilient cooling. The conference will consist of a mixture of presentations from the call for papers and presentations upon invitation, organized in well prepared and structured sessions focused on the conference theme and topics. Some sessions will consist of presentations from the call for papers only, other sessions will be topical sessions with presentations proposed by a session organizer and by the organizing committee. The conference is combined with an exhibition by industry partners. The conference is an initiative from the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), the Building and Ductwork Airtightness Platform (TightVent Europe), and the platform for resilient ventilative cooling (venticool); and Aalborg University Copenhagen.

Early bird registration is still open and due June 30, 2023. Register now to lock the lowest rate!

For further information and updates visit the [conference website](#).

Collection of papers from the AIVC 2022 Conference published in the International Journal of Ventilation

We are happy to inform you that a collection of papers from the AIVC 2022 conference has just been published in the International Journal of Ventilation. This article collection presents a selection of papers from the peer reviewed track of the 42nd AIVC conference - 10th TightVent - 8th venticool conference: "Ventilation Challenges in a Changing World", held in Rotterdam, the Netherlands on October 5-6, 2022 addressing issues raised by the conference topics

of smart ventilation in relation to indoor air quality and health, building and ductwork airtightness, and ventilative and resilient cooling.

Specific articles include:

- **Evaluation of thermal resilience to overheating for an educational building in future heatwave scenarios**, Abantika Sengupta, Hilde Breesch, Douaa Al Assaad & Marijke Steeman
- **The effect of airflow guiding components on effective ventilation rates in single-sided ventilation applications**, Nima Najafi Ziarani, Malcolm Cook & Paul D. O’Sullivan
- **Assessing the “sufficient ventilation” requirement for Austrian buildings: development of a Monte Carlo based spreadsheet calculation to estimate airing intervals and mould risk in window ventilated buildings**, Gabriel Rojas, Andreas Greml, Rainer Pfluger & Peter Tappler
- **Effectiveness of personalized ventilation in reducing airborne infection risk for long-term care facilities**, Marloes M. A. de Haas, Marcel G. L. C. Loomans, Marije te Kulve, Atze C. Boerstra & Helianthe S. M. Kort
- A preliminary assessment of the health impacts of indoor air contaminants determined using the DALY metric, Gioberti Morantes, Benjamin Jones, Max Sherman & Constanza Molina
- The indoor environmental quality and energy savings potential of room ventilation units compared to exhaust-only ventilation systems in France, Vasileios Filis, Kevin Michael Smith, Jakub Kolarik, Frédéric Kuznik & Lucie Merlier
- Impact of ventilation type on indoor generated PM and VOC levels for different indoor activities, Kevin Verniers, Frederik Losfeld, Ivan Pollet & Jelle Laverge
- Air leakage detection in building façades by combining lock-in thermography with blower excitation, Benedikt Kölsch, Johannes Pernpeintner, Björn Schiricke & Eckhard Lüpfer

You can access the papers [here](#).

Importance of good resilient building design and standards to ensure good ventilative cooling performance to reduce overheating and environmental impact

We are happy to share with you information on a topical session dedicated to ventilative cooling entitled "Importance of good resilient building design and standards to ensure good ventilative cooling performance to reduce overheating and environmental impact" and proposed by Christoffer Plesner (VELUX A/S, DK) & Jannick Roth (WindowMaster International A/S, Denmark). The session is set to take place at the upcoming venticool-AIVC – TightVent joint conference in October 2023. We hope to see you there!

Ventilative cooling is widely used as a key element when designing buildings to cope with overheating, but it can also improve the IAQ due to higher ventilation rates in the cooling season.

Ventilative cooling technologies have the potential to be an effective measure to reduce buildings energy consumption, by meeting some or all of the cooling requirement of a building without the need for an active cooling system (e.g. mechanical cooling). The design of a ventilative cooling system plays a significant role in the success and here standards/guidelines are becoming more important to enhance a proper design. A responsive design not only includes good thermal comfort, but also resiliency and an ability to cope with the environmental impact of a certain technical solution.

The purpose of this session is to discuss and showcase how ventilative cooling can be part of the following three key elements, in which the building sector are facing:

Resilience

- Robustness and resilience are key indicators when designing future buildings in terms of ventilative

cooling.

Indoor climate

- The focus on the indoor climate including limiting overheating is a main point due to rapid changes in the outdoor environment, fx. climate change.

Environmental impact

- Sustainability will be, and is already, a key parameter when assessing technologies in the built environment.

All three above mentioned key elements are to some extent bound to standards and legislation. Hence, standards and legislation are essential to push new requirements, while setting the bar for future building design.

The objective of the session is to give the participants an insight into how "Ventilative cooling" fits into the three key elements:

How to ensure a good building design through resilience indicators and environmental impact

- Get an insight into new research projects dealing with resilience indicators, as a parameter, for selecting the right solution.
- What are the right indicators and how these can be used in the design?
- How can environmental impact be used to assess a solution.

Case studies

- Different case studies will be shown as a catalyst to give examples of how ventilative cooling is used in the design phase to ensure either good thermal comfort, low environmental impact and/or resiliency.

Standards and legislation

- Get an overview of new legislation in the field of overheating mitigation.
- How to ensure the best design of ventilative cooling and what and how to include this in the different building design stages (e.g. in the early conceptual design phase).

A further objective is to enable the participants to take away key recommendations on the correct understanding of how ventilative cooling is to be viewed and implemented in future buildings. Finally, to highlight that ventilative

cooling is a good alternative, instead of using mechanical cooling in buildings.

Session programme

Introduction to Topical Session

- Introduction
Christoffer Plesner, VELUX A/S, Denmark & Jannick Roth, WindowMaster International A/S, Denmark

How to ensure a good building design through resilience and environmental impact

- Update on Resilient cooling and indicators
Peter Holzer, Operating Agent IEA EBC Annex 80, Institute of Building Research & Innovation. Austria
- Resilient Ventilative cooling in Design Practice: Where next?
Paul O'Sullivan, Munster university, Ireland

- Socio-environmental-economic assessment of design
Hilde Breesch, KU Leuven, Belgium

Case studies ensuring proper design

- How to use Life Cycle Assessment in a project
Jannick Roth, WindowMaster International A/S, Denmark
- Resilient schools: Design Lessons from Ireland
Paul O'Sullivan, Munster university, Ireland

Standards and legislation

- Design procedures for ventilative cooling integrated in new standards and implementation of resilient indicators
Christoffer Plesner, VELUX A/S, Denmark & Jannick Roth, WindowMaster International A/S, Denmark

Closing

- Questions and open Discussion
Facilitated by Christoffer Plesner, VELUX A/S, Denmark & Jannick Roth, WindowMaster International A/S, Denmark

For further information and updates please visit the AIVC conference [website](#)

Product new as provided by our partners

Discover WindowMaster's new compact smoke panel

WindowMaster has now developed WSC 104 – a compact smoke control panel, with its seamless ability to combine efficient smoke extraction with comfort ventilation, is helping to drive up interior health and safety standards across the board. Safeguarding occupants and visitors in commercial buildings is at the heart of WSC 104's development. In the event of a fire outbreak, it is critical to ventilate the toxic smoke and gases out of the building, while allowing fresh air to flow into the interior. It's a method that's conventionally achieved by allowing fresh air to enter through lower building openings to encourage the smoke to escape through the roof, upper vents and windows. Discover WSC 104 [here](#).



Protection of the ventilative cooling openings

As the number of hot days per year noticeably increased, the search for alternatives that keep down indoor temperatures is a 'hot' trend. Effectively keeping the indoors cool requires night cooling or intensive ventilations using large window louvres. You can leave these open the entire night in hot spells without having to worry because the louvres are burglar, water and insect proof. Depending on the type and the required class, Renson's built-in louvres are equipped with stainless-steel mounting bolts (RC2) or steel rods to secure these in the wall (RC4). Mounted louvres are installed with anti-burglary screws. All visible parts of Renson's anti-burglary louvres are made of 100% aluminium and provide a sleek, aesthetic finish and optimal sustainability. For further information please click [here](#).



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. In 2020, venticool decided to broaden its scope towards resilient ventilative cooling.

The platform supports better guidance for the appropriate implementation of resilient 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. venticool joins forces with international projects (in particular IEA EBC annexes 62 (ventilative cooling) and, more recently, annex 80 (Resilient cooling for buildings)) and organizations with significant experience and/or well identified in the field of ventilation and thermal comfort like AIVC (www.aivc.org) and REHVA (www.rehva.eu).

The platform has been initiated by INIVE with (International Network for Information on Ventilation and Energy Performance) with the financial and/or technical support of its partners.

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

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See <http://subscriptions.inive.org/>.

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Diamond partners



Gold partners



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Platform facilitator



To join venticool please visit: <https://venticool.eu/venticool-contact/>

venticool
the platform for resilient ventilative cooling