

Foreword

Welcome to the July 2024 edition of our bi-annual newsletter, where we share the latest information and updates on our recent activities.

We are excited to highlight two major upcoming events. Mark your calendars for the 10th venticool – 44th AIVC – 12th TightVent joint conference in Dublin, Ireland, taking place on October 9-10, 2024. Following this, we look forward to the AIVC – ASHRAE IEQ – venticool – TightVent joint conference in Montreal, Canada, scheduled for September 24-26, 2025.

We are also thrilled to announce the release of the final deliverables from IEA EBC Annex 80 “Resilient Cooling of Buildings,” which was completed in June 2024.

Furthermore, the new European Standard, prEN 15665:2024, focusing on the Design of Ventilation Systems in Residential Buildings for Acceptable Indoor Air Quality, is progressing well and will soon be open for public enquiry. In this edition, you will also find updates from the latest Advisory Board of Practitioners meeting, feedback from our recent webinar, and much more! Please visit our [website](#), follow us on [X](#) 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 and look forward to seeing you in our future events!

The venticool team

24 – 26 September 2025, AIVC – ASHRAE IEQ –venticool–TightVent joint conference, Montreal, Canada

The conference “IEQ 2025: Rising to new challenges: Connecting IEQ to a sustainable future”, organized by ASHRAE and AIVC, will be held in Montreal, Canada on 24-26 September 2025. The conference will also be the 11th venticool and 13th TightVent conference.

This conference provides the opportunity to learn, network and engage with IEQ professionals dedicated to advancing the fields of indoor environmental quality. Emphasis is placed on the growing understanding of occupant response to indoor environment elements (thermal, air quality, lighting and acoustics) while enhancing resilience in a changing climate. Seminars are led by experts from around the world representing AIVC, ASHRAE and many other partnering organizations.

Topics for Papers and Seminars: Performance Metrics: For all aspects of IEQ; Occupant Behavior: How behavior impacts IEQ and how IEQ impacts behavior – psychological dimensions of IEQ; • Smart Sensors, Data and Controls: Sensor properties, data management, cybersecurity, applications, commissioning, equivalence; Resilience and IEQ: Responding to climate change and disasters; Ventilation: Mechanical, passive, natural and hybrid systems; Air Tightness: Trends, methods and impacts; Thermal Comfort: Dynamic approaches, health impacts and trends; Policy and Standards: Trends, impacts, implications; HVAC and IEQ in a post-COVID world; Ventilation and building decarbonization;

Important dates: Abstracts for Conference Papers and Extended Abstracts Due: **November 11, 2024**; Decisions on Abstracts for Conference Papers and Extended Abstracts Sent: December 16, 2024; Registration Opens: March 7, 2025; Papers and Extended Abstracts Due: March 10, 2025; Paper Final Revisions Due: May 12, 2025; Speaker Presentations Due for Commercialism Review: September 8, 2025.

More information can be found at: <https://www.ashrae.org/conferences/topical-conferences/ieq-2025-conference>

In this issue

- > Foreword
- > 24-26 September 2025, AIVC – ASHRAE IEQ –venticool– TightVent joint conference
- > 9-10 October 2024 – 10th venticool - 44th AIVC - 12th TightVent conference
- > IEA EBC Annex 80 Resilient Cooling of Buildings new publications!
- > New European Standard, prEN 15665:2024
- > Feedback from the 9th meeting of the Advisory Board of Practitioners for venticool
- > AIVC & venticool webinar “Exploring window opening behaviour for optimal cooling and thermal comfort
- > Product news



9-10 October 2024 – 10th venticoool- 44th AIVC - 12th TightVent conference in Dublin, Ireland

The 10th venticoool conference: "Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality" will be held in Dublin, Ireland together with the 44th AIVC and the 12th TightVent conferences on October 9-10, 2024. The conference will take place at Croke Park, Dublin.

Conference Scope

From the perspective of climate goals, reducing energy use in the built environment via energy retrofit and climate neutral newly constructed buildings are critical. However, it is crucial to prioritise indoor environmental quality when reducing energy usage to meet climate targets. Well-designed and executed retrofits are needed to reduce carbon emissions while ensuring healthy indoor environments. Building retrofit professionals, energy conservation experts, ventilation system designers & installers, and indoor air quality specialists must collaborate on innovative solutions to achieve these multifaceted objectives. AIVC 2024 will serve as a multidisciplinary platform to address the emerging challenges by exchanging cutting-edge ideas, research findings, policies and industrial experiences.

The conference organisers have invited contributions centred around the pivotal role of ventilation, airtight building and ductwork designs, and ventilative cooling solutions in enhancing Indoor Environmental Quality (IEQ) and overall health in existing buildings.

Conference concept

The conference will consist of 3 parallel sessions largely devoted to:

- Smart ventilation, Indoor Air Quality and health
- Building and ductwork airtightness
- Ventilative cooling – Resilient cooling

The conference will consist of a mixture of invited presentations and presentations in response to a call for papers, organised in structured sessions focused on the conference topics. Some sessions will consist of presentations from the call for papers only, while other sessions will be topical sessions with presentations proposed by a session organiser or by the organising committee. The conference is combined with an exhibition by industry partners.

Conference topics

Smart ventilation, IAQ and health

- Integration of ventilation in building energy retrofits
- Associated health benefits of energy retrofits
- Strategies to reduce exposure to outdoor and indoor air pollutants (filtration, air cleaning, source control)
- Resilient approaches in IAQ management (infection control, hazardous events, etc.)
- Inspection, monitoring, maintenance, reliability and durability of ventilation systems
- Model based data analytics and control strategies for smart ventilation, including the role of consumer-grade IAQ sensors
- Building Information Modelling (BIM), Life Cycle Assessment (LCA) and ventilation systems
- Standards, policies and legislation

Building and ductwork airtightness

- Role of airtightness in building energy retrofits
- Energy and IAQ impact of envelope and ductwork leakage
- Innovative measurement and airtightening techniques
- Compliance schemes for airtightness
- Long-term performance: durability of airtightness

Ventilative cooling – Resilient cooling

- Role of ventilative and resilient cooling in building energy retrofits
- Occupant IEQ perception and satisfaction
- Resilient approaches to extreme heat events and climate change
- Control strategies and personal comfort

control

- Standards, legislation and compliance tools

Conference Organisers

The conference is an initiative from:

- INIVE on behalf of the AIVC, TightVent, and venticoool;
- the University of Galway;
- the Maynooth University; and
- the Sustainable Energy Authority of Ireland (SEAI)

The call for abstract & papers is now closed.

If you are interested in joining us in Dublin you can register [here](#).

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

IEA EBC Annex 80 Resilient Cooling of Buildings new publications!

We are pleased to announce the completion and release of the final deliverables from the IEA EBC Annex 80 'Resilient Cooling of Buildings,' which came into completion in June 2024.

- International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Midterm Report](#) | (April 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Field Studies Report](#) (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Technology Profiles Report](#) | (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Policy Recommendations](#) | (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Project Summary Report](#) | (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [KPI Report](#) | (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling of Buildings – [Typical and extreme weather datasets for studying the resilience of buildings to climate change and heatwaves](#) | (May 2024)
 - International Energy Agency EBC Annex 80 | Resilient Cooling Design Guidelines – [REHVA Guidebook](#) (June 2024)
- The documents are freely accessible [here](#).

New European Standard, prEN 15665:2024 for Design of Ventilation systems in Residential buildings for Acceptable Indoor Air Quality underway in Public Enquiry soon

Christoffer Plesner, VELUX A/S

In Europe, there has been a lack of European standards addressing the design of ventilation systems for residential buildings to ensure acceptable indoor air quality. Furthermore, there has been no specific standard focusing on natural or hybrid ventilation system design. However, this situation is changing with the introduction of the new standard, prEN 15665:2024, which is a revision of the previous version from 2009 which really needed an update to reflect current European legislation. The purpose of the standard is to address natural, hybrid and mechanical ventilation on the same level, while also including the possibility of airing as a supplement to ventilation systems, to ensure good Indoor Air Quality in European residential buildings. The goal of prEN 15665:2024 is to establish a comprehensive framework for designing ventilation systems that promote acceptable indoor air quality. Designers can choose between prescriptive or performance-based approaches. Prescriptive requirements typically rely on air flow rates and are well-suited for mechanical ventilation systems. In contrast, performance-based requirements consider IAQ criteria such as CO₂ levels (e.g. measured in ppm-hours or max) or VOC's (volatile organic compounds). By incorporating a performance-based approach, the standard aims to fully support natural and hybrid ventilation systems also, which have been lacking until now. Importantly, prEN 15665:2024 does not prescribe specific values to meet; instead, it provides design approaches. Each country can then choose the value of their prescriptive or performance-based requirements, referencing standards like EN 16798-1. If performance-based requirements are chosen, they can be validated using the

corresponding "performance-assessment method" from the standard, applicable across different countries. In summary, prEN 15665:2024 serves as the design standard for ventilation systems in European residential buildings. It establishes a robust design framework, where EN 16798-1 or national legislation helps determine the actual indoor air quality requirements (including IEQ categories 1-4), so in this sense, they are fully complimentary. Without such a standard, specifiers would lack clear guidance on designing effective ventilation systems in Europe, making prEN 15665:2024 a valuable resource and an important reference to EPBD standards.

Feedback from the 9th meeting of the Advisory Board of Practitioners for venticool

On March 12, 2024, representatives from the building cooling and ventilation associated industry together with architects, and consultants gathered for the 9th meeting of the Advisory Board of Practitioners (ABoP). This board, led since the beginning of 2024 by venticool (and initially run in conjunction with Annex 80 from 2021 to 2023), was founded to put results of scientific research into action by establishing strong ties to practitioners and to include their practical experience and feedback in future research projects.

23 participants attended the meeting which focused on the "Environmental impact of ventilative cooling/ventilation". Following a short introduction & welcome speech on behalf of venticool by Hilde Breesch (KU Leuven, BE), there were 2 presentations by experts. The first presentation by Jannick Roth (WindowMaster, DK) focused on "Life cycle assessment: A design element for ventilation system selection". Yanaika Decorte (Ghent University, BE) then presented "Life Cycle Assessment: Exhaust and Balanced Ventilation – Flemish single-family case study." Following the 2 presentations, the participants were split into 3 break-out sessions to discuss: 1) How important (0-10) is the environmental impact for your company (compared to energy, IEQ, etc.) now and in the future (next 10 years)?

2) Do you apply LCA analysis in your HVAC design or product assessment? Why? Why not? For which products? 3) If you apply LCA analysis, what KPIs are you using? Which thresholds? Which phases/stages do you consider?

Overall, there was a general agreement on the increasing importance of the environmental impact now and in the future. However, the participants noted that energy and IEQ should remain of equal importance. It appears that industry nowadays apply LCA analysis in the HVAC design or product assessment and the representatives present agreed there is a strong need for reliable data and a global standard providing this data. The participants also highlighted the importance of Environmental Product Declarations and underlined the lack of recycle and re-use in the LCA analysis. CO₂ equivalent appears to be a valid KPI for comparison.

Next meeting

- Meeting #10: **26 September 2024** (16:30-18:00 CET)
 - Meeting topic: "Hybrid cooling: how to design and operate?"
 - Presentations from: Peter Holzer (Institute of Building Research & Innovation, Austria) & Ongun Berk Kazanci (IEA Annex 87 Operating Agent/ Technical University of Denmark, Denmark)
- If you are interested to join the board, please contact [Maria Kapsalaki](#).

AIVC & venticool webinar "Exploring window opening behaviour for optimal cooling and thermal comfort"

The AIVC- venticool webinar "Exploring window opening behaviour for optimal cooling and thermal comfort" was held on March 26, 2024. The event attracted 96 participants who provided positive feedback through the evaluation survey. Recordings and presentation slides from the webinar are now accessible online [here](#).

You can explore this valuable collection, along with past events, by visiting this [link](#).

Don't forget to [subscribe](#) to our YouTube channel for the latest video updates.

Product new as provided by our partners

Reynaers Masterline 8 motorised Ventilation Vents offer healthy indoor climate and optimal flow of fresh and cool at night-time air

The Ventilation Vent is a fresh air inlet with high air flow capacity. Depending on multiple parameters, the basic inlet allows for air changes between 250m³ and 4000m³ per hour. These concealed vents are limited in width to offer a breath of fresh air while ensuring full safety. The integrated motor is controllable from the inside for open and close function, can be coupled with Smart Home. This solution is seamlessly integrated with MasterLine 8: windows, doors and MasterPatio sliding system. Additional burglar-, rain-, mosquito- and fall- through protection is possible when in combination with a Renson grid on the outside for the Masterline Ventilation Ventr.

For further information please visit: <https://www.reynaers.com>

Enhance comfort and efficiency: DUCO's innovations in ventilative cooling and solar shading

DUCO Ventilation & Sun Control offers innovative solutions for maintaining a comfortable indoor temperature and a healthy indoor climate through its advanced ventilative cooling systems and sun protection solutions.

Active solar shading, such as screens or sliding panels, significantly reduces cooling loads by up to 63% through intelligent control. Ventilative cooling uses outside air for natural cooling, with automatic regulation via the DUCO IntelliHub.

These systems are designed for both residential and commercial applications, offering a range of ventilation and shading options. By integrating insulation with ventilative cooling and external sun protection, DUCO delivers a sustainable approach to prevent overheating and maintain optimal indoor temperatures.

For further information please visit: <https://www.duco.eu/>



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 annex 62 (ventilative cooling), annex 80 (Resilient cooling for buildings) and, more recently, annex 87 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.

Disclaimer

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

In line with the **European General Data Protection Regulation**, you can verify and modify the data we keep in our database for mailing as well unsubscribe. See <http://subscriptions.inive.org/>.

venticool partners

Diamond partners

.AGORIA

VELUX®

Gold partners

R Reynaers Aluminium

WINDOW MASTER®
Fresh Air. Fresh People.

Associate partners

activehouse

CIBSE

Covenant of Mayors for Climate & Energy

EuroWindow

REHVA 3E
Federation of European Heating, Ventilation and Air-conditioning Associations

Platform facilitator

INIVE

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

venticool
the platform for resilient ventilative cooling