



## Foreword

X @AIVCnews

Welcome to the September edition of our newsletter! We are excited to share updates on upcoming events and recent developments within the ventilation and air infiltration community. Mark your calendars for the 45<sup>th</sup> AIVC-ASHRAE IEQ conference in Montreal next September, and join us this October in Dublin for the 44<sup>th</sup> AIVC, 12<sup>th</sup> TightVent, and 10<sup>th</sup> venticool conference. Additionally, we invite you to the 14<sup>th</sup> International BUILDAIR Symposium in Hannover and the AIVC Workshop in Stuttgart next year.

This edition also highlights the revised Energy Performance in Buildings Directive, emphasising indoor environmental quality (IEQ) and the inspection of ventilation systems. You will find feedback from our recent webinars and information on AIVC's latest publications.

We hope you enjoy this edition and look forward to seeing you at our upcoming events. We also encourage you to visit our [website](#), follow us on [X](#) and [LinkedIn](#), and check out our monthly publication, [Energy Efficiency and Indoor Climate in Buildings](#), to stay updated on our activities.

Arnold Janssens & Peter Wouters, Operating Agents, AIVC

## 24-26 September 2025 – 45<sup>th</sup> AIVC - ASHRAE IEQ conference in Montreal, Quebec, Canada

The joint 45<sup>th</sup> AIVC conference and ASHRAE 2025 IEQ conference "IEQ 2025: "Rising to New Challenges: Connecting IEQ to a Sustainable Future" will be held on September 24-26, 2025, in Montreal, Quebec together with the 13<sup>th</sup> TightVent and the 11<sup>th</sup> venticool conferences. The event will focus on the increasing understanding of how occupants respond to various indoor environmental factors while enhancing resilience in the face of a changing climate.

Abstract submission is now open and due **November 11, 2024**.

### 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 decarbonisation

### 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

To submit your abstract please click [here](#).

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



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# Air Infiltration and Ventilation Centre



## 9 - 10 October 2024 – 44<sup>th</sup> AIVC - 12<sup>th</sup> TightVent- 10<sup>th</sup> venticool conference in Dublin, Ireland

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

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.

The conference is an initiative from: [INIVE](#) on behalf of the [AIVC](#), [TightVent](#), and [venticool](#); the [University of Galway](#); the [Maynooth University](#); and the Sustainable Energy Authority Of Ireland ([SEAI](#)).

More than 170 people have booked their seats for the event!

Online registration is now closed. On-site registration will be possible during the whole event.

The detailed programme is available [here](#).

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

## 1-2 April 2025 - AIVC 2025 Workshop, Stuttgart

Mark your calendars for the upcoming AIVC 2025 International Workshop "Indoor Environmental Quality in Sustainable Buildings" to be held on April 1 & 2, 2025 in Stuttgart, Germany!

The workshop is organised by Fraunhofer IBP together with the Air Infiltration and Ventilation Centre (AIVC) and facilitated by INIVE (International Network for Information on Ventilation and Energy Performance).

Information on registration, programme, speakers etc. will follow soon, so stay tuned.

## Revised Energy Performance in Buildings Directive with specific focus on IEQ and inspection of ventilation systems

*Peter Wouters, AIVC Operating agent*

The [revised EPBD](#) was published in the Official Journal (EU/2024/1275) on May 8, 2024.

This Directive lays down requirements as regards:

- (a) the common general framework for a methodology for calculating the integrated energy performance of buildings and building units;
- (b) the application of minimum energy performance requirements to new buildings and new building units;
- (c) the application of minimum energy performance requirements to:
  - existing buildings and existing building units that are undergoing major renovation;
  - building elements that form part of the building envelope and that have a significant impact on the energy performance of the building envelope when they are retrofitted or replaced;
  - technical building systems where they are installed, replaced or upgraded;
- (d) the application of minimum energy performance standards to existing buildings and existing building units;
- (e) the calculation and disclosure of the life-cycle global warming potential of buildings;
- (f) solar energy in buildings;
- (g) renovation passports;
- (h) national building renovation plans;
- (i) sustainable mobility infrastructure in and adjacent to buildings;
- (j) smart buildings;

(k) energy performance certification of buildings or building units;

(l) **regular inspection** of heating systems, **ventilation systems** and air-conditioning systems in buildings;

(m) independent control systems for energy performance certificates, renovation passports, smart readiness indicators and **inspection reports**;

(n) the **indoor environmental quality** performance of buildings.

Specific new issues with relevance for ventilation and indoor air quality are aspects related to indoor environmental quality and inspection of ventilation systems.

'**Indoor environmental quality**' (IEQ) means the result of an assessment of the conditions inside a building that influence the health and wellbeing of its occupants, based upon parameters such as those relating to the temperature, humidity, ventilation rate and presence of contaminants

There are in the EPBD articles various references to IEQ, e.g.:

- Member States shall set requirements for the implementation of adequate indoor environmental quality standards in buildings in order to maintain a healthy indoor climate.

- Member States shall require non-residential zero-emission buildings to be equipped with measuring and control devices for the monitoring and regulation of indoor air quality.

- Member States shall lay down requirements to ensure that, where technically and economically feasible, non-residential buildings are equipped with building automation and control systems, as follows:

- (a) by 31 December 2024, non-residential buildings with an effective rated output for heating systems, air-conditioning systems, systems for combined space heating and ventilation, or systems for combined air conditioning and ventilation of over 290 kW;
- (b) by 31 December 2029, non-residential buildings with an effective



rated output for heating systems, air-conditioning systems, systems for combined space heating and ventilation, or systems for combined air conditioning and ventilation of over 70 kW.

- The building automation and control systems shall be capable of ....

(d) by 29 May 2026 monitoring of indoor environmental quality.

**Inspections** are covered in article 23 and 24, e.g.:

- Member States shall lay down the necessary measures to establish regular inspections of the accessible parts of heating systems, ventilation systems and air-conditioning systems, including any combination thereof, with an effective rated output of over 70 kW. The effective rating of the system shall be based on the sum of the rated output of the heat generators and cooling generators.

- Member States may establish separate inspection schemes for the inspections of residential and non-residential systems.

- Where a ventilation system is installed, its sizing and its capabilities to optimise its performance under typical or average operating conditions relevant for the specific and current use of the building shall also be assessed.

Overall, this revised EPBD introduces several relevant and interesting aspects related to indoor air quality and ventilation systems in buildings. As the directive must be transposed into national legislation by the Member States, it will be interesting to see how this process unfolds. Will it lead to significant improvements in IEQ and the performance of ventilation systems, or will its impact be very limited, or will there be substantial differences between countries?



## International BUILDAIR Symposium

16-17 May 2025 - "14<sup>th</sup> International BUILDAIR Symposium" in Hannover, Germany

The 14<sup>th</sup> International Buildair Symposium: "Airtight Buildings, Thermography and Ventilation Systems in Practice" will take place on May 16 and 17, 2025 in Hanover, Germany.

The event will offer a unique opportunity to find out about the latest developments and best practices, to highlight particular challenges in airtightness testing and to exchange experiences across national borders.

The conference programme will include: lectures and short presentations followed by questions and discussion time; brief presentations of exhibitors / products (90 seconds); panel discussion.

### Conference topics

#### *Practical measurement experience*

- EN ISO 9972 and national annexes
- Opportunities of measurements during construction
- Special measurements (large buildings, zone measurements, cold rooms, clean rooms, etc.)
- Challenges and dangers for measurement teams

#### *Leakages*

- Detecting, measuring, evaluating, eliminating
- Leakages before renovation of existing buildings and unavoidable leakages after renovation
- How tight is tight enough?

#### *Renovation of existing buildings*

- The optimal airtightness concept (Is there an optimal airtightness concept?)
- WTA information sheet on airtightness in existing buildings
- Challenges in quality assurance

#### *Products*

- Product developments to ensure airtightness
- New measuring devices and evaluation programs

#### *Ventilation*

- Social change: How can ventilation become a matter of course?
- Successful ventilation concepts for existing buildings

#### *Thermography*

- Unusual applications on the building envelope (including supply shafts, etc.)
- Unsteady building thermography

The conference is organised by the Energie- und Umweltzentrum am Deister (e.u.[z.]), 2025 in close cooperation with the AIVC, INIVE and TightVent.

For more information please click [here](#).

## Feedback from AIVC Webinars – March 2024 to September 2024

During the period March 2024 to September 2024, the Air Infiltration and Ventilation Centre (AIVC) organised 3 webinars:

### **21 March 2024: Design and performance assessment of Ventilative Cooling**

- 90 participants
- Organizer: AIVC & venticool
- Recordings & Slides available [here](#)

### **26 March 2024: Exploring window opening behaviour for optimal cooling and thermal comfort**

- 96 participants
- Organizer: AIVC & venticool
- Recordings & Slides available [here](#)

### **20 June 2024: New developments in design and characterisation of energy-efficient ventilation systems**

- 171 participants
- Organizer: AIVC
- Recordings & Slides available [here](#)

The full collection of past events' recordings and slides can be found [here](#). Check them out and subscribe to our [YouTube channel](#) to receive our latest video updates!





## AIVC's new publications

The AIVC is pleased to announce the release of 6 new AIVC publications!

AIVC's Ventilation Information Paper no 45.10: **Trends in building and ductwork airtightness in the Republic of Korea** (March 2024).

This paper summarises current knowledge on trends in building and ductwork airtightness in the Republic of Korea.

AIVC's Ventilation Information Paper no 45.11: **Trends in building and ductwork airtightness in New Zealand** (May 2024).

This paper summarises current knowledge on trends in building and ductwork airtightness in New Zealand.

AIVC's Ventilation Information Paper no 45.12: **Trends in building and ductwork airtightness in USA** (May 2024).

This paper summarises current knowledge on trends in building and ductwork airtightness in USA.

AIVC's Technical Note no 73: **Overview of the trends in building and ductwork airtightness in 16 countries** (June 2024).

This report provides an overview of the trends in building and ductwork airtightness in 16 countries around the world.

AIVC's Ventilation Information Paper no 48.1: **Trends in building ventilation requirements and inspection in Spain** (June 2024).

This paper summarises current knowledge on trends in building ventilation requirements and inspection in Spain.

AIVC's Ventilation Information Paper no 49: **Resilient cooling of buildings** (September 2024).

This paper discusses resilient cooling of buildings, as defined by IEA EBC Annex 80. The VIP paper examines 4 groups of resilient cooling strategies while assessing their resilience performance to heat waves and power outages.

All documents are freely accessible on the [AIVC website](#).

## AIVC • List of board members

Australia: Riccardo Paolini, University of New South Wales

Belgium: Hilde Breesch, KU Leuven • Samuel Caillou, Buildwise

China: Guoqiang Zhang, Hunan University • Zhengtao Ai, Hunan University

Denmark: Bjarne Olesen, Technical University of Denmark • Alireza Afshari, Aalborg University Copenhagen

France: Laure Mouradian, CETIAT • Gaëlle Guyot, CEREMA

Italy: Michele Zinzi, Enea • Marco Simonetti, Politecnico di Torino

Ireland: James McGrath, Maynooth University • Marie Coggins, NUI Galway

Japan: Takao Sawachi, Building Research Institute • Yoshihiko Akamine, NILIM

Netherlands: Wouter Borsboom, TNO

New Zealand: Manfred Plagmann, BRANZ • Yu Wang, BRANZ

Norway: Kari Thunshelle, SINTEF Byggeforsk

Republic of Korea: Yun Gyu Lee, Korea Institute of Construction Technology • Dong Hwa Kang, University of Seoul

Spain: Pilar Linares Alemparte, The Eduardo Torroja Institute for Construction Science - CSIC • Sonia García Ortega, The Eduardo Torroja Institute for Construction Science - CSIC

Sweden: Jan-Olof Dalenbäck, Chalmers University of Technology

UK: Benjamin Jones, University of Nottingham • Maria Kolokotroni, Brunel University London

USA: Andrew Persily, NIST • Iain Walker, LBNL

### Operating agent

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Arnold Janssens and Peter Wouters, operating agents • Maria Kapsalaki, senior consultant

### AIVC board guests

Francis Allard • Willem de Gids • Laszlo Fulop • Zoltan Magyar • Max Sherman • Hiroshi Yoshino

### Representatives of organisations

Takao Sawachi, IEA EBC, [www.iea-ebc.org](http://www.iea-ebc.org)

Pawel Wargocki, IEA EBC Annex 78, <https://annex78.iea-ebc.org/>

Peter Holzer, IEA EBC Annex 80, <http://annex80.iea-ebc.org/>

Jelle Laverge, IEA EBC Annex86, <https://annex86.iea-ebc.org/>

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Jaap Hogeling, REHVA, [www.rehva.eu](http://www.rehva.eu)

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