

Air Infiltration and Ventilation Centre

EBC ANNEX 5

EBC Annex 5 'Air Infiltration & Ventilation Centre (AIVC)', has been advancing knowledge on ventilation and air infiltration since its establishment in 1979. For over 45 years, AIVC has adapted to evolving challenges, providing resources in the field that support energy efficiency and high indoor environmental quality (IEQ) in buildings.

As efforts intensify to achieve a carbon-neutral building stock by 2050, energy-efficient ventilation remains essential for health and IEQ. This importance is reflected in the continued relevance of AIVC's work and in the Executive Committee's approval to extend AIVC for the 2027–2031 period.

Objectives

The objectives of the AIVC are as follows:

- enabling the production of high quality and influential documents of international status regarding energy efficient ventilation and air infiltration;
- generating strategic advice and design guidance on air infiltration and ventilation related issues in new and renovated buildings;

AIVC Board's visit to NRC's Building Science Facilities in Ottawa
Source: EBC Annex 5/AIVC



- communicating and disseminating information in relation to smart ventilation, resilient ventilative cooling, building and ductwork airtightness and indoor environmental quality, through conferences and workshops, webinars, data-bases, social media, and a high visibility web presence.

Deliverables

- *Events*: the AIVC Annual Conference, one to two workshops per year on specific topics, and a number of webinars per year.
- *Publications*: conference and workshop proceedings, technical notes, ventilation information papers and contributed reports, and a biannual newsletter.

Progress

In 2025, the AIVC focused its work mainly on thirteen projects, the AIVC Industry Advisory Committee, the 45th AIVC–ASHRAE IEQ joint Conference: "IEQ 2025: Rising to new challenges: Connecting IEQ to a sustainable future", the workshop in Stuttgart: "Indoor Environmental Quality in Sustainable Buildings", and nine webinars. Furthermore, the AIVC facilitated remote discussions and supported dissemination activities for EBC annex 87 "Personalized Environmental Control Systems" & EBC Annex 97 "Sustainable Cooling in Cities".

The latest AIVC project launched includes:

- Handling low emitting buildings and air cleaning in energy performance regulations

Previously launched projects which were still running in 2025 include:

- Ventilative cooling and thermal comfort in national EPB regulations
- Measurement for Exterior Wall Airtightness of High-Rise Buildings Using Stack Effect/Individual Air Conditioning and Outdoor Air Entering through Entrance Doors
- Designing building ventilation for epidemic and disaster preparedness
- EPBD recast in relation to IEQ and ventilation

- Energy Recovery Ventilation
- Personalized Environmental Control Systems (PECS)
- Building and ductwork airtightness regulations in various countries
- Building ventilation regulations in various countries
- Temperature take-back effect in the context of energy efficient ventilation strategies
- Indoor Air Quality Metrics
- Supplementing Ventilation with Gas-phase Air Cleaning
- Competent Tester Schemes for Building Airtightness Testing

In 2025, the AIVC released several key publications:

- Technical Note TN74: Smart Ventilation in Residential Buildings.
- Two Ventilation Information Papers (VIPs) on trends in building ventilation requirements and inspection in Ireland and Italy.
- Contributed reports CR20: A method for testing gas-phase air cleaners, CR21: Performance of Portable Gas-Phase Air Cleaners and Impact on Indoor Air Quality. A Literature Review and CR22: Quantifying population harm from indoor air contaminants in dwellings.
- Annotated Bibliographies BIB14: Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality – Overview of the AIVC 2024 Conference sessions.

In 2025, the AIVC hosted a series of nine webinars covering a variety of topics.

- *February*: AIVC & IEA-EBC Annex 78 held a webinar on Energy Performance of Gas Phase Air Cleaning
- *March*: AIVC organized a webinar on Recent standards and guidelines on CO2 application and interpretation
- *May*: Two webinars co-organized by AIVC with Venticool and TightVent, focusing respectively on improving buildings' thermal resilience to overheating (lessons learned) and on building and ductwork airtightness trends and regulations in Estonia, Germany, and the U.S.
- *June*: AIVC & TightVent held the webinar Inspection of ventilation systems in non-residential buildings.
- *September*: AIVC, organized a webinar on Emerging Risks of Indoor Mould: Assessment Methods, In-Situ Measurements & Predictive Modelling.
- *October*: AIVC & TightVent, organized the webinar Comparing Ventilation Trends in Southern Europe: Italy, France & Spain.
- *November*: AIVC & TightVent, organized the webinar From Inspections to IAQ Measurement: Exploring Databases for Better Indoor Environments.

- *December*: One webinar exploring the topic of Improving Indoor Air Quality in Schools.

In 2023, the AIVC Board established an Industry Advisory Committee (IAC), a group of voluntary industry leaders dedicated to the goals of the AIVC, representative of industry but not exclusively advocating for industry, who are proposed and retained at the discretion of the board of the AIVC. The advisory committee met twice in 2025.

AIVC maintains a strong and close collaboration with the TightVent platform which focus is on building and ductwork airtightness and the venticool platform which focus is on resilient ventilative cooling.

To foster greater interaction with related organizations and enhance its societal impact, AIVC is also a founding member of the Indoor Environmental Global Alliance and has collaboration agreements with ASHRAE, REHVA, EVIA, ISIAQ and ABAA.

AIVC continues to facilitate collaboration between various initiatives. As an example, the Advisory Board of Practitioners (ABoP), an initiative launched in March 2021 by EBC Annex 80, AIVC & venticool, facilitates regular exchange between Annex 80 scientists, practitioners, planners and representatives from relevant industries. As of 2024, following the completion of EBC Annex 80, the ABoP operates under the joint umbrella of AIVC and venticool. 2 meetings were held in 2025.

Meetings

The AIVC Board organized two board meetings in 2025, which were held in:

- March 2025: Stuttgart, Germany
- September 2025: Montreal, Canada

Project duration

1979–2031

Co-Operating Agents

Peter Wouters, INIVE, Belgium
Arnold Janssens, INIVE/UGent, Belgium

Participating countries

Australia, Belgium, Canada, Denmark, France, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, R. Korea, Spain, UK and USA
Observers: Greece

Further information

www.iea-ebc.org
