

Examples of resilient cooling solutions

Tuesday, September 13, 2022

15:00-16:15 (Brussels, BE)

14:00-15:15 (London, UK)

23:00-00:15 (Sydney, AU)

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Well-insulated and air-tight buildings are known to be vulnerable to overheating. An increase in the severity and duration of heatwaves is expected, resulting in more severe overheating risks, affecting in turn the health and mortality of building users. To achieve more future-proof buildings, it is crucial to design buildings that are “resilient” to overheating in future climate conditions.

It is the motivation of IEA EBC Annex 80 “Resilient Cooling of Buildings” to develop, assess, and communicate active and passive solutions of resilient cooling and overheating protection. Resilience was defined and indicators were developed to assess the resilience of cooling technologies in subtask A “Fundamentals”. Moreover, shocks like heatwaves were defined for all climate zones around the world. Subtask B “Solutions” systematically assessed the benefits, limitations, and performance indicators of resilient cooling solutions. In addition, specific R&D towards new developments and improvements of resilient cooling and overheating protection solutions was carried out. Subtask C “Field Studies” showed the opportunities and benefits of resilient cooling through the analysis and evaluation of well-documented applications. Finally, subtask D “Policy Actions” dealt with policy related endeavors, promoting energy efficiency and resilience in cooling.

This series of 4 webinars will present the results of IEA EBC Annex 80 on:

1. Indicators to assess resilience of cooling in buildings [May 10th, 2022 – 15:00-16:15 CET – Completed]
2. Future weather data and heatwaves [May 31st, 2022 – 16:00-17:15 CET – Completed]
3. **Examples of resilient cooling solutions** [September 13th, 2022 – 15:00-16:15 CET – [Registration link](#)]
4. Case studies and policy recommendations [September 20th, 2022 – 16:00-17:15 CET – [Registration link](#)]

This series of webinars is organized by [INIVE EEIG](#) with the support of the [IEA EBC Annex 80 Resilient Cooling of Buildings](#) and the [venticool platform](#), and in cooperation with the [Air Infiltration and Ventilation Centre](#).

Programme (Brussels time)

15:00	Introduction to Annex 80, AIVC & venticool Peter Holzer, Operating Agent EBC Annex 80, Institute of Building Research & Innovation, AT	15:40	Adsorption Chiller and its Applications Gamze Gediz Ilis, Gebze Technical University, TR
15:05	Overview of resilient cooling technologies Ongun Berk Kazanci, ICIEE/DTU, DK	15:55	Questions and answers
15:25	Recent progress on building products for heat mitigation Mat Santamouris, UNSW, AU	16:15	End of the webinar



Cost and registration

Participation to the webinar is free but requires you to register for the event. The webinar will be limited to a maximum of 1000 persons. To register, please click on the "Register now" button above.

What is a webinar?

A webinar is a conference broadcasted on internet. To follow a webinar you must have a computer with a sound card and speakers or headphones. Once logged in the "conference room", you will be able to see the slides of the presentation and to hear the panelists' comments. You will also be able to ask written questions to the speakers, and to answer on-line surveys.

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About IEA EBC Annex 80 - Resilient Cooling of Buildings

Annex 80 Resilient Cooling of Buildings (<https://annex80.iea-ebc.org>/<https://venticool.eu/annex-62-home/>) is an international research project of the IEA Energy in Buildings and Communities (EBC) programme. It is the motivation of Annex 80 to develop, assess and communicate solutions of resilient cooling and overheating protection. Resilient Cooling is used to denote low energy and low carbon cooling solutions that strengthen the ability of individuals and our community as a whole to withstand, and also prevent, thermal and other impacts of changes in global and local climates. It encompasses the assessment and Research & Development of both active and passive cooling technologies. The Annex 80's main objective is to support a rapid transition to an environment where resilient low energy and low carbon cooling systems are the mainstream and preferred solutions for cooling and overheating issues in buildings.

About IEA EBC Annex 62 - Ventilative Cooling

Annex 62 Ventilative Cooling (<https://venticool.eu/annex-62-home/>) was an international research project of the IEA Energy in Buildings and Communities (EBC) programme that aimed to make ventilative cooling an attractive and energy efficient cooling solution to avoid overheating of both new and renovated buildings. Objectives were: to develop and evaluate suitable methods and tools for prediction of cooling need, ventilative cooling performance and risk of overheating in buildings; to develop guidelines for an energy efficient reduction of the risk of overheating by ventilative cooling solutions and for design and operation in both residential and commercial buildings; to develop guidelines for integration of ventilative cooling in energy performance calculation methods and regulations including specification and verification of key performance indicators; to develop instructions for improvement of the ventilative cooling capacity of existing systems and for development of new solutions including their control strategies; and to demonstrate the performance of solutions through analysis and evaluation of well-documented case studies.

About venticool

The platform for resilient ventilative cooling, venticool (<http://venticool.eu/>) 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 maximise the impact of existing and new initiatives. venticool has been initiated by the International Network for Information on Ventilation and Energy Performance (INIVE EEIG) with the financial and/or technical support of the following partners: Agoria-NAVENTA, Reyaners Aluminum, Velux and WindowMaster.

About AIVC

Created in 1979, the Air Infiltration and Ventilation Centre (www.aivc.org) is one of the projects/annexes running under the International Energy Agency's Energy in Buildings and Communities (IEA-EBC) Programme. With the support of its member countries as well as key experts and two associations (REHVA, IBPSA, ISIAQ), the AIVC offers industry and research organisations technical support aimed at better understanding the ventilation challenges and optimising energy efficient ventilation. The AIVC activities are supported by the following countries: Australia, Belgium, China, Denmark, France, Greece, Italy, Ireland, Japan, Netherlands, New Zealand, Norway, Republic of Korea, Spain, Sweden, UK and USA.

About INIVE

INIVE (International Network for Information on Ventilation and Energy Performance) was created in 2001. The main reason for founding INIVE was to set up a worldwide acting network of excellence in knowledge gathering and dissemination. At present, INIVE has 8 member organisations (BBRI, CETIAT, CSTB, eERG, IBP-Fraunhofer, NKUA, SINTEF, and TNO) (www.inive.org). INIVE is coordinating and/or facilitating various international projects, e.g. AIVC (www.aivc.org), TightVent Europe (www.tightvent.eu), venticool and Dynastee (www.dynastee.info). INIVE has also coordinated the ASIEPI project dealing with the evaluation of the implementation and impact of the EU Energy Performance of Buildings Directive, the QUALICHECK project aiming towards improved compliance and quality of the works for better performing buildings, BUILD UP the European portal on Energy Efficiency and the EPBD feasibility study 19a.

