venticool
the platform for resilient ventilative cooling

Newsletter

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Foreword

Welcome to the June 2021 issue of the venticool newsletter!
As usual, this edition provides information on our latest achievements (events, activities etc.) throughout selected initiatives.
Concerning events, we are happy to announce the new dates for the rescheduled 41st AIVC & 7th venticool-9th TightVent - ASHRAE IAQ joint conference, hopefully taking place physically in Athens, Greece on May 4-6, 2022.
Moreover, a short article including feedback from the webinar Resilient Ventilative Cooling in practice held on June 1st, is also available for those of you who missed it.
The newsletter contains also updates on the April 2021 expert meeting of the IEA EBC annex 80 on resilient cooling of buildings as well as feedback from the newly launched Advisory Board of Practitioners, an initiative of Annex 80 - venticool & AIVC.
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

Available now– Recordings of June 1st 2021 webinar on Resilient Ventilative Cooling in practice

Venticool with support from the IEA EBC Annex 80 Resilient Cooling of Buildings (https://annex80.iea-ebc.org/), the IEA-EBC Annex 62 Ventilative Cooling (https://venticool.eu/annex-62-home/) and in cooperation with The Air Infiltration and Ventilation Centre (https://www.aivc.org/) organized the webinar “Resilient Ventilative Cooling in practice”. The webinar presented solutions of ventilative cooling in practice in residential and non-residential buildings. 180 people from 41 countries attended the webinar.

Presentations and Speakers:

– Introduction to resilient ventilative cooling and venticool, Hilde Breesch – KU Leuven, Belgium
– Ventilative cooling components: An overview, Peter Holzer – Operating Agent EBC Annex 80, Institute of Building Research & Innovation, Austria
– Application of louvres to support ventilative cooling, Ivan Pollet – Renson, Belgium
– Examples of air flow enhancing and natural cooling components, Nick Hopper – Monodraught, United Kingdom
– Controlled windows for ventilative cooling, Peter Foldbjerg – Velux, Denmark
– Ventilative cooling integrated design, Jannick Roth – WindowMaster, Denmark

The recordings and the slides of the event are now available at: https://www.aivc.org/event/1-june-2021-webinar-resilient-ventilative-cooling-practice .
Check them out and subscribe to our YouTube channel to receive our latest video updates!

In this issue

Proceedings from the 4th Expert Meeting of Annex 80 Resilient Cooling of Buildings

Philip Stern, Institute of Building Research & Innovation, Austria

The IEA EBC Annex 80 held its fourth Expert Meeting on April 15th and 16th. Over 50 participants from 15 countries took part in three online sessions scheduled to take on the large time lag between the Americas, Europe, Asia and Australia.

Since the last Expert Meeting in November substantial progress in the annex work programme has been made. Several working groups continued and finished their tasks. The weather data task group has created Typical Meteorological Years (TMY) as well as representations of heat wave events for future time periods (2020ies, 2050ies, 2090ies) which will be published shortly. Data will be available for cities covering most climate zones from the ASHRAE classification (ANSI/ASHRAE Standard 169). The definition of a framework for the evaluation of cooling technologies has been completed by a second task group. The framework has been published in an open access report (https://orbi.uliege.be/handle/2268/253929). Key performance indicators (KPI) and criteria for the resilience assessment of cooling technologies have been intensively discussed within the group of annex experts and a selection of fundamental KPIs made. The results from these task groups form the basis for the worldwide assessment of cooling technologies as regards resilience.
For this task, a group of building simulation experts has gathered to carry out dynamic simulations using the weather data, framework and KPIs developed during the course of Annex 80. First results have been published or are under review:

– "Developing an understanding of resilient cooling: a socio-technical approach City and Environment Interactions" Wendy Miller et al, City and Environment Interactions, https://doi.org/10.1016/j.cacint.2021.100065
– "Resilient cooling of buildings to protect against heat waves and power outages: key concepts and definition" Shady Attia et al, Energy and Buildings, https://doi.org/10.1016/j.enbuild.2021.110869
– "Resilient cooling strategies - a critical review and qualitative assessment" Chen Zhang et al, Energy and Buildings (currently under review in Energy and Buildings)

On October 14th and 15th Annex 80 members will meet again for their 5th Expert Meeting. It will take place at Politecnico di Torino and will presumably be held as hybrid meeting due to COVID-19 restrictions.

NEW! Advisory Board of Practitioners for Annex 80 & venticool & AIVC

Philip Stern, Institute of Building Research & Innovation, Austria

IEA EBC Annex 80 generates knowledge in the field of architecture, mechanical engineering, thermodynamics, comfort theory, occupant behaviour and building simulation through international collaboration and national research. Linking the academic realm to practical application is crucial for Annex 80 as well as venticool and the Air Infiltration and Ventilation Centre (AIVC), which seek to establish a format for regular exchange between Annex 80 scientists and practitioners and planners as well as representatives from relevant industries.
On March 24th & June 9th, Annex 80 scientists, practitioners, and planners as well as representatives from the building cooling associated industry gathered for two meetings 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.
More than 40 participants attended the kick-off meeting of the Board. A "resilient cooling" survey has also been set up www.surveymonkey.com/r/LBQBGJQ and sent to the participants of the kick off meeting; the first results of the survey were discussed during this first meeting. The second meeting, with more than 20 participants, dealt with the topic of "resilience as regards cooling (definition and application)". After three short presentations from annex experts (Chen Zhang- Aalborg University, Shady Attia - University of Liège) and a member of the advisory board (Joost Declerq - Archipelago), the members were split into small groups for a break-out session to discuss the questions listed below, before returning to the main session to share their outcomes.

– How would you define resilient cooling? Do you have concerns about or comments on the definition given?
– Do you agree that heat waves and power outages pose the biggest challenges for resilient cooling technologies? Why, why not? Which other challenges do you see?
– How does the concept of resilience affect your daily work? How does the concept of resilience affect the design of buildings?
– Which threats do you consider the biggest for resilient cooling strategies? Which barriers to increasing resilience in the building sector do you expect in the near future?
– Do you expect professional practices to change in the near future? And if so, how?

Manifold opinions have been exchanged as well as learnings from practical experience shared and made available for the other participants. In the plenary the board reached the conclusion that the importance of resilience will grow steadily. The necessity to consider resiliency from the early stages of implementation of cooling strategies has been agreed upon. Furthermore, it has been concluded that to increase the resilience of building and systems, such concepts need to be disseminated amongst stakeholders, policy makers and

practitioners alike.
The next web meetings will be on the following dates and topics:

Meeting 03: September 29th, 2021
"KPI and metrics of (resilient) cooling"
– Collection and selection of performance indicators
– Indicators of resilience
– Application of KPIs

Meeting 04: December 15th, 2021
"Future weather data for building simulation"
– Generation of future weather data
– Evaluation of extreme heat events
– Application in building simulations

For further information, please contact Philipp Stern at philipp.stern@building-research.at

4-6 May 2022, Conference, Athens | 41st AIVC – ASHRAE – IAQ – 7th venticool & 9th TightVent joint Conference

[**COVID-19 update**] Because of COVID-19 uncertainty of conditions to hold a face-to-face conference in Athens in September 2021, ASHRAE and AIVC decided to postpone the conference and reschedule it for May 4-6, 2022. There will not be a new call for abstracts for the rescheduled conference dates.
The conference "IAQ 2020: Indoor Environmental Quality Performance Approaches Transitioning from IAQ to IEQ", organized by ASHRAE and AIVC, will also be the 9th TightVent and 7th venticool conference.
Indoor Air Quality (IAQ) has been the core of ASHRAE'S IAQ series of conferences for the past 30 years. This conference will expand from Indoor Air Quality to Indoor Environmental Quality (IEQ). IEQ includes air quality, thermal comfort, acoustics, and illumination and their interactions. The particular focus of this conference is on performance approaches including the metrics, systems, sensors and norms necessary to implement them.
Conference topics: Health and Well-being: Appropriate technical and operational definitions; Performance Metrics: For all aspects of IEQ; Interactions: Interactions between IEQ parameters; Occupant Behavior: How behavior impacts IEQ and how IEQ impacts behavior - psychological dimensions of IEQ; Smart Sensors and Big Data: Sensor properties, data management, cybersecurity, applications; Smart Controls: Equipment properties, 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; Role of ventilation and building airtightness in epidemic preparedness; Filtration and disinfection options to control COVID19; Face-covering impacts on indoor air quality; HVAC and IEQ in a post-COVID world
Keynote Speakers: Philomena Bluyssen, Professor of Indoor Environment, TU Delft; Richard de Dear, Ph.D., Director, Indoor Environmental Quality Laboratory, University of Sydney; Mariana Figuiero, Director of the Lighting Research Center, Rensselaer Polytechnic Institute; Dr. Benjamin Jones, Associate Professor, University of Nottingham; Cath Noakes, PhD, FIMechE, FIHEEM, Professor of Environmental Engineering for Buildings, University of Leeds; Stephanie Taylor MD, M Architecture, CIC, FRSPH(UK), MCABE, Taylor Healthcare Consulting, Inc.
More information can be found at https://www.ashrae.org/conferences/topical-conferences/indoor-environmental-quality-performance-approaches or contact hblauridson@ashrae.org.

Resilient Cooling Survey – We want to know your opinion!

The world is facing a rapid increase of air conditioning of buildings. The trend towards cooling seems inexorable therefore it is mandatory to guide this development towards sustainable resilient solutions. In this context 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; particularly with respect to increasing ambient temperatures and the increasing frequency and severity of heat waves.
In the framework of the IEA EBC Annex 80 'Resilient Cooling of Buildings' - venticool & AIVC Advisory Board of Practitioners, we developed a survey seeking to picture the establishment of resilient cooling in the professional world.
Are you an architect, consultant, investor, developer, professional etc. engaged in the resilient cooling of buildings? If so, we are happy to invite you to provide your feedback to our survey. It will take around 10 minutes to complete the online form, which you can find here: https://www.surveymonkey.com/r/LBQBGJQ.

FAQs related to ventilative cooling!

During the past few months, venticool partners have been working on extending the list of available Frequently Asked Questions (FAQs) related to ventilative cooling. The first set of questions answered is listed below:

1) What is ventilative cooling?
2) Does ventilative cooling make sense in a building with active cooling?
3) Does a simplified tool exist to predict the potential of VC in early-design phase?
4) Is ventilative cooling taken into account in national EPBD related regulations?
5) What type of benefits can be obtained through ventilative cooling?
6) Is automatic control of ventilative cooling devices better than manual control?

All questions and answers can be found at: https://venticool.eu/faqs

Venticool welcomes Reynaers Aluminium as new partner!

venticool is very pleased to welcome Reynaers Aluminium , as new partner.
"As a part of the Reynaers Group, Reynaers Aluminium is a leading specialist in the development, distribution and commercialization of innovative and sustainable aluminium architectural solutions. Our goal is to increase the value of buildings and to enhance the living and working environment of people worldwide.
With people spending between 60 to 90 percent of their time indoors, ventilation and cooling play a major role in safeguarding health and wellbeing. At Reynaers Aluminium, our motto is Together for Better. By being a member of Venticool, we not only stay on top of the latest developments in this regard; we are also in direct contact with important knowledge institutions within the domain of natural ventilation to co-determine the research plan.
At Reynaers Aluminium, we believe that through our systems and its opening elements we provide adequate solutions that offer natural ventilation in an energy-saving way so that it provides good thermal comfort."
More information on Reynaers Aluminium is available at:
https://www.reynaers.com/en/architects/home

venticool Partners

Diamond partners

NAVENTA NATURAL VENTILATION ASSOCIATION

Reynaers Aluminium

VELUX®

Gold partners

Window Master®
Fresh Air. Fresh People.

Associate partners

activehouse

CIBSE

Covenant of Mayors for Climate & Energy

EuroWindoor

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

Platform facilitator

INIVE

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

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.
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 EEIG with (International Network for Information on Ventilation and Energy Performance) with the financial and/or technical support of its partners.

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