

# REHVA ANNUAL REPORT 2023

From REHVA Board of Directors

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# REHVA BOARD OF DIRECTORS

The REHVA 2023 Annual Report was approved by the REHVA Board of Directors on 22 March 2023. The year 2023 was the 60<sup>th</sup> year since the founding of REHVA.

REHVA Board members after the General Assembly 2023 were the following:



**CATALIN LUNGU**  
President  
AIIR, Romania  
2017–2025



**LIVIO MAZZARELLA**  
Treasurer  
AiCARR, Italy  
2022–2025



**KEMAL GANI BAYRAKTAR**  
Vice-President  
TTMD, Turkey  
2019–2025



**LADA HENSEN CENTNEROVÁ**  
Vice-President  
TVVL, Netherlands  
2022–2025



**JOHANN ZIRNGIBL**  
Vice-President  
AICVF, France  
2022–2025



**PEDRO G. VICENTE QUILES**  
Vice-President  
ATECYR, Spain  
2022–2025



**RISTO KOSONEN**  
Vice-President  
FINVAC, Finland  
2023–2026

# REHVA MEMBERS

In 2023, our 25 members were:

- AHGWTEL/LATVAC, Latvia
- AiCARR, Italy
- AICVF, France
- AIIR, AFCR and AGFR, Romania
- AIIRM, Moldavia
- ATECYR, Spain
- ATIC, Belgium
- BAOVK, Bulgaria
- CIBSE, United Kingdom
- DANVAK, Denmark
- Die Planer, Switzerland
- EKVÜ, Estonia
- ÉTE and MMK, Hungary
- FINVAC, Finland
- KGH-SMEITS, Serbia
- LTERA, Lithuania
- NORVAC, Norway
- ORDEM Dos ENGENHEIROS, Portugal
- PZITS, Poland
- SSTP, Slovakia
- STP, Czech Republic
- SWEDVAC, Sweden
- TTMD, Turkey
- TVVL, the Netherlands
- VDI, Germany

SITHOK, Slovenia is suspended until further notice. The president explained at the previous 2022 GA the current situation about SITHOK, the Slovenian member, in relation to their membership payments: since 2009 until 2016, they paid only a small part, while since 2017, they did not pay anything at all. We notified them of this failure and informed that we are going to suspend them until they can pay their dues.

The membership of ABOK, Russia, is still suspended until further notice due to the war in Ukraine.

The membership fee was 3 000 € in 2023.

A detailed list of the members and their logos is in [Annex 1](#).

# REHVA SUPPORTERS

In 2023, our 28 supporters were:

- Aermec, Italy
- Arcelik, Turkey
- Belimo Automation, Switzerland
- Camfil, Sweden
- Daikin Europe, Belgium
- Doseimpex, Romania
- East European Business Center (E.E.B.C), Romania
- EPEE, Belgium
- Eurovent Certita Certification, France
- Evapco Europe, Italy
- European Ventilation Industry Association (EVIA), Belgium
- Fläktgroup, Sweden
- Friterm, Turkey
- Granlund, Finland
- Halton, Finland
- Haskoning DHV, The Netherlands
- LG Electronics, France
- Lindab, Sweden
- RHOSS, Italy
- Saint-Gobain Isover, France
- Smay, Poland
- Sunfly Smart Heating System, China (**NEW**)
- Swegon, Sweden
- Systemair, Sweden
- Testo, Romania
- Uponor Corporation, Finland
- Velux, Denmark
- Viega, Germany

The fee paid by the supporters was 3 000 € in 2023. A detailed list of the supporters with their activities and logos is in [Annex 2](#).

# REHVA ASSOCIATE ORGANISATIONS

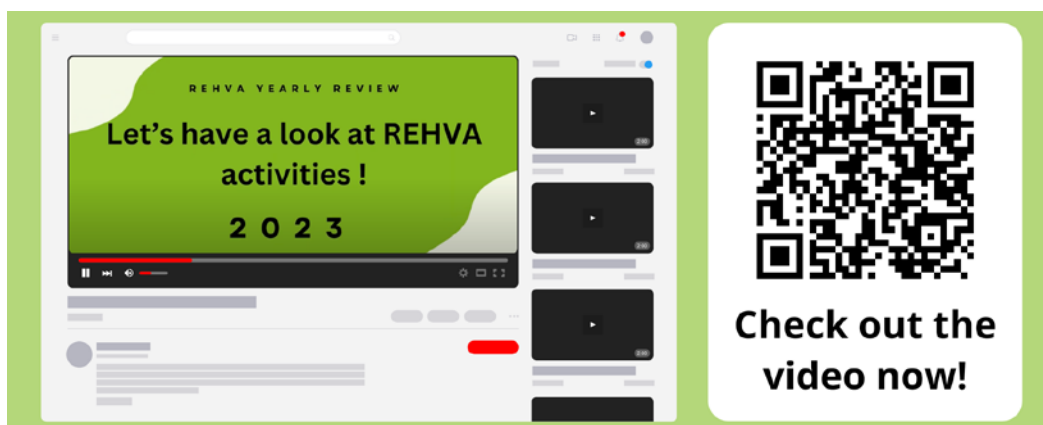
In 2023, our 3 Associate Organisations were:

- International Copper Association (ICA) Europe, Belgium
- ISIB, Turkey
- OAER, Romania

The Associate Organisations, as defined in the [articles](#), are organisations, associations or institutions in any country to which heating and air conditioning engineers and technicians in the country of establishment are affiliated or in any country to which engineers or technicians in the country of establishment are affiliated who are only indirectly concerned with heating and air conditioning. The annual fee differs, according to organisation type and company size from 500 € to 1 500 €. A list of the Associate Organisations and logos is in [Annex 3](#).

# PUBLICATIONS, ONLINE TOOLS, AND DIGITAL MEDIA COMMUNICATION

Let's take a retrospective look at the year through the REHVA 2023 WRAP UP video!



## Guidebooks

REHVA European Guidebooks are at the heart of our mission and aim to disseminate the latest knowledge and technical information to members and professionals in the field of HVAC and building services technologies.

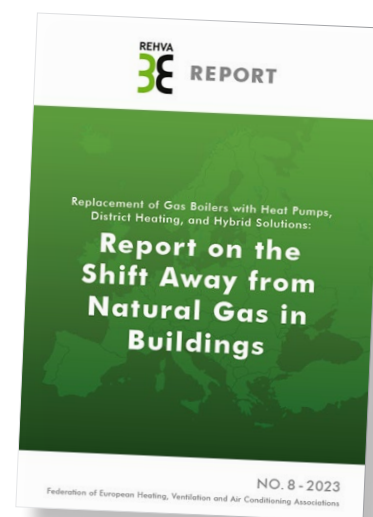
In 2023, REHVA published one new report:

### Replacement of gas boilers with heat pumps, district heating, and hybrid solutions: Report on the shift away from natural gas in buildings

This report presents an overview of the most important issues which building managers, owners, and HVAC engineers should consider when shifting from natural gas to other (preferably RES) energy generators.

This report describes these issues from a general point of view which is applicable in various climatic conditions and for different heating sources (including those currently under development) for heating, DHW, or other purposes. Strong emphasis is placed on energy efficiency of existing HVAC systems and retrofit measures that will be conducive to the easy transition to carbon neutral buildings in the future, if not already the case.

The report was only published in PDF, so hard copies were not printed.



## Translations

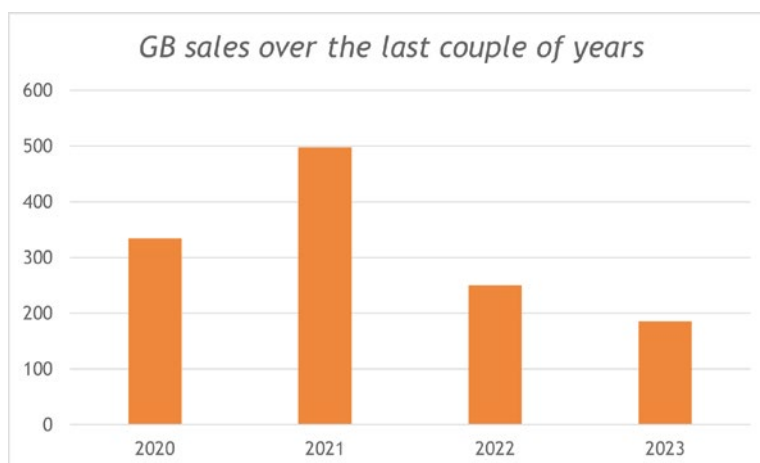
During 2023, the guidebook "Hygiene in Potable Water Installations in Buildings" (Guidebook No. 30) has been translated in Italian by our supporter VIEGA, a REHVA Supporter and the guidebook "Energy Efficient Renovation of Existing Buildings for HVAC professionals" (Guidebook No.32) has been translated in Polish as PDF only.



## Sales

The list price of a guidebook for direct sale from the e-Shop is 50€ (both PDF and hard copy), while Member Associations, Supporters and Associate Organisations benefit from a discounted price. Besides, the office team develops regularly marketing options at reduced prices. The Publishing and Marketing Committee (PMC) may define reduced prices depending on the year of publication and the market interest. All guidebooks are available for online purchase in the REHVA [e-Shop](#).

REHVA guidebooks were an important REHVA income source in the past, but this situation has changed. There was a significant drop in the number of copies sold in 2020 and the negative trend continues in 2023.



The office team sought different opportunities to sell more publications. One of them is to have special arrangements with organisations about the guidebook(s) whose topic is interesting for practitioners and manufacturers, to print their own branded edition and distribute for free to their employees, clients, and contractors, like the revised No. 11.

To satisfy changing customer expectations, the office team is seeking new ways to sell guidebooks in the digital age. Since 2018, REHVA has a contract with Knovel, and Elsevier digital knowledge platform that offers a subscription based on demand access to the guidebook content. REHVA earns royalties based on the reader traffic. The annual income from Knovel has been around 2800€ counting around 25% of total income from guidebooks. Finding alternative income sources from other digital offers, for example create digital eBook licences for digital libraries could be a similar annual income from guidebooks.

Since 2019, REHVA also offers the e-book version of all guidebooks in the REHVA [Knowledge Hub](#) (former “Experts area”) for an annual subscription fee, providing also other content (EU policy tracking, recorded courses and webinars, etc.).

All in all, the figures show that the production of guidebooks is financially not sustainable anymore, considering the cost of staff effort related to the production, promotion and sales of guidebooks, along the cost to maintaining the e-Shop infrastructure. REHVA should consider a different business model for guidebooks and develop other type of knowledge services beyond guidebooks. The Technology and Research Committee (TRC) and Publishing and Marketing Committee (PMC) are working on further solutions to make guidebooks more attractive to practitioners and develop new digital knowledge products beside guidebooks.

REHVA has been reinforcing the participation of REHVA Supporters and Associate Organisations in REHVA knowledge creation activities, particularly guidebook preparation, as well as working on new ways and campaigns to sell REHVA products.

# REHVA European HVAC Journal

## Published journals

The REHVA European HVAC Journal is a technical, practical journal for HVAC industry professionals published bi-monthly. It is read by designers, consultants, manufacturers, investors, mechanical contractors, sales and representative companies, architects energy sector's professionals, governmental institutions authorities, etc.

In 2023, REHVA published six issues. The average volume was about 70 pages per issue.

REHVA Journal issues are available for free in [digital format](#) on the REHVA website. Individual technical papers are available online as HTML or downloadable in PDF format, the entire journal issue is also downloadable as a PDF document. Jarkko Narvanne, the Graphical Designer, provides the HTML and PDF versions. REHVA office uploads the technical papers of each issue on the REHVA website and promotes each new issue by sharing each technical paper on all REHVA social media (LinkedIn, Facebook and Twitter). REHVA Member Associations continued to receive 2 free copies of each issue of the REHVA Journal, while the REHVA Supporters receive 1 free copy of each Journal. Beyond members, the printed journal is only available to paying subscribers for an annual fee of 60€. In 2023, we implemented a new search engine on the REHVA website, so the individual articles are easier to find online with key words or the author's name.

Since December 2023, REHVA offers a new service regarding the Journal. One can now subscribe to a Newsletter to receive the REHVA Journal directly in its inbox. This allows better dissemination and greater results. We started disseminating the new newsletter on social media in December 2023. In April 2024, we reached 81 subscribers.

## Publishing information

The Journal was distributed at events in 2023 as presented below:

- ACREX 2023
- ISH 2023
- REHVA 2023 Annual Meeting in Brussels, Belgium
- REHVA 2023 Brussels Summit in Brussels, Belgium



## Readers of the REHVA Journal in 2023

In 2023, more than 2741 copies of the REHVA Journal were printed and distributed. On the REHVA website, the journal pages have reached more than 83 861 unique page views in total, a 9% increase in traffic compared to 2022 numbers. This popularity is a result of the continuous posting and promotion of individual REHVA articles on all REHVA social media platforms, and that the COVID-19 pandemic is over, thus the guidance page that was most visited section in 2020-2021, lost its popularity.

Most of the distribution list of the REHVA Journal is composed of REHVA Member Associations and Supporters, some of them having larger quantities in their Supporter packages.

The top 10 articles by views in 2023 are the following:

- 5 199 views: India's First District Cooling System at GIFT City (RJ1/18)
- 1 981 views: CO<sub>2</sub> monitoring and indoor air quality (RJ1/21)
- 1 914 views: Filter Class Conversion between EN 779 and EN ISO 16890-1 (RJ1/21)
- 1 884 views: European heat pump market (RJ4/21)
- 1 404 views: Performance of Variable Refrigerant Flow (VRF) Systems (RJ2/14)
- 803 views: Geothermal energy use in the Nordic countries (RJ6/19)
- 732 views: Update on the F-Gas Regulation negotiations: The shift to (very) low-GWP refrigerants (RJ2/23)
- 686 views: Heat Pump or CHP - which one is greener? (RJ5/14)
- 467 views: Can HVAC Systems Spread the Coronavirus / COVID-19? (RJ1/21)
- 409 views: Teaching the fundamentals of building performance simulation in the 21st century (RJ3/23)

## REHVA Journal Editorial Board 2023

- Murat Cakan, Turkey
- Guangyu Cao, Norway
- Tiberiu Catalina, Romania
- Francesca R. d'Ambrosio, Italy
- Ioan Silviu Dobosi, Romania
- Lada Hensen Centnerová, The Netherlands
- Karel Kabele, Czech Republic
- Risto Kosonen, Finland
- Jarek Kurnitski, Estonia
- Livio Mazzarella, Italy
- Dejan Mumovic, United Kingdom
- Ilinca Nastase, Romania
- Natasa Nord, Norway
- Dusan Petras, Slovakia
- Olli Seppänen, Finland
- Branislav Todorovic, Serbia
- Peter Wouters, Belgium

### REHVA Journal, Editor-in-Chief

- Jaap Hogeling (since 1<sup>st</sup> January 2015)

### REHVA Journal, Staff

- Jarkko Narvanne, Graphic Designer
- France Baggetto, Editorial Assistant
- Marie Joannes, Advertisements

## REHVA Mailings

### REHVA Newsletter

Six bi-monthly electronic newsletters were published in 2023. This newsletter is distributed electronically to a list of 4649 subscribers. They are also [downloadable](#) from the REHVA website. This newsletter offers exclusive insights about major HVAC industry topics, policy coverage, EU projects news and worldwide HVAC events updates.

### Supporters' Bulletin

Six issues of the Supporters' Bulletin were published in 2023. The Supporters' Bulletin is a bi-monthly electronic newsletter exclusively for REHVA Supporter companies to provide useful knowledge and tailored information about EU policy trends, REHVA community updates and events.

### EU Policy Newsletter

The EU Policy Newsletter that was created in 2021 to cover the extensive amount of policy developments under the EU Green Deal and the Fit for 55 package contains news about ongoing policy issues, background studies, updates about REHVA advocacy activities, and a selected review of blogposts and policy information available in more detail on the REHVA website.

In 2023, 6 issues of the EU Policy Newsletter were published and are [downloadable](#) from the REHVA website.



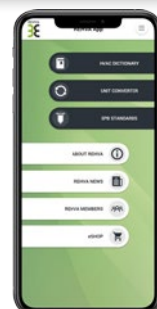
## REHVA Dictionary

The [REHVA Dictionary](#) is available in the REHVA website as a free service containing technical words and terms used in the building services. The REHVA Dictionary is an online translation service, which provides technical words and terms frequently used in building services. The REHVA Dictionary offers a unique tool for HVAC professionals that allows to search and translate a word or term simultaneously in 16 languages. The dictionary search lists all related expressions and word combinations of the searched term.

The dictionary is the fourth top page visited in 2023.

## REHVA App

Since 2017, REHVA has transferred the popular online dictionary into a user-friendly App for tablets and smartphones, downloadable on App Store and Google Play. In 2023, there have been no major developments in the REHVA Mobile App.

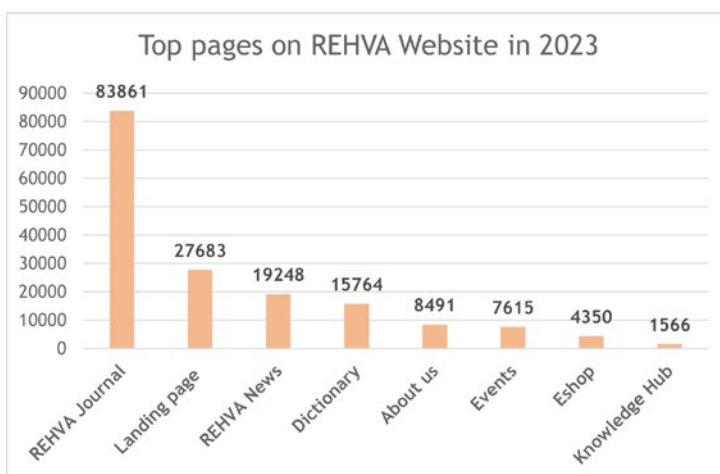
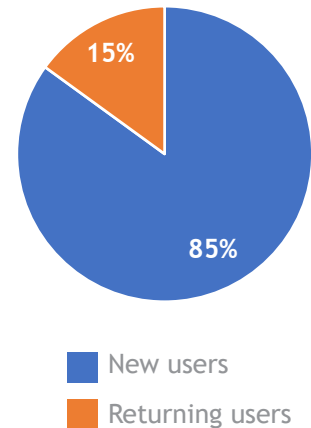


# REHVA Website and Online Services

After the COVID-19 guidance related boom which doubled the number of visitors in 2020, we see a trend of continuous decrease over 2021, 2022, and 2023, while the total number still remains higher than in the years before the pandemic.

In 2023, the website was visited by more than 134.000 users. Over 75% of the page views come from new website visitors. It shows that 15% of the audience is recurrent to the REHVA website. However, the website gets enough attention to reach a significant new number of users.

In 2023, the REHVA Journal page was the most popular page on the REHVA website with more than 31% of the total number of users. Second place is the homepage with 10%, and then the News page with almost 8%.



## Knowledge Hub

In 2019, REHVA created a new subscription based digital knowledge service called “Experts area” with the following main content items: REHVA guidebooks repository in an online e-format, policy issue tracking with updates and insider information on the EU policy issues covered by REHVA and some recorded courses and workshops from the previous CLIMA congresses. In 2021, the REHVA team invested extensive effort in further developing this section to the new “REHVA Knowledge Hub” that was launched in October 2021. Since then, REHVA staff constantly develops new content in this section. This digital platform offers subscribers independent, high quality, trustable information about building services and indoor climate.

The subscribers get several benefits from the platform; access to all the REHVA e-Guidebooks, recorded courses and workshops in the REHVA Academy, regular EU policy tracking updates, a glossary of HVAC terms and definitions. The Knowledge Hub also has a featured topics part, which will be updated based on relevant topics of the moment.

In 2023, the most significant addition was the newly released Report on shift away from natural gas. New content is planned to be published as soon as available!





## Learning Management System

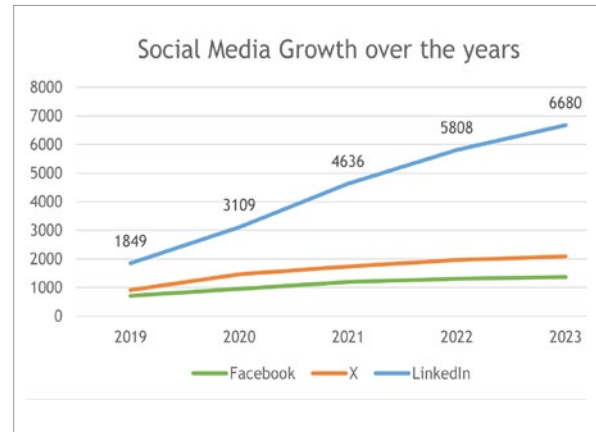
REHVA invested in 2020 in the development of a Moodle based online Learning Management System (LMS) which was first used for the COVID-19 course, which has been live in 2020 and 2021.

In 2023, REHVA decided that the LMS infrastructure will be further used to deliver other courses in the coming years based on guidebooks or other topics, relying on Technology and Research Committee (TRC) experts and in direct cooperation with Supporters and Associate Organisations.

## Social media

REHVA is active on the 3 main social media channels on a daily basis: LinkedIn, X and Facebook. The REHVA Social Media accounts: LinkedIn REHVA Page, REHVA Energy Group, REHVA Community of Young Professionals, X and Facebook have significantly increased the reach of the REHVA audience and knowledge dissemination.

In 2023, REHVA continued to experience growth across its social media channels, amassing a total of 1 045 new followers. This upward trend shows no signs of slowing down, especially on LinkedIn, as illustrated on the right.



REHVA also links the social media accounts of its EU Projects to the REHVA channels to generate and capture the synergies.

YouTube is used to share videos about REHVA activities and events, and it is available as a promotional channel also for our Supporters and Associate Associations.

In 2023, REHVA staff continued its effort to boost REHVA's presence on social media, based on a daily communication plan of new content to disseminate REHVA knowledge, information of our activities and community news, and to promote our knowledge services to our target audience. REHVA staff invested in tools and skills to produce graphic design, infographics, videos, and other digital content in house, which resulted in significant impact on all digital communication channels.

LinkedIn proved to be an effective focus point of the strategy to engage with target audience along with our website and newsletter. LinkedIn alone represents more than 65% of our total Social Media followers. Regarding the LinkedIn users we are reaching, Industrial Machinery Manufacturing leads the way with more than 12% of people reached, followed by Construction with almost 8%, and Higher Education with 7%. These findings offer insights into the effectiveness of LinkedIn as a platform for reaching out to professionals in the HVAC and various industries.

The content calendar of the social media channels of REHVA includes the latest news, activities, and industry highlights, as well as promotion of publications, REHVA events and other events relevant to the industry, events, and news from REHVA Member Associations, Supporters and Associate Organisations.

Highlighted posts on social media are often related to REHVA activities. In 2023, the top 3 posts were all related to REHVA's events and activities, notably the REHVA Brussels Summit and the REHVA Student Competition. Pictures were more personified as they showed attendees of the different events, which helped the visibility of the posts. In the three posts, people and LinkedIn pages were tagged, which also helped create engagement.

# EUROPEAN PUBLIC AFFAIRS AND GLOBAL COOPERATION

In 2023, REHVA continued to maintain connections with the European Institutions, including at the European Commission: DG ENER (Energy), DG GROW (Internal Market, Industry, Entrepreneurship and SMEs), DG ENV (Environment), DG RTD (Research and Innovation), JRC (Joint Research Centre), and CINEA (European Climate, Infrastructure and Environment Executive Agency), in the European Parliament: ITRE Committee (European Parliament Committee on Industry, Research and Energy) and ENVI Committee (Committee on the Environment, Public Health and Food Safety), and at the Council of the EU with the Permanent Representations of EU's Member States (COREPER I and Energy Attaches). Recognized by the European Commission as a European stakeholder organisation, REHVA consistently receives invitations to policy consultations and stakeholder meetings, along with updates on ongoing policy-making activities. Additionally, REHVA is registered in the EU Transparency Register and enjoys access to pertinent ITRE and ENVI Committee Meetings in the European Parliament.

REHVA placed the most emphasis on the EPBD Recast Trilogue, a focal point for the sector. Furthermore, REHVA established the REHVA EU Policy & Advocacy Group (EUPAG), ensuring at cross-federation level a more organised and effective approach, both at EU level in Brussels and national level via REHVA Member Associations, Supporters and Associate Organisations. Please check more details in the following subchapters about the EU Policy and Advocacy happenings in 2023, particularly in relation to the “Fit for 55 package,” the Renovation Wave, and the revision of the Energy Efficiency Directive (EED), Renewable Energy Directive (RED) and Energy Performance of Buildings Directive (EPBD), as well as developments in circular economy and Ecodesign for Sustainable Products Regulation (ESPR). For now, the more detailed description of REHVA's EU Policy and Advocacy activities remain outlined in the “Technology and research activities” on page 24, because historically, it was the TRC that steered these activities, which as of 2024 will be covered under the more horizontal section of the EUPAG activities.



## EU Policy and Advocacy Group (EUPAG)

After the Annual Meeting and onward throughout 2023, REHVA has ensured that the latest EU policy news is made timely available via the REHVA website and then adequately promoted via REHVA's communication and dissemination channels. A similar practice has been continued with the REHVA Journal, although with 6 issues per year the content has been more carefully selected and adjusted.

Throughout May-October 2023, REHVA actively participated in a series of stakeholder forums centred on the heat pumps action plan, underscoring its engagement in shaping the future of sustainable heating technologies. The forums, coordinated and organised by DG ENER, held on key dates, delved into various critical aspects of heat pump rollout and policy development:

- **Skills and Communication:** the first forum focused on enhancing skills and improving communication strategies. This event took place on 25 May, laying the groundwork for effective stakeholder engagement and public awareness.
- **Research, Innovation, and Market Development:** on 6 June, the second forum addressed the vital areas of research, innovation, and the development of the market for heat pumps, emphasizing the technological and market-driven strategies needed to foster adoption.
- **Financing the Roll-out of Heat Pumps:** a pivotal event on 5 July concentrated on financial strategies to support the widespread deployment of heat pumps, discussing mechanisms and incentives to facilitate investment and market growth.
- **Supportive Framework Conditions and Governance:** the final forum on 5 September aimed at creating supportive framework conditions and governance structures at European, national, regional, and local levels to enable the successful implementation of the heat pumps action plan.
- Additionally, a subsequent event on 9 October further explored supportive framework conditions and governance, ensuring a comprehensive approach to overcoming barriers to heat pump rollout and aligning with the European Union's goals for energy efficiency and carbon neutrality.

These forums represented a concerted effort by REHVA and other stakeholders to address the multifaceted challenges and opportunities in advancing heat pump technologies, reflecting a commitment to achieving a sustainable and energy-efficient future.





Before the 2023 Summer break, in a determined move to underscore the significance of Indoor Environmental Quality (IEQ) in the Energy Performance of Buildings Directive (EPBD), REHVA has circulated messages encapsulated in four critical documents to the relevant EU-level stakeholders. This initiative aimed at fortifying the understanding and appreciation of IEQ as an integral component of EPBD, influencing informed policy decisions at both national and EU levels. The foundational document titled “IEQ is Intrinsic to the EPBD” (30 June), serves as REHVA’s latest outcome on IEQ advocacy. It not only elucidates the pivotal role of IEQ but also outlines the necessity for its incorporation within the broader framework and policy discourse around the EPBD. Complementing this, the “Next Gen EPCs: IEQ in scope of EPBD” (4 July), elucidates on the next generation of Energy Performance Certificates (EPCs), underlining the criticality of integrating IEQ within the EPBD scope. It provides insights into the future trajectory of EPCs, forecasting a holistic approach that combines energy efficiency with optimum indoor environmental parameters. Adding depth to the dialogue, REHVA has also highlighted the “Healthy Buildings for All” document (June 2020), and the joint statement on “Healthy Buildings for All” (October 2021). These documents collectively advocate for the development of healthy buildings as a prerogative, emphasizing the importance of IEQ in creating environments that are conducive to the health and well-being of all occupants. Through strategic dissemination efforts, REHVA ensured that the messages contained within these documents reached the relevant EU-level decision makers and influencers. Additionally, at the national level, REHVA Member Associations have been proactive in engaging with policy makers.

REHVA participated in the European Commission’s workshop on “Financing the Energy Renovation of Buildings,” held virtually on 19 September. This event focused on enhancing and facilitating investments in energy-efficient renovations, with discussions on how legislative measures, including the recast Energy Performance of Buildings Directive (EPBD).

In October 2023, REHVA had a dedicated online meeting with Josefina Lindblom, who serves as Senior Policy Officer at the European Commission, specifically within the Directorate-General for Environment’s Unit of Circular Economy, Sustainable Production & Consumption (ENV.B.1). This session was aimed at ensuring the alignment of REHVA’s Life Cycle Assessment (LCA) course with the European Commission’s Level(s) framework, which Josefina has been instrumental in developing. The discussion revolved around two main objectives: providing REHVA with an opportunity to contribute insights on potential enhancements to the Level(s) framework, thus supporting its efficacy in policy development, and addressing specific queries related to REHVA’s in-development training course.

In Autumn 2023, REHVA continued its commitment to ensure the voice of building professionals is not only heard but also acted upon in crucial EU legislative processes. During the 3<sup>rd</sup> quarterly REHVA Member Association plenary meeting, the decision was made to establish an “EU Policy and Advocacy” Group (EUPAG). This group aims to enhance REHVA’s influence in vital EU policies such as the EPBD (EED & RED) and the Ecodesign for Sustainable Products Regulation (ESPR). REHVA has a critical role to play in the overall success of these advocacy efforts, both at the EU and national levels. REHVA as a Pan-European Federation remains committed to boosting the interests of building professionals and ensuring a technology-inclusive approach in influencing and shaping policymaking. Registrations to EUPAG have been opened in Autumn 2023 to any interested colleague from REHVA Member Associations (and their members), Supporters and Associate Organisations and have been widely and repeatedly promoted internally. The registration form is kept open on a continuous basis, so anybody interested in becoming a member of EUPAG should openly reach out to REHVA Office Team for more details. The appointed EUPAG Leader is Johann Zirngibl, REHVA Vice-President and the secretariat ensured by Andrei Vladimir Litiu with support from Carlota Perez-Bouzada (policy tracking and publishing) and Pablo Carnero Melero (maintaining the TRC adequately involved) in REHVA Office Team, until a new colleague is recruited in early 2024 for the position of EU Policy and Advocacy Officer.

# EU Policy and advocacy events

## Heat pumps on natural refrigerants in the context of the F-Gas Revision

The TRI-HP project's final event, focusing on heat pumps with natural refrigerants in the F-Gas Regulation context, was organised by REHVA and held in Brussels on 7 February, and livestreamed via BUILD UP PORTAL. It presented the project's outcomes and discussed the ongoing F-Gas revision, emphasizing heat pumps' role amidst European Parliament negotiations.

Key speakers included Daniel Carbonell (Institute for Solar Technology), Raphael Gerber (Heim AG), Prof. Armin Hafner (Norwegian University of Science & Technology), Dr. Sabrina Munao (ATMosphere), Drs. Thomas Friedrich & Immanuel Stieß (Institute for Social-Ecological Research), with Jasper Vermaut (REHVA) moderating.

Panelists featured Arno Kaschl (DG CLIMA, European Commission), Kęstutis Kupšys (EESC), Prof. Michael Kauffeld (Karlsruhe University of Applied Sciences), Stelios Kypouropoulos (European Parliament), and Coen van de Sande (AREA), discussing the impact and future of F-Gases in heat pumps.

The event also brought insights from Hilde Dhont (European Heat Pump Association), Veerle Beelaerts (European Heating Industry), Davide Sabbadin (European Environmental Bureau), and Prof. Dr. Michael Kauffeld, highlighting the debate on the phase-down of F-Gases in heat pumps and exploring sustainable refrigerant solutions.

## Sustainable Energy Day coordinated by REHVA and hosted by Build Up Portal

On Wednesday 7 June, REHVA coordinated the webinar titled "The Clean Energy Transition for Buildings: Professional Associations Enhancing Renovation Skills", hosted by BUILD UP in partnership with several key organisations, the European Builders Confederation (EBC), GCP Europe, Renovate Europe, and EuropeOn. The event was designed to address the critical role of professional associations in advancing the skills required for the renovation and decarbonization of buildings. The webinar was structured in two main segments.

The first part featured a series of enlightening presentations, initiated by Alice Corovessi, the Managing Director of INZEB (Greek National Partner of Renovate Europe) and Vice-Chairperson of Renovate Europe. This was succeeded by an insightful presentation from Silvia Rezessy, Policy Officer at DG ENER B3, on the skills needed for building decarbonization. Andras Toth, Policy Officer at DG CLIMA E1, followed with guidance on the climate resilience of buildings. The BUILD UP Skills Initiative was then introduced by Amandine De Coster-Lacourt, Project Adviser at CINEA D1.3. The first part was concluded by Dragomir Tzanev, Executive Director of EnEffect, who discussed the Bulgarian BUILD UP Skills road mapping.

The second segment of the webinar transitioned into a panel discussion, moderated again by Alice Corovessi. It included contributions from all previous speakers, along with Fernando Sigchos Jiménez, Secretary General of EBC, and Pär Lundström, Senior Skills and Policy Advisor, Installatörsföretagen at GCP Europe/EuropeOn. Both Fernando and Pär commenced the discussion with brief opening statements to introduce their perspective. The panel then moved to a dynamic Q&A session, engaging with questions from the audience and fostering an interactive dialogue on enhancing renovation skills for the clean energy transition in buildings.

## Build Up Portal Board of Ambassadors Meeting

The annual BUILD UP Board of Ambassadors meeting in Brussels on 23-24 October welcomed key figures from across Europe, enhancing the dialogue on energy efficiency and renewable energy in buildings. Alongside BUILD UP ambassadors, the event saw active participation from CINEA representatives, Luca Angelino and Ana Sin, and stakeholders from various organisations including the European Heat Pump Association, European Builders Confederation (EBC), eu.bac, REHVA, and EPB Center. These contributions underscored the collaborative effort to address the most pressing issues in building energy efficiency, showcasing a diverse range of perspectives and expertise.

## REHVA Policy Webinar ‘EPBD Recast & IEQ: Navigating the Future of IEQ

The REHVA policy webinar on 26 October centred around Indoor Environmental Quality (IEQ), highlighted the critical role of IEQ in achieving sustainability and occupant well-being in energy-efficient buildings. Coordinated by REHVA and supported by the Eurovent Association, the event featured discussions with IEQ researchers and experts, alongside representatives from EVIA, EPEE, and GCP Europe. This collaborative effort aimed to navigate the expected changes from the EPBD Recast, evaluating their implications and strategizing for their implementation across EU Member States.

## REHVA Brussels Summit 2023

On 14 November, REHVA hosted the annual Policy conference. This year’s conference was centred around the theme “Indoor Environmental Quality, Digitalization and Skills in the Decarbonization of Buildings”. The event aimed to delve into these interconnected aspects, addressing pressing concerns in the building industry. Speakers from various sectors, including the European Commission, industry leaders, and experts in the field, contributed to the discussions.

The first session opened with a presentation by Silvia Rezessy, policy officer at DG ENER. Silvia presented the current legislation addressing indoor environmental quality followed by an overview of the current state of the EPBD. Jarek Kurnitski, REHVA TRC chairperson, followed Silvia’s presentation, introducing *IEQ in the EPBD: technical guidance to successful trilogue & national implementation*.

The second session, *reshaping education & training: navigating IEQ & digitalisation*, was opened by Amandine De Coster-Lacourt, Project Advisor at CINEA, who presented the BUILD UP Skills initiative. Introduced in 2011, the Build Up initiative was unveiled with support from programs such as Intelligent Energy Europe, Horizon 2020, and LIFE Clean Energy transition. Livio Mazzarella, REHVA Vice-President, continued with a presentation on *Redefining Renovation: REHVA’s push for IEQ & Digitalization Proficiency*. Livio opened describing the meaning of IEQ. Spyros Mathioudakis, Policy Officer at the European Builder Confederation, presented EBC’s Vision on Reshaping Renovation Skills for a Digital-IEQ shift. EBC exclusively represents crafts, micro, small, and medium-sized enterprises within the construction sector at the EU level. Laure Itard, Project coordinator at Brains4Buildings project, closed the session with a presentation on “The Brains4Buildings Dutch Initiative”. Sylvain Robert, Project Adviser at CINEA - LIFE Climate & Energy Unit and Pablo Carnero, Technical and EU Project Officer at REHVA introduced the [Smart Readiness Indicator \(SRI\) Observatory](#).

The 3<sup>rd</sup> session, *funding the future: decarbonisation & ieq meets digital and the skills shortfall*, opened with Federica Sabbati, Secretary General at the European Heating Industry, presented EHI’s Role in Fuelling Skills for the Digital Decarbonised-IEQ Age. Csaba de Csiky, Chairman at EnerSave Capital and SEFA Founding Member, followed up with ‘Creating a marketplace for building performance improvements’ presentation. After introducing EnerSave activities and initiatives, Csaba made the link between the financial and the building sector. The last debate included a panel discussion moderated by Johann Zirngibl on the funding leap to decarbonised, healthy & digital buildings.

## Building bridges with EU-level organisations

REHVA continues to cooperate with most of the Brussels-based EU-level professional and industry associations as well as with the NGOs involved in the field of HVAC, building performance as well as health and Indoor Environmental Quality (IEQ). The level and scope of cooperation varies between the different organisations. With some, REHVA has partnerships or MoUs, while with others the cooperation is less formal and includes the open exchange of technical and policy related information, inviting each other as speaker/panellist at events, coordinating selected advocacy actions targeting the buildings related parts of the EU's energy and climate policies and regulations.

Just to illustrate a few more formal cooperation activities here are a few non-exhaustive examples:



**Eurovent Association:** REHVA signed a Memorandum of Understanding (MoU) with Eurovent Association on 28 May 2015 that serves as basis of co-operation. Eurovent expert Igor Sikonczyk is member of the TRC. REHVA and Eurovent Association experts cooperated in various ways in 2023 and especially on IEQ and EPBD Recast related activities.



**EPB Center:** REHVA and ISSO have created the EPB Center to support the uptake of the CEN/ISO set of EPB standards. The aim of the EPB Center is to disseminate, promote, and provide guidance on the application of EPB standards. In 2019, REHVA became 50% shareholder. Since June 2022, the new REHVA Board members, Catalin Lungu and Johann Zirngibl, are appointed as REHVA representatives in EPB Center's structure i.e. Catalin representing REHVA as Shareholder with voting right in the General Meetings, Johann acting as Board Director on behalf of REHVA. They attended the General meetings and the Board of Directors meetings to oversee the financial situation and activities planned. With the successful closing of the H2020 U-CERT project and acquiring of new private and public contracts in 2023, EPB Center was able to repay its loan to REHVA. The year 2023 is marking the leap for EPB Center to being financially self-sustaining. Andrei Vladimir Litiu has been part-time (< 50%) the Executive Director of the EPB Center, since June 2021, and has as of the end of 2023 increased his capacity to 60% and shall furthermore arrive at 80% in 2024 as soon as the REHVA EU Policy & Advocacy Officer will be recruited and onboarded. He is working in close collaboration with the EPB Experts of the EPB Center on landing and implementing contracts with the private sector, LIFE and Horizon Europe programme projects, European Commission tenders supporting the roll-out and implementation of EPB standards, Member State level tenders on EPB calculation methodology, the CEN-CE scheme roll-out in collaboration with REHVA Member Associations and additional income sources.



**European Construction Technology Platform (ECTP):** REHVA is member of the European Construction Technology Platform since 2013. ECTP is involved in the planning of the related Horizon Europe call topics and programming documents. REHVA attended the General Assembly and committee meetings organised by ECTP in 2023 to get information about the upcoming research topics in the field and maintain contact with potential partners for EU project proposals. The platform also became a key partner in the Built4People PPP initiative (B4P) launched by the European Commission in 2020. From 2024, the new Policy and Advocacy Officer will represent REHVA.



[Engineers Europe](#) (former FEANI): In 2019, REHVA started a cooperation with Engineers Europe, a federation that joins engineering associations from 32 countries, representing 6 million engineers. REHVA joined the Engineers Europe Advisory Group signing a Lol along with 26 other signatories. In 2023, REHVA has been working more closely with Engineers Europe as partner in an Erasmus+ Knowledge Alliance called Engineers for Europe, coordinated by Engineers Europe. More details in the chapter “European projects” on page 29.

## Co-operation with global MoU partners

REHVA cooperates with sister associations beyond Europe to facilitate knowledge exchange at a global scale, and to spread European engineering knowledge, HVAC technologies and standards in the world. REHVA has global partners in China, India, Japan, Korea, North and South America.



[American Society of Heating, Refrigerating and Air-Conditioning Engineers \(ASHRAE\)](#): REHVA renewed its MoU with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), via an electronic document signed by both parties in May 2021. REHVA President Catalin Lungu and REHVA Vice-President Ivo Martinac attended the 2023 ASHRAE Winter Conference in Atlanta.



[Indian Society of Heating, Refrigerating and Air Conditioning Engineers \(ISHRAE\)](#): REHVA renewed its MoU with ISHRAE in May 2022 during CLIMA 2022. ISHRAE and REHVA held a joint meeting in Mumbai, India during ACREX 2023, to discuss their shared goals and explore opportunities for collaboration. One of the topics discussed was the need for greater cooperation on research and development initiatives, particularly in areas such as energy efficiency, indoor air quality, and sustainable building design. Both organisations acknowledged the value of sharing knowledge and best practices, and expressed a willingness to explore ways to facilitate this exchange. Overall, the meeting was a positive and productive one, with both organisations expressing a desire to continue the dialogue and explore opportunities for cooperation in the future. As the world continues to grapple with pressing issues such as climate change and public health, the partnership between ISHRAE and REHVA holds great promise for advancing the field of HVAC&R and making a positive impact on society.



[China Innovation Alliance for Heating, Ventilation and Air-conditioning \(CAHVAC\)](#): REHVA renewed its MoU agreement with the China Innovation Alliance for Heating, Ventilation and Air-conditioning (CAHVAC) during an online meeting on 17 September 2021.



[Federation of Ibero-American Associations in Air-conditioning and refrigeration \(FAIAR\)](#): REHVA renewed its MoU FAIAR on May 2022.



[Indoor Environmental Quality - Global Alliance \(IEQ-GA\)](#): IEQ-GA is an international association (AISBL) founded in 2019 and registered by REHVA in Brussels under the same address as the REHVA office.

The IEQ-GA long-term mission is to serve as a global platform, facilitating the exchange of indoor environmental knowledge and information, promoting related education and research for health and indoor environmental quality in buildings. The IEQ-GA operated since 2014 based on a Memorandum of Understanding signed by interested parties and is now formalised as an association to enable further development of the organisation. The founding members are six international associations (AiCARR, AIHA, AIVC, ASHRAE, ISHRAE, REHVA) and currently a total of 11 full member organisations. They are committed to work together and promote education, research and knowledge exchange at a global scale, to develop standards, codes, guidelines and advocate the well-being of the general public in indoor environments over the globe. One of the main purposes of the IEQ-GA is also to bring together professionals from various fields as indoor environmental quality is a multidisciplinary domain involving, among others, architects, engineers, industrial/occupational hygienists, health sector specialists.

IEQ-GA continued to exchange views and information within the COVID-19 domain which was created during the pandemic. The group held meetings every 2 months, shifting its focus on the lessons learned from the COVID-19 pandemic. The IEQ-GA Task Force on COVID-19 had five on-line meetings during 2023, experts from around the globe participated to exchange information regarding the findings and positioning of the IEQ-GA member organisations. IEQ-GA also nominated experts to the WHO Environment and Engineering Control Expert Advisory Panel (ECAP) for COVID-19.

REHVA continued to work as the secretariat of the association and taking care of the daily management of IEQ-GA. Catalin Lungu is the REHVA member of the IEQ-GA Board with Livio Mazzarella as second representative. Jaap Hogeling is still serving the Board as Treasurer.



[Climate Positive Europe Alliance \(CPEA\)](#): The Climate Positive Europe Alliance (CPEA) is an AISBL registered in Brussels, under the address of REHVA office. REHVA is a founding member along with the German Sustainable Building Council DGNB, the Austrian Sustainable Building Council ÖGNI, Green Building Council España GBCe. The mission of CPEA is to collaboratively accelerate market transformation towards more sustainable market practices by facilitating cross-sectoral dialogue and providing sectoral insights and tangible solutions for the most pressing challenges faced by the construction and real estate stakeholder community. REHVA has been represented in 2023 in CPEA by Johann Zirngibl, Vice President.

The CPEA 2023 Summit successfully took place on 21-22 September in Brussels. The theme of the 2023 summit was “Radical unlearning as a disruptor for market transformation”.

The first day was dedicated to how creating real social (and societal) value on projects. The second day focussed on biodiversity and circular economy, on an integrated approach to ESG - challenges and opportunities. Representing the EU Commission, Stefan Moser, Head of the Energy Efficiency unit for Buildings and Products, recalled the EU building policy underlining the transversal links between Directives as EPBD, ErP (Ecodesign) and EED.

Topics like social values, biodiversity, sustainable finance (taxonomy), etc. may seem still be far from the daily work of HVAC professionals. However, they are key topics of the EU policy, aiming to transform Europe's economy into a resource-efficient and competitive one. As the building sector is crucial for the successful transition to a low-carbon economy, HVAC professionals should not ignore these topics. HVAC professionals must communicate and interact more and more with other sectors (e.g. finance) and other professionals in a holistic, crosscutting approach. To inform and prepare HVAC professionals to these new challenges and opportunities is the reason for REHVA's contribution to CPEA.



CPEA summit in Brussels



**[International Institute of Refrigeration \(IIR\):](#)**

REHVA renewed its MoU with IIR in May 2022 during CLIMA 2022.



SHASE

SAREK

**[Society of Heating, Air Conditioning and Sanitary Engineers of Japan \(SHASE\):](#)**

REHVA renewed its MoU with SHASE in 2022.

**[Society of Air-conditioning and Refrigerating Engineers of Korea \(SAREK\):](#)**

REHVA renewed its MoU with SAREK in May 2022 during CLIMA 2022.



REHVA has also MoUs with the following organisations:

- [ABRAVA](#), Brazilian Association of Refrigeration, Air Conditioning and Heating
- [AIVC](#), Air Infiltration and Ventilation Centre of International Energy Agency
- [IBPSA](#), International Building Performance Simulation Association
- [Venticool](#), The international platform for ventilative cooling

# TECHNOLOGY AND RESEARCH ACTIVITIES

The Technology and Research Committee (TRC) oversees activities related to the exchange of technical information, knowledge transfer and disseminating the latest technology developments, constituting the most important action field of REHVA.

During the REHVA Annual Meeting 2023, Jarek Kurnitski (EKVÜ) renewed his role as TRC chair and Ilinca Nastase (AIIR, AFRCR, AGFR) as TRC co-chair. In addition, two additional co-chairs were elected, Alireza Afsari (DANVAK), and Tomasz Cholewa (PZITS)

REHVA Office published an updated version of its task force guidelines together with a template for drafting the work plans of new task forces. The updated guidelines and the template aim to assist task force chairs to structure their work plans in harmonised way and provide useful information regarding the marketing and promotion details, necessary for the evaluation by the PMC. The guidelines are in constant revision and subject to improvement to align with REHVA strategy and, particularly, cross-committee coordination.

## Membership and participation

At the closing of 2023, TRC counted with 72 members, 30 core and 42 corresponding. They are distributed in the member association as indicated in the table below.

Affiliation	Country	TRC Membership	
		Core	Corresponding
ATIC VZW-ASBL	Belgium	0	2
BAOVK	Bulgaria	0	0
STP	Czech Republic	2	1
DANVAK	Denmark	2	1
EKVU	Estonia	2	1
FINVAC	Finland	2	3
AICVF	France	1	2
VDI-TGA	Germany	0	0
ETE/MMK	Hungary	2	2
AICARR	Italy	1	1
AHGWTEL/LATVAC	Latvia	2	1
LITES	Lithuania	0	0
AIIRM	Moldova	1	0
TVL	Netherlands	1	0
NORVAC	Norway	1	1
PZITS	Poland	1	2
OEP	Portugal	1	3
AIIR/AFRCR/AGFR	Romania	3	6
KGH	Serbia	1	2
SSTP	Slovakia	1	1
ATECYR	Spain	3	5
SVEDVAC	Sweden	1	3
DIE PLANER	Switzerland	0	0
TTMD	Turkey	1	1
CIBSE	United Kingdom	1	0
Supporter		0	4



As indicated, the membership is uneven among Member Associations, with some not having any expert participating in TRC activities and others having just one member. It would be ideal to have every Member Association represented with, at least, one core member. In addition, having several corresponding members facilitates participation in TRC activities. Lastly, four Supporters are involved as members in TRC activities. It is the determination of the TRC Secretariat to boost participation from REHVA members and supporters into the technology and research activities.

In the TRC meeting held on 13 November 2023, in the framework of the REHVA Brussels Summit, two new corresponding members from the Romanian member association were welcomed to TRC, Andrei Burlacu and Razvan Calota.

## Development and dissemination of technical information: task forces, guidebooks, and reports

### *Task Force activities and guidebooks*

In 2023, the TRC coordinated the work of several Task Forces and published one new Report on the shift away from natural gas in buildings, a report on the replacement of gas boilers with heat pumps, district heating, and hybrid solutions. The report has been produced as a pdf-only and was launched at REHVA's Annual Meeting 2023.

REHVA had 7 active Task Forces:

- *Technical guidance of the EPBD implementation* Task Force, chaired by Jarek Kurnitski
- *Heat pumps*, as outcome of the originally approved *Building decarbonisation for HVAC professionals*, chaired by Tomasz Cholewa
- *Occupant Targeted Ventilation (OTV)*, chaired by Arsen Melikov
- *REHVA IEQ requirements - input for revising EN 16798-1*, chaired by Jaap Hogeling
- *Resilient cooling*, leveraging work from IEA EBC Annex 80, chaired by Livio Mazzarella
- *Evaporative cooling*, chaired by Livio Mazzarella.

REHVA launched a new Task Force on Instantaneous Wastewater Heat Recovery, chaired by Pablo Carnero. This Task Force managed to secure the sponsorship of the Associate Organisation International Copper Association (ICA) Europe to produce a guidebook thanks to a joint effort with PMC. The sponsored Task Force will be used as a pilot to gather lessons and try to replicate it for future production of technical knowledge.

The COVID-19 Task Force went “dormant” on account of the decrease in pandemic risk, and as per TRC agreement it can be activated on demand at any time. The Personalised Systems will likely be paused in 2024 to ensure complete alignment with the work of IEA EBC Annex 87 on the topic. It will be resumed in 2026.

The participation in TRC activities (e.g., task force ideas, contribution, etc.) is dissimilar among Member Associations, and often relies on commitment of a handful of TRC members.

# EU policy monitoring, position papers and policy implementation

REHVA follows European policy developments linked to building performance, indoor environmental quality, energy efficiency and the sustainable build environment at large. In 2023, we closely monitored the Fit for 55-package under the Green Deal with a special focus on the EPBD recast, besides the revisions of the EED & REDII. REHVA staff publishes regular updates on EU policy developments, overview articles in the REHVA Journal and posts new updates on its website, social media, e-Newsletter and Supporters' Bulletin. This activity is supported, especially in a technical and implementation capacity, by the TRC that coordinates the development of position papers and technical comments supporting evidence based European policy development. In October, the REHVA Advocacy & Policy Group (EUPAG) came to life and thus, here onwards TRC at large and TRC members continue to actively engage and participate in the REHVA policy activities.

In 2023, REHVA monitored various policy issues under the Green Deal and the implementation of the Renovation Wave strategy:

- 1) The Fit for 55-package:
  - a) EPBD Recast
  - b) REDII and EED revisions
- 2) REPowerEU
- 3) EPBD implementation:
  - a) Promotion and dissemination of the set of CEN/ISO EPB standards
  - b) Smart Readiness Indicator
  - c) Renovation passport and building digital logbook
- 4) Ecodesign and Energy labelling updates (EPREL implementation)
- 5) Circular Economy and Level(s), Construction Product Regulation, F-gas regulation
- 6) Ambient Air Quality Directive

REHVA Office updated the [EU policy section](#) on the website, providing updated information on the policy issue and making the page more accessible and useful. The policy tracking provides updates on all the directives and regulations above mentioned, as well as REHVA internal documents about specific advocacy actions linked to the current revisions of the EPBD, REDII and EED, the EU Green Deal, Renovation Wave and "Fit for 55 package" and information on technical studies relevant to the HVAC sector.

## Energy Performance of Buildings Directive (EPBD) Recast

Throughout 2023, REHVA has been actively engaged with the EPBD Recast, focusing on significant advancements in Indoor Environmental Quality (IEQ) and energy performance in buildings. The involvement aimed to influence the EU's legislative process to ensure buildings are not only energy-efficient and sustainable but also offer healthy indoor environments.

In February 2023, REHVA welcomed the ITRE committee's adoption of EPBD amendments that emphasized stringent IEQ requirements. The new proposals introduced more ambitious emission reduction targets and required new buildings to be zero-emission by 2030. Moreover, it highlighted the necessity for all new public buildings to achieve zero-emission status by 2028, alongside setting progressive targets for the renovation of the worst-performing non-residential buildings.

In June 2023, REHVA made a significant contribution to the EPBD Recast trilogue with the publication of its position paper, “IEQ is Intrinsic to the EPBD” and the detailed EPBD IEQ Guidance document. The EPBD IEQ Guidance document, developed by REHVA’s Technology and Research Committee (TRC) in collaboration with the Nordic Ventilation Group and Eurovent Association specifically, offers comprehensive insights and recommendations on integrating Indoor Environmental Quality (IEQ) within the EPBD framework. This guidance underscores the importance of considering IEQ in building regulations to ensure that buildings are not only energy efficient and sustainable but also promote the health and well-being of occupants. Through this document, REHVA provides a clear roadmap for policymakers and industry stakeholders on embedding IEQ standards into the EPBD, advocating for a holistic approach to building performance that equally prioritizes energy efficiency, sustainability and indoor environmental quality.

Further bilateral exchanges took place during Autumn 2023 with the EU institutions and concerned stakeholders community to provide unbiased engineering support to the EPBD Recast Trilogue. Upon the provisional deal stroke by the European Parliament and Council in December 2023, REHVA EU Policy and Advocacy Group and Technology and Research Committee timely drafted an analysis document of the EPBD Recast’s final text and sent it thorough to DG ENER colleagues to secure REHVA’s place at the Commission’s Official Guidance Documents drafting table in 2024.

### Smart Readiness Indicator (SRI)

REHVA continued to follow, actively contribute and influence the overall SRI happenings at EU level via the [SRI platform](#) set up by the European Commission services and managed by the DG ENER contracted SRI support team. The main aim of the SRI platform is to provide support to the EU’s Member States interested to opt in for an official SRI testing phase (according to the current EPBD the SRI scheme is voluntary) while also doing the same for the wider smart building technology stakeholder community. Andrei Vladimir Litiu represented REHVA in the role of co-chair of the SRI platform [Working Group 3 \(Working Group 3 - SRI value proposition and supporting measures\)](#) and participated during 2023 in all the SRI plenary meetings, the relevant Working Group meetings and all the related events to raise awareness on the smartness of buildings in general and specifically SRI as an enabling and facilitating policy instrument while provide the practical and technology neutral perspective of building professionals. With the renewed 4<sup>th</sup> service contract to the SRI Support Team, REHVA’s involvement is expected to continue.

Furthermore, during 2023, REHVA has gained relevance in the SRI-related activities by the active participation in Smart Square and SRI2market - 2 of the 4 SRI projects funded by the European Commission under the LIFE programme and managed by CINEA. Particularly, through stakeholder engagement in Member States involved or starting the non-committal SRI test phase (Article 8 of the EPBD), and clustering activities of the LIFE SRI projects closely followed by CINEA and DG ENER. Also, by producing supporting tools facilitating informational tools on the latest Smart Readiness Indicator (SRI) policy developments at the EU level, such as the [SRI Observatory](#).

During the course of 2024, REHVA will continue being active in the SRI-related endeavours, markedly through the development of supporting tools for the SRI scheme, as well as the organisation of events with relevant policy actors, such as the already scheduled [SRI Joint Event](#). In doing that, REHVA will continue to engage in more depth and in a meaningful way the REHVA experts, especially the members of the Technology and Research Committee.

### Energy Efficiency Directive (EED)

The revised Energy Efficiency Directive (EU/2023/1791), officially published in the Official Journal on 20 September 2023, signifies a substantial elevation in the EU’s ambitions concerning energy efficiency. This update introduces ‘energy efficiency first’ as a foundational principle in EU energy policy, granting it

legal status for the first time. Essentially, this mandates EU countries to consider energy efficiency in all relevant policy and major investment decisions across both energy and non-energy sectors. This revision follows the Commission's proposal for a recast directive on energy efficiency presented in July 2021 as part of the EU Green Deal package. The 2021 proposal underwent further enhancement within the REPowerEU plan, introduced by the Commission in May 2022, aiming specifically to reduce the EU's reliance on fossil fuel imports from Russia.

### Renewable Energy Directive (RED)

As part of the REPowerEU plan, the Commission introduced targeted amendments to the renewable energy directive on 18 May 2022, in reflection of recent shifts in the energy landscape. These proposed elements were integrated into the directive officially adopted on 20 November 2023. Drawing upon the foundation laid by the 2009 and 2018 directives, the revised directive introduces more robust measures aimed at fully leveraging all available avenues for further development and adoption of renewable energy sources. This strategic approach is pivotal in attaining the EU's target of climate neutrality by 2050 while simultaneously fortifying Europe's energy security.

### Construction Products Regulation (CPR)

On 30 March 2022, the Commission put forth a proposal for a regulation that establishes unified conditions for the marketing of construction products (COM/2022/144 final), thereby repealing the previous Construction Products Regulation (CPR). This regulatory proposal is part of a comprehensive package designed to promote the prevalence of sustainable products in the EU, foster circular business models, and empower consumers in the pursuit of a green transition. The objectives of the proposed regulation include addressing key challenges: the incomplete realization of a single market for construction products, suboptimal implementation with varying market surveillance practices among Member States, a complex legal framework, and the CPR's inability to effectively contribute to green and digital transitions as well as ensuring product safety.

Trilogues took place on 17 July, 24 October and 13 December 2023, when the co-legislators found a provisional political agreement. It needs to be formally approved by both institutions. REHVA informed about both policy developments on its website, EU policy Newsletters and in the EU Policy Tracking section.

### F-GAS REGULATION

On 5 April 2022, the Commission presented to the Parliament and Council the proposal on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014. The proposal aims to ensure better enforcement through clarification and strengthening of existing rules. On 30 March 2023, MEPs adopted their position with 426 votes in favour, 109 against and 52 abstentions. Among other changes to the Commission's proposal, the adopted position strengthens the requirements to place on the market products containing F-gases. It would prohibit the use of F-gases in sectors where alternatives exist that are both technologically and economically feasible, including in the heat pump sector. The Council adopted its position on 5 April 2023. The position, amongst other changes, amends the proposal's phase down schedule, lowers the HFCs quota allocation prices from €3 to €2, agrees to postpone several bans in comparison to the Commission's proposal, mainly for heat pump, and takes a less prescriptive approach on the provisions on penalties.

On 5 October 2023, the Council and the European Parliament reached a provisional agreement on the file, which sets 2050 as the year when the consumption of HFCs would be completely phased out, and 2036 as the year by when the production of HFCs (in relation to production rights allocated by the Commission) would be phased down to a minimum (15%).

# European projects

REHVA joins European projects aiming at the development and market deployment of innovative technologies, as well as capacity development and training of professionals related to buildings energy efficiency and indoor environment quality.

In 2023, REHVA was involved in 10 projects under different funding instruments (Horizon 2020, Horizon Europe, Life, Erasmus+) that are described below. The REHVA projects' portfolio encompasses initiatives focused on energy efficiency, indoor air quality, and environmental sustainability within the HVAC industry. Collaborating with various European partners, REHVA spearheads projects aimed at promoting innovative technologies and best practices in building design and operation. These projects often involve research, development, and implementation of cutting-edge solutions to address emerging challenges in the built environment. Key themes within the portfolio include renewable energy integration, smart building systems, and resilient infrastructure design. REHVA projects prioritize collaboration between industry stakeholders, policymakers, and research institutions to drive impactful change.

Through these endeavours, REHVA seeks to support the EU's climate goals and foster a more sustainable and healthy indoor environment.

## U-CERT project (Towards a new generation of user-centred Energy Performance Assessment and Certification) - 2019-2023



**U-CERT**  
User-Centred Energy Performance  
Assessment and Certification

U-CERT aims to introduce a next generation of user-centred Energy Performance Assessment and Certification Scheme to value buildings in a holistic and cost-effective manner. U-CERT has a focus on strengthening actual implementation of the EPBD by providing and applying insights from a user perspective and creating a level playing field for sharing implementation experience to all involved stakeholders, facilitated and empowered by the EPB Center. U-CERT activities are implemented with the direct (AiCARR, AIIR, ATECYR) and indirect (AICVF, DANVAK, EKVU, ETE/MMK, SITHOK, SWEDVAC, TVVL) involvement of REHVA Member Associations.

**Project's highlights 2023:** The project was successfully completed in 2023 after an extension. U-CERT project team alongside the other 12 EU funded projects of the Next Gen EPC cluster provided support as needed during the EPBD Recast triologue period (during the course of 2023).

Website: <https://u-certproject.eu/>

## TRI-HP project (Trigeneration systems based on heat pumps with natural refrigerants and multiple renewable sources) - 2019-2023



TRI-HP project aims to develop and validate flexible energy-efficient and affordable trigeneration systems, based on electrically driven natural refrigerant (propane and carbon dioxide) heat pumps coupled with renewable electricity generators (PV), using cold (ice slurry), warm and electricity storages to provide heating, cooling and electricity to multi-family residential buildings with a renewable share of 80%.

In particular, the project has developed three highly-efficient and cost-effective heat pumps based on natural refrigerants (propane and CO<sub>2</sub>) for multi-family buildings, an efficient solar-ice slurry system for intermediate storage and an advanced energy management control for optimal efficiency for heating systems.

**Project's highlights 2023:** The TRI-HP final event, organised by REHVA, a culmination of extensive research and industry collaboration, unfolded in two dynamic sessions, each shedding light on crucial aspects of the heating and cooling sector.

The inaugural session delved into the realm of heat pumps powered by natural refrigerants, featuring insights from esteemed research experts and industry stakeholders. Attendees were immersed in discussions encompassing the diverse applications of natural refrigerants such as propane and CO<sub>2</sub>, their current market readiness, and the social barriers hindering widespread adoption of heat pumps. From exploring technological advancements to addressing societal perceptions, the session provided a comprehensive overview of the landscape, illuminating pathways toward sustainable heating solutions. Transitioning into the second session, the spotlight shifted towards the revision of the F-Gas Regulation, a pivotal regulatory framework shaping the future of refrigerants. Delving into ongoing negotiations, participants dissected the opportunities and risks associated with the phase-down/out of HFCs and HFOs. The session continued with a dynamic panel discussion, featuring a fusion of policy, industry, and research experts representing diverse viewpoints. This open debate fostered critical dialogue, enabling stakeholders to navigate the complexities of regulatory reform while charting a course towards a greener, more resilient future for the heating and cooling sector. In essence, the TRI-HP final event encapsulated the convergence of knowledge, innovation, and policy, serving as a beacon of collaboration and progress in the pursuit of sustainable heating solutions

Website: <https://www.tri-hp.eu/>

### **EPC RECAST project (Energy Performance Certificate Recast: New toolbox to assess building energy performance and retrofit needs) - 2020-2024**



EPC RECAST develops a process and toolbox supporting the development, implementation and validation of a new generation of Energy Performance Assessment and Certification, with focus on residential buildings undergoing energy renovation. It aims at enhancing EPCs usability, reliability, and comparability at linking them to renovation roadmaps and building digital notebooks.

As the responsible partner for the project's communication and dissemination activities, REHVA has coordinated the creation of the project's visual identity and website in 2021. Two newsletters were also published and shared, in June and December, providing a clear overview to the target audiences about the project activities and progress.

**Project's highlights 2023:** The EPC-RECAST project undertook a significant activity in 2023, which was the production of a video aimed at promoting and showcasing the project's objectives and achievements. The video served as a valuable tool for raising awareness about the EPC-RECAST project among stakeholders such as policymakers, building professionals, and the general public. By showcasing the project's progress and impact, the video aimed to garner support, foster collaboration, and encourage engagement with the project's objectives.

Website: <http://epc-recast.eu/>

### **InCUBE project (sustainable building innovations) - 2022-2026**

InCUBE envisions to unlock the EU renovation wave through cutting-edge standardised and integrated processes based on industrialisation, innovative renewable energy technologies, digitalisation, and new market entrants. All while accounting for social inclusion, upskilling, and enhancement of women's role in the construction industry. The InCUBE solutions will be demonstrated in 3 large-scale demo sites: Zaragoza (ES), Trento (IT) and Groningen (NL).



**Project's highlights 2023:** REHVA is contributing to the transformation of Deep Renovation of InCUBE Demonstration, Evaluation and Impact Assessment as well as in liaising with other projects, initiatives and partnerships, build a communication bridge with its sister project and organise workshops. In 2023,

the InCube project achieved a significant milestone by joining the Tech4EUconstruction cluster, initiated by Horizon Europe projects HumanTech, BEEYONDERS, and RoBétArmé. Joining the Tech4EUconstruction cluster represents a strategic move for the InCube project, enabling it to work alongside other leading projects and stakeholders to drive meaningful change and revolutionize the construction sector through collaborative efforts.

Website: <https://incubeproject.eu/>

### **MODERATE project (Marketable Open Data Solutions for Optimized Building-Related Energy Services) - 2022-2026**



MODERATE aims to connect data providers with other building stakeholders by improving interoperability between datasets, by making use of data from different providers and aims to develop services based on data analytics that can transform raw data into knowledge for end-users.

REHVA oversees communication and dissemination. The objectives are to communicate about progress and results from the project to the relevant target groups to engage and activate them to make full use of the potential that the MODERATE platform can offer them.

**Project's highlights 2023:** in 2023, the MODERATE project hosted a workshop titled “Enabling Sustainable Building Performance: Data Exchange Innovations” as part of the REHVA Brussels Summit. Overall, the workshop provided a platform for experts, policymakers, and practitioners to come together and explore the transformative potential of data exchange in shaping a more sustainable built environment. It aimed to pave the way for a greener and more energy-efficient future in construction and building operations.

Website: <https://moderate-project.eu/>

### **SmartLiving EPC project (Advanced Energy Performance Assessment towards Smart Living in Building and District Level) - 2022-2025**



SmartLiving EPC project aims to deliver a certificate which will be issued with the use of digitized tools and retrieve the necessary assessment information for the building shell and building systems from BIM literacy, including enriched energy and sustainability related information for the as designed and the actual performance of the building. The new certification scheme will also expand its scope, covering aspects related to water consumption, as well as noise pollution and acoustics.

REHVA is leading the communication and dissemination part of the project as well as the SRI analysis and integration to SmartLiving EPC.

**Project's highlights 2023:** in 2023, the SmartLiving EPC project undertook significant activities aimed at advancing energy performance certificates (EPCs) and improving existing EPC schemes such as a Webinar - Transposing and Implementing the EPBD Recast and Policy Recommendations: the SmartLiving EPC project prepared policy recommendations based on research findings aimed at enhancing existing EPC schemes. These recommendations likely stemmed from an in-depth analysis of current EPC practices and aimed to provide actionable insights for policymakers and stakeholders to improve energy performance certification processes. Overall, these activities demonstrate the SmartLiving EPC project's commitment to advancing EPCs and fostering sustainable building practices through policy advocacy, knowledge dissemination, and collaboration with stakeholders in the energy efficiency domain.

Website: <https://www.smartlivingepc.eu/en/>

## E4E project (Engineers for Europe) - 2022-2025

The objective of E4E is to prepare better equipped engineers through the acquisition of new competences, covering new knowledge, attitudes and leadership skills while focusing on digital, green, resilient and innovative entrepreneurship. E4E will bridge the gap between education and industry, while operationalising EU competence frameworks (DigComp, LifeComp, EntreComp) for engineers.



**Project's highlights 2023:** Inaugural Skills Council Meeting: Following the 2nd Physical Project Meeting, the E4E project hosted its 1st European Engineering Skills Council Meeting. This inaugural meeting represented a significant milestone in the project's journey. It underscored the project's dedication to fostering collaboration among various stakeholders, including academia, businesses, and engineering professionals. The Skills Council Meeting likely focused on identifying key skills gaps and challenges within the engineering sector, exploring strategies for addressing them, and fostering greater alignment between educational programs and industry needs. Overall, these meetings demonstrated the E4E project's commitment to advancing the engineering profession in Europe through collaboration, knowledge exchange, and strategic planning. By bringing together diverse stakeholders and fostering dialogue, the project aims to contribute to the long-term competitiveness and sustainability of the engineering sector across Europe.

Website: <https://engineers4europe.eu/>

## Smart<sup>2</sup> project -(Smart Tools for Smart Buildings: Enhancing the intelligence of buildings in Europe) - 2022-2025

The Smart<sup>2</sup> project aims to develop and deliver appropriate tools and applications that enable the promotion and establishment of intelligence assessment of buildings in Europe, through buildings Smart Readiness Indicator (SRI) scheme. Smart Square aspires to deliver a cloud based open platform for assessing the intelligence of buildings, available in all 24 EU official languages, considering as well the specificities of the Member States, with a view to maximize synergies with other EU initiatives.



REHVA is leading in collecting the information for bridging the gap between SRI and EU citizens. The objective is to deliver the appropriate tools and mechanisms for collecting the required information for the delivery of the required tools to allow the SRI uptake, as well as to bridge the gap between the SRI and the EU citizens.

**Project's highlights 2023:** the SRI Observatory (<https://sriobservatory.eu/>) was launched. Its objective is to be the reference site to stay up to date on the latest Smart Readiness Indicator (SRI) policy developments at the EU level, to track and compare national implementation status, and to find out about the most relevant research developments in the field of building smartness. It has been a key exploitable result entirely produced by REHVA and shall remain under REHVA ownership once the project ends.

In the pipeline for 2024 REHVA will produce the SRI Virtual Training Centre, with the ambition to provide training material on the SRI and related supporting tools to prospective SRI assessors. Like for the SRI Observatory, it shall remain under REHVA ownership once the project ends.

Website: <https://www.smartsquare-project.eu/>



## SRI2MARKET project -(Paving the way for the adoption of the SRI into national regulation and market) - 2022-2025

The SRI2MARKET project will improve the knowledge and capabilities of six Member States (Austria, Croatia, Cyprus, France, Portugal, and Spain) with regards to the introduction of the SRI in their national regulation and market. The project will use lessons learned by countries that are well advanced in rolling out SRI to support countries still beginning their test phases and/or struggling to encourage smart upgrades. The effort should accelerate the adoption of the indicator and facilitate the design of policies that inspire action among those that are not early movers. The project kicked-off in November 2022, so real activities will start only the next year.

**SRI2MARKET**

REHVA is leading the stakeholder engagement, producing guidelines, and supporting materials to facilitate the national partners in identifying, mapping and engaging stakeholders. This with the intention of aiding Member States to pursue a non-committal test phase of the common EU scheme.

Website: <https://www.rehva.eu/eu-projects/project/sri2market>

## ENERGATE project - ( Energy Efficiency Marketplace) - 2023-2026

ENERGATE will provide a smart energy marketplace for energy efficiency investments in buildings. The ENERGATE marketplace will be implemented through an ICT-based platform, which, on the one hand will aim to mobilise and accelerate the creation of NECP-compatible credible project pipeline and on the other, it will aim to facilitate the financial closure and project implementation by offering standardisation, risk mitigation and appropriate “packaging” of investments.

**ENERGATE**  
ENERGY EFFICIENCY MARKETPLACE

**Project highlights 2023: ENERGATE at REHVA Brussels Summit 2023:** ENERGATE participated in the REHVA Brussels Summit on 13-14 November. The summit, focusing on “Indoor Environmental Quality, Digitalisation, and Skills in the Decarbonisation of Buildings,” gathered industry experts, policymakers, and professionals.

The 1<sup>st</sup> day featured the REHVA Standing Committee Meeting, allowing members to shape the organisation’s future strategies. ENERGATE partner EnerSave Capital Sarl joined the talk, where a panel of experts discussed how standardisation can facilitate access to financing and support investment decisions. The ENERGATE Project and its marketplace was one of the solutions approached. Explore the key highlights of the event [here](#). Find more information about the event [here](#).

Website: <https://energate-project.eu/>



# EDUCATION

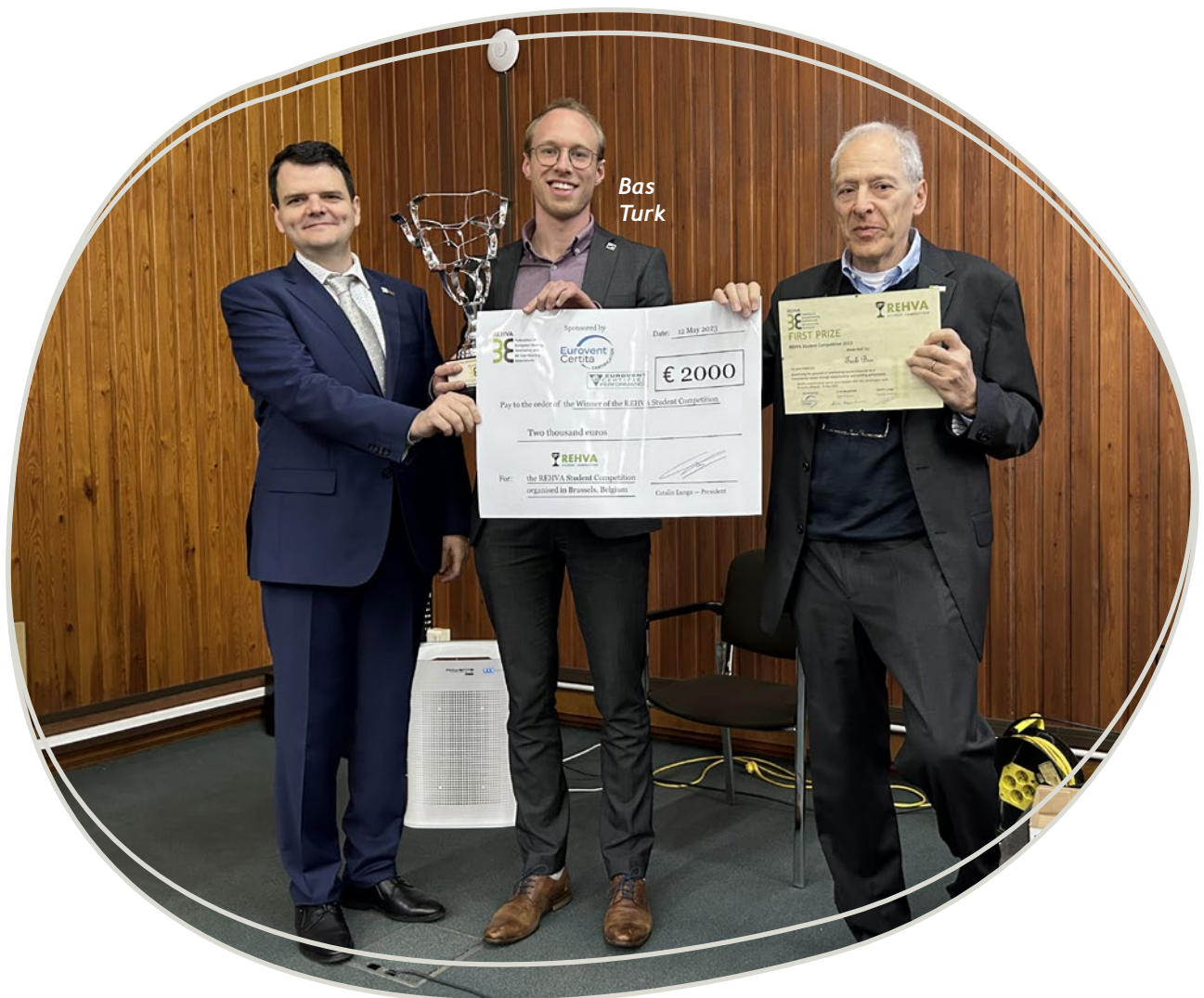


## REHVA Student Competition

During the REHVA 2023 Annual Meeting in Brussels (Belgium), REHVA organised its yearly student competition which took place on 11 May. This event brought together 11 students representing ten countries (Czech Republic, Estonia, France, Finland, Italy, Serbia, Spain, Romania, The Netherlands and United Kingdom) who gathered in Brussels to showcase their research projects before a distinguished panel of jury members. Romania was represented by a team of two students.

The jury was chaired by Livio Mazzarella from Italy, the chair of the Education and Training Committee. The jury was composed of Francis Allard (AICVF, France), Anatolijs Borodinecs (Latvac, Latvia), Tiberiu Catalina (AIIR, Romania), Adélio Gaspar (Ordem dos Engenheiros, Portugal), Dejan Mumovic (CIBSE-UK) and Uwe Schulz (DIE PLANER, Switzerland).

After deliberation, the jury declared as winner Bas Turk (from the Netherlands) for his work on “Quantifying the potential of overheating countermeasures on a humanitarian shelter through measurements and building performance simulations”.

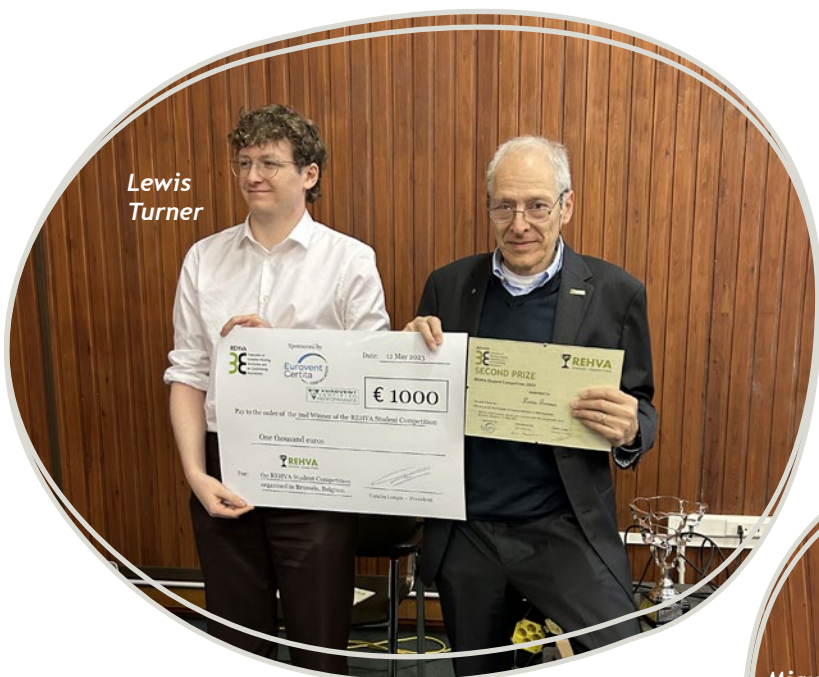


*The winner Bas Turk with Catalin Lungu on the left and Livio Mazzarella on the right*

Lewis Turner (from UK) secured second place for his paper on “Efficacy of Air Purification to Control Infection in NHS Hospitals” while Miguel Rodríguez Fernández (from Spain) came third with his study on an “Indirect Evaporative Heat Exchanger Prototype Manufactured with 3D Printing.” Aurore Toulou (from France) won the “best poster” category.

Livio Mazzarella extended his heartfelt congratulations to Bas Turk for his remarkable accomplishment, as well as to all the other students who enthusiastically participated in the competition.

On Friday 12 May morning, before the Plenary Meeting, Livio Mazzarella, the chair of the REHVA Education and Training Committee together with Catalin Lungu handed over the Trophy Cup to the winner and a financial reward to all three awardees sponsored by Eurovent Certita Certification.



Lewis  
Turner



Miguel  
Rodríguez  
Fernández



Aurore  
Toulou

# HVAC World Student Competition

The HVAC World Student Competition is organised in the years between of CLIMA congress by one of our international partners. Therefore, ASHRAE hosted the 2023 competition that took place on Sunday 25 June during their Annual Conference in Tampa, Florida.

Three of the total six MoU partners that participated in this initiative have delegated candidates to this competition: ASHRAE (United States), CAHVAC (China) and SAREK (South Korea).

As the winner of the REHVA Student Competition, Bas Turk from the Eindhoven University of Technology has proudly represented Europe at the HVAC World Student competition, an achievement that reflects his dedication and expertise.

The jury composed by Livio Mazzarella (REHVA), Tim Dwyer (ASHRAE - USA), Zhengrong Li (CAHVAC - China) and Jae-Weon Jeong (SAREK - Korea). They were assigned to judge the performance and quality of the work of the competitors.

The Chinese student attended remotely as well as Prof. Zhengrong Li from CAHVAC as jury member.

After deliberation, the jury declared Bas Turk winner of the HVAC World Student Competition. Bas' work titled "Quantifying the potential of overheating countermeasures on a humanitarian shelter through measurements and building performance simulation" made a strong impression. The second place was awarded to Jingjing Pan from CAHVAC (China) and the third place to Indra Permana from ASHRAE (USA). The prize for best poster went to Su-Young Jo and Hye Jin Cho from SAREK (Korea).

Livio Mazzarella handed over the certificates with a financial reward to each participant sponsored by Eurovent Certita Certification.

REHVA thanked again Eurovent Certita Certification for sponsoring these two competitions! Their support underscores their commitment to promoting excellence and recognizing exceptional achievements in the field. Through their sponsorship, Eurovent Certita Certification contributes to the development and advancement of the HVAC industry by encouraging talented individuals to push boundaries and drive innovation in the field.



# REHVA Community of Young Professionals



The REHVA Community of Young Professionals facilitates professional activities and knowledge exchange between young professionals (below 35 years) in the fields of indoor climate management, HVAC and building services. We reach out first to former participants of the REHVA student competition and invite them to join our initiative.

REHVA is committed to advancing its programs and services for young engineers, helping them build their professional foundations and carrier. REHVA organises courses for students and young professionals and promotes their participation in the REHVA network event by discounts. The CLIMA World Congresses are inviting young researchers to submit abstracts. If students team-up and purchase REHVA guidebooks, they receive a discount.

REHVA will support the joint activities defined later together with the community members and offer advantages relying on the existing REHVA knowledge sources and services, such as free or discounted access to REHVA guidebooks, events and trainings, publication possibility in the REHVA Journal, specific sessions at REHVA events for the community. Our aim is to create an online community and information hub tailored to the interest of community members.

In 2023, during the REHVA Gala dinner of 12 May, all the participating students at the REHVA Student Competition were provided with a unique opportunity to engage with esteemed members and supporters of REHVA, fostering valuable networking connections within the industry. This gathering allowed them to interact and exchange ideas with professionals who are at the forefront of the HVAC field.



*Students at the REHVA gala dinner*

The following day, the students also had the privilege of visiting the famous Atomium, an iconic architectural landmark in Brussels. This excursion offered them a chance to appreciate the rich history and innovative design that the Atomium represents.



We would also like to express our sincere gratitude to our esteemed sponsor, Eurovent Certita Certification, whose generous support made this event possible, once again. Their commitment to fostering talent and promoting excellence in the industry is invaluable.

# ETC Task Force on continued education

There is one ongoing Task force on “Continued Education” coordinated by Torun Widström from SWEDVAC (Sweden) with the aim of defining a business model to support HVAC professionals’ re-skilling and upskilling through Europe. A first workshop has already been realised on 24 February 2023 to identify possible alternatives, scenarios and business plans for the continued education topic, and a questionnaire has been sent to each Member Association to identify their need, their availability to cooperate and their agreement on some selected topics.

Then, the design of a first experimental course has been launched on “HVAC Sustainability” and a first draft of a potential course on “Building Global Warming Potential” (BGWP) as foreseen by EPBD recast has been prepared.

Course content (up to 193 slides):

1. Building sustainability:
  - Definition and assessment according to EN 15643-1:2020
2. Building Life Cycle:
  - Definition and examples of stages
  - Sustainability and Life Cycle Assessment:
    - CEN Framework
      - EN 15978 - Assessment of environmental performance of buildings
      - EN 16309 - Assessment of social performance of buildings
      - EN 16627 - Assessment of economic performance of buildings
3. Sustainability and Life Cycle Assessment:
  - EN ISO Framework
    - EN ISO 1ventivo4044:2018 - Assessment of environmental performance of buildings
4. E-LCA study four phases
  - The goal and scope definition phase
  - The life cycle inventory analysis (LCI) phase
  - The life cycle impact assessment (LCIA) phase
  - The life cycle interpretation phase
5. EPBD recast requirements
  - Building life-cycle global warming potential (GWP)
6. LEVEL(s) framework
  - Building life-cycle global warming potential (GWP) indicator methodological rules and cut-off criteria
  - ISO 14067:2018 Carbon footprint of products
7. Building GWP indicator calculation example

A review process is ongoing by the task force participants to complement\improve\segment into modules. A working example has been produced using excel spreadsheets whit a complementary text to explain how-to-use it. The working example is under revision too.

Definition of the course length is under discussion to choose between:

- a true course: 5 + 3 hours (3 hours direct application on one example, or more)
- an introductory webinar before: 1 hour (with free attendance?)

and the course delivery form:

- most probably using the web platform that has been already used for COVID-90 course

A questionnaire should be prepared for the attenders to be able to provide a proficiency certificate.

Finally, a first specific business plan was set up as:

- being an “experiment”, the cost of production has so far been covered by voluntary work, and some necessary reimbursements will be covered by the ETC budget
- Course cost for attenders has to be defined based on the commercial value of the course
- The way the course could be used by REHVA members on national basis (translation, adaptation, customization) has to be discussed together with MA empowered representatives

# REHVA EVENTS

## REHVA Brussels Summit

The REHVA Brussels Summit that was held as the traditional event of the Autumn from 13 to 14 November. It was a success and REHVA is so happy and grateful to everyone who could meet us in Brussels to discuss “Indoor Environmental Quality, Digitalisation and Skills in the Decarbonisation of Buildings”. It was a pleasure to be joined by over 80 participants. The four sessions were insightful and the discussions that were shared gave REHVA many hopes and vision for the future.





# Seminars and conferences at trade shows and industry fairs

## ACREX 2023

From 14 March until 16 March, REHVA President, Catalin Lungu, REHVA Staff, Marie Joannes and REHVA co-chair of the decarbonisation Task Force, Tomasz Cholewa, attended ACREX India 2023. During the three days, the team, invited by ISHRAE and sponsored by Eurovent Certita Certification, had the opportunity to attend and participate in many inspiring events.

Catalin Lungu had the opportunity to give a short speech during the curtain raiser Function, on 13 March, quoting the G20 slogan “One Earth, One Family, One Future”. By this reference, he wished to remind that we can only achieve our goal “Engineering toward Net Zero”, the theme of ACREX 2023, if we cooperate and work together. He also highlighted the importance of the partnership and friendship between ISHRAE and REHVA.

On 14 March, ISHRAE and REHVA came together and presented a seminar on “Engineering toward net zero” in front of a full and interactive audience.

REHVA extends its sincere gratitude to ISHRAE for the invitation and organisation of ACREX India 2023. The event was a great opportunity for us to connect with industry leaders and engage in stimulating conversations on the path toward a sustainable built environment.

REHVA would also like to thank Eurovent Certita Certification for sponsoring our participation in ACREX 2023. The support provided by Eurovent Certita Certification was instrumental in enabling our team to attend and contribute to the event, and we appreciate their continued commitment to our shared goals. REHVA welcomed visitors throughout the 3 days of the exhibition and had the opportunity to meet some of the 40 000+ total visitors of this year’s edition of ACREX India.



## ISH 2023

On 14 March 2023, REHVA was present at ISH 2023, finally back to the pre-pandemic business. We had the pleasure to meet most REHVA supporters visiting their stands at the busy fair ground. REHVA organised a well-visited Expert Talk in the Hotspot Indoor Air arena about “New standards and health-based ventilation practice for good indoor air quality in homes” joining REHVA experts from academia with experts of supporter companies.

We spend up to 90 % of our time indoors, and indoor climate quality has a massive impact on our health, productivity, and wellbeing. Case studies show that indoor air may contain 5-times more pollutants than ambient air in countries with higher environmental standards. The COVID-19 pandemic showed the importance of adequate ventilation and IAQ in limiting the spread of infections respiratory diseases and we must draw the lessons for future HVAC design and building operation to ensure adequate indoor air quality in all buildings.

This seminar discussed changing European and global standards with health based IAQ requirements in the post-covid era, and focus on the often-overlooked residential building sector, presented by high-level international experts from the REHVA network.

The event was followed by our traditional reHVAClub cocktail with representatives of supporters and fellow associations joined for informal networking.



# REHVA representation at Members' events

## AICVF: The 38<sup>th</sup> Congress

The 38<sup>th</sup> AICVF Congress took place on September 7th and 8th, 2023, in Nice, France under the theme: “Reinventing Buildings for Carbon Neutrality by 2050.” Organised by the CAC region, the event brought together 250 delegates and 37 partners. REHVA President, Catalin Lungu gave an insight of his knowledge during a conference on “Les choix énergétiques”. He emphasized the organisation’s key missions, including advocating for these values within the European Union by promoting policies that support indoor air quality, energy performance, and sustainable development in buildings. Frank Hovorka, the former REHVA president, also joined the Congress as he currently holds the position of President at AICVF.

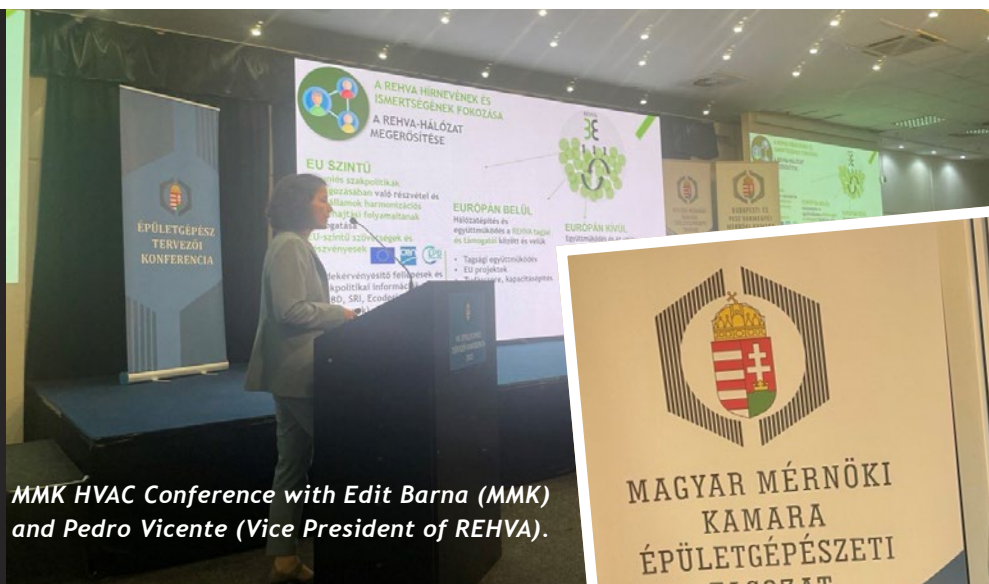


Frank Hovorka and Catalin Lungu

## MMK: the HVAC Conference

Pedro Vicente, Vice-President of REHVA, attended on 29 September the Hungarian HVAC conference for design engineers organised by MMK. The Conference was a complete success, as more than 500 people from the HVAC sector attended. At the conference HVAC companies - many of them were REHVA supporters - held exhibition about their products and activities. In two locations, professional HVAC presentation were given by invited HVAC engineer professionals.

Pedro Vicente spoke a few brief words about the need for all European associations to be in REHVA as a family. Next, Edit Barna gave a presentation in Hungarian detailing REHVA’s activities in order to bring closer to the audience what the membership of REHVA has to offer to its members, what it means to be member of the REHVA family.



MMK HVAC Conference with Edit Barna (MMK) and Pedro Vicente (Vice President of REHVA).



## TTMD: ISK-SODEX

ISK-SODEX, which brings together representatives of the air conditioning sector from all over the world under one roof every two years and contributes significantly to the growth momentum of the sector with the collaborations it prepares the ground for, has ended. Organised by Hannover Messe Sodeks Fair under the co-organisation of TTMD among others was held at Istanbul Expo Center between 25-28 October.

Kemal Bayraktar, Vice-President of REHVA was representing REHVA.

## KGH: the 54<sup>th</sup> International HVAC&R Congress and Exhibition

The 54<sup>th</sup> International HVAC&R Congress and Exhibition was held on 6-8 December 2023, in Belgrade, Serbia. The main thematic fields are methods, technologies, techniques, standards, and software used in the integrated design, construction, commissioning, testing, monitoring, and smart operation of energy efficient, sustainable and healthy new buildings, and in the deep RES integrated energy refurbishment of the existing urban buildings with the aim of achieving sustainability, safety, greening, and adaptability of urban systems to climate change, and urban systems resilience not only to weather extremes and geological disturbances, but also to terrorism risks, political extremes, uncontrolled migrations and immigrations.

# Exhibitions

REHVA is endorsing international fairs and exhibitions of the HVAC and construction sector each year, to promote our publications and expertise.

- 2023 ASHRAE Winter Conference
- HVAC Cold Climate Conference 2023
- ISH 2023
- ACREX 2023
- World Sustainable Energy days
- IAQVEC 2023
- RCEPB 15, International Conference - Energy Performance of Buildings
- HB2023 Europe Conference “Beyond disciplinary boundaries - Transdisciplinary perspectives on multisensory stimulation for innovative and creative solutions in Post Covid era”
- ISH China & CIHE
- IAQVEC 2023
- HVACR Vietnam
- 43<sup>rd</sup> AIVC Conference
- 54<sup>th</sup> International HVAC&R Congress and Exhibition
- 2023 Decarbonization Conference for the Built Environment (ASHRAE)
- ISK-Sodex exhibition

# AWARDS

## Awards

The following members of REHVA Member Associations were recognised for their outstanding achievements in different activities within the HVAC fields and for their contributions to improve energy efficiency and the indoor environment of buildings and received a REHVA Award handed over by Catalin Lungu during the special dinner organised at the Royal Library of Belgium on Thursday 11 May. This was also the opportunity for the REHVA Family to come together to celebrate the 60<sup>th</sup> birthday of the federation.



*Milos Lain (STP - Czech Republic) received a REHVA Professional Award in Design.*



*Iñaki Morcillo Irastorza (ATECYR - Spain) received a REHVA Professional Award in Technology.*



*Francesca d'Ambrosio (AiCARR - Italy) received a REHVA Professional Award in Science.*

The 39<sup>th</sup> AiCARR National Conference, held on 8 and 9 September in Naples, Italy, celebrated exceptional achievements in education and science with two prestigious awards. Mariapia Colella (below on the left) received a REHVA Professional Award in Education for her innovative teaching methods and dedication to enhancing educational experiences. Francesca d'Ambrosio (below on the right) was recognized with a REHVA Professional Award in Science for her groundbreaking research in physics, chemistry, and environmental science. The awards were presented by Claudio Zilio, AiCARR President, highlighting their outstanding work in education and science.



On 18-19 October, the 25th Air Conditioning and Ventilation Conference 2023 took place in Prague, Czech Republic. During the evening gala of the national event, Lada Hensen Centnerová (Vice-President, REHVA), Karel Kabele (President, Society of Environmental Engineering) and Milos Lain (Conference Director) handed over a REHVA Professional award in Science to Tomáš Matuška.



*Tomáš Matuška with Karel Kabele on the left and Lada Hensen Centnerová in the middle*

REHVA extended their heartfelt congratulations to AICVF, and Catalin Lungu had the privilege to give to AICVF, l'Association des Ingénieurs et techniciens en Climatique, Ventilation et Froid, a REHVA Member Association Award for the organisation of their 38<sup>th</sup> Congress and their substantial contribution to REHVA worldwide notoriety as well as their involvement in strengthening European objectives for decarbonisation.

## REHVA SUPPORTERS' Awards

Furthermore, two Special REHVA Supporters' awards were handed over during the 60<sup>th</sup> anniversary dinner. REHVA expressed its heartfelt gratitude to Belimo for being a true REHVA Supporter for fourteen years and Systemair for being a true REHVA supporter for sixteen years.

REHVA look forward to continuing their precious collaboration to deliver healthy and sustainable indoor climate.



*Supporters award to Belimo*



*Supporters award to Systemair*

Daikin Europe N.V., a European subsidiary of Daikin Industries, Ltd., held a ceremony at the De Bijloke Music Center (Ghent, Belgium) on 12 October, commemorating their 50<sup>th</sup> anniversary of its establishment!

The ceremony included a video message from Belgium's Prime Minister Alexander De Croo and was attended by more than 600 people. He said that: "Our strong relationship celebrates 50 remarkable years today. We share the Japanese culture of excellence, and we have the same long-term vision for a better future for all. That makes us partners in the green transition and allies in the fight against climate change."

Lada Hensen Centnerová, Vice-President, offered a certificate to congratulate Daikin on their anniversary.



*Supporters award to Daikin*

# REHVA ADMINISTRATION

## General Assembly

The 67<sup>th</sup> REHVA General Assembly took place in Brussels, Belgium on 12 May 2023. This year more than 60 participants from 22 countries attended the meeting. The quorum needed to vote was met. Four members were not present or represented. The agenda of the General Assembly was focused on the general overview of REHVA activities in 2022 and on the key points of REHVA's 2023 activities.

The most relevant outcome of the General Assembly has been the election of a new Board member, who will start his mandate in 2023 till 2026: Risto Kosonen (FINVAC, Finland), while the second candidate who sent in his application will be the reserve Board member, Jarek Kurnitski (EKVY, Estonia).

The members talked also about the issue of the suspension of SITHOK's membership because of the non-payment of their due since some years. They unanimously decided to suspend SITHOK (Slovenia) and to reconsider during a future General Assembly when they are financially able to pay their membership fee.

## Board Meetings

Seven Board meetings were held in 2023 namely face-to-face in Brussels, Belgium (23 January, 27 March and 2 October); four online meetings were organised on 8 May, 19 June, 26 July and 10 November.

## Standing Committee Members

In 2023, REHVA activities have been organised under five Standing Committees in order to have an active core of colleagues strongly involved in their activities. The core members of the Standing Committees participated actively in the committee meetings and activities.

Thursday 11 May, the REHVA standing committees met in Brussels to discuss the activities of the organisation during the year 2022 and to prepare the strategy for the upcoming year.

The Publishing and Marketing Committee (PMC): Francesca d'Ambrosio (Italy) was re-elected as chair and Lada Hensen Centnerová (Netherlands) was re-elected as co-chair.

REHVA's TRC elected two new co-chairs, Tomasz Cholewa from Poland and Alireza Afshari from Denmark, who joined the re-elected chair, Jarek Kurnitski and co-chair Ilinca Nastase.

During the Education and Training Committee (ETC), Livio Mazzarella (Italy) was elected as chair and 2 co-chairs were elected: Tiberiu Catalina (Romania) and Uwe Schulz (Switzerland).

The Supporters Committee was skilfully moderated by Kemal Bayraktar (Turkey). The primary objective of the meeting was to elect co-chair Laura Bothar.

Overall, the Committees decided that there is a need for greater communication within REHVA and decided that each Committee should have at least one co-chair from another Committee. As a result, Kemal Bayraktar (Chair of the Supporters Committee) was elected as co-chair of the PMC, alongside Jarek Kurnitski (Chair of the TRC).



Find below the list of the core members of all the Standing Committees (as per 31/12/2023).

### **Awards Committee**

- Chair: Catalin Lungu, Romania
- Francis Allard, France
- Stefano P. Corgnati, Italy
- Frank Hovorka, France
- Karel Kabele, Czech Republic
- Livio Mazzarella, Italy
- Bjarne W. Olesen, Denmark
- Secretary: Nathalie Wouters

### **Education and Training Committee**

- Chair: Livio Mazzarella, Italy
- Co-Chair: Tiberiu Catalina, Romania
- Co-Chair: Uwe W. Schulz, Switzerland
- Francis Allard, France
- Edith Barna, Hungary
- Murat Cakan, Turkey
- Ivan Chmurny, Slovakia
- Francesca R. d'Ambrosio, Italy
- Tim Dwyer, United Kingdom
- Egils Dzelzitis, Latvia
- Karel Kabele, Czech Republic
- Targo Kalamees, Estonia
- Risto Kosonen, Finland
- Catalin Lungu, Romania
- Zoltan Magyar, Hungary
- Joris Mampaey, Belgium
- Marija Todorovic, Serbia
- Cas Wegman, The Netherlands
- Torun Widström, Sweden
- Johann Zirngibl, France
- Secretary: Nathalie Wouters

### **Publishing and Marketing Committee**

- Chair: Francesca R. d'Ambrosio, Italy
- Co-Chair: Lada Hensen Centnerova, The Netherlands
- Tuba Bingol Altioek Turkey
- Anna Bogdan, Poland
- Tiberiu Catalina, Romania
- Nelu-Cristian Chereches, Romania
- Hywel Davies, United Kingdom
- Christian Feldmann, France
- Jaap Hogeling, The Netherlands
- John Lens, The Netherlands
- Siru Lönnqvist, Finland
- Brigit Müller, Germany
- Dejan Mumovic, United Kingdom
- Olaf Oosting, The Netherlands
- Dusan Petras, Slovakia
- Dejan Mumovic, United Kingdom
- Secretary: Marie Joannes

### **Supporters Committee**

- Chair: Kemal Gani Bayraktar
- Co-chair: Laura Bothar, Romania
- Ilari Aho, Finland
- Mikael Börjesson, Sweden

- Sylvain Courtey, France
- Nerissa Deoraj, UAE
- Ioan Silviu Dobosi, Romania
- Alfred Freitag, Switzerland
- Metin Gul, Turkey
- Kim Hagstrom, Finland
- Claus Händel, Germany
- Jaap Hogeling, The Netherlands
- Emil Iakabos, Romania
- Yalçin Katmer, Switzerland
- Henk Kranenberg, The Netherlands
- John Lens, The Netherlands
- Lars-Ake Mattsson, Sweden
- Livio Mazzarella, Italy
- Melissa Moller, France
- Panu Mustakallio, Finland
- Olaf Oosting, The Netherlands
- Russell Patten, Belgium
- Daria Plotkina, France
- Leonardo Prendin, Italy
- Naci Sahin, Turkey
- Christian Schauer, Germany
- Stefan Thie, Belgium
- Marc Thuillard, Switzerland
- André Van Schoonhoven, The Netherlands
- Tobias Zimmer, Germany
- Secretary: Andrei Vladimir Litiu

### **Technology and Research Committee**

- Chair: Jarek Kurnitski, Estonia
- Co-chair: Ilinca Nastase, Romania
- Co-chair: Alireza Afshari, Denmark
- Co-chair: Tomasz Cholewa, Poland
- Anatolijs Borodinecs, Latvia
- Andris Krumins, Latvia
- Livio Mazzarella, Italy
- Christian Feldmann, France
- Cătălin Lungu, Romania
- Ioan Silviu Dobosi, Romania
- Ludmila Virlan, Moldavia
- Francisco Javier Rey Martínez, Spain
- Manuel Ruiz de Adana, Spain
- Pedro Vicente Quiles, Spain
- Hywel Davies, United Kingdom
- Ongun Berk Kazancı, Denmark
- Martin Thalfeldt, Estonia
- Olli Seppänen, Finland
- Risto Kosonen, Finland
- Branislav Todorovic, Serbia
- Guangyu Cao, Norway
- Adélio Gaspar, Portugal
- Michal Krajčík, Slovakia
- Karel Kabele, Czech Republic
- Milos Lain, Czech Republic
- Wei Liu, Sweden
- Murat Çakan, Turkey
- Jaap Hogeling, The Netherlands
- Andris Krumins, Latvia
- Secretary: Pablo Carnero

## REHVA Office

The REHVA registered seat is in rue Washington 40, 1050 Brussels, Belgium.

The team at the end of 2023 included:

- France Baggetto, Communication and Publication Assistant (from 7 August)
- Sofia Bazzano, EU Project Officer
- Pablo Carnero, Technical and EU Project Officer Consultant (from 1 February)
- Marie Joannes, Communication and Publication Assistant
- Andrei Vladimir Litiu, Building Performance Adviser
- Carlota Perez-Bouzada, EU Project Communication Officer (from 6 February)
- Nathalie Wouters, Office and Membership Manager

while they left the team during the year:

- Anita Derjanecz, Managing Director
- Nicoll Marucciová, Marketing & Knowledge Dissemination Officer
- Jasper Vermaut, EU Policy and Project Officer



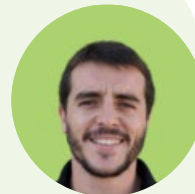
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Manager

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## In Memoriam



*Iolanda Colda*

REHVA is deeply saddened to announce that on October 27, Prof. Emeritus Univ. Dr. Ing. Iolanda Colda passed away. She was an iconic figure in Romanian building services engineering. With a career spanning over 56 years at the Technical University of Civil Engineering in Bucharest, she was a role model of excellence in pedagogy, research, and professionalism. She was a mentor to many generations of students, instilling in them a love of science and engineering. Throughout her career, she was a visiting professor at prestigious universities such as Paris 7 and Paris 12. In addition to her academic achievements, Professor Iolanda Colda was a dedicated professional who made significant contributions to the development and implementation of the energy performance audit system for buildings in Romania.

She received the REHVA Professional Award in Science in 2010 for the ensemble of the insightful work she provided throughout the years. She was given the honorary member distinction by AIIR during the 57<sup>th</sup> AIIR National Conference in Brasov in 2022.

# ANNEX 1: REHVA MEMBERS



[AHGWTEL / LATVAC](#), Association of Heat, Gas and Water Technology Engineers of Latvia, LATVIA



[AiCARR](#), Associazione Italiana Condizionamento dell'aria, Riscaldamento Refrigerazione, ITALY



[AICVF](#), Association des Ingénieurs en CLIMATIQUE, Ventilation et Froid, FRANCE



[AIIR](#), [AFGR](#), [AGFR](#), Romanian Association of Building Services Engineers (AIIR) and Romanian General Association of Refrigeration (AGFR), ROMANIA



[AIIRM](#), Installation Engineers Association from Moldova, MOLDAVIA



[Atecyr](#), Asociación, Técnica Española de Climatización y Refrigeración, SPAIN



[Atic](#), Association Royale Technique de l'Industrie du Chauffage, de la Ventilation et des Branches Connexes, Koninklijke Technische Vereniging van de Verwarmings en Ventilatingstakken, BELGIUM



[BAOVK](#), Bulgarian Association Heating, Ventilation and Air Conditioning, BULGARIA



[CIBSE](#), Chartered Institution of Building Services Engineers, UNITED KINGDOM



[Danvak](#), Danish Society of Heating, Ventilating and Air conditioning Engineers, DENMARK



[Die Planer - Swiss Society for Engineering](#), Energy and Environment, SWITZERLAND



[EKVÜ](#), the Estonian Society of Heating and Ventilation Engineers, ESTONIA



[ÉTE - MMK](#), complex society of building experts with a special section for heating, ventilating, air-conditioning (ÉTE) and Magyar Mérnöki Kamara (MMK) (Hungarian Chamber of Engineers), HUNGARY



[FINVAC](#), joint organisation in which 4 national societies of HVAC organisations (SuLVI, VSF, SIY, LIVI), FINLAND



[KGH](#), Serbian HVAC-R Society c/o Union of Mechanical and Electrical Engineers of Serbia (SMEITS), SERBIA



[LTERA](#), Lietuvos Termoinžinerijos Asociacija (Lithuanian Thermal Engineering Association), LITHUANIA



[NORVAK](#), Norwegian Society of HVAC Engineers, NORWAY



[ORDEM DOS ENGENHEIROS](#), Portuguese Association of Engineers, PORTUGAL



[PZITS](#), Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, POLAND



[SSTP](#), Slovenska spoločnosť pre techniku prostredia (Slovak Society for Environmental Technology), SLOVAKIA



[STP](#), Společnost pro techniku prostředí (Society of Environmental Engineering), CZECH REPUBLIC



[SWEDVAC](#), Energi- och Miljötekniska Föreningen (Swedish HVAC Society - Society of Energy and Environmental Technology), SWEDEN



[TTMD](#), Türk Tesisat Mühendisleri Derneği (Turkish Society of HVAC and Sanitary Engineers), TURKEY



[TVVL](#), Nederlandse Technische Vereniging voor Installaties in Gebouwen (Dutch Society for Building Services), THE NETHERLANDS



[VDI](#), Verein Deutscher Ingenieure e.V. (Association of German Engineers) - Fachbereich Technische Gebäudeausrüstung der VDI-Gesellschaft Bauen und Gebäudetechnik - VDI/GBG (Division Building Services of VDI- Society for Civil Engineering and Building Services), GERMANY

## ANNEX 2: REHVA SUPPORTERS



[Aermec](#), Italy - Air-conditioning

**Arçelik**

[Arçelik](#), Turkey - Manufacturing facilities



[Belimo Automation](#), Switzerland - Developer, manufacturer and distributor of electric actuators for air dampers and valve technology for heating, ventilation and air conditioning systems (HVAC)



[Camfil](#), Sweden - Manufacturer of filters and clean air solutions



[Daikin Europe](#), Belgium - Air-conditioning, heating and refrigeration solution provider



[Dosetimpex](#), Romania - Designing, executing and delivering installation equipment for constructions



[E.E.B.C.](#) - East European Business Center, Romania - Service provider for installations



[EPEE \(European Partnership for Energy and the Environment\)](#), Belgium - Expert Association in the field of refrigeration and air comfort



[Eurovent Certita Certification](#), France - Certification of the performance ratings of air- conditioning and refrigeration products according to European and international standards



[Evapco Europe](#), Italy - Specialists in heat transfer products & services



[EVIA](#) - European Ventilation Industry Association, Belgium - The voice of the ventilation industry in Europe

**FläktGroup**

[FläktGroup](#), Sweden - European market leader for energy efficient Indoor Air Technology Solutions, providing the highest quality standards for improved Air Comfort and well-being



[FRITERM](#), Teknik Cihazlar Sanayi ve Ticaret, Turkey - Manufacturer of finned type heat exchangers and focused on the production of Air Cooled Condensers, Air Coolers, Dry Coolers, Water/Steam Air Heaters and Coolers, Oil Coolers and Heat Recovery Coils



[Granlund](#), Finland - A building services consulting firm



[Halton](#), Finland - Products for ventilation and air handling systems, commercial kitchen ventilation, marine air conditioning



[Haskoning DHV](#), The Netherlands - Independent international engineering and project management consultancy



[LG Electronics](#), France - Improvement of customer's life and business with leading products and world-class technology



[Lindab](#), Denmark - Developer, manufacturer and distributor of products and system solutions primarily in steel for simplified construction and improved indoor climate



[RHOSS](#), Italy - Specialised in the design and production of air conditioning and air handling products and systems



[Isover Saint-Gobain](#), France - Technical insulation



[Smay](#), Poland - Consulting and production company who provides the solutions and devices in the range of ventilation



[Sunfly Smart Heating System](#), China



[Swegon](#), Sweden - Indoor climate for people and environment specialising in ventilation and air handling equipment



[Systemair](#), Sweden - Manufacturer of air handling and ventilation products and fans



[Testo](#), Romania - Manufacturing and calibrating measurement instruments for HVAC, Refrigeration, Catering, Food Processing, Indoor Climate Monitoring, the Pharmaceutical industry,...



[Uponor Corporation](#), Finland - Heating systems for all building types



[Velux](#), Denmark - Producers of installation technology for the sanitation and heating sector



[Viega](#), Germany - Internationally operating market leader of products covering the entire installation technology sector.

# ANNEX 3: REHVA ASSOCIATE ORGANISATIONS



International Copper Association

[International Copper Association \(ICA\) Europe](#), Belgium - Leading advocate for the copper industry in Europe.



[ISIB](#), Turkey - Building services company specialising in design, installation & facility management services.



Romanian Chamber of Energy Auditors (OAER)

[OAER](#), Romania, create the organisational framework to promote measures, concepts and actions that lead to the support of professional interests as well as to increase and improve the activity of long-term higher education graduates and research specialists, project execution and operation, for the realization of energy efficient buildings.

# REHVA

Federation of European Heating, Ventilation  
and Air Conditioning Associations

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REHVA is The Federation of European Heating, Ventilation and Air Conditioning associations founded in 1963. We are an umbrella organisation that represent over 120 000 HVAC designers, building services engineers, technicians and experts across 26 European countries.

REHVA provides its members with a strong platform for international professional networking and knowledge exchange, pursuing the vision of improving health, comfort, safety and energy efficiency in all buildings and communities. REHVA contributes to technical and professional development, follows EU policy developments and represents the interest of its members at EU level and globally.

REHVA is committed to advancing its programs and services for young engineers, through helping them build their professional foundations.

[www.rehva.eu](http://www.rehva.eu)

REHVA



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