ASHRAE® Nordic Chapter

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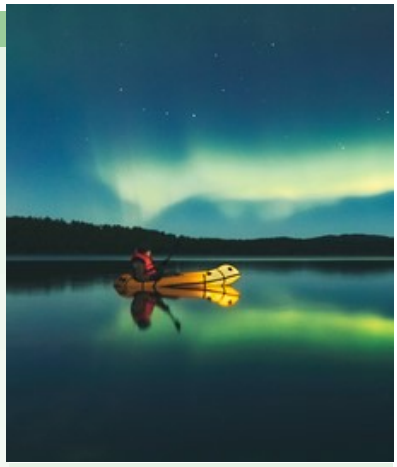

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Newsletter

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ASHRAE Presidential Theme 2025-2026

Bill McQuade has announced his presidential theme, workforce Healthy Buildings: Designing for life. As a part of this theme, ASHRAE has released an Indoor Enironmental Quality (IEQ) video series looking at each of the challenges faced within each area under IEQ. These areas include: indoor air quality, thermal comfort, water, Legionellosis, IAQ and decarbonization, acoustics, lighting, and measuring and assessing IAQ. See the link below to watch the videos!

https://www.ashrae.org/technical-resources/ieq-resources/ieq-resources-videos

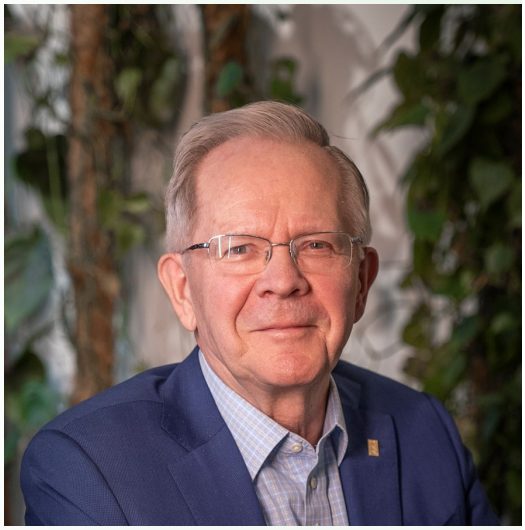
Exploring career opportunities with the ASHRAE job board

The ASHRAE Job Board is a premier platform for professionals in the fields of heating, ventilation, air conditioning, and refrigeration (HVAC&R). Whether you are an engineer seeking new opportunities or an employer looking for top talent, the ASHRAE Job Board offers a comprehensive and user-friendly experience.

Visit: https://jobs.ashrae.org/

HISTORICAL ARTICLE: Dr. Olli A. Seppänen, Fellow Life Member ASHRAE

Historical Committee



Dr. Olli A. Seppänen, a prominent figure in the field of indoor air quality and ventilation, has made significant contributions to the engineering community. As a member of FINVAC and a resident of Finland, Dr. Seppänen's work has had a profound impact on both national and international levels.

Academic and Professional Background

Dr. Seppänen has dedicated his career to improving indoor air quality and energy efficiency in buildings. His expertise spans across various domains, including ventilation, energy efficiency, and the impact of indoor environments on human health. He has been actively involved in research, education, and policy-making, making him a well-respected authority in his field.

Key Contributions and Research

One of Dr. Seppänen's notable achievements was his involvement in the development of guidelines and standards for indoor air quality. He has been a strong advocate for mandatory indoor air quality monitoring in public buildings, emphasizing the importance of healthy indoor environments for public health. His work has been instrumental in shaping policies that aim to improve air quality in buildings, particularly in the context of the COVID-19 pandemic.

Dr. Seppänen has also contributed to the European Union's efforts to enhance building energy efficiency. He has been involved in the development and implementation of the Energy Performance of Buildings Directive (EPBD), which aims to reduce energy use and greenhouse gas emissions from buildings. His insights have been crucial in ensuring that the directive addresses the needs of modern buildings while promoting sustainability.

Seppänen worked also in several international institutions including the ASHRAE Environmental Laboratory at Kansas State University and Lawrence Berkeley National Laboratory in California. He served also as president and secretary general of REHVA and established Nordic Ventilation Group.

Awards and Recognitions

In recognition of his lifelong contributions to the field, Dr. Seppänen received the **Lifetime Achievement Award** at the Indoor Air 2022 conference. This prestigious award highlights his consistent and outstanding scientific contributions to understanding the effects of ventilation on human health and his active involvement in the International Society of Indoor Air Quality and Climate (ISIAQ).

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HISTORICAL ARTICLE: Dr. Olli A. Seppänen, Fellow Life Member ASHRAE

Publications and Impact

Dr. Seppänen has authored numerous publications that have significantly influenced the field of indoor air quality and energy efficiency. His research has been widely cited and has provided valuable insights into the design and operation of ventilation systems. His work on the relationship between ventilation and the transmission of airborne diseases has been particularly impactful, especially during the COVID-19 pandemic.

Future Directions

Looking ahead, Dr. Seppänen continues to be at the forefront of research and innovation in indoor air quality and energy efficiency. He is currently involved in projects that aim to integrate advanced technologies, such as IoT and AI, into building management systems. These technologies have the potential to revolutionize how buildings are monitored and controlled, leading to healthier and more energy-efficient indoor environments.

Conclusion

Dr. Olli A. Seppänen's career is a testament to his dedication and passion for improving indoor air quality and energy efficiency. His contributions have not only advanced academic knowledge but have also had a tangible impact on public health and environmental sustainability. As the field continues to evolve, Dr. Seppänen's work will undoubtedly remain influential, guiding future developments and setting new standards for excellence.

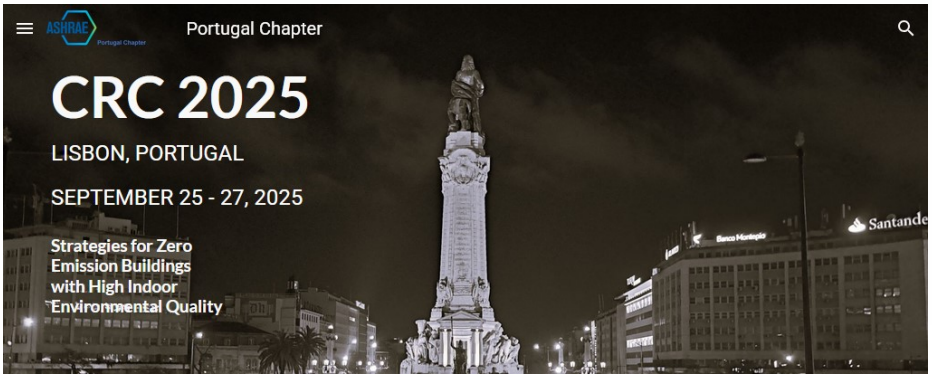
Chapter Regional Conference (CRC) 2025

Join us for the Chapters Regional Conference (CRC) 2025 in the inspiring city of Lisbon.

This is a unique opportunity to connect with HVAC&R professionals and ASHRAE members from across the Region XIV (Europe) while participating in expert-led sessions on energy efficiency, sustainability, and high indoor environmental building.

Visit this site for more information!

https://sites.google.com/view/ashraeportugalchapter/home



ASHRAE Releases New Guidance to Mitigate the Impact of Smoke on Indoor Air Quality

As wildfires and prescribed burns increasingly impact communities worldwide, ASHRAE has published a new resource aimed at safeguarding indoor air quality (IAQ) during these events.

ASHRAE Guideline 44-2024, Protecting Building Occupants From Smoke During Wildfire and Prescribed Burn Events, outlines best practices for building design, operation and maintenance to reduce the health risks associated with prolonged exposure to wildfire and prescribed burn smoke.

To purchase Guideline 44-2024 visit ashrae.org/bookstore .

CEBD - Center of Excellence for Building Decarbonization

Join Us on the Journey to Zero!

Building owners, government jurisdictions and industry professionals around the world are responding to accelerating climate change and recognizing that building decarbonization is a significant component to their efforts. The worldwide building sector accounts for about 40% of energy-related carbon emissions and the global building stock is predicted to double by the year 2060.

Are you interested in participating in projects on decarbonization? If so, please send an email to:

decarb@ashrae.org

Events

Heat Pump Forum & Award 2025

On 23 – 24 September 2025, EHPA will host its flagship heat pump forum.

More information is available here.

19th International Symposium on District Heating and Cooling

On 7 – 10 September 2025, VITO and EnergyVille will organize the 19th

International Symposium on District Heating and Cooling in Genk, Belgium.

More information is available here.

Connect a Colleague to ASHRAE for a FREE ASHRAE Pocket Guide!

Attention ASHRAE Members – Do you want a Free ASHRAE Pocket Guide? When your colleague joins ASHRAE as a full dues paying member by September 19 and enter your email address as the referring member on the join form, you will be shipped one FREE ASHRAE Pocket Guide. Learn more at ashrae.org/freepocketguide

Regulatory Update: Oulu's New Building Energy Efficiency and HVAC Framework

Government Affairs Committee

Oulu's subarctic climate pushes buildings to work harder for comfort and energy performance. Recognizing this, the City Council adopted an enhanced energy efficiency ordinance in early 2025 that tightens performance thresholds for all new and substantially renovated buildings. The regulation aligns with Finland's national climate goals and EU directives, but introduces unique local requirements around ventilation rates, heat recovery, and on-site renewable integration. ASHRAE Nordic Chapter members active in Oulu must understand these changes to guide clients and influence upcoming regulatory revisions.

1. Background: Climate, Growth, and Policy Drivers

Oulu's winters plunge below –20 °C, driving heating loads and intensifying the need for robust HVAC design. Simultaneously, the city's sustainable development plan forecasts 20 000 new residents by 2030, with 8 000 new homes required. Provincial policymakers framed the updated ordinance to curb greenhouse gas emissions and foster resilient urban growth. Key drivers include:

- Finland's national target of carbon neutrality by 2035
- EU Energy Performance of Buildings Directive (EPBD) recast requirements
- Local commitments under the Covenant of Mayors

These forces converge in Oulu's municipal code, making it a testbed for progressive Nordic building policy.

2. Scope of the New Ordinance

Effective February 1, 2025, the regulation impacts:

1. All new residential and commercial buildings
2. Major renovations (over 40 % of gross floor area)
3. Municipal facilities and public housing stock

Key performance metrics were revised:

- Maximum specific heating demand of 35 kWh/m²·year (down from 50 kWh)
- Mandatory primary energy factor (PEF) not exceeding 90 kWh/m²·year
- Minimum 75 % heat recovery efficiency for mechanical ventilation

Compliance must be demonstrated through Energy Performance Certificates (EPC) and verified by a certified energy auditor before building permit approval.

3. HVAC Implications: Ventilation and Heat Recovery

Tightening ventilation requirements reflects growing evidence that indoor air quality (IAQ) directly impacts occupant health and productivity. The ordinance stipulates:

- Ventilation rates of 0.7 L/s·m² in residential zones and 1.5 L/s·m² in commercial spaces
- At least 75 % heat exchanger efficiency in balanced mechanical ventilation
- Integration of CO_2 and humidity sensors for demand-controlled ventilation

Designers must re-evaluate duct sizing, fan power limits, and heat-exchanger selection to meet the new standards without inflating lifecycle costs.

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Regulatory Update: Oulu's New Building Energy Efficiency and HVAC Framework

4. On-Site Renewables and District Heating Integration

Oulu's municipal energy utility continues to expand biomass and waste-heat district heating networks. The ordinance now grants up to 20 % credit reduction on PEF for projects that:

- Connect to city district heating with at least 50 % renewable thermal share
- Install solar thermal collectors covering at least 10 % of annual DHW load
- Deploy ground-source heat pumps with a minimum coefficient of performance (COP) of 3.5

This approach balances centralized renewable heat procurement with localized energy autonomy.

5. Incentives and Financial Mechanisms

To accelerate compliance, the City of Oulu offers:

- Zero-interest loans up to €200 000 for HVAC retrofits in public and private buildings
- Grants covering 30 % of incremental cost for energy-efficient heat pump installations
- Technical support vouchers redeemable for building energy performance consulting

These measures aim to alleviate upfront capital barriers and equip local contractors to upscale energy-efficient HVAC projects.

6. Compliance Timeline and Enforcement

The City's Building Supervisory Authority has outlined a phased approach:

- Phase 1 (Feb–Jul 2025): Voluntary compliance pilot with exemptions for pilot projects
- Phase 2 (Aug 2025–Dec 2026): Mandatory compliance for new builds; warnings for minor non-conformities
- Phase 3 (Jan 2027 onward): Full enforcement with fines up to €50 000 and permit suspension for significant breaches

Developers must submit an energy strategy report with preliminary HVAC selections at the permit application stage to avoid delays.

7. Role of ASHRAE Nordic Chapter in Oulu

ASHRAE members can drive best practices and influence future revisions by:

- Participating in the city's biannual Energy Policy Roundtable
- Contributing to ASHRAE technical committees focused on cold-climate HVAC
- Organizing peer-reviewed case study presentations at local universities

Engagement ensures the Chapter's collective expertise informs policy calibration, fosters innovation, and safeguards design flexibility.

8. Case Study: University of Oulu Campus Retrofit

A pilot retrofit at the Pikisaari campus illustrates successful compliance:

- Replaced constant-volume ventilation with variable-air-volume (VAV) systems

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Updated School Indoor Air Quality fact sheet

The newly updated School Indoor Air Quality (IAQ) Fact Sheet series from the Center for Green Schools (USGBC), developed in partnership with ASHRAE are now available. These concise, easy-to-understand resources are designed for school staff and decision-makers without a technical background, helping them make informed choices about indoor air quality. With expert input from across the US, the series has been updated to reflect the latest guidance on school IAQ strategies. The series includes an overview, which gives a foundation on IAQ strategies and standards, as well as eight fact sheets on: ventilation, HVAC filtration, germicidal ultraviolet, in- room air cleaners, electronic air cleaners, disinfectants, indoor air quality monitoring, and indoor air quality during wildfires. Click here for more information.

New HVAC Design Training Schedule Available

The full year schedule of ASHRAE HVAC Design Training is now posted.

View the schedule at:

www.ashrae.org/HVACDesign

About

ASHRAE Nordic Chapter is a local branch of ASHRAE, a global society founded in 1894. ASHRAE's mission is to advance human well-being through sustainable technology for the built environment. With more than 50,000 members from over 132 nations, ASHRAE is an engineering organization dedicated to advancing the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world. The organization contributes to shaping tomorrow's built environment through research, standards writing, publishing, certification, and continuing education. The geographic area covered by ASHRAE Nordic Chapter is Denmark (Faroe Islands and Greenland), Iceland, Norway, Finland (Åland), and Sweden.

Regulatory Update: Oulu's New Building Energy Efficiency and HVAC Framework

- Achieved 80 % heat recovery with an enthalpy wheel, reducing heating energy by 40 %
- Integrated a ground-source heat pump supplying pre-heated air to AHUs

The project realized a 25 % total primary energy reduction and became a demonstration site for students and industry partners.

9. Recommendations and Next Steps

For building professionals in Oulu, proactive measures include:

- Early energy modeling using dynamic simulation to optimize HVAC sizing
- Collaboration with certified auditors to streamline EPC processes
- Exploring modular HVAC components that adapt to evolving standards

By aligning design practices with the new government framework, stakeholders can achieve compliance, drive operational savings, and support Oulu's carbon-neutral vision.

Embracing Oulu's enhanced energy efficiency ordinance is more than a regulatory hurdle—it's an opportunity to pioneer resilient, healthy buildings in a demanding climate. ASHRAE Nordic Chapter members are uniquely positioned to lead this transformation through technical acumen, collaborative innovation, and strategic advocacy.

Upcoming Chapter Events

Date	Type of event	Location	Event
26-09-2025 (7-9)	Social	Lisboa, Portugal	Breakfast (CRC)
16-17 April, 2026	Chapter Event	Copenhagen	Social event, Chapter Meeting, Seminars

Next Chapter Meetings

November 2025 (Digital, date and link to come)

April 2026, Copenhagen (More information to come)

Visit:
www.linkedin.com/company/ashrae-nordic
www.ashrae-nordic.org

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