

Nordic Chapter Newsletter

IN THIS ISSUE!

Baltic Section formed	2
Tampere's New Building Energy and Indoor Climate Regulations	3
Upcoming Chapter Events	6
Next Chapter Meeting	6
About	6

ASHRAE Baltic Section formed under the Nordic Chapter!

On the 16th of October, the ASHRAE Members Council approved the charter of the ASHRAE Baltic Section sponsored by the Nordic Chapter. Their headquarters will be in Riga, Latvia and they will include the countries of Estonia, Latvia, and Lithuania.

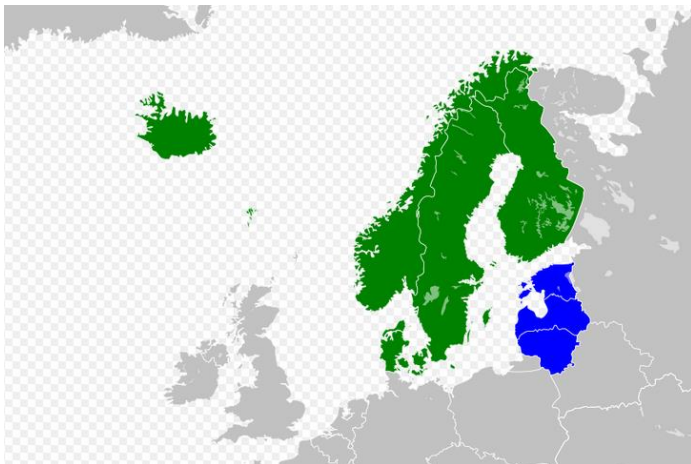


Figure 1: NB8 Region.

https://en.wikipedia.org/wiki/Nordic-Baltic_Eight

In addition to the Baltic section, two more sections were chartered: the Malta Section and the Poland Section. The Malta section was sponsored by Region XIV (Europe) and their headquarters will be in Valletta, Malta. The Poland Section was also sponsored by Region XIV, and their headquarters will be in Warsaw, Poland.

Welcome to the new European sections!

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 Environmental 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/>

Tampere's New Building Energy and Indoor Climate Regulations: A Technical Overview for HVAC Professionals

Government Affairs Committee

Tampere's role as Finland's second-largest city and a hub for technology and education has placed it at the forefront of sustainable urban development. In late 2024, the Tampere City Council ratified updated municipal regulations governing energy performance, indoor climate, and ventilation for new constructions and substantial renovations. These rules align with national carbon neutrality goals for 2035 and the EU's Nearly Zero-Energy Building (NZEB) requirements, while introducing localized mandates that reflect Tampere's district heating network, subarctic climate, and ambition for healthy indoor environments. ASHRAE Nordic Chapter members must understand these changes to ensure compliant, efficient HVAC designs and to help shape future policy refinements.

1. Regulatory Background and Policy Drivers

Finland's Climate Act commits the country to carbon neutrality by 2035, driving revisions at national and municipal levels. The EU's recast Energy Performance of Buildings Directive (EPBD) further tightens requirements for primary energy use and indoor air quality control. Tampere's Sustainable City Strategy emphasizes low-carbon energy, occupant health, and resilience against extreme weather. Key local policy drivers include:

- Integration with Tampere District Heating's growing renewable share
- Mandated indoor climate standards based on Finnish S2 guidelines
- Support for smart building controls and data-driven energy management

2. Scope and Applicability

The updated regulations, effective January 1, 2025, apply to:

- All new residential, commercial, educational, and municipal buildings
- Major renovations exceeding 40 percent of gross floor area
- Extensions that increase conditioned volume by more than 20 percent

Compliance must be demonstrated at the permit application stage with preliminary energy calculations and, after completion, through a certified Energy Performance Certificate (EPC).

3. Key Performance Metrics

Tampere's ordinance sets the following thresholds:

Metric	New Threshold
Specific heating demand	$\leq 30 \text{ kWh/m}^2\cdot\text{year}$
Primary energy use	$\leq 75 \text{ kWh/m}^2\cdot\text{year}$
U-value, external walls	$\leq 0.14 \text{ W/m}^2\cdot\text{K}$
Airtightness (n50)	$\leq 0.5 \text{ h}^{-1}$
Mechanical ventilation heat recovery	$\geq 80 \text{ percent}$
Minimum ventilation rates	$0.7 \text{ L/s}\cdot\text{m}^2$ (residential)
	$1.2 \text{ L/s}\cdot\text{m}^2$ (commercial)

Meeting these metrics requires integrated design, early energy modelling, and coordination between architects, HVAC engineers, and energy auditors.

4. HVAC Design Implications

Achieving high heat recovery efficiencies demands advanced heat exchanger units. Options include crossflow plate exchangers and rotary enthalpy wheels. Designers must:

- Perform dynamic simulation to optimize duct sizing and fan energy use
- Choose low-pressure drop coils and variable-speed fans to reduce electrical consumption
- Implement demand-controlled ventilation (DCV) with CO₂ and humidity sensors

Balancing energy savings with indoor air quality and thermal comfort is central to system selection and control strategy development.

5. Indoor Climate Requirements

Tampere adopts Finnish indoor climate classification S2 for most building types, emphasizing both comfort and health. Required parameters include:

- Winter operative temperature range of 20 °C to 23 °C
- Summer operative temperature below 26 °C without active cooling
- Relative humidity between 30 percent and 60 percent
- Draft risk threshold under 10 percent at seated level

Sophisticated building management systems (BMS) with weekly scheduling and adaptive control can help maintain these conditions while minimizing energy use.

6. District Heating and Local Renewables

Tampere District Heating supplies over 65 percent of its heat from biomass and recovered industrial waste heat. The ordinance encourages:

- Mandatory connection within network coverage zones
- Solar thermal installations covering at least 8 percent of annual domestic hot water demand
- Ground-source heat pumps with minimum COP of 3.8, eligible for a 10 percent primary energy credit

This hybrid approach leverages centralized renewable heat sources while supporting localized, low-carbon solutions where district networks are unavailable.

7. Incentives and Financial Support

To ease the transition, Tampere offers:

- Zero-interest loans up to €150 000 for high-efficiency HVAC and heat pump installations
- Grants covering 25 percent of additional costs for advanced heat recovery units
- Free technical support vouchers for certified energy audits and system commissioning

These financial mechanisms aim to offset upfront investments and stimulate local contractor capacity building.

8. Compliance Process and Enforcement

Tampere's phased rollout includes:

1. Phase I (Jan–Jun 2025): Pilot projects encouraged to adopt full compliance; simplified reporting for smaller renovations
2. Phase II (Jul 2025–Dec 2026): Mandatory submission of EPC and detailed HVAC energy report at permit stage; minor non-conformities incur warnings

3. Phase III (Jan 2027 onward): Full enforcement with fines up to €40 000 and potential suspension of occupancy permits for significant breaches

Early engagement with the City's Building Inspection Office and submission of preliminary design documents are critical to avoid delays.

9. Role of ASHRAE Nordic Chapter in Tampere

ASHRAE members can accelerate knowledge sharing and policy feedback by:

- Joining Tampere's Energy Stakeholder Forum to present HVAC case studies
- Collaborating with Tampere University's research teams on cold-climate ventilation studies
- Developing localized design guidelines and hosting workshops for industry professionals

Active participation ensures that technical expertise informs regulatory updates and supports consistent, high-quality implementation.

10. Case Study: Hervanta Residential Retrofit

A 1980s apartment block in Hervanta district underwent a pilot retrofit:

- Upgraded to balanced mechanical ventilation with a rotary heat exchanger achieving 83 percent efficiency
- Retrofitted façade insulation to reach external wall U-value of 0.13 W/m²·K
- Installed ground-source heat pump serving both space heating and pre-heating ventilation air

The project delivered a 45 percent reduction in heating energy use and a 28 percent drop in overall primary energy consumption, earning recognition from the City and serving as a template for similar developments.

11. Recommendations for HVAC Practitioners

To navigate Tampere's updated framework effectively, professionals should:

- Integrate energy modelling from project inception to refine HVAC sizing
- Engage certified energy auditors early to align on EPC documentation and verification requirements
- Explore modular, factory-integrated HVAC units to streamline installation and ensure consistent performance

By applying these strategies, HVAC designers and contractors can deliver compliant, high-performance buildings that contribute to Tampere's carbon neutrality and occupant well-being goals.

Tampere's enhanced building regulations present both technical challenges and opportunities for innovation. ASHRAE Nordic Chapter members are ideally positioned to lead the development of resilient, energy-efficient HVAC solutions and to shape the future of sustainable building policy in Finland.

NEW! Certification Study Guide: Certified Decarbonization Professional (CDP)Renewing Full Member Benefit Option

Featuring the following tools, the NEW! [*Certification Study Guide: Certified Decarbonization Professional \(CDP\)*](#) helps professionals improve their knowledge and skills in key CDP exam tasks.

- Exam-length Practice Exam
- Quick Quiz questions
- Exam task-by-task self-assessment linked to ASHRAE resources
- Customizable study map
- Glossary of key terms
- \$59 Member price

In addition to the ASHRAE Handbook PDF, a standard PDF, an eLearning Course, and the Handbook Online, ASHRAE Full Members may select one of four ASHRAE Certification Exam Study Guide PDF's as their ASHRAE Benefit selection when they renew their ASHRAE Membership:

- [*Certification Study Guide: Certified Decarbonization Professional \(CDP\)*](#)
- [*Certification Study Guide: Certified HVAC Designer \(CHD\)*](#)
- [*Certification Study Guide: Building Commissioning Professional \(BCxP\)*](#)
- [*Certification Study Guide: Building Energy Modeling Professional \(BEMP\)*](#)

Visit the ASHRAE [Bookstore](#) today to learn more about these and other ASHRAE publications.

Upcoming Events

Date	Type of Event	Location	Event
Nov 2025	Chapter Meeting	Virtual	Chapter Meeting, Q&A https://ashrae.webex.com/ashrae/j.php?MTID=mc7c7c43591ca6ffccbb985bfeff112e7
Prel. March3 1-April 2 2026	President ial Visit	TBA	ASHRAE President Bill McQuade will visit the Nordic Chapter
16-17 April, 2026	Chapter Event	Copenhag en	Social Event, Chapter Meeting, Technical Seminars



ASHRAE Nordic Chapter Summary

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.