



Why Municipalities Must Lead the Way in Tox-Free Construction



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SUSTAINABLE WATERS

NonHazCity 3

Helsinki

TURKU AMK 

Certifications in sustainable building

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Utilizing green building certification in NHC3 were applied at four distinct levels:

1. Full certification of the building
2. Design or renovation in accordance with certification criteria without formally applying for certification
3. Selective use of elements for specific certification criteria
4. Use of certified building materials

Logbook tool in reducing hazardous material

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The BVB system

- Digital logbook of construction materials and products
- Assesses the chemical content and lifecycle aspects with a user-friendly traffic light system
 - Green: recommended
 - Yellow: accepted
 - Red: to be avoided
- Helps to control hazardous substances and increases the use of more sustainable materials
- Already actively used in Sweden

 **Stockholm, Sweden**

What: 87 apartments in Oldmästaren, Bromma

Aim: Improve indoor air quality and achieve Miljöbyggnad Gold with best available techniques

Guidelines for tox-free, circular and climate- friendly building

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- New construction guidelines for architects, engineers, and contractors
- Focusing on chemical safety, ensuring the decrease in use of hazardous substances
- The three-pillar approach: tox-free, circular, and climate-friendly construction
 - Building materials and exterior cladding and coating materials and products must not contain SVHC substances (Substances of Very High Concern)
 - Building materials used in internal surface structures and fixed furniture must be M1 classified building materials
 - Chosen materials and products must be primarily Nordic Swan eco-labelled, EU-labelled, or equivalent Type 1 eco-labelled materials certified by a reliable third party

 **Helsinki, Finland**

What: Safer buildings with new building material instructions

Aim: Update instructions for architects, engineers, and contractors so that hazardous substances in construction materials are considered sufficiently

Logbook tool in finding non- hazardous construction material

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- Using the BVB system to assess the chemical content of the construction materials
- Ensuring the use of sustainable materials in a construction project
- As the outcome of the pilot, the building was constructed with simple, natural and long-lasting materials
- A roadmap for achieving toxin-free buildings in the future was created
- The pilot taught how important it is to collect quality data to ensure traceability and assessment of construction materials

 **Holbæk, Denmark**

What: Kindergarten construction project

Aim: Assess whether building materials met low-chemical requirements expected from sustainability certifications

Internal team as a key to success

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- The dedication of the team and common internal alignment in finding sustainable solutions is important in building a tox-free, circular and climate-friendly future
- Dialogue with suppliers to identify suitable materials with the environmental requirements and explore new sustainable options in the market
- The importance of internal communication: regular discussions and meetings to align the project team with sustainability goals and ensure that all team members understand the project's environmental objectives and their roles in achieving them

 **Riga, Latvia**

What: Residential redevelopment and renovation of a social apartment **Aim:** Tox-free, circular and climate-neutral renovation

 **Tallinn, Estonia**

What: Kindergarten construction project **Aim:** Prepare for the construction of a sustainable new building using fewer toxic substances and building materials & energy efficient solutions

Strategic solutions for managing hazardous substances

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- The three-pillar approach for tox-free, circular, and climate friendly public procurement was integrated into the key steps of strategic management process:
 - **Needs investigation:**
 - Reducing environmental impact while ensuring economic feasibility by incorporating criteria from ready set standards, certificates, and eco-labels
 - **Vision and ambition setting**
 - Encouraging municipalities to set higher standards for building materials than the national legislation requires
 - **Market analysis and dialogue**
 - A sustainability workshop for all stakeholders to present goals and requirements for the project
- A non-toxic, climate-neutral preschool following a collaborative contract model to ensure sustainable solutions throughout the entire project

 Västerås, Sweden

What: Kindergarten with Miljöbyggnad Gold standard for energy, circularity, and chemicals
Aim: Tox-free and climate-friendly preschool focused on sustainability, flexibility and cost-efficiency