Towards circular construction in Helsinki

Circular Procurement Summit 2021

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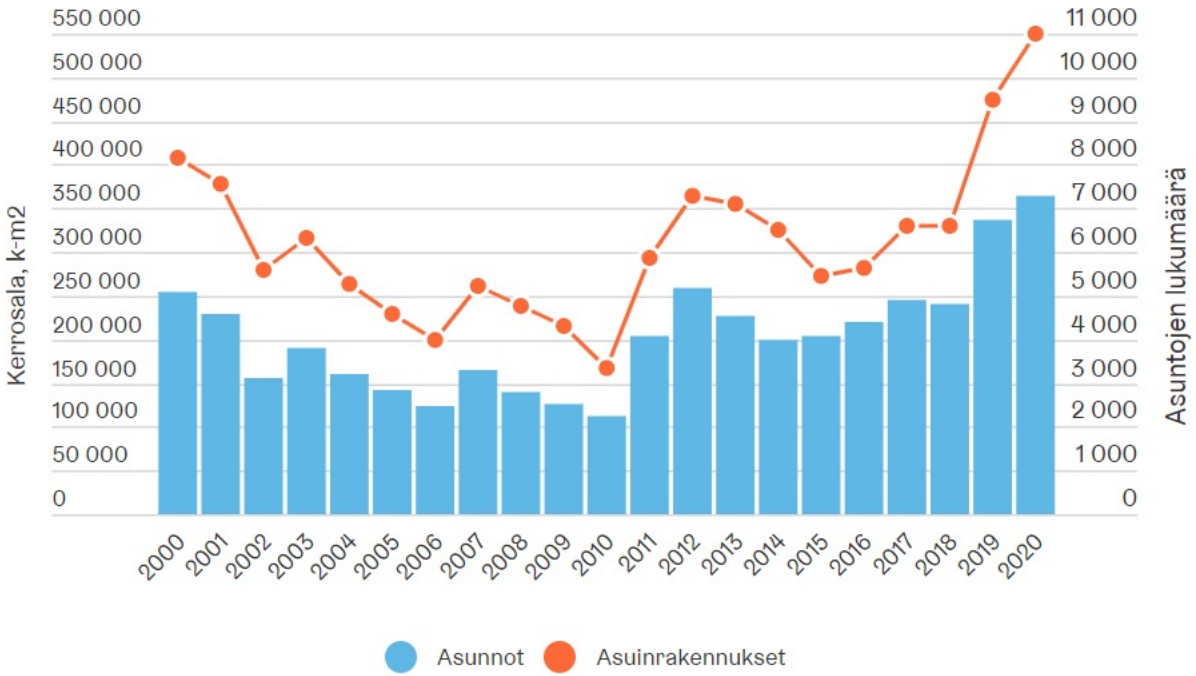
Photo: Tuomas Uusheimo, Helsinki Marketing

About Helsinki

- The capital of Finland
- 650 000 inhabitants – the biggest city in Finland by population
- A growing city!

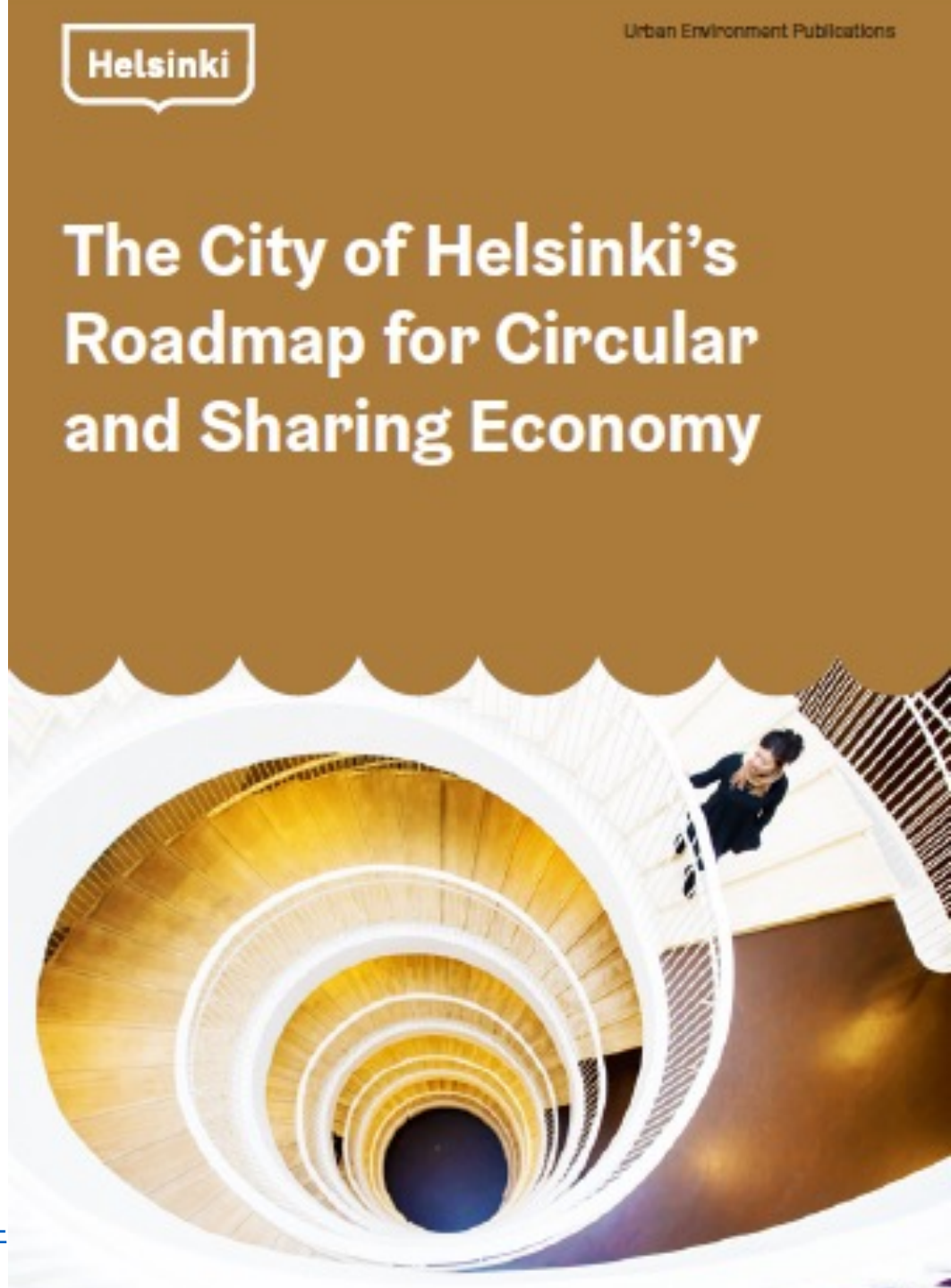


- **Adopted in 2020**

- **Four focus areas**:
  - Construction
  - Procurements
  - Green waste
  - Sharing economy and new business opportunities in circular economy

- **Circular economy goals for 2035** – advancement step by step, through interim goals

- Altogether **31 concrete actions**, now set for 2020 – 2025 → update



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https://www.hel.fi/static/kanslia/Julkaisut/the-city-of-helsinkis-roadmap-for-circular-and-sharing-economy.pdf

Circular economy goals in construction

2020–2021	2021–2025	2025 →	2035
We will create shared understanding of circular economy in the City's own construction projects and commit to this.	We will prepare and adopt new circular economy requirements and procedures that promote circular economy.	We will take the lifecycle costs of construction sites into account when making decisions about construction.	We will implement carbon-neutral circular economy in land use and construction; this means an economy where natural resources are used sparingly and their lifecycle carbon footprint is small.
We will increase knowledge and competences in the City's own construction projects to define circular economy requirements.	We will continue the pilots of various circular economy requirements.	We will establish circular economy criteria and new procedures for construction in the City's own construction projects, design competitions and plot conveyance conditions.	
We will pilot the first circular economy requirements in the City's own construction projects, design competitions and plot conveyance conditions.		We will apply circular economy requirements on market-determined construction through land use planning and licencing, among other measures.	

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Construction: Actions for 2020–2025

11. Planning and implementing new construction and renovation projects that follow the principles of circular economy.

- The planning will focus on the following circular economy criteria: **smart use of building materials, flexible modifiability, modularity, use of recycled and repurposed materials, maintainability and repairability, ease of demolition and reusability**.
- Calculating the **lifecycle costs and carbon footprint** of each project.

Party responsible:*Buildings and Public Areas / Built Assets Management /Construction Contracting / Housing Production, Heka, HKL*
Schedule: *2020 - 2025*

Circularity Watch

- **A realtime follow up –website** for the actions in the roadmap
- Separate page for each action, including **scheduled tasks for concrete implementation**
- **Increased transparency** of the city's operations

https://kiertotalousvahti.hel.fi/

Case: Asetelmakatu DB project: Carbon footprint to steer the procurement

Kuninkaantammi wooden blocks of flats

- Subject: **four wooden blocks of flats plus an underground garage** located in northern Helsinki

- **Design-build contract**

- Technical obligations including:
  - The subject is carried out as a wooden building
  - Energy efficiency of the bulding has to be A-class
  - Renewable energy must be utilized
  - The annual efficiency of ventilation system minimum 70 %

- **Criteria for comparison**
  - Price 50 %
  - Climate criteria 20 %
    - Carbon footprint (14 points)
    - Better than a minimum requirement E-number (6 points)
  - Architectural and technical quality 30 %

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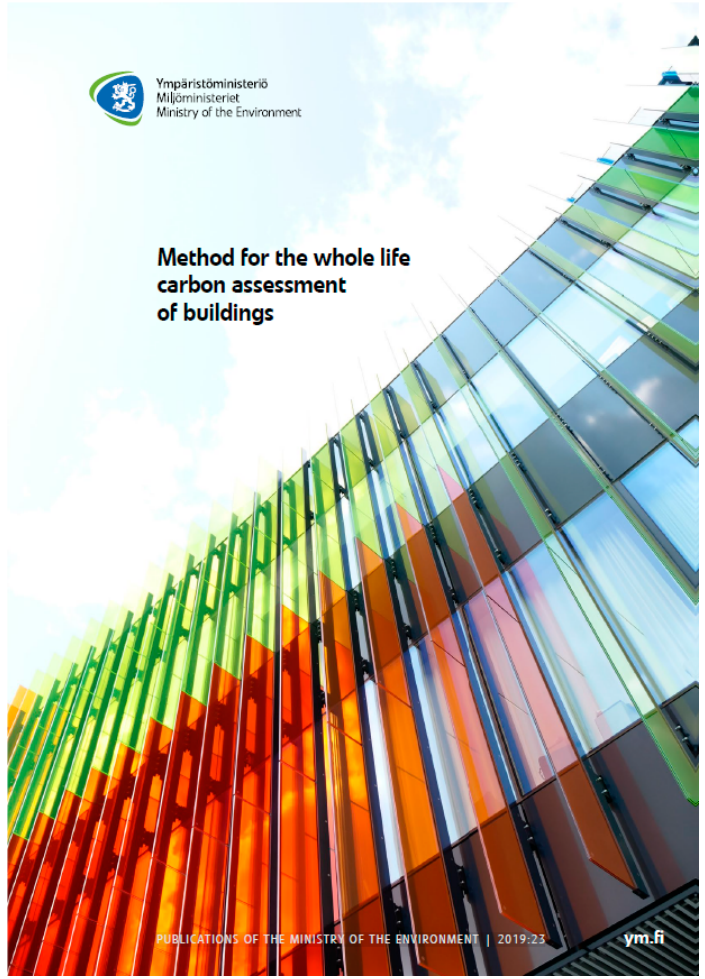
CANEMURE
LIFE17 IPC/FI/000002
LIFE-IP CANEMURE-FINLAND
The LIFE-IP CANEMURE-FINLAND project has received funding from the LIFE Programme of the European Union.

Using LCA-tool in tendering and on the contract period

- The tenderers calculated the subject's carbon footprint using the Bionova One Click LCA tool
  - Tool was shared for the tenderers
  - Tenderers were provided with training session and user manual

- In Finland the Ministry of the Environment published a method for the whole life carbon assessment of buildings. It is based on the European Commission's Level(s) method and European Standards.
  - ➢ The carbon assessment is carried out in accordance with this national level method and with EN 15978 standard.

- The subject's carbon footprint is calculated twice
  - First during the planning phase and again after the construction phase



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One Click LCA

Two offers were received.

Finally the winner was found through negotiation process.

Unfortunately the winner's plan was less ambitious in terms of carbon footprint and E-number.

Lessons learned

It can be wise to try comparing the carbon footprint of the tenders in traditional project rather than wooden building project.

Monitoring the carbon footprint during the contract period is important.

Scoring the carbon footprint of the tenders is still problematic.

Always, always make time for market dialogue!

Thank you!

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