

Net Zero Concept of the New Neighbourhood Ilokkaanpuisto

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**EU Horizon project (2017-2024)
that has tested and validated
technologies that help
achieving**

- **The Carbon Neutral EU 2050**
- **The Carbon Neutral Finland 2035**
- **The Carbon Neutral Tampere 2030**

[Stardust \(stardustproject.eu\)](http://stardustproject.eu)

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Requirement of the Energy Performance of Buildings Directive

EPBD (2010, 2018): December 2020, all new buildings are nearly zeroenergy buildings.

Coming EPBD*: New buildings are zeroemission buildings and equipped with solar energy installations.

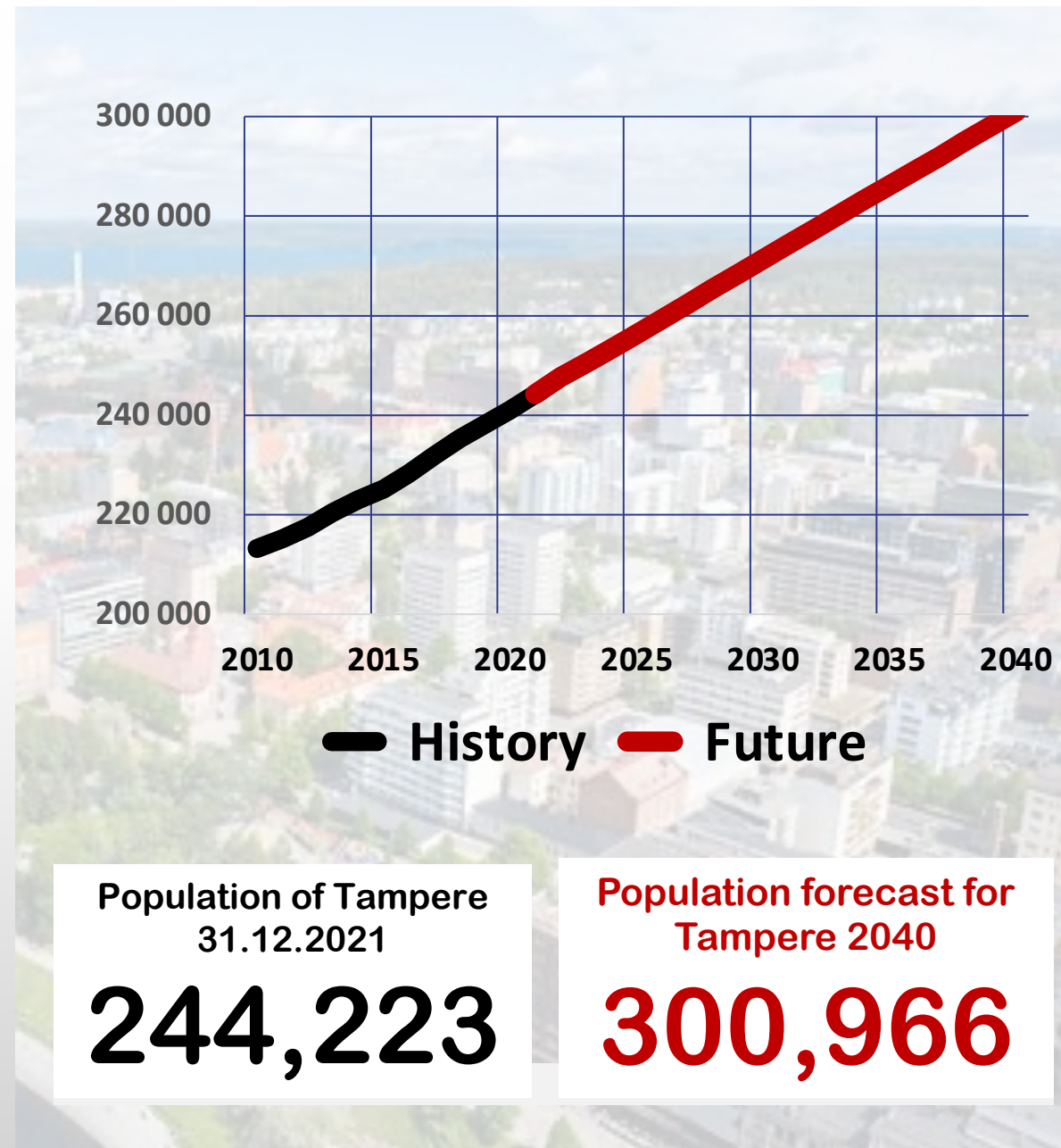
Zero or a very low amount of energy required is covered to a very significant extent **by energy from renewable sources**, including energy from renewable sources produced **on site or nearby**.



**Under trilogy (6.11.23)*

Tampere is one of Finland's three growing cities.

This has encouraged the search for ways and test of carbon neutral new building construction.



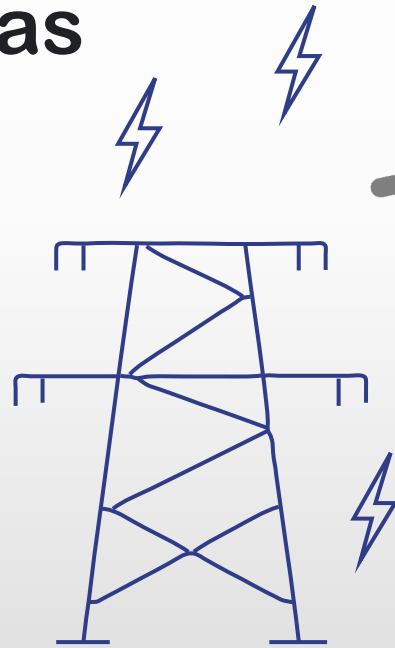
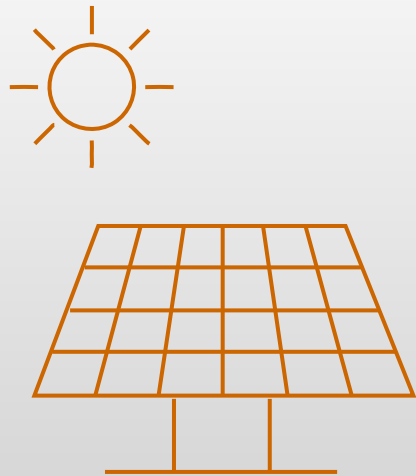
Net Zero Residential Neighbourhood

- New neighbourhood in a densely built urban environment
- Jointly owned PV plant in rural areas with enough power to fill annual consumption.



100 % renewable energy for housing

The grid serves as a virtual battery



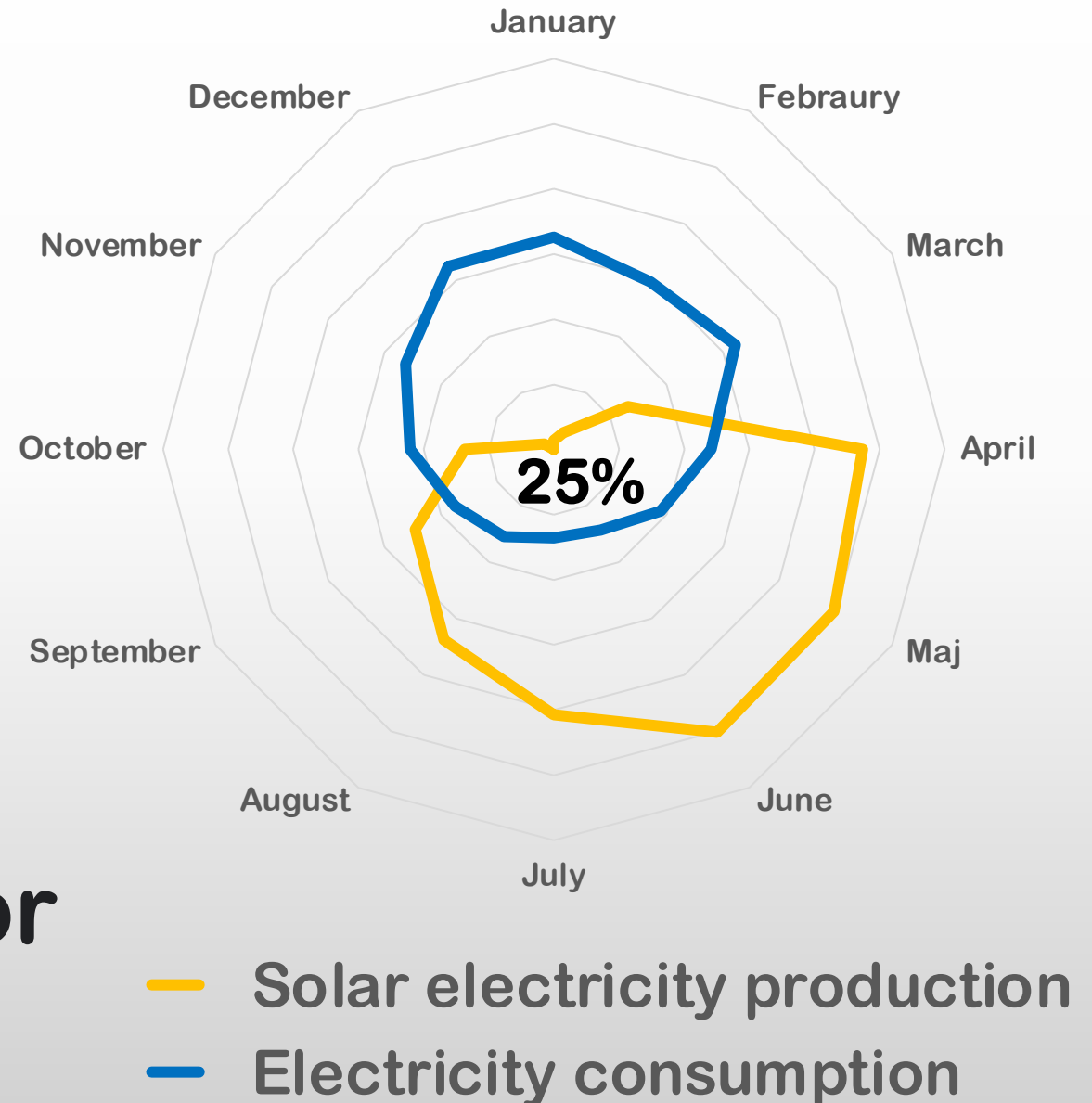
Free energy for the geothermal heat pump

Free energy for households



The balance of this concept

- 25% of the year's hours production exceeds consumption.
- The rest of the hours the grid serves as a virtual battery i.e. stores or delivers electricity.



Benefits and lessons learnt of Net Zero Concept Ilokkaanpuisto

- Households receive affordable energy (energy 0 cent/kWh, virtual battery service and network charge < 10 cent/kWh).
- Tampere Utility Company developed new a two-way virtual battery service for the energy communities.
- City of Tampere learnt how new buildings in urban environment can fill the coming requirement of zeroemission.

THANK YOU

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More information:
<http://stardustproject.eu>



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