
District heating/cooling energy efficiency labels

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Topic

- Introduction
- Energy efficient DH labels
- Future perspective



Estonian Power and Heat Association

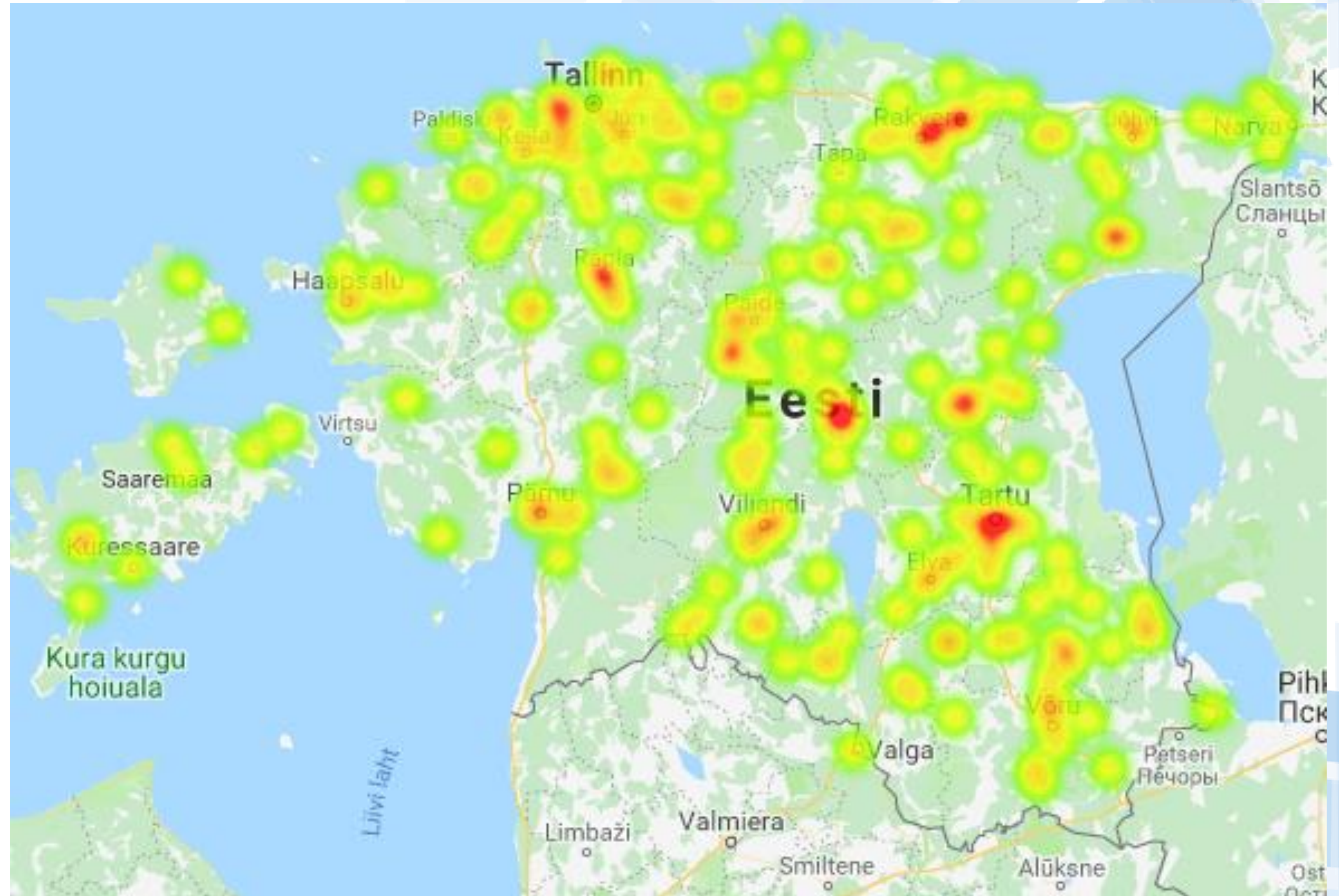
- established 1995
- voluntary, nongovernmental and special interest organization for energy companies, municipalities etc
- 35 members



- www.epha.ee / <https://www.facebook.com/kaugkute/>

Estonian DH

- 79 municipalities
- 75 municipalities have DH networks
- Ca 220 DH areas
- Average temp. 7.2°C (norm 6.4°C).

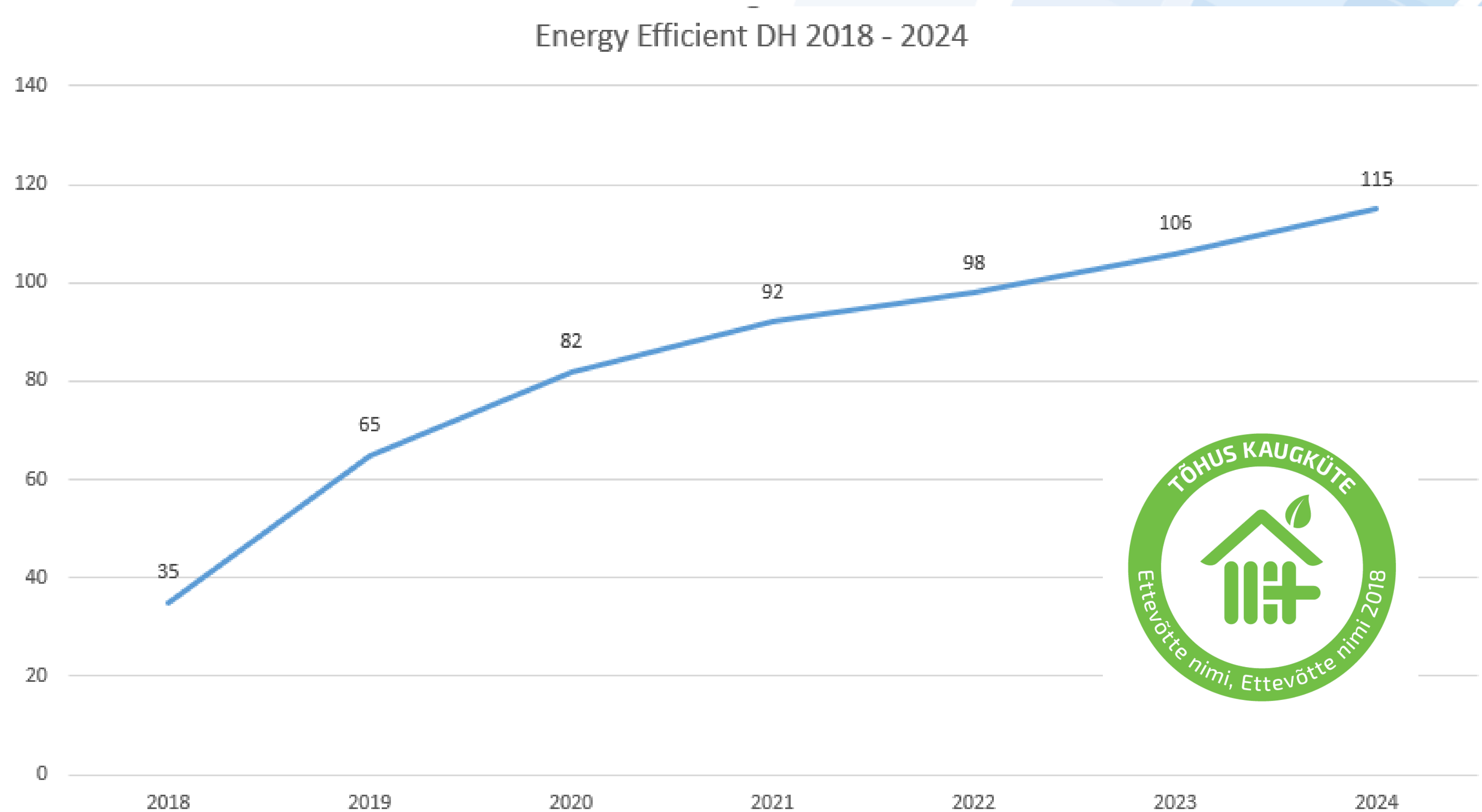


Energy efficient DH and DC

- Green Deal – energy efficiency first principle!
- EEDH statute and logo launched 2018/2020 in cooperation of TalTech university (2012/27/EC).
- 115 EEDH networks in Estonia
- 3 EEDC networks in Estonia
- <https://www.sciencedirect.com/science/article/abs/pii/S095717872100165X>



Evolution of label use



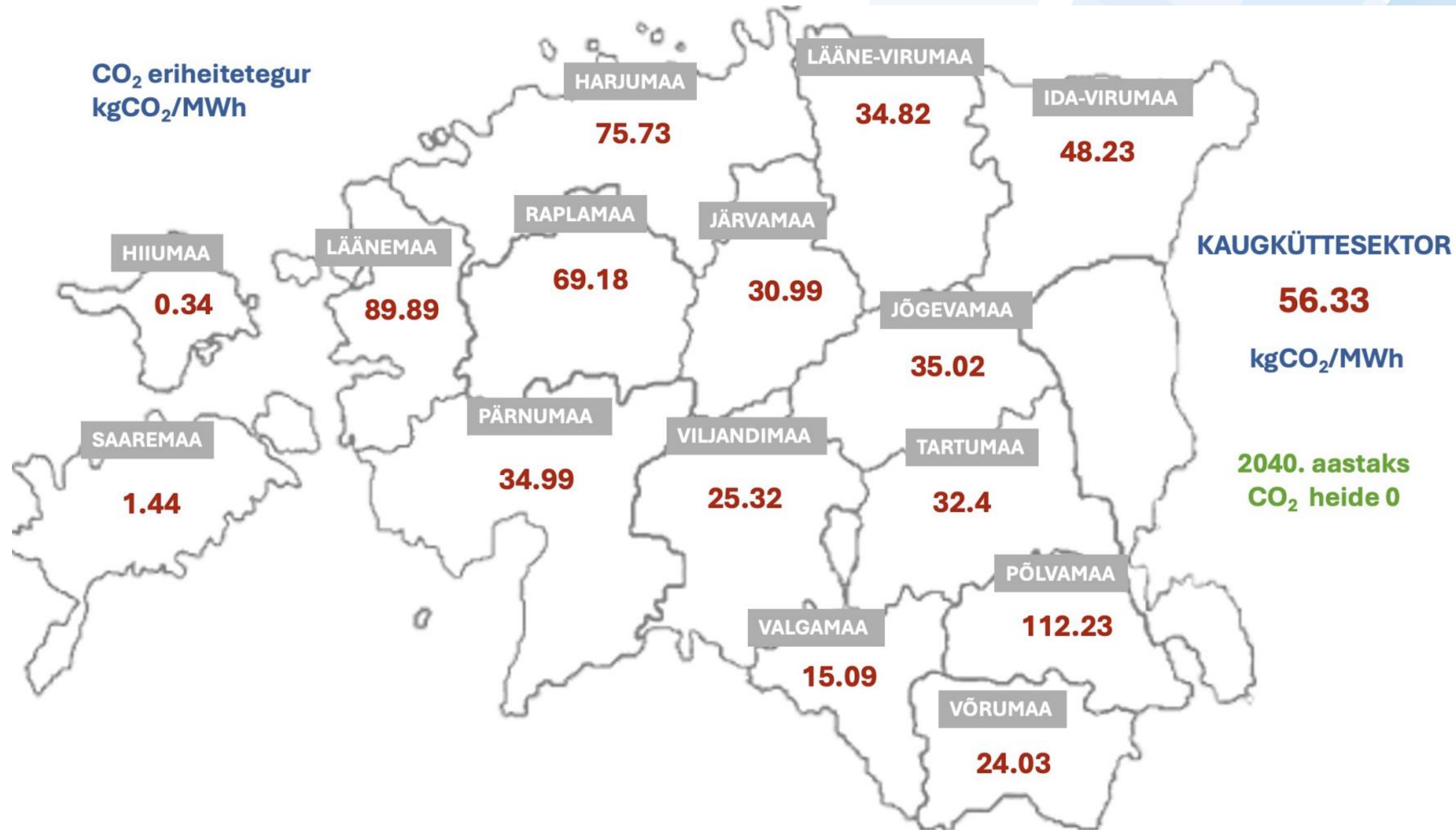
More ambitious expectations

- EED was revised 13. September 2024 (EC 2023/1791) and in chapter heating and cooling supply art 26 is reworded
- Art 26 p 1: an efficient district heating and cooling system shall meet the following criteria:
 - (a) until 31 December 2027, a system using at least 50 % renewable energy, 50 % waste heat, 75 % cogenerated heat or 50 % of a combination of such energy and heat;
 - (b) from 1 January 2028, a system using at least 50 % renewable energy, 50 % waste heat, 50 % renewable energy and waste heat, 80 % of high-efficiency cogenerated heat or at least a combination of such thermal energy going into the network where the share of renewable energy is at least 5 % and the total share of renewable energy, waste heat or high-efficiency cogenerated heat is at least 50 %;
 - (c) from 1 January 2035, a system using at least 50 % renewable energy, 50 % waste heat or 50 % renewable energy and waste heat, or a system where the total share of renewable energy, waste heat or high-efficiency cogenerated heat is at least 80 % and in addition the total share of renewable energy or waste heat is at least 35 %;
 - (d) from 1 January 2040, a system using at least 75 % renewable energy, 75 % waste heat or 75 % renewable energy and waste heat, or a system using at least 95 % renewable energy, waste heat and high-efficiency cogenerated heat and in addition the total share of renewable energy or waste heat is at least 35 %;
 - (e) from 1 January 2045, a system using at least 75 % renewable energy, 75 % waste heat or 75 % renewable energy and waste heat;
 - (f) from 1 January 2050, a system using only renewable energy, only waste heat, or only a combination of renewable energy and waste heat.

Or alternative solution for EEDH

- Art 26 p 2: Member States may also choose sustainability performance criteria based on the amount of GHG emissions from the district heating and cooling system per unit of heat or cold delivered to the customers
 - (a) until 31 December 2025: 200 grams/kWh;
 - (b) from 1 January 2026: 150 grams/kWh;
 - (c) from 1 January 2035: 100 grams/kWh;
 - (d) from 1 January 2045: 50 grams/kWh;
 - (e) from 1 January 2050: 0 grams/kWh.

Study: overview of Estonian district heating sector 2022




Biomass sustainability and waste-heat

- From 01.01.2023 biomass fuels must comply sustainability criteria according RED2 (>20MW) and soon according RED3 (>7,5MW).
- data of used biomass fuels must be collected and recorded.
- all units in the supply chain of biomass fuels must collect relevant information about the origin of the biomass and necessary information must be included with each delivered lot (from forest or from industry)
- In the case agricultural origin (non-forest land), each shipment must include information explaining which cadastral unit the biomass was collected from.
- Digital supply chain introduced
- Foster use of waste heat



Future

- District heating reform and preparation of Climate Law
 - Zero emission heating-cooling sector 2040
 - Low temperatures
 - More waste heat
- 



Thank you!

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