



Thermal Micro Grid – A European Solution for Smarter Cities

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E.ON
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Forward to zero

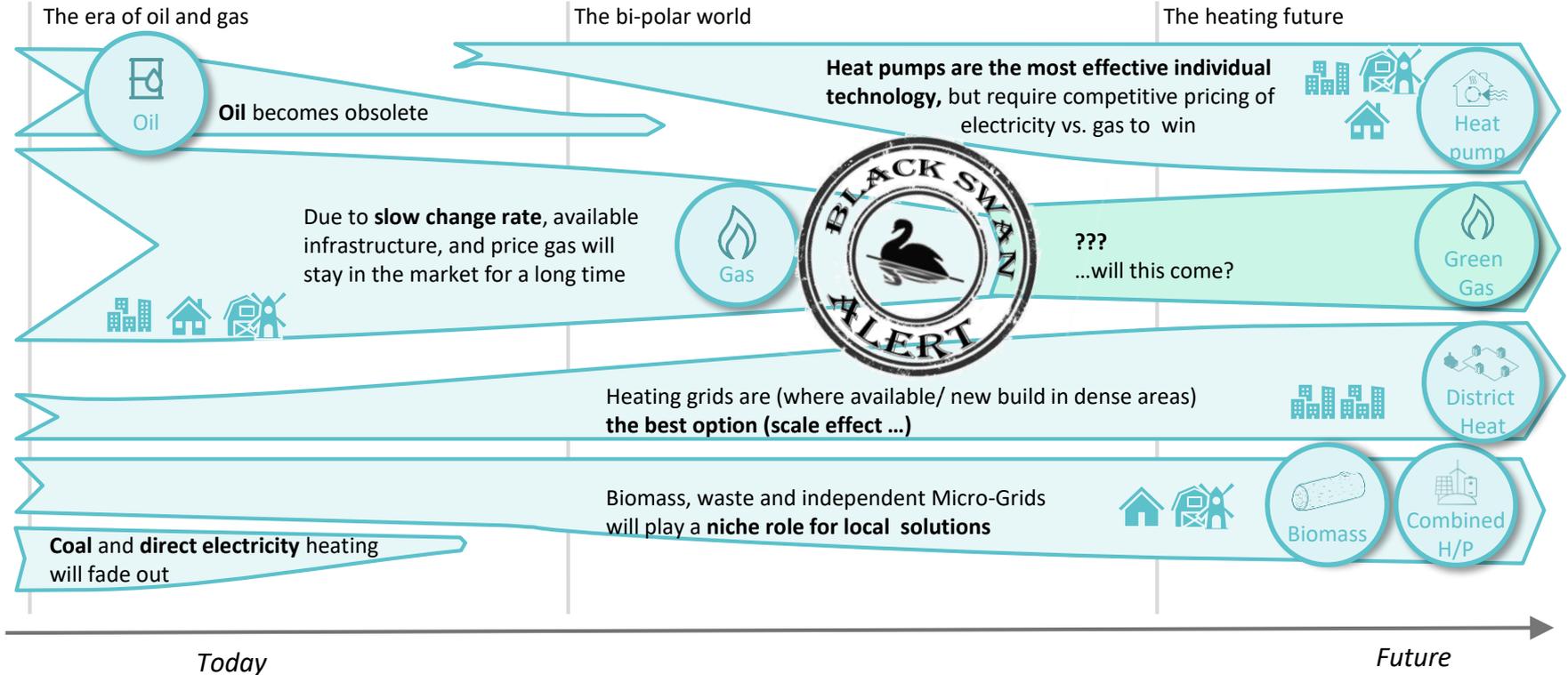
Urbanization and sustainability are drivers in shaping the new decentral energy landscape.

The ectogrid™ technology is a key enabler for energy efficiency and reducing CO2 emissions from heating and cooling.

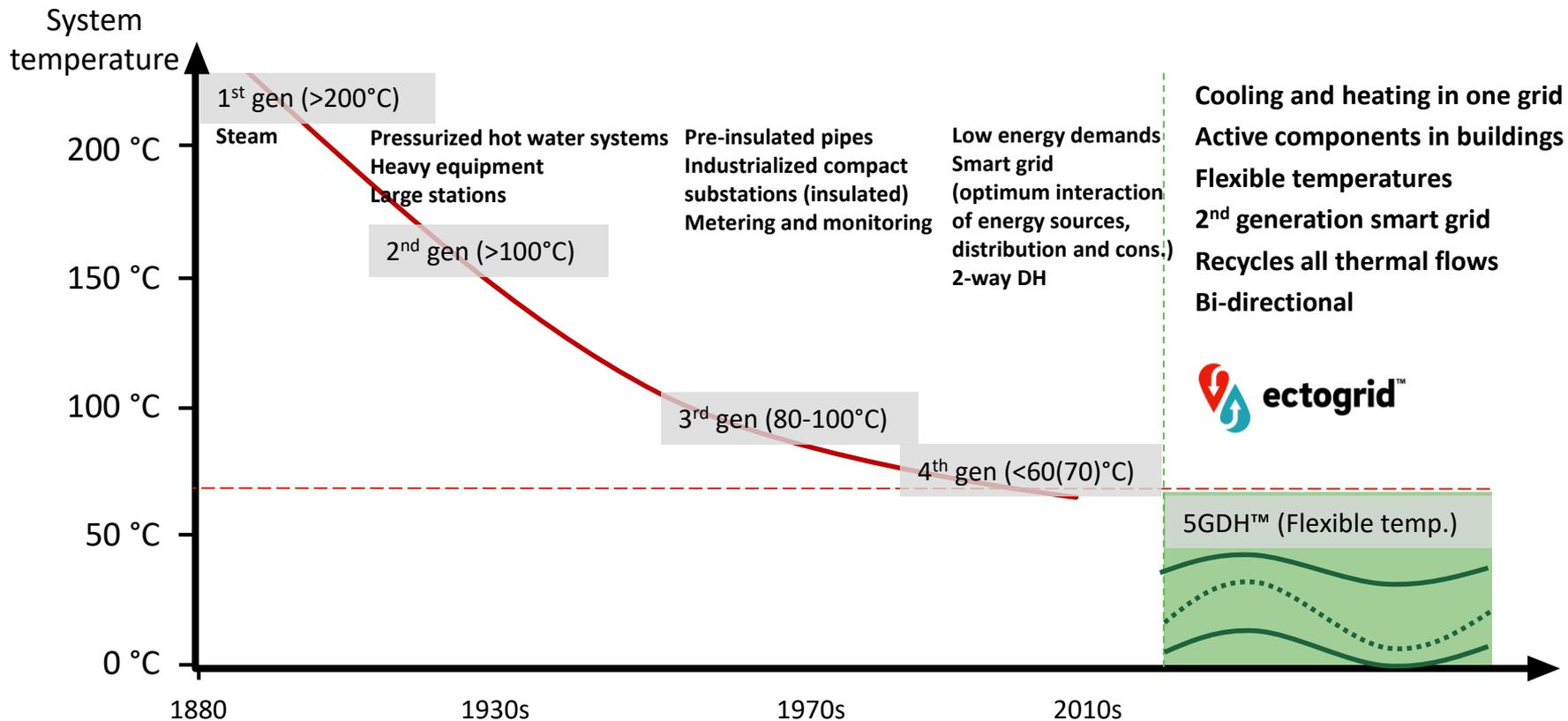
The logo for e.on, featuring the lowercase letters 'e.on' in a bold, red, sans-serif font. The background of the entire slide is a satellite-style image of a city at night, with lights from buildings and streets glowing against a dark sky. A vertical teal bar is on the far left edge.

e.on

The heating market is changing



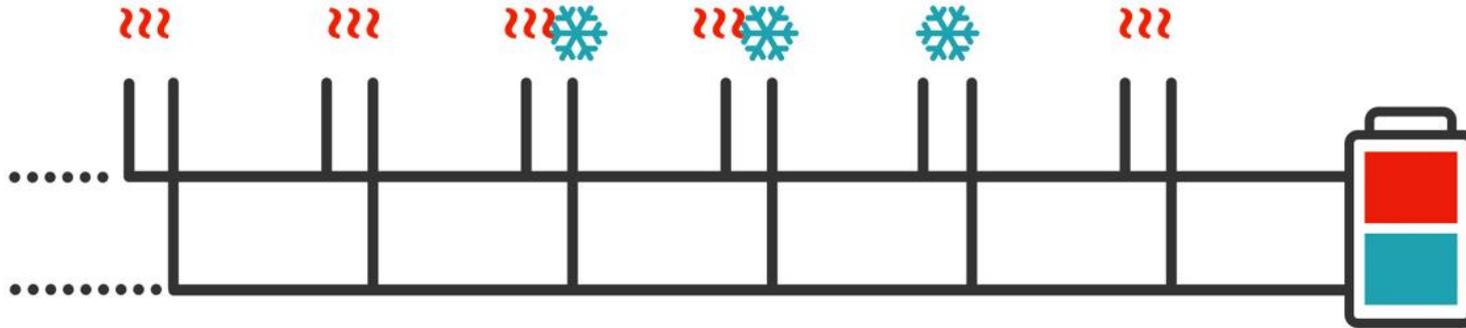
Heating grids development



How ectogrid™ works

Buildings connected to the same system provide each other with heating and cooling.

- ✓ The most energy efficient heating and cooling solution
- ✓ Cheaper to build - one grid serves 2 utilities
- ✓ Cheaper to operate
- ✓ Highly flexible (DH, DC, Geothermal, Data Center, Industry, Gas CHP, HP, etc.)

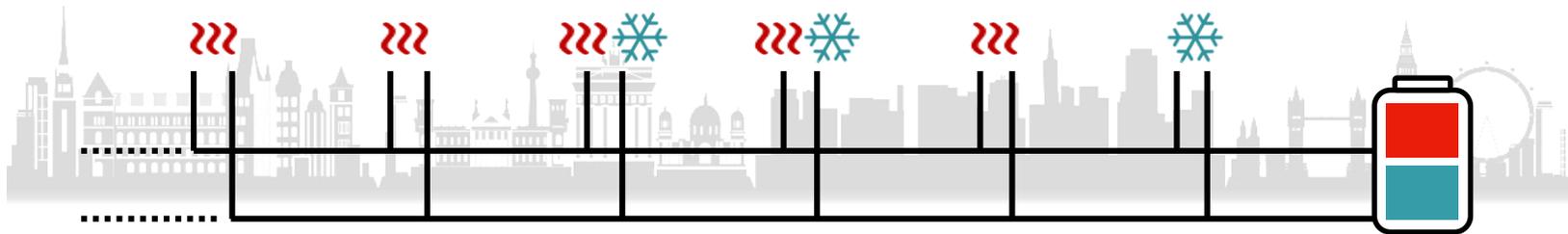
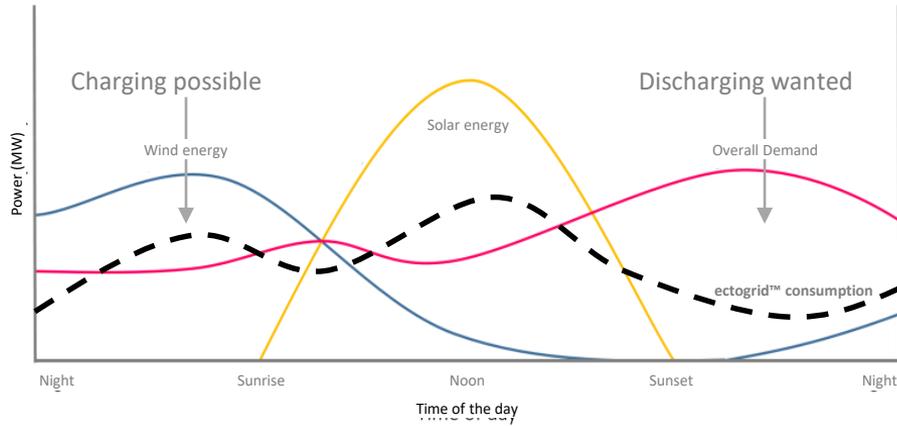


Energy optimization as a Service - ectocloud™

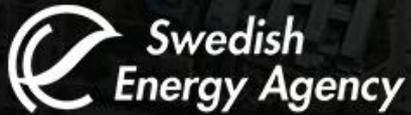
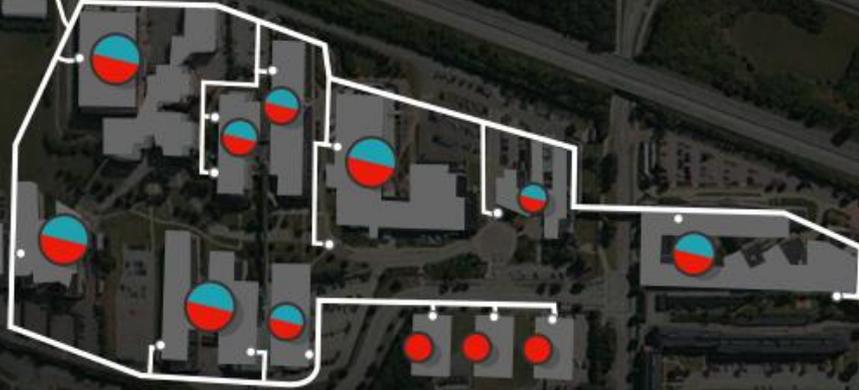


ectocloud™ creates and captures flexibility

Renewable production and consumption in defined area



Full scale commercial demonstration project

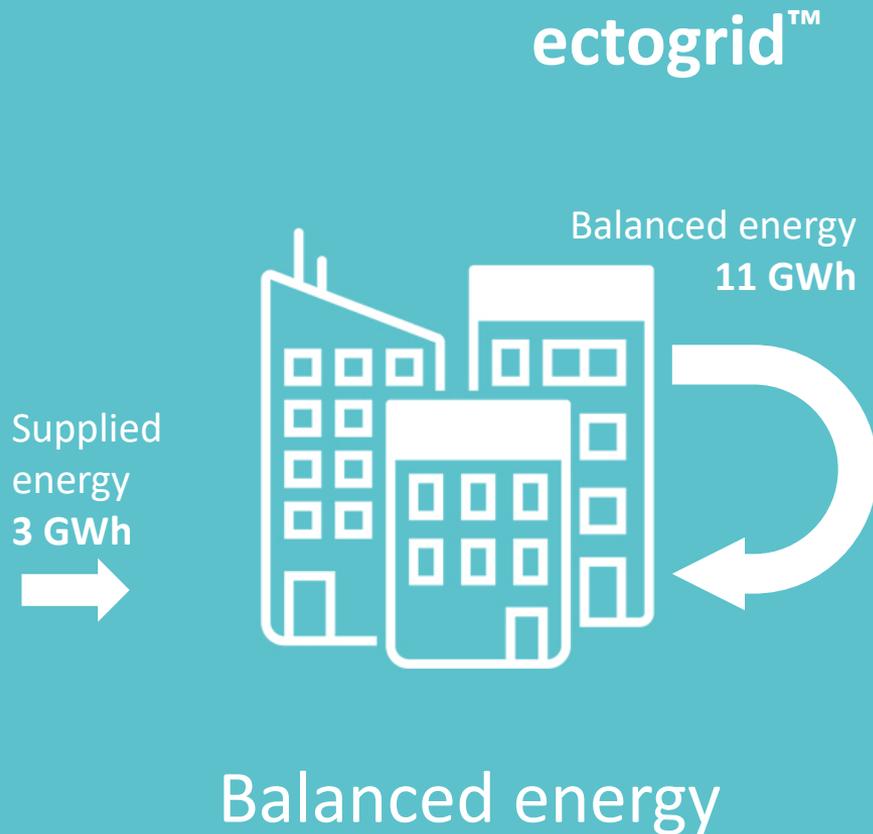


RESULT

ectogrid™ at Medicon Village results in a reduction of the;

Supplied Energy	- 78,5 %
Energy bill for customer	- 20 %

This is a zero emission energy system



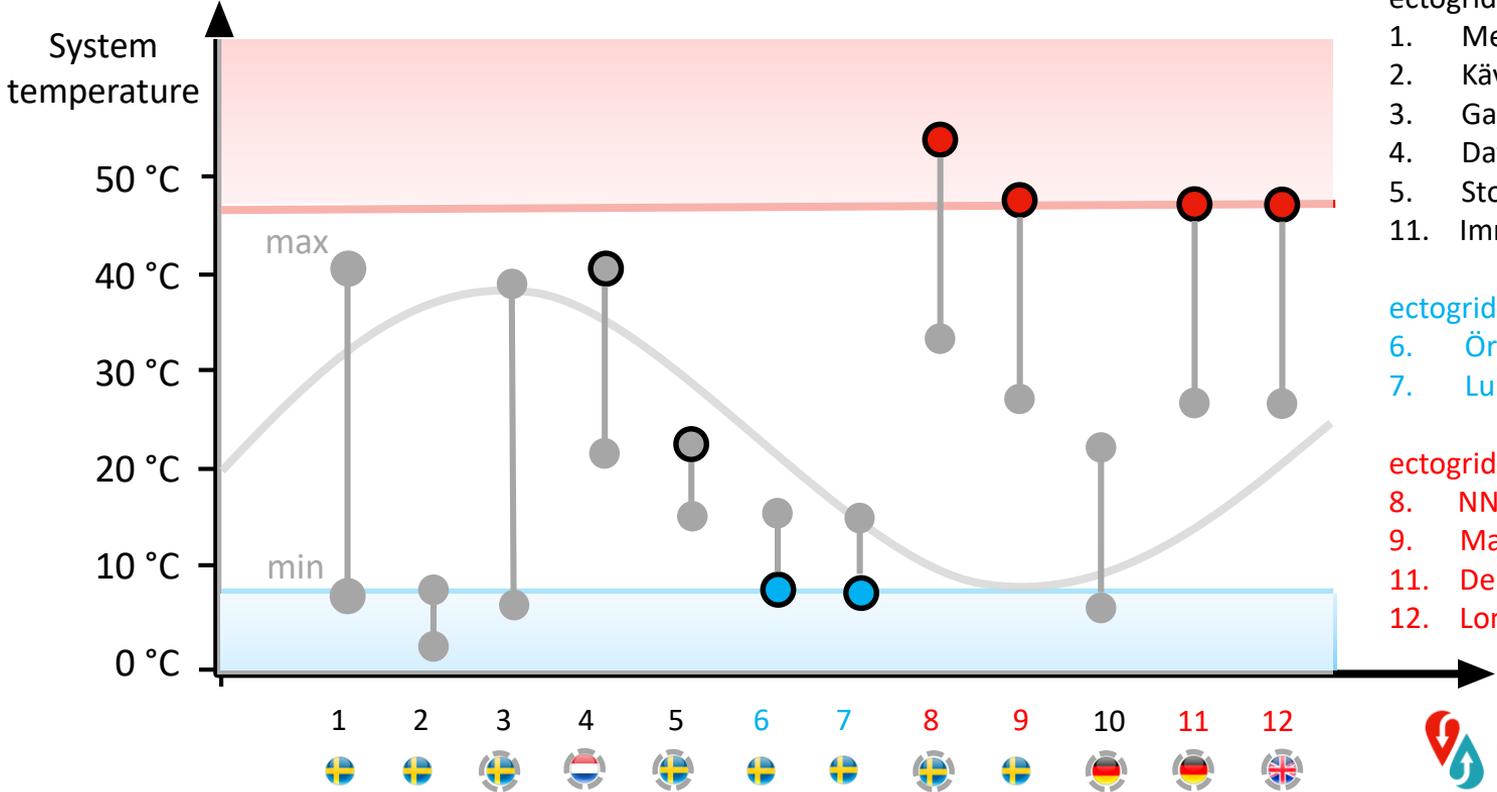
Local conditions determines type of ectogrid™

- Dominant energy source
- Local source
- DH Hybrid
- DC hybrid

- ectogrid™
1. Medicon 5/40 °C
 2. Kävlinge ~8 °C
 3. Galleria 0/40 °C
 4. Data Center 40/20 °C
 5. Stockholm 23/10 °C
 11. Immendingen 6/25 °C

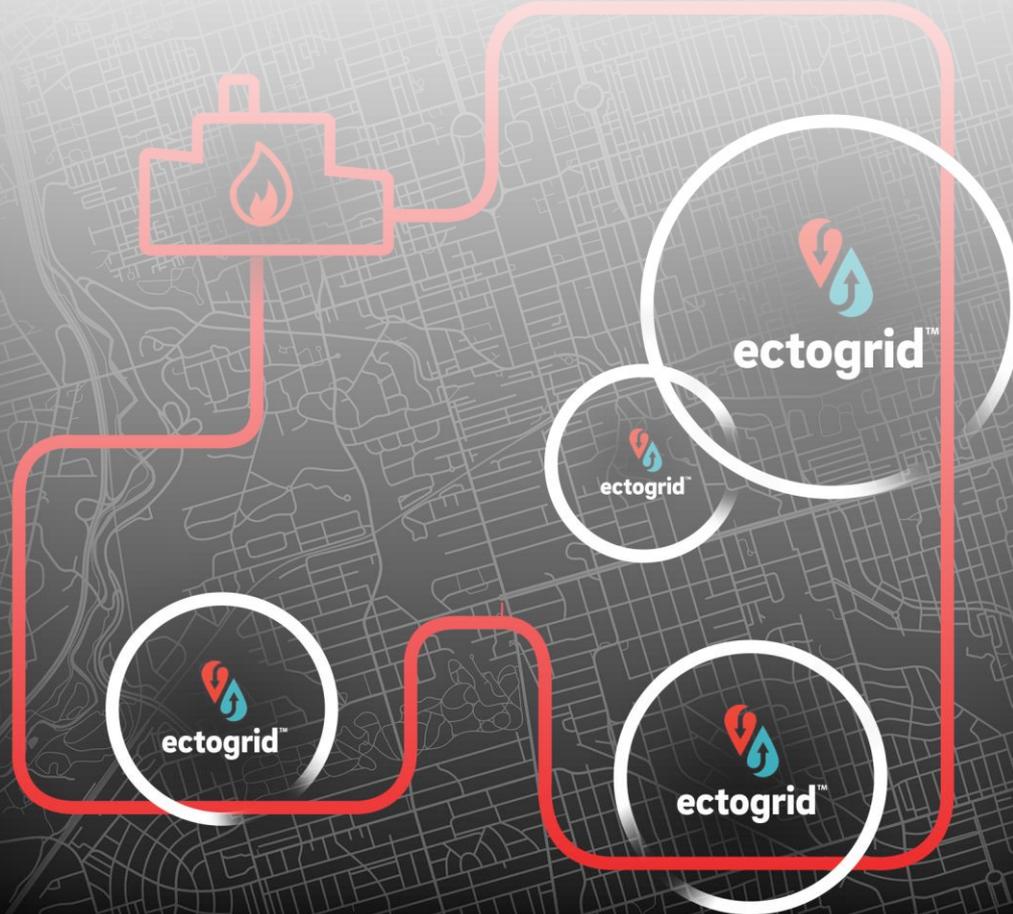
- ectogrid™ DC hybrid
6. Örebro 6/16 °C
 7. Lund 6/16 °C

- ectogrid™ DH Hybrid
8. NN 55/25 °C
 9. Malmö 45/20 °C
 11. Deutz Areal 45/20 °C
 12. London 45/20 °C



Heat pumps and DH in a perfect combination

– leveraging the best properties of each



Similar to the power grids

- High voltage
- Low voltage

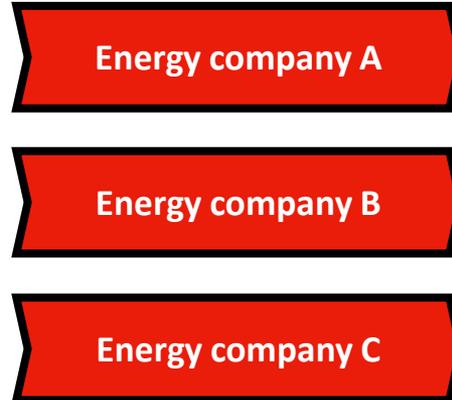
Heating *and* cooling is offered to the customer

Business model designed for global scalability

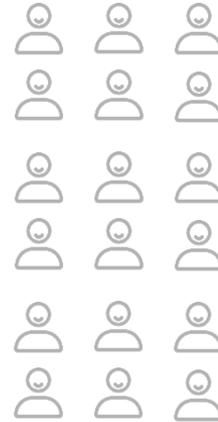
ectogrid™ licensing offer



ectogrid™ partners



End-customers



The ectogrid™ business model drives CO2 efficient solutions for heating and cooling globally

ectogrid™ – A thermal Microgrid solution delivering a zero carbon solution for the worlds heating and cooling needs

- ✓ The most energy efficient heating and cooling solution
- ✓ Cheaper to build - one grid serves 2 utilities
- ✓ Makes use of low temperature surplus heat
- ✓ Energy optimization as a service
- ✓ Creates and captures flexibility
- ✓ Available for all ectogrid™ partners

