



# Fortum Värme Company Presentation

- Abbreviated version for Stockholm Data Parks

# Fortum Värme – part of the Fortum Group

Nordic market position:

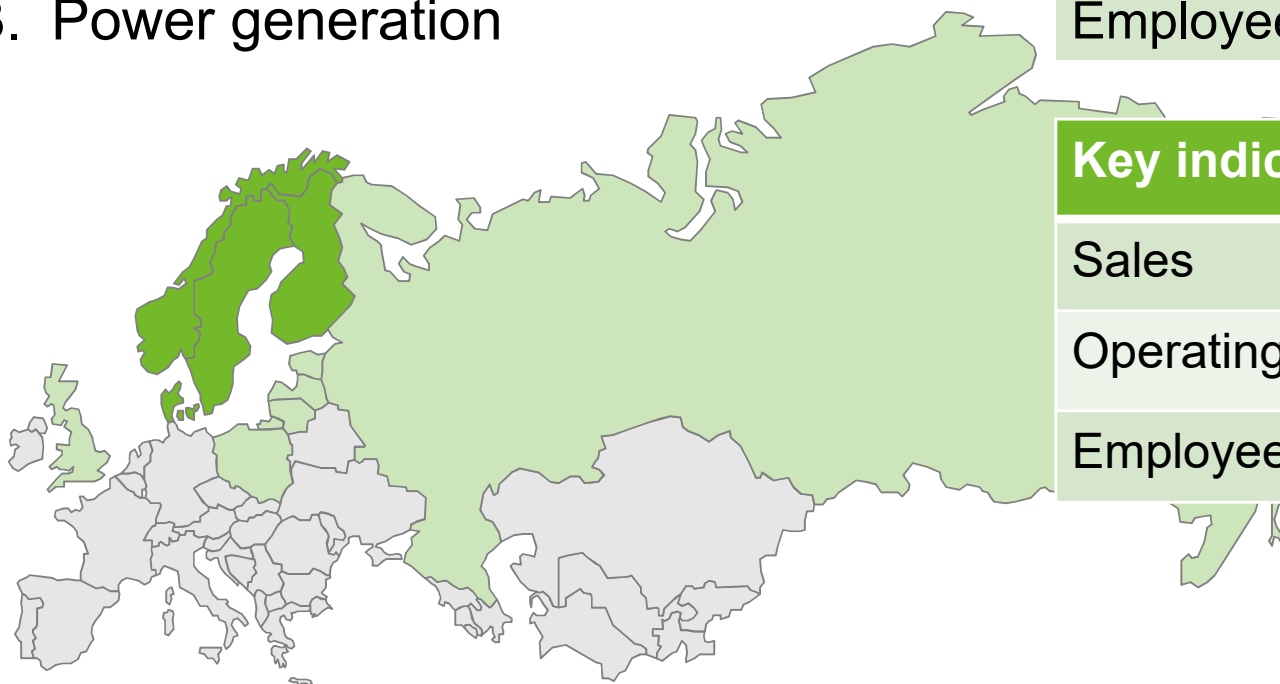
1. Heat and cooling
2. Electricity sales
3. Power generation

## Key indicators 2015, Fortum Värme

Sales	6 175 MSEK
Operating profit	1 610 MSEK
Employees	approx. 700

## Key indicators 2015, Fortum Group

Sales	EUR 4.8 billion
Operating profit	EUR 1.4 billion
Employees	8 800



# Fortum Värme – largest supplier in the Nordics

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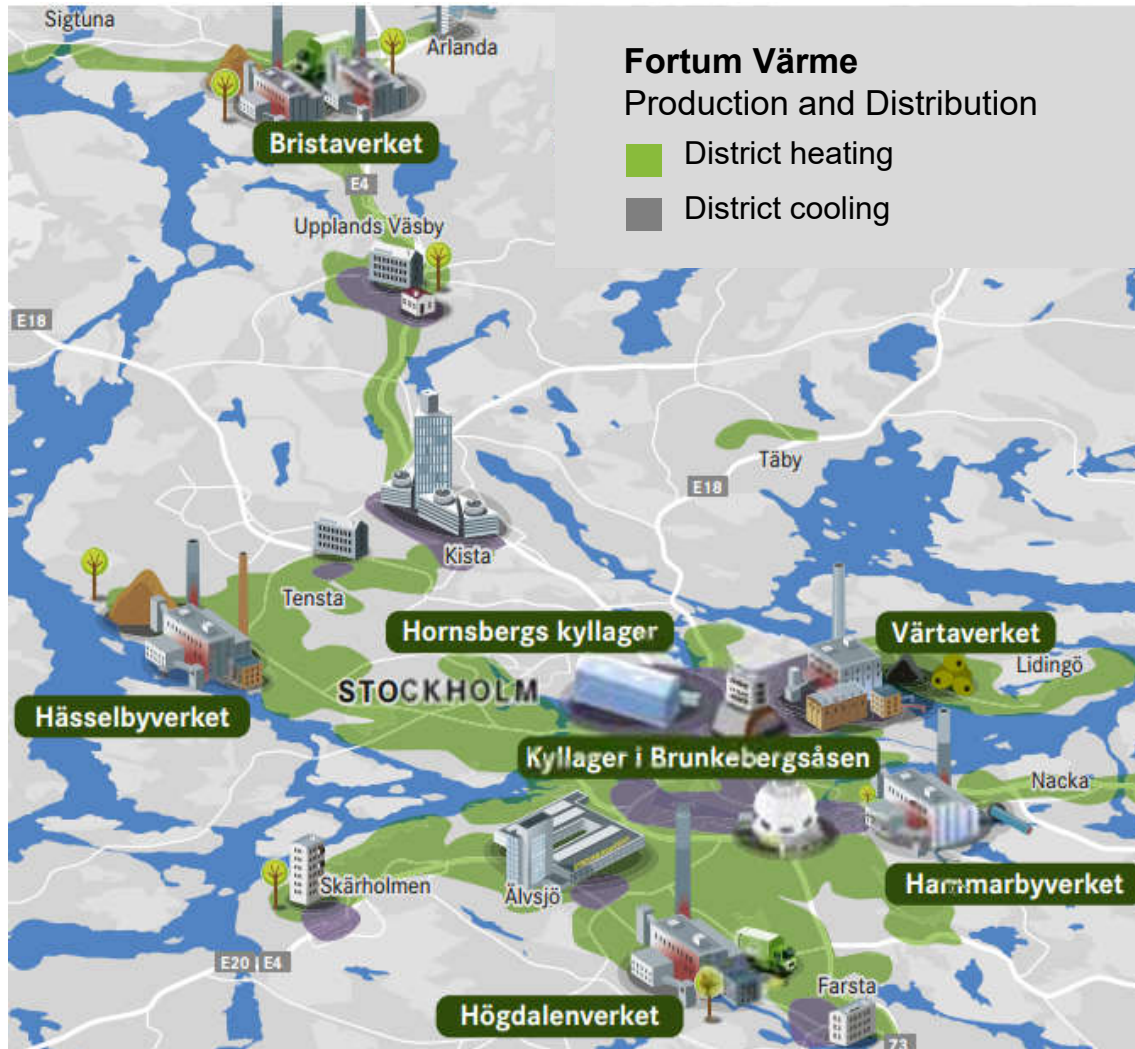
Largest supplier of district heating and cooling in the Nordics:

- More than 10 000 customers
- World's first combined cooling and heat recovery offering for data centers
- Ownership structure
  - 50% City of Stockholm
  - 50% Fortum Power and Heat AB

## Sales 2015

Heating	7 417 GWh
Cooling	361 GWh
Gas	102 GWh
Electricity	1 187 GWh
<b>Total</b>	<b>9 067 GWh</b>

# Fortum Värme – largest supplier in the Nordics

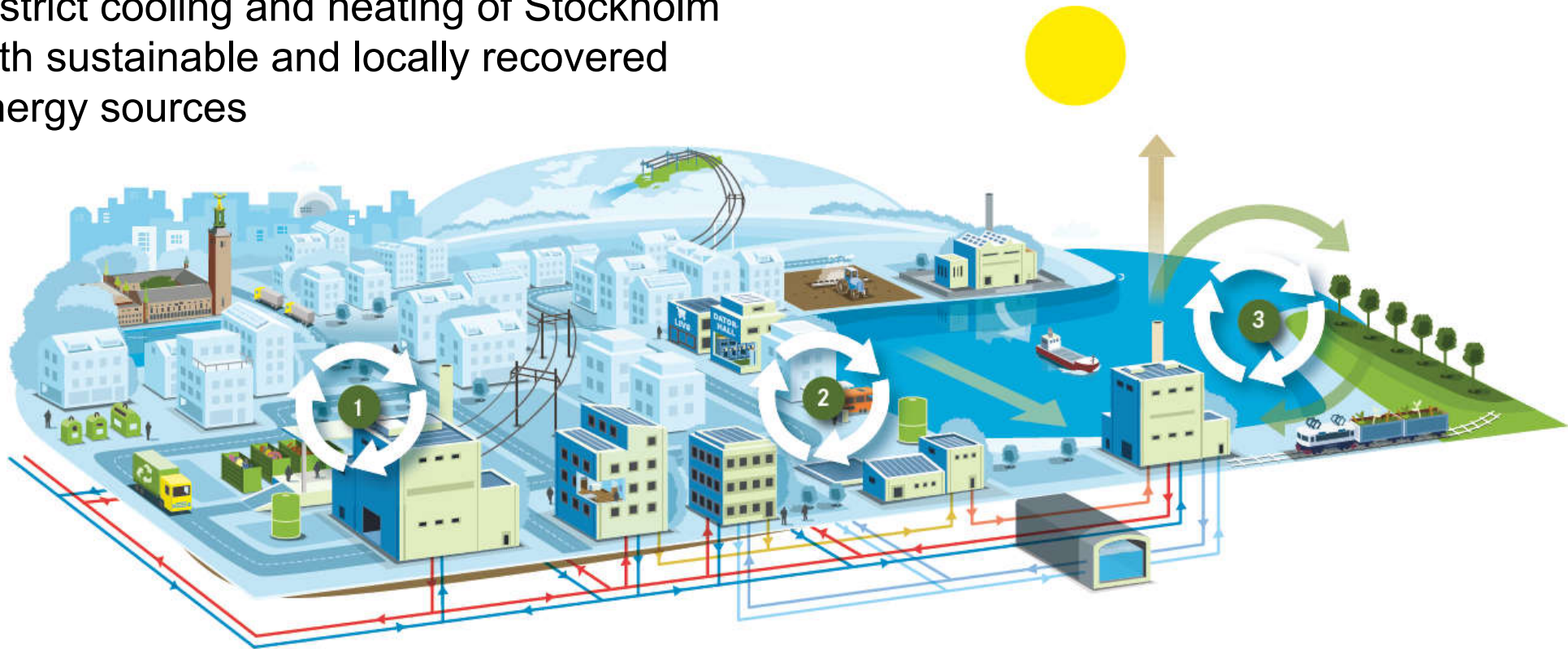


*“Working together with customers and partners, our vision is to develop attractive cities with sustainable energy solutions.”*

CEO Anders Egelrud

# Sustainability

District cooling and heating of Stockholm with sustainable and locally recovered energy sources



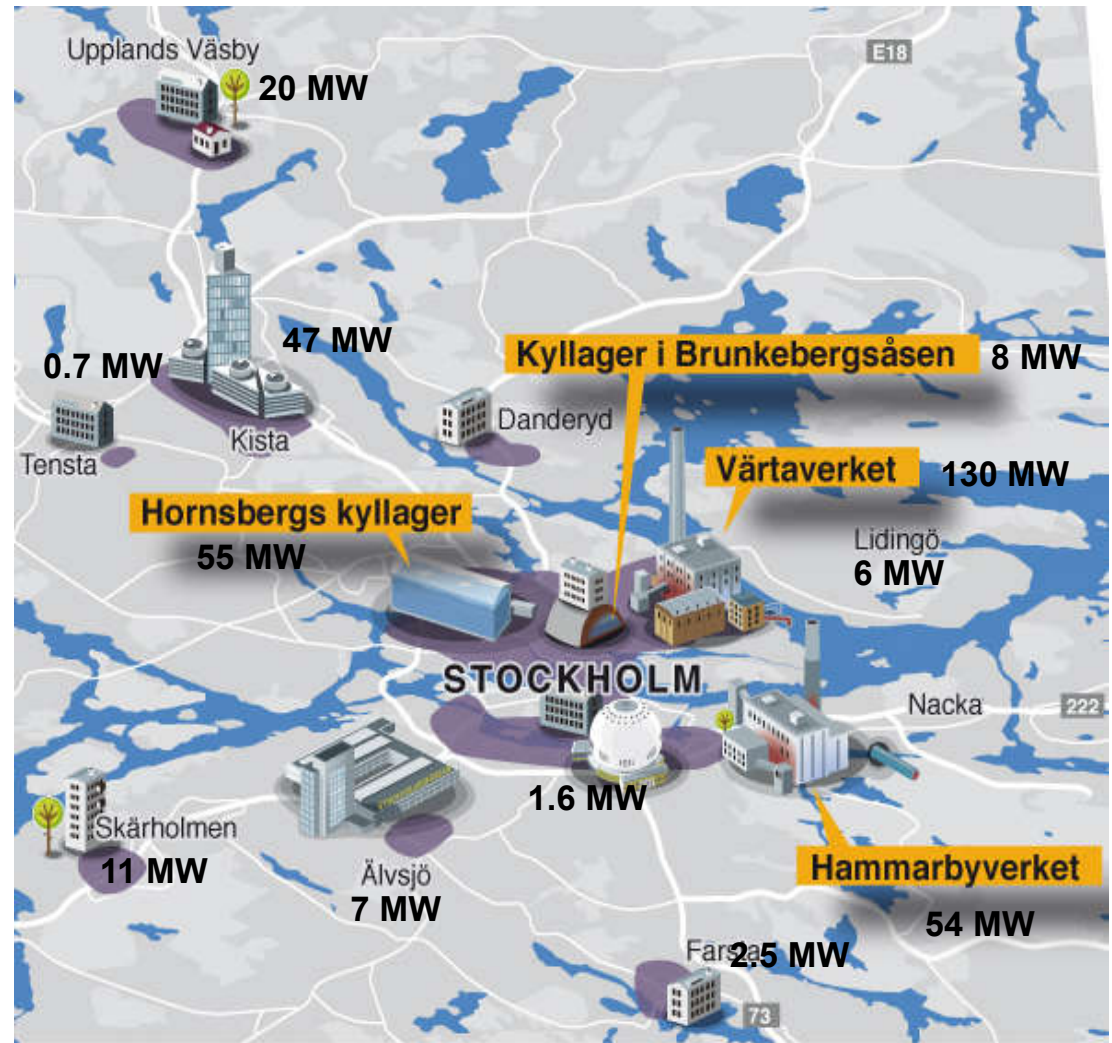
1. Energy from sorted city waste

2. Heat recovery from sewage water, district cooling returns and data centers

3. Renewable energy from biofuels and the sea

# The World's largest district cooling system

- 343 MW distributed capacity
- 250 km distribution pipeline
- 150 customers with 650 buildings connected
- Largest committed capacity 10 MW
- Supplier of cooling as a service with heat recovery to >30 data centers



# District Cooling vs Conventional Cooling

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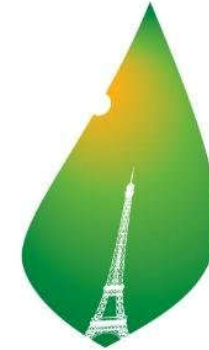
- Limited capital expenditure
- Capacity adapts to your business
- Risks associated with owning, operating and maintaining chillers eliminated
- Predictable energy costs and maintenance costs
- High availability through simple and proven technology
- Floor and roof surfaces can be released
- No noise
- Lower CO<sub>2</sub> compared to chillers



# Why Heat Recovery?

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- It is profitable
  - Your waste heat has value. Turn it into cash
- It is green
  - Make a significant contribution to fighting climate change
- Differentiate your end-user proposition
  - Take the claim of the green data center to the next level
  - 1 MW data center can heat 1 000+ residential flats
- De-risk your business
  - Take energy efficiency measures ahead of future regulation and requirements for public procurement
  - Minimize water usage



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## Key EU targets for 2030



- At least 40% cut in **greenhouse gas emissions** compared with 1990
- At least 27% of total energy consumption from **renewable energy**
- At least 27% increase in **energy efficiency**



# Customer References

### Customer Reference



"For me, heat recovery is part of making data centers greener. The collaboration we have with Fortum Värme makes it possible for us to use the excess energy for residential heating in a financially attractive way. This is a perfect example of a technical solution that combined with the cold climate makes the Nordics a great place for building datacenters. We continue to innovate and work with Fortum Värme and are right now exploring how the cooling and heat recovery can be defined for our future expansion."

Peder Bank  
Managing Director,  
Interxion Nordics

### Customer Reference



"The fact that we are based in Stockholm with its vast district heating and district cooling networks has opened for a new way of thinking about cooling, sustainability and solutions that are unbeatable financially, which translates to significant benefits for our data center customers."

Gustaf Bergquist  
CTO  
Bahnhof

### Customer Reference



"We have worked hard to connect our Stockholm data centers to the district heating/cooling network to enable heat recovery of the excess heat. The vast district heating network in Stockholm provides an ideal and secure solution for heat recovery which is a perfect match with our data centers."

Jan Sjögren  
Head of Building Operation  
Ericsson GICs

### Customer Reference



"Fortum Värme's cooling service has allowed us to make an already efficient data center even better. The straightforward connection to Fortum Värme's system gave us the opportunity to recycle energy that would otherwise have been rejected. As a bonus we doubled the redundancy of our cooling system. With the favorable economic and environmental impact, we are now looking into deploying heat recovery in our other data centers."

Jan Lundin  
Head of IT Facility Services  
H&M

More than 30 data centers connected to Fortum Värme's district energy networks and involved in heat recovery.