

# *District Energy in the City of Gothenburg*

## *- An Overview*

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City of  
Gothenburg

# Gothenburg

Sustainable city – open to the world





# *Gothenburg*

- Founded in 1621
- 500 000 inhabitants
- 65 000 students
- District heating was initiated in 1950's
- Planning ahead
  - By 2050 the city will have a sustainable and fair level of carbon dioxide emissions
  - Policy: a holistic view and to make the best of resources already available





# *A growing city*

From large town  
– to green city where  
nothing's far

- Vision Älvstaden
- Traffic Strategy
- Green Strategy
- Expansion Planning

Jointly indicate the  
direction in which Gothenburg  
will develop by 2035





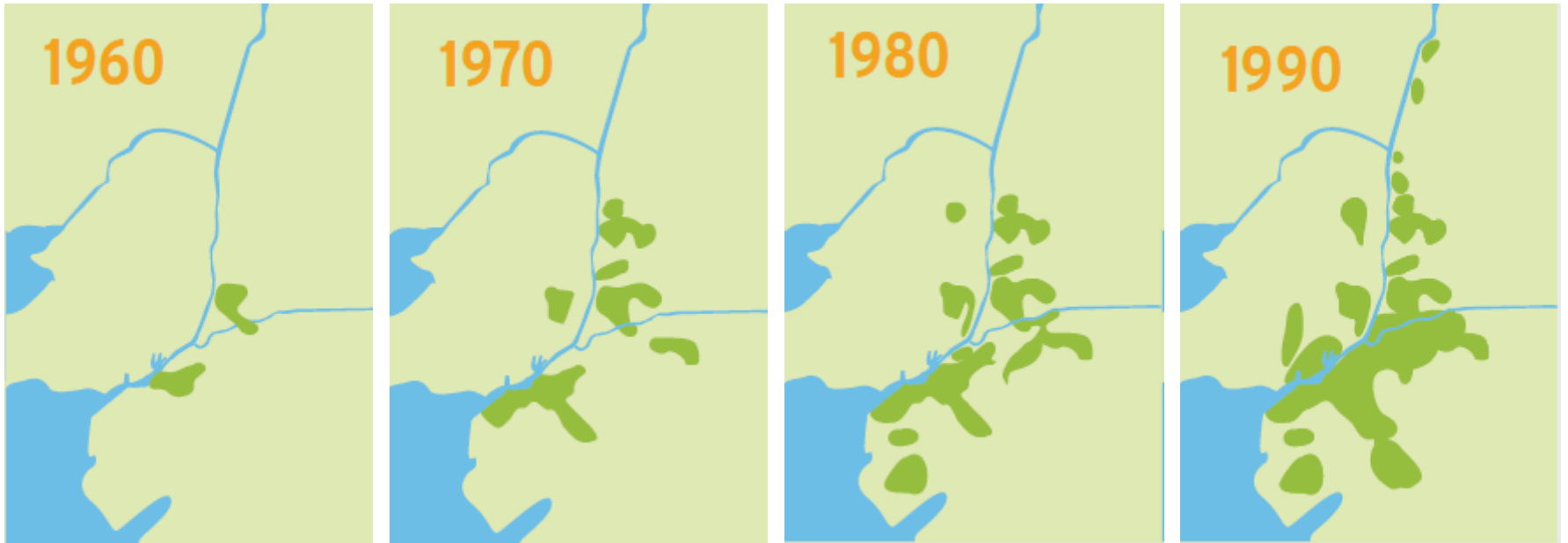
VISION:  
A sustainable  
Gothenburg



# 1985

**Sulphur emissions have  
fallen by 99 % and nitrogen  
oxide emissions by 89 %  
since 1985**

# DH Development in Gothenburg

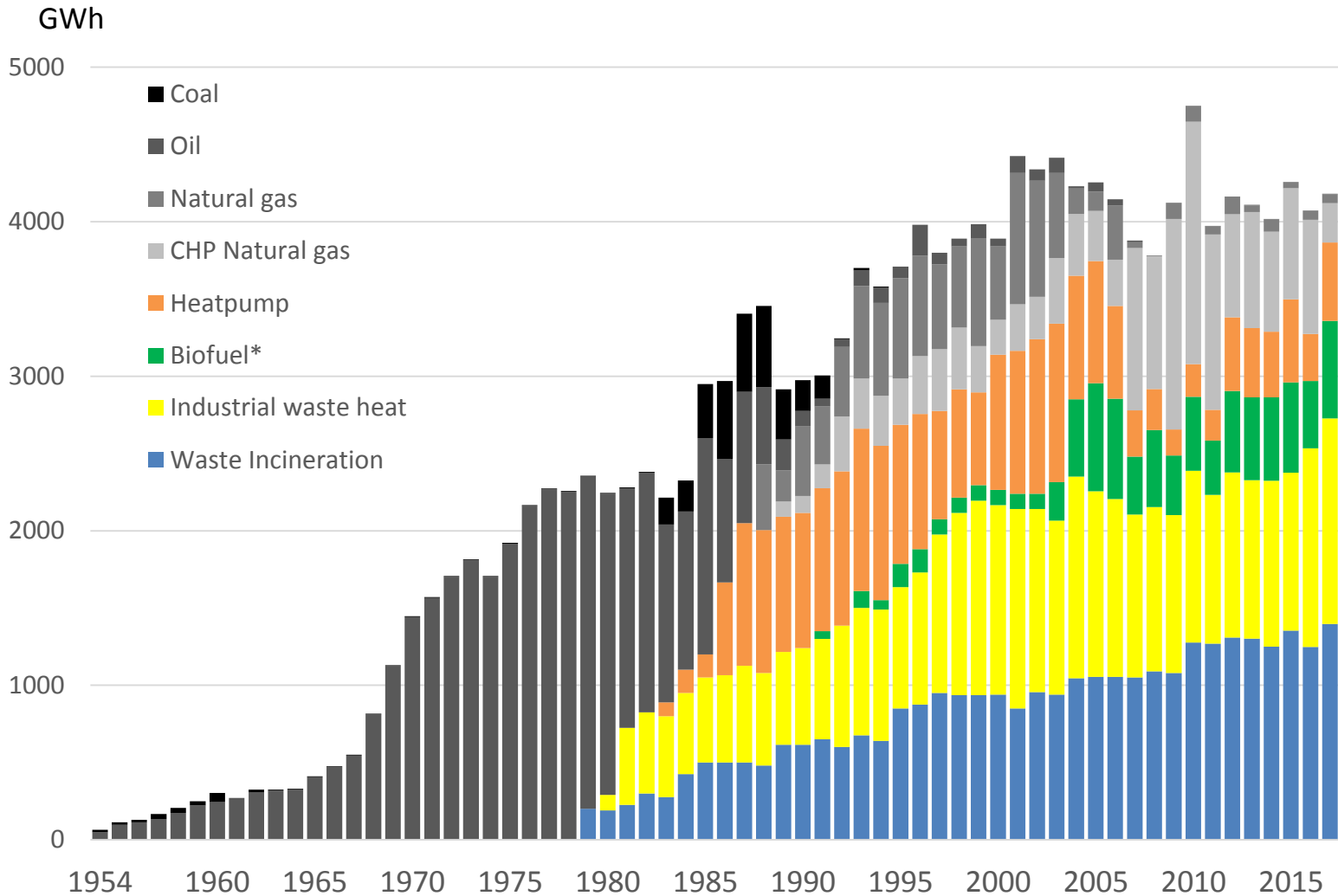


# DH in Gothenburg Today

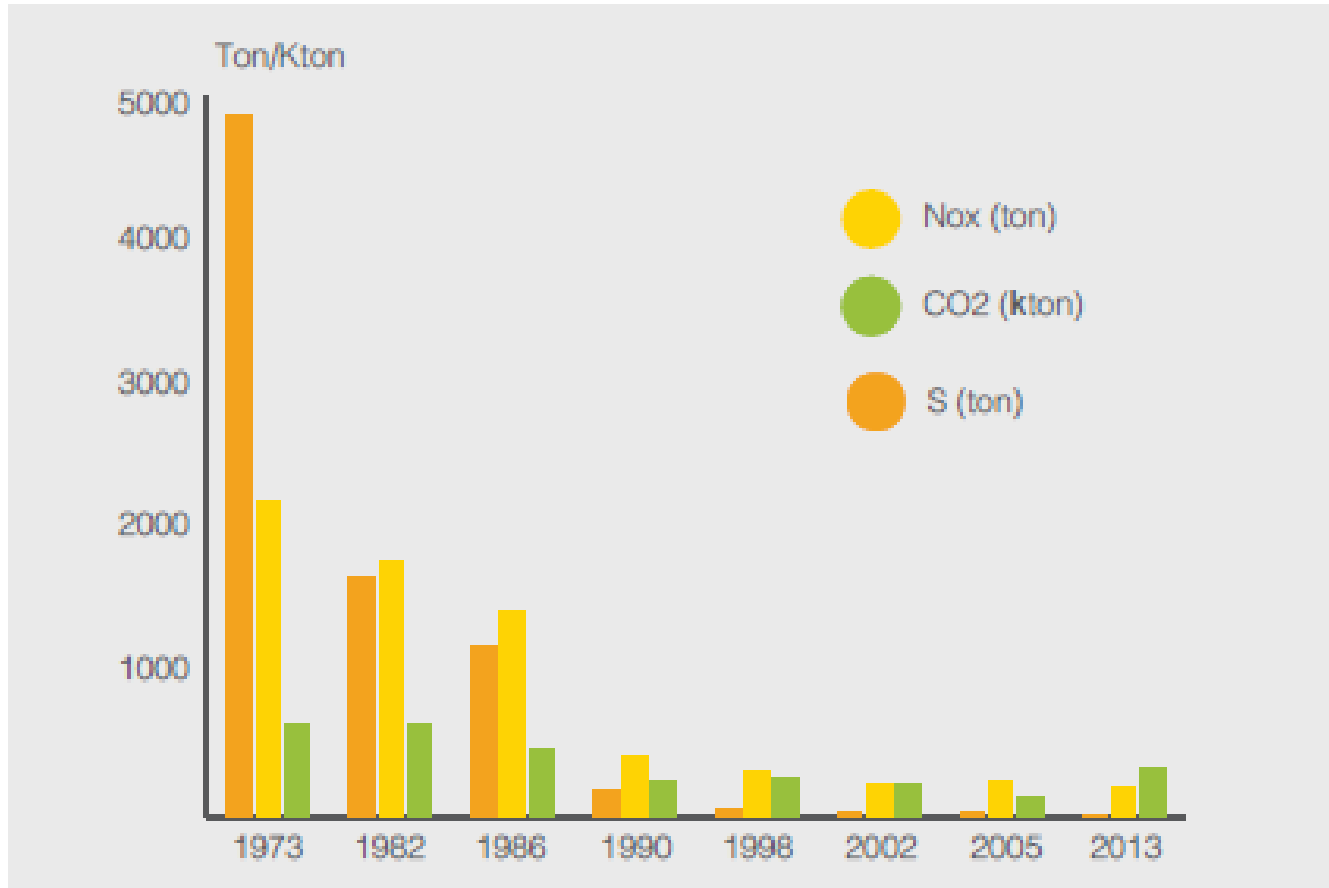




# DH Fuel Mix, Gothenburg

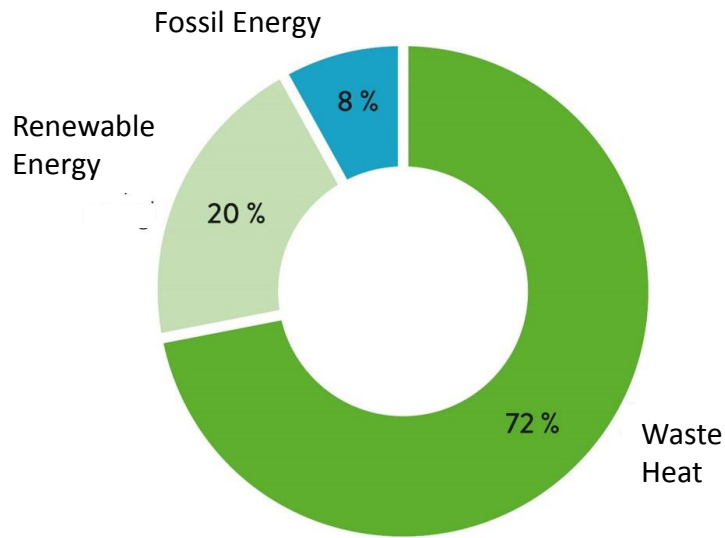


# Gothenburg Emissions, Power Production



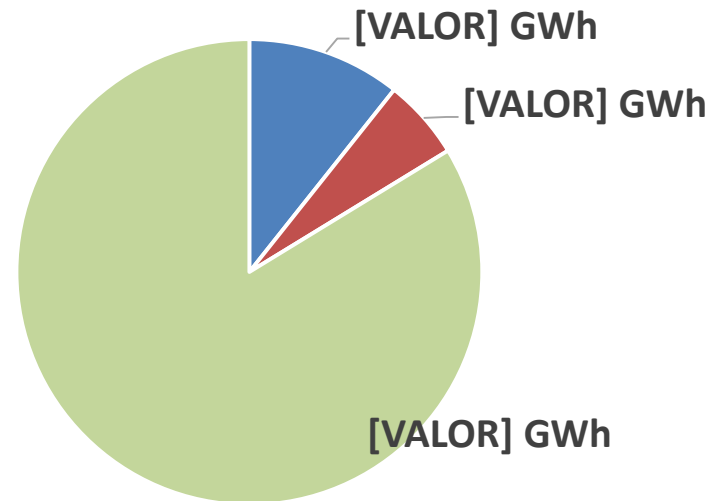
# Today's DH and Electricity Cogeneration

District Heat



3558 GWh DH sales in total

Electricity



735 GWh Electricity sales in total

■ Windpower    ■ Bio CHP    ■ NG CHP





# History of Energy in Gothenburg



- 1846 – The Gothenburg Gas Company is established in Rosenlund
- 1900 – Electric grid and production is established in Rosenlund
- 1952 – District Heat, and the first CHP plant is built at Rosenlund

*Private enterprises were taken over by the community in order to provide for the whole city*



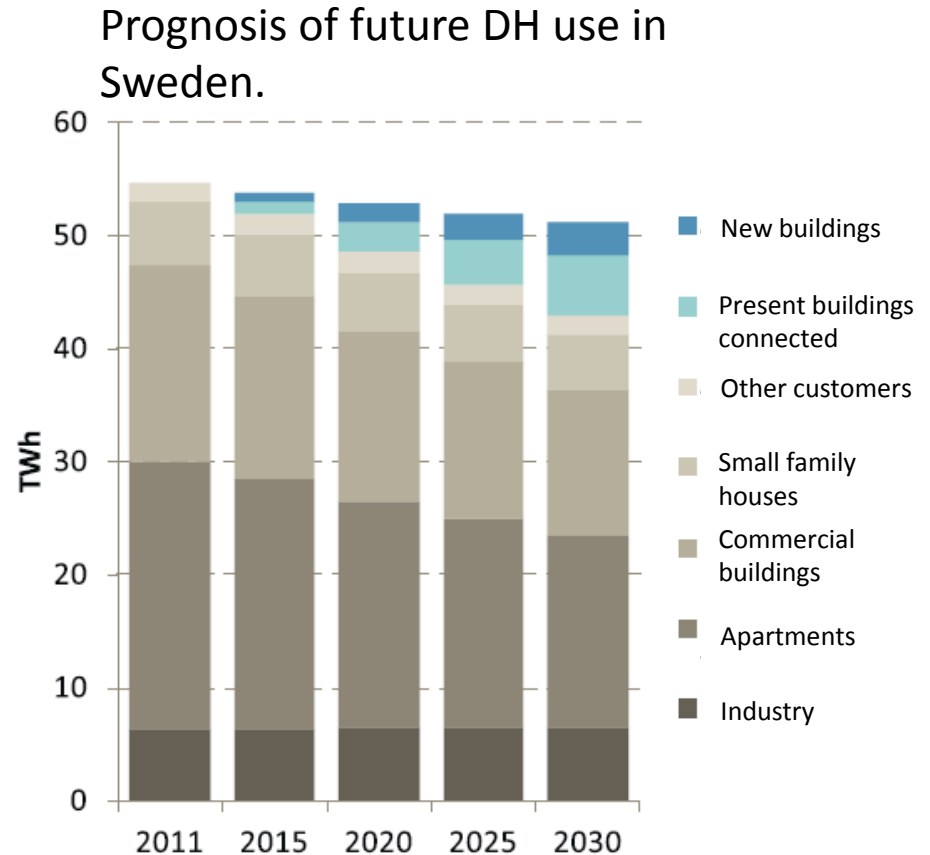
# Community ownership a key factor

- Equal service level in the community
- High credit worthiness
- Profitable business can provide financial support needed for new business segments (i.e. District Heat in the 50's and 60's)
- Can take on long term loans (in our case from EIB, European Investment Bank), and new financial instruments
- Can apply for state subsidies for environmentally progressive projects



# Waves of change

- DH is now a mature business in Sweden
- >90% market share in urban Gothenburg
- Energy efficiency measures active
- Competition increases from other technologies, i.e. heat pumps



Source: Swedish Energy Agency report  
ER2013:24





# *Energy 2020*

- Communication from the Commission in November, 2011
- A strategy for competitive, sustainable and secure energy
- First priority: “energy-efficient Europe”





EU27 and Member State  
average district heating  
market shares of total  
national residential and  
service sector heat  
markets

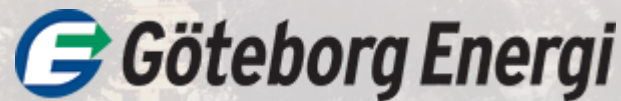
*There is enough waste heat  
produced in the EU to heat EU's  
entire building stock*





# *Thank you!*

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