

# DHC infrastructure paradigm shift to circular energy (The development of district heating)

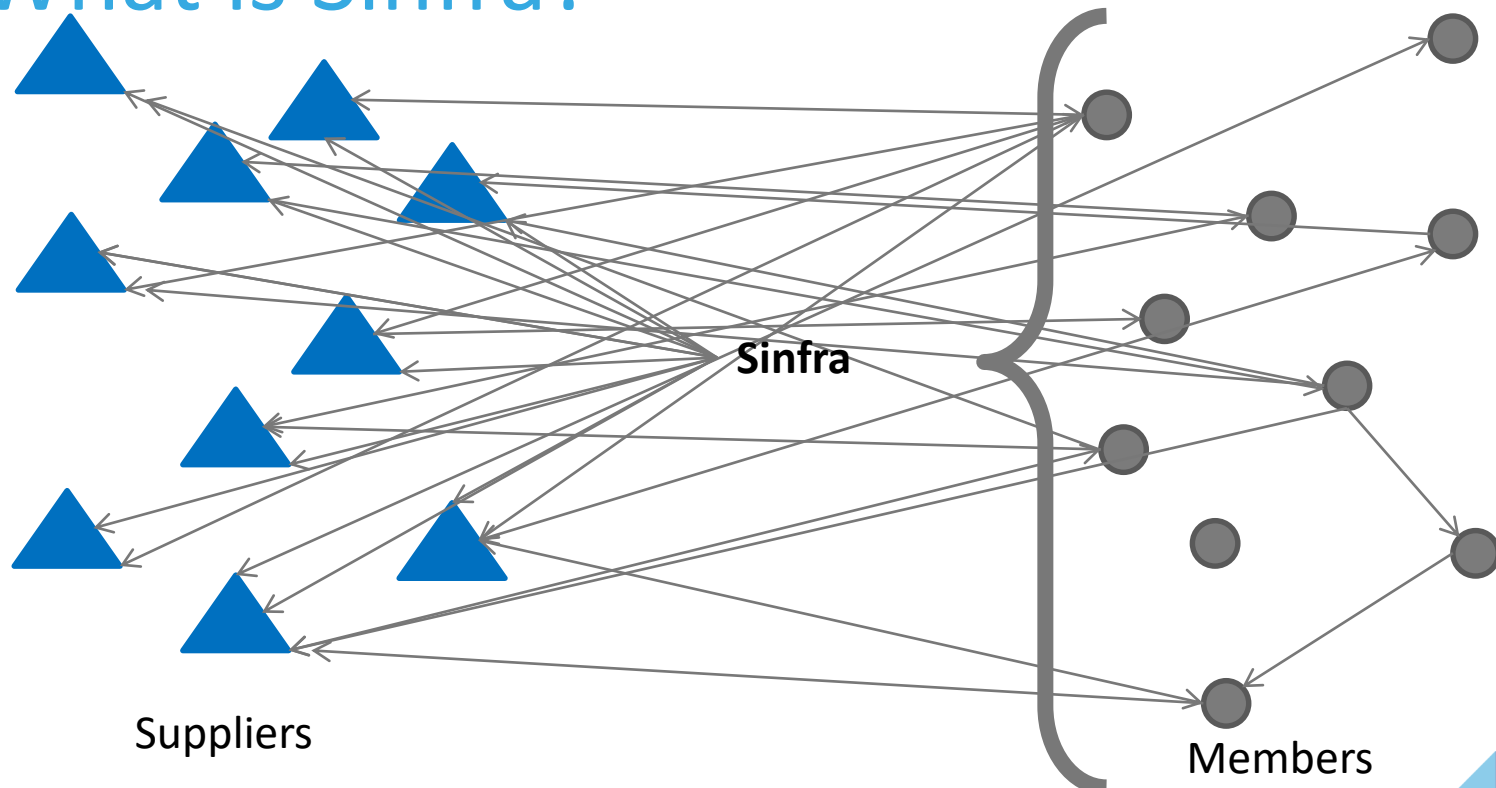


# Peter Dahl

CEO of Sinfra and FVU



# What is Sinfra?



# Development of district heating in Sweden

Today we're going to talk about three things

- Drivers (smart growth\* *better innovation*)
- Economics (inclusive growth\* *less inequality*)
- Politics (sustainable growth\* *more green*)

\*Mariana Mazzucato

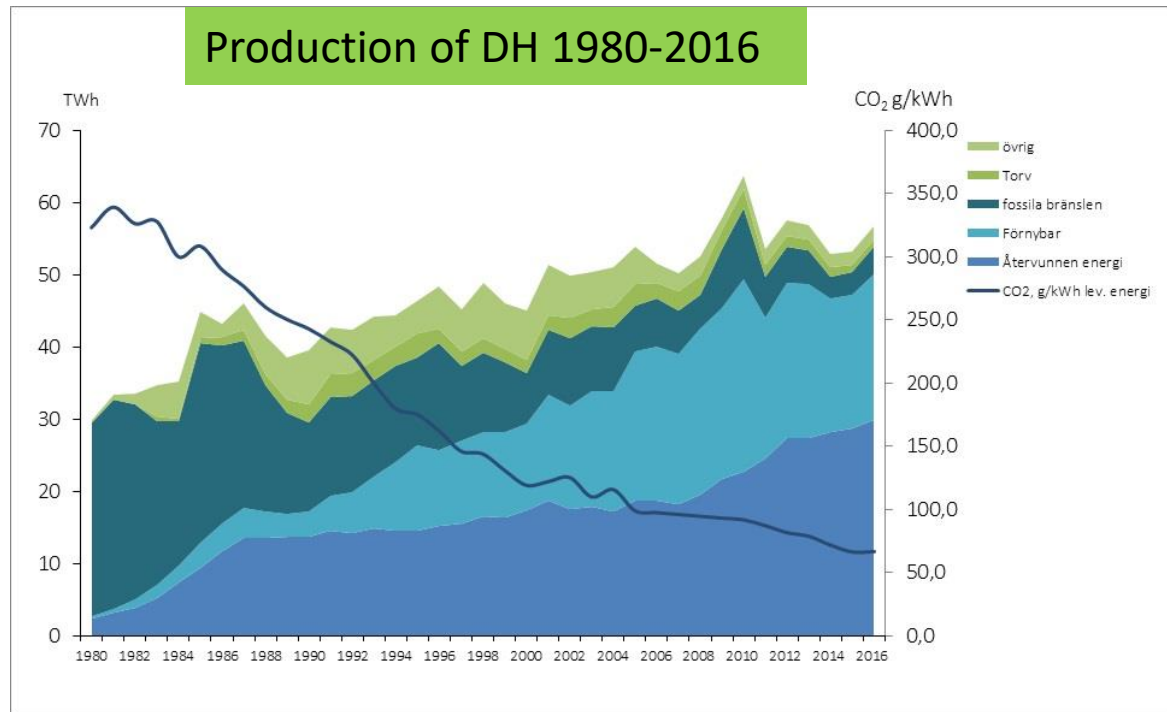


# First - how big is district heating in Sweden?

- More than 3 billion Euro in turnover
- About 20 billion Euro capital employed
- About 4 million people get their heat from DH every day
- 5,000 people work with DH
- DH companies procure technology and services to a amount of about 1 Billion € per year.



# What has been done?



# Historic drivers for change!

Housing programme! – a million times!

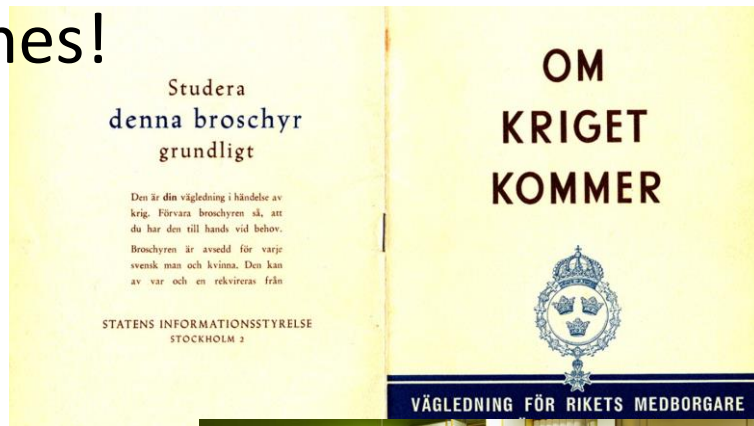
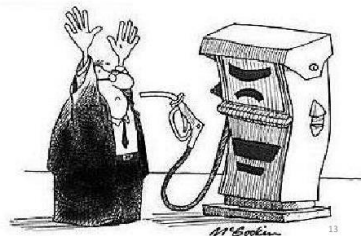
Oil Crises! – twice!

Cold war! – once!



## 70's Crisis

- Two crisis during 1970's.
  - » 1973 Oil Crisis- Yom-Kippur War.
  - » 1979 Energy Crisis- Iranian Revolution.



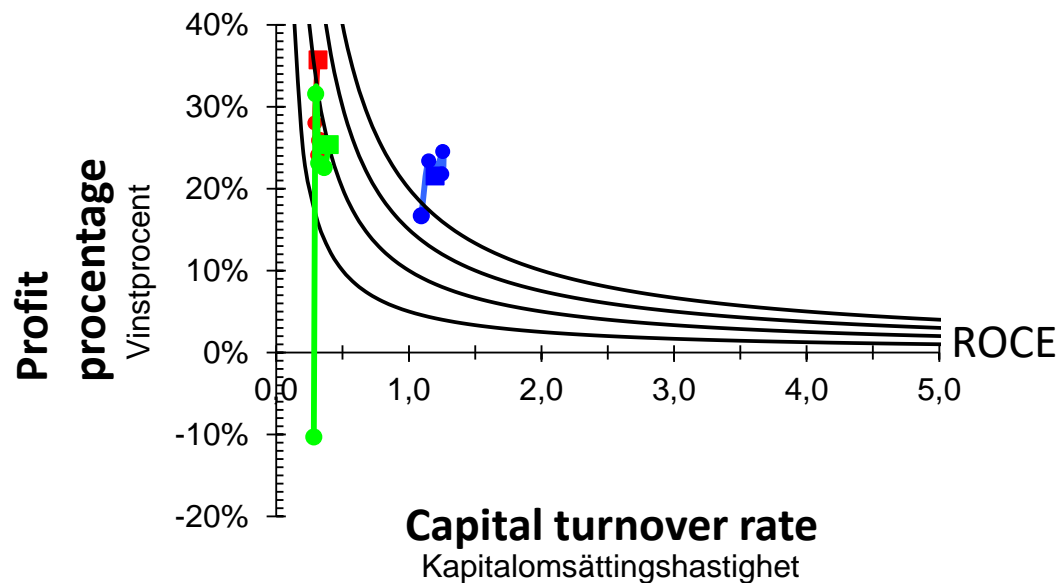


# The world changed – so did the technology...





# Why district heating is a tricky business – basic economics

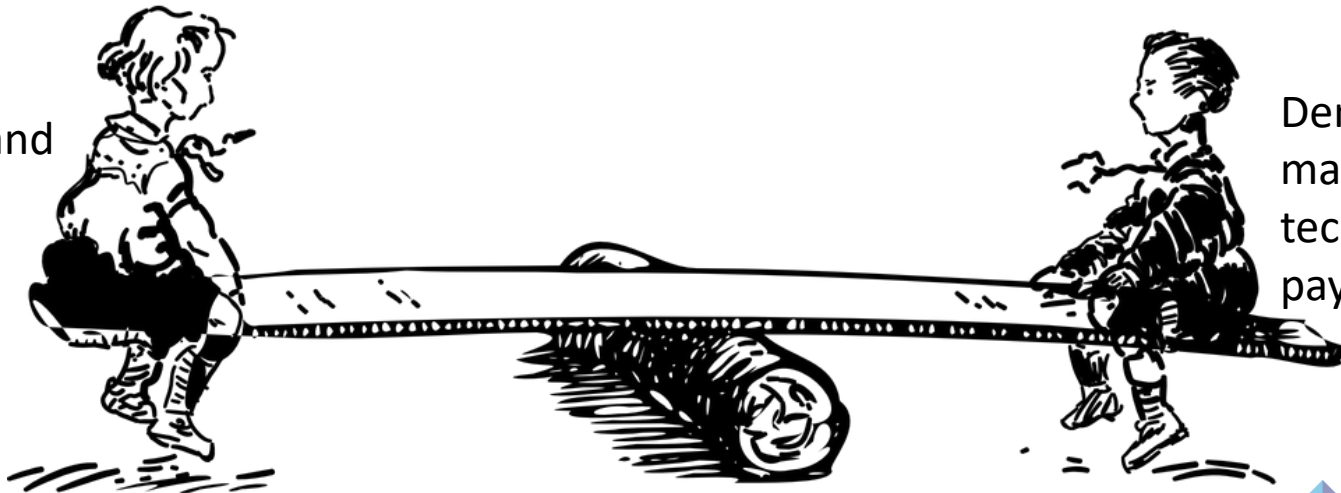


# But how was this possible? Basic politics

- Municipal energy company
- Municipal taxation rights
- Municipal responsibility to provide secure energy
- Municipal monopoly on city planning

- Strong Energy technology companies
- Strong housing associations
- Strong protection of private ownership rights
- Carbon taxation on energy

Knowledge and  
capability



Demand  
management,  
technology and  
payment



# Was this market success – or a political success?



# What now? What comes next?

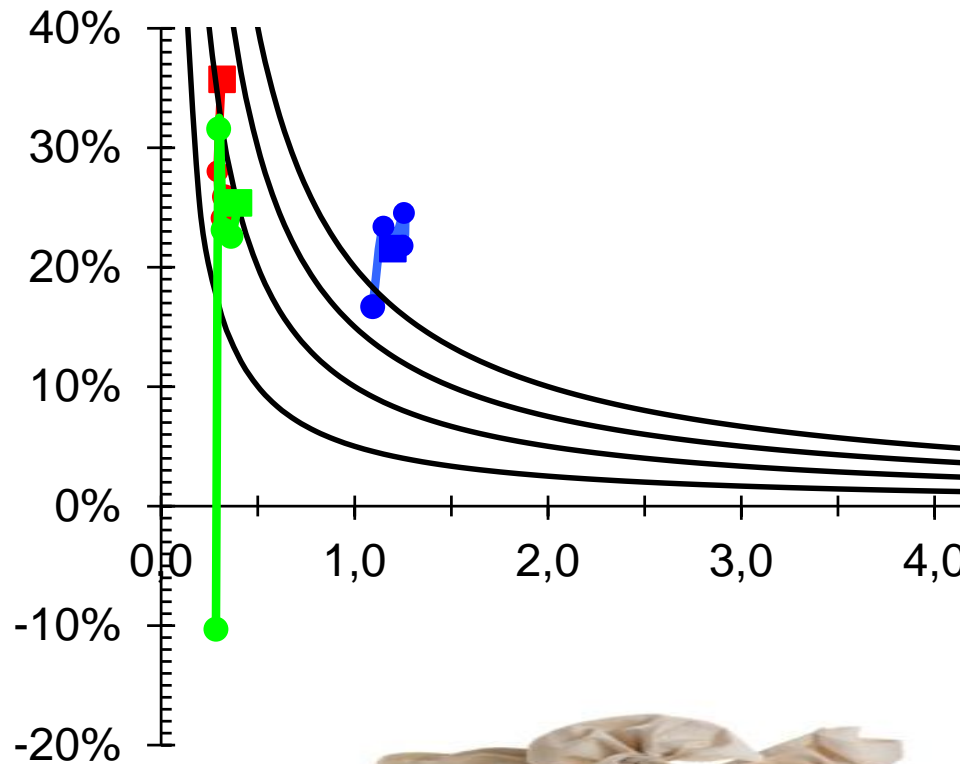
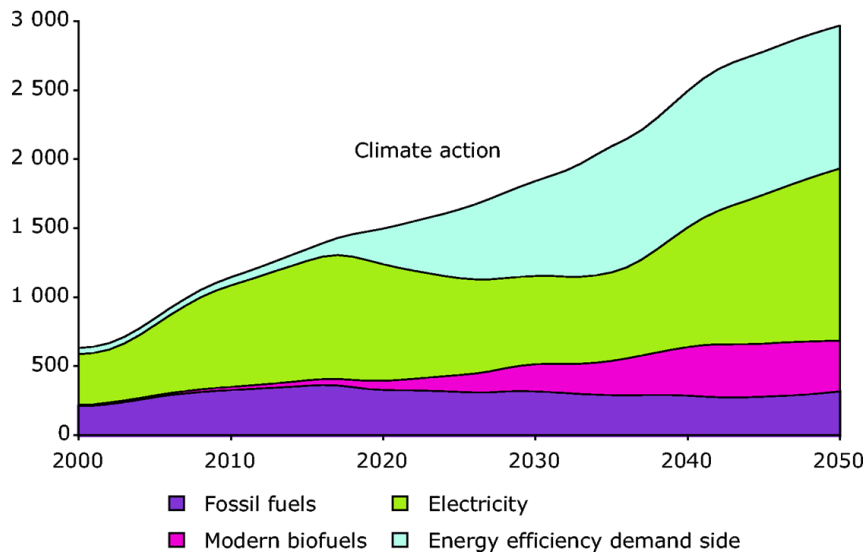
## Challenges

- Paris agreement
- Electrification of everything
- Innovation

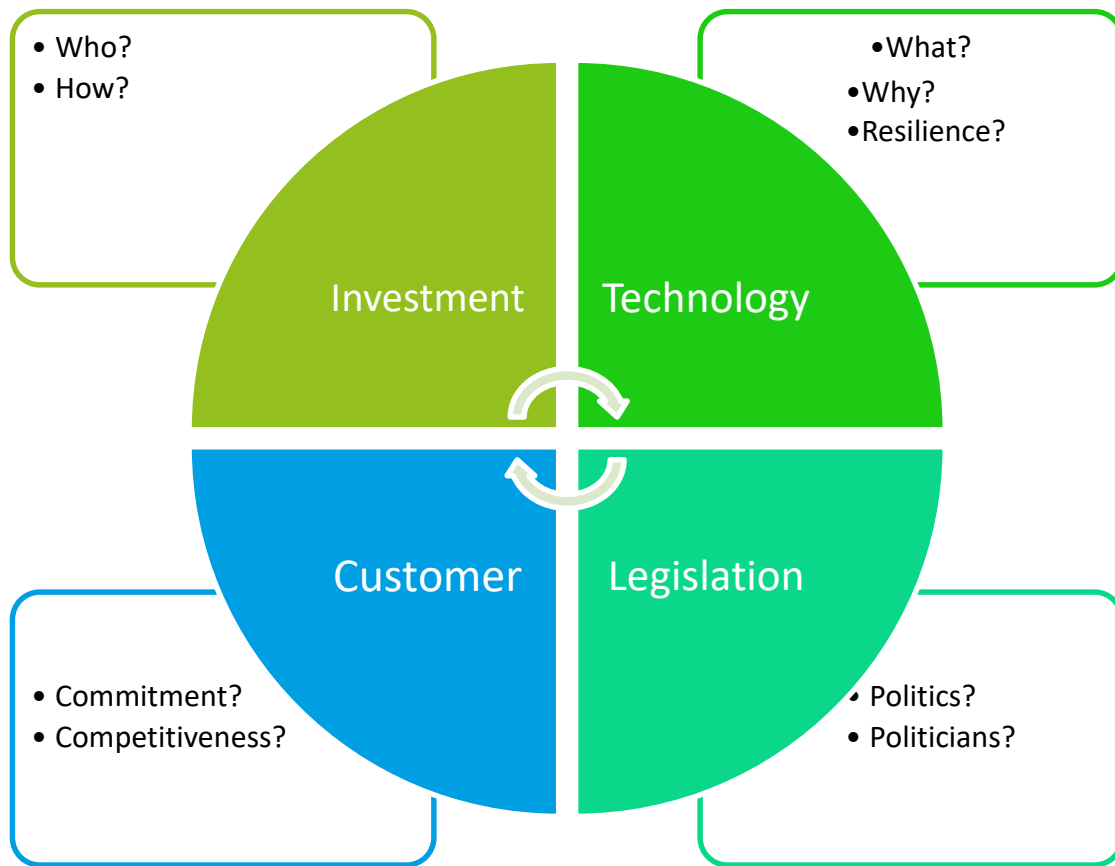


# Challenge!

Investments in billion Euro (2000)



# The future?





# What does all this mean for district heating?

