DISTRICT HEATING MEASURES – DRIVING FORCES AND IMPLEMENTATION

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Main focus:

A system perspective on energy use and energy supply
Energy use in industry, Sweden

- Biofuel 38%
- Electricity 35%
- Petroleum 7%
- Natural gas 3%
- Coal 10%
- DH 3%
- Other 4%

Source: Energimyndigheten
Energy use in buildings, Sweden

- Electricity 48%
- DH 32%
- Biofuel 10%
- Petroleum 9%
- Natural gas 1%

Source: Energimyndigheten
For reach a fully balanced and renewable energy systems we a stronger focus on converting to DH and more efficiency use of electricity
Consequences for the energy system when using electricity for heating purposes

- 100,000 houses supplied by DH equals extra production of about 500 GWh electricity per year

- 100,000 houses supplied by heat pumps equals extra use of electricity with about 1500 GWh per year
How can we increase the use of DH in industrial processes – and in buildings
In industries...

- **Electricity**
- **Fossil fuels**

**Production processes**
- heating
- drying
- cooling

**Support processes**
- space heating
- comfort cooling
- hot tap water

- **District heating**
- **District cooling**
Increased use of district heating in 34 small- and middle sized industries
Increased use of district heating in separate processes

Result:
200 GWh → 196%
Reduced global CO₂: 112 000 tonnes/year

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Many good examples, but how do we make it happen?
How much have been implemented?

41% of the suggested measures are implemented, another 9% are planned to be implemented.

70% of the measures have a payback time of no more than 3 years.
Driving forces - top 5

• Reduced costs
• Driving spirits
• Threat of rising energy prices
• Full support from top management
• Investment subsidies
Barriers – top 5

• Lack of time
• Other priorities
• Long investment chains
• Energy objectives
• Technical risk such as production disruption

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Sources of information – top 5

- Production information from suppliers of equipment
- Colleagues
- Journals
- Conferences / seminars
- Energy Agency
We need more and new cooperations

- Architects– materials physicist
- Energi companies - customers – construction industry
- Industries – energy utilities
- DH - other energy services in the region
Conclusions

• Realize that management is as important as technology

• Focus on supply AND use

• Converting to DH in a CHP system and more efficiency use of electricity are key-stones in a fully balanced and renewable energy system

• Increase cooperation between different sectors, and a systems perspective with regard to the region's total energy demand – we need to work together