Prosumers in District Heating networks - problems and possibilities

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Producer + Consumer = Prosumer

- Small scale
- Decentralised
- Solar collectors
- Excess heat from cooling machines

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Aim

• Prosumers in the DH network
• Environmental outcome
• Technical issues
• Environmental requirements
• Energy independence among customers
Background

- Low(er) temperature DH
- Hyllie in Malmö, Sweden
Method (short)

- Information from prospectors in Hyllie
- Energy data from E.on
- Model of Hyllie (intern, extern)
- NetSim - Commercial DH simulation programme
- Static simulations
- Environmental calculations (original+no DHW)
- Temperature data from 10 years
- Marginal electricity, nordic residual mix, wind energy
- Calculations on artificial network in NetSim
Flow and velocity

- Heat zero building
- Dimensioning of pipes
Model of Hyllie

- Most excess heat during summer
- Noticeable prosumer heat delivery even with the intern case
Environmental outcome

- Marginal electricity
- Nordic residual mix
- Wind energy
- COP (electricity share)
Prosumers – problems and possibilities

Problems
- Pipe dimensioning
- Most heat in summer
- Supply temperature
- Electricity share

Possibilities
- Interconnected heat and power networks
- More resourceful system
- More customer oriented DH
Thank you!