Survey of Radiator Temperatures in Buildings Supplied by District Heating
Purpose and Aim With Study

The Actors Involved in This Project

District Heating Provider
- Major DH customer
- 330 Substations
- 26,900 Apartments
- Hourly data measurements available from SCADA system

Public Housing Company

Research Institution

Göteborg Energi

Bostads AB Poseidon

Chalmers University of Technology

Aalborg University Denmark
Data Selection

1. Angered
2. Guldheden
3. North Hisingen
4. South Hisingen
5. Frölunda
Data Collection
Radiator Supply Temperatures

Outdoor Temperature

Radiator Supply Temperature [°C]

N = 109
Radiator Return Temperatures

Radiator Return Temperature [°C]

Outdoor Temperature

N = 109

2nd International Conference on Smart Energy Systems and
Building Construction Year

Radiator Supply Temperature at DOT = -16°C [°C]

Year

1. Angered
2. Guldheden
3. North Hisingen
4. South Hisingen
5. Frölunda

N = 109
Building Specific Heating Demand

Radiator Supply Temperature at DOT = -16°C [°C]

Space Heating Demand (DHW not included) [kWh/m², yr]

- 1. Angered
- 2. Guldheden
- 3. North Hisingen
- 4. South Hisingen
- 5. Frölunda

N = 109
Heat Transfer Surface Area

Potential of Lower Operating Temperatures

Heat Transfer Area

Supply Temperature

Specific Heating Demand
Conclusion

Radiator temperatures in existing buildings
- 64/42°C for DOT = -16°C
- Large range of values

Fourth generation district heating
- 8% of radiator systems with supply temperatures less than 55°C
- Renovation needed and heat transfer surfaces to be increased

Potential actions today
- Reduce temperatures to some extent
- Reduce temperatures during parts of the year
Thank you for your attention!
Questions?