District Heating – How it works?

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Outline
District Heating System Introduction
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District Heating Demand

- Space heating
- Domestic hot water demand
District Heating Substation
District Heating Substation

Substations in buildings indirect connection

Substations in buildings direct connection
District Heating Distribution
District Heating Production

- Combined Heat and Power
- Heat only Boilers
- Surplus heat
- Renewable Energy
District Heating Production

100% Fuel → 65% Loss → 35% Power

100% Fuel → 20% Loss → 45% Heat → 35% Power

#IDCHC
Network Design Criteria

- Peak heat demand profile for consumers
- The design supply and return temperature
- Max flow velocity
- The network pressure level
- Optimal maximum allowed pressure drop
- Simultaneity factor (diversity) for both SH and DHW demand
District Heating System Functioning

1. Heat demand control
2. Flow control
3. Differential pressure control
4. Supply temperature control
District Heating System History
District Heating Map in Europe
Why District Heating System

- Long-term security of supply
- Environmental benefit
- Diversity of heat supply
- Space saving at the building level
- Increased safety
- Easier maintenance
Thank you

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