



# ENERGY PLANNING – THE KEY TO INTEGRATE COST EFFECTIVE RENEWABLE ENERGY

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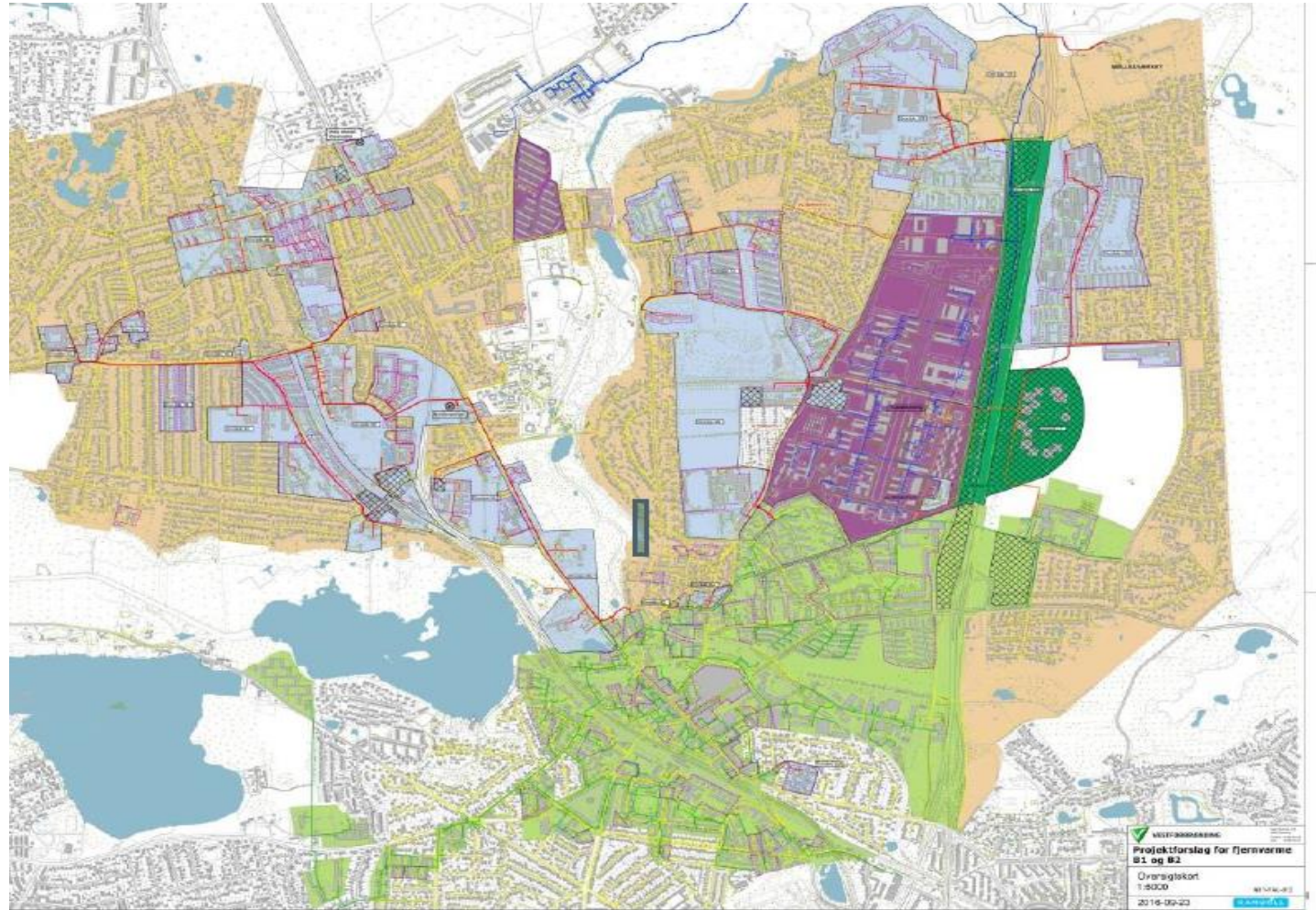
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# HEAT SUPPLY PLANNING IN ACCORDANCE WITH THE EU DIRECTIVES AND DANISH HEAT SUPPLY ACT -

## Case: Vestforbrænding, DK

Strategic energy plan for Lyngby and business plan for Vestforbrænding

- Cost effectiveness including cost of environment
- Integration of heat transmission systems
- Least cost zoning of DH and gas grids
- DH to all new consumers
- Existing large CHP and boiler plants
- New heat pumps and electric boilers



# GREEN FIELD URBAN DEVELOPMENT DH&C MOST COST EFFECTIVE

## Case Favrholt in Hillerød Municipality, DK

- The integrated DH&C solutions is the most profitable solution for the local community and the society
- The investments of the integrated DH&C and the baseline with individual heat pumps and chillers are almost equal
- But the DH&C has following benefits:
  - Is more cost effective, A NPV benefit of 30 mill Euro
  - Is more flexible for integrating Renewable energy due to storage tanks and integration (forms a virtual battery)
  - Is more resilient as several sources for heating and cooling can be combined
  - Offer better local environment: no noise, emission or visual impact in residential areas

