

District Heating

Explore the potential of energy efficiency with District Heating

According to Euroheat and Power, 12-14% of Europe's heat demand is currently met by District Heating. If appropriate investments were incentivized by the EU, this number could reach 50% by 2050, which would prove to be both economically and environmentally advantageous.



Savings potential:

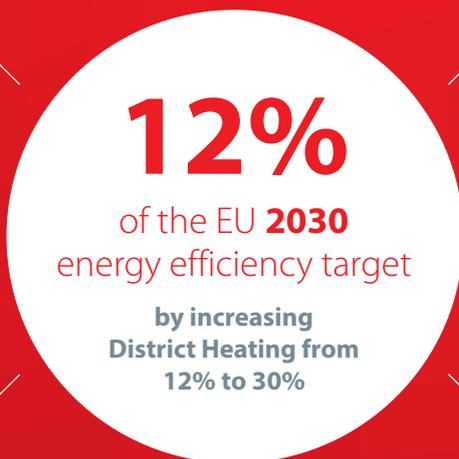
20% OF PRIMARY ENERGY SUPPLY



for heating all buildings in the EU can be yearly saved (686 TWh)

257 Mt CO₂ SAVED EVERY YEAR

or equivalent to the emission from **135 million cars or 57% of all EU cars**



38% CO₂ emissions



from space heating in all EU buildings could be reduced

6% less cost

of total energy imports into the EU



5,800 NEW JOBS



on average per year

Note: Calculations are based on the assumptions that coal, oil and natural gas boilers are replaced accordingly, while no replacement of biomass boilers are assumed. Furthermore, the production from district heating will come partly from existing power and CHP plants and partly from new Combined Cycle (CC) CHP plants.

How District Heating works

HEATING SOURCES

District Heating is the smart way to integrate renewable energy such as wind, solar, geothermal, biomass and surplus energy sources in a cost-effective way.

DISTRICT HEATING UTILITY

Combines heating sources and produces hot water.

HEAT STORAGE

Big water tanks, as thermos jugs, store heat to decouple supply and demand.

DISTRIBUTION NETWORK

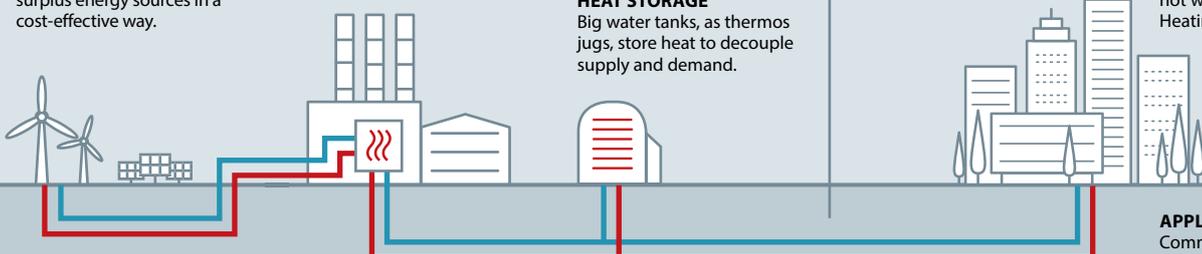
Underground, insulated pipes distribute the hot water.

DELIVERY

District Heating substations prepare the heating and the domestic hot water to the building based on the hot water from the District Heating network.

APPLICATION

Commercial, residential and industrial buildings.



District Heating

Benefits of District Heating systems



BENEFITS FOR CITIES



Reduction of CO₂ emission by switching from conventional to renewable energy sources



Harnessing local energy sources, including water streams, recoverable heat and renewable energy



More energy independence due to integration of local energy sources and tackling of energy poverty



BENEFITS FOR END-USERS



More reliable energy source that can provide power and heat at times of disruption such as extreme weather or blackouts



Reduced heating bills and fuel price volatility



Improved air quality as a result of reduced fossil fuel consumption

With CO₂ emissions set to increase by 50% in the next 30 years
the time to act is now.

4 key product areas for getting the most out of a District Heating solution

10% **BETTER HEAT TRANSFER**

by using Micro Plate™ technology

10-15% **OR MORE ENERGY SAVINGS**

by using correctly commissioned electronic comfort controllers



10-15% **ENERGY SAVINGS**

from proper hydraulic system balancing and correct commissioned temperature control loops

15% **LESS SPACE FOR INSTALLATION**

by using standard station platforms



SUBSTATIONS

Substations are house heating systems that handle the heat transfer from the District Heating pipes into a building in order for the end-users to get hot water and heat on demand.



PLATE HEAT EXCHANGERS

Ensures efficient heat transfer from the District Heating system to the internal heating system of the building.



CONTROL VALVES

Flow controllers with an integrated control valve combined with an actuator help to optimize and balance network, save energy and improve enduser comfort.



INTELLIGENT CONTROLLERS

An intelligent electronic controller for weather compensation in the District Heating system is proactively adjusting the supply of heat by detecting changes in the weather conditions outside.

Find more information at www.heating.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.