

# DK, Thisted district heating



## General

<b>Owner</b>	Thisted Varmeforsyning (the local consumer owned district heating company)	<b>Operator</b>	Thisted Varmeforsyning
<b>Region</b>	Thisted		

## Project

<b>Inhabitants connected</b>	5016 (13000 inhabitants in town)	<b>Design of the DH</b>	Water based with pre-insulated pipes
<b>Other uses (drinking water, cascade uses...)</b>	No	<b>Production of heating and/or cooling</b>	For district heating
<b>Planning of the operation (from pre-studies to full completion)</b>	1980 - 2001	<b>Dates of beginning and end of construction</b>	1982 - 1984
<b>Administrative permits</b>	None	<b>Difficulties faced</b>	Production from cooler reservoir due to declining transmissivity in first tested deeper reservoir. Tax on power for electric heat pump causing shift to absorption heat pumps.
<b>Comparison with fossil energies</b>	/		

## Financing

<b>Investment for geothermal well</b>	6 million euros for two wells	<b>Investment for geothermal heating station</b>	6 million euros
<b>Investment for DH network and substation</b>	Not part of geothermal plant	<b>Financing (banks, funds, PPP...)</b>	Owner, former co-owner and EU grants
<b>Amount of Subsidies if any</b>	2,3 million euros in EU grants		
<b>Cost of the MWh sold</b>	Not applicable. Consumers pay all costs for heat from the net. This includes network costs and costs for heat production from different heat production units.		

## Technical

<b>Installed capacity ( MWth)</b>	78	<b>subsurface and surface technical schemes</b>	One production and one injection well. Absorption heat pumps driven by straw boiler.
<b>Operating Temperature of the DH</b>	Winter/summer: Supply: 76/70 °C; Return: 40/44 °C	<b>Temperature of the geothermal resource (production - injection)</b>	43 °C / 11 °C
<b>Geothermal flow rate</b>	Up to 200 m <sup>3</sup> /h	<b>Heat Pump if any (power in Mwe and COP)</b>	Absorption heat pumps: 7,7 MWth / COPth 1,7
<b>Innovation if any</b>	The use of absorption heat pumps driven by straw district heating boiler, which makes it free to drive the heat pumps.		
		<b>DH Length</b>	219 km