The Netherlands
Minewater BV

General

Owner	Municipality of Heerlen	**Operator**	Minewater BV
Region	Limburg, south region of the Netherlands		

Project

Inhabitants connected	125.000 m2 connected. 175.000 m2 contracted, will be connected	**Design of the DH**	By technical team minewater bv
Installed geothermal capacity	10 Megawatt	**Production of heating and/or cooling**	both
Others uses (drinking water, cascade uses…)	-	**Dates of beginning and end of construction**	1. mid 2007 – mid 2008 (large backbone) 2. end 2012 finalized mid 2013 (on clusterlevel)
Planning of the operation (from pre-studies to full completion)	completed	**Organisational scheme**	-
Administration scheme	-	**Difficulties faced**	Geological uncertainties Unequal level playing field with fossil fuels Cost mitigation
Administrative permits	3 and 1 pending (under Heat Act)	**Comparison with fossil energies**	Problematic!

Financing

Investment for geothermal well	€ 5,5 mio Shallow geothermal in mine.	**Investment for geothermal heating station**	€ 1,5 mio
Investment for DH network and		**Financing (banks, funds,**	Municipality of Heerlen and funding

substation	€ 8 mio	**PPP…)**	programmes
Cost of the produced MWh **Final energy cost structure**	€ 6,8 /Gj	**Cost of the MWh sold** **Taxes**	In between € 18- € 25/GJ incl VAT
Pay back	50 years for infrastructure 20 years installation	**Amount of Subsidies if any**	50%

Technical

Installed capacity (MWth)	Heat 4MWth Cold 8MWth	**subsurface and surface technical schemes**	Cluster developement
Operating Temperature of the DH	Low temperature 28 degrees Celsius heat 16 degrees Celsius cold	**Temperature of the geothermal resource (production - injection)**	Production 28 degrees Injection 18 degrees Production cold 16 degrees Injection 24 degrees
Geothermal flow rate	Heat 240 m3/hour Cold 480 m3/hour	**Heat Pump if any (power in Mwe and COP)**	COP heating 5-7 COP cooling 4-6
Innovation if any	Development to dh smart grid	**Engineering**	
DH Length (m)	8 kilometer		