



## ELENA Completed Project Factsheet

### Warmtenet Noordwest

<b>Location of planned investments</b>	City of Groningen, The Netherlands
<b>Final Beneficiary</b>	WarmteStad B.V.
<b>Final Beneficiary's address</b>	Griffeweg 99 Postbus 24 9700 AA Groningen The Netherlands
<b>CoM signatory</b>	No, but the municipality of Groningen is a signatory.
<b>Sector</b>	District Heating
<b>Total PDS costs</b>	EUR 2,671,092.58
<b>ELENA contribution</b>	EUR 1,553,346.30
<b>Project development services financed by ELENA</b>	The Project Development Services financed by ELENA provided support to implement the Investment Programme Warmtenet Noordwest. The Investment Programme includes an investment in the production of geothermal heat, which will then be delivered through a newly developed and constructed district heating network to the City of Groningen. ELENA co-financed both direct staff employed by the Final Beneficiary and the provision of external services required for the project implementation (including technical studies, financial and legal advice, and independent verification).
<b>Description of ELENA operation</b>	The investment programme consisted of the development of a new district heating network supplied by sustainable heat in the city of Groningen.
<b>Timeframe</b>	September 2016 – March 2021
<b>Investment programme description</b>	The heat networks of 17 km supply 11,700 Households Equivalent. The sustainable heat source of the network is residual heat from two datacentres producing 6.4 MW of heat as base load all year round with the additions of electrical heat pumps to increase the heat supplied by the industrial facilities to the network designed temperature. Peak and backup heat sources are provided by gas-CHP associated to gas boilers.
<b>Investment in implementation phase</b>	EUR 31,1m
<b>Results expected to be achieved</b>	<ul style="list-style-type: none"> <li>• EE savings: 50 GWhth/y</li> <li>• CO<sub>2</sub> emissions reduction: 9.9 ktCO<sub>2</sub>/a</li> </ul>
<b>Leverage factor achieved</b>	20
	<ul style="list-style-type: none"> <li>• Construction of heat network is a major coordination task There are many stakeholders involved, therefore it is important that there is a process director in the area where the heat network is being rolled out. A large number of parties are involved, including the municipality, housing corporations, tenants, private home owners, neighbourhood associations,</li> </ul>

<p><b>Lessons learnt</b></p>	<p>utility companies, etc. and they all have their own tasks, their own project plans, and/or own interests that must be harmonized with each other.</p> <ul style="list-style-type: none"> <li>• Keep the focus on main tasks As mentioned, the construction of a new heat network with sustainable sources in itself is quite a challenge. To succeed, it is therefore important to focus on the construction of this and to avoid being held responsible for related topics such as energy poverty, home improvement, district renewal, unburdening of the heat supply, and individual customer questions.</li> <li>• Have a clear rate policy: Energy is a primary necessity of life, which must be affordable. Experience gained has made it clear that 'energy poverty' is an important issue that must be taken into account in the energy transition. This means that the energy transition also affects social and financial issues and that the question must be answered by whom the bill must and can be paid in order to make buildings more sustainable. This can be done through a clear tariff policy.</li> </ul> <p>There are also several lessons learned on the technical side. Regarding the network, the lessons learned are:</p> <ul style="list-style-type: none"> <li>• Align the construction of the heat network with local plans of the municipality to create benefits by using matching opportunities</li> <li>• Ground-bound homes have an unprofitable peak: look for financial opportunities i.e. grants, and focus first on large apartment buildings even if they take a longer time to connect</li> <li>• Provide sufficient contracts/certainties as a basis for success: by contracting in advance and be ready to supply heat even through small-scale, temporary heat stations.</li> </ul> <p>Regarding the production, the lessons learned are:</p> <ul style="list-style-type: none"> <li>• Beware of changes in rules and legislation on sustainability and durability. The project initially foresaw a production with geothermal heat sources, benefiting from strong state policy supporting the development of geothermal energy. There was a reverse action of the government following a reassessment of the risks and much more media exposure. This is not limited to geothermal energy, the environmental credential of biomass energy and gas-CHP considerably shifted during the last years.</li> <li>• Diversify early on the sources of sustainable heat, to mitigate the above-mentioned risk.</li> <li>• Consider re-use of installation components. The FB has developed a temporary heat supply with gas-boiler and CHPs that will be used not only during the whole implementation but also beyond as peak/back-up facilities.</li> </ul>
<p><b>Further information sources</b></p>	<p>N/A</p>
<p><b>Contact person at ELENA Beneficiary</b></p>	<p>Emiel Flart - <a href="mailto:e.flart@warmtestad.nl">e.flart@warmtestad.nl</a></p>