



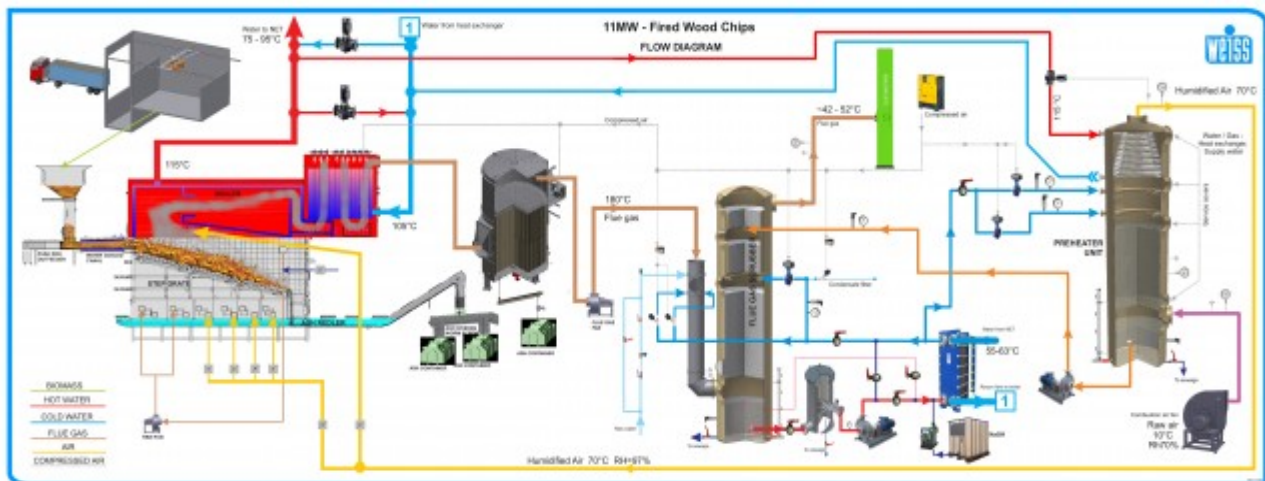
ELENA Completed Project Factsheet

District Heating 2.0 Stadsverwarming Purmerend

Location	Purmerend, Netherlands
Beneficiary	District heating company of Purmerend (Stadsverwarming Purmerend (SVP))
CoM signatory	No
Sector	Energy efficiency, renewable energies, district heating.
Total PDS costs	EUR 2 364 924
ELENA contribution	EUR 1 791 900
Project development services financed by ELENA	<ul style="list-style-type: none"> • Preparation of tender documents and signature of work contracts for the partial energy retrofitting of the district heating network; • Elaboration of a business plan of a geothermal and a biomass new RE heat production facilities; • Identification of financing schemes and investment partners for the SPV, preparation and signature of long term biomass supply contract; • Preparation of tender documents and signature of work contracts for the biomass heat production facilities (geothermal heat source was abandoned).
Description of ELENA operation	<ul style="list-style-type: none"> • Set up of a dedicated Project Implementation Unit with internal and external staff in charge of preparing and implementing the complete investment programme (network and RE plants); • Technical external experts were hired for the preparation and the construction of the RE plants and the performance improvement of the district heating network; • Legal and financial expertise for preparation of tender documents for the investment programme was externalised.
Timeframe	October 2010 – September 2013
Basis for investment identification	Development vision of the district heating company to reduce losses and switch (from external gas fired heat supply) to own RE supply; linked to the action plan of the City of Purmerend having signed the Dutch “Climate Agreement”.
Investment programme description	<p>Improvement of the district heating network: the replacement of substations, elimination of unnecessary loops, improve “just in time” heat production.</p> <p>Construction of a biomass heat plant (44 MWth), including all the connection work to the heat grid, grid reinforcement, the necessary logistic components and gas fired peak load and back up boiler.</p> <p>Till September 2013 all the planned works started, but only part of the works were completed (e.g. part of the improvement of the district heating network).</p>
Investment in implementation phase	EUR 52 586 000
Expected results	<ul style="list-style-type: none"> • Energy savings: 40 GWh/y • RE heat generation: 260 GWh/y • CO₂ reduction: 39 100 t/y
Leverage factor	29

<p>Lessons learnt</p>	<ul style="list-style-type: none"> • A relatively small public district heating company is capable of modernising an ageing district heating network and replace to a great extent the fossil fuel based heat generation by biomass supplied by the national forest administration • Competent external expertise allowed implementing a highly performing solution for the district heating company and its clients, being an integral part of the city’s climate protection strategy (Klimaataakkoord) and delivering a substantial part of the overall targeted greenhouse gas emission reductions. • Time delays do occur more than expected. In certain cases these can be avoided through an early involvement of parties concerned (e.g. building permit authority). • The abandoning of two initial choices (use of geothermal heat and setting up a dedicated special project vehicle) took more time and efforts than initially foreseen in particular the coordination with the shareholder of SVP
<p>Further information sources</p>	<p>http://www.stadsverwarmingpurmerend.nl/actueel/warmteproductie</p>
<p>Contact Person at Beneficiary</p>	<p>Egbert Vrijen, Stadsverwarming Purmerend, E.Vrijen@svpbv.nl</p>

Biomass heat plant flow chart



Design of biomass heat plant



View of construction site

