



ELENA Project Factsheet Rotterdam-Leiden Heat Infrastructure

Location	Cities of Rotterdam and Leiden, the Province of South Holland, the Netherlands.
Beneficiary	Warmtebedrijf Infra N.V.
CoM signatory	No
Sector	<i>District Heating.</i>
Total PDS cost	<i>EUR 2 141 400.</i>
Elena contribution	<i>EUR 1 927 260 (90 %).</i>
Project development services (PDS) financed by ELENA	The preparatory activities for the Investment Programme contain technical studies needed to reach a design level that is sufficient in order to obtain the needed permits, to issue the tender documents and to form the basis for the investment decision.
Description of ELENA operation	ELENA will co-fund external assistance required to develop an Investment Programme which has the purpose to recover waste heat from the Shell refinery in Rotterdam. The waste heat will be transported using existing and new infrastructure, to be used in the existing district heating network in Leiden, a city located 27 kilometres north of Rotterdam.
Timeframe	1 January 2016 – 31 December 2018.
Basis for investment identification	In preparation of this Investment Programme, a series of preliminary surveys and studies have been carried out. A preliminary financial strategy is being developed in cooperation with external financial and legal expertise. The following preliminary agreements are in place: <ul style="list-style-type: none"> • Cooperation Agreement between cities of Rotterdam and Leiden. • Memorandum of Understanding signed between Warmtebedrijf Infra N.V. and Nuon. • Memorandum of Understanding signed between Shell and Warmtebedrijf Infra N.V. • Letter of Intent signed between Heineken and Warmtebedrijf Infra N.V.
Investment programme description	The Investment Programme includes two components: <ul style="list-style-type: none"> • An investment in the recovery of waste heat at Shell refinery (580,000 GJ / 20 MW_{th}), including the connection to the existing heat transport system (2.5 km). • An investment in heat transport infrastructure from Rotterdam to Leiden and Heineken brewery at Zoeterwoude (45 km).
Investment to be mobilized	EUR 108.6 million.
Expected results	Total CO ₂ reductions of 41,500 – 46,500 tonnes per year.
Leverage factor (Minimum 20)	56

Market replication potential	<i>The market replication potential for other municipalities is considered high. This project develops an innovative approach linking very closely waste heat recovery with the heat needs of the district heating network. An important element contributing to replicability is the use of waste heat energy to cover most of the heat demand. The substitution of fossil fuels for heat production by waste heat energy is not a widely used option for district heating.</i>
Project status	<i>Contract signed 15/12/15.</i>
Contact person at Beneficiary	<i>J.P. Hamers</i>