



## Sloewarmte

### Contribution to a sustainable seaport

#### Clients and case

In the port of Vlissingen, five companies work together to re-use residual heat in order to make the seaport more sustainable. Sloewarmte BV was established in 2014 by Evides Industriewater, North Sea Port and Martens Cleaning - a logistics company for industrial cleaning - in order to develop a residual heat coupling. The coupling connects Zeeland Refinery, Martens and COVRA, the central organisation for storage of radioactive waste.

The Sloewarmte project is part of the Green Deal that was agreed between the Province of Zeeland, North Sea Port and the Ministry of Economic Affairs in 2011.

#### Solution

Residual heat (energy) from Zeeland Refinery is transferred via a heat exchanger to the water in the closed circuit of Sloewarmte. The energy increases the temperature of the water to 140°C. The heated water is transported by pipeline to Martens and COVRA, where the energy is once more transferred via a heat exchanger to the clients. Martens uses the energy to purify used oil from ships and make it suitable for re-use. COVRA uses the energy for climate control in its offices. After heat exchange, the water has cooled to 70°C and is returned to Zeeland Refinery to be heated to 140°C again.



Evides constructed the residual heat coupling and is responsible for the operation and maintenance of the pipeline and installations and for the supply of the residual heat at the appropriate temperature to the customers. The circuit pipeline has a total length of 2.5 kilometres and is situated partly underground and partly above ground. The coupling was installed in 2015 and has been in use since the beginning of 2016. The residual heat coupling results in annual energy savings which are equivalent to the consumption of 1,500 households and a reduction of CO<sub>2</sub> emissions of around 4,300 tons a year, providing a significant contribution towards a sustainable seaport.

#### **Your partner for water management**

Evides Industriewater is part of Evides, the drinking water company in the Southwestern part of the Netherlands and has been a reliable and inventive water partner for the industrial sector since 1968. Evides Industriewater supplies 100 million m<sup>3</sup> of process water each year (partly via re-use solutions) and treats a similar quantity of wastewater.

These services are provided via 77 assets and 13 DBFO sites, which are built, owned and operated by Evides Industriewater throughout North-West Europe.

#### **Features**

*Start of operation*  
**2015**

*Technology*  
**Heat exchanger**

*Source*  
**Residual heat**

*Reduction*  
**4,300 tons CO<sub>2</sub>/year**

*Thermal capacity*  
**2,5 mega watt**

