



# Eneco, at the heart of society

Annual Report 2012 Eneco Holding N.V.



## Network reliability

### Network reliability

Our energy networks are among the very best in the world. We aim to maintain this position and, at the same time, prepare our networks for enhancing the sustainability of the energy supply.

The reliability of our networks is measured in terms of the average interruption duration per customer over a period of one year. We have set maximum targets for our electricity, gas and district heating networks. (See table Interruption duration energy networks).

In 2012, Stedin made investments in the quality of our networks to the amount of €374 million (2011: €388 million).

### Electricity network

The investments in the electricity network include the construction of Station Oostland, the construction of an energy infrastructure for Maasvlakte 2 and the large-scale renovations in the municipality Ronde Veenen and on the island Goeree Overflakkee. Part of the investment is aimed at reducing risks. This is achieved by creating a stable network and limiting the number and duration of interruptions as much as possible. In addition, we are preparing the networks for sustainable and local energy production.

### Prevention and earlier detection of interruptions

Information technology plays an increasingly larger role in grid management. We install state-of-the-art station automation systems that enhance the efficiency of the management of the networks as well as our business operations. Another example of the smart application of ICT is the first self-healing grid in the centre of Rotterdam, which enables us to reduce the duration of an interruption to just a few seconds. Remote access fault indicators, in the form of meters in our operations centre that instantly show the location of the fault, enable us to trace defects more quickly and immediately send a field service engineer to the right location. To reduce the number of interruptions, we are installing the so-called Smart Cable Guard in another part of the centre of Rotterdam. This is a system that detects errors in cables and connection sleeves on the basis of partial discharges. The

degree of discharge is an indicator for possible interruptions, which we are thus able to prevent.

### Incidents in Rotterdam and Nieuwegein

Maintaining the security of supply on the electricity network at the usual high level posed a challenge in 2012. In general, the performance of the networks was good. However, this good general performance was undermined by three major interruptions in Rotterdam at the beginning of the year and an interruption resulting from strikes of lightning in the network in the municipality Nieuwegein. These interruptions caused substantial inconvenience for large groups of customers, of which we are well aware. In 2012, Stedin took a number of measures to prevent problems of this nature as much as possible.

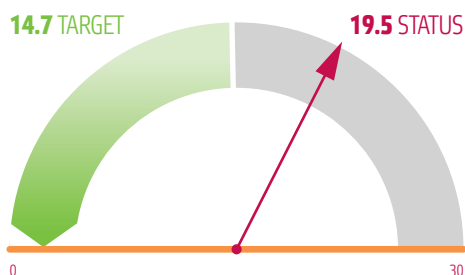
The events in and around Rotterdam were cause for Stedin to ask Kema to carry out an independent investigation. Kema concluded that these interruption were the result of a chance concurrence of events. The condition of the network in Rotterdam is good and Stedin carries out the management and maintenance of the network properly and has invested sufficiently in the network. The Kema's main recommendation was to pay more attention to security settings from the net. We have adopted this recommendation.

In addition, we have carried out a comprehensive risk assessment. On the basis of this assessment we have taken a number of measures, always putting the interests of our customers first. The crisis team has been strengthened and trained.

### Gas network

In 2012, the security of supply of the gas network was not as high as intended. The interruption duration amounted to 77 seconds, which is higher than the target of a maximum of 60 seconds. In addition to a number of defects, the increase was, for a large part, the result of safer working methods. By not letting employees and the fire department work in the proximity of a gas outflow but, instead, shutting the system down from a safe distance, customers are also cut off from the gas supply for a short period of time. A lot of attention is being paid to the replacement of cast

## AVERAGE INTERRUPTION DURATION ENERGY SUPPLY (ELECTRICITY, GAS AND HEATING)



iron gas pipes. Grey cast iron is vulnerable to damage in places where the ground moves, in certain types of soil and in places where work is carried out or where there is heavy traffic. In total, we will replace 2,000 kilometres of grey cast iron gas pipes. Stedin is still on schedule to complete this entire replacement process by 2029.

### Interruption duration district heating networks

The actual duration of supply interruptions was well below target in 2012. However, the target of 60 minutes will not be lowered for 2013. The reason for this, is that up to the end of 2012, supply interruptions only related to interruptions in the primary distribution system. As of 2013, the secondary system (only relevant for the district heating network in Rotterdam) will also be included in the calculations. In addition, a lower target would not have any effect on customer perception, since interruptions are only noticeable after a period of time due to the buffering functionality in the warm water system.

### INTERRUPTION DURATION ENERGY NETWORKS

Type of energy	Number of customers in millions.	Interruption duration (target 2012)	Interruption duration (realised 2012)	Interruption duration (realised 2011)
			35.6	
Electricity	2.1	25 minutes	minutes	25 minutes
Gas	1.9	60 seconds	77 seconds	50 seconds
District heating	0.1	60 minutes	26 minutes	33 minutes
Average interruption duration		14.7 minutes	19.5 minutes	13.8 minutes