

# Efficient power supply network

[GRI 103-1 dla Aspektu: Zapewnianie ciągłości dostaw energii ]

[GRI 103-2 dla Aspektu: Zapewnianie ciągłości dostaw energii ]

[GRI 103-3 dla Aspektu: Zapewnianie ciągłości dostaw energii ]

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Our priority: the availability, efficiency and safety of energy distribution networks.

Enea Operator is responsible for the distribution of electricity over an area of 58 213 km<sup>2</sup> covering six provinces: Wielkopolskie, Zachodniopomorskie, Kujawsko-Pomorskie, Lubuskie, and part of Dolnośląskie and Pomorskie.



In total, we have **122.4 thousand kilometres** of power lines and **37.82 thousand units** of power stations at our disposal (as at 31 December 2017).

## Programme for the Improvement of Network Operating Reliability

A key measure to ensure the reliability of power supply is **the Programme for the Improvement of Network Operating Reliability** and continuity of power supply at Enea Operator. The following activities, inter alia, are carried out under this programme:

- Modernisation of MV section lines in the scope of comprehensive modernisation of entire line sections including installation of remote-controlled connectors,
- Automation of the power distribution network with regard to the installation of remote-controlled switches in MV overhead lines and transformer stations and the modernisation of field controllers and concentrators,
- Elimination of short-circuit hazards in the MV network, aimed at increasing the cross-sections of MV line outputs from the GPZ, which will consequently increase the reliability of supply to Customers,
- Replacement of non-networked MV cables with cables with cross-linked PE insulation.

In 2017, we completed the process of detailed inventory of network facilities and their parameters, the purpose of which was to create the Network Information System. This system will enable the collected data to be effectively used in the operating activities of Enea Operator.



We have made an inventory of:

- **15 452** cubic stations
- **20 593** pole stations
- **65 474 km** of low voltage (lv) lines
- **45 862 km** of medium voltage (MV) lines
- **5 168 km** of high voltage (HV) lines

More detailed information about investments in the network can be found [HERE](#).

## Fight against accidents and the consequences of cataclysms

The second half of 2017 was special in terms of the scale and frequency of dangerous weather events that affected our distribution area. In total, as a result of August storms and Hurricanes Grzegorz and Ksawery:

- Approximately 3 600 power poles were damaged,
- Nearly 450 km of power lines were severed.

In these difficult conditions, our teams restored a total supply of electricity to more than **1 million consumers**, affected by the storms.

It was a great challenge for us, which we met thanks to the appropriate logistics, preparation and, most of all, commitment and great work of our teams.



**OUR GOAL** By 2025, we want to have reduced the [SAIDI](#) index to 144 minutes and the [SAIFI](#) index to 1.69.

Power supply disruptions

Details	2016	2017
<a href="#">SAIDI</a> planned and unplanned breaks including disastrous [minutes]	244.44	619
<a href="#">SAIFI</a> planned and unplanned breaks, including disastrous ones [pcs.]	3.85	4.31



The Enea Foundation donated almost **PLN 1 million** to the municipalities affected by the storms. This amount supported, inter alia, the renovation of buildings and public facilities and the purchase of specialist equipment for the Voluntary Fire Brigade.

Events having a significant impact on power supply disruptions in 2017:

Date of the event	11/12 August 2017	5 October 2017	29 October 2017
Type of disaster	Violent storms	Hurricane Ksawery	Hurricane Grzegorz
Scope of damage	The disaster destroyed a total of about 70 high-voltage poles, at the culminating moment, i.e. on the night of 11/12 August, 14 Main Power Points, 7268 MV/lv power stations, 313 medium-voltage lines and as many as 24 110kV high-voltage lines, crucial for the system, were damaged.	48 110kV lines and 46 Main Power Points were subject to emergency shut down from our distribution area in the event of an emergency. Nearly 15 000 MV/lv transforming stations were left without power supply.	After its passing, there were 12 HV 110kV lines and 300 MV lines, three HV/MV stations and 3754 MV/lv stations without voltage.
Range of injured Customers	Approx. 250 000 customers without electricity	Approximately 600 000 customers without electricity	More than 160 thousand PLN. Consumers without electricity
Crisis management	During the first two days, power supplies were restored to up to customers.	Within nearly 48 hours, about 95% of consumers, i.e. households and businesses, had their electricity supply restored.	n the evening of October 29th, electricity supplies were restored to most of the Customers. On 30th October the last damage to the MV lines was repaired and, on that day, electricity was restored in all houses.