

Generation adequacy electricity



Until 2025 the standard is met. After that, reliability is more uncertain

Every year, TenneT analyses security of supply in the Netherlands by checking if sufficient electricity is always available to meet demand. Security of supply is expected to remain within the reliability standard until 2025 and beyond. However, after 2025, the Netherlands will become more dependent on imports. Thus, TenneT considers European cooperation on security of supply an important condition for addressing uncertainty after 2025.

Main conclusions of the report

- Generation adequacy in the Netherlands will meet the standard until 2025. There is sufficient production capacity in the Netherlands within this period to meet national electricity demand. Thanks to TenneT's interconnections with neighboring countries, the standard of four hours per year (shortage of electricity supply compared to demand) is not expected to be exceeded, even in extreme scenarios.
- After 2025, the number of gas-fired power stations in the Netherlands will decrease, and the use of coal for electricity generation will be banned from 1 January 2030. This will increase dependence on foreign countries for security of supply (see Figure 1). Based on current data, sufficient electricity generation capacity is available in neighbouring

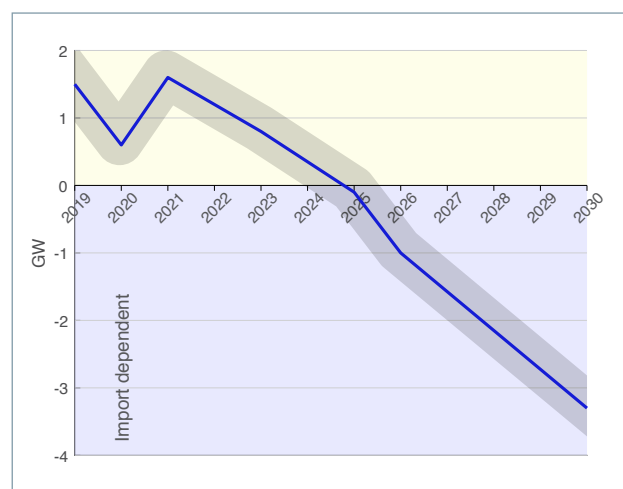


Figure 1 Surplus generation capacity in the Netherlands. The chart shows that from 2025 the Netherlands will depend on imports.

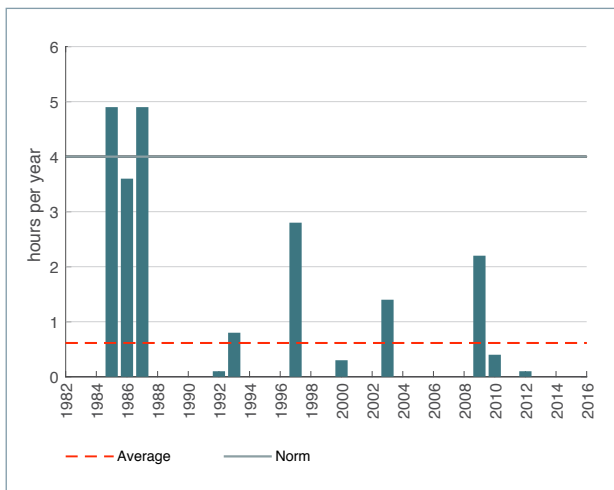


Figure 2 The expected number of hours with a shortage in 2030 is an average. The shortage varies per chosen historical weather year.

countries to allow for export to the Netherlands. Consequently, even in 2030 the average shortage will not exceed the four-hour standard (see Figure 2). In individual historical weather years, the number of hours with shortage may exceed four hours per year.

- The energy landscape in 2030 and beyond is still very much uncertain. Energy supply is largely subject to government policy, both in the Netherlands and abroad. In addition, it is still unclear how electricity producers and customers will respond to changing policies and electricity consumption.
- Due to the dependence on imports, it is crucial that the Netherlands discusses and agrees a policy about available production capacity for electricity with neighbouring countries to prevent any collective shortages.

Major developments until 2030

Electricity generation from solar and wind energy will increase. At the same time, the number of operational coal and natural gas plants is expected to fall. Similar trends are expected in neighbouring countries, where additionally several nuclear plants are also expected to close down.

Due to these developments, electricity generation is becoming more weather dependent and less controllable. As a result, there is a greater chance that neighbouring countries also experience electricity shortages and surpluses at the same time as the Netherlands does.

Despite expected efficiency increases in electricity consumption, total electricity demand until 2030 is

expected to increase slightly by 1.4%. This is caused by growing electrification in industry and the built environment.

TenneT's analysis

TenneT has analysed the abovementioned developments by considering several scenarios. Particular attention is given to the impact of the Climate Agreement.

In the analysis, the entire European electricity market has been simulated in detailed until (and including) the year 2030. Each scenario considers weather variability over the past 35 years, unexpected power plant outages and other sensitivities, such as a further reduction in the number of operational gas-fired power plants.

The conclusions of this analysis are provided in the [Generation adequacy report](#), which is published annually. A recommendation to the Minister of Economic Affairs and Climate Policy is also included in the report.

The major conclusions of the 2019 analysis of security of supply are described in this one-pager.



Mutual collaboration is crucial for security of supply.

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