Generation adequacy electricity

TenneT annually analyses the security of electricity supply in the Netherlands and checks whether there is sufficient supply of electricity to meet demand at all times. Up to 2025 the security of supply is expected to be within the standard. This will continue to be the case from 2025 onwards, although the Netherlands will then be dependent on imports. TenneT considers European cooperation on security of supply to be an important condition for addressing uncertainties after 2025.

Main conclusions of the report

- Generation adequacy in the Netherlands will be within the standard up to 2025. During this period there is sufficient production capacity in the Netherlands to cover national peak electricity demand. Analysis based on a European model shows that, thanks to TenneT's interconnections with neighboring countries, the standard of 4 hours per year (shortage of electricity supply compared to demand) is not be expected to be exceeded, even in extreme scenarios.
- From 2025 onwards, the number of gas-fired power plants in the Netherlands will decline. In addition, a decrease in biomass/coal capacity is expected in 2028 and 2030. Electricity consumption will also increase. This will increase dependence on foreign countries for security of supply. Based on current data, sufficient electricity production capacity is available abroad for export to the Netherlands. As a result, even in 2030, the average shortage does not exceed the 4 hours standard. In individual historical

weather years however, the number of hours with a shortage may exceed 4 hours per year.

- Due to the increasing importance of imports and exports for the security of supply of the Netherlands and neighboring countries, it is crucial that the Netherlands discusses and aligns policies which affect the available production capacity for electricity with neighboring countries in order to jointly avoid shortages, and ensure a secure supply of electricity to all consumers in the region.

Most significant developments up until 2030

The energy landscape of the Netherlands is going to change considerably over the next 10 years. For example, there will be an increase in electricity generation from solar and wind resources. In addition, the number of coal- and gas-fired power plants is expected to decrease. The same trend is visible in neighboring countries, where additionally several nuclear power plants are also expected to close down.

Due to these developments electricity generation will become more weather-dependent and less controllable. As a result, it is more likely that electricity shortages and surpluses will occur abroad at the same time as in the Netherlands.

Despite expected efficiency increases efficiency in electricity consumption, total electricity demand is expected to increase by more than 5% until 2030. This is due to an increase in electrification in industry and the built environment.

Uncertainties about the energy landscape will further increase from 2030 onwards. The energy supply is to a large extent 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.

TenneT's analysis

TenneT has analyzed the abovementioned develop-ments. Various scenarios have been used, including the Climate Agreement. In the analysis the entire European electricity market has been simulated in detail until (and including) 2030.

The scenarios used are subject to the weather conditions of the past 35 years, unexpected power plant outages and other sensitivities, such as an additional reduction in the number of gas-fired power plants. The number of hours per year in which all electricity demand cannot be met were investigated, according to a standard of 4 hours per year.

The conclusions of this analysis are presented 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 main conclusions of the 2020 security of supply analysis are provided in this one-pager.

TenneT TSO B.V.
PO Box 718, 6800 AS Arnhem
Telephone: (0800) 836 63 88
E-mail: communicatie@tennet.eu
www.tennet.eu