

Forecasts: usefulness and necessity



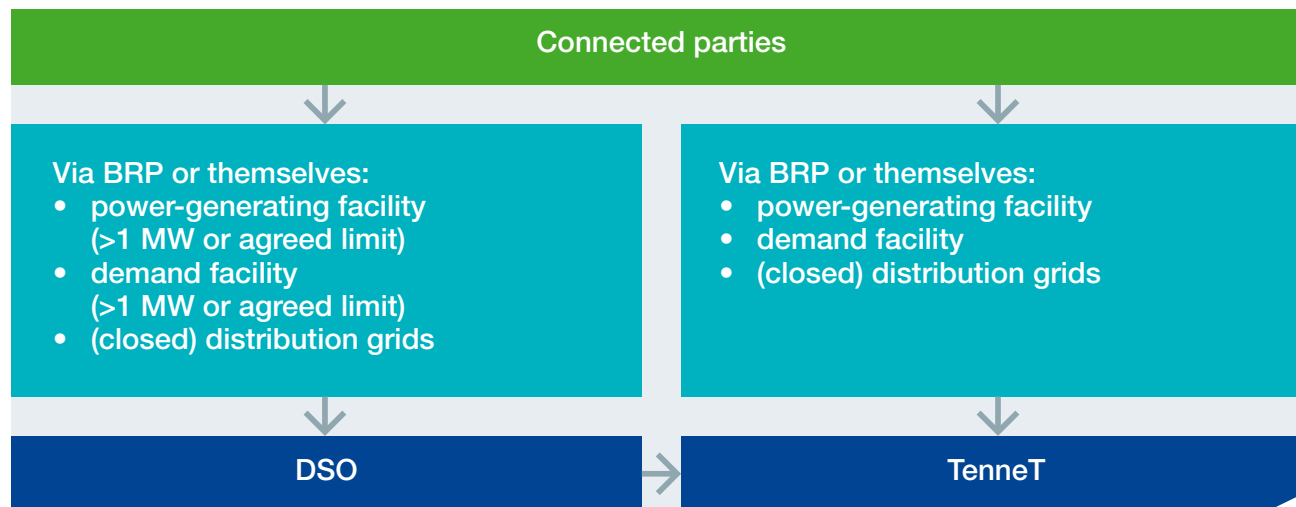
What are forecasts?

Forecasts are estimates of required transmission capacity for the production or consumption of electricity. Power-generating facilities, demand facilities and (closed) distribution system operators (CDSO/DSO) provide forecasts for the expected production and/or consumption of electricity over each individual grid connection point of the connections with the power grid in a 15-minute resolution.

In accordance with the Electricity Grid Code (section 13.2), the forecasts must be submitted to the relevant grid operator one day in advance, supplemented with any changes during the execution day. The grid operators then use this to plan the safe and efficient transmission of electricity via all grids. This schedule also factors in any electricity transmission interruptions as a result of faults and maintenance work.

The current Electricity Act, article 16, stipulates that a grid operator must have sufficient transmission capacity at its disposal to carry out its activities under normal conditions.





What information does the connected party submit?

- Power-generating facilities submit their expected production per primary energy source over each individual connection point.
- The demand facilities submit the amount of active and reactive power they expect to take from the grid over each individual connection point.
- CDSOs that use the provisions stated in article 5.8 of the Electricity Grid Code must adhere to the same regulations as a DSO.
- DSOs submit their expected production per primary energy source and their expected consumption, both for active and reactive power for the individual connection points of their connections.

Which party submits forecasts to which grid operator?

- Parties directly connected to the TenneT grid must submit forecasts to TenneT. The connected parties may decide to outsource this to a Balance Responsible Party (BRP), but they remain responsible for the data quality.
- The CDSOs and DSOs connected to the TenneT grid submit their forecasts to TenneT.
- Parties connected directly to CDSOs or DSOs submit the forecasts to the relevant CDSO or DSO.

How does this differ from E-Programmes?

- An E-Programme provides an overview of the net volumes traded by each BRP during each 15-minute period. Every day, TenneT uses E-Programmes to verify the consistency of the volumes traded by the various BRPs.
- A forecast is a prognosis of the planned consumption and/or planned production, per 15-minute period and per individual connection point.
- A forecast is used for grid security analyses.

Usefulness and necessity of forecasts

Precise predictions of future electricity transmission based on forecasts enable grid operators to ensure that the grid delivers a safe, continuous and uninterrupted supply of electricity. The grid operators use the submitted forecasts to check whether any transmission problems are expected and to take measures to prevent these. Forecasts are also used to:

- Perform grid security analyses to schedule infrastructure maintenance work and handle congestion in specific areas.
- Calculate grid losses in advance.
- Calculate the secure available cross-border transmission capacity and the capacity domain which is available for auction/the market.

Importance of reliable forecasts

Reliable forecasts are important for the following reasons:

- Reliable forecasts reduce the risk of a shortage of available transmission capacity, which reduces the need for industrial consumers to adjust electricity consumption and for power plants to adjust electricity production.
- More reliable grid security analyses increase the reliability of the grid.
- Smaller safety margins enable more efficient use of transmission capacity.
- Smaller safety margins also ensure the availability of more interconnection capacity.

Large differences between the forecasts and actual transmission amount over the connection points can result in incorrect outcome relating to the above-mentioned calculations. This could lead to additional costs in implementing mitigating measures to prevent congestion and safeguard grid security. Accurate forecasts prevent the prediction of incorrect congestion, which can avoid or reduce unnecessary costs associated with measures.

Improving forecast quality

Changes in the energy landscape demand the availability of more detailed information than was required until now. This will enable better calculations relating to all investments. We need to be able to utilise the existing transmission grid more effectively so we can continue to meet medium and long-term transmission capacity demand.

After all, projects to expand the physical infrastructure take years to complete. Furthermore, it is becoming increasingly important to perform accurate grid security analyses and international grid safety calculations. New network codes are also being prepared for this in Europe and these will also apply in the Netherlands. Access to timely and reliable information is absolutely essential in this regard. Accurate forecasts provide an effective solution to this problem and are therefore becoming increasingly important. However, comparisons of actual measured values show that the quality of forecasts currently leaves much to be desired. Grid operators are responsible for safeguarding the quality of these forecasts.

How can we improve quality?

Forecast quality must be improved to achieve the goals outlined earlier. Because of the importance of accurate forecasts to all parties involved (society and market), the grid operators are taking a number of steps to improve quality. After reviewing the results, possibilities for improvement will be discussed with the individual parties and the entire market.

Grid operators are taking the following measures for this:

- Providing feedback regarding timeliness.
- Providing feedback on quality through regular reports on the differences between forecasted and measured values.
- Providing long-term reports to individual parties.
- Holding individual consultations with market parties about the forecasts.
- Providing advice on process and system design.
- Organising information sessions for the various customer groups.

More information

For more information on the above please contact the TenneT Customer Care Centre via telephone number +31 (0)88 936 17 17 or e-mail: tennetccc@tennet.eu. You can also visit our website www.tennet.eu for more information.

