
Availability of transmission capacity in the Nordics

Q1/2017

Report description

This report provides aggregated information about available electricity transmission capacities between Nordic bidding zones and neighboring countries.

The figures show the average share of available capacity on the day ahead market (ATC) to the maximum capacity (max NTC) on each border and direction.

Calculation formula

- $\text{Average}(\text{ATC}_H / \text{max NTC}_H)$ for $H=1, \dots, n$

max NTC = Maximum net transfer capacity:

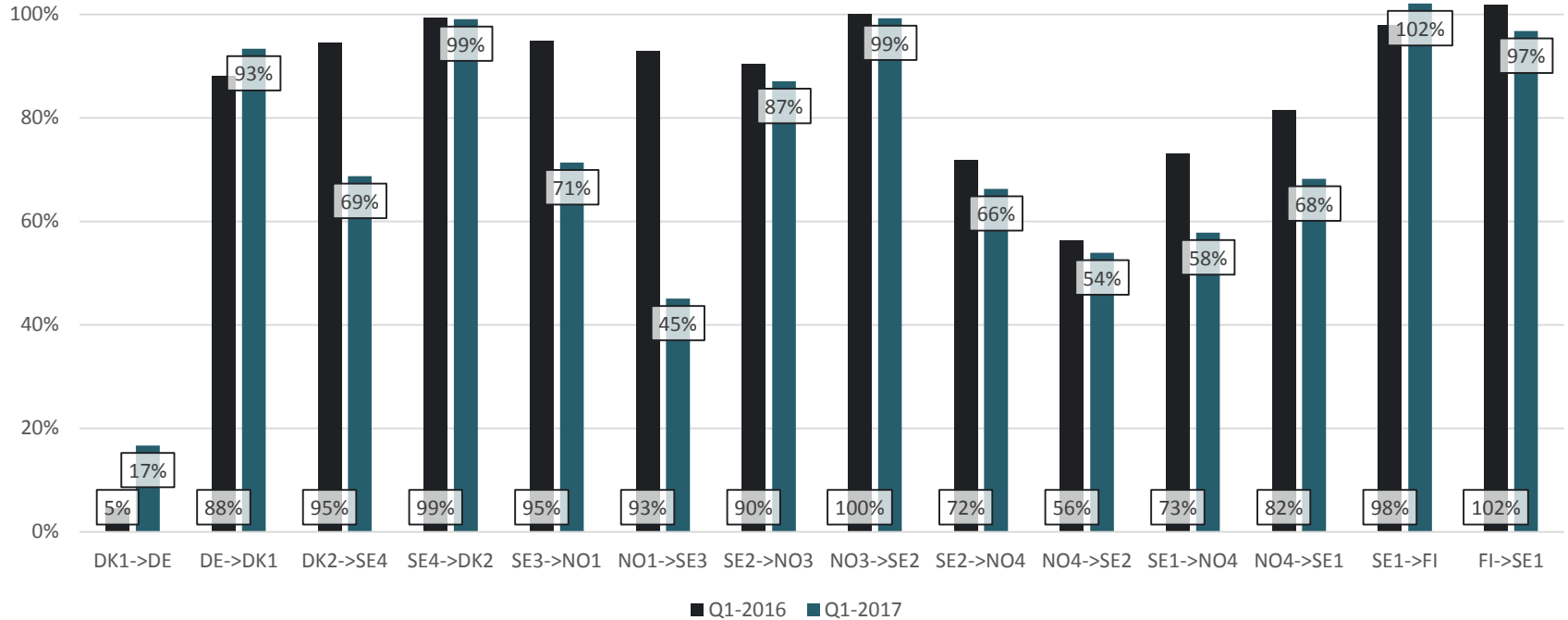
- The capacity that can be given to the market when there are no outages taking into account system reliability issues, and the power flows are favorable.

ATC= Available transfer capacity :

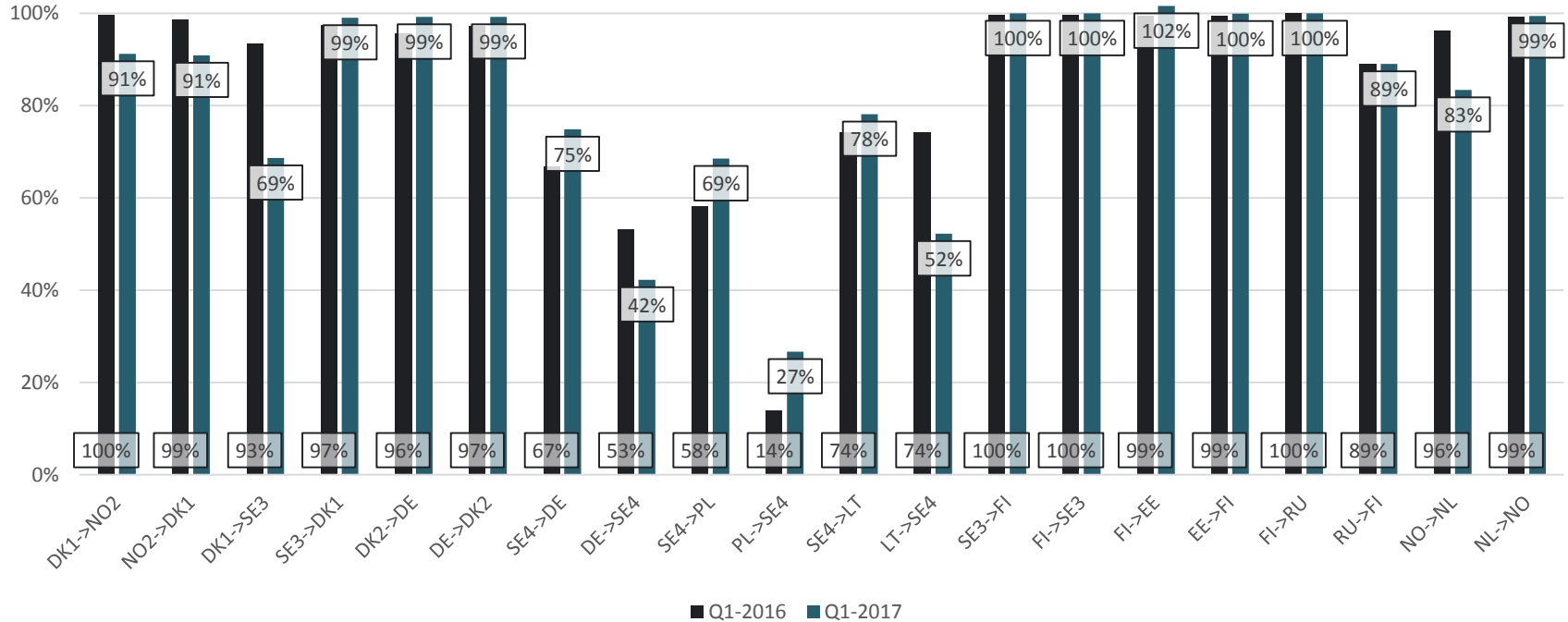
- The capacity given to the day-ahead market in the specific hour calculated based on the TSOs grid models and taking possible outages into account.

Q1/2016 & Q1/2017

AC-interconnectors - quarterly



DC-interconnectors - quarterly



Reasons for reduced* availabilities

* Availability below 75 %

Q1/2016

- **NO4-SE1 (North Norway-Sweden)**
 - The main reasons for the reduction of capacity between Norway (NO4) to Sweden (SE1) was outages in the Norwegian grid due to voltage upgrades.
- **NO4-SE2 (North Norway-Sweden)**
 - The main reasons for the reduction of capacity between Norway (NO4) and Sweden (SE2) was outages in the Norwegian grid due to voltage upgrades.
- **FI-SE1 (Finland – North Sweden)**
 - Reason for the ATC exceeding max NTC is the handling of transit flow from Sweden via Finland to Norway.
- **DK1-DE (Western Denmark- Germany)**
 - The capacity from West Denmark (DK1) to Germany (DE) have been very low in Q1-2016. The reason is the stressed German grid. The German TSO, TenneT is doing a lot of grid enforcements to relieve the stressed grid. This results in the capacity having to be reduced especially in the periods where TenneT is working on the grid.
- **SE4-PL (Sweden-Poland)**
 - The main reason for reduction of capacity from Sweden (SE4) to Poland (PL) was found in Poland. The reasons for reduction in capacity from Poland (PL) to Sweden (SE4) were found on both sides. The main reason in Sweden for reductions was congestion in the West Coast Corridor.
- **SE4-DE (Sweden-Germany)**
 - The main reason for reduction of capacity from Sweden (SE4) to Germany (DE-TenneT) was found in Germany. The reasons for reduction in capacity from Germany (DE-TenneT) to Sweden (SE4) were found on both sides. The main reason in Sweden for reductions was congestion in the West Coast Corridor.
- **SE4-LT (Sweden-Lithuania)**
 - The main reasons for reduction of capacity from Lithuania (LT) to Sweden (SE4) and from Sweden (SE4) to Lithuania (LT) were cable faults.

Reasons for reduced* availabilities

* Availability below 75 %

Q1/2017

- **DK1-SE3 (Western Denmark-Sweden)**
 - The main reason for reduction of capacity from Denmark (DK1) to Sweden (SE3) was congestion in the West Coast Corridor in Sweden.
- **DK2-SE4 (Eastern Denmark-Sweden)**
 - The main reason for reduction of capacity from Denmark (DK2) to Sweden (SE4) was congestion in the West Coast Corridor in Sweden.
- **NO4-SE1 (North Norway-Sweden)**
 - The main reasons for the reduction of capacity from Norway (NO4) to Sweden (SE1) was outages in the Norwegian grid due to voltage upgrades, the rebuilding of Ofoten station, and congestions on 220 kV Gardikfors-Grundfors.
 - The main reason for the reduction of capacity from Sweden (SE1) to Norway (NO4) was outages in the Norwegian grid.
- **NO4-SE2 (North Norway-Sweden)**
 - The main reason for reduction of capacity from Norway (NO4) to Sweden (SE2) was outages in the Norwegian grid due to voltage upgrades, and congestions on 220 kV Gardikfors-Grundfors.
 - The main reason for reduction of capacity from Sweden (SE2) to Norway (NO4) was outages in the Norwegian grid.
- **NO1-SE3 (Southern Norway-Sweden)**
 - The main reason for reduction of capacity from Norway (NO1) to Sweden (SE3) was reduced capacity on 420 kV Sylling-Tegneby due to fault on cable in June 2016.
 - The main reason for reduction of capacity from Sweden (SE3) to Norway (NO1) was congestion in the West Coast Corridor in Sweden.
- **FI-SE1 (Finland – North Sweden)**
 - Reason for the ATC exceeding max NTC is the handling of transit flow from Norway via Finland to Sweden.
- **DK1-DE (Western Denmark-Germany)**
 - The capacity from West Denmark (DK1) to Germany (DE) has been very low in Q1-2017. The reason is the stressed German grid. The German TSO, TenneT is doing a lot of grid enforcements to relieve the stressed grid. This results in the capacity having to be reduced especially in the periods where TenneT is working on the grid.
- **SE4-PL (Sweden-Poland)**
 - The reason for reduction of capacity from Sweden (SE4) to Poland (PL) was found in Poland. The reasons for reduction in capacity from Poland (PL) to Sweden (SE4) were found on both sides. The main reason in Sweden for reductions was congestion in the West Coast Corridor.
- **SE4-DE (Sweden-Germany)**
 - The main reason for reduction of capacity from Sweden (SE4) to Germany (DE-TenneT) was found in Germany. The reasons for reduction in capacity from Germany (DE-TenneT) to Sweden (SE4) were found on both sides. The main reason in Sweden for reductions was congestion in the West Coast Corridor.
- **SE4-LT (Sweden-Lithuania)**
 - The main reasons for reduction of capacity from Lithuania (LT) to Sweden (SE4) were cable faults and congestion in the West Coast Corridor in Sweden.
- **FI-EE (Finland – Estonia)**
 - The losses for the connection are purchased 50/50 by Fingrid and Elering and ATC is adjusted to that. NTC should be updated accordingly.