Nordic Winter Power Balance Forecast 2017 – 2018

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POWER BALANCE 2017-2018

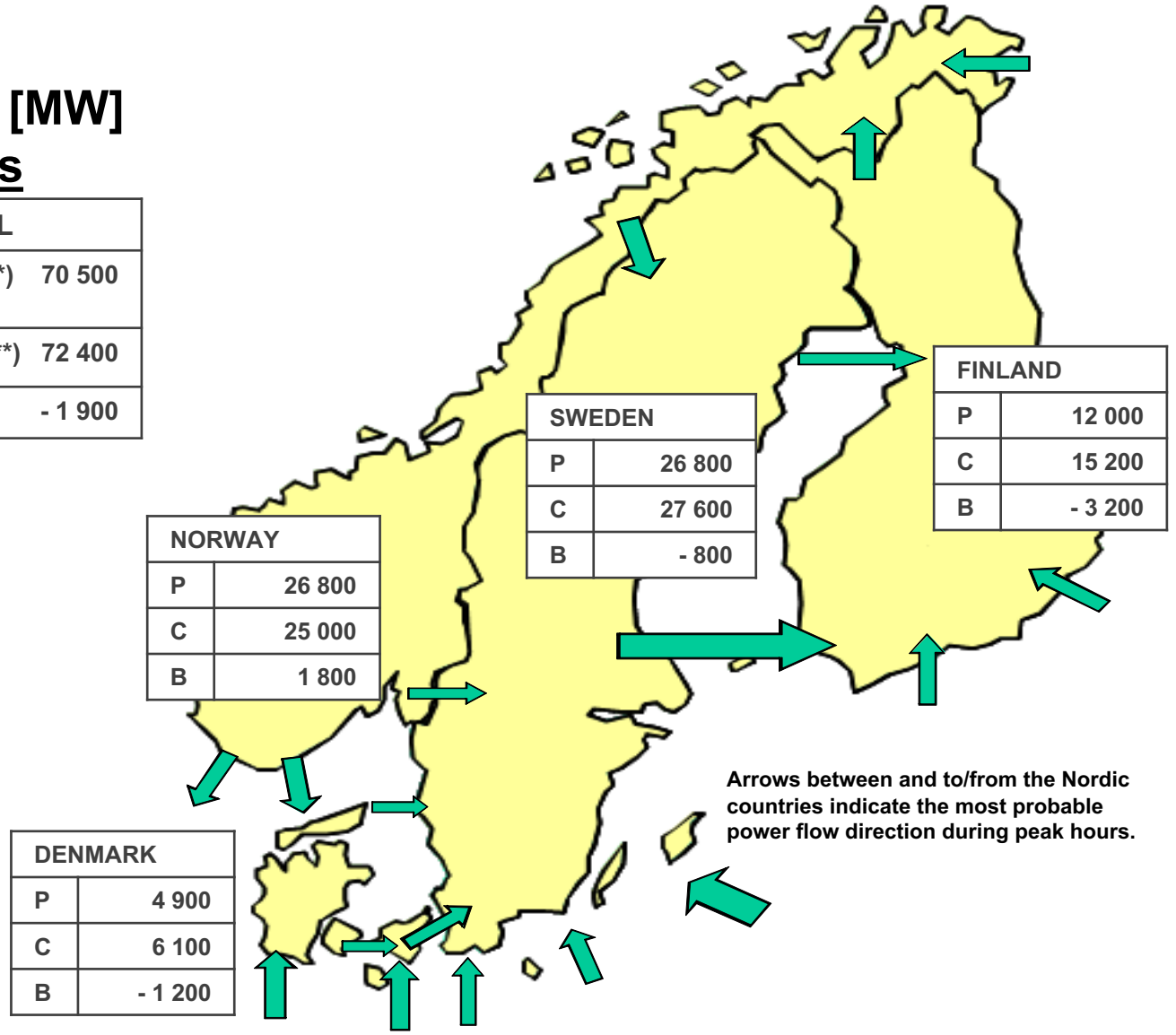
With estimated power exchange [MW]
Cold winter day in 1 of 10 winters

NORDIC MARKET	TOTAL
P = Available capacity for market, TSO reserves excluded	*) 70 500
C = Peak demand	**) 72 400
B = Balance without power exchange	- 1 900

Remarks :
*) Assumed availability in percentage
Nuclear power: 100 % in Finland, 90 % in Sweden
Wind power: 6 % in Finland, 11 % in Sweden,
11 % in Norway, 5 % in Denmark

**) Nordic peak demand 2 % lower than sum of national peaks.

TSOs' contracted reserves are excluded from this forecast.



Comments

Denmark

- The winter 2017/2018 is expected to be normal with no particular problems, even if Denmark is a deficit area in severe winter conditions. The critical point in the Danish system is the power balance in Denmark East, which is weaker compared with Denmark West. The balance on Denmark East is dependent on interconnectors from Denmark West, Sweden, and Germany. The wind power in Denmark is only taken into account with 5% which is the statistical value, but there might be a higher amount depending on wind conditions. Solar power is not taken into account as we predict the peak to be in the late afternoon in hour 18.

Finland

- Finland is strongly dependent of electricity import during peak hours. Compared to the previous winter, the situation has remained quite the same. The 3.2 GW deficit is expected to be met with import from neighboring areas. However, in case of a major power plant or interconnection failure in cold period, there is a risk for power shortage. The import capacity on interconnections, 5.1 GW, is sufficient to meet the deficit. However, it should be noted that there are uncertainties with Russian import due to the impact of capacity payments on the Russian electricity markets.
- During the winter period of 2017/2018, there is 22 MW load reduction available as a part of the peak load reserve, in addition to the figures presented on the previous slide.

Norway

- The power balance in Norway is expected to be positive during peak hours, with export to Denmark, Sweden and the Netherlands. The exchange between Southern Norway and Sweden is expected to be around zero on a cold winter day.
- The export capacity is expected to be higher compared with last winter due to the new 420 kV cable Sylling-Tegneby.

Sweden

- During peak hours at severe conditions, the power balance in Sweden is expected to be negative and import is expected to play a role in maintaining adequacy. The Swedish power balance is approximately 600 MW weaker than previous winter, mainly due to the decommissioning of the nuclear power plant Oskarshamn 1.
- Outdoor temperatures and availability of the Swedish nuclear power are the main factors impacting on the balance.
- During the winter period of 2017/2018, there is 185 MW load reduction available as a part of the peak load reserve, in addition to the figures presented on the previous slide.

Overall assessment

On a cold winter day in 1 of 10 winters the total Nordic power system is for the winter 2017-2018 expected to have a negative power balance of -1900 MW in peak hours, which must be imported from neighbouring systems. This is a change of -300 MW from last year's forecasted power balance.

The Nordic power balance is highly dependent on the availability of transfer capacity between the Nordic countries, import from other synchronous areas and high availability of nuclear power plants.

Available capacity on interconnectors into the Nordic system cannot simply be added to the power balance. The transmission capacity for the market may be reduced to keep the transmission system within agreed limits for operational security.

Comments and assumptions

Assumed wind power production will be 120 FI + 739 SE + 126 NO + 250 DK = 1235 MW (1098 MW in previous winter), but naturally the uncertainty is high during a peak load situation.

During high-price periods, the price elasticity of consumption might reduce the peak demand compared to the presented values. This will improve the power balance.

Production and Consumption trending