

Nordic Winter Power Balance Forecast 2015-2016

Approved in RGN 3rd December 2015



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POWER BALANCE 2015-2016

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

NORDIC MARKET	TOTAL
P = Available capacity for market, TSO reserves excluded	*) 70 300
C = Peak demand	**) 71 250
B = Balance without power exchange	- 950

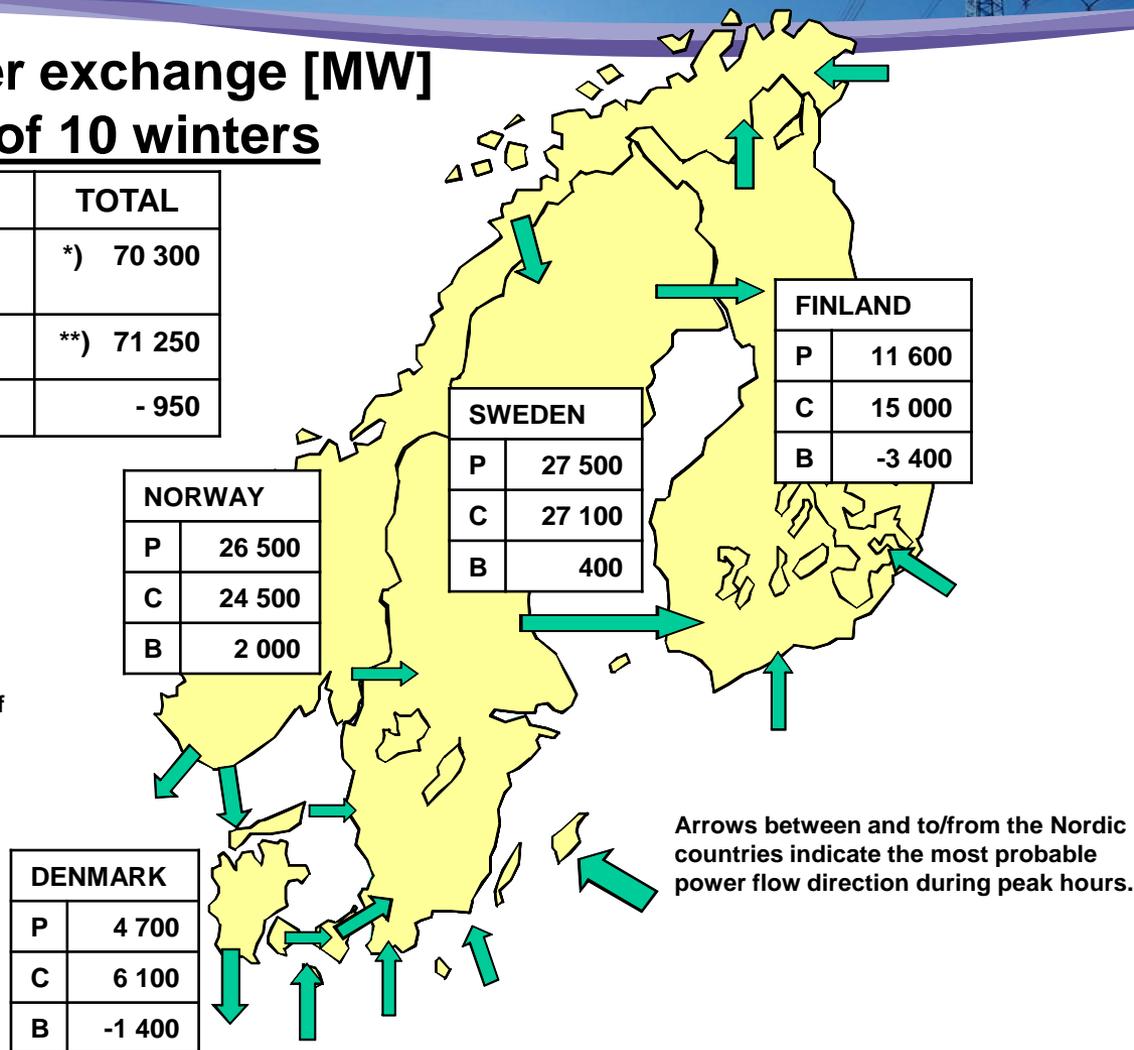
Remarks :

*) Assumed availability in percentage
Nuclear power: 100 % in Finland, 90 % in Sweden

Wind power: 6 % in Finland, 11 % in Sweden, 5 % in Norway, 3,2 % in Denmark

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

TSOs' contracted reserves are excluded from this forecast.



POWER BALANCE 2015-2016

Comments

Denmark

- The winter 2015/2016 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 to Denmark West, Sweden, and Germany. The wind power in Denmark is only taken slightly into account, but there might be some amount depending on wind conditions.

Finland

- Finland is strongly dependent of electricity import during peak hours. The power balance is significantly more severe than previous winters, because decommissioning of the thermal plants has continued and reduced available capacity roughly 900 MW. The deficit is expected to be met with import from neighbouring systems, but if there will be major disturbances the risk for power shortage will increase. The total import capacity to Finland is around 5000 MW.

Norway

- The power balance in Norway is expected to be positive during peak hours, with export to Denmark, Sweden and the Netherlands. The export to Sweden from Southern Norway is expected to be low or zero on a cold winter day.
- The natural gas power plant Kårstø is in preservation, and the capacity is no longer available for the market.

Sweden

- The power balance in Sweden is expected to be positive during peak hours.
- Outdoor temperatures and availability of the Swedish nuclear power are the main factors impacting on the balance.
- Production in the Swedish nuclear power plant Oskarshamn 2 is discontinued, which makes the availability of the remaining nuclear power essential.
- During the winter period of 2015/2016, there is 340 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 2015-2016 expected to have a negative power balance of -950 MW in peak hours, which must be imported from neighbouring systems. This is a deterioration of last year's forecasted power balance of 1500 MW.
- 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 900 MW, 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.