

POWER BALANCE 2008/2009

With estimated power exchange [MW] ****)

Cold winter day in 1 of 10 winters

NORDEL	TOTAL
P = Available capacity TSO reserves excluded	*) 73 900
C = Peak demand	***) 73 400
B = Balance without power exchange	500
NE = Net power exchange to Nordel area	1 800
R = Reserves available for the TSOs	5 400

*) inclusive 6% (280 MW) wind power

**) ~ 2 % lower than sum of national peaks

***) Including 300 MW reducible load

****) arrows between and to/from the Nordic countries indicate the most probable power flow direction during peak hour

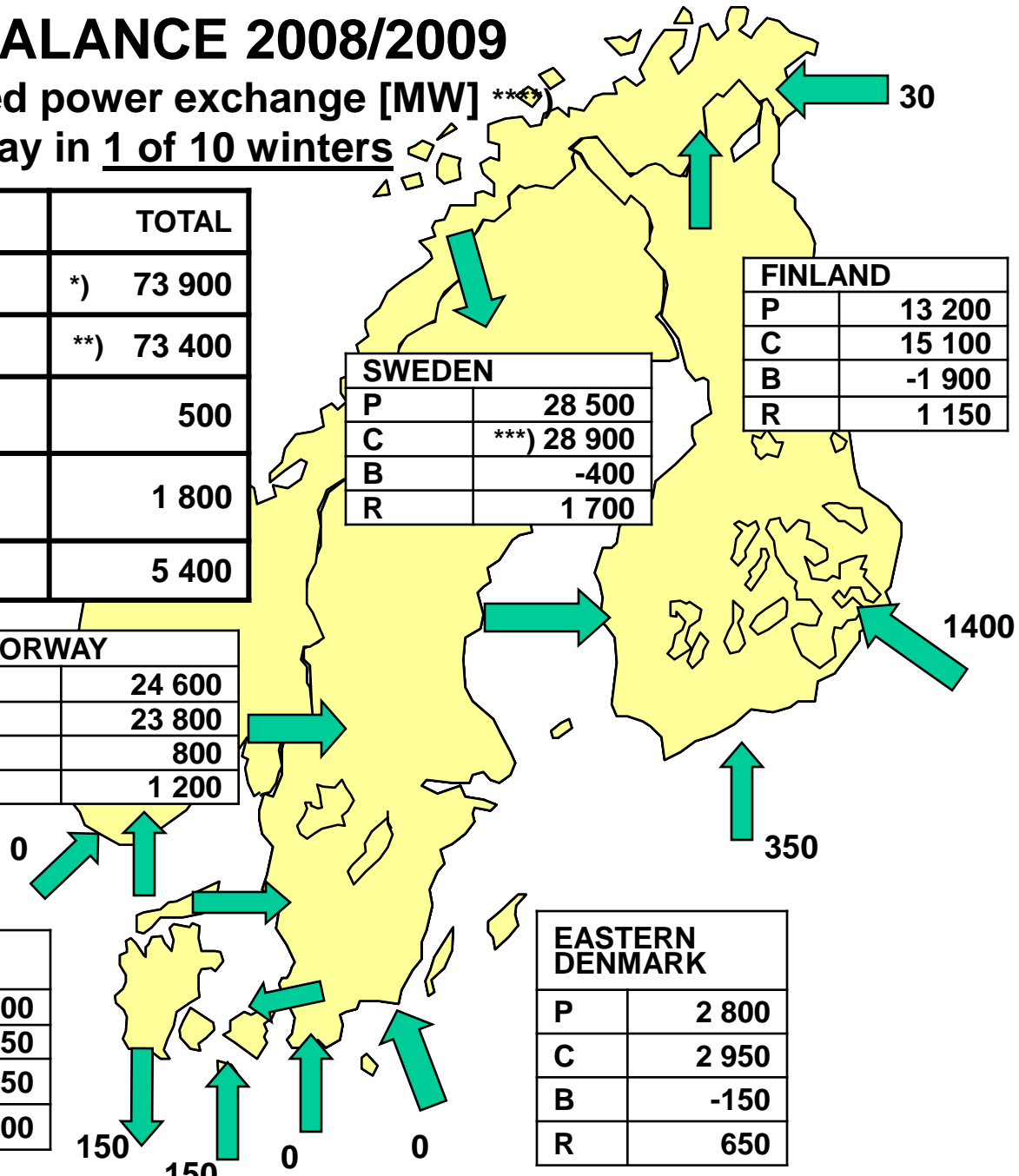
NORWAY	
P	24 600
C	23 800
B	800
R	1 200

SWEDEN	
P	28 500
C	***) 28 900
B	-400
R	1 700

FINLAND	
P	13 200
C	15 100
B	-1 900
R	1 150

WESTERN DENMARK	
P	4 500
C	4 150
B	350
R	700

EASTERN DENMARK	
P	2 800
C	2 950
B	-150
R	650



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Definitions

DEFINITIONS	
Available capacity (P)	Installed generation capacity including peak load reserves, but excluding: <ul style="list-style-type: none"> • unavailable generation capacity • frequency controlled reserves • fast active disturbance reserves (only production)
Peak demand (C)	Maximum consumption in temperature circumstances with appearance probability one winter during 10 years.
Power balance without power exchange (B)	Available capacity (P) - Peak demand (C)
Net power exchange (NE)	Estimated power exchange to the Nordel area
Reserves (R)	Reserves available for TSOs including frequency controlled reserves and fast active disturbance reserves (only production)

FUNDAMENTALS

- Peak demand in Finland is estimated to decrease approximately 100 MW compared to last winter due to made and planned shutdowns in paper industry.
- Supply of natural gas to the power stations in Denmark is expected to be kept up.
- Unavailable generation capacity is based on this year's hydro situation and experiences from previous peak demand situations.
- Production capacity in Norway is increased slightly even though Karstø (420 MW CCGT) is excluded
- The total peak demand in Nordel is expected to be 2 % lower than the sum of peak demand for all countries due to non coincidence of cold weather.
- Wind power output is expected to be 0 % for each country but 6 % (280 MW) for Nordel due to non coincidence of calm weather.
- Nuclear power output is expected to be 100 % of the installed capacity based on statistics.
- The import from Russia is expected to be 1400 MW, although the experience from previous years has shown some reduction during peak hours. The HVDC-link Estlink, is expected to give an import of 350 MW. These values are valid if the peak only lasts for a few days.
- Import from continental Europe at peak demand may improve the balance.

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Summary

The total Nordic power system has a positive power balance in peak hour. Total available generation capacity have decreased compared to last winter. Total peak demand in the Nordel area is unchanged.

Finland, Sweden and Denmark East have a deficit in the power balance in one out of 10 winters whereas Norway and Denmark West have a surplus.

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.