

NORDIC ELECTRICITY MARKET

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FORECASTS FOR DRIER WEATHER MEAN SUPPORT

Forecast to week 40:	
ENOFUTBLQ4-19	↗ Bullish (>0%)
ENOYR-20	↗ Bullish (>0%)
NP System	↔ Sideways (± 0,5%)
NEDEC9	↔ Sideways (± 0,5%)

FORECAST TO WEEK 40

ELECTRICITY DERIVATIVES

Front quarter

The forecasts were for drier weather over the weekend. A weak ridge of high pressure settling above the Nordic countries will usher in dry weather after the early part of the week. Along with the forecasts for drier weather we expect to see a rise in front products. However, the high pressure is likely to recede next week and precipitation amounts return to normal or even be slightly higher than normal. No great changes are expected in the hydro balance during the two-week forecast. This being so, we consider there to be limited room for a rise for the time being.

Annual products

Along with the drier weather picture and rising close products we expect mostly the annual product to show a slight rise. In the short term, emission allowance prices are seeking direction and likewise the price of coal is showing no clear direction. We expect annual products following the closest annual product to approach last week's closing levels.

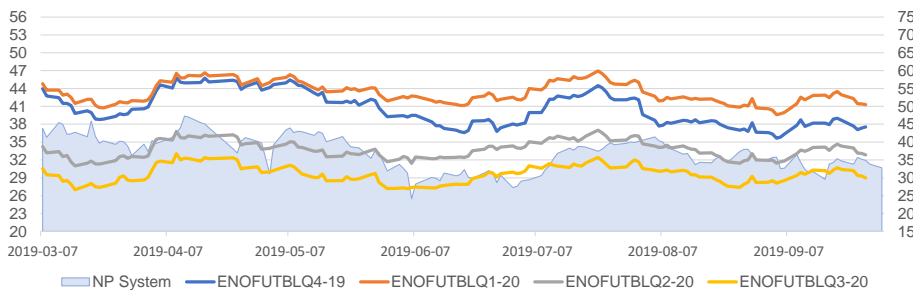
SPOT MARKET

Nordic wind power production will be plentiful during the first half of the week but after Thursday will tail off to below the normal level. Temperatures are falling and in the second half of the week, the weather will become considerably cooler than normal for the time of year. Demand for electricity will rise towards the end of the working week. Nuclear power output is up since the Loviisa 1 unit and Oskarshamn 3 unit are back in production. We expect the system price to rise towards the end of the working week but at the weekly level to settle close to the last level. Wind power production in Finland will be plentiful between Tuesday and Friday. The transmission link between Finland and Southern Sweden will be brought back into use late on Thursday. We expect the Finnish area price to fall at the weekly level and to settle at an average of €44.0/MWh.

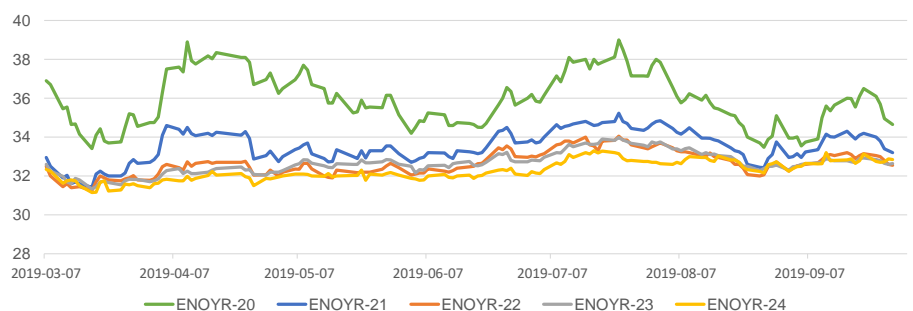
EMISSIONS

In the short term, emission allowance prices have no clear direction and we expect the price to continue searching for a direction. There is a strong support level in the price at €24.7/t and similarly €27.4/t works as a resistance level. Auction volumes were down on last week and this might slightly lend some support to emission allowance prices. Thursday's public holiday in Germany could slow the market and trading volumes could be smaller than in recent weeks.

Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Market signals

	spot	Q4-19	YR-20
Hydrologic balance	→	→	→
Precipitation forecast	↑	↑	↑
Temperature forecast	→	→	→
Spot	↓	→	→
Production and transmission exch.	↑	→	→
Emissions allowance	→	→	→
Coal price	→	→	→
German prices	→	→	→
Technical analysis	↓	↑	↑

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ4-19	27.9.2019	37.55	-3.7%	-1.45
ENOFUTBLQ1-20	27.9.2019	41.30	-5.1%	-2.20
ENOFUTBLQ2-20	27.9.2019	32.85	-5.2%	-1.80
ENOFUTBLQ3-20	27.9.2019	29.00	-5.5%	-1.70
ENOYR-20	27.9.2019	34.65	-5.1%	-1.85
ENOYR-21	27.9.2019	33.20	-2.9%	-1.00
ENOYR-22	27.9.2019	32.55	-1.8%	-0.60
ENOYR-23	27.9.2019	32.64	-0.9%	-0.29
ENOYR-24	27.9.2019	32.85	-0.8%	-0.28
NEDEC9	27.9.2019	25.33	-4.7%	-1.24
NEDEC20	27.9.2019	25.56	-4.7%	-1.26

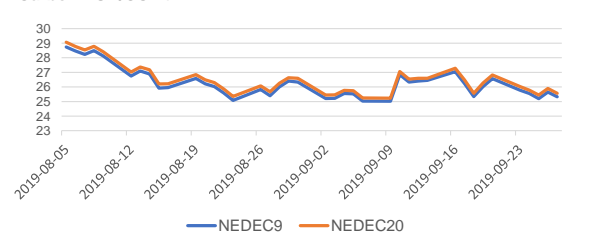
EPAD settlements

27.9.2019 (€/MWh)	2020	2021	2022	2023
SYHEL	7.85	4.78	4.08	4.25
SE1-NP System	-0.50	-1.50	-2.25	-2.25
SE2 - NP System	-0.13	-1.50	-2.25	-2.25
SE3 - NP System	2.13	1.25	1.35	1.35
SE4 - NP System	3.70	2.60	2.60	2.60

Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	29.9.2019	33.66	2.2%	0.72
NP Area FI	29.9.2019	56.21	25.3%	11.34
NP Area SE1	29.9.2019	34.50	0.6%	0.22
NP Area SE2	29.9.2019	34.50	0.6%	0.22
NP Area SE3	29.9.2019	35.49	1.4%	0.47
NP Area SE4	29.9.2019	35.49	1.4%	0.47

Carbon EUR/CO2 t



COMMENTS ON WEEK 39

ELECTRICITY DERIVATIVES

Front quarter

The weather last week was dry until Thursday but the weather type turned damper than normal at the end of the week. At the same time, the weather forecasts indicated the continued damper weather than normal with no clear signs of a change to drier weather. Front products retreated with the damper weather picture. The downward pressure was strengthened by lower fuel and emission allowance prices.

Annual products

Last week annual prices were in retreat with lower fuel and emission allowance prices. Downward pressure on fuel prices was brought about by the return to normal of oil prices and a mild start to October across most of Europe which meant a subdued short-term demand outlook for fuels and emission allowances. Natural gas stock levels also remained high. Weak economic figures coming out of Europe also again raised concerns about a slowdown in economic growth. Damp weather forecasts and a hydro balance which is again on the rise strengthened downward pressure on the closest annual product.

SPOT MARKET

Last week spot prices were up. Wind power production again weakened after Monday to a low level. The weather was dry until Thursday and flow rates were at a low level during the working week. The weather was cool during the working week, but temperatures rose towards the end of the week. Nuclear power output was up after Oskarshamn 3 returned to production. The start-up of the Loviisa 1 unit was pushed back until Friday. Maintenance of the transmission link between Finland and Southern Sweden began on Thursday and at the same time wind power production in Finland was very low. The Finnish area price rose on Thursday and the highest hourly prices rose to around €200/MWh. At the weekly level, the Finnish area price rose considerably more than the system price.

EMISSIONS

Last week emission allowance prices fell because of greater availability at auction. In addition, demand at auctions was weak. Weak purchase manager indexes in industry and a lower German electricity market also exerted downward pressure on emission allowance prices.

Indicator	ENOFUTBLQ4-19	ENOYR-20
Coal-fired production	65 %	74 %
Coal price	72 %	43 %
Gas price (NBP)	71 %	41 %
German price level	11 %	45 %
Spot	38 %	24 %
Crude oil Brent	62 %	29 %
Water reservoirs	10 %	0 %
EUR/USD FX rate	9 %	11 %
Temperature	8 %	5 %
Precipitation	16 %	13 %

Definition
The above figures measure the ability of market determinants to describe the price changes occurred in last 6 months. The affect is measured as Coefficient of Determination*. Each variable is evaluated independently. We use a color scale to demonstrate efficacy, green (strong), yellow (moderate), red (weak)

Forecast history	39	Chg	38	Chg
ENOFUTBLQ4-19	↘	-3.7%	↗	2.9%
ENOYR-20	↘	-5.1%	↗	2.4%
NP System	↗	2.2%	↗	9.4%
NEDEC9	↘	-4.7%	↗	0.5%

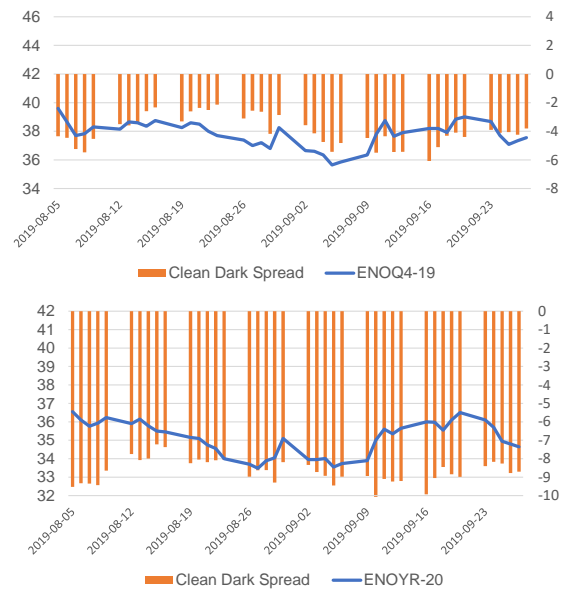
DETERMINANTS AFFECTING THE MARKET ON WEEK 40

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 2 (852 MW), maintenance 7.9.-30.12.2019, in use 300 MW
Ringhals 4 (1103 MW), maintenance 28.8.-5.10.2019, 0 MW in use

SE3-FI (1200 MW), maintenance 26.9.-3.10.2019, in use 0-800 MW
NO1-SE3 (2145 MW), maintenance 30.7. – 18.10.2019, 1845 MW in use
RU-FI (1300 MW), maintenance 8.-30.9.2019, in use 1100 MW

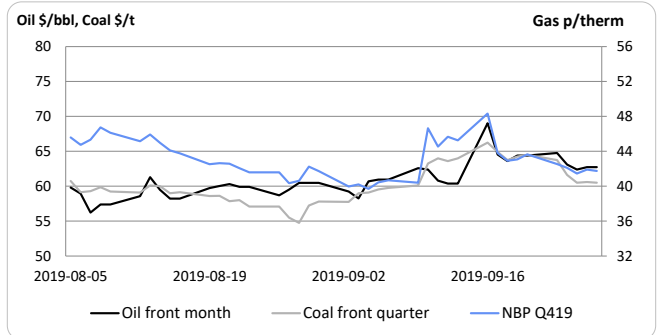
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 86%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 51% of the maximum



AVERAGE SPOT PRICE AND EPAD

Price area (€/MWh)	2012	2013	2014	2015	2016	2017	2018	2019*
NP System	31.20	38.10	29.60	21.00	26.91	29.41	43.99	39.02
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.21
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-0.96
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-0.96
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.71
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.61

*Average for period between 1.1.2019-30.9.2019.



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Source for data: intStream, Tilastokeskus

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