

NORDIC ELECTRICITY MARKET

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**THE ENDING OF DRY WEATHER TYPE AND WEAK FUELS PRESS DOWN THE MARKET**

Forecast to week 48:	
ENOFUTBLQ1-19	📉 Bearish (<0%)
ENOYR-19	📉 Bearish (<0%)
NP System	📈 Bullish (>0%)
NEDEC8	📉 Bearish (<0%)

**FORECAST TO WEEK 48**  
**ELECTRICITY DERIVATIVES**

**The nearest quarter**  
The weather continues to be dry and cold until Wednesday, and after that the weather turns wetter and milder than normal. At the end of the weather forecast there is a sign of possible colder weather again. In the current weather forecast the hydro balance is, however, strengthening slightly. The margins for coal condensate are, despite of the decrease last week, still higher than earlier and if the wetter period is longer, there is a possibility for more decrease. We expect the front contracts to decrease with the wetter weather forecast.

**Annual products**  
The weather type change and the decreasing front contracts cause downward pressure to closest annual contract. Decreasing oil price causes downward pressure to coal price and additionally, coal price is decreased by dull demand in China, because country's this year's import quotas are exhausted. The situation at the stock market seems to be settled for a change. We expect the annual contract prices to decrease with the fuels.

**SPOT MARKET**  
The inflows are clearly lower than normal, but turn bullish on Thursday when the weather turns wet and warm. Also the Nordic wind power production is very low at the beginning of the week starting to increase on Wednesday, and on Thursday it might even reach the new record levels. Also the consumption is high at the beginning of the week due to cold weather, but decreases at the end of the week. Ringhals 2 should return to production during the night between Tuesday and Wednesday. We expect the system price to slightly increase at the weekly level and to realize at about 51,0 €/MWh. In Finland the wind power production is high except for Tuesday. We expect the Finnish area price to realize very close to Swedish price level (SE3) at the weekly level, but due to the beginning of the week higher than system.

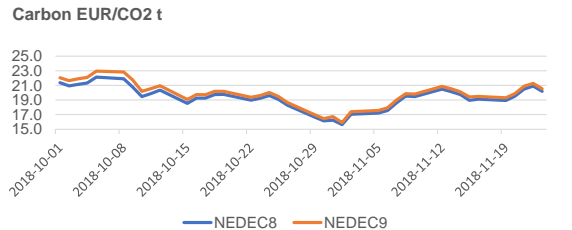
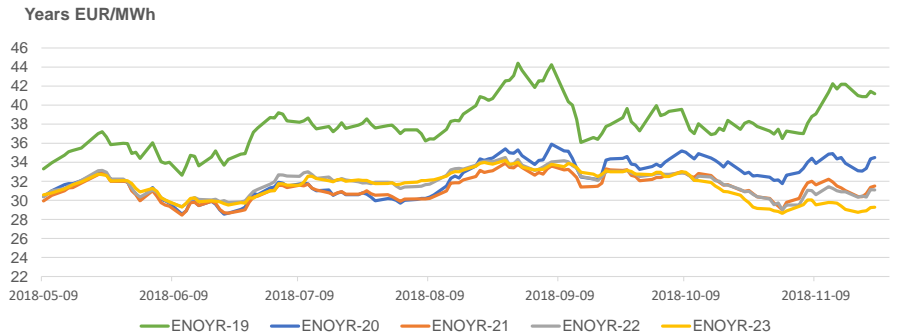
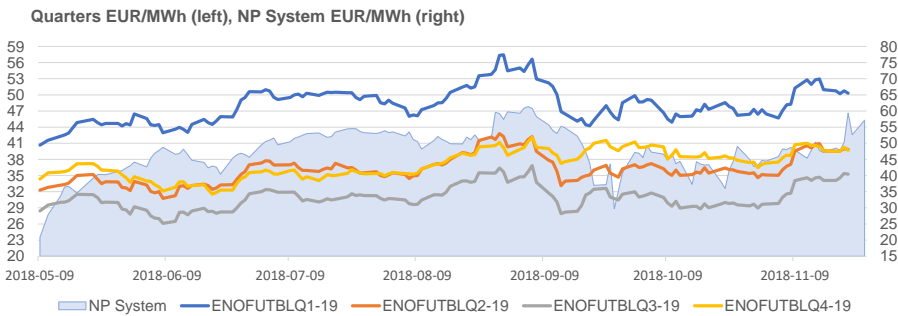
**EMISSIONS**  
The emission price is bullish in the technical outlook. In the long term the market is supported by the Market Stability Reserve, that starts next year. In the short term the market is supported by the lack of German emission allowance auctions for the rest of the year. Brexit still causes uncertainty, although EU accepted the plan on Sunday. Downward pressure is caused by the weather changing to clearly milder and windier in Europe after the high pressure. Also weak fuel prices give softness. We expect the emission price to decrease, but to stay in recent variation range.

Market signals	spot	Q1-19	YR-19
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)
ENOFUTBLQ1-19	23.11.2018	50.30	-5.0%	-2.65
ENOFUTBLQ2-19	23.11.2018	39.85	-2.7%	-1.10
ENOFUTBLQ3-19	23.11.2018	35.25	1.6%	0.55
ENOFUTBLQ4-19	23.11.2018	39.70	-1.7%	-0.70
ENOYR-19	23.11.2018	41.20	-2.4%	-1.00
ENOYR-20	23.11.2018	34.50	1.8%	0.60
ENOYR-21	23.11.2018	31.50	1.5%	0.47
ENOYR-22	23.11.2018	31.10	0.6%	0.20
ENOYR-23	23.11.2018	29.28	0.8%	0.23
NEDEC8	23.11.2018	20.18	5.5%	1.06
NEDEC9	23.11.2018	20.55	5.4%	1.05

EPAD settlements				
23.11.2018 (€/MWh)	2019	2020	2021	2022
SYHEL	5.95	5.03	4.88	5.00
SE1-NP System	0.50	-1.15	-1.15	-1.15
SE2 - NP System	0.50	-1.05	-1.15	-1.15
SE3 - NP System	2.05	2.33	2.15	2.15
SE4 - NP System	3.53	3.55	3.55	3.55

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	25.11.2018	50.99	7.7%	3.63
NP Area FI	25.11.2018	52.70	10.6%	5.06
NP Area SE1	25.11.2018	51.14	7.8%	3.71
NP Area SE2	25.11.2018	51.14	7.8%	3.71
NP Area SE3	25.11.2018	52.07	9.8%	4.63
NP Area SE4	25.11.2018	52.07	9.8%	4.63



COMMENTS ON WEEK 47

**ELECTRICITY DERIVATIVES**

**The nearest quarter**

Although last week realized very dry, the weather forecasts showed already on Monday the signs of the weather type change to both wetter and warmer than normal at the end of the month. Downward pressure to front contracts was also caused by the increase of margin for coal condensate to almost the highest level of summer, which enabled the clear correction movement. Additionally, the oil price decreased sharply last week, which affected also the coal price decreasingly. The front contract price continued decreasing also after Monday and finally the Q1-19 contract was almost 3 €/MWh lower.

**Annual products**

Last week the closest annual contract closed about one euro lower. Already on Monday the annual contract decreased significantly to 41 €/MWh level due to weather type change in the forecasts. However, the decrease stopped there and during the rest of the week the price turned slightly bullish during the week due to emission price increase. The coal price for the next year's contract decreased to below the 84 USD/t, which is the lowest quotation after the beginning of May. Despite of the coal price decrease, the margin for coal condensate production was lower at the weekly level. Also the longer annual contracts decreased significantly on Monday, but corrected up during the rest of the week and closed higher at the weekly level. Contracts 2020 and 2021 increased about half a euro, the longer years increased more moderate.

**SPOT MARKET**

Last week the inflows turned below the normal due to dry and cold weather. The Nordic wind power production was higher than normal at the beginning of the week, but weakened significantly from Thursday and was at relatively low level also during the weekend. In Finland the wind power production was fairly strong except for Thursday. System price closed clearly bullish at the weekly level due to cold and less windy weather and the weekend realized almost at 50 €/MWh level and on Thursday at 60 €/MWh level. Finnish area price realized close to system price except for Thursday. On Thursday there were peak hours of above 100 €/MWh that increased clearly Thursday's area price difference. At the weekly level the Finnish area price increased more than system price, however, the area price difference was below the 2 €/MWh level.

**EMISSIONS**

Last week the emission price decreased on Monday when the high pressure in Europe ended, and that changed the weather milder and windier. However, after Monday the emission price turned bullish. Also in Germany the power market turned bullish after Monday, although the fuel prices remained weak. On Thursday the emission price closed almost at 21€/t level at the highest, when the Brexit agreement supported the emission price. On Friday in the morning the emission price increased to above the 21 €/t, but finally decreased to about 20 €/t level when the oil price decreased sharply.

DETERMINANTS AFFECTING THE MARKET ON WEEK 48

**RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY**

Ringhals 2 (904 MW), 30.10.-27.11.2018 annual maintenance, available 0 MW

FI-EE (1016 MW) failure 4.-26.11.2018, available 658 MW

Nordic nuclear power plants are currently operating at 92%

-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 63 % of the maximum.

**AVERAGE SPOT PRICE AND EPAD**

Price area (€/MWh)	2012	2013	2014	2015	2016	2017	2018*
NP System	31.20	38.10	29.60	21.00	26.91	29.41	43.18
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	3.01
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.39
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.39
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.65
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.60

\*Average for period between 1.1.2018-26.11.2018.

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Indicator	ENOFUTBLQ1-19	ENOYR-19
Coal-fired production	7 %	27 %
Coal price	0 %	1 %
Gas price (NBP)	8 %	28 %
German price level	15 %	46 %
Spot	44 %	20 %
Crude oil Brent	4 %	2 %
Water reservoirs	58 %	49 %
EUR/USD FX rate	2 %	10 %
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	47	Chg	46	Chg
ENOFUTBLQ1-19	↘	-5.0%	↗	9.7%
ENOYR-19	↘	-2.4%	↗	8.0%
NP System	↗	7.7%	↻	-1.5%
NEDEC8	↘	5.5%	↗	-1.7%

