

NORDIC ELECTRICITY MARKET

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THE SIGNS OF ENDING OF THE DRY WEATHER TYPE AND WEAK FUEL PRICES TURN THE MARKET BEARISH

Forecast to week 47:	
ENOFUTBLQ1-19	📉 Bearish (<0%)
ENOYR-19	📉 Bearish (<0%)
NP System	📈 Bullish (>0%)
NEDEC8	📉 Bearish (<0%)

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	↓	↑	↑

FORECAST TO WEEK 47
ELECTRICITY DERIVATIVES

The nearest quarter

Due to strong high pressure the weather is very dry until the end of November and at the same time the weather is colder than seasonal normal. The hydro balance weakens significantly. However, on Monday the front contracts have been correcting sharply down. The downward correction was started by the signs of the ending of dry and cold weather type at the beginning of December. We think the weather type change is probable and we expect the front contracts to decrease. However, so far the uncertainty is significant and more stable weather type change to wetter than normal is very uncertain. However, strongly increased margins for coal condensate enable the downward correction and the downward pressure might continue during the following days due to weak fuel prices.

Annual products

The weather type change and decreasing front contracts cause downward pressure to annual contracts. Downward pressure to annual contracts is also caused by very weak fuel prices. The oil and coal prices are technically very weak. Additionally, downward pressure to coal price is caused by high coal stocks in the big harbors in Europe. At the same time the Chinese coal demand view is low, when China announced the import volumes for coal for this year are used. We expect the annual contract prices to decrease.

SPOT MARKET

The inflows have decreased close to seasonal normal and due to very dry weather the inflows continue decreasing. The weather is colder than seasonal normal and turns even colder towards the end of the week. At the beginning of the week the Nordic wind power production is, however, higher than normal. After Wednesday the Nordic wind power production decreases to weaker than normal causing clear upward pressure to spot prices. We expect the system price to increase at the weekly level and to realize at about 49,5 €/MWh. In Finland the wind power production is mainly close to normal level except for Thursday. We expect the Finnish area price to realize very close to Swedish price level (SE3) and the system price at the weekly level.

EMISSIONS

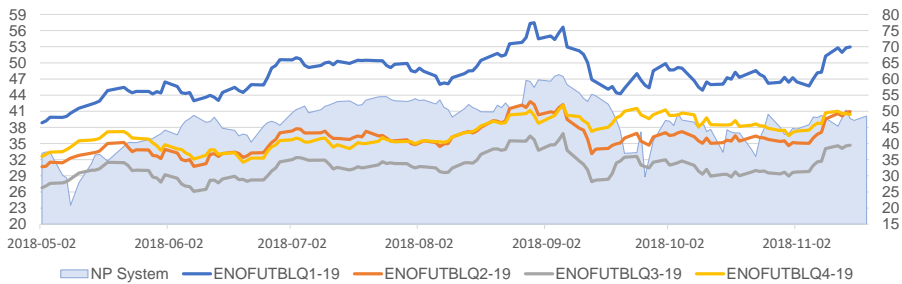
Downward pressure to emission price was caused by the latest weather forecasts, that show that the colder high pressure in Europe ends and in December the weather is turning clearly milder and windier. Downward pressure to emission price is also caused by weak fuel prices and the German power market. The political uncertainty caused by Brexit might fluctuate the emission price. We expect the emission price to decrease.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ1-19	16.11.2018	52.95	9.7%	4.70
ENOFUTBLQ2-19	16.11.2018	40.95	10.4%	3.85
ENOFUTBLQ3-19	16.11.2018	34.70	9.5%	3.00
ENOFUTBLQ4-19	16.11.2018	40.40	4.4%	1.70
ENOYR-19	16.11.2018	42.20	8.0%	3.12
ENOYR-20	16.11.2018	33.90	0.1%	0.02
ENOYR-21	16.11.2018	31.03	-1.9%	-0.60
ENOYR-22	16.11.2018	30.90	1.0%	0.30
ENOYR-23	16.11.2018	29.05	-1.6%	-0.48
NEDEC8	16.11.2018	19.12	-1.7%	-0.34
NEDEC9	16.11.2018	19.50	-1.6%	-0.32

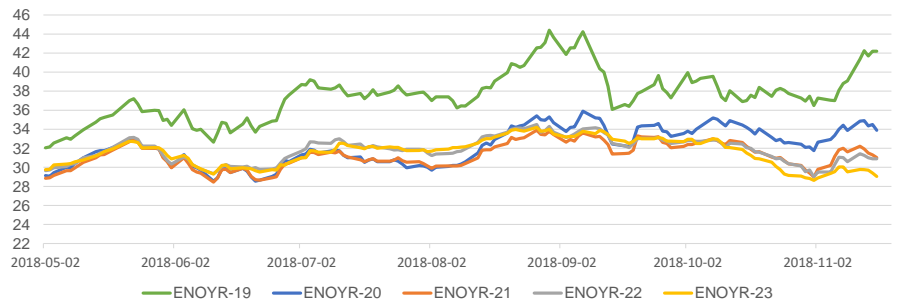
EPAD settlements				
16.11.2018 (€/MWh)	2019	2020	2021	2022
SYHEL	5.53	4.60	4.60	4.60
SE1- NP System	0.50	-1.15	-1.15	-1.15
SE2 - NP System	0.50	-1.05	-1.15	-1.15
SE3 - NP System	2.10	2.40	2.40	2.15
SE4 - NP System	3.80	3.55	3.73	3.55

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	18.11.2018	47.37	3.1%	1.41
NP Area FI	18.11.2018	47.64	-1.4%	-0.69
NP Area SE1	18.11.2018	47.43	4.1%	1.89
NP Area SE2	18.11.2018	47.43	4.1%	1.89
NP Area SE3	18.11.2018	47.44	-1.8%	-0.88
NP Area SE4	18.11.2018	47.44	-1.8%	-0.88

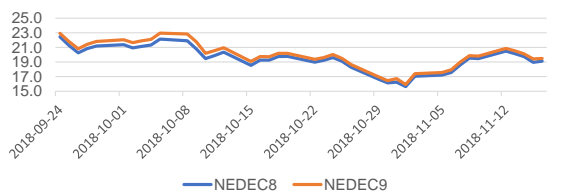
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 46

ELECTRICITY DERIVATIVES

The nearest quarter

Last week the front contracts increased sharply, when the weather forecasts had turned drier and colder after the weekend. The weather type turned very dry and additionally in the weather forecasts there were no clear signs of the ending of dry and colder than normal weather type. However, the margin cost for coal condensate decreased and therefore the margins for coal condensate increased to high level.

Annual products

Last week the closest annual contract increased strongly with the cold and dry weather outlook and the increased front contracts. Also the longer annual contracts increased on Monday with the front contracts. Additionally, at the beginning of the week the fuel prices were increasing. However, after Monday the longer annual contracts turned bearish. Downward pressure to annual contracts was caused by the fuel prices, that turned bearish again. Additionally, the emission price turned bearish after the beginning of the week. At the weekly level the closest annual contract was higher, but the longer annual contracts closed near the previous week's closing levels.

SPOT MARKET

At the beginning of last week the inflows were at high level due to high precipitation during weekend, but the weather turned dry and the inflows started to decrease. Nordic wind power production was mainly weaker than normal and weakened towards the end of the week. The spot prices were also supported by dry weather outlook. The system price increased at the weekly level, but upward pressure to spot prices was, however, limited by the weather that is still warmer than normal. In Finland the wind power production was mainly higher than normal and the Finnish area price realized very close to Swedish area price (SE3) at the weekly level and also the system price. At the weekly level the Finnish area price decreased.

EMISSIONS

At the beginning of last week the emission price increased, when colder weather in Europe and scarcer auction supply supported the price. On Monday the emission price increased to above the resistance level of 20,0 €/t and technically the emission price was heading towards the resistance level of 22,6 €/t. However, at the beginning of the week the emission price turned bearish with the fuel prices and with the German power market. Additionally, downward pressure to emission price was caused by uncertainty on Brexit. On Thursday three British ministers stepped down as an objection to presented Brexit agreement.

DETERMINANTS AFFECTING THE MARKET ON WEEK 47

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 2 (904 MW), 30.10.-29.11.2018 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 69% 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	42.99
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	3.00
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.41
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.41
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.61
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.44

*Average for period between 1.1.2018-19.11.2018.

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 Source for data: intStream, Tilastokeskus

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Indicator	ENOFUTBLQ1-19	ENOYR-19
Coal-fired production	10 %	34 %
Coal price	0 %	7 %
Gas price (NBP)	10 %	34 %
German price level	19 %	48 %
Spot	49 %	22 %
Crude oil Brent	4 %	0 %
Water reservoirs	58 %	49 %
EUR/USD FX rate	2 %	8 %
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	46	Chg	45	Chg
ENOFUTBLQ1-19	↗	9.7%	↘	2.1%
ENOYR-19	↗	8.0%	↘	4.9%
NP System	↻	3.1%	↗	7.7%
NEDEC8	↗	-1.7%	↘	14.1%

