

NORDIC ELECTRICITY MARKET

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BOTH THE FUNDAMENTS AND THE TECHNICAL OUTLOOK SUPPORT THE INCREASE TO CONTINUE

Forecast to week 51:	
ENOFUTBLQ1-19	↗ Bullish (>0%)
ENOYR-19	↗ Bullish (>0%)
NP System	↗ Bullish (>0%)
NEDEC8	↗ Bullish (>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 51
ELECTRICITY DERIVATIVES

The nearest quarter

The weather for this week is dry and at the end of the week the weather turns significantly colder than normal. Next week's weather outlook is still significantly uncertain. It is likely that the precipitation and the temperatures rise compared to this week's level, but the weather type change to wet and mild seems unlikely. The hydro balance continues to decrease and technically the market is strong. Also the high spot prices support the front contracts. We expect the front contract prices to continue increasing.

Annual products

The emission price is in a very strong bullish trend and also the coal price has turned clearly bullish. The coal price is supported by the increased water level in the river Rhine, which enables the large actors' stock level increases. Technically the closest annual contracts are very strong as the contracts reached the new highest quotations. This very strong price increase has increased the risk for downward correction, but still so far both the fundamentals and the technical analysis support the increase to continue.

SPOT MARKET

At the beginning of the week the spot prices realize high due to weak wind power production and the weather that is colder than seasonal normal. After the beginning of the week the wind power production and the temperatures rise, but again at the end of the week the weather turns colder and the wind power production decreases to low level. Due to dry weather the inflows have decreased to low level and continue decreasing. We expect the system price to continue increasing at the weekly level and to realize at about 57,0 €/MWh. Also in Finland the wind power production weakens to low level, but high electricity import from Russia limits the upward pressure. We expect also the Finnish area price to increase and to realize at about 58,5 €/MWh.

EMISSIONS

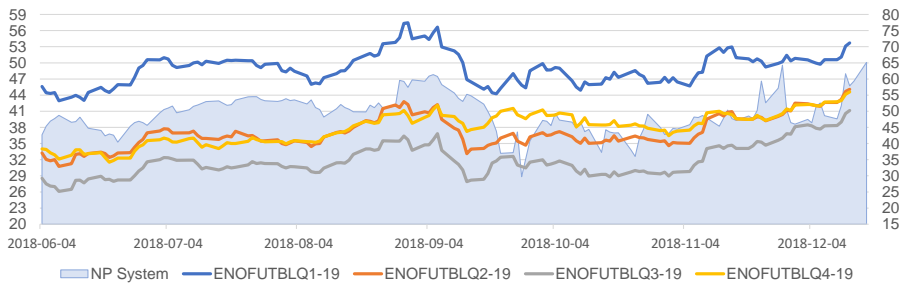
The emission price is in a very strong bullish trend towards the highest trading prices in September at 25,8 €/t. The emission price is supported by the upcoming break in auctions, when on Monday the last auctions of this year will be held. The support to the price is also caused by the actors waiting for next year, when the auction supply decreases due to MSR start. We expect the emission price to increase. At the end of this week and during the rest of the year the market activity will be reduced, but on the other hand, the lower volumes enable the continuation of strong price fluctuations.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ1-19	14.12.2018	53.70	7.9%	3.95
ENOFUTBLQ2-19	14.12.2018	45.08	7.6%	3.18
ENOFUTBLQ3-19	14.12.2018	41.14	9.1%	3.44
ENOFUTBLQ4-19	14.12.2018	44.60	6.2%	2.60
ENOYR-19	14.12.2018	46.15	7.8%	3.35
ENOYR-20	14.12.2018	38.75	4.2%	1.55
ENOYR-21	14.12.2018	35.95	4.4%	1.53
ENOYR-22	14.12.2018	34.02	4.2%	1.36
ENOYR-23	14.12.2018	32.15	6.3%	1.90
NEDEC8	14.12.2018	23.37	14.8%	3.01
NEDEC9	14.12.2018	23.72	14.6%	3.02

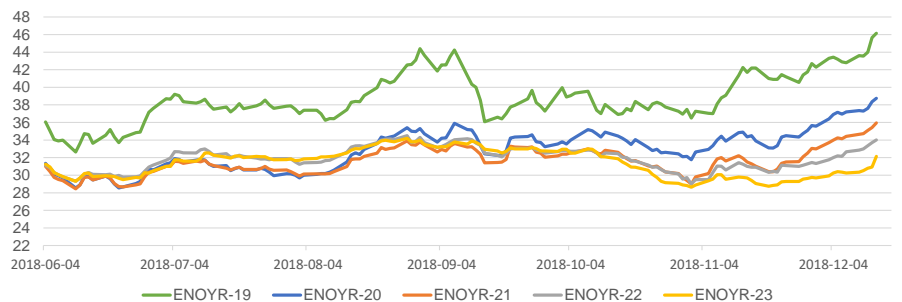
EPAD settlements				
14.12.2018 (€/MWh)	2019	2020	2021	2022
SYHEL	5.15	4.80	4.50	4.50
SE1-NP System	0.50	-1.15	-1.15	-1.15
SE2 - NP System	0.50	-1.15	-1.15	-1.15
SE3 - NP System	1.93	2.00	2.00	2.00
SE4 - NP System	3.55	3.55	3.55	3.55

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	16.12.2018	54.31	13.2%	6.34
NP Area FI	16.12.2018	55.58	12.8%	6.31
NP Area SE1	16.12.2018	53.86	14.8%	6.96
NP Area SE2	16.12.2018	53.86	14.8%	6.96
NP Area SE3	16.12.2018	53.94	14.6%	6.89
NP Area SE4	16.12.2018	53.94	14.6%	6.89

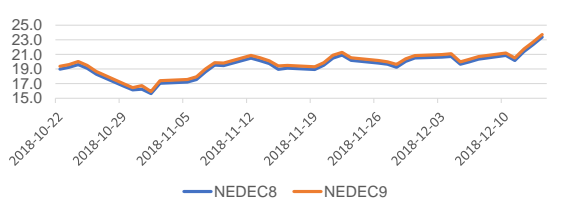
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 50

ELECTRICITY DERIVATIVES

The nearest quarter

Last week the front contracts turned sharply bullish, when the hydro balance weakened due to dry weather and next week's weather forecasts turned drier during the week. The upward pressure was also caused by clearly higher spot prices and the strengthened technical outlook. Additionally, the margin cost for coal condensate increased strongly with the extremely strong emission price and also with the increased coal price.

Annual products

Last week the annual contracts increased strongly with the front contracts and very strongly bullish emission price. The upward pressure was also caused by the coal price that turned bullish. The next three annual contracts increased to new quotation tops and therefore very strong technical outlook and the assurance of very strong bullish trend strengthened the upward pressure.

SPOT MARKET

On Monday last week the weather was still mild and windy, but after Monday the weather turned colder than normal. At the same time the wind power production decreased to low level and also the inflows continued decreasing towards the end of the week. Support to spot prices was also caused by the limitations in hydropower production due to making of ice covers. Spot prices increased strongly after the beginning of the week and at the weekly level the spot prices increased sharply. Also in Finland the weather turned colder and the wind power production decreased to low level. At the weekly level the Finnish area price remained close to system price. With the higher spot prices, the electricity import from Russia to Finland increased.

EMISSIONS

Last week the emission price fluctuation continued to be strong. On Monday the emission price opened clearly bearish with the weak development at the stock market, but later on Monday the price started to increase, when almost certain Britain's Parliament vote against the Brexit draft agreement was delayed. Towards the end of the week the emission price increase was strengthened. This was mainly due to upcoming weak supply, when the auctions will be on break and the MSR tightens the supply more permanently. The support to price was also caused by more positive market sentiment, when the trade tensions between China and U.S was considered to be reducing.

Indicator	ENOFUTBLQ1-19	ENOYR-19
Coal-fired production	0 %	6 %
Coal price	5 %	8 %
Gas price (NBP)	0 %	1 %
German price level	1 %	18 %
Spot	44 %	19 %
Crude oil Brent	8 %	25 %
Water reservoirs	29 %	10 %
EUR/USD FX rate	1 %	15 %
Temperature	8 %	5 %
Precipitation	16 %	13 %

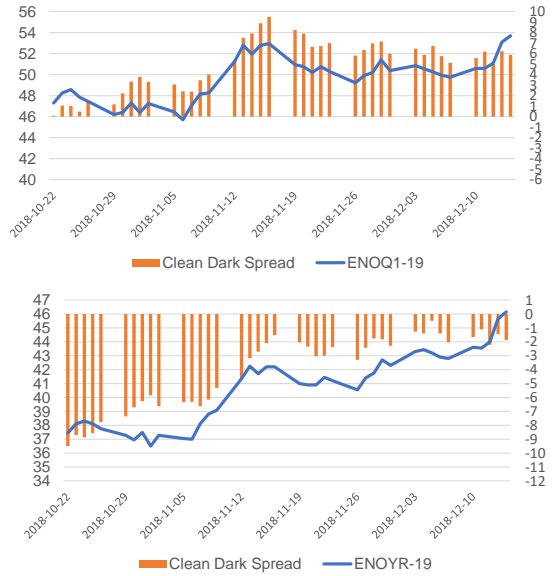
Definition
The above figures measure the ability of market determinants to describe the price changes occurred in last 6 months. The affect is measured as Coefficient of Determination*. Each variable is evaluated independently. We use a color scale to demonstrate efficacy, green (strong), yellow (moderate),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

Forecast history	50	Chg	49	Chg
ENOFUTBLQ1-19	↘	7.9%	↗	-1.3%
ENOYR-19	↘	7.8%	↗	1.2%
NP System	↗	13.2%	↘	5.8%
NEDEC8	↘	14.8%	↗	-0.8%

DETERMINANTS AFFECTING THE MARKET ON WEEK 51

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

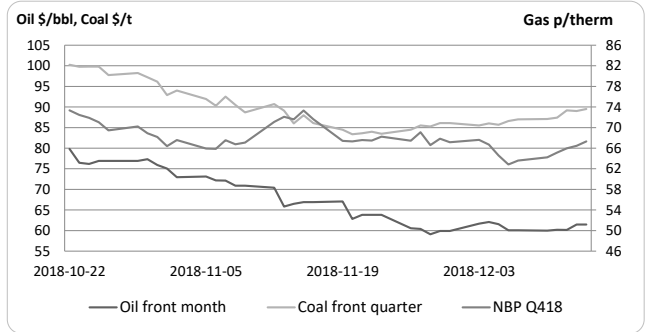
Nordic nuclear power plants are currently operating at 100%
-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 81 % of the maximum.



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	43.67
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.91
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.30
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.30
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	2.49

*Average for period between 1.1.2018-17.12.2018.



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Source for data: intStream, Tilastokeskus

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