

NORDIC ELECTRICITY MARKET

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WE EXPECT THE STRONG FLUCTUATION AT THE CO2 MARKET

Forecast to week 50:	
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 50
ELECTRICITY DERIVATIVES

The nearest quarter

This week is very dry and the hydro balance weakens. Also the temperatures start to fall and at the second half of the week the weather turns colder than normal. The higher spot prices than last week support also the front contracts. However, for the next week the weather forecasts show the ending of the weather type, that is dry and colder than normal. Despite of the weather type change the weather forecasts don't show any high precipitation but the weather type normalization. However, the ending of the high pressure seems likely, which enables the future low pressures. We expect the front contracts to fluctuate close to last week's closing level or slightly decrease.

Annual products

The fuel prices have been supported by the big oil producers' agreement to cut the oil production from the beginning of next year. However, before the decision the oil producers had increased the production, which limits the upward effect of the decision. Downward pressure to fuel prices is caused by the nervous market atmosphere. The emission price might fluctuate strongly during this week, when on Tuesday the Britain's Parliament will vote on Brexit draft agreement and Wednesday is a maturity date of EUA-Dec 18 option. Voting for Brexit draft agreement seems unlikely. We expect the annual contracts to fluctuate strongly, but we expect the decreasing development to be more likely than the increase.

SPOT MARKET

The weather is still windy and mild on Monday, but turns colder than normal after the beginning of the week. Also the wind power production weakens to lower than normal. The weather is very dry and the inflows decrease towards the end of the week. We expect the system price to increase at the weekly level and to realize at about 51,5 €/MWh. Also in Finland the wind power production weakens to low level and the weather turns colder. We expect the Finnish area price to increase also and to realize at about 54,0 €/MWh.

EMISSIONS

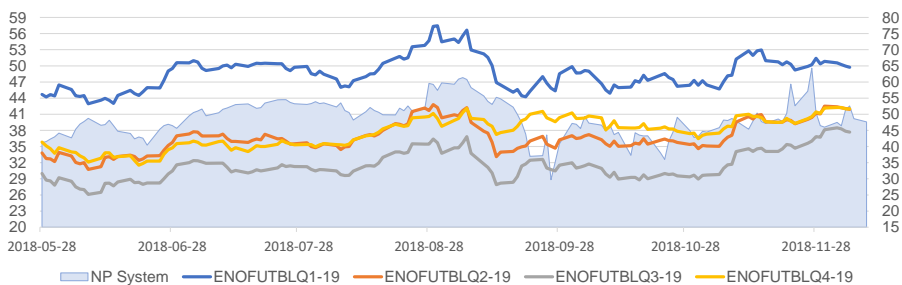
The CO2 market is waiting for Tuesday's vote on Brexit draft agreement by the Britain's Parliament. It is expected, that the draft agreement will not get enough support and the uncertainty might turn the emission price clearly bearish. However, this is expected and therefore the market reaction should be moderate. The political uncertainty might, however, fluctuate the price strongly and the fluctuation is strengthened by the maturity date of EUA-Dec 18 options on Wednesday. We expect the decrease to be more likely than the increase. Downward pressure is, however, limited by the upcoming year end and the MSR, that is cutting the auction supply next year. Therefore the possible price decreases might be short-term.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ1-19	7.12.2018	49.75	-1.3%	-0.63
ENOFUTBLQ2-19	7.12.2018	41.90	2.1%	0.85
ENOFUTBLQ3-19	7.12.2018	37.70	2.6%	0.95
ENOFUTBLQ4-19	7.12.2018	42.00	2.1%	0.85
ENOYR-19	7.12.2018	42.80	1.2%	0.50
ENOYR-20	7.12.2018	37.20	4.6%	1.62
ENOYR-21	7.12.2018	34.42	4.3%	1.42
ENOYR-22	7.12.2018	32.66	4.2%	1.32
ENOYR-23	7.12.2018	30.25	1.9%	0.55
NEDEC8	7.12.2018	20.36	-0.8%	-0.16
NEDEC9	7.12.2018	20.70	-0.6%	-0.13

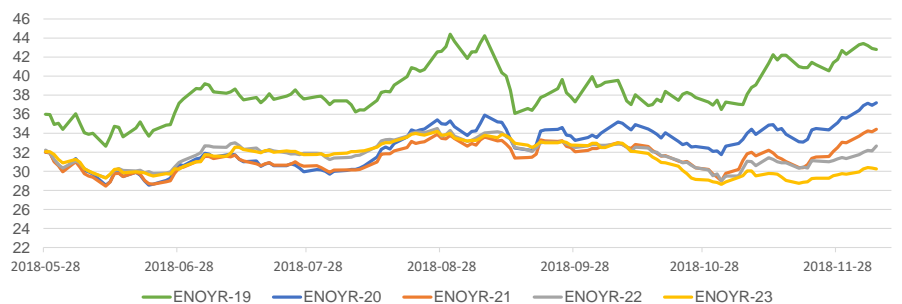
EPAD settlements				
7.12.2018 (€/MWh)	2019	2020	2021	2022
SYHEL	5.25	5.00	4.70	4.70
SE1-NP System	0.35	-1.15	-1.15	-1.15
SE2 - NP System	0.35	-1.15	-1.15	-1.15
SE3 - NP System	1.93	2.15	2.00	2.00
SE4 - NP System	3.55	3.55	3.55	3.55

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	9.12.2018	47.97	-5.5%	-2.78
NP Area FI	9.12.2018	49.27	-7.7%	-4.13
NP Area SE1	9.12.2018	46.90	-2.8%	-1.35
NP Area SE2	9.12.2018	46.90	-2.8%	-1.35
NP Area SE3	9.12.2018	47.05	-11.7%	-6.26
NP Area SE4	9.12.2018	47.05	-11.7%	-6.26

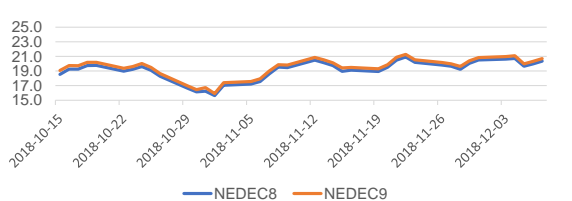
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 49

ELECTRICITY DERIVATIVES

The nearest quarter

At the beginning of last week the front contracts were increasing when the weather forecasts were dry for the rest of the week and for the next week. Also the fuel prices and the emission prices were increasing. However, the weather forecasts showed the normalization of the precipitation after next week, which decreased the front contracts after the beginning of the week. Also the weaker emission price caused downward pressure. At the weekly level the front contracts closed lower.

Annual products

At the beginning of last week the annual contracts were increasing. The reducing of trade tensions between U.S and China supported the annual contracts. More positive market atmosphere affected, in addition to stock indexes, also increasingly to fuel prices. However, on Tuesday the stock indexes turned again sharply bearish, which again caused downward pressure to emission price and fuel prices. On Thursday the weak development in emission price decreased the annual contract prices. At the end of the week the fuel prices were supported by the agreement of OPEC members and OPEC external parties to cut the oil production by 1.2 million barrels per day starting at the beginning of next year. At the weekly level the annual contracts closed finally higher.

SPOT MARKET

At the beginning of last week the mild weather and slightly higher inflows caused downward pressure to spot prices. After the beginning of the week the wind power production weakened, the weather turned colder and also the inflows started to decrease. During the week on Thursday the system price realized at the highest on Finland's Independence Day despite of the lower electricity demand, when the weather was at the coldest and the wind power production at the weakest. However, the system price decreased significantly at the weekly level. Also the Finnish area price decreased strongly at the weekly level, but the Finnish area price differed from the Swedish (SE3) price level. At the weekly level the Finnish area price difference against the system price narrowed.

EMISSIONS

At the beginning of last week the emission price increased with more positive market sentiment, but after the beginning of the week the emission price started to decrease. On Thursday the emission price decreased sharply, when Poland announced to auction next year 55,8 million additional allowances left aside from the previous years. Therefore Poland's next year's auction amounts will more or less double from the earlier plan. The decision increases next year's auction supply and partly reduces the MSR effect on tightening the market. However, the market recovered later on Thursday and continued increasing on Friday. At the weekly level the emission price was, however, slightly lower.

Indicator	ENOFUTBLQ1-19	ENOYR-19
Coal-fired production	1 %	11 %
Coal price	3 %	3 %
Gas price (NBP)	2 %	9 %
German price level	5 %	29 %
Spot	41 %	16 %
Crude oil Brent	6 %	15 %
Water reservoirs	34 %	19 %
EUR/USD FX rate	0 %	9 %
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	49	Chg	48	Chg
ENOFUTBLQ1-19	↗	-1.3%	↘	0.2%
ENOYR-19	↗	1.2%	↘	2.7%
NP System	↘	-5.5%	↗	-12.6%
NEDEC8	↗	-0.8%	↘	1.7%

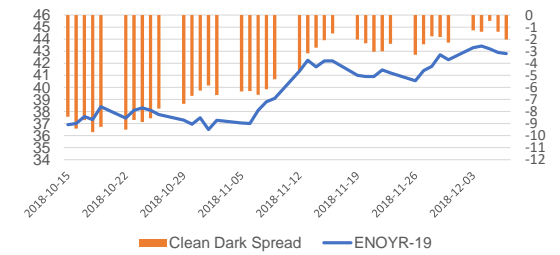
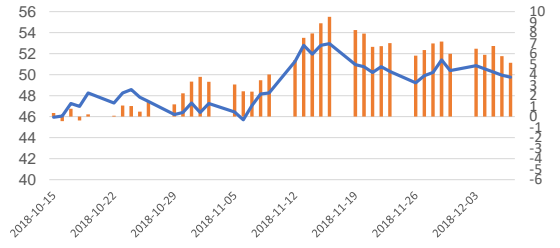
DETERMINANTS AFFECTING THE MARKET ON WEEK 50

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

SE3-FI (1200 MW), 15.12.2018 maintenance, available 400 MW

Nordic nuclear power plants are currently operating at 100%

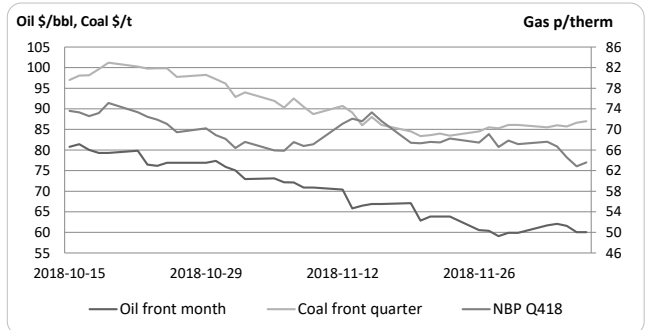
-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 74 % of the maximum.



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	43.41
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.95
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.32
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.32
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.63
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.50

*Average for period between 1.1.2018-10.12.2018.



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Source for data: intStream, Tilastokeskus

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