

### NORDIC ELECTRICITY MARKET

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#### UPWARD PRESSURE CREATED BY DRY WEATHER PICTURE

##### Forecast to week 20:

ENOFUTBLQ3-19	↗ Bullish (>0%)
ENOYR-20	↗ Bullish (>0%)
NP System	↔ Sideways (± 0,5%)
NEDEC9	↗ Bullish (>0%)

#### FORECAST TO WEEK 20

#### ELECTRICITY DERIVATIVES

##### Front quarter

The weather has turned very dry and will remain so for at least for the current week. Next week will also start out very dry, but the forecasts for the second half of next week are showing signs of the dry weather type ending. Upward pressure is limited by the signs of an end to the dry conditions and the weak fuel prices, but the turn in the weather type is still highly uncertain. We expect a slight rise in quarterly product prices.

##### Annual products

The dry weather picture and the rising quarterly products are creating upward pressure on annual products. However, the longer-term downward trends are still continuing for coal and natural gas prices. In addition, the broad European weather picture is showing rising temperatures, which will reduce demand for fuels. The increasing tensions in the US-Chinese trade talks are shaking the stock markets and the uncertainty is also reflected in fuel and emission allowance prices. Uncertainty is high, but we regard upward development slightly more likely than a fall in annual products.

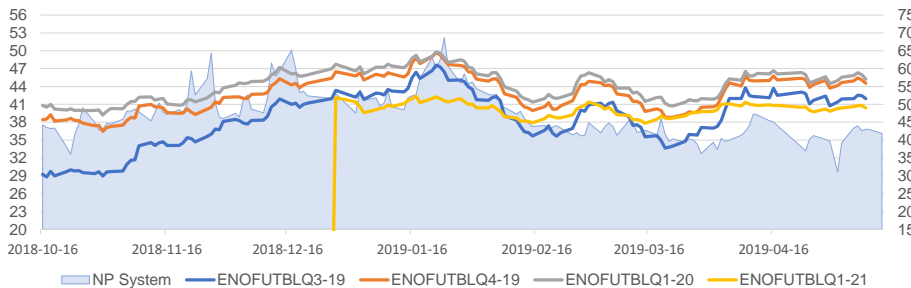
#### SPOT MARKET

The weather is clearly colder than normal for the time of year, but temperatures will rise in the days ahead and temperatures considerably above normal will be seen already towards the end of the week. The rising temperatures will re-accelerate melting and flow rates will increase towards the end of the week. Nordic wind power production will drop to a low level after Monday but will rise close to the normal level again after Thursday. The interconnection between Southern Sweden and Lithuania is in use again, but the Finnish area price is increased by interconnection maintenance between Finland and Sweden (SE3). In addition, the annual maintenance of the Olkiluoto 2 nuclear power plant unit is still underway and Finnish wind power production will fall to a low level after Tuesday. We expect the system price at the weekly level to settle at a level close to that seen last week. We expect the Finnish area price to settle considerably higher than the system price.

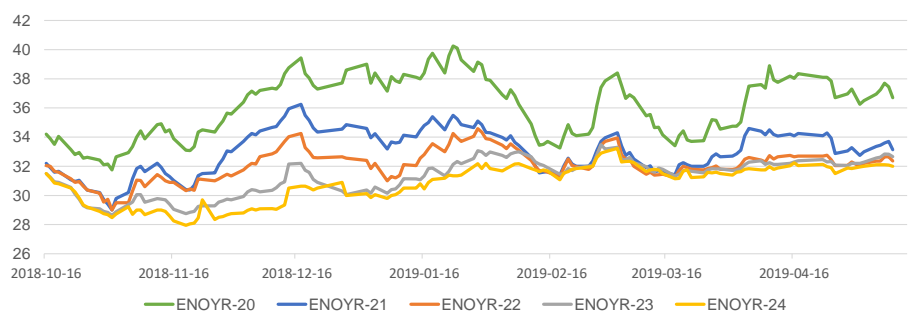
#### EMISSIONS

Fluctuation is created in the electricity market and fuel prices by uncertainties in the US-Chinese trade talks and the uncertainty is also reflected in emission allowance prices. However, emission allowance prices went up last week despite the nervous mood and technically emission allowance prices are on an upward trend. Because of the high uncertainty, we expect the big price swings to persist but expect an upward trajectory to be more likely than downward movement. On Wednesday, the European Commission will publish the surplus indicator for the ETS Market Stability Reserve, which will determine the auction volumes for the period between September 2019 and August 2020. The amount of surplus may result in movement in emission allowance prices, but we anticipate the number to be close to that expected.

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



Years EUR/MWh



##### Market signals

	spot	Q3-19	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)
ENOFUTBLQ3-19	10.5.2019	41.95	1.3%	0.55
ENOFUTBLQ4-19	10.5.2019	44.55	0.8%	0.37
ENOFUTBLQ1-20	10.5.2019	45.25	0.6%	0.25
ENOFUTBLQ1-21	10.5.2019	40.40	0.2%	0.10
ENOYR-20	10.5.2019	36.70	0.5%	0.20
ENOYR-21	10.5.2019	33.14	0.4%	0.14
ENOYR-22	10.5.2019	32.37	0.5%	0.17
ENOYR-23	10.5.2019	32.66	1.2%	0.38
ENOYR-24	10.5.2019	32.00	0.0%	0.00
NEDEC9	10.5.2019	25.59	1.6%	0.41
NEDEC20	10.5.2019	25.87	1.7%	0.42

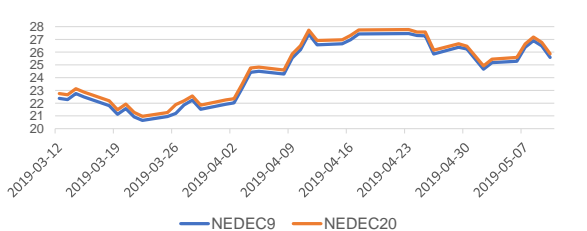
##### EPAD settlements

10.5.2019 (€/MWh)	2019	2020	2021	2022
SYHEL	4.50	3.18	2.90	3.00
SE1-NP System	-1.00	-1.60	-1.60	-1.60
SE2 - NP System	-1.10	-1.60	-1.60	-1.60
SE3 - NP System	1.45	1.53	1.50	1.75
SE4 - NP System	3.00	3.08	2.75	2.75

##### Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	12.5.2019	41.40	11.4%	4.24
NP Area FI	12.5.2019	38.15	7.2%	2.56
NP Area SE1	12.5.2019	36.20	8.8%	2.93
NP Area SE2	12.5.2019	36.20	8.8%	2.93
NP Area SE3	12.5.2019	36.20	8.8%	2.93
NP Area SE4	12.5.2019	36.20	8.8%	2.93

##### Carbon EUR/CO2 t



COMMENTS ON WEEK 19

**ELECTRICITY DERIVATIVES**

**Front quarter**

Last week, quarterly product prices rose in the first half of the week. The weather was rainy last week, but support for quarterly products was provided by the following week's weather picture showing stronger signs for the weather type turning dry. In addition, upward pressure on quarterly products was created by emission allowance prices having become clearly stronger again. Towards the end of the week, there was a downturn in quarterly products as weather forecasts were showing signs of normalization in precipitation rates. In addition, emission allowance and coal prices also retreated. At the weekly level, quarterly products showed an increase, however.

**Annual products**

Last week, annual products moved up again in the wake of the upturn in emission allowance and quarterly product prices. Towards the end of the week, however, the threat of trade war between China and the US and the resulting nervous general market sentiment caused emission allowance prices to retreat. Fuel prices also fell. Annual products fell towards the end of the week and, at the weekly level, they ended up showing only a slight increase.

**SPOT MARKET**

Last week saw weather clearly colder than normal for the time of year. Due to the cold weather, demand for electricity increased, flow rates decreased and spot prices rose. Nordic wind power production was, however, mostly above normal and, on Sunday in particular, the wind power production levels rose high. Owing to the abundant wind power production seen on Sunday, the Finnish and Swedish spot prices settled at a low level. At the weekly level, the Finnish area price deviated from the Swedish area prices because of the annual maintenance of the Olkiluoto 2 nuclear power plant unit. However, the Finnish area price settled lower than the system price at the weekly level.

**EMISSIONS**

Emission allowance prices rose in the first half of last week. Support for emission allowance prices was provided by the weather picture prevailing broadly across Europe being colder than normal for the time of year. However, towards the end of the week, emission allowance prices retreated in the wake of the nervous market sentiment and the electricity market as tensions increased again in the trade talks between the US and China. At the weekly level, however, emission allowance prices rose.

DETERMINANTS AFFECTING THE MARKET ON WEEK 20

**RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY**

Olkiluoto 2 (890 MW), yearly maintenance 1.-26.5.2019, available 0 MW  
 Ringhals 3 (1063 MW), yearly maintenance 30.4.-25.5.2019, available 0 MW  
 Forsmark 1 (984 MW), yearly maintenance 22.4.-7.6.2019, available 0 MW  
 Ringhals 1 (881 MW), maintenance 16.5.2019, available 440 MW

SE3-FI (1200 MW), maintenance 11.-19.5.2019, available 350 MW

-The utilization rate of Nordic nuclear power plants is currently 75%  
 -RU-FI transfer profile varies due to capacity charges, average import from Russia last week was 74% of 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	44.77
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	0.42
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.29
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.29
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-1.00
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	-0.65

\*Average for period between 1.1.2019-13.5.2019.

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 Source for data: intStream, Tilastokeskus

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Indicator	ENOFUTBLQ3-19	ENOYR-20
Coal-fired production	30 %	47 %
Coal price	0 %	4 %
Gas price (NBP)	0 %	3 %
German price level	0 %	4 %
Spot	13 %	17 %
Crude oil Brent	1 %	5 %
Water reservoirs	1 %	6 %
EUR/USD FX rate	2 %	5 %
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	19	Chg	18	Chg
ENOFUTBLQ3-19	↗	1.3%	↘	0.7%
ENOYR-20	↗	0.5%	↘	-0.5%
NP System	↗	11.4%	↘	-4.8%
NEDEC9	↗	1.6%	↘	-2.6%

