

### NORDIC ELECTRICITY MARKET

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#### WE EXPECT THE MARKET TO RECOVER SLIGHTLY

##### Forecast to week 37:

ENOFUTBLQ4-19	↗ Bullish (>0%)
ENOYR-20	↗ Bullish (>0%)
NP System	↘ Bearish (<0%)
NEDEC9	↗ Bullish (>0%)

#### FORECAST TO WEEK 37

### ELECTRICITY DERIVATIVES

#### Front quarter

The weather forecasts dried slightly over the weekend. The weather will be dry and warm for the time of year for the first days of the week but after that the precipitation rates will increase and temperatures drop. The forecasts for the rest of the week and next week are somewhat uncertain as the high pressure holding sway over Central Europe may prevent some of the rainfall. Nevertheless, the weather type will probably mainly remain slightly wetter than normal and the hydro balance will continue to rise. We expect quarterly products to recover slightly but, as the weather picture is wetter than normal and the technical picture is weak, we regard the potential for an uptrend limited for the time being.

#### Annual products

Fuel prices have taken an upturn and the closest support level of emission allowance prices has held, too. The general market mood has been more positive as trade war concerns have eased slightly and the market has also been supported by expectations for economic stimulus measures. The market's eyes have turned to Thursday, which is when the ECB is expected to unveil fresh stimulus measures. The ECB meeting is expected to be highly expansionary and its outcome may provide strong direction not only for the stock and currency markets but also for the fuel and emission allowance markets. The ongoing Brexit process maintains uncertainty in emission allowance prices. Despite the high uncertainty, we regard an uptrend more likely for annual products than a downtrend.

### SPOT MARKET

The week will start dry, with low winds and warm temperatures for the time of year. Flow rates have fallen close to the normal level. Precipitation rates will, however, increase after the first days of the week and towards the end of the week the flow rates will rise to a level that is clearly above normal. The weather forecasts are wet and the hydro balance will continue to rise. After Tuesday, Nordic wind power production will rise to a level that is clearly above normal. We expect the system price to fall at the weekly level and to settle at an average of €33.0/MWh. Finnish wind power production will be weak during the first days of the week and nuclear power production clearly weaker than normal. The restart of the Loviisa 2 nuclear power plant unit has been delayed until Thursday and the annual maintenance outage of the Loviisa 1 unit began at the weekend. We expect the Finnish area price to settle considerably higher than the system price.

### EMISSIONS

Emission allowance prices are still technically weak, but the closest price support level at €24.6/t has still held. Downward pressure on emission allowance prices is brought by the hike in auction volumes. There are still major uncertainties concerning Brexit, but the fears of a hard Brexit have eased and the U.K. may request yet another extension to the Brexit deadline. The electricity market is supported by stronger fuel prices, also extending support to emission allowance prices. We expect emission allowance prices to recover slightly.

#### Market signals

	spot	Q4-19	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)
ENOFUTBLQ4-19	6.9.2019	35.85	-6.3%	-2.40
ENOFUTBLQ1-20	6.9.2019	39.75	-6.0%	-2.55
ENOFUTBLQ2-20	6.9.2019	31.68	-4.1%	-1.37
ENOFUTBLQ3-20	6.9.2019	28.35	-3.1%	-0.91
ENOYR-20	6.9.2019	33.74	-3.9%	-1.36
ENOYR-21	6.9.2019	33.24	-1.5%	-0.51
ENOYR-22	6.9.2019	32.60	-0.4%	-0.12
ENOYR-23	6.9.2019	32.63	0.2%	0.07
ENOYR-24	6.9.2019	32.65	-0.2%	-0.08
NEDEC9	6.9.2019	25.03	-5.0%	-1.31
NEDEC20	6.9.2019	25.24	-5.1%	-1.35

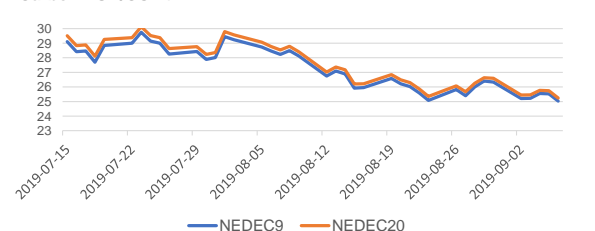
#### EPAD settlements

6.9.2019 (€/MWh)	2020	2021	2022	2023
SYHEL	8.40	4.70	4.50	4.60
SE1-NP System	-1.00	-1.50	-2.25	-2.25
SE2 - NP System	-1.00	-1.50	-2.25	-2.25
SE3 - NP System	1.83	1.25	1.35	1.35
SE4 - NP System	3.33	2.60	2.60	2.60

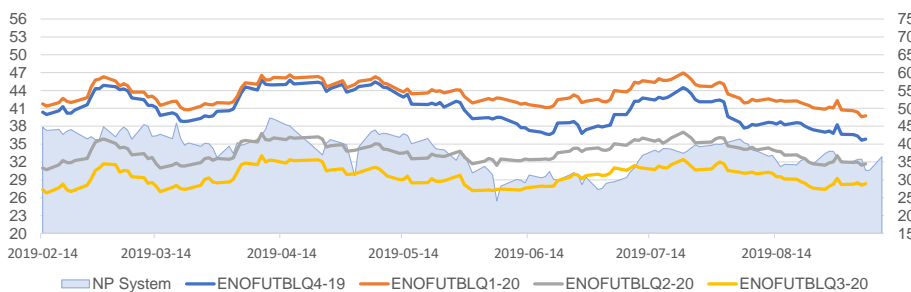
#### Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	8.9.2019	34.18	-3.5%	-1.25
NP Area FI	8.9.2019	50.69	0.5%	0.27
NP Area SE1	8.9.2019	35.86	-4.9%	-1.84
NP Area SE2	8.9.2019	35.86	-4.9%	-1.84
NP Area SE3	8.9.2019	36.68	-3.7%	-1.41
NP Area SE4	8.9.2019	36.68	-3.7%	-1.41

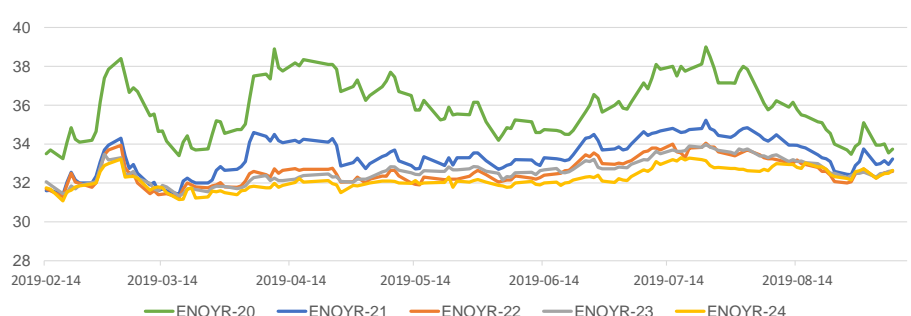
#### Carbon EUR/CO2 t



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



Years EUR/MWh



COMMENTS ON WEEK 36

**ELECTRICITY DERIVATIVES**

**Front quarter**

Front-quarter products took a major dip last week. The weather forecasts were very wet and the hydro balance was forecast to rise clearly above the long-term normal level. The very weak technical trend and continuing decline of emission allowance prices strengthened the downward pressure.

**Annual products**

Last week the front-year product plummeted in the wake of the wet weather forecasts and the continued rise of the hydro balance. The further-ahead annual products also declined at the weekly level as emission allowance prices continued on a downward trajectory. There was, however, an upturn in fuel prices, which limited the downward pressure on annual products.

**SPOT MARKET**

The system price fell last week. Downward pressure on spot prices was exerted by the wet weather picture and rising hydro balance. Flow rates also climbed high in the second half of the week and Nordic wind power production was higher than normal during the business days of the week. The downward pressure on spot prices was restricted considerably by weaker-than-normal nuclear power supply. The restart of the Loviisa 2 unit was delayed and both of the Loviisa nuclear power plant units were under maintenance at the weekend. The Finnish area price differed considerably from the Swedish area prices, and the Finnish area price climbed slightly at the weekly level. Consequently, the gap between the Finnish area price and the system price became wider.

**EMISSIONS**

Last week, emission allowance prices took another downturn. Besides the weak technical picture, downward pressure on the price was created by the increased auction volumes as the European holiday season ended. Uncertainty was also maintained by the Brexit process. The downward pressure was, however, restricted by the closest support levels and the upturn of the German electricity market due to the stronger fuel prices.

Indicator	ENOFUTBLQ4-19	ENOYR-20
Coal-fired production	74 %	64 %
Coal price	43 %	5 %
Gas price (NBP)	66 %	30 %
German price level	14 %	56 %
Spot	34 %	11 %
Crude oil Brent	58 %	17 %
Water reservoirs	5 %	0 %
EUR/USD FX rate	1 %	1 %
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	36	Chg	35	Chg
ENOFUTBLQ4-19	⬇️	-6.3%	⬇️	1.5%
ENOYR-20	⬇️	-3.9%	⬇️	3.2%
NP System	⬇️	-3.5%	⬆️	1.5%
NEDEC9	⬇️	-5.0%	⬇️	5.0%

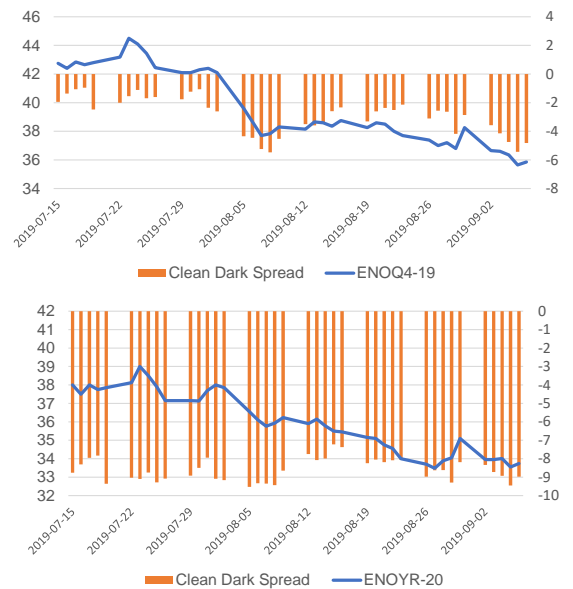
DETERMINANTS AFFECTING THE MARKET ON WEEK 37

**RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY**

Ringhals 2 (852 MW), maintenance 7.9.-30.12.2019, in use 300 MW  
 Loviisa 1 (507 MW), maintenance 7. - 25.9.2019, 0 MW in use  
 Loviisa 2 (507 MW), maintenance 18.8. - 12.9.2019, 0 MW in use  
 Ringhals 4 (1103 MW), maintenance 28.8.-1.10.2019 0 MW in use  
 Oskarshamn 3 (1400 MW), maintenance 30.8.-23.9.2019 0 MW in use

NO1-SE3 (2145 MW), maintenance 30.7. – 18.10.2019, 1845 MW in use  
 RU-FI (1300 MW), maintenance 8.-29.9.2019, in use 1100 MW

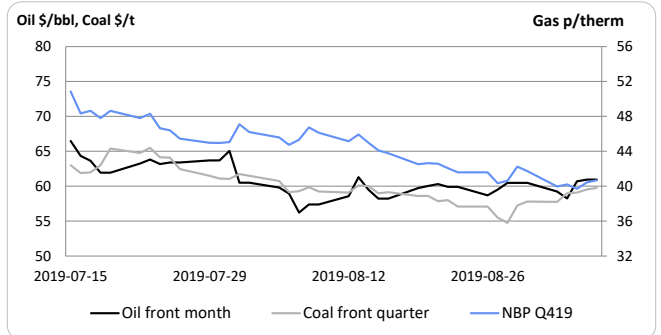
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 66%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 50% of the maximum



**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	39.59
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	4.33
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.13
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.13
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.91
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.33

\*Average for period between 1.1.2019-9.9.2019.



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 Source for data: intStream, Tilastokeskus

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