

NORDIC ELECTRICITY MARKET

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STRONG EMISSION ALLOWANCES ARE EXERTING UPWARD PRESSURE BUT NEXT WEEK'S WET WEATHER PICTURE IS CURBING SUPPORT

Forecast to week 31:

ENOFUTBLQ4-19	↔ Sideways (± 0,5%)
ENOYR-20	↗ Bullish (>0%)
NP System	↗ Bullish (>0%)
NEDEC9	↗ Bullish (>0%)

FORECAST TO WEEK 31

ELECTRICITY DERIVATIVES

Front quarter

The weather type is coming to an end and amounts of rain will rise temporarily. However, amounts of rain in the second half of the week will again fall to be low the normal level and the hydro balance will continue to weaken. Although there is still uncertainty in next week's weather picture, amounts of rain are likely to be more prolific and temperatures lower than normal. The strong price of emission allowances and the continued fall in the hydro balance during the current week will support front products but next week's wet weather picture will usher in downward pressure. We expect front products to approach last week's emission levels or to fall slightly if next week's wetter than normal weather type is further ascertained over the coming days.

Annual products

Strong emission allowance prices are exerting upward pressure on annual products but weaker coal prices are curbing the support exerted by emission allowances. Next week's wetter weather picture could exert downward pressure on the closest annual product. However, given the strong price of emission allowances, we consider upward development to be more likely than downward as far as annual products are concerned.

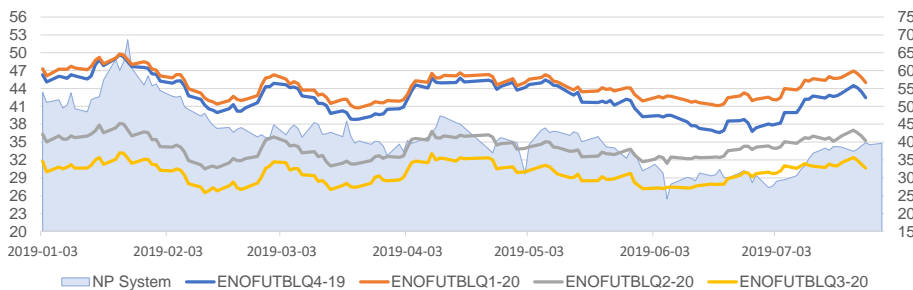
SPOT MARKET

Temperatures have fallen sharply although the weather is still warm on Monday. Temperatures on Tuesday and Wednesday will drop to lower for the time of year until rising again on Thursday and Friday to approach normal temperatures. Flow rates are lower than normal. Nordic wind power production will be weaker than normal, apart from on Tuesday, and will be very weak particularly between Thursday and Sunday. In Finland, wind power production will be abundant during the first half of the week, but on Thursday will drop to a very low level. After Thursday, wind power production in Finland will approach the normal level. Maintenance work on the transmission link between Russia and Finland will be completed on Wednesday and electricity imports from Russia will rise in August. We expect the system price to rise at the weekly level and to settle at a level averaging €40.0/MWh. We expect the Finnish area price to fall and to settle at a level averaging €48.5/MWh.

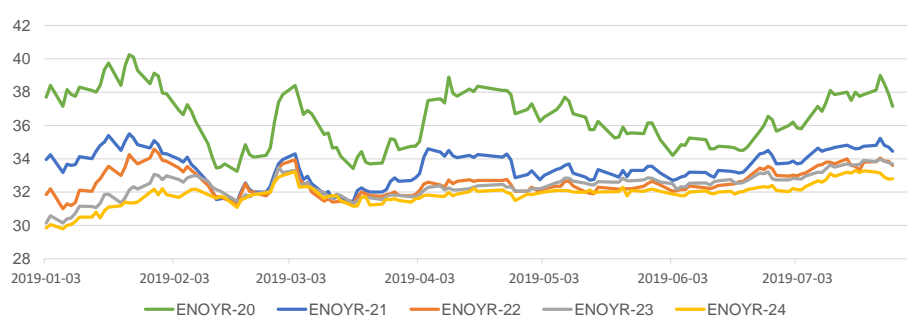
EMISSIONS

Temperatures have fallen across much of Europe and this reduces the need for cooling and thus demand for emission allowances. However, we expect emission allowances prices to rise because of the reduced auction volumes in August and the strong technical upward trend. To date, however, the resistance price of €30.0/t has curbed the rise. A potential breakthrough of this price would pave the way for €31.0/t, the highest quoted level of all times.

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



Years EUR/MWh



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	26.7.2019	42.45	-0.8%	-0.35
ENOFUTBLQ1-20	26.7.2019	45.00	-1.5%	-0.70
ENOFUTBLQ2-20	26.7.2019	35.20	-0.9%	-0.33
ENOFUTBLQ3-20	26.7.2019	30.65	-1.1%	-0.35
ENOYR-20	26.7.2019	37.15	-1.8%	-0.70
ENOYR-21	26.7.2019	34.45	-0.9%	-0.30
ENOYR-22	26.7.2019	33.60	-0.6%	-0.20
ENOYR-23	26.7.2019	33.68	-0.6%	-0.22
ENOYR-24	26.7.2019	32.80	-1.4%	-0.48
NEDEC9	26.7.2019	28.26	-2.0%	-0.59
NEDEC20	26.7.2019	28.63	-2.2%	-0.63

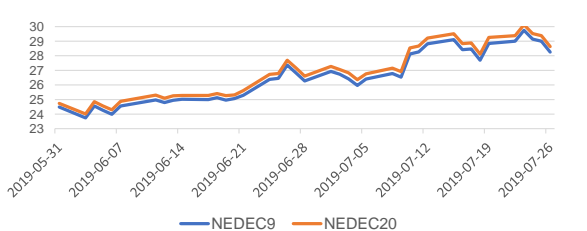
EPAD settlements

26.7.2019 (€/MWh)	2019	2020	2021	2022
SYHEL	5.70	3.10	3.10	3.10
SE1-NP System	-1.25	-1.50	-2.25	-2.25
SE2 - NP System	-1.25	-1.50	-2.25	-2.25
SE3 - NP System	1.33	1.25	1.35	1.35
SE4 - NP System	2.50	2.60	2.60	2.60

Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	28.7.2019	38.02	0.8%	0.31
NP Area FI	28.7.2019	55.43	11.5%	5.73
NP Area SE1	28.7.2019	37.82	1.0%	0.37
NP Area SE2	28.7.2019	37.82	1.0%	0.37
NP Area SE3	28.7.2019	37.82	1.0%	0.37
NP Area SE4	28.7.2019	37.82	1.0%	0.37

Carbon EUR/CO2 t



COMMENTS ON WEEK 30

ELECTRICITY DERIVATIVES

Front quarter

Front products continued to show a clear rise in the early part of last week. Very dry weather, a weakening hydro balance and strongly rising emission allowance prices shored up support for front products. The price of coal also rose. However, during the second half of the week, coal and emission allowance prices retreated. In addition, weather forecasts showed the end of the dry, warm weather type. This being the case a downward correction was seen in front products in the second half of the week and front products were down at the weekly level.

Annual products

Annual products rose in the early part of the week along with front products, the dry weather picture and higher emission allowance and coal prices. However, also annual products saw a downturn after the early part of the week along with the correction movement of front products and the retreat in emission allowance and coal prices. Annual products were down at the weekly level.

SPOT MARKET

Last week spot prices continued to rise. The weather was very dry and flow rates decreased towards the end of the week. After Monday, Nordic wind power production fell to a very low level and also in Finland wind power production was very weak. Electricity imports from Russia to Finland remained scant because of maintenance work on the transmission link and the Finnish area price differed significantly from Swedish area prices and also from the system price.

EMISSIONS

Last week, emission allowance prices again rose to peak prices and the price tested the resistance level of €30.0/t. The heatwave prevailing across most of Europe and scant wind conditions buoyed up support for emission allowance prices as did the volumes of emission allowances coming up for auction in August as these have been halved. However, the €30.0/t resistance level for emission allowance prices held and prices retreated. Also technically emission allowance prices were already overbought and thus the price retreated slightly. Political uncertainty also exerted downward pressure since the hard Brexit scenario featured with the appointment of Britain's new prime minister.

Indicator	ENOFUTBLQ4-19	ENOYR-20
Coal-fired production	81 %	47 %
Coal price	28 %	0 %
Gas price (NBP)	47 %	4 %
German price level	28 %	62 %
Spot	47 %	8 %
Crude oil Brent	21 %	8 %
Water reservoirs	15 %	1 %
EUR/USD FX rate	1 %	2 %
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	30	Chg	29	Chg
ENOFUTBLQ4-19	↗	-0.8%	↗	1.4%
ENOYR-20	↗	-1.8%	↗	0.0%
NP System	↗	0.8%	↗	4.8%
NEDEC9	↗	-2.0%	↗	0.1%

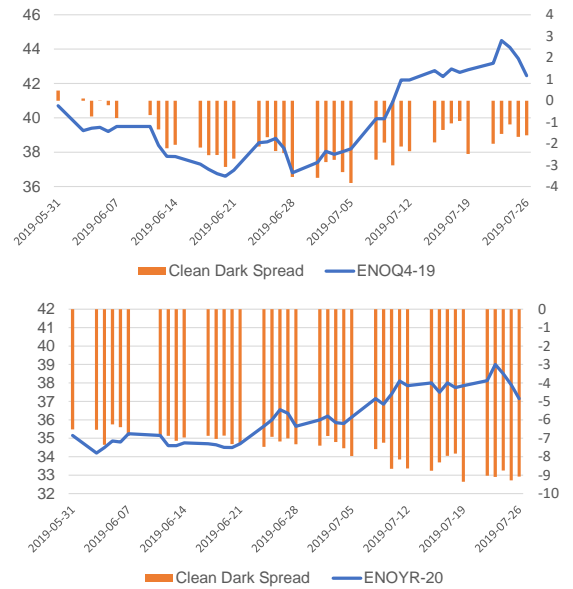
DETERMINANTS AFFECTING THE MARKET ON WEEK 31

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 4 (1103 MW), maintenance 6 July – 27 August 2019, 680 MW in use
 Ringhals 1 (881 MW), maintenance 18 July - 15 August 2019, 0 MW in use.
 Forsmark 2 (1120 MW), maintenance 28 July - 12 August 2019, 0 MW in use

RU-FI (1300 MW), annual maintenance 30 June – 31 July 2019, 400 MW in use

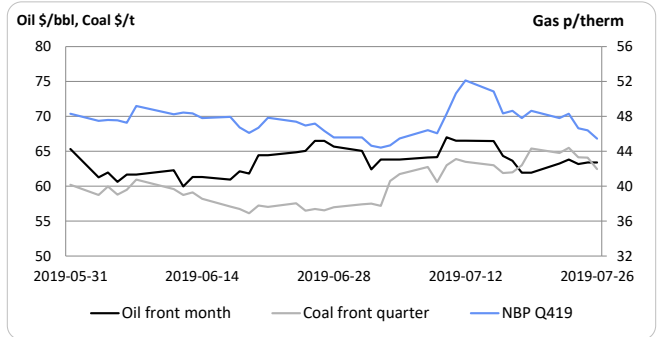
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 80%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 18% of the maximum



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	40.34
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	1.83
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.54
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.54
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-1.34
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	-0.18

*Average for period between 1.1.2019-29.7.2019.



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 Source for data: intStream, Tilastokeskus

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