

NORDIC ELECTRICITY MARKET

22.6.2020 Markus Herranen, Gasum Portfolio Services Oy

CURRENT WEEK IS VERY DRY AND WARM BUT A CHANGE IN SIGHT IN THE WEATHER TYPE NEXT WEEK

Forecast to week 26:	
ENOFUTBLQ3-20	↗ Bullish (>0%)
ENOYR-21	↗ Bullish (>0%)
NP System	↔ Sideways (± 0,5%)
NEDEC20	↗ Bullish (>0%)

Market signals	spot	Q3-20	YR-21
Hydrologic balance	→	↑	↑
Precipitation forecast	→	→	→
Temperature forecast	↓	→	→
Spot	→	↓	↓
Production and transmission exch.	↓	→	→
Emissions allowance	→	↑	↑
Coal price	→	→	↑
German prices	→	→	↑
Technical analysis		↑	↑

FORECAST TO WEEK 26

POWER FUTURES

Front quarter

The current week is very dry and apart from Monday, the rainfall is greatly evaporating. The hydro balance will fall sharply over the next few days. A weakening hydro balance will support near products. However, the weather forecast shows the high pressure receding and with it the dry and very warm weather type. Next week, temperatures will fall to near normal for the time of year and rainfall will be slightly higher than normal. The turn in the weather type and low spot prices will limit the support brought by the weakening hydro balance. We expect quarterly products to rise slightly at the weekly level.

Annual products

The weakening hydro balance will support the nearest annual product, but the effect will be limited by this change in the weather type next week. However, the emission allowance price is showing a clear upward trend, which supports annual product prices. Also fuel prices are firmer. We expect a rise in annual product prices.

SPOT MARKET

The weather during the current week will be very warm and temperatures will rise towards the end of the week. Flow rates are very high, but despite rising temperatures will begin to fall as melting is already mostly over. However, continued heavy flow rates and transmission link restrictions from Norway to Sweden, Denmark and the Netherlands are keeping the system price very low. We expect the system price to settle close to last week's level. Nordic wind power production is much weaker than normal and will be at its weakest around mid-week. In Finland, wind power production will mostly be slightly weaker than normal. Nuclear power plant maintenance in Sweden is maintaining scarcity in the SE3 price area, which is also reflected in the Finnish area price. We expect the Finnish area price to remain noticeably higher than the system price. At the weekly level, we expect the Finnish area price to rise and to settle at an average level of €26.5/MWh.

EMISSIONS

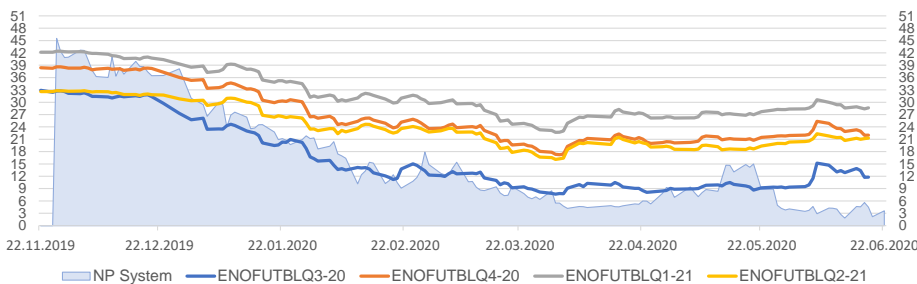
Emission allowance prices are currently still technically rising and the March peak and €25/t form the resistance level. Actual demand is weak; it is estimated that emissions covered by the ETS will fall 25% this year. Recent emission allowance trading has been on the basis of the technical picture and sentiment, which means the price may remain strong if there are no major changes for the worse in the economic outlook. Given the strong technical picture, we expect the emission allowance price to continue rising this week.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ3-20	19.6.2020	11.78	-12.1%	-1.62
ENOFUTBLQ4-20	19.6.2020	22.00	-6.8%	-1.60
ENOFUTBLQ1-21	19.6.2020	28.65	-2.6%	-0.75
ENOFUTBLQ2-21	19.6.2020	21.30	-0.7%	-0.15
ENOYR-21	19.6.2020	24.35	-0.4%	-0.10
ENOYR-22	19.6.2020	25.60	0.2%	0.05
ENOYR-23	19.6.2020	26.63	-1.4%	-0.37
ENOYR-24	19.6.2020	28.25	-0.1%	-0.03
ENOYR-25	19.6.2020	28.88	1.3%	0.38
NEDEC20	19.6.2020	24.07	9.7%	2.13
NEDEC20	19.6.2020	24.07	9.7%	2.13

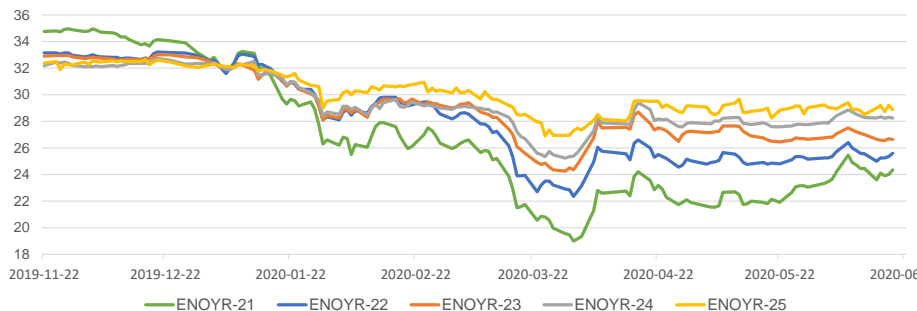
EPAD settlements			
19.6.2020 (€/MWh)	2021	2022	2023
SYHEL	9.10	5.15	3.70
SE1- NP System	-1.50	-2.90	-3.50
SE2 - NP System	-1.50	-2.90	-3.50
SE3 - NP System	1.73	1.70	1.70
SE4 - NP System	3.80	3.50	3.50

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	21.6.2020	3.58	24.2%	0.70
NP Area FI	21.6.2020	23.26	26.3%	4.84
NP Area SE1	21.6.2020	10.93	49.3%	3.61
NP Area SE2	21.6.2020	10.93	49.3%	3.61
NP Area SE3	21.6.2020	20.36	55.1%	7.23
NP Area SE4	21.6.2020	20.36	55.1%	7.23

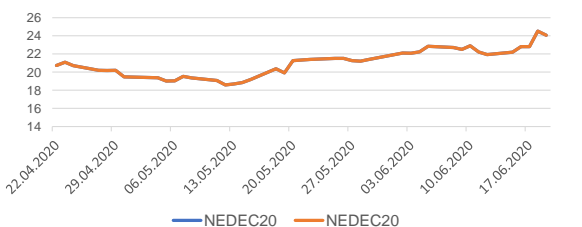
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 25

POWER FUTURES

Front quarter

The overall change in the front quarter last week was downward last week. In the early part of the week, prices even rose slightly in the wake of dry, warm weather, but on Thursday the forecast began to show with growing certainty a change in the weather type to wetter and cooler after about a week. However, the total hydro situation has weakened considerably, which prevented a greater fall. Very low system spot prices also exerted downward pressure.

Annual products

The weekly change in annual products was very small. The overall hydro situation weakened and the pressure brought by the hydro situation on next year has significantly decreased. However, annual products failed to start to rise, despite emission allowance prices rising to their highest for more than three months. Also German electricity prices rose to their highest for three months. The stock markets recovered slightly from their earlier downturn and oil, coal and gas prices rose slightly last week.

SPOT MARKET

Last week, flow rates remained very high as the warm weather melted the snow rapidly in the mountains. Consumption was lower than in a normal week because of Midsummer. Earlier in the week, it seemed that the spot price managed to start to rise, but prices then fell very low from Friday to Sunday. Wind power production was very low, about half the normal rate, last week. The Finnish area price settled surprisingly high following the price rise in the SE3 area. In Sweden, there are many nuclear power plants in prolonged maintenance due to the low price level and combined with the transmission restrictions between Norway and Sweden as well as windless weather, the SE3 and Finnish price rose to the same figures for most of the time. At the weekly level, the Finnish area price and area price difference grew.

EMISSIONS

Last week, emission allowance prices rose by about 10%, with the biggest rise seen on Thursday. Speculative investors and the technical picture exerting pressure on trading, as well as the very strong price achieved in the emission allowance auction compared to the market price at the time, would seem to be behind the rise. Concerns about a second wave of the coronavirus brought some minor uncertainty last week, but the concerns eased after the early part of the week and share indexes recovered.

Indicator	ENOFUTBLQ3-20	ENOYR-21
Coal-fired production	76 %	89 %
Coal price	72 %	68 %
Gas price (NBP)	70 %	69 %
German price level	6 %	85 %
Spot	90 %	81 %
Crude oil Brent	72 %	85 %
Water reservoirs	32 %	23 %
EUR/USD FX rate	22 %	23 %
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)

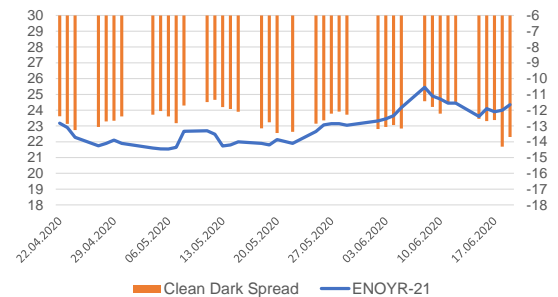
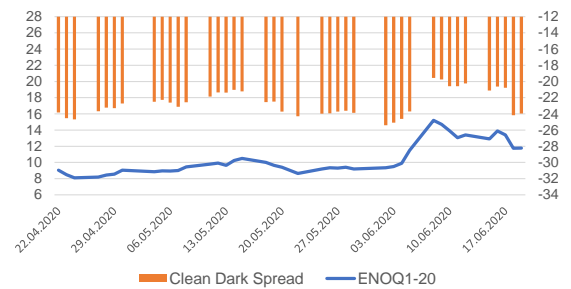
Forecast history	25	Chg	24	Chg
ENOFUTBLQ3-20	↗	-12.1%	↗	16.5%
ENOYR-21	↔	-0.4%	↗	1.2%
NP System	↗	24.2%	↘	-36.6%
NEDEC20	↘	9.7%	↗	-4.0%

DETERMINANTS AFFECTING THE MARKET ON WEEK 26

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

- Ringhals 4 (1130MW), 16.6.-5.7.2020 failure, in use 578 MW
- Forsmark 2 (1118 MW), 20.-22.6.2020 failure, in use 430 MW
- Forsmark 3 (1172 MW), 21.-26.6.2020, failure, in use 0 MW
- Ringhals 3 (1063 MW) 22.4-24.7.2020 maintenance, in use 0 MW
- Ringhals 1 (881 MW), 13.3.-30.6.2020 maintenance, in use 0 MW

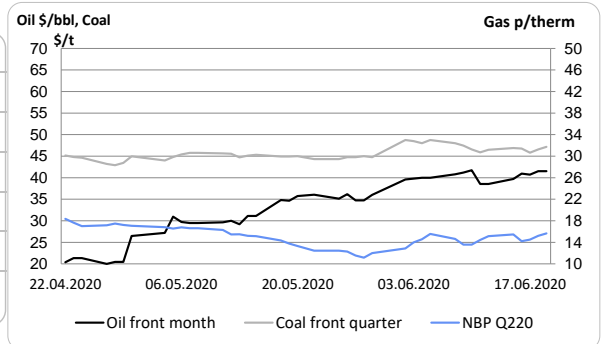
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 60%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 2 % of the maximum



AVERAGE SPOT PRICE AND EPAD

Price area (€/MWh)	2012	2013	2014	2015	2016	2017	2018	2019	2020*
NP System	31.20	38.10	29.60	21.00	26.91	29.41	43.99	38.94	10.88
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.10	11.44
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	1.01
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	1.01
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	5.02
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.86	7.01

*Average for period between 1.1.2020-22.6.2020.



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Source for data: intStream, Tilastokeskus

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