

NORDIC ELECTRICITY MARKET

15.2.2021 Markus Herranen, Gasum Portfolio Services Oy

END OF COLD, DRY WEATHER BRINGS DOWNWARD PRESSURE ON NEAR PRODUCTS

Forecast to week 7:	
ENOFUTBLQ2-21	📉 Bearish (<0%)
ENOYR-22	📉 Bearish (<0%)
NP System	📉 Bearish (<0%)
NEDEC21	📈 Bullish (>0%)

FORECAST TO WEEK 7

POWER FUTURES

Front quarter

The weather forecasts have grown wetter and warmer over the weekend. The cold, dry weather type will end towards the end of week and precipitation amounts will be higher than normal. The turn in the weather type and the changing hydro balance will exert clear downward pressure on near products. There is still uncertainty in the weather picture after next week, but at least for the time being the weather forecasts are showing no clear signs of a return to a dry or cold weather type. We expect near products to fall.

Annual products

Wetter and milder weather forecasts and falling near-term products will also put pressure on the nearest annual products. However, the very strong upward trend in the emission allowance price is also supportive of annual products. The price of oil has remained robust, but coal and gas prices lack any clear direction in the short term. We expect the nearest annual product to fall slightly. We expect longer annual products to move close to last week's closing levels.

SPOT MARKET

The weather will remain colder than normal until Thursday but will be milder than last week. Towards the end of the week, temperatures will rise to above normal for the time of year and demand for electricity will fall. Nordic wind power production will be weak on Tuesday but will rise to above normal later in the week. In the early part of the week, the cold weather and scant wind production will mean spot prices will rise high but will fall towards the end of the week. Wetter and drier weather forecasts and the rise in the hydro balance will also bring downward pressure on spot prices. We expect the system price to fall at the weekly level and to settle at an average of €48.5/MWh. We expect the Finnish area price to settle at an average level of €58.0/MWh.

EMISSIONS

During the current week, the market has again opened at record price levels north of €40/t. Last week, auctions settled at a lower price than on the secondary market, but this was not a strong enough signal for the market to fall. The weather in Europe will be mild during the current week. Positive sentiment supported by corona vaccinations is supportive of stock markets. The market has continued to remain technically strong and interest in the market and investors' positions in the market have increased. There is still the risk of a downward correction, but we expect the emission allowance price to continue to rise.

Market signals

	spot	Q2-21	YR-22
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)
ENOFUTBLQ2-21	12.2.2021	32.15	4.7%	1.45
ENOFUTBLQ3-21	12.2.2021	28.10	5.8%	1.55
ENOFUTBLQ4-21	12.2.2021	32.15	4.7%	1.45
ENOFUTBLQ1-22	12.2.2021	34.55	2.4%	0.80
ENOYR-22	12.2.2021	27.50	2.4%	0.65
ENOYR-23	12.2.2021	26.45	1.5%	0.40
ENOYR-24	12.2.2021	26.70	2.8%	0.72
ENOYR-25	12.2.2021	27.40	2.4%	0.65
ENOYR-26	12.2.2021	28.13	2.2%	0.61
NEDEC21	12.2.2021	40.22	4.9%	1.87
NEDEC22	12.2.2021	40.50	5.6%	2.13

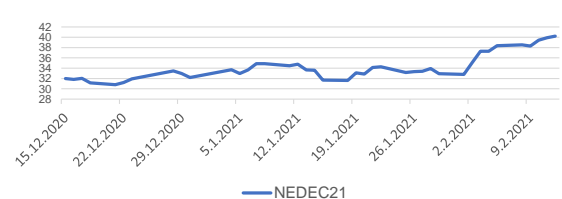
EPAD settlements

12.2.2021 (€/MWh)	2021	2022	2023
SYHEL	11.80	5.10	4.75
SE1-NP System	-2.50	-3.50	-3.50
SE2 - NP System	-2.50	-3.50	-3.50
SE3 - NP System	3.63	2.90	2.65
SE4 - NP System	8.85	7.75	7.88

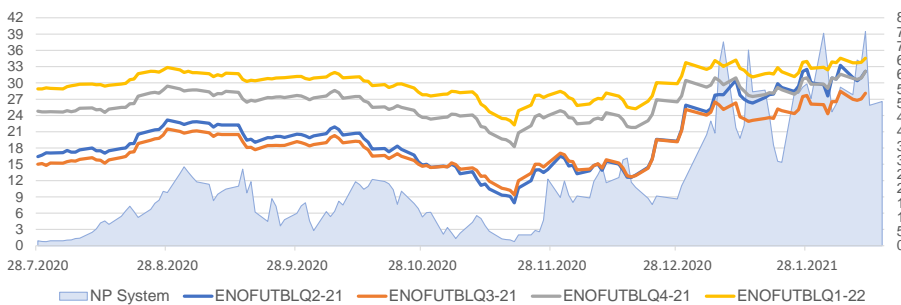
Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	14.2.2021	56.95	8.1%	4.26
NP Area FI	14.2.2021	69.48	11.6%	7.21
NP Area SE1	14.2.2021	48.39	-7.6%	-3.99
NP Area SE2	14.2.2021	48.39	-7.6%	-3.99
NP Area SE3	14.2.2021	68.12	10.8%	6.62
NP Area SE4	14.2.2021	68.12	10.8%	6.62

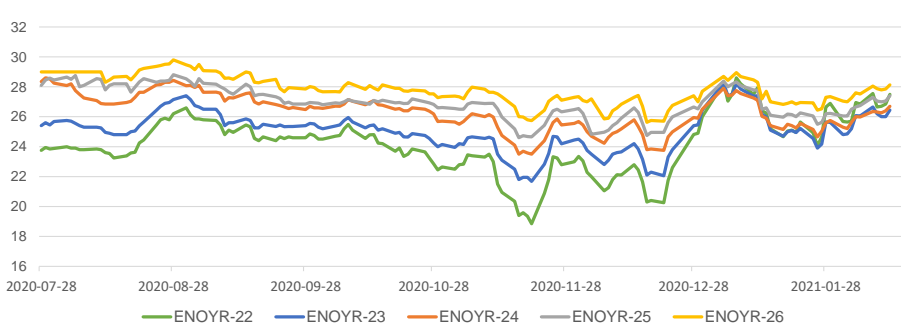
Carbon EUR/CO2 t



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



Years EUR/MWh



COMMENTS ON WEEK 6

POWER FUTURES

Front quarter

Last week, the weather was dry and cold, and the hydro balance continued to show a clear fall. There was still considerable uncertainty in the weather picture the following week and the prices of near products fluctuated within the week. Some forecast models indicated the end of the cold, dry weather type, but the weather forecasts dried during the week. The weather forecasts indicated temperatures rising to approach normal, but precipitation amounts will remain lower than normal during the following week. Drier than normal weather will see the prices of near products rise.

Annual products

Last week, prices of annual products fluctuated within the week, but the prices of annual products ultimately rose. Near-term products rising towards the end of the week and a drier than normal weather picture were supportive of the prices of annual products. In addition, the emission allowance price continued to be very strong. Coal and gas prices were rising in the early part of the week, but fuel prices reversed to a fall after the early part of the week. There were ultimately no major changes in coal and gas prices at the weekly level.

SPOT MARKET

Last week, the weather was cold and dry, temperatures fell towards the end of the working week and demand for electricity rose. At the same time, Nordic wind power production fell towards the end of the working week. Cold weather with little wind saw spot prices rise, especially on Thursday. In Finland, the highest hourly prices rose to a level above €200/MWh. Imports of electricity rose to Finland from Russia. Spot prices rose at the weekly level and the Finnish area price rose much more than the system price.

EMISSIONS

Last week, the emission allowance price continued to rise, and market volatility was particularly high. On Monday, the market saw a strong opening to record high levels, but the price fell during the day. Between Tuesday and Thursday, the price mainly moved below a level of €40/t. On Thursday, the price was affected by rumors of the EU intervening in the sudden rise in the emission allowance price. On Friday, the panic dissipated, and a volatile trading day ultimately closed at a level of €42.22/t, again reaching a historically high peak. The emission allowance price was up €2.08 at the weekly level.

Indicator	ENOFUTBLQ2-21	ENOYR-22
Coal-fired production	28 %	8 %
Coal price	35 %	15 %
Gas price (NBP)	6 %	85 %
German price level	59 %	33 %
Spot	0 %	0 %
Crude oil Brent	39 %	18 %
Water reservoirs	56 %	50 %
EUR/USD FX rate	9 %	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)

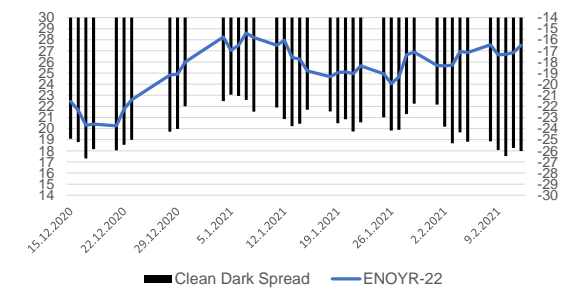
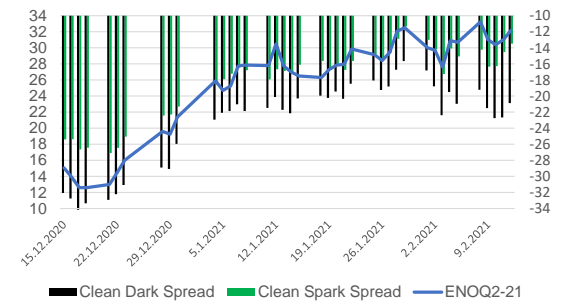
Forecast history	6	Chg	5	Chg
ENOFUTBLQ2-21	↗	4.7%	↻	-5.5%
ENOYR-22	↗	2.4%	↘	-0.2%
NP System	↗	8.1%	↗	7.7%
NEDEC21	↗	4.9%	↘	16.4%

DETERMINANTS AFFECTING THE MARKET ON WEEK 7

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Forsmark 2 (1118 MW), maintenance 19.2.2021, in use 748-1118 MW

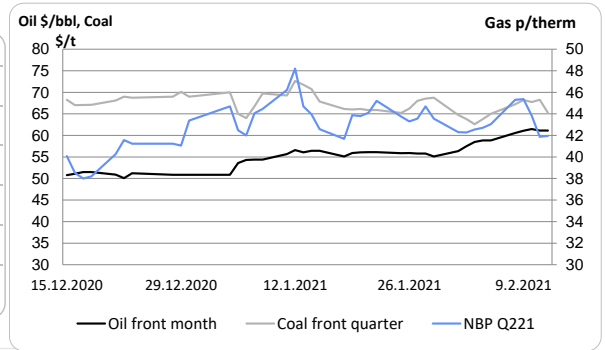
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 100%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 84 % of the maximum



AVERAGE SPOT PRICE AND EPAD

Price area (€/MWh)	2013	2014	2015	2016	2017	2018	2019	2020	2021*
NP System	38.1	29.6	21	26.91	29.41	43.99	38.94	10.93	48.66
NP Area FI - NP System	3.10	6.40	8.70	5.54	3.78	2.81	5.10	17.28	7.39
NP Area SE1 - NP System	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	3.60	-2.27
NP Area SE2 - NP System	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	3.60	-2.27
NP Area SE3 - NP System	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	10.53	5.20
NP Area SE4 - NP System	1.80	2.30	1.90	2.62	2.77	2.37	0.86	15.06	5.98

*Average for period between 1.1.2021-15.2.2021.



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Source for data: intStream, Tilastokeskus

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