

NORDIC ELECTRICITY MARKET

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CHANGE IN WEATHER FORECASTS LIFTS ELECTRICITY MARKET FROM RECORD LOW LEVEL

Forecast to week 48:	
ENOFUTBLQ1-21	↗ Bullish (>0%)
ENOYR-21	↗ Bullish (>0%)
NP System	↗ Bullish (>0%)
NEDEC20	↗ Bullish (>0%)

Market signals	spot	Q1-21	YR-21
	Hydrologic balance	↓	↓
Precipitation forecast	↑	↑	↑
Temperature forecast	↓	→	→
Spot	↓	↓	↓
Production and transmission exch.	↑	→	→
Emissions allowance	→	↑	↑
Coal price	↑	↑	↑
German prices	↑	↑	↑
Technical analysis	↓	↓	↓

FORECAST TO WEEK 48

POWER FUTURES

Front quarter

The weather will remain wet during the early part of the week, but the rain will ease, with the rainfall amount being fairly close to normal during the entire forecast period. Also, starting later in the week, the temperature will fall closer to normal but there are still no signs of colder than normal weather. Lower rainfall amounts will bring relief to hydropower producers and enable price rises as water reserves begin to drop. We expect near products to show an upward turn after last week's very sharp fall.

Annual products

The turn in the rainfall forecasts also affect the price of the nearest annual product which had dropped to a record low. Recent weeks have seen annual products fall despite a rise in the emission allowance while the weather was the only price driver. During the current week, we expect a clear turn in the prices of all annual products.

SPOT MARKET

Nordic wind power production will decrease considerably towards the end of the week compared to the level seen last week. The temperature will drop to approach normal during the end of the week and drier weather towards the end of the week will reverse flow rates towards normal. This will ease the plight of hydropower producers as water reserves start to fall. Nuclear power output is not yet at full production as the Ringhals 4 unit in Sweden is out of production until Thursday. Regarding transmission links, NO1-SE3 transmission capacity will increase this evening to a level of about 70% for the remainder of the week and this will enable greater hydropower production. We expect the system price to begin to rise from last week's very low level although at its highest the daily average will only approach a level of €10/MWh during the current week. Whereas low wind power production will increase the Swedish area price, the transmission link will have a downward effect on the southernmost areas. In Finland, wind power production will be at its weakest on Tuesday and Friday, when spot prices are expected to settle at their highest. No particularly high peak hours are expected during the current week. At the weekly level, the Finnish area price is expected to settle slightly higher.

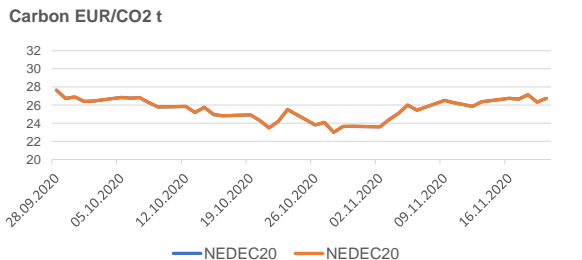
EMISSIONS

Coronavirus sentiment during the current week has been supportive of the price of oil and also the emission allowance price has opened on an upward note, although a downward correction was seen from the day's peaks. The United States plans to vaccinate healthcare staff from mid-December onwards and this has improved market sentiment at large despite growing numbers of coronavirus cases. A softening of the price of gas has removed the profitability of coal-fired condensate power, decreasing demand for emission allowances. The delay in auctions next year may, however, already be supportive of the market; last Friday's auction settled at a higher premium than the aftermarket for than a month. We expect the emission allowance price to remain strong and to possibly test levels approaching €28/t.

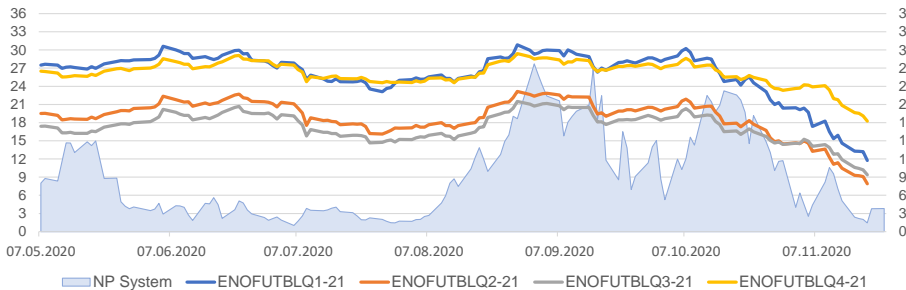
Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ1-21	20.11.2020	11.75	-26.1%	-4.15
ENOFUTBLQ2-21	20.11.2020	7.90	-30.6%	-3.48
ENOFUTBLQ3-21	20.11.2020	9.38	-27.0%	-3.47
ENOFUTBLQ4-21	20.11.2020	18.25	-16.3%	-3.55
ENOYR-21	20.11.2020	11.85	-23.8%	-3.70
ENOYR-22	20.11.2020	18.85	-10.0%	-2.10
ENOYR-23	20.11.2020	21.68	-6.1%	-1.42
ENOYR-24	20.11.2020	23.50	-5.1%	-1.25
ENOYR-25	20.11.2020	24.65	-5.1%	-1.33
NEDEC20	20.11.2020	26.76	1.4%	0.38
NEDEC20	20.11.2020	26.76	1.4%	0.38

EPAD settlements			
20.11.2020 (€/MWh)	2021	2022	2023
SYHEL	25.13	12.25	6.20
SE1- NP System	-0.50	-2.50	-2.50
SE2 - NP System	-0.50	-2.50	-2.50
SE3 - NP System	13.25	5.38	3.53
SE4 - NP System	18.00	8.88	7.55

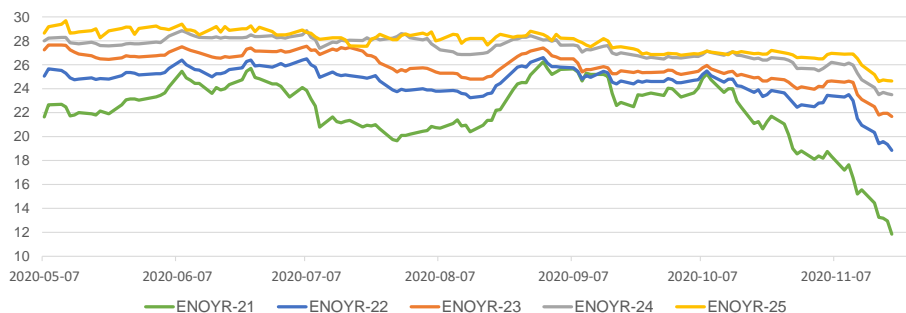
Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	22.11.2020	2.10	-68.3%	-4.51
NP Area FI	22.11.2020	21.27	-42.0%	-15.39
NP Area SE1	22.11.2020	2.75	-55.9%	-3.48
NP Area SE2	22.11.2020	2.75	-55.9%	-3.48
NP Area SE3	22.11.2020	13.99	-61.0%	-21.86
NP Area SE4	22.11.2020	13.99	-61.0%	-21.86



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



Years EUR/MWh



COMMENTS ON WEEK 47

POWER FUTURES

Front quarter

Last week was very wet and with the spot price remaining low due to full water reserves and high flow rates, near products fell sharply to new record low levels. Because of the high hydro balance, the market fears a price collapse also in the coming summer and this has pushed near month prices down very low. Last week's fall even had a taste of over-reaction. On many days, the market opened on a slight upward note only to close the day sharply down.

Annual products

Also, annual products fell sharply along with near products. For annual products too, the weather was the only fundament that prices followed. The fall at the end of the week already had a taste of over-reaction as the price of the nearest annual product undercut €12/MWh, which corresponds to almost the spot attainment for the current year.

SPOT MARKET

Last week saw an abundance of rain and wind, and the weather was mostly mild. Except for Friday, wind power production was well above normal for the whole week. Also, with regards to temperature, Friday was the only day which was near normal. The rain resulted in high flow rates and forced generation continued at hydropower producers. As predicted, the system price settled at a very low level, and was €2.10/MWh, its lowest level since July. Also, in Finland wind power production was mostly plentiful and settled at a moderate price. However, when the wind abated on Friday and Swedish nuclear power output fell, a daily price of €50/MWh was seen, which pushed the spot price up slightly higher than expected at the weekly level to north of €21/MWh.

EMISSIONS

Last week saw emission allowance prices move in both directions. News of a coronavirus vaccine was supportive in the early part of the week and on Wednesday the European Commission's announcement of a delay in auctions in 2021. Mid-week saw a softening brought about among other things by a sharp fall in the price of gas. Brexit optimism and the strong auction result that bucked the trend of recent auctions brought support to the price on Friday, which closed at a level of €26.74/t, and the emission market was slightly up at the weekly level.

Indicator	ENOFUTBLQ1-21	ENOYR-21
Coal-fired production	1 %	2 %
Coal price	0 %	0 %
Gas price (NBP)	2 %	1 %
German price level	6 %	85 %
Spot	7 %	11 %
Crude oil Brent	4 %	4 %
Water reservoirs	10 %	3 %
EUR/USD FX rate	10 %	10 %
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)

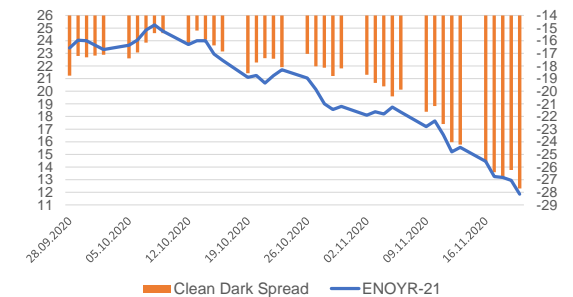
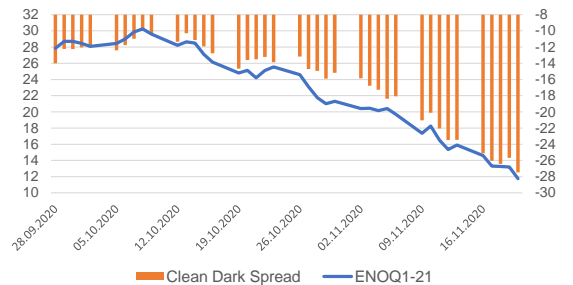
Forecast history	47	Chg	46	Chg
ENOFUTBLQ1-21	↓	-26.1%	↓	-19.3%
ENOYR-21	↓	-23.8%	↓	-15.3%
NP System	↓	-68.3%	↑	16.2%
NEDEC20	↑	1.4%	↑	3.7%

DETERMINANTS AFFECTING THE MARKET ON WEEK 48

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 4 (1130 MW), 4.11.-4.12.2020, failure, in use 578 MW, 20.-29.11.2020 in use 0 MW
 Ringhals 1 (881 MW), 25.10.-31.12.2020, maintenance before end of production, in use 700 MW
 Forsmark 1 (988 MW), 27.10.-6.1.2021, maintenance, in use 494 MW

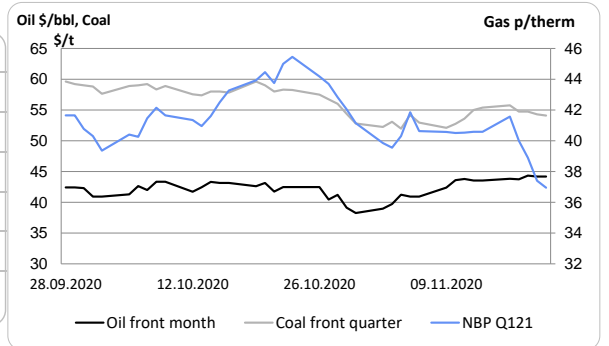
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 84%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 8 % of the maximum



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	10.20
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.10	16.42
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	4.01
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	4.01
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	9.83
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.86	14.24

*Average for period between 1.1.2020-23.11.2020.



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