

NORDIC ELECTRICITY MARKET

20.1.2020 Markus Herranen, Gasum Portfolio Services Oy

WET AND MILD WEATHER TYPE STILL CONTINUES

Forecast to week 4:	
ENOFUTBLQ2-20	⬇️ Bearish (<0%)
ENOYR-21	⬇️ Bearish (<0%)
NP System	⬇️ Bearish (<0%)
NEDEC20	↔️ Sideways (± 0,5%)

Market signals	spot	Q2-20	YR-21
Hydrologic balance	⬇️	⬇️	⬇️
Precipitation forecast	⬇️	⬇️	⬇️
Temperature forecast	⬇️	⬇️	⬇️
Spot	↔️	→	→
Production and transmission exch.	⬇️	⬇️	→
Emissions allowance	⬇️	⬇️	⬇️
Coal price	⬇️	⬇️	⬇️
German prices	→	→	→
Technical analysis	↔️	⬇️	⬇️

FORECAST TO WEEK 4

ELECTRICITY DERIVATIVES

Front quarter

The mild and rainy weather type is still continuing, and there are no signs in weather forecasts of any turn for cold or dry conditions. The hydro balance will rise to a very high level, maintaining the bearish trend of quarterly products. Both fundamentals and technical analysis are pointing to a continued downtrend for the time being.

Annual products

The rainy weather picture and the hydro balance rising very high are maintaining downward pressure on the front-year product. The front-year product fell below the €31/MWh support level and, consequently, the product's long-standing sideways trend took a downturn. The broad European weather picture for next week is again very mild and windy, maintaining the downward pressure on fuel prices. We expect a fall in annual product prices.

SPOT MARKET

Nordic wind power production will continue to be very abundant and the weather will be clearly milder than normal for the time of year. The weather will be very mild and windy during the first days of the week in particular. Precipitation will be heavy and flow rates considerably higher than normal. The rainy weather forecasts and the hydro balance rising very high will maintain the downward pressure on spot prices. We expect the system price to fall at the weekly level and to settle at an average of €22.0/MWh. There will be a momentary drop in Finnish wind power production on Thursday, but Finnish wind power output will otherwise be abundant. We expect the Finnish area price to settle close to the system price at the weekly level.

EMISSIONS

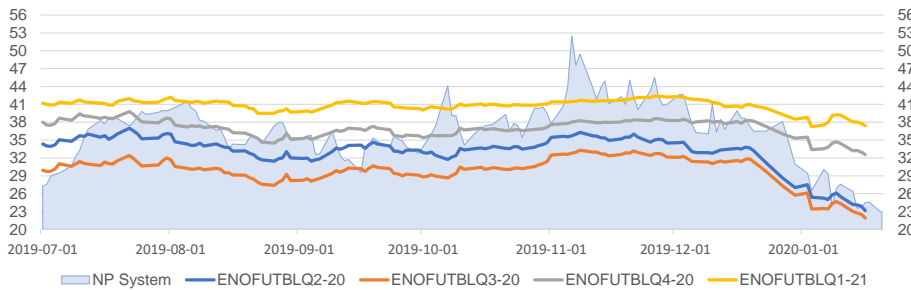
Emission allowance prices have been supported by Germany's confirmed plans to cancel EUAs as part of its coal exit process. The broad European weather picture is, however, still mild and windy, maintaining a low demand outlook for emission allowances. Fuel prices have also continued to be weak, and the bearish trend has continued in the electricity markets. We expect emission allowance prices to be moving at levels close to the current ones.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ2-20	17.1.2020	23.15	-11.3%	-2.95
ENOFUTBLQ3-20	17.1.2020	21.90	-11.2%	-2.75
ENOFUTBLQ4-20	17.1.2020	32.55	-6.2%	-2.15
ENOFUTBLQ1-21	17.1.2020	37.40	-4.7%	-1.85
ENOYR-21	17.1.2020	31.45	-5.4%	-1.80
ENOYR-22	17.1.2020	31.98	-3.2%	-1.07
ENOYR-23	17.1.2020	31.68	-1.8%	-0.57
ENOYR-24	17.1.2020	31.60	-2.0%	-0.65
ENOYR-25	17.1.2020	31.80	-1.4%	-0.45
NEDEC20	17.1.2020	25.45	5.1%	1.24
NEDEC20	17.1.2020	25.45	5.1%	1.24

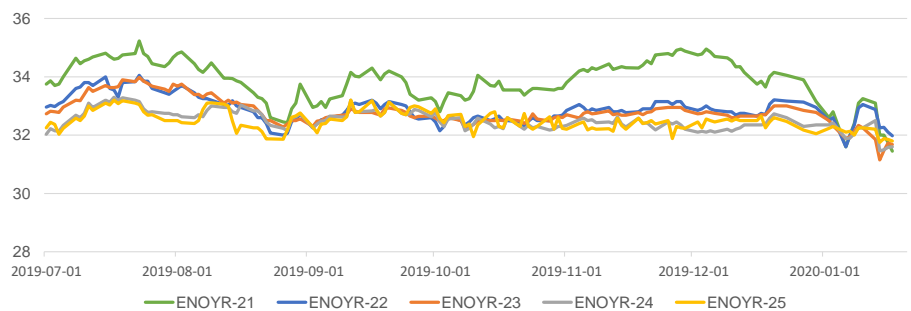
EPAD settlements			
17.1.2020 (€/MWh)	2021	2022	2023
SYHEL	6.20	3.70	3.70
SE1-NP System	-1.50	-2.25	-2.25
SE2 - NP System	-1.50	-2.25	-2.25
SE3 - NP System	1.25	1.35	1.35
SE4 - NP System	2.60	2.60	2.60

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	19.1.2020	24.12	-9.5%	-2.54
NP Area FI	19.1.2020	26.92	-2.1%	-0.57
NP Area SE1	19.1.2020	23.61	-8.4%	-2.18
NP Area SE2	19.1.2020	23.61	-8.4%	-2.18
NP Area SE3	19.1.2020	24.14	-10.5%	-2.82
NP Area SE4	19.1.2020	24.14	-10.5%	-2.82

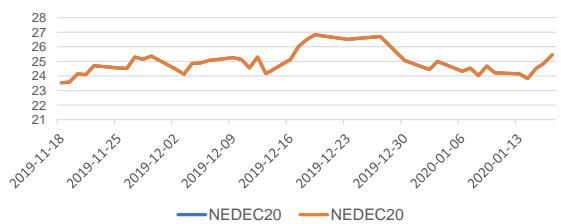
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 3

ELECTRICITY DERIVATIVES

Front quarter

Last week, quarterly products continued on a steep downward trajectory. Weather forecasts still remained very wet and considerably milder than normal for the time of year. The continued clear rise of the hydro balance and the prevailing weather type kept quarterly products on a downtrend. Quarterly products fell to new lows and the weak technical picture strengthened the downward pressure.

Annual products

Annual products continued on a downward trajectory last week. The front-year product fell in the wake of the weak quarterly products and the high hydro balance. Downward pressure on annual products was also created by the continuously weak coal and natural gas prices. Downward pressure on fuel prices was still maintained by Europe's mild weather picture and the high fuel stock levels. Emission allowance prices climbed, however, which curbed the downward pressure on annual products.

SPOT MARKET

Nordic wind power production was very abundant last week and the weather was clearly milder than normal for the time of year. The weather was also clearly rainier than normal, and flow rates were above normal. The rainy weather forecasts also exerted downward pressure on spot prices. The system price dropped at the weekly level. Finnish wind power production was abundant in the first half of the week. As wind power output declined, the Finnish area price rose above the system price on Thursday and Friday. At the weekly level, however, the Finnish area price settled only moderately higher than the system price.

EMISSIONS

Emission allowance prices took an upturn last week despite the continuously weak development in the electricity markets and the persistently mild broad European weather picture. Support to emission allowance prices was provided by Germany's coal phase-out plans as the plans to cancel EUAs were confirmed as part of the exit plan.

Indicator	ENOFUTBLQ2-20	ENOYR-21
Coal-fired production	40 %	20 %
Coal price	42 %	16 %
Gas price (NBP)	42 %	11 %
German price level	21 %	38 %
Spot	55 %	35 %
Crude oil Brent	9 %	0 %
Water reservoirs	1 %	8 %
EUR/USD FX rate	3 %	0 %
Temperature	8 %	5 %
Precipitation	16 %	13 %

Definition

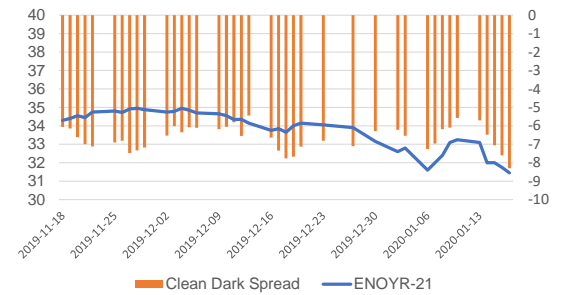
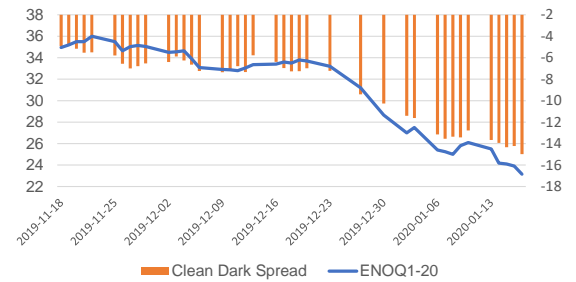
The above figures measure the ability of market determinants to describe the price changes occurred in last 6 months. The affect is measured as Coefficient of Determination*. Each variable is evaluated independently. We use a color scale to demonstrate efficacy, green (strong), yellow (moderate), red (weak)

Forecast history	3	Chg	2	Chg
ENOFUTBLQ2-20	⬇️	-11.3%	⬇️	-5.1%
ENOYR-21	⬇️	-5.4%	⬇️	1.4%
NP System	⬆️	-9.5%	⬇️	3.9%
NEDEC20	↻	5.1%	⬇️	-3.2%

DETERMINANTS AFFECTING THE MARKET ON WEEK 4

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

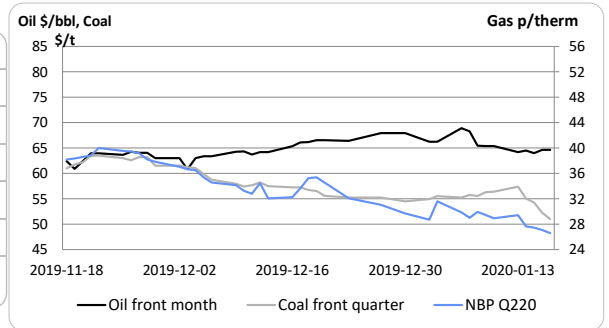
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 100%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 57% of the maximum



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	26.02
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.10	0.56
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	-1.20
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	-1.20
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	-0.60
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.86	1.52

*Average for period between 1.1.2020-20.1.2020.



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Source for data: intStream, Tilastokeskus

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