

NORDIC ELECTRICITY MARKET

17.2.2020 Markus Herranen, Gasum Portfolio Services Oy

HYDRO BALANCE CONTINUES ON AN UPTREND

Forecast to week 8:

ENOFUTBLQ2-20	📉 Bearish (<0%)
ENOYR-21	📉 Bearish (<0%)
NP System	📉 Bearish (<0%)
NEDEC20	📉 Bearish (<0%)

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 8

POWER FUTURES

Front quarter

The weather forecasts got marginally drier and cooler over the weekend. Temperatures are falling close to normal for the time of year in the second half of next week and precipitation rates will also fall. During the current week, however, the weather will be very mild and rainy and the hydro balance will continue on a clear uptrend. In addition, despite the slightly drier and cooler conditions, the weather forecasts are not showing any turn for a dry or cold weather type. We expect quarterly products to fall.

Annual products

Annual product prices have risen and the products are technically stronger. Fundamentals still remain weak, however. The rising hydro balance and weak quarterly products are creating downward pressure on the front-year product. The broad European weather picture is also still very mild and windy, maintaining a subdued demand outlook for fuels and emission allowances. We expect a fall in annual product prices.

SPOT MARKET

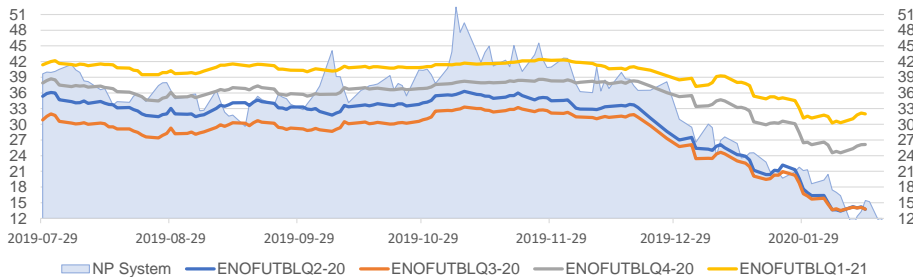
The week gets off to a very mild and windy start. In the days ahead, temperatures will be falling towards Thursday but rise again towards the end of the week. Nordic wind power production will be very abundant in the early part of the week. On Wednesday, wind power production will drop momentarily to a level close to normal but will be abundant again towards the end of the week. Flow rates will be above the normal level. The weather forecasts are for rain and the hydro balance will continue to rise.

Spot prices are supported by nuclear power supply being lower than last week, but we expect the system price to drop at the weekly level and settle at an average of €11.0/MWh. Finnish wind power production will be abundant on Monday but weaker than normal on Wednesday and Thursday. The weekend will see abundant wind power output again in Finland. We expect the Finnish area price at the weekly level to settle at a level close to last week's level.

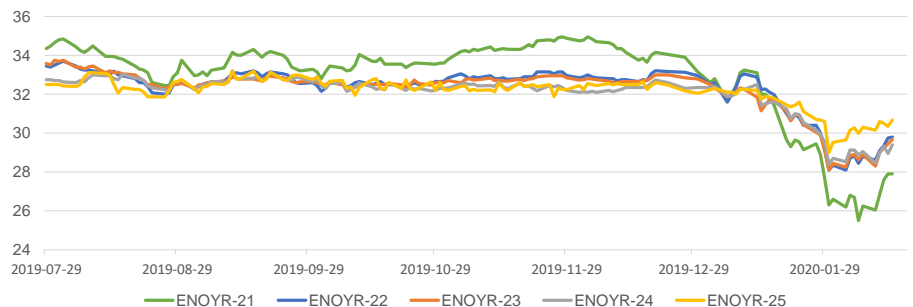
EMISSIONS

The broad European weather picture is very windy and mild, and the short-term emission allowance demand outlook is subdued. Further information about UK auction volumes is expected soon, possibly even this week. Any information received may put slight downward pressure on emission allowance prices. We expect a fall in emission allowance prices.

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



Years EUR/MWh



Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ2-20	14.2.2020	13.75	0.7%	0.10
ENOFUTBLQ3-20	14.2.2020	13.76	-0.6%	-0.09
ENOFUTBLQ4-20	14.2.2020	26.15	5.4%	1.35
ENOFUTBLQ1-21	14.2.2020	32.00	4.6%	1.40
ENOYR-21	14.2.2020	27.90	6.3%	1.65
ENOYR-22	14.2.2020	29.80	3.5%	1.00
ENOYR-23	14.2.2020	29.68	2.7%	0.78
ENOYR-24	14.2.2020	29.40	1.2%	0.35
ENOYR-25	14.2.2020	30.68	1.3%	0.38
NEDEC20	14.2.2020	24.31	4.3%	1.01
NEDEC20	14.2.2020	24.31	4.3%	1.01

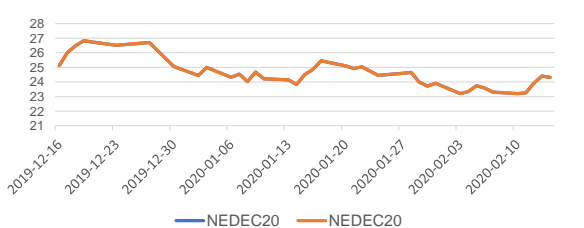
EPAD settlements

14.2.2020 (€/MWh)	2021	2022	2023
SYHEL	8.60	4.75	3.78
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	16.2.2020	12.40	-24.0%	-3.92
NP Area FI	16.2.2020	23.87	-0.1%	-0.03
NP Area SE1	16.2.2020	12.26	-22.7%	-3.60
NP Area SE2	16.2.2020	12.26	-22.7%	-3.60
NP Area SE3	16.2.2020	16.07	-18.2%	-3.57
NP Area SE4	16.2.2020	16.07	-18.2%	-3.57

Carbon EUR/CO2 t



COMMENTS ON WEEK 7

POWER FUTURES

Front quarter

Last week, the downward pressure on quarterly products eased and quarterly products were seeking direction. The downward pressure eased when the products had already declined to a very low level. The weather forecasts are still very wet and mild and have still not shown any signs of the weather type turning dry or cold. Support to quarterly products was provided by Vattenfall's announcement of the maintenance of the Ringhals 1 and Ringhals 3 units.

Annual products

Last week, annual products were supported by the fuel and emission allowance prices having taken an upturn. Concerns about the coronavirus epidemic waned, which provided support to stock indices and fuel prices. The broad European weather picture still remained windy and mild, however, curbing the climb of emission allowances as well as fuel prices.

SPOT MARKET

Last week got off to a very mild and windy start. After the first days of the week, temperatures dropped and wind power production declined towards the end of the business week. The weekend, however, saw the weather turn mild, windy and rainy again. Downward pressure on spot prices was maintained by the wet and mild weather forecasts. Spot prices were very low at the weekend, and the system price dropped at the weekly level. Finnish wind power production fell after the first half of the week, and the Finnish area price settled considerably higher than the system price between Wednesday and Friday. The Finnish area price settled at the weekly level at a level close to last week's.

EMISSIONS

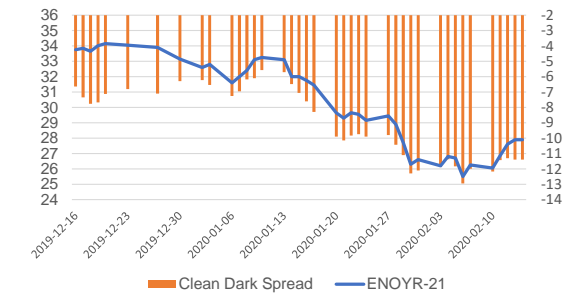
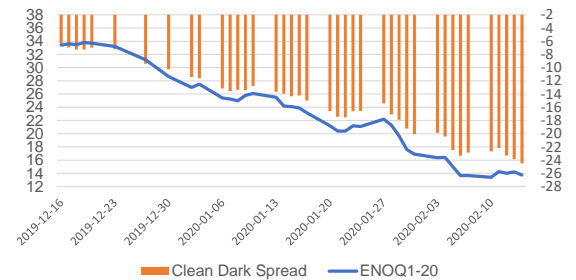
Emission allowance prices were supported last week by the bullish stock indices. Fuel prices and the German power market also climbed. The upward pressure was restricted by the broad European weather picture being windy and mild, however.

Indicator	ENOFUTBLQ2-20	ENOYR-21
Coal-fired production	64 %	52 %
Coal price	64 %	51 %
Gas price (NBP)	70 %	54 %
German price level	52 %	57 %
Spot	84 %	73 %
Crude oil Brent	15 %	30 %
Water reservoirs	85 %	85 %
EUR/USD FX rate	3 %	7 %
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	7	Chg	6	Chg
ENOFUTBLQ2-20	↘	0.7%	↘	-19.2%
ENOYR-21	↘	6.3%	↘	-1.3%
NP System	↘	-24.0%	↘	-12.2%
NEDEC20	↘	4.3%	↘	-2.6%



DETERMINANTS AFFECTING THE MARKET ON WEEK 8

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

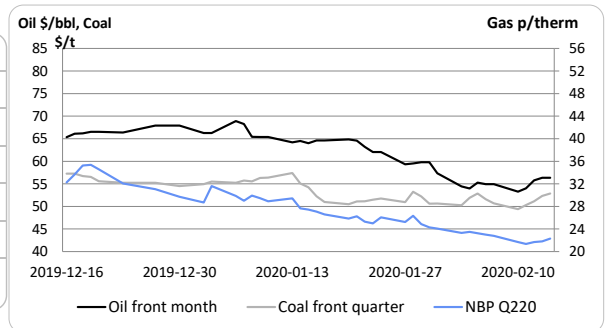
- Ringhals 1 (881 MW), failure 14.-19.2.2020, in use 0 MW
- Ringhals 3 (1063 MW), failure 14.-22.2.2020, in use 0 MW
- Forsmark 2 (1118 MW), maintenance 17.-19.2.2020, in use 508 MW

- Nordic nuclear power plants are currently operating at a capacity utilization rate of 77%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 16% 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	20.61
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.10	4.65
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	-0.67
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	-0.67
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	0.74
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.86	2.54

*Average for period between 1.1.2020-17.2.2020.



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