

NORDIC ELECTRICITY MARKET

29.6.2020 Antti Kouvo, Gasum Portfolio Services Oy

WEATHER TYPE TURNING COOLER AND WETTER

Forecast to week 27:

ENOFUTBLQ3-20	📉 Bearish (<0%)
ENOYR-21	📉 Bearish (<0%)
NP System	📉 Bearish (<0%)
NEDEC20	↔ Sideways (± 0,5%)

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 27

POWER FUTURES

Front quarter

After a lengthy warm, dry spell, the weather type has turned wetter and cooler. Except for Wednesday and Thursday, the current week will be very rainy, but after the start of next week, rainfall will return to near normal. The hydro balance is again rising and next week may well reach a level of 10 TWh. Rainy weather combined with low spot prices will put downward pressure on front quarter products.

Annual products

The wetter weather picture is also squeezing the nearest annual product, but the current emission allowance price is limiting a larger fall since longer annual products in particular have not risen with emission allowance prices. The following technical support for the nearest annual product is around €23.6/MWh, which were it to go below this would also require a sharp fall in the emission allowance price.

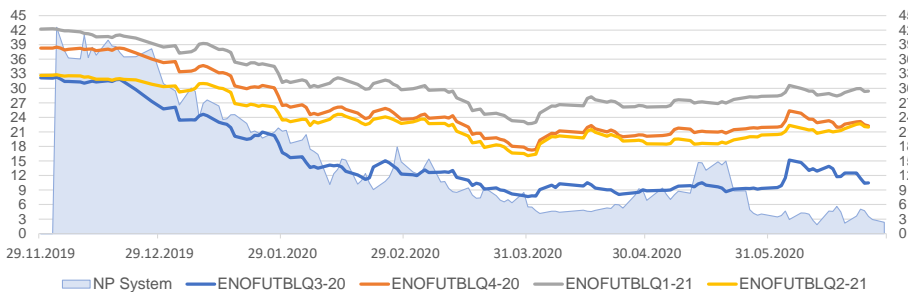
SPOT MARKET

During the current week, the weather will grow cooler than normal and this will slow snow melt and flow rates in the next few days. However, heavy rainfall will maintain flow rates at least at normal levels. In Sweden, the return of nuclear power plants to production finally succeeded late last week and this week nuclear power output will remain high. Also wind power production has risen to above the normal level and will rise further over the next few days. High wind power production is expected also for the weekend. Availability of the transmission link within Sweden was slightly better between areas SE2 and SE3, but the transmission capacity given for the use of spot markets from South Norway to other areas remains low. Spot prices in South Norway are expected to remain low and consequently the system price is expected to fall further at the weekly level. Improved nuclear power output and wind power production significantly lower SE3 prices and at the same time the Finnish area price is expected to fall. However, the Finnish price can settle at somewhat higher than the Swedish price linking close to Baltic prices. In any case, a clear fall is to be expected in the area price difference.

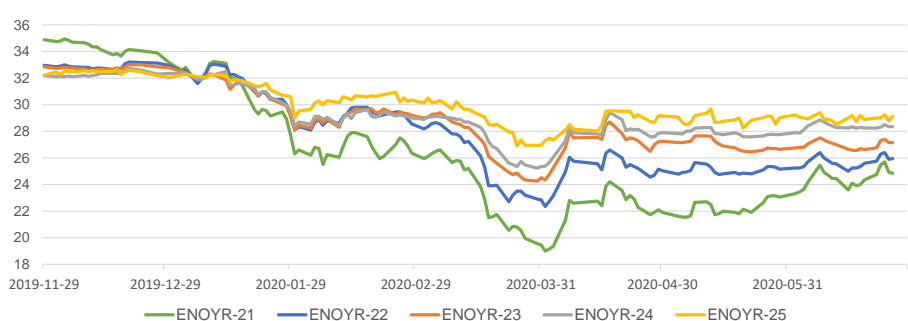
EMISSIONS

The emission allowance price is technically still strong. However, RSI is approaching the 70 upper limit indicating that the DEC 20 product is overbought, which may limit the rise. There are fears of a second wave of the coronavirus pandemic now and many countries are thinking about introducing new restrictions. Emission allowance prices may well remain strong as has been the trend in recent weeks, but there is limited room to rise especially if the downward trend in fuel and stock markets continues as sentiment weakens.

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



Years EUR/MWh



Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ3-20	26.6.2020	10.46	-11.2%	-1.32
ENOFUTBLQ4-20	26.6.2020	22.25	1.1%	0.25
ENOFUTBLQ1-21	26.6.2020	29.40	2.6%	0.75
ENOFUTBLQ2-21	26.6.2020	22.00	3.3%	0.70
ENOYR-21	26.6.2020	24.84	2.0%	0.49
ENOYR-22	26.6.2020	25.95	1.4%	0.35
ENOYR-23	26.6.2020	27.15	2.0%	0.52
ENOYR-24	26.6.2020	28.35	0.4%	0.10
ENOYR-25	26.6.2020	29.13	0.9%	0.25
NEDEC20	26.6.2020	24.71	2.7%	0.64
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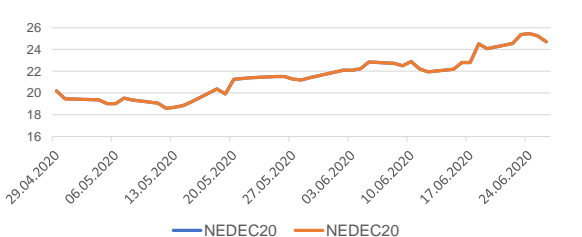
EPAD settlements

26.6.2020 (€/MWh)	2021	2022	2023
SYHEL	9.03	5.20	3.70
SE1- NP System	-1.50	-2.70	-3.50
SE2 - NP System	-1.50	-2.70	-3.50
SE3 - NP System	1.95	1.85	1.80
SE4 - NP System	4.00	3.70	3.70

Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	28.6.2020	3.29	-8.1%	-0.29
NP Area FI	28.6.2020	45.09	93.8%	21.83
NP Area SE1	28.6.2020	11.63	6.4%	0.70
NP Area SE2	28.6.2020	11.63	6.4%	0.70
NP Area SE3	28.6.2020	44.61	119.1%	24.25
NP Area SE4	28.6.2020	44.61	119.1%	24.25

Carbon EUR/CO2 t



COMMENTS ON WEEK 26

POWER FUTURES

Front quarter

The nearest quarter product Q3-20 closed considerably down last week, even though it was rising earlier in the week because of dry weather forecasts. Even though last week was very dry, the weather forecasts confirmed the turn in the weather type to wetter and cooler weather from Sunday onwards as the high pressure drifts away from the Nordic countries. At the same time, the hydro balance forecast began to rise. The system price settled at a low level and this has also squeezed the front quarter product.

Annual products

The nearest annual product rose considerably earlier in the week in the same way as front products because of dry weather forecasts. The rise accelerated along with the rise in emission allowances and coal prices until at the end of the week the price retreated with the turn of the weather type to wetter, and the emission allowance price returned to a level of below €25/t. At the weekly level, annual products were still up. Also in Germany, the annual product rose in the early part of the week to well above €40/MWh, but in Germany too, the rise in annual products calmed later in the week with the emission allowance price.

SPOT MARKET

Last week was very warm and dry, with little wind. Nuclear power was largely out of production because of annual maintenance and malfunctions. Flow rates were still very high earlier in the week but decreased due to the dry weather. Snow melt was still strong, however. There were still many transmission restrictions from South Norway to other areas and this further reduced spot prices in South Norwegian price areas and spot prices settled at as low as below a level of €1/MWh at the weekend. At the same time, the system price continued to fall slightly to settle at a weekly level of around €3.3/MWh. Because of abundant nuclear power plant maintenance in Sweden, the Swedish main grid limited transmission capacity to South Sweden because of the capacity situation. This was because Wednesday saw the highest day average price for more than two years at around €80/MWh in high peak hours in the SE3 area. South Sweden partly imported from Finland and the Baltics. When the Finnish price was at the SE3 level on weekdays on Sunday the price in Finland was even higher than the SE3 price. The Finnish area price rose considerably at the weekly level and there was a large area price difference.

EMISSIONS

Early last week, the emission allowance price rose before falling on the last trading days. The rise in the emission allowance price brought the technical picture as the price rose above the resistance level on Monday. Later in the week, news of the growing numbers of coronavirus cases led to a fall in both stock markets and fuel markets and the emission allowance price followed this trend.

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 %	69 %
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	26	Chg	25	Chg
ENOFUTBLQ3-20	↗	-11.2%	↗	-12.1%
ENOYR-21	↗	2.0%	↔	-0.4%
NP System	↔	-8.1%	↗	18.5%
NEDEC20	↗	2.7%	↘	9.7%

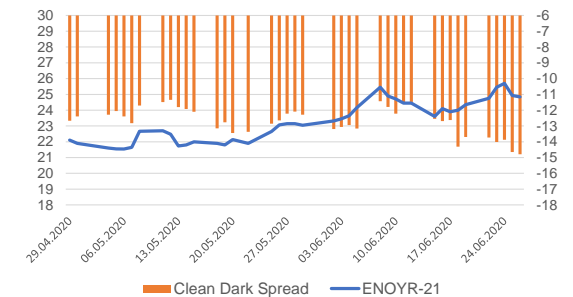
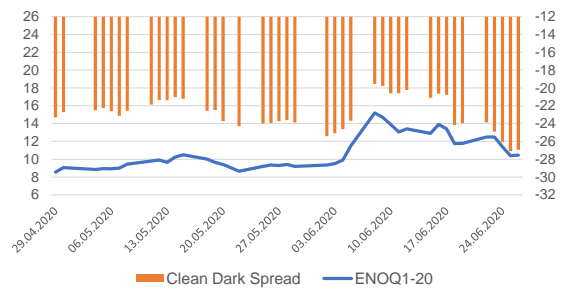
DETERMINANTS AFFECTING THE MARKET ON WEEK 27

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 4 (1130MW), 16.6.-5.7.2020 failure, in use 578 MW, 5.7.-31.8.2020 maintenance, in use 0 MW
Ringhals 3 (1063 MW) 22.4.-24.7.2020 maintenance, in use 0 MW

RU-FI (1300 MW), 30.6.-31.7.2020 maintenance, in use 400 MW
FI-RU (320 MW), 30.6.-31.7.2020 maintenance, in use 0 MW

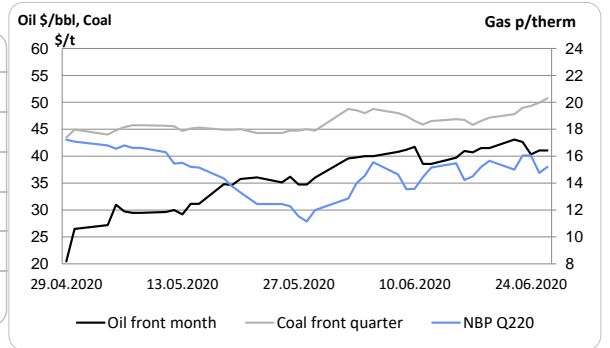
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 85%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 17 % of the maximum



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	10.58
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.10	12.60
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.00	11.89
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.00	11.89
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.58	6.35
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.86	8.27

*Average for period between 1.1.2020-29.6.2020.



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Source for data: intStream, Tilastokeskus

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