

NORDIC ELECTRICITY MARKET

2.12.2019 Markus Herranen, Gasum Portfolio Services Oy

THIS WEEK WET AND MILD BUT NEXT WEEK DRIER AND COLDER

Forecast to week 49:

ENOFUTBLQ1-20	📉 Bearish (<0%)
ENOYR-20	📉 Bearish (<0%)
NP System	📉 Bearish (<0%)
NEDEC9	📉 Bearish (<0%)

FORECAST TO WEEK 49

ELECTRICITY DERIVATIVES

Front quarter

The weather will be quite rainy this week and temperatures will also rise above normal for the time of year after the first days of the week. Next week, however, the weather will turn colder than normal and at the same time precipitation rates will fall to a level slightly below normal. The hydro balance will rise considerably due to this week's rainfall, however, and the weather forecasts for next week are only slightly drier than normal. We expect quarterly product prices to fall slightly. There is a chance, however, for quarterly products to take an upturn during the week if the weather forecasts indicate that the coming dry period will last longer and if the hydro balance was to take a clearer downturn again.

Annual products

The rising hydro balance and falling quarterly products are putting downward pressure on the front-year product, too. The price of coal also still remains weak. Emission allowance prices took an upturn last week but are still technically bearish. We expect a slight fall in annual product prices.

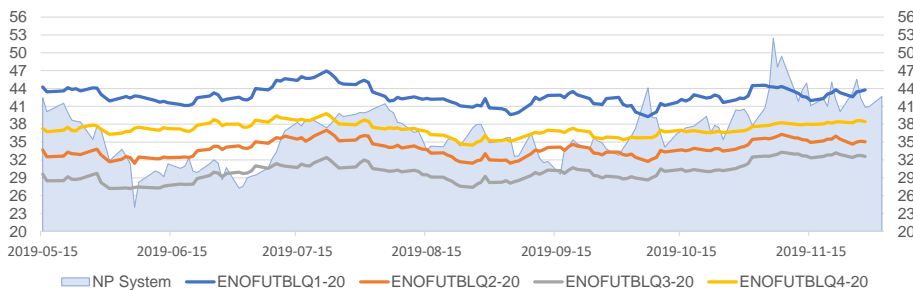
SPOT MARKET

Nordic wind power production will be slightly above normal for the first days of the week. Wind power production will increase towards Thursday, which is when output will be very abundant. After Thursday, wind power output will decrease but will remain abundant for the rest of the week, too. On Monday, the conditions are still cold for the time of year, but temperatures will rise and the weather will turn mild after Tuesday. Precipitation rates will also increase and flow rates will take a clear upturn. We expect spot prices to fall from last week's level and anticipate the system price to settle at an average of €40.5/MWh. Finnish wind power production will also mainly be very abundant. We expect the Finnish area price to fall, too, and to settle at an average of €42.0/MWh.

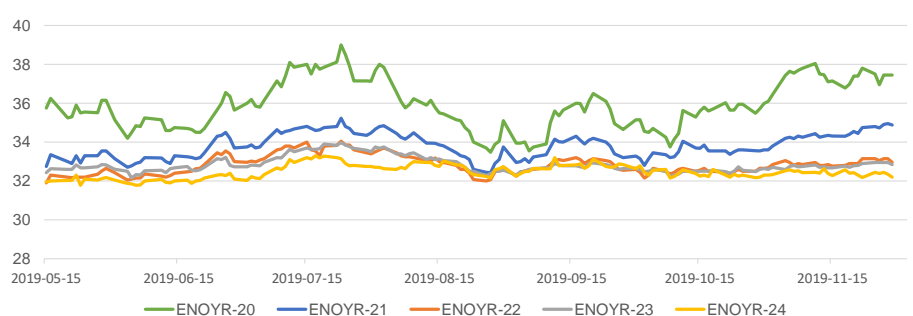
EMISSIONS

Emission allowance prices rose last week, but the technical trend is still bearish. The current week in Central Europe will be cool and with low winds for the time of year, supporting demand for emission allowances. Next week, however, will see the weather type turn windy and temperatures rise. The current week's auction supply is also more abundant than last week's, and auction demand was weak last week. We expect a slight fall in emission allowance prices.

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



Years EUR/MWh



Market signals

	spot	Q1-20	YR-20
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)
ENOFUTBLQ1-20	29.11.2019	43.75	-0.1%	-0.05
ENOFUTBLQ2-20	29.11.2019	35.05	-2.6%	-0.95
ENOFUTBLQ3-20	29.11.2019	32.60	-1.8%	-0.60
ENOFUTBLQ4-20	29.11.2019	38.45	0.1%	0.05
ENOYR-20	29.11.2019	37.45	-1.0%	-0.36
ENOYR-21	29.11.2019	34.88	0.4%	0.13
ENOYR-22	29.11.2019	32.96	-0.6%	-0.19
ENOYR-23	29.11.2019	32.85	-0.2%	-0.05
ENOYR-24	29.11.2019	32.20	0.1%	0.02
NEDEC9	29.11.2019	25.25	2.8%	0.69
NEDEC20	29.11.2019	25.37	2.7%	0.67

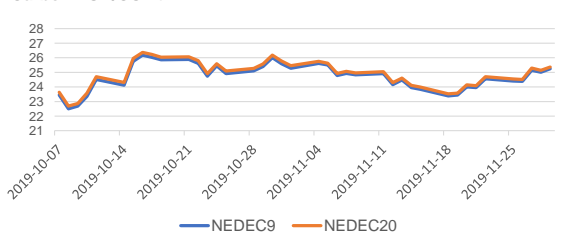
EPAD settlements

29.11.2019 (€/MWh)	2020	2021	2022	2023
SYHEL	6.70	3.85	3.10	3.10
SE1-NP System	-1.00	-1.50	-2.25	-2.25
SE2 - NP System	-1.00	-1.50	-2.25	-2.25
SE3 - NP System	1.30	1.25	1.35	1.35
SE4 - NP System	3.25	2.60	2.60	2.60

Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	1.12.2019	41.94	2.4%	0.97
NP Area FI	1.12.2019	46.40	7.4%	3.20
NP Area SE1	1.12.2019	40.91	1.8%	0.72
NP Area SE2	1.12.2019	40.91	1.8%	0.72
NP Area SE3	1.12.2019	41.40	2.7%	1.10
NP Area SE4	1.12.2019	41.40	2.7%	1.10

Carbon EUR/CO2 t



COMMENTS ON WEEK 48

ELECTRICITY DERIVATIVES

Front quarter

Last week, quarterly products plummeted at the start of the week as the weather forecasts for the week ahead were rather wet and mild. After Tuesday, however, quarterly products took an upturn as signs of an end to the wet and mild weather type appeared in weather forecasts. Support was also provided by the higher emission allowance prices. The products recovered and at the weekly level the front quarter product closed almost at the previous week's closing level.

Annual products

Last week, the front-year product was swinging in line with quarterly products and weather forecasts. The front-year product also plummeted in the first days of the week and recovered again in the wake of the rise in quarterly product and emission allowance prices. The front-year product ended up slightly down at the weekly level, however. There were no major changes in the further-ahead annual products at the weekly level.

SPOT MARKET

Nordic wind power production in the first half of last week was weak and flow rates were clearly below normal. The rise in spot prices was restricted by the mild weather in the first days of the week, however. After the first days of the week, Nordic wind power production picked up again and spot prices fell. The decline in spot prices was restricted by the cooler weather towards the end of the week, however. Finnish wind power production on Tuesday and Wednesday was weak and the Finnish area price differed clearly from the system price. After Wednesday, the difference between the Finnish area price and the system price was moderate. At the weekly level, spot prices climbed and the Finnish area price rose more than the system price.

EMISSIONS

In the first half of last week, emission allowance prices dropped in the wake of the electricity market. Downward pressure was also created by weak auction results but, after the first days of the week, emission allowance prices took an upturn. Price support was provided by weather forecasts indicating a turn for a colder weather type. Also providing price support was the start of the European Commission's term in office, as the new Commission intends to introduce stricter European climate targets.

Indicator	ENOFUTBLQ1-20	ENOYR-20
Coal-fired production	33 %	15 %
Coal price	9 %	3 %
Gas price (NBP)	4 %	0 %
German price level	19 %	36 %
Spot	8 %	21 %
Crude oil Brent	25 %	25 %
Water reservoirs	0 %	3 %
EUR/USD FX rate	7 %	3 %
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)

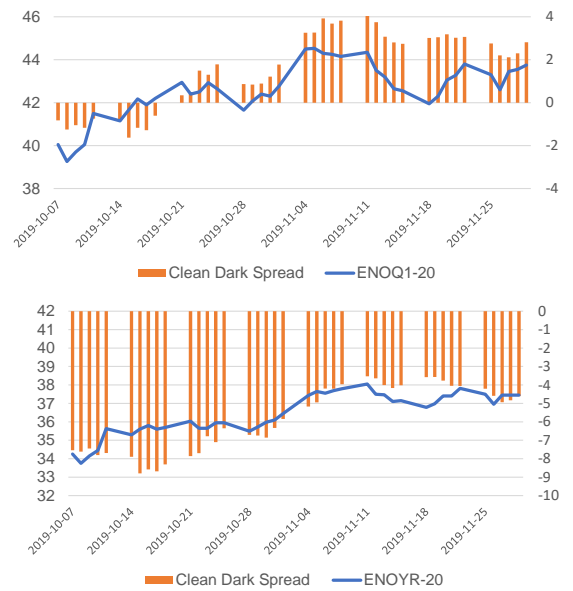
Forecast history	48	Chg	47	Chg
ENOFUTBLQ1-20	↘	-0.1%	↘	2.9%
ENOYR-20	↘	-1.0%	↘	1.8%
NP System	↗	2.4%	↻	-2.5%
NEDEC9	↘	2.8%	↘	3.0%

DETERMINANTS AFFECTING THE MARKET ON WEEK 49

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 2 (852 MW), maintenance 7.9.-30.12.2019, in use 300 MW
Forsmark 2 (1118 MW), failure 3.-13.12.2019, in use 504 MW

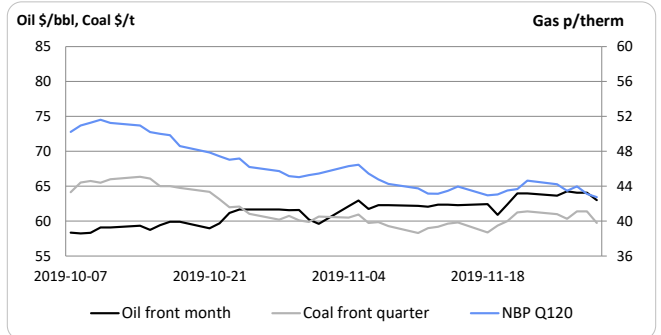
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 95%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 47% of the maximum



AVERAGE SPOT PRICE AND EPAD

Price area (€/MWh)	2012	2013	2014	2015	2016	2017	2018	2019*
NP System	31.20	38.10	29.60	21.00	26.91	29.41	43.99	39.15
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.41
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-0.94
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-0.94
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-0.55
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.96

*Average for period between 1.1.2019-2.12.2019.



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