

NORDIC ELECTRICITY MARKET

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DRY AND COOL WEATHER TYPE CONTINUES

Forecast to week 45:

ENOFUTBLQ1-20	↗ Bullish (>0%)
ENOYR-20	↗ Bullish (>0%)
NP System	↗ Bullish (>0%)
NEDEC9	↔ Sideways (± 0,5%)

FORECAST TO WEEK 45

ELECTRICITY DERIVATIVES

Front quarter

The weather type is dry and cold, with the first half of the week in particular being very dry. In the second half, precipitation rates will rise to close-to-normal levels and will be near normal towards the end of next week. That is also when temperatures will get close to the normal level. There are not, however, any clear signs in weather forecasts for a turn in the weather type for wet and mild conditions. The hydro balance will continue its decline and we expect quarterly products to remain bullish for the time being. For the front-quarter product, the breaking of the closest support level at €43.65/MWh would strengthen the technical picture and open up considerable further upward scope.

Annual products

The dry and cold weather picture and bullish quarterly products are also providing support for the front-year product. Fuel prices are weak, however, restricting the level of support. We expect the front-year product price to increase. We expect the further-ahead annual product prices to be moving around levels close to current ones or to rise very slightly in the wake of the front-year product price.

SPOT MARKET

The weather type will continue to be dry, and cold for the time of year. Flow rates will continue to decrease towards the end of the week. Nordic wind power production will be close to the normal level on Monday but drop to a low level after Monday, reaching the weakest levels of Wednesday and Thursday. We expect the system price to rise at the weekly level and to settle at an average of €42.5/MWh. On Monday, imports of electricity from Russia to Finland will be high due to the Russian public holiday. On Monday, electricity imports from Russia will drop, but there is a break in capacity charges and electricity imports from Russia to Finland will be high around midday. Finnish wind power production will be weak. We expect the Finnish area price to settle at an average of €48.0/MWh.

EMISSIONS

The weather type will turn cooler than normal for the time of year in Central Europe, too, while at the same time wind conditions will mainly be weaker than normal. On the other hand, the support provided by the weather picture may be restricted by the auction volumes being higher than last week and natural gas price being continuously weak. The generally optimistic market mood and rising stock indices are providing support. We expect emission allowance prices to be moving around a level close to last week's closing level.

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	1.11.2019	42.77	0.3%	0.12
ENOFUTBLQ2-20	1.11.2019	34.55	1.9%	0.65
ENOFUTBLQ3-20	1.11.2019	31.40	3.5%	1.07
ENOFUTBLQ4-20	1.11.2019	37.15	1.0%	0.35
ENOYR-20	1.11.2019	36.45	1.4%	0.50
ENOYR-21	1.11.2019	33.80	0.6%	0.20
ENOYR-22	1.11.2019	32.85	1.1%	0.35
ENOYR-23	1.11.2019	32.70	0.5%	0.15
ENOYR-24	1.11.2019	32.33	0.1%	0.03
NEDEC9	1.11.2019	25.28	1.4%	0.36
NEDEC20	1.11.2019	25.46	1.5%	0.37

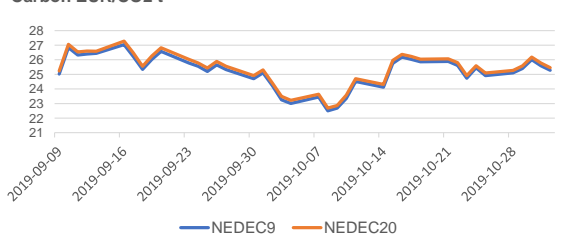
EPAD settlements

1.11.2019 (€/MWh)	2020	2021	2022	2023
SYHEL	6.85	4.75	3.75	4.00
SE1-NP System	-0.50	-1.50	-2.25	-2.25
SE2 - NP System	-0.50	-1.50	-2.25	-2.25
SE3 - NP System	2.08	1.25	1.35	1.35
SE4 - NP System	3.63	2.60	2.60	2.60

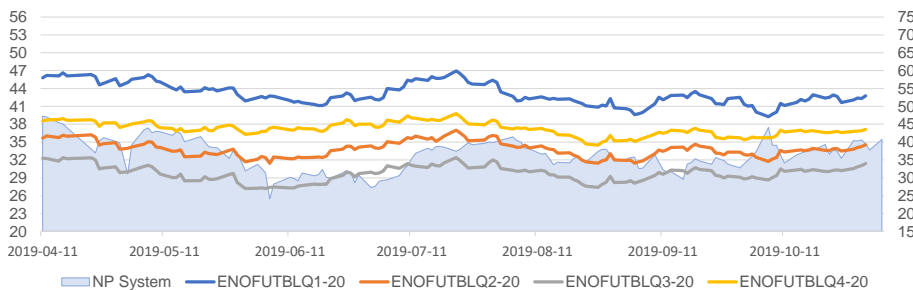
Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	3.11.2019	38.87	6.1%	2.23
NP Area FI	3.11.2019	44.57	6.6%	2.75
NP Area SE1	3.11.2019	38.01	8.8%	3.06
NP Area SE2	3.11.2019	38.01	8.8%	3.06
NP Area SE3	3.11.2019	38.23	8.7%	3.04
NP Area SE4	3.11.2019	38.23	8.7%	3.04

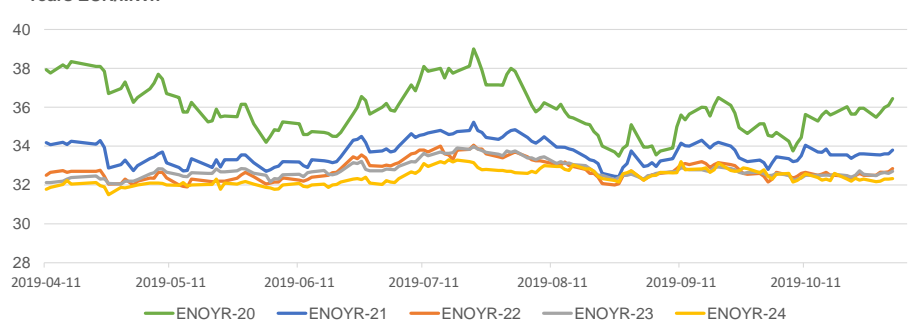
Carbon EUR/CO2 t



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



Years EUR/MWh



COMMENTS ON WEEK 44

ELECTRICITY DERIVATIVES

Front quarter

Last week, quarterly products took a clear downturn in the first days of the week as post-weekend forecasts showed an end to the cold and dry weather type for the following week. However, the forecasts dried up during the week and the weather type seen in the forecasts towards the end of the week appeared to remain cold. Precipitation rates were also not climbing further than close to the normal level towards the end of the week. Towards the end of the week, quarterly products rose and in the end were slightly up at the weekly level.

Annual products

Last week the front-year product dropped in the first days of the week in the wake of quarterly products and wetter weather forecasts. After that, however, they took another upturn driven by quarterly products. Emission allowance prices also strengthened. Coal price continued to be weak, however. There were no major changes in the marginal cost price of coal at the weekly level and, consequently, coal-fired profit margins continued to rise. At the same time the price difference compared with the German electricity market has narrowed.

SPOT MARKET

Last week the weather type was cold for the time of year and at the same time featured low winds and dry conditions. Flow rates decreased towards the end of the week. The system price rose considerably at the weekly level. In Finland, wind power production fluctuated over the week but was mostly scancer than normal. Imports of electricity from Russia to Finland increased after the turn of the month as there is a break in Russian capacity charges between 10:00 and 14:00 in November. The Finnish area price rose at the weekly level, but the gap between the area price and the system price remained close to the previous week's level.

EMISSIONS

Last week, emission allowance prices rose in the first half of the week. Emission allowance prices were supported by the elimination of short term uncertainty concerning Brexit and the generally rather optimistic market sentiment and the consequently very bullish stock indices. In the second half of the week, emission allowance prices declined again but ended up being up at the weekly level.

Indicator	ENOFUTBLQ1-20	ENOYR-20
Coal-fired production	61 %	64 %
Coal price	28 %	19 %
Gas price (NBP)	38 %	18 %
German price level	15 %	30 %
Spot	11 %	10 %
Crude oil Brent	34 %	15 %
Water reservoirs	2 %	0 %
EUR/USD FX rate	13 %	11 %
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)

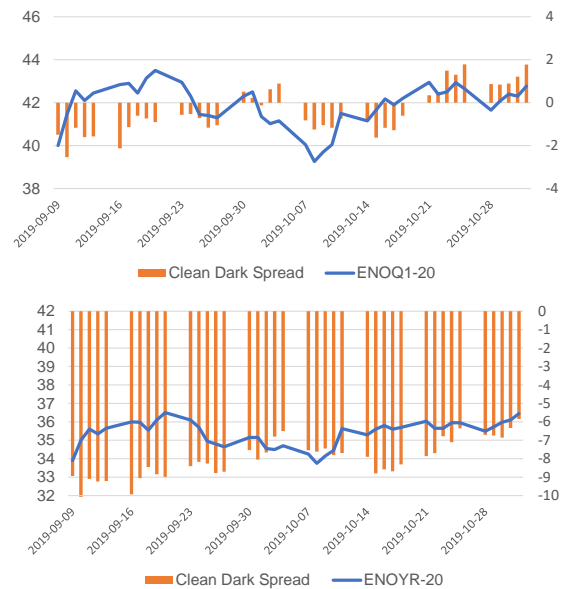
Forecast history	44	Chg	43	Chg
ENOFUTBLQ1-20	↘	0.3%	↗	1.1%
ENOYR-20	↘	1.4%	↗	0.7%
NP System	↗	6.1%	↘	-6.0%
NEDEC9	↘	1.4%	↗	-3.6%

DETERMINANTS AFFECTING THE MARKET ON WEEK 45

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 1.-13.11.2019, in use 518 MW

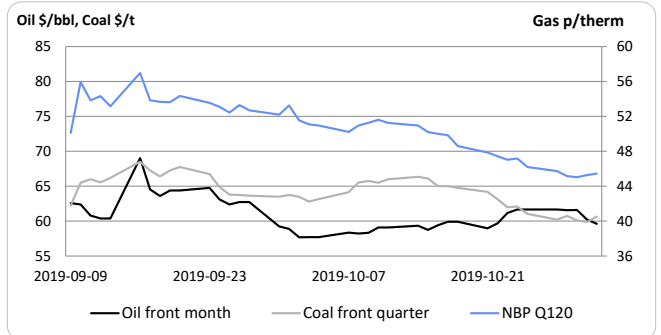
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 90%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 63% of the maximum



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	38.83
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.63
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	-0.58
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	1.01

*Average for period between 1.1.2019-4.11.2019.



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 Source for data: intStream, Tilastokeskus

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