

NORDIC ELECTRICITY MARKET

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WE EXPECT A BEARISH MARKET

Forecast to week 47:

ENOFUTBLQ1-20	📉 Bearish (<0%)
ENOYR-20	📉 Bearish (<0%)
NP System	↔ Sideways (± 0,5%)
NEDEC9	📉 Bearish (<0%)

FORECAST TO WEEK 47

ELECTRICITY DERIVATIVES

Front quarter

At the start of the week the weather will be very rainy, but precipitation rates will fall below the normal level after Tuesday. The weather type will remain dry for the rest of the week, but precipitation rates will rise to above-normal levels next week. On the whole over the two-week forecast period, precipitation rates will be slightly above normal and the hydro balance will rise slightly. The weather type is rather mild for the time of year and will remain mild for the time being. We expect quarterly products to fall.

Annual products

Downward pressure on the front-year product is maintained by bearish quarterly products, slightly rising hydro balance and mild weather picture. Downward pressure is also created by weak emission allowance prices and the persistently weak German electricity market. Downward pressure on fuel and emission allowance prices may be created by the broad European weather picture, which is quite mild. We expect a fall in annual product prices.

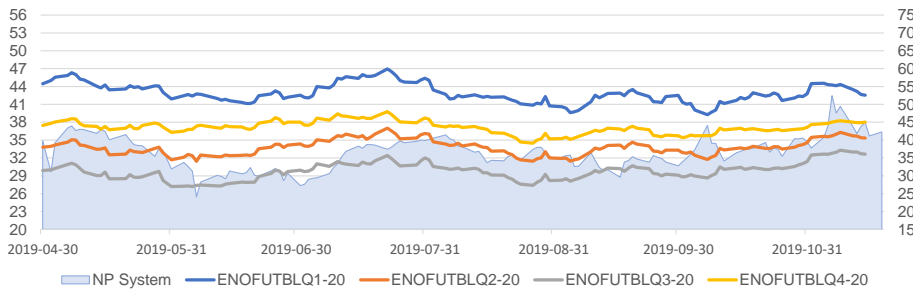
SPOT MARKET

In the first days of the week, Nordic wind power production will be close to the normal level but will drop to a below-normal level after Tuesday. The early part of the week will see rainy weather, with flow rates taking an upturn. Flow rates will, however, remain below normal. The weather is mild for the time of year and will also stay mild. We expect the system price at the weekly level to remain close to the level seen last week. Finnish wind power production will be abundant of Tuesday and Wednesday but weaker than normal for the rest of the week. We expect the Finnish area price also to settle at a level close to last week's.

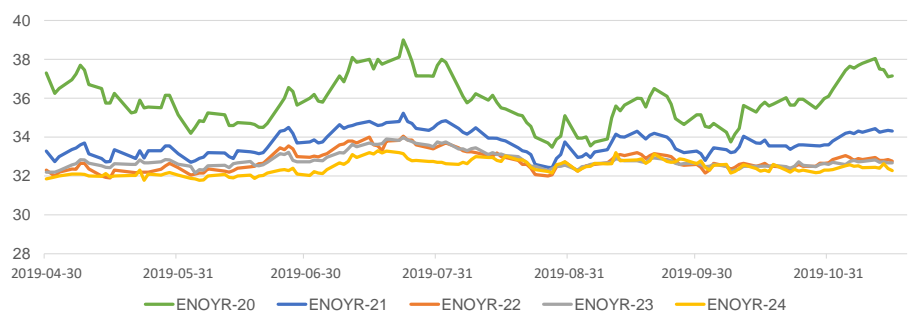
EMISSIONS

Emission allowance prices are technically declining towards October's lower trading levels, i.e. towards €22/t. Downward pressure on emission allowance prices has been created by Germany's coal phase-out bill and vague comments regarding EUA cancellations. The downward pressure created by the bill may continue further. The broad European weather picture is also milder than normal and the German electricity market is weak. We expect a continuing 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	15.11.2019	42.55	-3.6%	-1.60
ENOFUTBLQ2-20	15.11.2019	35.35	-1.8%	-0.63
ENOFUTBLQ3-20	15.11.2019	32.65	-0.9%	-0.30
ENOFUTBLQ4-20	15.11.2019	38.00	-0.4%	-0.15
ENOYR-20	15.11.2019	37.15	-1.7%	-0.65
ENOYR-21	15.11.2019	34.31	0.2%	0.06
ENOYR-22	15.11.2019	32.77	-0.2%	-0.08
ENOYR-23	15.11.2019	32.68	-0.2%	-0.07
ENOYR-24	15.11.2019	32.28	-0.5%	-0.15
NEDEC9	15.11.2019	23.84	-4.0%	-0.99
NEDEC20	15.11.2019	23.99	-3.9%	-0.97

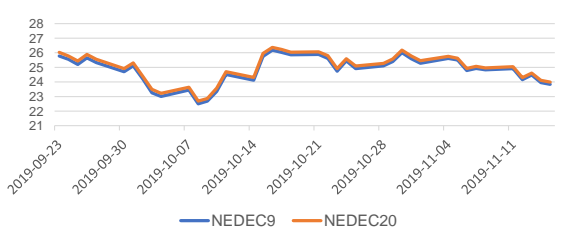
EPAD settlements

15.11.2019 (€/MWh)	2020	2021	2022	2023
SYHEL	6.85	4.63	3.50	3.75
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	1.65	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	17.11.2019	42.16	-7.2%	-3.25
NP Area FI	17.11.2019	45.79	-7.4%	-3.66
NP Area SE1	17.11.2019	41.05	-7.9%	-3.54
NP Area SE2	17.11.2019	41.05	-7.9%	-3.54
NP Area SE3	17.11.2019	42.59	-5.5%	-2.47
NP Area SE4	17.11.2019	42.59	-5.5%	-2.47

Carbon EUR/CO2 t



COMMENTS ON WEEK 46

ELECTRICITY DERIVATIVES

Front quarter

Last week, quarterly products were bullish on Monday as the weather forecasts had dried slightly after the weekend and precipitation rates over the two-week forecast period were on the whole slightly lower than normal. As the week progressed, however, the forecasts got wetter and warmer. The weather type appeared to stay mild for the time of year. On the whole, however, the precipitation rates forecast were only close to normal and the hydro balance was below normal, curbing the downward pressure.

Annual products

Last week the front-year product fell in the wake of quarterly products and the mild weather picture. Emission allowance prices also fell, but the strong support level of USD 62 held for the coal annual product. The support level holding resulted in a slight recovery of the coal annual product price. With the coal price stronger, coal-fired profit margins fell slightly for the front-year annual product. There were hardly any changes at the weekly level in annual products further ahead from the front-year product.

SPOT MARKET

Last week, temperatures climbed close to normal for the time of year after Monday and conditions were considerably milder than in the preceding week. Spot prices fell at the weekly level, but their decline was limited mainly by weaker-than-normal wind power production and low flow rates. Imports of electricity from Russia to Finland decreased after the first days of the week, but the Finnish area price dropped at the weekly level slightly more than the system price. Finnish wind power production was variable over the week, with output being most abundant between Tuesday evening and Wednesday midday.

EMISSIONS

Last week, emission allowance prices fell. Downward pressure on emission allowance prices was created by Germany's coal phase-out bill according to which Germany's coal exit will take place by 2038, with 4 GW of coal-fired capacity to be taken offline in 2020. The bill, however, is very vague as regards whether or not EUAs will be cancelled. This resulted in market concerns about EUA surplus in the market, and emission allowance prices took a clear dip. Further downward pressure was created by the prices falling below the €24.30/t support level.

Indicator	ENOFUTBLQ1-20	ENOYR-20
Coal-fired production	39 %	30 %
Coal price	11 %	5 %
Gas price (NBP)	11 %	1 %
German price level	17 %	32 %
Spot	8 %	15 %
Crude oil Brent	25 %	12 %
Water reservoirs	0 %	1 %
EUR/USD FX rate	9 %	4 %
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)

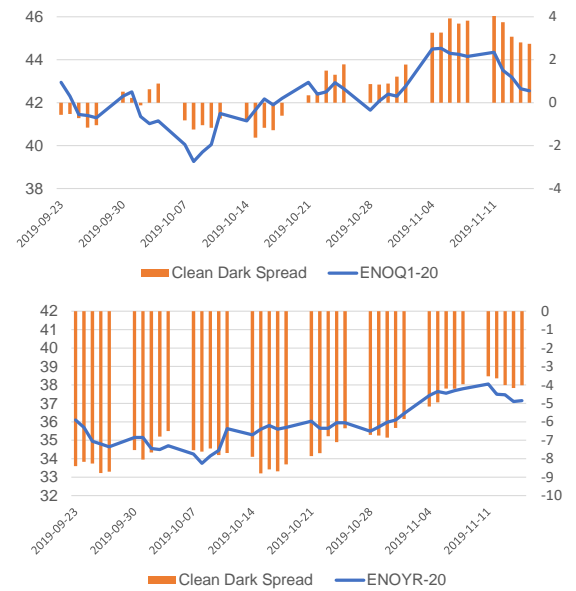
Forecast history	46	Chg	45	Chg
ENOFUTBLQ1-20	↗	-3.6%	↗	3.2%
ENOYR-20	↗	-1.7%	↗	3.7%
NP System	↘	-7.2%	↗	30.7%
NEDEC9	↗	-4.0%	↻	-1.8%

DETERMINANTS AFFECTING THE MARKET ON WEEK 47

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.-19.11.2019, in use 518 MW

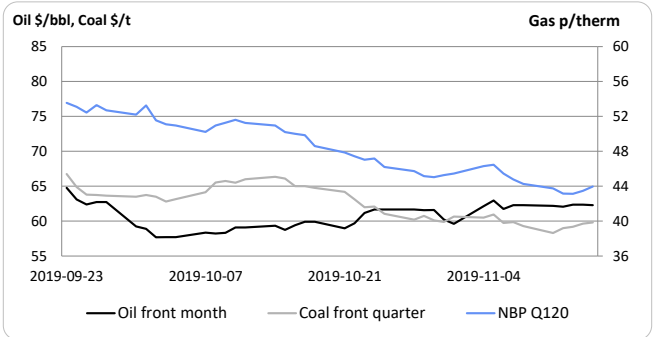
- Nordic nuclear power plants are currently operating at a capacity utilization rate of 90%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 59% of the maximum



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	39.06
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	5.47
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	-0.56
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.98

*Average for period between 1.1.2019-18.11.2019.



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 Source for data: intStream, Tilastokeskus

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