

### NORDIC ELECTRICITY MARKET

28.1.2019 Antti Kouvo, Gasum Portfolio Services Oy

#### THE WEATHER TYPE IS CHANGING TO MILDER, THE EMISSION PRICE IS DECREASING

##### Forecast to week 5:

ENOFUTBLQ2-19	📉 Bearish (<0%)
ENOYR-20	📉 Bearish (<0%)
NP System	📉 Bearish (<0%)
NEDEC9	📉 Bearish (<0%)

#### FORECAST TO WEEK 5

### ELECTRICITY DERIVATIVES

#### The nearest quarter

The weather forecasts have remained the weather type change to warmer during the weekend, also the precipitation forecasts are warmer than normal. The temperatures start to rise in the Nordic level and after Wednesday increase close to normal level. At the same time the precipitation increases after Wednesday to at least normal level for the rest of the week. The beginning of the next week is again drier than normal, but at the end of the forecasted period the forecasts increase again. We expect the front contracts to decrease at the weekly level due to the weather type change. Also the decreasing opening of the emission price causes downward pressure to front contracts.

#### Annual products

The weather type change to milder also decreases the closest annual contract, but the bigger effect has the clear decrease in emission price, which causes downward pressure to annual contracts despite of the significant price difference to Central Europe's annual contracts. The emission price might, however, continue fluctuating strongly also during this week. The coal price has opened to a moderate decrease. We expect the annual contracts to decrease moderately at the weekly level.

### SPOT MARKET

The weather is cold, dry and less windy at the beginning of the week. However, the weather turns warmer after Wednesday to normal level and even warmer. Also the wind power production increases at the end of the week momentarily close to normal level. Also in the Central Europe the temperature forecasts are significantly warmer than last week. We expect the system price to decrease significantly at the weekly level and to realize at about 56,5 €/MWh. In Finland the wind power production is high at the beginning of the week at the same time, when also the temperatures are at the lowest. Also in Finland the temperatures rise till the end of the week, but also the wind power production weakens, being at the lowest on Wednesday and on Thursday. We expect the Finnish area price to realize at the weekly level at about 59,5 €/MWh.

### EMISSIONS

The emission price turned bearish on Wednesday last week towards the support level of the variation range to about 22€/t. The market is also being fluctuated by the Germany's decision to close the coal and lignite capacity gradually by 2022,2030 and 2038. There has been discussions on the possibility to compensate the closings to producers and also cancel the allowances for the corresponding amount. The final decisions on the matter are, however, not made yet, and without the cancellations of the allowances the closing of the capacity that is causing emissions is a decreasing factor. The uncertainty on Brexit continues. We expect the emission price to test its support level but the MSR and scarce auction supply is believed to support enough for increase to continue in the longer term.

#### Market signals

	spot	Q2-19	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)
ENOFUTBLQ2-19	25.1.2019	49.05	-1.8%	-0.90
ENOFUTBLQ3-19	25.1.2019	46.45	0.1%	0.05
ENOFUTBLQ4-19	25.1.2019	48.50	-0.7%	-0.35
ENOFUTBLQ1-20	25.1.2019	48.85	-0.8%	-0.40
ENOYR-20	25.1.2019	39.30	-1.1%	-0.45
ENOYR-21	25.1.2019	34.85	-1.6%	-0.55
ENOYR-22	25.1.2019	33.70	0.4%	0.15
ENOYR-23	25.1.2019	32.18	0.9%	0.30
ENOYR-24	25.1.2019	31.40	1.0%	0.30
NEDEC9	25.1.2019	24.05	-3.2%	-0.80
NEDEC20	25.1.2019	24.48	-3.4%	-0.85

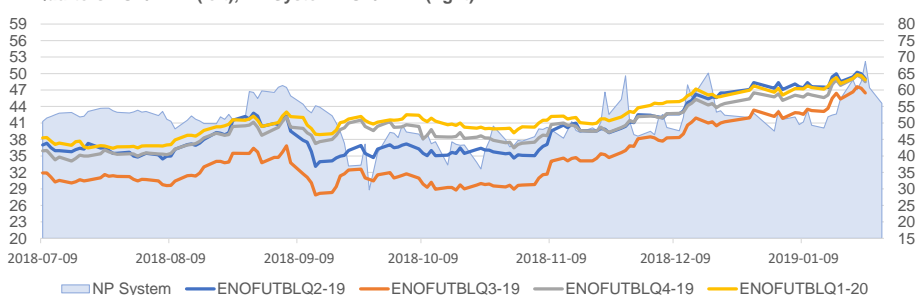
#### EPAD settlements

25.1.2019 (€/MWh)	2019	2020	2021	2022
SYHEL	4.30	3.78	4.10	4.10
SE1-NP System	-1.15	-1.15	-1.15	-1.15
SE2 - NP System	-1.15	-1.15	-1.15	-1.15
SE3 - NP System	2.00	2.25	2.25	2.25
SE4 - NP System	3.10	3.00	3.00	3.00

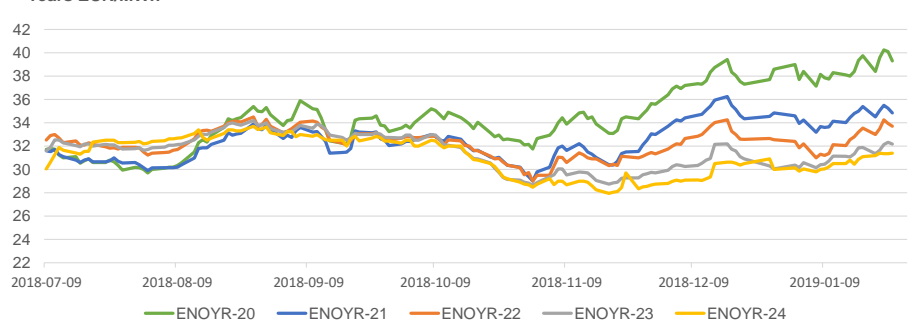
#### Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	27.1.2019	60.12	13.2%	7.02
NP Area FI	27.1.2019	64.83	18.7%	10.21
NP Area SE1	27.1.2019	64.17	23.9%	12.38
NP Area SE2	27.1.2019	64.17	23.9%	12.38
NP Area SE3	27.1.2019	64.36	21.8%	11.51
NP Area SE4	27.1.2019	64.36	21.8%	11.51

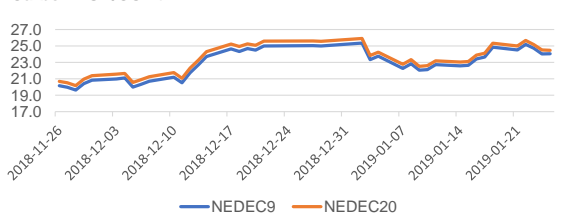
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 4

**ELECTRICITY DERIVATIVES**

**The nearest quarter**

Last week the front contracts opened bearish, when the weather forecasts had turned wetter and milder during the weekend. However, during the week the weather forecasts dried and turned colder and the weather type seemed likely to continue mainly colder and drier than normal despite of the occasional precipitation. Additionally, also the emission and coal prices turned bullish again. With the strong fundamentals, the closest quarter contract increased again to new quotation tops. However, on Friday the front contracts returned down, when the weather forecasts were milder and wetter for the rest of the week. At the weekly level the front contracts were higher, however.

**Annual products**

At the beginning of last week the annual contracts were decreasing with the front contracts. Also the coal and emission prices were bearish, when the weather forecasts in Europe had turned milder during the weekend. However, during the week the weather forecasts turned colder again and the coal and emission prices started to increase. At the end of the week the annual contracts returned down, when coal and emission prices turned bearish when the technical resistance levels held. At the weekly level the closest annual contract was finally slightly lower.

**SPOT MARKET**

Spot prices increased last week, when the weather was cold, less windy and dry. Spot prices were supported also by tight situation in the Central Europe, where the weather was also cold and less windy. Also in Finland the weather was cold and the wind power production was mainly weak. The extremely high peak hours were avoided, but on Thursday the highest hourly spot prices in Finland increased to above the 100 €/MWh. Oikiluoto 1 was working on limited power on Friday due to failure in valve.

**EMISSIONS**

The emission price turned bearish on Monday last week, when the weather forecasts had turned milder in Europe during the weekend. The milder weather forecasts caused also downward pressure to fuel prices and to the electricity market. However, the weather type seemed likely to stay colder than normal also in the future, which supported the emission price again after Monday. Additionally, the weak wind power situation and the high electricity demand supported the emission price. At the end of the week slightly milder weather forecasts and the approaching of the strong technical resistance level turned the emission price bearish. At the weekly level the emission price was lower.

Indicator	ENOFUTBLQ2-19	ENOYR-20
Coal-fired production	43 %	61 %
Coal price	38 %	10 %
Gas price (NBP)	20 %	1 %
German price level	15 %	1 %
Spot	18 %	3 %
Crude oil Brent	64 %	43 %
Water reservoirs	4 %	20 %
EUR/USD FX rate	18 %	18 %
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	4	Chg	3	Chg
ENOFUTBLQ2-19	↘	-1.8%	↗	3.3%
ENOYR-20	↘	-1.1%	↗	3.8%
NP System	↗	13.2%	↗	16.3%
NEDEC9	↘	-3.2%	↻	9.4%

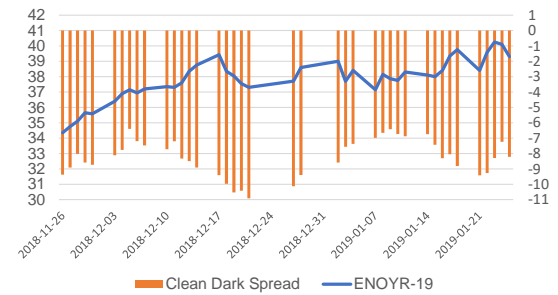
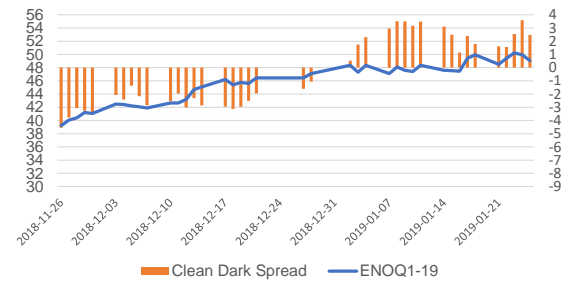
DETERMINANTS AFFECTING THE MARKET ON WEEK 5

**RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY**

- Ringhals 2 (904 MW), failure 27.12.-30.4.2019, available 452 MW

Nordic nuclear power plants are currently operating at 96%

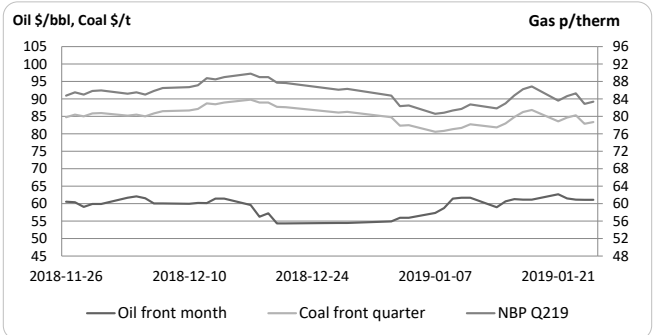
-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 70 % of the maximum.



**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	53.62
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	1.85
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-0.39
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-0.39
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	0.52
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	1.02

\*Average for period between 1.1.2019-28.1.2019.



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