

### NORDIC ELECTRICITY MARKET

4.3.2019 Markus Herranen, Gasum Portfolio Services Oy

#### THE HYDROBALANCE INCREASES BUT THE STRONGER FUELS AND THE EMISSION PRICE MAINTAIN THE SUPPORT

##### Forecast to week 10:

ENOFUTBLQ2-19	↔	Sideways (± 0,5%)
ENOYR-20	↗	Bullish (>0%)
NP System	↔	Sideways (± 0,5%)
NEDEC9	↗	Bullish (>0%)

##### 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	↓	↑	↑

### FORECAST TO WEEK 10

#### ELECTRICITY DERIVATIVES

##### The nearest quarter

The weather forecasts have turned wetter during the weekend. The weather is wet after Wednesday and the hydrobalance increases. The wetter than normal weather outlook causes downward pressure to front contracts. However, next week the precipitation is normalizing and the weather turns colder than seasonal normal. The snow reserves are still low and the stronger fuel prices and the emission price support. Due to mixed signals we expect in the short term the front contracts to look for direction close to current level.

##### Annual products

The annual contracts turned sharply bullish last week and technically the annual contracts continue increasing also this week. The annual contract prices are supported by stronger fuel and emission prices, but still the weather in Europe is mild and windy and the fuel stocks are at the high level. Therefore we expect the upward pressure to clearly ease from the last week. We expect the annual contract prices to continue slightly bullish.

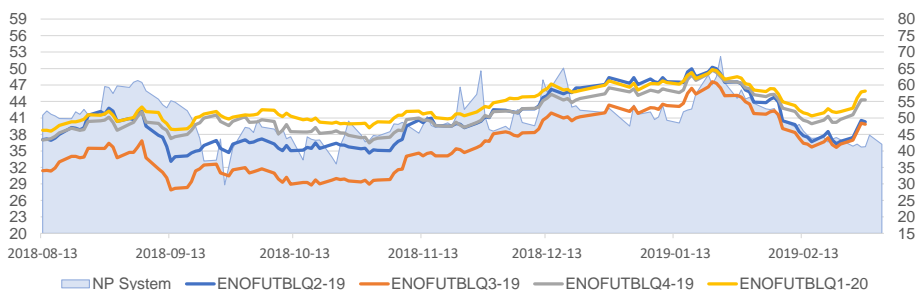
#### SPOT MARKET

The temperatures vary during the week. The weather turns colder than seasonal normal after Monday, but on Thursday and on Friday the temperatures rise to above the normal. During the weekend the temperatures fall again below the normal. The Nordic wind power production is close to normal level at the first half of the week, but on Thursday and especially on Friday the wind power production increases to very high. The inflows are higher than normal, but towards the weekend the inflows decrease close to normal. The nuclear power production decreases slightly, when on Tuesday the limitation starts in Ringhals 3. In Germany the wind power production is very high during this week, which causes downward pressure especially in Danish prices. We expect the system price to realize close to last week's average level at the weekly level. In Finland the wind power production increases to higher than normal after Monday. We expect the Finnish area price to stay close to system price at the weekly level and to realize at about 43,0 €/MWh.

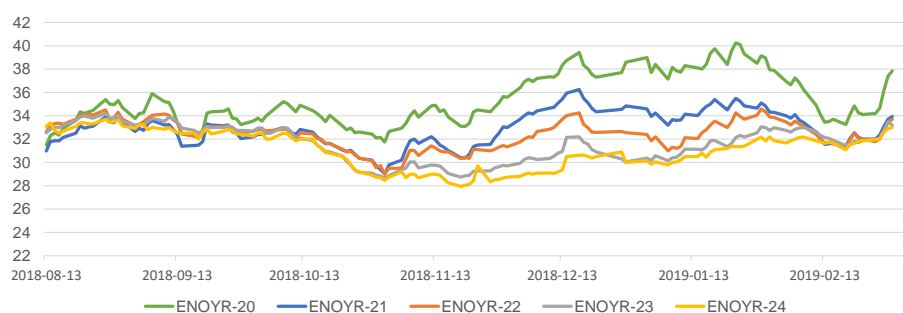
#### EMISSIONS

The emission price increased strongly last week and technically the market is still clearly stronger. The emission price is supported by the easing of the political uncertainty, when the risk for so-called hard Brexit has been reduced. Additionally, also the general market atmosphere has continued to be positive when the trade negotiations between U.S. and the China continued to be hopeful. The electricity market has continued to increase, but very windy and at the same time mild weather in Germany reduces the emission allowance demand. Also the free allocation of the emission allowances might create supply at the market. We expect the emission price to continue increasing, but we expect the increase to settle from last week.

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



Years EUR/MWh



Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ2-19	1.3.2019	40.30	11.0%	4.00
ENOFUTBLQ3-19	1.3.2019	39.85	11.8%	4.20
ENOFUTBLQ4-19	1.3.2019	44.30	10.2%	4.10
ENOFUTBLQ1-20	1.3.2019	45.90	9.3%	3.90
ENOYR-20	1.3.2019	37.85	11.0%	3.75
ENOYR-21	1.3.2019	33.95	6.1%	1.95
ENOYR-22	1.3.2019	33.70	5.4%	1.72
ENOYR-23	1.3.2019	33.18	4.1%	1.30
ENOYR-24	1.3.2019	33.00	3.6%	1.15
NEDEC9	1.3.2019	22.28	17.6%	3.34
NEDEC20	1.3.2019	22.68	17.3%	3.35

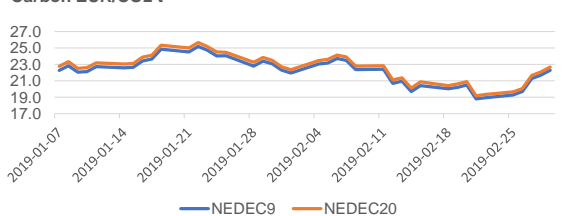
##### EPAD settlements

1.3.2019 (€/MWh)	2019	2020	2021	2022
SYHEL	4.30	3.25	3.25	3.25
SE1-NP System	-1.00	-1.25	-1.25	-1.25
SE2 - NP System	-1.00	-1.25	-1.25	-1.25
SE3 - NP System	2.33	2.35	2.25	2.25
SE4 - NP System	3.50	3.25	3.50	3.25

##### Week's spot price change

Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	3.3.2019	41.87	-1.6%	-0.69
NP Area FI	3.3.2019	42.60	-1.2%	-0.52
NP Area SE1	3.3.2019	40.96	-1.7%	-0.73
NP Area SE2	3.3.2019	40.96	-1.7%	-0.73
NP Area SE3	3.3.2019	41.44	-1.7%	-0.73
NP Area SE4	3.3.2019	41.44	-1.7%	-0.73

##### Carbon EUR/CO2 t



### COMMENTS ON WEEK 9

#### ELECTRICITY DERIVATIVES

##### The nearest quarter

Last week the front contracts corrected strongly up after the sharp decrease. The upward correction was caused by drier and colder weather forecasts. Additionally, the precipitation in the forecasts realized clearly lower than forecasted. The upward pressure was strengthened by the increased emission and coal prices.

##### Annual products

Last week also the annual contracts corrected strongly up. The annual contract prices were supported by strongly increasing coal and emission prices. The strengthened technical outlook during the week strengthened the support in prices. The closest annual contract increased more than the other annual contracts, when the upward pressure to the closest annual contract was strengthened by drier and colder weather forecasts.

#### SPOT MARKET

Last week the weather was mild and the inflows were higher than normal. During the second half of the week the temperatures fell close to seasonal normal. The wind situation varied during the week. On Friday the spot prices increased to the highest level of the week due to weak wind power production and the low temperatures. The Finnish area price increased on Friday still more than system price, when in addition to weak wind power production in Finland, the Russian electricity import decreased. However, at the weekly level the Finnish area price was close to system price.

#### EMISSIONS

The emission price turned strongly bullish last week. The emission price turned bullish, when the strong support level of 18,35 €/t held. Strong support to the price was also caused by the news that the implementation of Brexit is planned to be delayed. This has reduced the uncertainty and especially the fear of so-called hard Brexit. Additionally, the price was supported by the news on Britain planning to link to EU ETS starting 2021.

Indicator	ENOFUTBLQ2-19	ENOYR-20
Coal-fired production	0 %	1 %
Coal price	24 %	16 %
Gas price (NBP)	14 %	11 %
German price level	13 %	10 %
Spot	36 %	27 %
Crude oil Brent	65 %	50 %
Water reservoirs	3 %	3 %
EUR/USD FX rate	13 %	6 %
Temperature	8 %	5 %
Precipitation	16 %	13 %

##### Definition

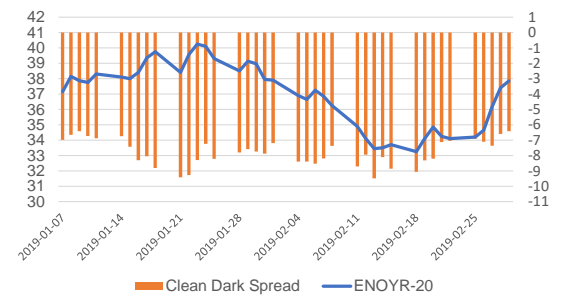
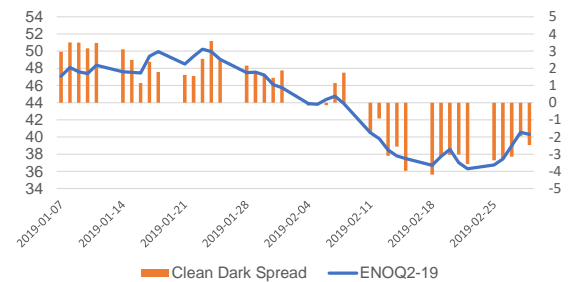
The above figures measure the ability of market determinants to describe the price changes occurred in last 6 months. The affect is measured as Coefficient of Determination\*. Each variable is evaluated independently. We use a color scale to demonstrate efficacy, green (strong), yellow (moderate), red (weak)

Forecast history	9	Chg	8	Chg
ENOFUTBLQ2-19	↘	11.0%	↘	-3.2%
ENOYR-20	↘	11.0%	↘	1.2%
NP System	↘	-1.6%	↘	-1.0%
NEDEC9	↘	17.6%	↘	-7.2%

### DETERMINANTS AFFECTING THE MARKET ON WEEK 10

#### RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

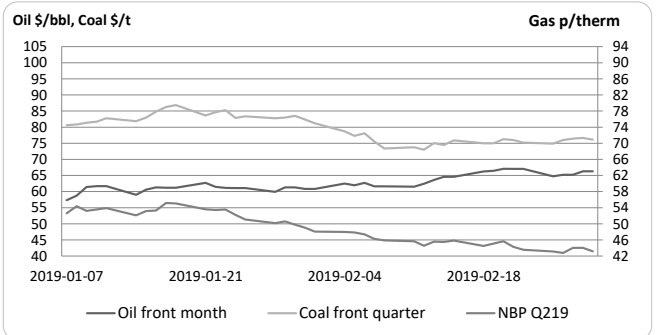
- Ringhals 2 (904 MW), failure 27.12.-30.4.2019, available 452 MW
- Ringhals 3 (1063 MW), maintenance 5.3.-30.4.2019 available 770 MW
- Nordic nuclear power plants are currently operating at 92%
- RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 73 % 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	49.44
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	1.52
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-0.44
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-0.44
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	0.20
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	0.70

\*Average for period between 1.1.2019-4.3.2019.



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Source for data: intStream, Tilastokeskus

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