

NORDIC ELECTRICITY MARKET

4.2.2019 Markus Herranen, Gasum Portfolio Services Oy

THE FUNDAMENTS AND THE TECHNICAL ANALYSIS SUPPORT THE CONTINUATION OF THE DECREASE

| Forecast to week 6: | |
|---------------------|-----------------|
| ENOFUTBLQ2-19 | 📉 Bearish (<0%) |
| ENOYR-20 | 📉 Bearish (<0%) |
| NP System | 📉 Bearish (<0%) |
| NEDEC9 | 📉 Bearish (<0%) |

FORECAST TO WEEK 6

ELECTRICITY DERIVATIVES

The nearest quarter

The weather forecasts have turned warmer and also slightly wetter during the weekend. The current colder and drier than normal weather type is ending and at the end of the week the temperatures rise clearly above the seasonal normal. Next week the forecasts are slightly cooler, but there are no clear signs of the weather type change to cold again. We expect the front contracts to continue bearish.

Annual products

The wetter and milder weather forecasts and decreasing front contracts cause downward pressure to the closest annual contract. Downward pressure to annual contracts is also caused by decreasing coal price. The coal market is quieter due to Chinese New year holiday. Additionally, downward pressure to coal and emission prices is caused by the weather that is turning warmer and windier than normal in Europe. We expect the annual contracts to decrease.

SPOT MARKET

The weather is still during the first half of the week colder than seasonal normal, but after Wednesday the temperatures rise above the normal. The weather turns warmer for the rest of the week and during the weekend the weather is clearly warmer than normal. The wind power production is close to normal level at the beginning of the week, but on Wednesday, Thursday and on Friday the Nordic wind power production is weak. In Finland the wind power production during this week is mainly weaker than normal and during the week at the weakest on Thursday. The electricity import from Russia to Finland is higher in February than in January when there is a break in capacity hours in the afternoon. We expect the spot prices to decrease with the milder and wetter weather and we expect the system price to realize at about 51,0 €/MWh. We expect the Finnish area price to realize close to system price at the weekly level and to realize at about 52,5 €/MWh.

EMISSIONS

The downward pressure to emission price is caused by decreasing electricity market. Additionally, in the short term the emission allowance demand is decreased by the milder weather in Central Europe. Also the wind power production increases significantly at the end of the week. However, the support level of 21,3 €/t in emission price has held, which is the lowest trading prices of the year. The support level might limit the downward pressure, but on the other hand, the possible breaking of the support level would open significantly more technical downward potential. Uncertainty in the emission price in the short term is still caused by Brexit. Additionally, in Germany the uncertainty on closing the coal capacity is still significant and for example the discussions on the amount of allowances to be cancelled are likely to fluctuate the emission price.

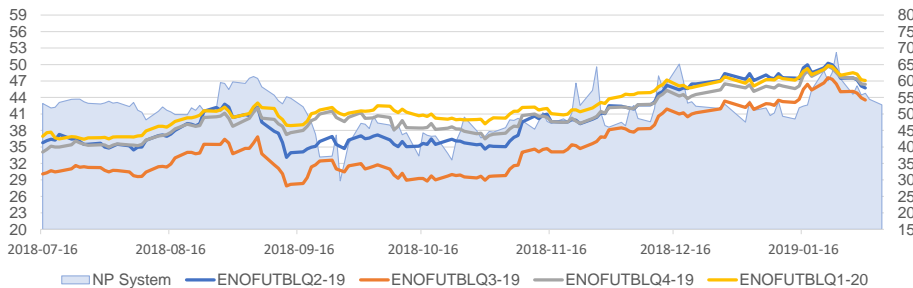
| Market signals | spot | Q2-19 | YR-20 |
|-----------------------------------|------|-------|-------|
| Hydrologic balance | ↓ | ↓ | ↓ |
| Precipitation forecast | ↓ | ↓ | ↓ |
| Temperature forecast | ↓ | ↓ | ↓ |
| Spot | → | ↓ | → |
| Production and transmission exch. | ↓ | → | → |
| Emissions allowance | ↓ | ↓ | ↓ |
| Coal price | ↓ | ↓ | ↓ |
| German prices | ↑ | ↓ | → |
| Technical analysis | → | ↓ | ↓ |

| Product | Date | Value | % chg | Chg (EUR) |
|---------------|----------|-------|-------|-----------|
| ENOFUTBLQ2-19 | 1.2.2019 | 45.75 | -6.7% | -3.30 |
| ENOFUTBLQ3-19 | 1.2.2019 | 43.55 | -6.2% | -2.90 |
| ENOFUTBLQ4-19 | 1.2.2019 | 46.40 | -4.3% | -2.10 |
| ENOFUTBLQ1-20 | 1.2.2019 | 47.10 | -3.6% | -1.75 |
| ENOYR-20 | 1.2.2019 | 37.90 | -3.6% | -1.40 |
| ENOYR-21 | 1.2.2019 | 34.30 | -1.6% | -0.55 |
| ENOYR-22 | 1.2.2019 | 33.85 | 0.4% | 0.15 |
| ENOYR-23 | 1.2.2019 | 32.98 | 2.5% | 0.80 |
| ENOYR-24 | 1.2.2019 | 31.85 | 1.4% | 0.45 |
| NEDEC9 | 1.2.2019 | 21.95 | -8.7% | -2.10 |
| NEDEC20 | 1.2.2019 | 22.34 | -8.7% | -2.14 |

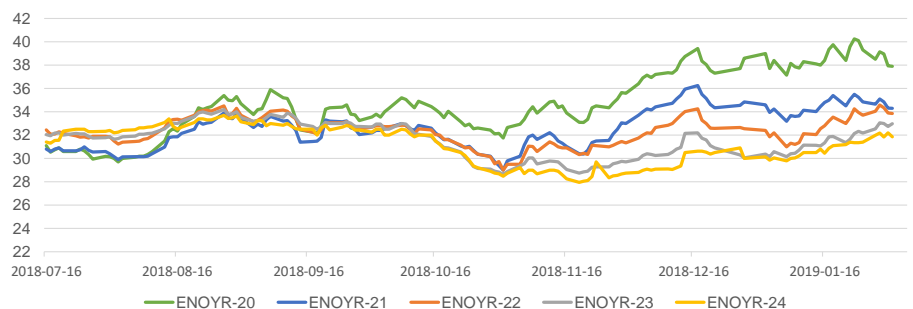
| EPAD settlements | 2019 | 2020 | 2021 | 2022 |
|------------------|-------|-------|-------|-------|
| 1.2.2019 (€/MWh) | 4.25 | 3.80 | 4.10 | 4.10 |
| SYHEL | -1.15 | -1.15 | -1.15 | -1.15 |
| SE1-NP System | -1.15 | -1.15 | -1.15 | -1.15 |
| SE2 - NP System | -1.15 | -1.15 | -1.15 | -1.15 |
| SE3 - NP System | 2.03 | 2.00 | 2.25 | 2.25 |
| SE4 - NP System | 3.10 | 3.00 | 3.00 | 3.00 |

| Week's spot price change | Date | Value | % chg | Chg (EUR) |
|--------------------------|----------|-------|--------|-----------|
| NP System | 3.2.2019 | 54.63 | -9.1% | -5.49 |
| NP Area FI | 3.2.2019 | 57.36 | -11.5% | -7.47 |
| NP Area SE1 | 3.2.2019 | 55.27 | -13.9% | -8.90 |
| NP Area SE2 | 3.2.2019 | 55.27 | -13.9% | -8.90 |
| NP Area SE3 | 3.2.2019 | 55.49 | -13.8% | -8.87 |
| NP Area SE4 | 3.2.2019 | 55.49 | -13.8% | -8.87 |

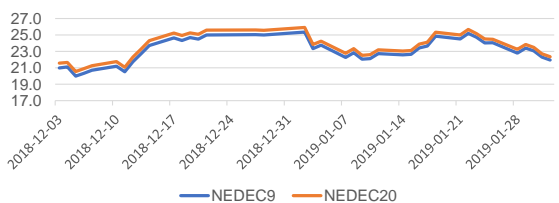
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 5

ELECTRICITY DERIVATIVES

The nearest quarter

Last week the front contracts decreased sharply, when the ending of dry and cold weather type was ensured at the weather forecasts. During the week the weather forecasts turned warmer and wetter and downward pressure during the week was also caused by clearly decreasing coal price. Additionally, also the emission price softened significantly and downward pressure to front contracts was caused by weaker technical outlook.

Annual products

Last week the downward pressure to closest annual contract was caused by wetter and milder weather forecasts and decreasing front contracts. Generally, downward pressure to annual contracts was also caused by decreased coal and emission prices. Despite of the weaker fundamentals, the longer annual contracts even increased at the weekly level.

SPOT MARKET

Spot prices turned bearish last week. Still at the beginning of the week the weather was cold, dry and less windy, but after the beginning of the week the temperatures and the wind power production increased close to normal level. Therefore at the second half of the week the spot prices decreased. The Finnish area price decreased at the weekly level slightly more than system price and therefore the area price difference against the system price narrowed.

EMISSIONS

The emission price decreased sharply last week. Downward pressure to emission price was caused by milder weather forecasts. Additionally, the German power market was clearly bearish due to weaker fuel prices. Downward pressure was also caused by the German commission's proposal on closing coal and lignite capacity gradually by 2020, 2030 and 2038. Downward pressure from this was, however, limited by the proposal to cancel the allowances for the corresponding amount. However, the final decisions are not yet made and the uncertainty maintained high fluctuation.

| Indicator | ENOFUTBLQ2-19 | ENOYR-20 |
|-----------------------|---------------|----------|
| Coal-fired production | 0 % | 6 % |
| Coal price | 51 % | 27 % |
| Gas price (NBP) | 38 % | 18 % |
| German price level | 31 % | 14 % |
| Spot | 28 % | 14 % |
| Crude oil Brent | 66 % | 49 % |
| Water reservoirs | 11 % | 19 % |
| EUR/USD FX rate | 15 % | 10 % |
| 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 | 5 | Chg | 4 | Chg |
|------------------|---|-------|---|-------|
| ENOFUTBLQ2-19 | ↘ | -6.7% | ↘ | -1.8% |
| ENOYR-20 | ↘ | -3.6% | ↘ | -1.1% |
| NP System | ↘ | -9.1% | ↗ | 5.8% |
| NEDEC9 | ↘ | -8.7% | ↘ | -3.2% |

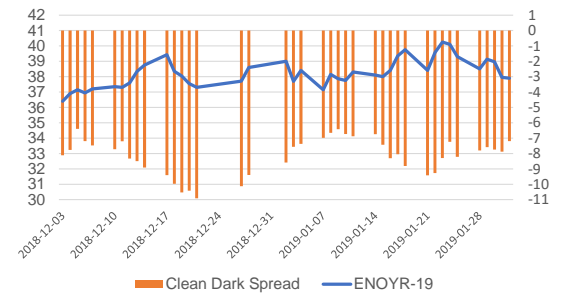
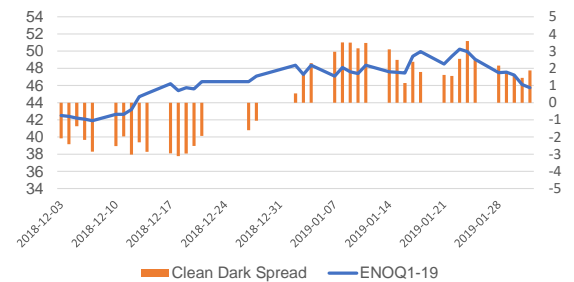
DETERMINANTS AFFECTING THE MARKET ON WEEK 6

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%

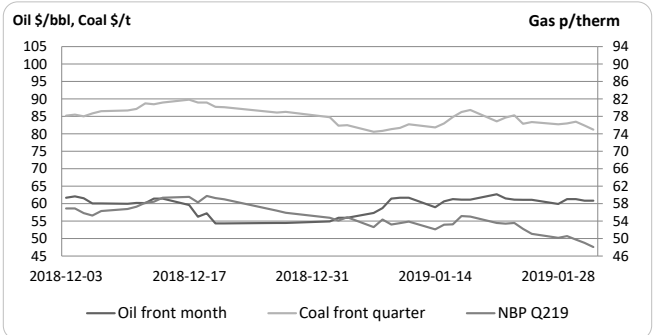
-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 70 % of the maximum.



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 | 53.60 |
| NP Area FI - NP System | 5.50 | 3.10 | 6.40 | 8.70 | 5.54 | 3.78 | 2.81 | 1.90 |
| NP Area SE1 - NP System | 0.50 | 1.10 | 1.80 | 0.20 | 2.04 | 1.43 | 0.24 | -0.24 |
| NP Area SE2 - NP System | 0.60 | 1.10 | 1.80 | 1.00 | 2.04 | 1.43 | 0.24 | -0.24 |
| NP Area SE3 - NP System | 1.10 | 1.40 | 2.00 | 1.00 | 2.33 | 1.83 | 0.55 | 0.53 |
| NP Area SE4 - NP System | 3.00 | 1.80 | 2.30 | 1.90 | 2.62 | 2.77 | 2.37 | 1.04 |

*Average for period between 1.1.2019-4.2.2019.



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Source for data: intStream, Tilastokeskus

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