

### NORDIC ELECTRICITY MARKET

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### THE WEATHER TURNS COLD NEXT WEEK

#### Forecast to week 2:

|               |                 |
|---------------|-----------------|
| ENOFUTBLQ2-19 | ↗ Bullish (>0%) |
| ENOYR-20      | ↗ Bullish (>0%) |
| NP System     | ↗ Bullish (>0%) |
| NEDEC9        | ↗ Bullish (>0%) |

### FORECAST TO WEEK 2

### ELECTRICITY DERIVATIVES

#### The nearest quarter

The weather during this week is slightly wetter and milder, but next week the weather is turning clearly colder than seasonal normal. At the same time the precipitation decreases to lower than normal. However, the front contracts have increased strongly and the closest quarter contract has already increased to clearly higher than the margin cost for coal condensate. At the same time the closest quarter contract has reached the price level of Germany's corresponding contract. The contracts have therefore already strongly increased risk for downward correction, if the weather forecasts show signs of the ending of cold and dry weather type. So far the weather type change is not forecasted and we expect the front contracts to continue bullish.

#### Annual products

The closest annual contract is supported by the weather, that turns dry next week, and the hydro balance that starts to decrease again. The annual contracts are also supported by strongly bullish emission price. However, the coal price has continued in a bearish trend despite of slightly stronger oil price. At the stock market the development is more confident and during this week the market is waiting for trade negotiations between China and U.S. The negotiation results give direction to fuel and CO2 market, which defines the price for annual contracts during the week. There is plenty of uncertainty, but we think the increasing development is slightly more likely than the decreasing.

### SPOT MARKET

The weather during this week is still mild, wet and windy. The inflows start to decrease, but they are also higher than normal. The weather is very windy on Tuesday and on Friday. In Finland the wind power production is weaker than normal at the beginning of the week, but on Thursday and on Friday the wind power production is very high. The electricity import from Russia to Finland is still high at the beginning of the week, but in Russia the ending of the holiday after the beginning of the week decreases the electricity import to Finland. The electricity import is higher than last week. We expect the system price to slightly increase at the weekly level and to realize at about 50,0 €/MWh. We expect the Finnish area price to realize close to system price at the weekly level.

### EMISSIONS

The emission price is in a very strong bullish trend, but the auction break has ended, which may limit the upward pressure. The decreasing effect of ending of the auction break is decreased by MSR, that started this year, and therefore the auction supply is permanently low. The fluctuation to emission price might be caused by the trade negotiations between China and U.S. and the upcoming Britain's vote on Brexit agreement. The emission price has increased strongly and we expect so far the price to continue bullish. However, we expect the price fluctuation to continue to be high and the sharply increased price also already enables the downward correction.

#### 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 | 4.1.2019 | 48.35 | 2.7%  | 1.25      |
| ENOFUTBLQ3-19 | 4.1.2019 | 43.05 | 2.6%  | 1.10      |
| ENOFUTBLQ4-19 | 4.1.2019 | 46.30 | 2.0%  | 0.90      |
| ENOFUTBLQ1-20 | 4.1.2019 | 47.30 | 0.7%  | 0.32      |
| ENOYR-20      | 4.1.2019 | 38.40 | -0.5% | -0.20     |
| ENOYR-21      | 4.1.2019 | 34.24 | -1.8% | -0.61     |
| ENOYR-22      | 4.1.2019 | 32.20 | -1.1% | -0.35     |
| ENOYR-23      | 4.1.2019 | 30.58 | 1.8%  | 0.53      |
| ENOYR-24      | 4.1.2019 | 30.05 | 0.2%  | 0.05      |
| NEDEC9        | 4.1.2019 | 23.75 | -5.0% | -1.24     |
| NEDEC20       | 4.1.2019 | 24.25 | -5.1% | -1.31     |

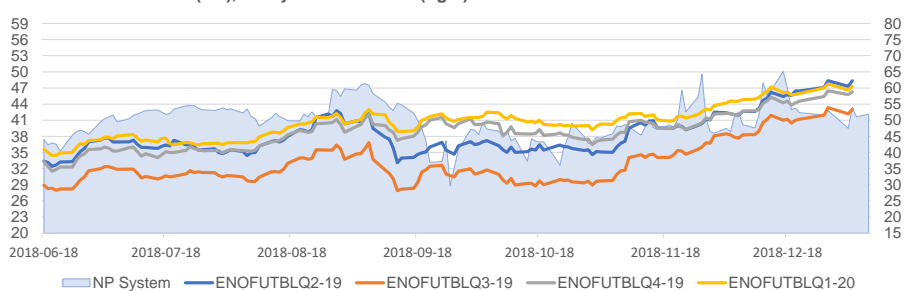
#### EPAD settlements

| 4.1.2019 (€/MWh) | 2019  | 2020  | 2021  | 2022  |
|------------------|-------|-------|-------|-------|
| SYHEL            | 4.75  | 4.35  | 4.55  | 4.50  |
| 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  | 1.90  | 2.25  | 2.45  | 2.25  |
| SE4 - NP System  | 3.55  | 3.55  | 3.55  | 3.55  |

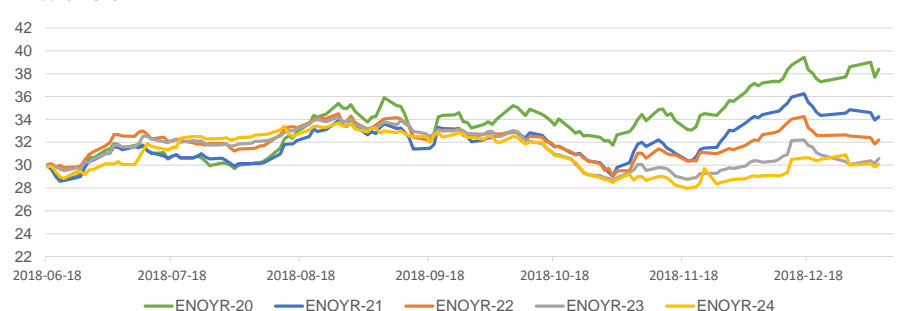
#### Week's spot price change

| Price area (€/MWh) | Date     | Value | % chg | Chg (EUR) |
|--------------------|----------|-------|-------|-----------|
| NP System          | 6.1.2019 | 49.23 | -2.5% | -1.25     |
| NP Area FI         | 6.1.2019 | 46.83 | -4.8% | -2.37     |
| NP Area SE1        | 6.1.2019 | 45.30 | -6.9% | -3.38     |
| NP Area SE2        | 6.1.2019 | 45.30 | -6.9% | -3.38     |
| NP Area SE3        | 6.1.2019 | 46.08 | -5.7% | -2.80     |
| NP Area SE4        | 6.1.2019 | 46.08 | -5.7% | -2.80     |

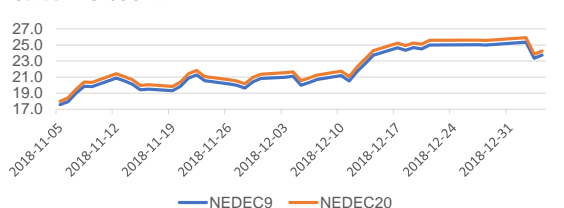
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 1

ELECTRICITY DERIVATIVES

The nearest quarter

The front contracts continued bullish between the Christmas and the New Year and also during last week. The support for front contracts was maintained by strong technical outlook and weak hydropower situation. Last week the upward pressure was strengthened by the signs of the weather type change to cold and dry during the second half of January.

Annual products

Weak coal price has caused downward pressure to annual contracts, but the bullish emission price has limited the downward pressure. Downward pressure in fuel prices was maintained by the nervous market sentiment, when the concerns on economic slowdown fluctuated the stock market and kept the indexes bearish. The closest annual contract has been supported by weak hydropower situation and the signs of the weather type change to dry and cold.

SPOT MARKET

The spot prices decreased only moderately during the holidays despite of the low electricity demand due to good hydropower producers' control. However, at the New Year's Day the spot prices decreased to low level due to very high wind power production. In Denmark and in Germany the daily average prices realized even negative and also in Sweden and in Finland the spot prices realized very low. Good hydropower producers' control in Norway the spot prices realized clearly higher and therefore the Finnish area price realized clearly lower than system price during the two first days of the year. After this the Finnish area price realized slightly higher than system price, although the electricity import from Russia to Finland was high due to Russian holiday week.

EMISSIONS

The support in emission price has been maintained by the auction break, the starting MSR and the strong technical outlook. The emission price increased close to the highest trading prices of last autumn.

| Indicator             | ENOFUTBLQ2-19 | ENOYR-20 |
|-----------------------|---------------|----------|
| Coal-fired production | 7%            | 38%      |
| Coal price            | 20%           | 0%       |
| Gas price (NBP)       | 1%            | 9%       |
| German price level    | 2%            | 25%      |
| Spot                  | 14%           | 0%       |
| Crude oil Brent       | 63%           | 33%      |
| Water reservoirs      | 4%            | 20%      |
| EUR/USD FX rate       | 20%           | 22%      |
| 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 | 1 | Chg   | 52 | Chg  |
|------------------|---|-------|----|------|
| ENOFUTBLQ2-19    | ↑ | 2.7%  | ↓  | 1.4% |
| ENOYR-20         | ↑ | -0.5% | ↓  | 3.5% |
| NP System        | ↓ | -2.5% | ↑  | 1.2% |
| NEDEC9           | ↑ | -5.0% | ↓  | 0.0% |

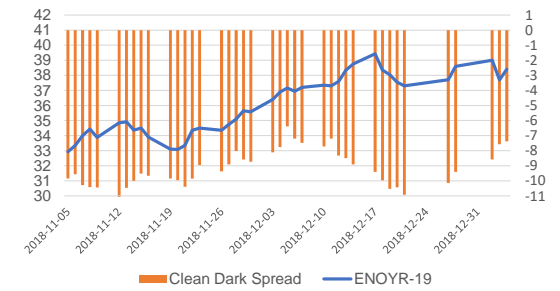
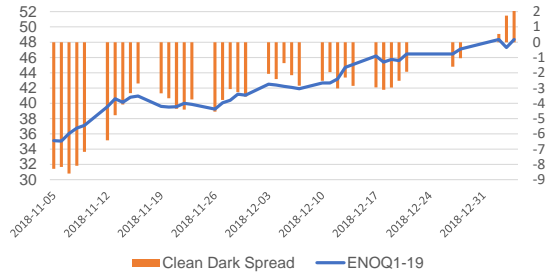
DETERMINANTS AFFECTING THE MARKET ON WEEK 2

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

- Ringhals 2 (904 MW), failure 27.12.-31.3.2019, available 452 MW

Nordic nuclear power plants are currently operating at 96%

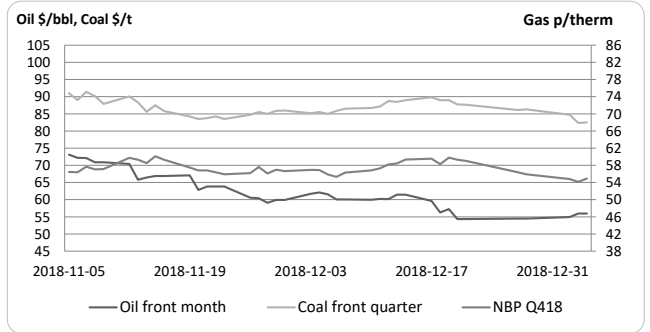
-RU-FI transfer profile varies due to capacity charges, on average imports from Russia last week were 91 % of the maximum.



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 | 49.65 |
| NP Area FI - NP System  | 5.50  | 3.10  | 6.40  | 8.70  | 5.54  | 3.78  | 2.81  | -2.16 |
| NP Area SE1 - NP System | 0.50  | 1.10  | 1.80  | 0.20  | 2.04  | 1.43  | 0.24  | -3.81 |
| NP Area SE2 - NP System | 0.60  | 1.10  | 1.80  | 1.00  | 2.04  | 1.43  | 0.24  | -3.81 |
| NP Area SE3 - NP System | 1.10  | 1.40  | 2.00  | 1.00  | 2.33  | 1.83  | 0.55  | -2.92 |
| NP Area SE4 - NP System | 3.00  | 1.80  | 2.30  | 1.90  | 2.62  | 2.77  | 2.37  | -2.12 |

\*Average for period between 1.1.2019-7.1.2019.



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Source for data: intStream, Tilastokeskus

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