

NORDIC ELECTRICITY MARKET

25.3.2024 Eerik Ekström, Gasum Portfolio Services Oy

WEAK WIND TO START THE WEEK, STRIKE IMPACTS GROWING

| Forecast for the week 13: | |
|------------------------------|--------------------|
| Base Quarter Q2-2024 | ↗ Bullish (> 2 %) |
| Year product Front year 2025 | ↗ Bullish (> 2 %) |
| NP System | ↔ Sideways (± 2 %) |
| NEDEC 2024 | ↔ Sideways (± 2 %) |

FORECAST FOR THE WEEK 13

POWER FUTURES

Weather forecasts grew warmer and damper to start the week compared to Friday's outlook, with some of this having recovered in the first forecast update of the day. Wind power production is expected to fluctuate on both sides of normal, but today and tomorrow will be very weak both in the Nordic countries and in Finland. As strikes continue in Finland, several industrial actors have announced cuts in electricity consumption, which in turn will reduce price pressure. Today, fuels, emission allowances and German electricity have been gaining strongly.

Front quarter

The improvement in the hydro balance outlook to -10 TWh and the reversal of the downward trend seen in Friday's outlook are factors lowering the price level. In addition, in the longer-term weather forecast, the around 2C cooler-than-normal weather in late April has slightly normalized and is now only about 1C cooler than usual. With today's increase, we expect a bullish outlook for the Q2 product in the range of €35-€45/MWh, a breakthrough of the €40/MWh level would continue the technical uptrend that started at the end of February.

Annual products

We expect year products to be directly supported by fuels and German prices. We do not expect any significant changes in the economic outlook compared to a week ago, and in Germany, for example, continued soft industrial demand at the same time as continued growth in renewable production may reduce energy demand, pushing prices down. For the front year, gas availability seems strong, with stocks expected to start rising from a level of almost 60% in the next few weeks. The uncertain geopolitical and global economic situation may pose threats to price development, but on the other hand, in the long run, climate ambitions and the investment costs of new, emission-free production capacity and regulating capacity require the price of electricity to remain high. We expect bullish development for 2025-2027, in the range of €38-€43/MWh for the next week, with greater uncertainty in the years after that.

SPOT MARKET

On the spot market, very weak, and according to some forecasts, significantly lower, wind power production at the beginning of the week will increase the price, while in Finland cuts in industrial consumption due to strikes and the warmer than usual weather from Wednesday onwards will reduce price pressure. In addition, with Forsmark 3 being fully operational, with only Olkiluoto 3 will nuclear power generation capacity be in full use in the Nordic countries, and flow rates are expected to increase slightly from the end of the week. Overall, we expect last week's price level to average last week's level this week, with significant volatility continuing to occur.

EMISSION ALLOWANCE

The outlook for manufacturing, which is significant for the emission allowance market, was illustrated by slightly weaker-than-expected purchasing managers' indices for manufacturing, as the outlook for the services improved. The position of investment funds has continued to be short, although it has started to be cut. Short-term demand in heating use is weakening, and moderate wind power production in Germany will also contribute to reducing the need for combustion. Compared to recent years, the difference to development in March is that the deadline for surrendering allowances has been pushed back to September, while the reporting obligation remains in March. As a result, natural demand may not move until September. We expect investment funds to wind down their positions before this, triggering an upward trend. We expect horizontal movement for the following week between €59-€70/t for the DEC24 product, with prices increasing from the previous range.

MARKET SIGNALS

| | spot | Q2-2024 | 2025 |
|--|------|---------|------|
| Hydrologic balance development | | ↓ | → |
| Precipitation forecast | ↓ | → | → |
| Temperature forecast | ↓ | → | → |
| Spot | | → | → |
| Production and transmission exch. | ↓ | → | → |
| Economic outlook & EUA | → | → | ↑ |
| Coal and Natural Gas fired production costss | ↑ | ↑ | ↑ |
| German prices | ↑ | ↑ | ↑ |
| Technical analysis | | → | → |

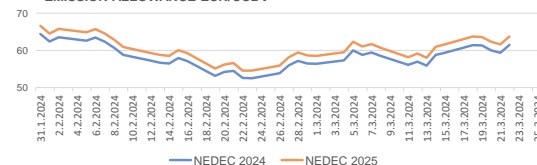
| Product | Date | Value | % chg weekly | Chg (EUR) |
|-----------------|-----------|-------|--------------|-----------|
| 1st Q: Q2-2024 | 22.3.2024 | 37.35 | 2.9 % | 1.05 |
| 2nd Q: Q3-2024 | 22.3.2024 | 32.10 | 0.3 % | 0.10 |
| 3rd Q: Q4-2024 | 22.3.2024 | 47.25 | 1.6 % | 0.75 |
| Q1-2025 | 22.3.2024 | 62.15 | 0.8 % | 0.50 |
| Front year 2025 | 22.3.2024 | 39.00 | -0.1 % | -0.05 |
| 2026 | 22.3.2024 | 37.85 | 0.3 % | 0.10 |
| 2027 | 22.3.2024 | 40.05 | -1.1 % | -0.45 |
| 2028 | 22.3.2024 | 42.75 | 0.0 % | 0.00 |
| 2029 | 22.3.2024 | 42.75 | 0.6 % | 0.25 |
| NEDEC 2024 | 22.3.2024 | 61.50 | 3.6 % | 2.12 |
| NEDEC 2025 | 22.3.2024 | 63.76 | 3.4 % | 2.12 |

EPAD settlements

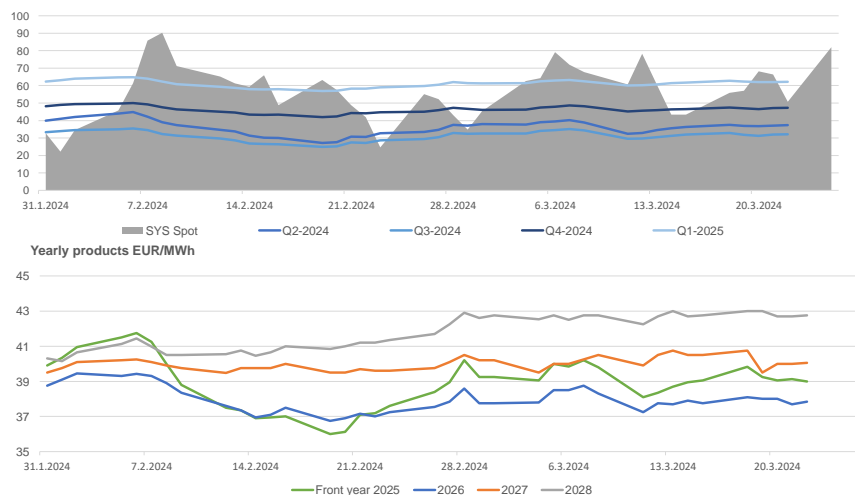
| | 22.3.2024 €/MWH | 2025 | 2026 | 2027 |
|-----------------|-----------------|--------|--------|-------|
| FI - NP System | | 4.50 | 1.90 | 0.20 |
| SE1-NP System | | -12.40 | -12.70 | -9.40 |
| SE2 - NP System | | -12.40 | -12.70 | -9.40 |
| SE3 - NP System | | -5.30 | -2.93 | -1.10 |
| SE4 - NP System | | 5.90 | 6.51 | 7.50 |

| SPOT week average: | | 11 | VS. | 12 |
|--------------------|----------|-------|-----------|----------|
| Product | Week avg | % chg | Chg (EUR) | Week avg |
| SYS Spot | 54.23 | 2 % | 0.99 | 55.22 |
| FI Spot | 49.53 | 13 % | 6.44 | 55.97 |
| SE1 Spot | 44.93 | 10 % | 4.57 | 49.50 |
| SE2 Spot | 44.93 | 10 % | 4.57 | 49.50 |
| SE3 Spot | 46.34 | 22 % | 9.97 | 56.31 |
| SE4 Spot | 51.93 | 25 % | 12.88 | 64.80 |

EMISSION ALLOWANCE EUR/CO2 t



QUARTILE PRODUCTS AND NORDIC SYSTEM PRICE EUR/MWh



COMMENTS ON WEEK 12 DEVELOPMENT

POWER FUTURES

The hydro balance forecast deteriorated slightly during the week from -10 TWh to approximately -12 TWh compared to normal. Maintenance of Forsmark 3 completed, sentiment and economic figures for Europe and the United States broadly provided an outlook for growing prospects, except for European manufacturing. Strikes continued in Finland, and based on market releases Fingrid estimates that consumption has fallen by at least 600–650 MW, and in addition to official UMM messages, several cuts have been announced publicly.

Front quarter

The week for the near quarter was fairly horizontal, with the price peaking at a level of €38.5/MWh on Tuesday and hitting a low at €35.8/MWh on Thursday. After Monday's bullish opening, the movement was similar to that of the next year, which in turn gained direction last week from the general development of condensate production costs.

Annual products

The week for the 2025 product was also horizontal, with the week's highest price seen on Monday at a level of €40.25/MWh, the lowest on Friday at €38.6/MWh. The price development of other year products was more horizontal, the 2027 product first saw a strong rise to a level of 42 on Monday with small daily volumes of 2 and 1 MWh, retreating back to €40/MWh during the day, and on Tuesday the retreat continued, only to recover on Wednesday. Of the year products, only the 2025 and 2026 products closed at a level south of €40/MWh on Friday, the 2027 product at around €40 /MWh and year products from 2028 onwards were priced between €42.75-€43.8 /MWh.

SPOT MARKET

Last week, wind power production in the Nordic countries was strongest on Monday and Friday, weakest on Wednesday and Thursday, with even the weakest times of the week remaining above 2 GW and the highs briefly exceeding 18 GW on Monday. Correspondingly, production in Finland weakened during the course of the week and Thursday saw very little wind, especially at midday, which pushed prices clearly higher than the system price. Otherwise, the Finnish area price fluctuated on both sides of the system price, with night hours remaining below it and, correspondingly, day hours becoming much more expensive on many days. The highest productions of solar power production were seen on Monday with an average output of just over 450 MW/hour, with the rest of the week varying on both sides 200 MW at peak hours. Correspondingly, in the Nordic and Baltic states, the level of peak hours varied between 1.8-2.9 GW, while daily production varied between 12-20 GWh. Flow rates fluctuated more strongly than usual.

EMISSION ALLOWANCE

In last week's CoT, investment funds continued to cut their net short position by about 7 million tonnes, with the net position still hovering around 29.57 Mt. The bid-cover ratio was close to the early year average of around 1.7, with the lowest bid hovering around €55/t. The DEC24 product continued the technical uptrend that started at the end of February, with previous lows at levels of around €53, €55 and €59/t.

DETERMINANTS AFFECTING THE MARKET ON WEEK 13

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Olkiluoto 3 (1600 MW), yearly maintenance 1.3.2024-15.4.2024, in use 0 MW

FI-EE EE-FI (1016 MW), fault 25.1.-31.8.2024, in use 358 MW

SE1-FI (1500 MW), maintenance 30.11.2023-1.3.2025, 2.3.-8.4.2024 in use 1500 MW

FI-SE3 (1200 MW), maintenance 26.2.2024-19.12.2024, in use 800-1200 MW

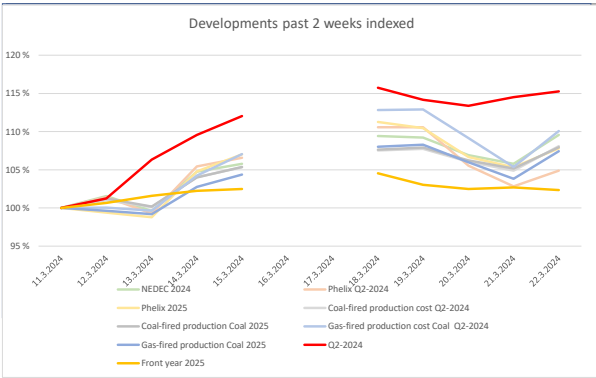
- Nordic nuclear power plant utilization capacity was this morning (Monday) 87%

- RU-FI transmission has been out of use since May 2022 because of payment transaction issues, average imports from Russia last week were 0% of the maximum

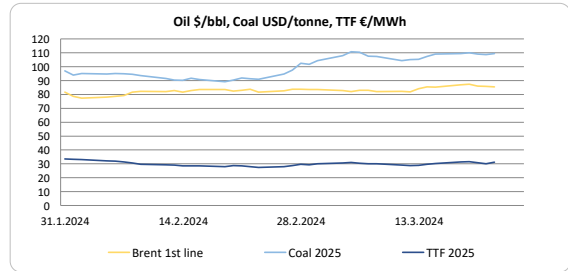
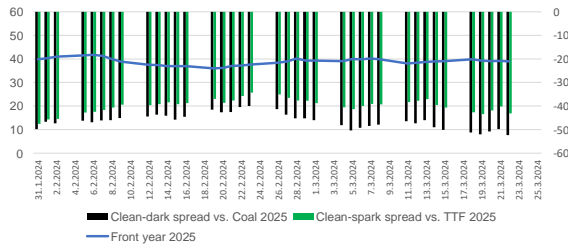
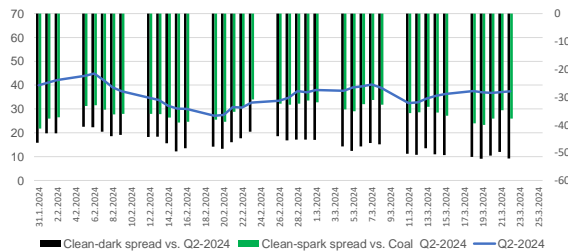
SPOT AVERAGES AND EPADS

| Price area (€/MWh) | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024* |
|-------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| NP System | 26.91 | 29.41 | 43.99 | 38.94 | 10.93 | 62.31 | 135.86 | 56.44 | 59.09 |
| NP Area FI - NP System | 5.53 | 3.78 | 2.81 | 5.10 | 17.09 | 10.03 | 18.18 | 0.03 | 15.56 |
| NP Area SE1 - NP System | 2.04 | 1.43 | 0.24 | -1.00 | 3.46 | -19.82 | -76.80 | -16.47 | -10.52 |
| NP Area SE2 - NP System | 2.04 | 1.43 | 0.24 | -1.00 | 3.46 | -19.76 | -73.92 | -16.47 | -10.44 |
| NP Area SE3 - NP System | 2.32 | 1.83 | 0.55 | -0.58 | 10.26 | 3.69 | -6.66 | -4.74 | -1.70 |
| NP Area SE4 - NP System | 2.62 | 2.77 | 2.37 | 0.86 | 14.94 | 18.21 | 16.24 | 8.44 | 2.25 |

*Average of 1.1.2024-26.3.2024.



| Forecast history | 12 | Chg | 11 | Chg |
|------------------------------|----|---------|----|----------|
| Base Quarter Q2: 2024 | ↩ | 2.89 % | ↗ | -6.68 % |
| Year product Front year 2025 | ↗ | -0.13 % | ↩ | -1.88 % |
| NP System | ↗ | 16.68 % | ↗ | -35.80 % |
| NEDEC 2024 | ↩ | 3.57 % | ↩ | 1.42 % |



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Source for data: Gasum, Tilastokeskus

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