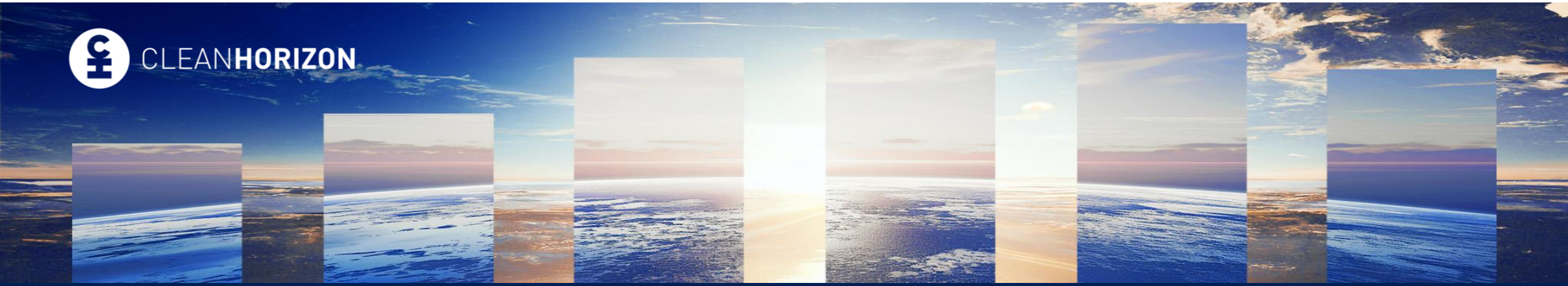


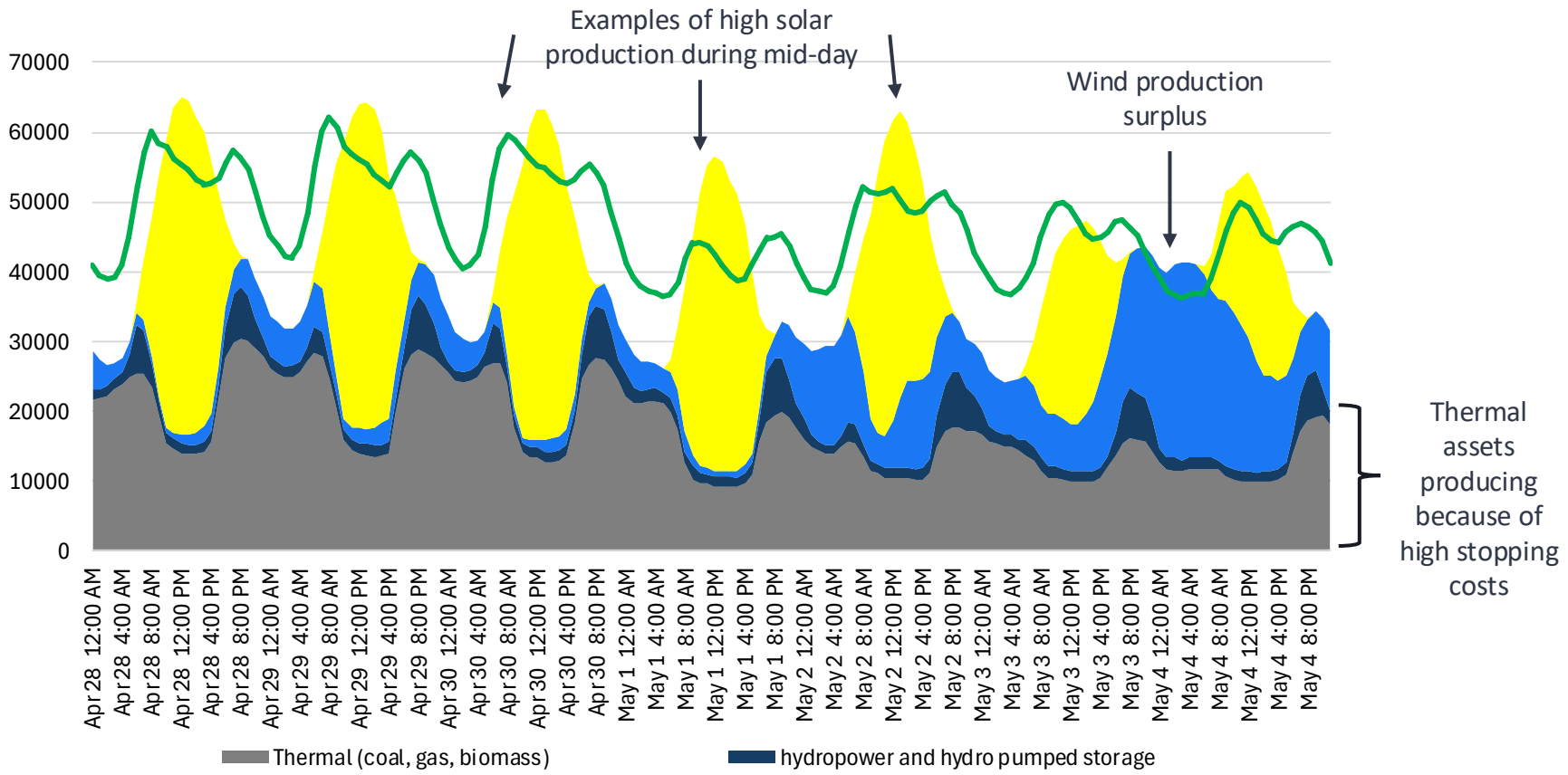
Negative day-ahead prices context in Germany

What are the future trend regarding negative prices occurrences on the day-ahead ?

In Germany, high surplus of production is coming from renewable production but also from unflexible thermal assets

Production versus Load in week 18 2025 (April 28 to May 4) in Germany

In MW



Negative prices occur when electricity supply exceeds demand and export capacity, typically due to high renewable output and non flexible thermal generation.

Renewables may bid negative prices because of support schemes guaranteing revenues for each MWh injected, while thermal plants keep running to avoid high shutdown costs.

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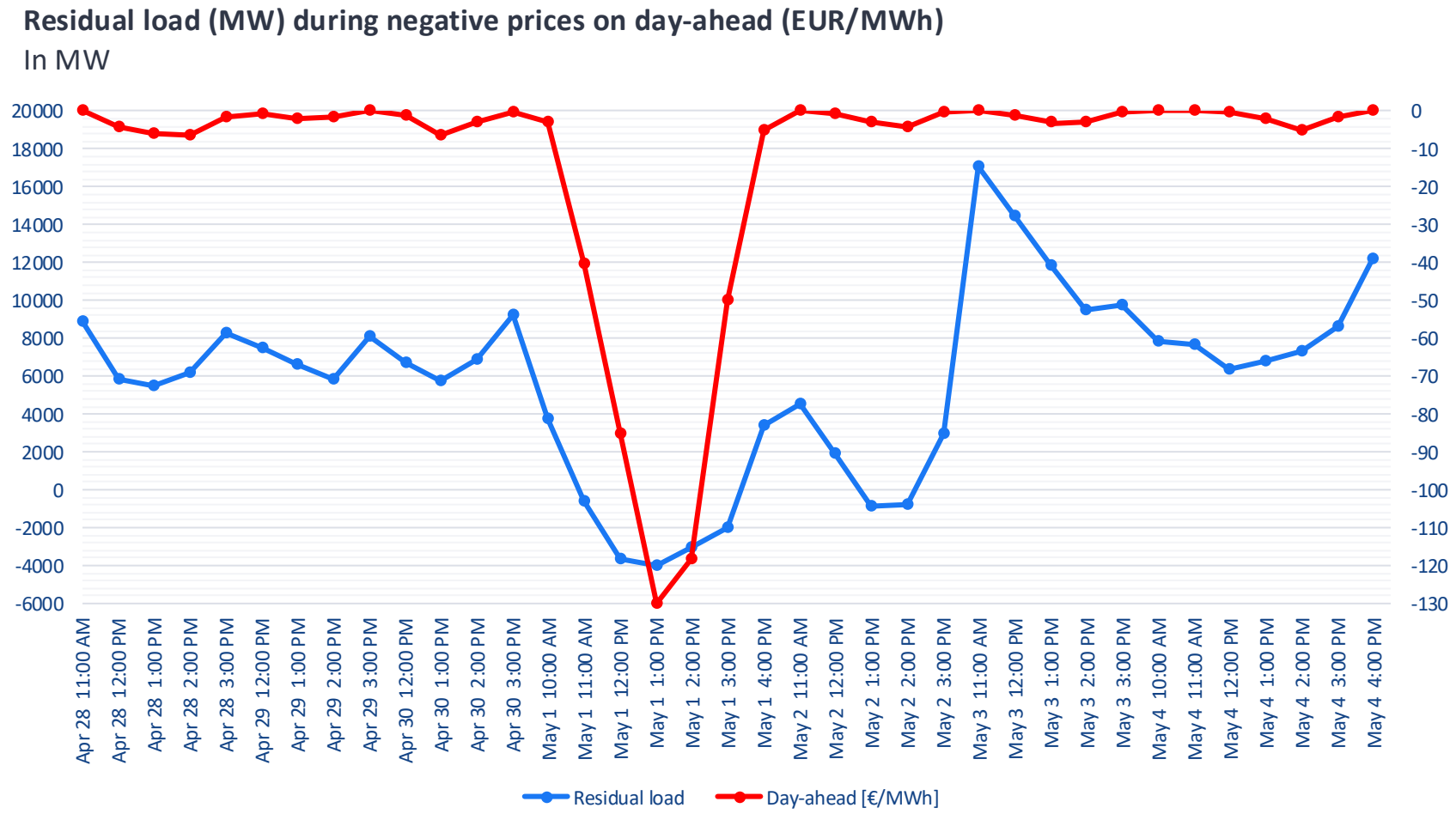
The status of negative prices

As a result, negative prices can occur even before renewable production alone fills demand and export capacity.



Zooming only on the negative day-ahead prices from April 28th to May 4th 2025, we can analyse the conditions that resulted in those.

The Residual load – defined as the actual load minus the solar production and the wind production - is a **key metric to understand day-ahead tendency.**

When renewable production highly exceeds the load (and export capacity) the residual load is negative and it results in a negative price. It was the case on May 1st at midday.

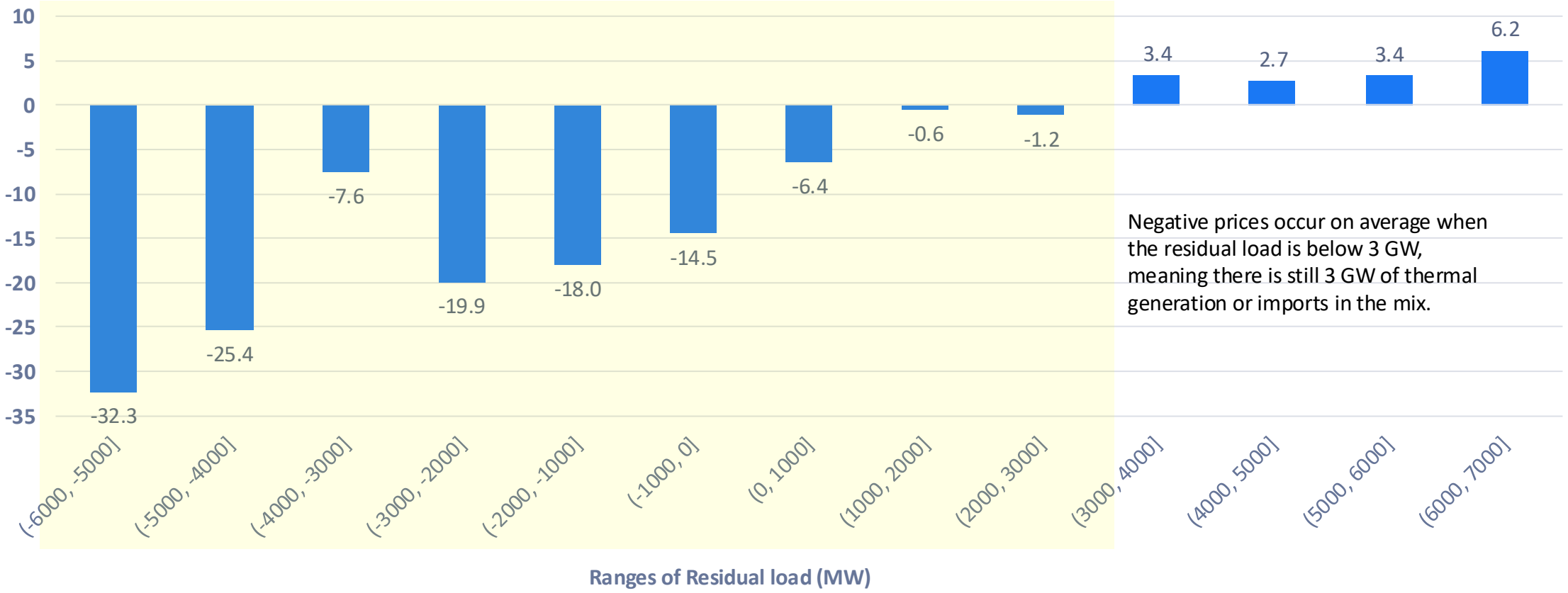
But, interestingly, most negative prices occur even when renewable production does not meet the entire electricity demand that is to say even when residual load is positive.

A residual load as high as 17.4 GW (on May 3rd) can still result in a negative day-ahead price.

On the full year 2025, day-ahead prices were in average negative when residual load was lower than 3 GW.

Average day-ahead prices in 2025 in Germany (EUR/MWh) given different residual load ranges

In MW



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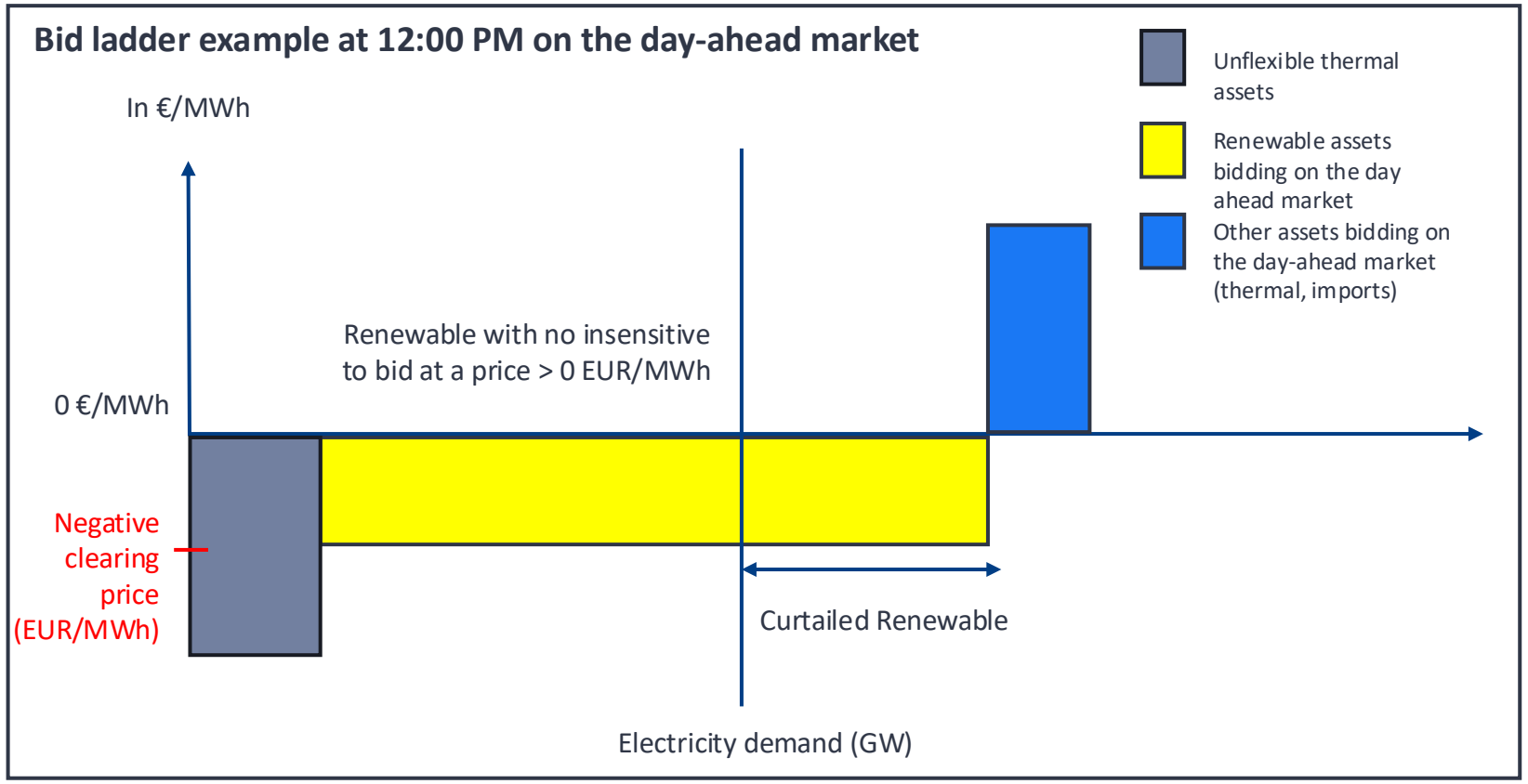
What’s next?

In a non-regulated case with subsidized renewable, negative prices keep rising as renewable capacities are built …



If solar and wind capacities continue to expand and there are no incentivize to bid at 0 EUR/MWh (or positive prices), negative prices will become more and more frequent.

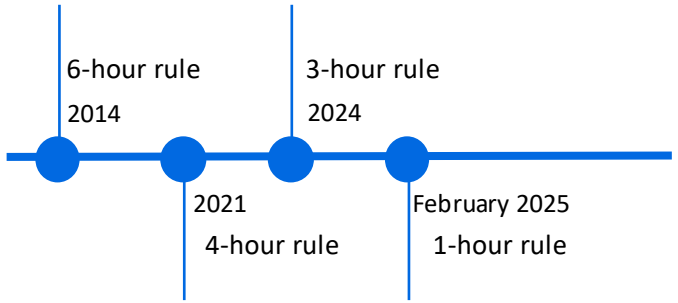
Conditions creating negative prices would be:

- All renewable assets can bid at a negative price or theoretically down to X-subsidy price
- Thermal power plants that are inflexible or have significant shutdown costs also bid at negative prices
- Imports from other countries are potentially bidding at negative prices

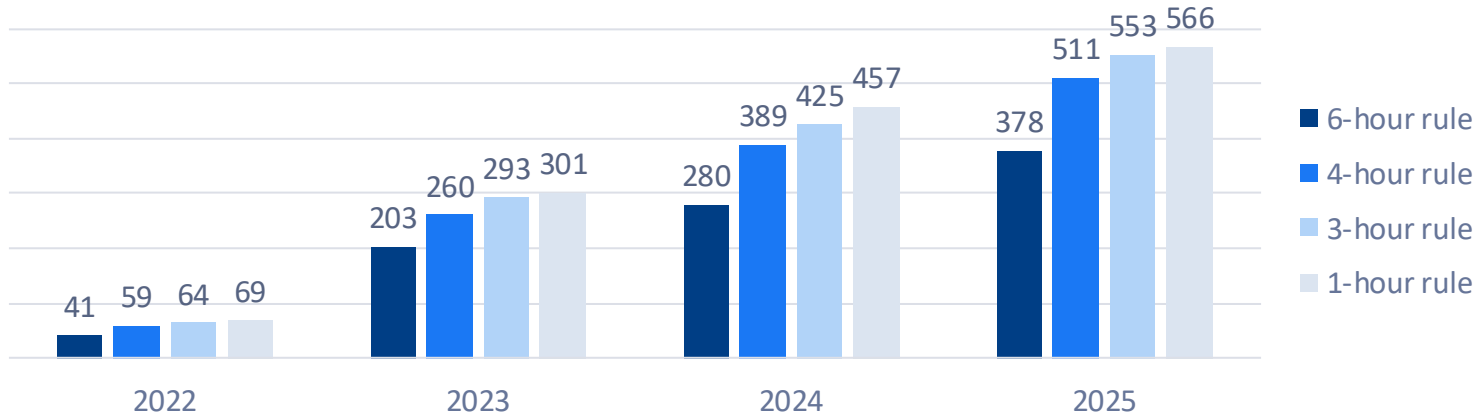
The curtailment of renewable energy will concern a portion of all renewable assets.

Assets awarded under the EEG scheme after February 2025 will not bid at negative prices anymore

Evolution of the EEG scheme regarding subsidy reduction in event of consecutive negative hours on the day-ahead market



Number of times subsidy would be reduced to 0 EUR, depending on negative-hour rule



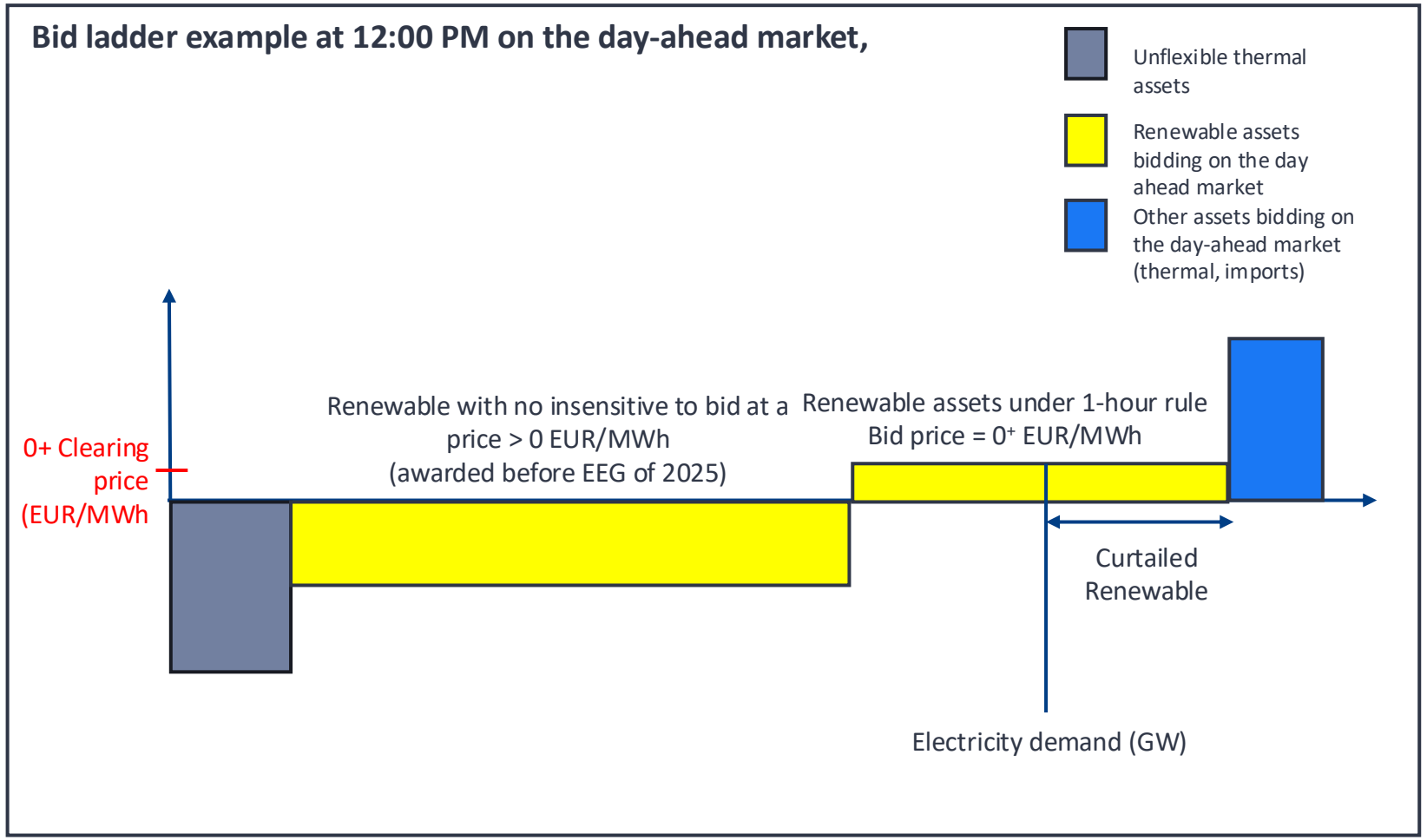
The Erneuerbare-Energien-Gesetz shorten as EEG is the German scheme that frame the auction volumes and subsidies for renewable assets such as solar, wind, biomass, combined storage and renewable etc.

The article 51 has been amended multiple times since the introduction of the EEG scheme to modify the rule regarding subsidy payment during period of negative hours on the day-ahead market.

Initially, the subsidy was reduced to 0, when 6 consecutive negative hours were observed. This rule was progressively changed to 4 consecutive hours, then 3 consecutive hour.

Last year marked a shift, in which the amendment in its version of February 2025 (often referred as Solar Peak Act) changed the rule to the suspension of subsidy for every negative hour. This version also included the application of this rule for the change to 15-minutes product on the day-ahead, where a calendar hour is considered negative if the arithmetical sum of the four 15-min prices is negative.

As more assets are incentivized to bid at positive prices and as demand grows, number of negative prices will eventually decrease



With evolution of the regulation, new renewable assets awarded under the EEG scheme of February 2025 will not bid at negative prices anymore.

Conditions creating negative prices will then be :

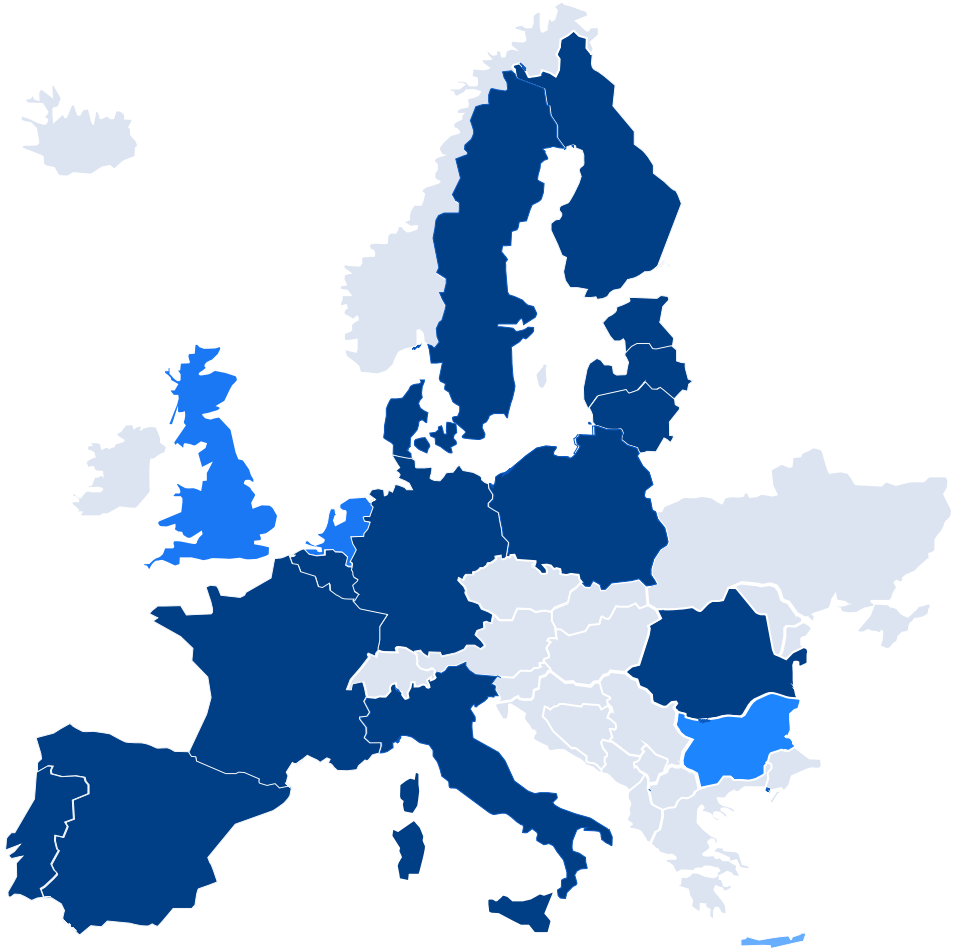
- Existing renewables with no contract changes continue to bid at negative prices
- Residential solar of small sizes, not equipped with smart meters, will continue to bid at negative prices
- Thermal power plants that are inflexible or have significant shutdown costs will keep bidding at negative prices
- Imports from other countries are potentially bidding at negative prices

The curtailment of renewable energy will concern a portion of the newly awarded renewable assets.

German forecasts for the Semester 1 2026 update are in preparation !

Clean Horizon forecasts include three scenarios of deployment of renewable capacities and incorporate impact of policies to predict at best as possible markets prices.

Forecasts updates are released twice a year, to keep track of latest policies and market changes.



COUNTRIES COVERED AS OF S2 2025

ROLLING OUT IN 2026

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