Capra Renewables

The Renewables Market and Information Network
Teasers, Data Analytics, News, and Networking

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CapraNews

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Beyond the Curve: New Long-Term Capture Price Forecast (DE/AT, 2027–2050)

A valuation-focused market report for IPPs, developers, investors, and traders

Capra Renewables is pleased to introduce its **long-term electricity price report**, covering wind and solar capture prices in Germany and Austria from 2027 to 2050.

The report has been developed in response to demand for a **transparent and market-consistent framework** to assess long-dated RES revenues.

Our analysis focuses explicitly on **wind and solar capture prices and balancing costs**, reflecting the reality that renewable asset value is increasingly determined by **technology- and regional-specific generation patterns, system flexibility and market structure**.

The study covers the period from 2027–2050 and provides:

- Annual **nominal capture price projections** for wind and solar, with and without balancing costs
- Baseload price trajectories anchored in forward markets
- Projections of **capacity build-out, generation mix, and load evolution**
- Assessment of **storage (BESS), flexibility, and hybridisation impacts**
- Articulation of **key upside and downside risks**

A central theme of the report is the **structural divergence between wind and solar value drivers**: wind remains driven by region-wide supply dynamics, while solar value is dependent on synchronised **intraday price formation and access to flexibility**. The report highlights **structural differences between**

Austria and Germany and how these translate into distinct outcomes.

The modelling framework combines observable market data with policy, infrastructure and technology assumptions, complemented by **Capra Renewables' proprietary price modelling**.

The work builds on over **30 years of power market experience**, spanning machine-learning-based European price modelling, energy trading and (long-term) power transaction structuring.

The result is a **transparent, market-consistent and decision-relevant price outlook**, specifically designed to support:

- Project valuation and investment decisions
- PPA pricing and structuring
- Portfolio risk assessment

For further information, please contact: martink@caprarenewables.com or dereku@caprarenewables.com

Preview: Machine-Learning-Based Negative Power Price Forecasting

Finalising **Capra's machine-learning model to forecast the probability of negative power prices** couldn't be timed any better as spot prices across ten EU countries hit -400 to -500 EUR/MWh on 1 May.

The chart below shows the ex-post forecast of 2025 data using our pre-production model for Germany: **red line** = model predicted probabilities (model has not seen the 2025 actuals for training), **blue line** = actual negative price events in the day-ahead market.

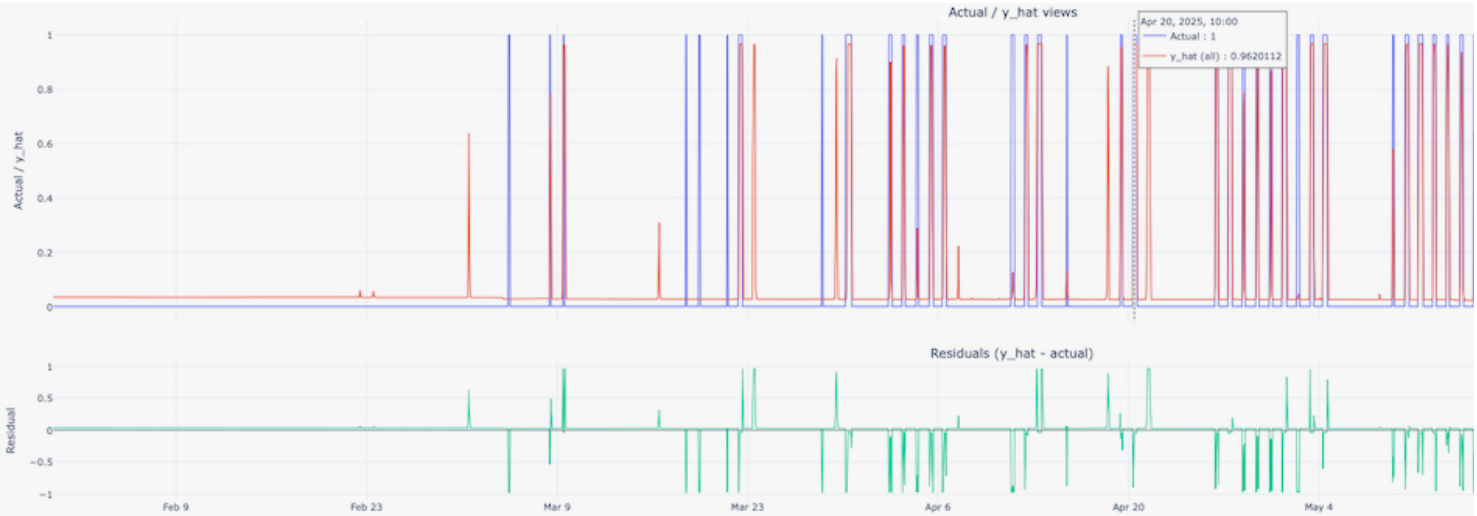
The signal is clear: the model predicts the timing and clustering of negative price events with high precision.

In production, the model will run **four times per day**, incorporating updated weather forecasts, and provide a **rolling 168-hour forward view**.

This enables:

- **Positioning ahead of negative price events**
- **Optimisation of RES, BESS, and hybrid assets**
- **Improved intraday and balancing strategies**

The product along with other power market and RES-related ML tools will be **commercially available shortly**. For early access or additional information, please contact: martink@caprarenewables.com



In case you have missed our Market News Feed in March and April…

All newsfeeds available to members on CapraRenewables.com

Auctions

Policy and auction frameworks remain central to market expansion. The EU and national governments are reinforcing CfD-style mechanisms and capacity schemes to de-risk investments, including Denmark's €5bn offshore wind support scheme. Broader reforms (e.g. UK electricity market changes) aim to stabilise revenues and decouple power prices from gas, while long-term auction visibility is being emphasised to accelerate deployment and financing.

Mentioned Companies and Institutions: *European Commission, EIB, NHOA Energy, UK Government, Danish Government, Terna, Sunprime, Power Capital, Uniper, European Energy*

PPAs

Corporate PPAs remain a key driver of renewable deployment, with strong activity across wind, solar, and hybrid assets. Once again Amazon and Mars have been announcing significant deals, Amazon declaring 9 new PPAs in Australia for 430MW across a range of renewables. Whilst Mars declared a PPA for most of the output from a 161MW wind project in Lithuania.

Mentioned Companies and Institutions: *RWE, Amazon, TfL, SSE Energy Solutions, Axpo, McDonald's, Sonaura, Albéa, Evolve Energy, Shell Energy Europe, SmartestEnergy, OurCoop, Recurrent Energy, Lear, Elawan Energy, Munich Airport, Bulk Infrastructure, Å Energi, Wind Estate, TDC NET, Mars, European Energy*

Wind

Wind developments span new capacity, repowering, and policy support. Activity includes turbine orders, acquisitions, and major offshore milestones (e.g. RWE projects, Danish offshore expansion). WindEurope announced a 10 point plan to accelerate Wind expansion and improve energy security, including a call to repower all turbines >20 years old. Hybridisation with storage seems to be increasing, and corporate demand via PPAs continues to underpin project economics.

Mentioned Companies and Institutions: *RWE, Nordex, Vestas, Enercon, GE Vernova, Boralex, Cloudberry, DWS, PNE Group, VSB, Statkraft, Siemens, Eiffage, WindEurope, Aneo, Downing, TotalEnergies*

Solar

Solar activity has been dominated by large-scale financing, acquisitions, and hybridisation with storage. Significant capital deployment (e.g. Enviromena £1bn UK portfolio, EIB-backed European projects) is accelerating pipelines. There is strong momentum toward co-located solar + BESS and corporate-backed projects, alongside continued consolidation (e.g. Qualitas, Iberdrola).

Mentioned Companies and Institutions: *Schroders Greencoat, Metlen, ib vogt, Highfield Solar, Green Genius, Scatec, BELECTRIC, Severn Trent Green Power, Fortis Renewable Energy, EBRD, Alight, 3Flash, MET Group, Enfinity Global, Eiffel Investment Group, European Energy, BayWa r.e., Lightsource bp, Statkraft, Enel Green Power, Engie, TotalEnergies, EDF Renewables, Iberdrola, RWE.*

BESS

BESS is scaling rapidly across Europe, with significant project pipelines, financing, and commercial innovation. Activity includes multi-GW pipelines (Harmony, Akaysha), large-scale deployments, and hybrid integration with renewables. TotalEnergies also announced a 600MW BESS alongside a 1GW wind project in Kazakhstan. Revenue models included optimisation, tolling, and swaps. Grid services and flexibility markets are key drivers, with increasing investment, partnerships, and government-backed frameworks accelerating deployment.

Mentioned Companies and Institutions: *TotalEnergies, AllianzGI, ENGIE, Harmony Energy, Akaysha Energy, Copenhagen Energy, Nuvve, OMNIA Global, Sungrow, Delta Capacity, Drax, e-STORAGE, SSE, Münch Energie, Storm, Centrica, Winda Energy, Noveria Energy, TenneT, Form Energy, FuturEnergy Ireland, Grenergy, GridStor, Axpo, Entrix, GridBeyond, Elisa Industriq, Ingrid, Energiequelle, PPC Group, METLEN, Airengy, Enefit, Akuo, Renalfa IPP*

And Finally …

Donut Labs continued disclosures on the independent testing of their recently announced solid-state battery. They have provided independent evidence for a number of their claims but several key claims, notably energy density, remain to be verified. This month they also announced that a new higher performance cell has already been developed and would be in production this year. The detailed data can be found on their website I Donut Believe - Presenting Third Party Results.