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Teasers, Data Analytics, News, and Networking

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Germany's Solar-Storage Flywheel is Accelerating - Bringing the End of the Traditional Utility Model Closer

Dear Readers, we continue our series of by-product analysis of the vast amount of structured data we gather as part of our machine learning program: Germany's latest build-out data (Bundesnetzagentur) underscores how RES and BESS are accelerating to reshape the power market, intensifying the predicted structural challenge to the traditional utility model. With large amounts of solar and storage deployed together at household level, generation and balancing are decentralising simultaneously and at scale. The utility value pool is shifting away from bulk MWh production towards aggregation, optimisation, and mid- to long-term flexibility (though it remains questionable how the latter can effectively be monetised). For utilities built around large-scale generation fleets, the pressure is no longer cyclical; it is systemic.

Between Jan 2025 and Jan 2026 Germany added

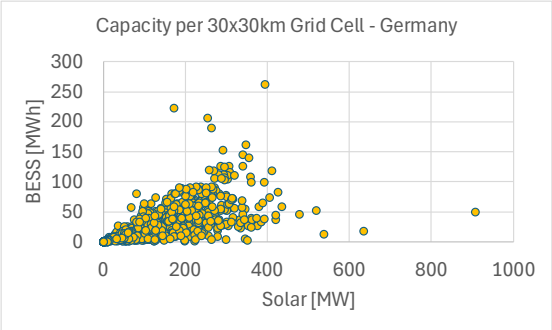
- 15.8 GW of solar PV (DC),
- 5.7 GW of wind total
- of which 600 MW offshore
- and 6.1 GWh of battery storage.

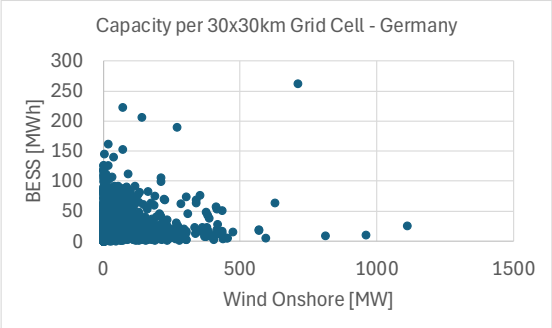
71% of new BESS was installed by households. Overall, about 80% of all existing BESS (excl. EV) is installed by households with utilities slowly catching up. New installations bring total RES capacities in Germany to:

- Solar 118 GW (DC),
- Wind-Onshore 68 GW,
- Wind-Offshore 10 GW,
- BESS excl. EV 25 GWh.

On the surface, 6.1 GWh may appear small relative to nearly 16 GW of new solar capacity. But the impact will be disproportionately large, both in terms of slowing solar capture price cannibalisation, and destroying the morning / evening price peaks.

To produce the following graphs, we have sliced up Germany into approximately 30 x 30 km squares and identified solar, wind and BESS capacity in each of those squares.





The solar-BESS scatter plot shows a clear spatial coincidence: locations with high solar penetration tend also to have high storage capacity. The wind-BESS relationship is not just weaker, it is reversed with high BESS capacity in places with low wind capacity and vice-versa. This reflects a structural coupling of rooftop PV and 'garage' batteries. In Germany, storage is largely deployed as a direct companion to distributed solar not as a standalone grid asset. The real extent of co-locating is actually much more significant, as larger EV batteries are not included in the analysed BESS figures.

A simple comparison is instructive. Sixteen gigawatts of new solar producing at peak for one hour equals 16 GWh of energy. Germany's new storage can absorb around 35-40% of that. In practice, with solar annual capacity factors in Germany at 10-15%, the effective mitigation of midday surplus is much larger than the peak PV vs BESS capacity figures suggest.

Crucially, this storage is highly distributed and co-located with PV generation and load. Household batteries absorb rooftop overproduction before it reaches the grid, reducing local as well as national RES export peaks, dampening wholesale oversupply during the most cannibalised hours, and reducing grid demand in the daily shoulder hours. Rather than merely softening cannibalisation, distributed storage is now materially slowing it, in part by reducing shoulder-hour residual grid demand. This summer we will see if the solar cannibalisation trend is even reversed.

The broader implication for the industry is structural. As households pair PV and batteries at scale, they internalise both production and balancing. The share of the pie left for large generators in serving residual demand and balancing is getting smaller. In this environment, competitive advantage shifts toward intelligent aggregation and pricing of distribution: an Octopus-style model focused on orchestrating millions of distributed assets rather than maximising output from central plants.

Germany's 2025 RES/BESS capacity additions underline the accelerating energy transition process: renewables and batteries are making the traditional utility model obsolete even faster than predicted.

Become a member of Capra Renewables to see in real-time how wind and solar price cannibalisation evolves across Europe. Membership is free for the first two users per organisation.

In case you have missed our Market News Feed in February...

All newsfeeds available to members on CapraRenewables.com

Auctions

February was marked by major CfD activity in the UK. The UK's AR7a round awarded 4.9 GW of solar PV across 157 projects at ~£65.23/MWh, alongside 1.3 GW of onshore wind, while AR7 offshore awards took total contracted capacity to around 14.7 GW. In Romania, Scatec reached financial close on its 190 MW Dobrun & Sadova solar portfolio backed by a 15-year national CfD, with additional EU Modernisation Fund loan support confirmed during the month.

Companies mentioned: *UK Government, Grenergy, Scatec, additional EU Modernisation Fund, Opcom*

PPA's

There was significant corporate and utility PPA activity across solar, wind and hybrid portfolios. February included additional long-term solar PPAs supporting Southern European PV assets reaching commercial operation, alongside structured offtake arrangements linked to co-located solar and BESS projects. Engie, Lightsource bp and TotalEnergies featured in utility-scale offtake coverage, while Amazon, Google and Mars were referenced in corporate renewable procurement agreements. Shell Energy and Centrica appeared in structured supply arrangements, and EDF Renewables, Iberdrola, Statkraft and European Energy were cited in relation to contracted solar portfolios.

Companies mentioned: *RWE, Amazon, Lidl GB, EnBW, Google, Axpo Iberia, Grupo Enhol, Uniper, NKT, EDF Power Solutions UK, BAE Systems, NatWest, Eurowind Energy, Rockwool, Hekla Energy, BXF Energia, NTR, Almac, TotalEnergies, Airbus, Sysco GB, Shell Energy Europe, Engie, Lightsource bp, Centrica, EDF Renewables, Iberdrola, Statkraft, European Energy, Mars.*

Wind

Onshore and offshore wind activity included asset sales, repowering and project setbacks. Ørsted agreed to sell its European onshore wind, solar and BESS portfolio (578 MW operational plus pipeline) to Copenhagen Infrastructure Partners for €1.44bn. European Energy divested the 5.56 MW Henglarn onshore wind project in Germany to DaVinci Energy. ACCIONA Energía completed repowering of the 84.4 MW Tahivilla wind farm in Spain, increasing output to 254 GWh annually. The Scottish Government refused consent for CWP Energy's 432 MW Scoop Hill wind project. Turbine manufacturers Vestas, Siemens Gamesa and Nordex were referenced in supply and installation activity supporting both new-build and repowered sites.

Companies mentioned: *Ørsted, Copenhagen Infrastructure Partners, European Energy, DaVinci Energy, ACCIONA Energía, Scottish Government, CWP Energy, SSE Renewables, RWE, Iberdrola, Enel Green Power, Vestas, Siemens Gamesa, Nordex.*

Solar

Solar development and financing remained active across Europe and beyond. Schroders Greencoat agreed to acquire a 283 MW UK solar portfolio from Metlen, while ib vogt divested a 272 MWp Irish portfolio developed with Highfield Solar. Green Genius commissioned a 120.8 MW solar park in Latvia, and Scatec began construction of its 190 MW Romanian portfolio. BELECTRIC secured a 210 MWp UK EPC contract with Severn Trent Green Power, and Fortis Energy signed a mandate letter with EBRD for a 270 MWp solar + 72 MWh BESS project in Serbia.

Companies mentioned: *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 deployment, optimisation and financing continued across Europe. Drax signed a 10-year tolling deal for a 250 MW/500 MWh project at West Burton C with Fidra Energy. Iberdrola secured €44m for 160 MW of Polish BESS, while Hertz 1 (100 MW/200 MWh) began operations in Estonia with backing from EBRD, NIB and Edmond de Rothschild AM. Large-scale financings included Grenergy's US$355m for its 398 MW/1.4 GWh Chilean solar-plus-storage platform and BNP Paribas' strategic partnership with Eclipse (850 MW pipeline). Manufacturing and supply chain commitments included Sungrow's planned 12.5 GWh Polish BESS factory and Nidec Conversion/Rolls-Royce's role in Ignitis Group's 291 MW/582 MWh Lithuanian programme. Further construction milestones were reported by Neoen (Germany), Wärtsilä (Belgium), Fu-Gen/Nala Renewables (Finland), and optimisation agreements by Gen-I (Romania) and Capalo AI (AI-driven BESS trading).

Companies mentioned: *Drax, Fidra Energy, Iberdrola, Hertz 1, Corsica Sole, Evecon, Mirova, EBRD, Nordic Investment Bank, Edmond de Rothschild Asset Management, Grenergy, BNP Paribas, Eclipse, Sungrow, Nidec Conversion, Rolls-Royce Power Systems, Ignitis Group, Neoen, Wärtsilä, Fu-Gen, Nala Renewables, Gen-I, R-Power, Capalo AI, Heartcore Capital, Tesi, Gresham House Energy Storage, Harmony Energy, Zenobē, EDF Renewables, Engie, SSE, Fluence, Statkraft.*

And Finally ...

Donut Labs made their first disclosures on the independent testing of their recently announced solid state battery. This initial set of announcements only disclosed information relating to charging rates which looked to be directionally similar to their original claims with charging times of as little as 4.5 minutes. The detailed data can be found on their website I Donut Believe - Presenting Third Party Results. The company have stated they will be publishing additional test results in the near future.