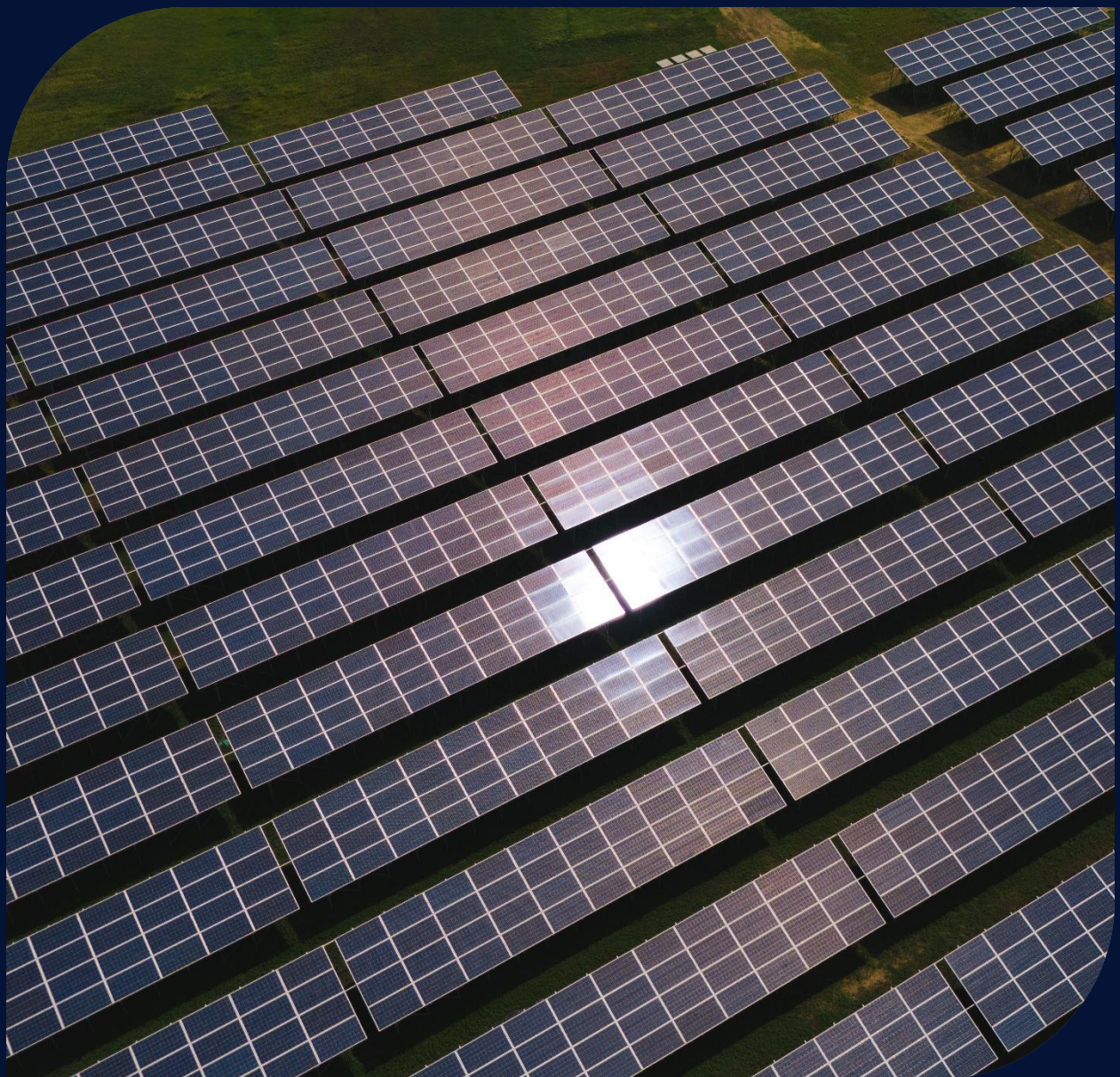




200 Days After the “One Big Beautiful Bill” – Renewables Apocalypse or Business as Usual?

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Before One Big Beautiful Bill Act (OB3) was signed into law in July 2025, forecasts about its consequences diverged sharply. Some predicted a collapse in wind and solar construction as the date for tax incentive expiration was moved forward and conditions made more stringent.¹ Others, veterans of the industry's cyclical history, expected another "solar coaster" moment defined by notable dips and accelerations based on policy deadlines and uncertainties. A third camp argued that tariffs and stricter incentive eligibility mechanics would force long-awaited reshoring of supply chains.

Two hundred days (or so) after the passage of OB3, America's renewable energy industry looks neither triumphant nor devastated. While some subsectors of the "energy transition" were indeed severely impacted (e.g., most dramatically clean hydrogen and EVs, but also wind), and a few others benefited (nuclear, CCS and geothermal), the most significant subsectors from a capital deployment and generation capacity perspective, solar PV and storage, have generally retained their momentum. The impact on these sectors has been similar to previous waves of investment tax credit cancellations and reinstatement and fluctuating tariffs, with compression of equipment procurement and construction to meet cutoffs.

As discussed in greater detail below, beyond the familiar saw-tooth pattern of capacity additions across most PV and storage segments (with residential as a partial exception), the sector appears to be undergoing a "high-grading" in interconnection queues and in the quality of projects receiving financing. Renewable and storage capacity withdrawals surged more than 200% in both PJM and SPP. Average "in-construction" solar asset valuation doubled to nearly \$1.7 million per MW compared to the first half of 2024, while "construction-ready" projects traded at a 13% discount over the same timeframe.

Project returns overall are being compressed by costs outpacing price increases. For example, utility-scale project capex increased 10–14% while PPA pricing rose 9% year over year. But this has not yet resulted in a wave of failures or dramatic mergers. Changes in industry structure have been subtle at most. Industry consolidation remains widely anticipated, but bid-ask spreads remain high as many investors who made investments during the height of the market earlier this decade appear unwilling to realize losses, and few outright bankruptcies have occurred (yet).

The development of a domestic supply base for PV and BESS that some expected, through maintaining IRA tax incentives for domestic production and significantly tightening domestic content restrictions, also remains mostly unrealized. Solar modules show the clearest progress, with imports falling 46% in 2025 and domestic assembly capacity exceeding 67 GW, but plants operated at only approximately 29% utilization in 2024 and costs remain up to 2x China free on board (FOB) pricing. Upstream dependence persists across both sectors, with solar cell imports rising 55% (vs. approximately 3 GW of domestic capacity) and battery cell imports increasing 18%, with China still supplying approximately 84% of volumes despite substantial announced capacity.

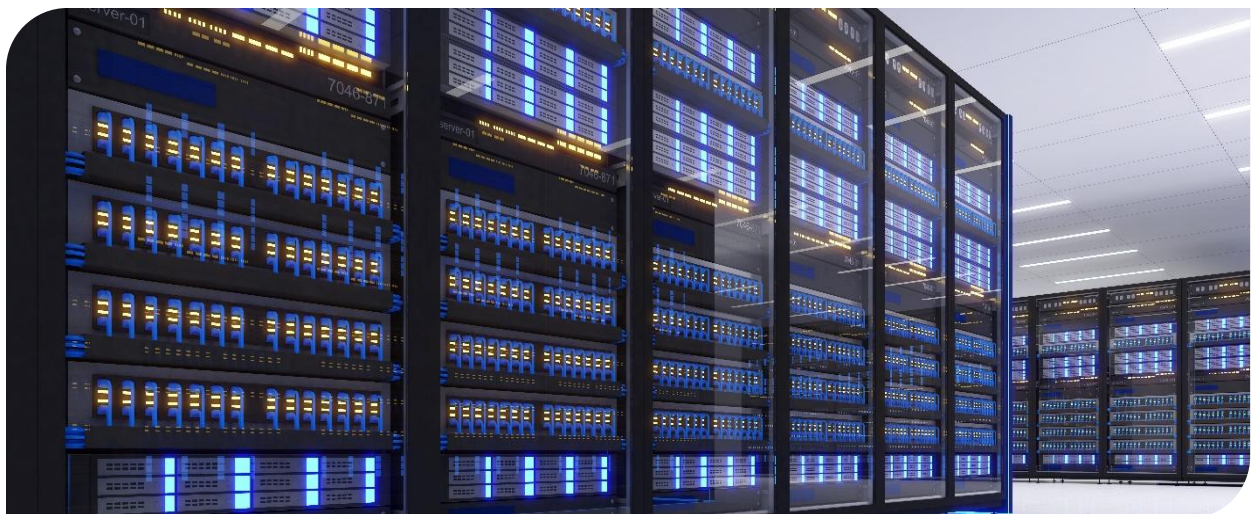
¹ Specifically, concern about a potential "2027 installation cliff" in solar and wind development. Under the revised ITC framework, projects that begin construction after July 4, 2026 must be placed in service by the end of 2027 to retain eligibility. This creates a narrow development window that could reshape the cadence of installations across the second half of the decade.

Why have the impacts of this passionately debated piece of legislation been so limited? Most critically, the PV and BESS sectors discreetly won a couple of the most important policy battles around OB3, namely the preservation of the transferability of tax credits and the establishment of adequate “safe harbor” timelines and conditions. Together, these rather esoteric provisions have allowed most larger players to retain access to the tax credits required to protect project economics. Combined with historical declines in PV and BESS costs, these credits continue to make PV and BESS the least costly, immediately available generation choice for many use cases. Thus, most developers believe they will avoid a post-ITC “cliff” (initially 2027 end of year) in installations.

Confidence in the medium-term prospects for the sector, post-ITC, is underpinned by the prospect that a domestic supply base will be in place to mitigate the threat of sustained tariffs or supply disruptions. However, the basis for this optimism is unclear. The same cost competitiveness and agility in navigating import tariffs have kept Chinese and ASEAN-based imports, especially of the primary value chain components for PV and BESS, too competitive to permit the development of the complex, capital-intensive supply chains necessary to displace them with domestic supply.

Larger forces are at work too. The most celebrated exogenous factor muting the impact of OB3 has surely been the AI race, with the resulting surge in load growth forecasts and behind-the-meter capacity addition announcements, especially for BESS. On the other hand, the benefits of this renewed electricity demand growth have been mitigated by this administration’s distaste for “decarbonization.” This has led to reduced emphasis on low-carbon data centers, which has made the use of gas-fired generation (especially simple cycle and reciprocating engines) the “no brainer” solution for powering data centers. This same policy environment has led to a series of permitting-related regulations favoring fossil over renewable generation, especially on public lands.

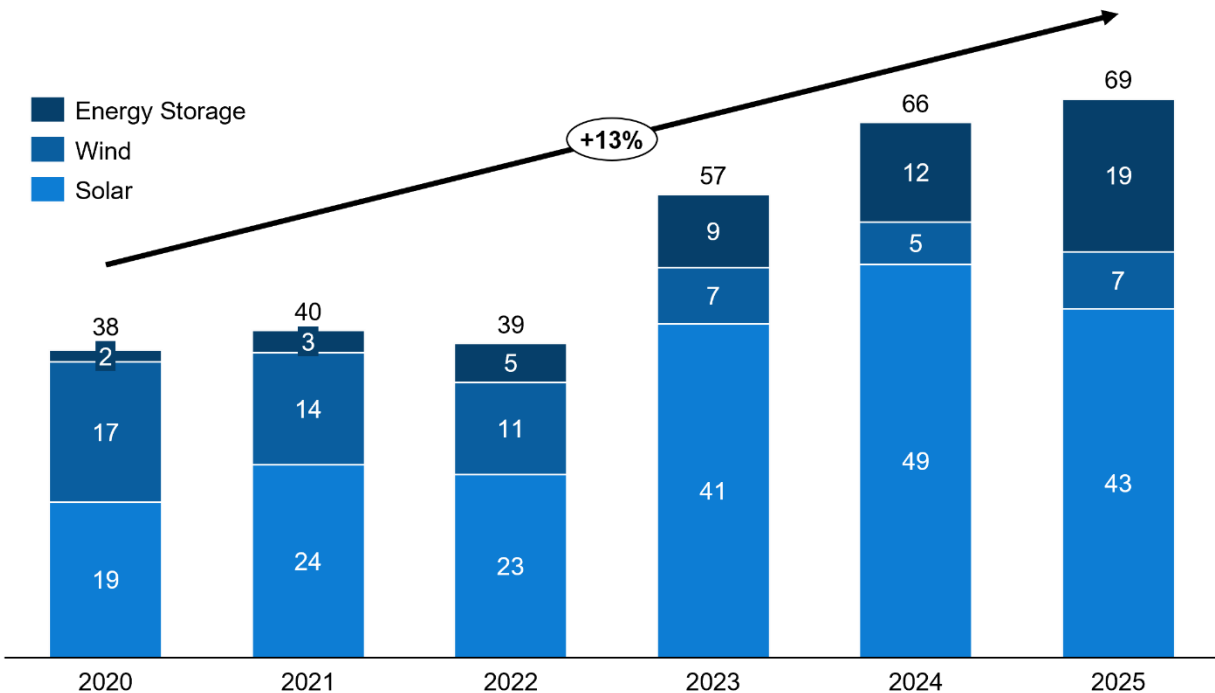
Below, we explore how several of the most consequential impacts have played out so far.



Capacity Additions – Renewables Apocalypse Averted

Figure 1: U.S. Solar, Wind and Energy Storage Annual Actual and Forecasted Installed Capacity, 2020-25²

U.S. solar, wind, energy storage annual installations 2020-2025, GW



The data for 2025 renewables installations reveal not contraction but a leveling off of the approximately 13% CAGR the sector enjoyed since 2020. Forecasters expect growth in 2025 to be led by storage (greater than 55% year over year) and wind (greater than 35% year over year), offsetting a slight pullback in solar deployments.

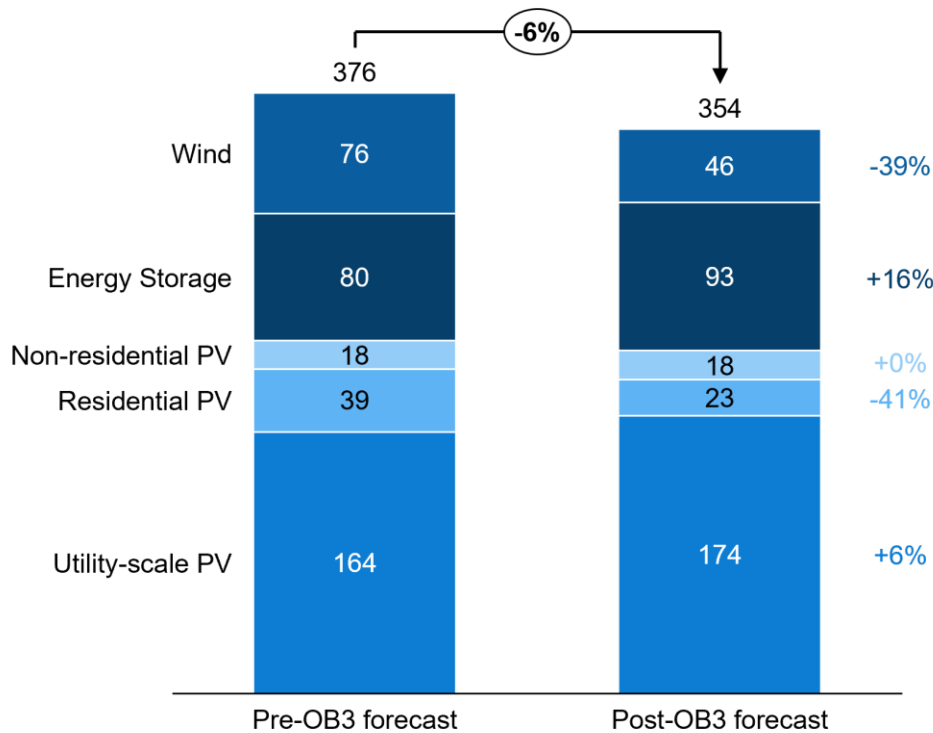
Investment has remained resilient and reflects a pre-ITC cliff acceleration, particularly for assets with longer construction cycles. By Q3 2025, capital deployment reached approximately \$66 billion, a 10% increase year over year. Wind investment surged 107%, likely due to the asset class's average two-year construction cycle. Storage investment rose 18%, aligning with higher deployment expectations. Solar investment moderated but did not retreat.³

² SEIA; Wood Mackenzie; ACP; as of the date of writing, Q4 2025 actual installation data for energy storage and wind has not yet been published; figures are therefore based on the sources' forecasts

³ Rhodium Group and MIT CEEPR Clean Investment Monitor Q3 2025

Figure 2: U.S. Solar, Wind and Energy Storage Difference in Cumulative Installed Capacity Forecasts, 2025-29⁴

Pre- vs. post-OB3 cumulative U.S. deployment forecast 2025-29, GW



Moving forward, most forecasters expect a substantial negative impact of OB3 on wind, but much gentler impacts on solar and storage.

The overall solar five-year solar outlook (2025–2029), however, was revised down modestly to approximately 215 GW cumulative, a 3% reduction from pre-OB3 forecasts, driven largely by a 41% reduction in projected residential volumes.⁵ Wind outlooks were cut more sharply: Wood Mackenzie cut its cumulative 2025-2029 wind outlook by 39% to 46 GW as both onshore and offshore expectations were pulled back.⁶ Storage stands apart. Cumulative 2025–2029 storage installations are now forecast at 93 GW, a 16% increase over prior outlooks.⁷

⁴ SEIA; Wood Mackenzie; ACP

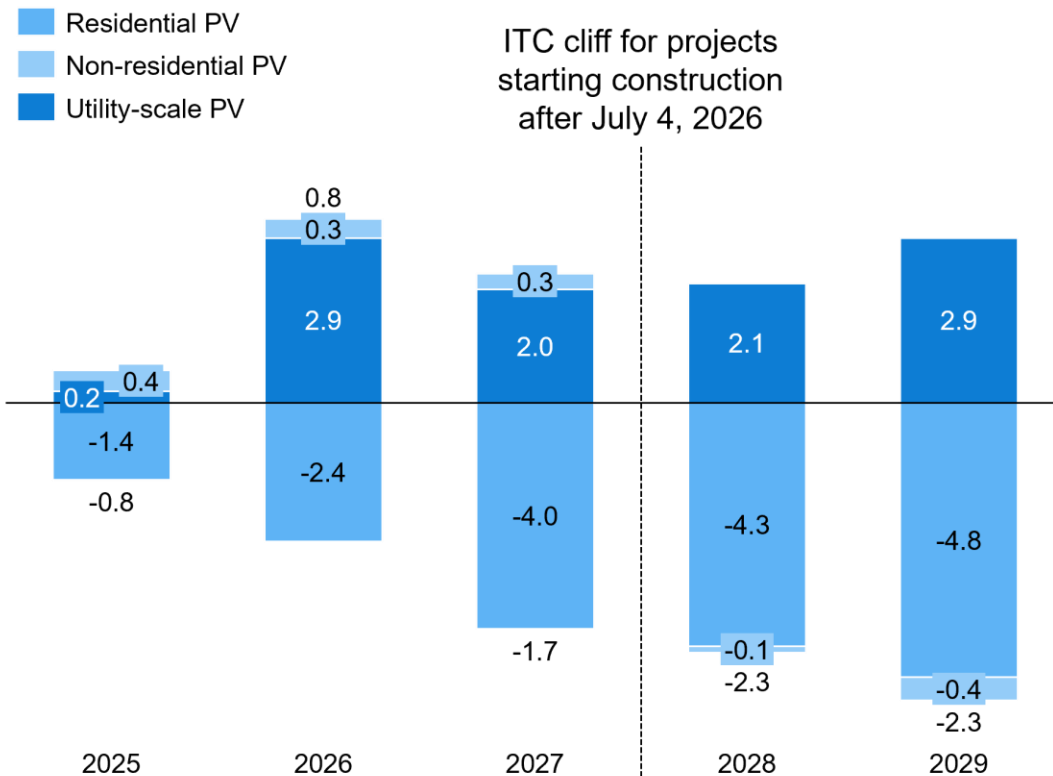
⁵ SEIA

⁶ Wood Mackenzie and ACP Wind Energy Monitor

⁷ Wood Mackenzie and ACP Energy Storage Monitor

Figure 3: U.S. Solar Difference in Pre- vs. Post-OB3 Annual Installed Capacity Forecasts by Segment, 2025-29⁸

Post-OB3 vs. pre-OB3 change in annual solar installation forecast, GW



On an annual basis, pre- versus post-OB3 expectations have translated differently by solar segment. Utility-scale is expected to see consistent annual improvements of 1% in 2025 and 6-9% in 2026-2029, driven by strong fundamentals (e.g., high power prices, rising demand from data centers). Residential solar, on the other hand, is expected to realize consistent annual reductions as the post-25D⁹ market shifts to third-party ownership and adopts more conservative state-level incentive frameworks. Changes in annual non-residential forecasts center on the ITC cliff (for projects starting construction after July 4, 2026), with 8-11% increases through 2027 followed by 3-10% annual decreases.¹⁰

⁸ Wood Mackenzie / SEIA (USSMI Q4 2025 and 2025 year in review report)

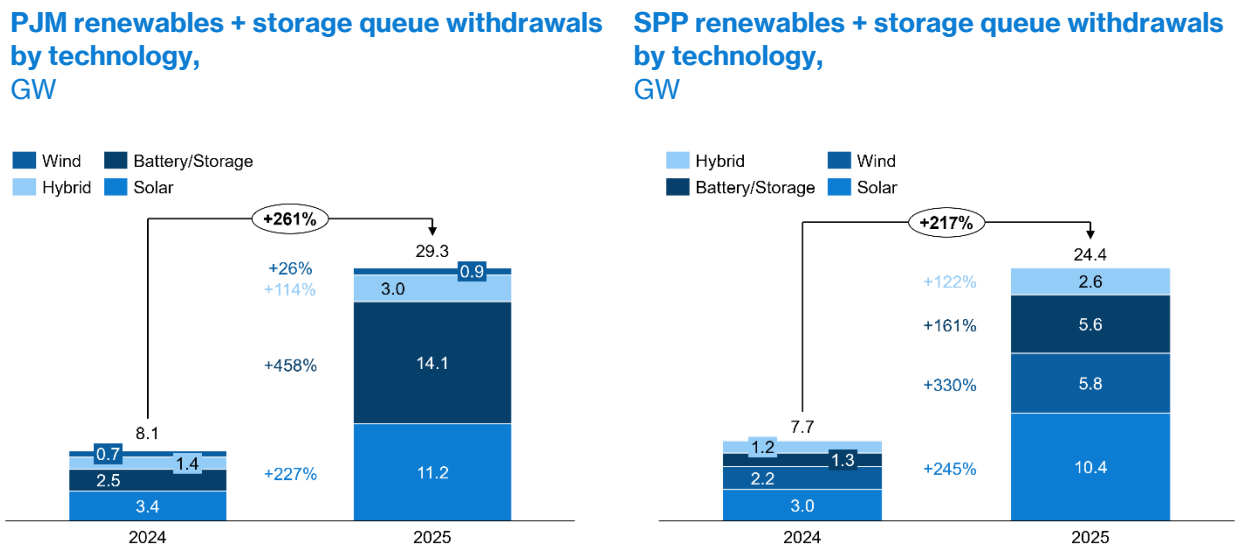
⁹ 25D refers to the U.S. residential solar Investment Tax Credit under Section 25D of the Internal Revenue Code, which allows homeowners to claim a tax credit for installed solar systems and is scheduled to expire at the end of 2025

¹⁰ SEIA

Two general drivers are most apparent: developers are accelerating both investment and construction to avoid new tax credit eligibility rules (e.g., start or compete construction, FEOC¹¹ compliance) and rising demand from data centers. The former is materialized by accelerating development timelines for “high graded” portfolios as well as changing procurement strategies. The latter introduces a new class of creditworthy buyers, willing to sacrifice price for speed and certainty of delivery.¹²

Queue Withdrawals – Flight to Quality

Figure 4: PJM and SPP Annual Renewable and Storage Queue Withdrawals by Technology, 2024–2025¹³



The recent evolution of generation interconnection queues, both additions and withdrawals, offers a useful metric for assessing the combined impact of OB3, data centers and the “rehabilitation” of fossil fuels.

In 2025, a record 377 GW of requested interconnection capacity was added across ISOs. Yet the composition shifted. Gas additions rose 67% year over year, aided by reliability-driven fast-track processes, while less renewable capacity was added relative to 2024. Wind fell 40%, solar 25% and storage 20%.¹⁴

¹¹ FEOC (Foreign Entity of Concern) rules restrict the use of equipment or components sourced from designated foreign-controlled entities in projects claiming federal tax credits

¹² Announced corporate PPA volumes rose 1% year-on-year to 29.5 GW in 2025, with technology companies accounting for 76% of activity. Meta alone contracted 10.1 GW [Source: ESG Today]

¹³ PJM and SPP Interconnection publicly available queue data (Feb '26), considering solar, wind, and hybrid (storage) projects, # of developers at risk data based on case assuming construction after July 4, 2026; hybrid projects include Solar + Battery Storage projects

¹⁴ BNEF Sustainable Energy in America 2026 Factbook



This coincides with a dramatic acceleration in renewable and storage capacity withdrawals from ISO queues.

Combined renewable and storage withdrawals rose more than 260% year over year in PJM, led by storage, which increased withdrawn capacity by 458% to over 14 GW. SPP recorded a 217% year over year increase, led by a 330% increase in wind capacity queue dropouts.¹⁵

Clear patterns emerge. Undercapitalized sponsors, early-stage pipelines and projects with post-cliff commercial operation dates are exiting. Speed to power and secured interconnection rights now confer scarcity value. Depending on start-of-construction assumptions, between 13% and 31% of cumulative PJM renewable pipeline capacity is at risk of ITC ineligibility. Under conservative assumptions that pipeline projects start construction after July 4, 2026, 19% of developers have more than 75% of their respective renewable pipeline capacity exposed.¹⁶

Sector Economics – Strengthening the Case for Consolidation

The push to accelerate project development has created scarcity-driven premia in both costs and valuations for projects further along in the development cycle.

Tariffs and related supply chain uncertainty have led to significant cost increases, as well as notable changes in the allocation of risk across the renewable value chain. Tariff-sharing mechanisms are increasingly explicit. Some developers underwrite up to 80% of tariff exposure before sharing capped excess with off-takers. Hyperscalers are beginning to accept escalators, once rare. Lenders demand higher contingencies and penalize merchant tails. Spreads widen 25 basis points for 10–20% merchant exposure and 50 basis points for 30–40%.¹⁶

The tightening of timelines for capturing ITC credits has not only driven price increases from supply-constrained inputs like EPC, it has also enabled execution-ready assets to command premia, reducing overall demand for new projects. In the second half of 2025, average “in-construction” solar assets traded near \$1.7 million per MW, 100% higher than first-half 2024 levels, while “construction-ready” valuations averaged roughly \$1.5 million per MW, down 13% over the same timeframe.¹⁷ This premium is also reflected in the gap between financing costs for operating versus underdeveloped renewable assets. Fully contracted wind and solar debt remains available at 150–190 basis points over SOFR¹⁸. Development capital, by contrast, prices several hundred basis points wider.

¹⁵ PJM Interconnection Queue Data (Feb 2026) including solar, wind, and hybrid (solar or wind paired with storage) projects

¹⁶ Norton Rose Cost of Capital 2026 Outlook

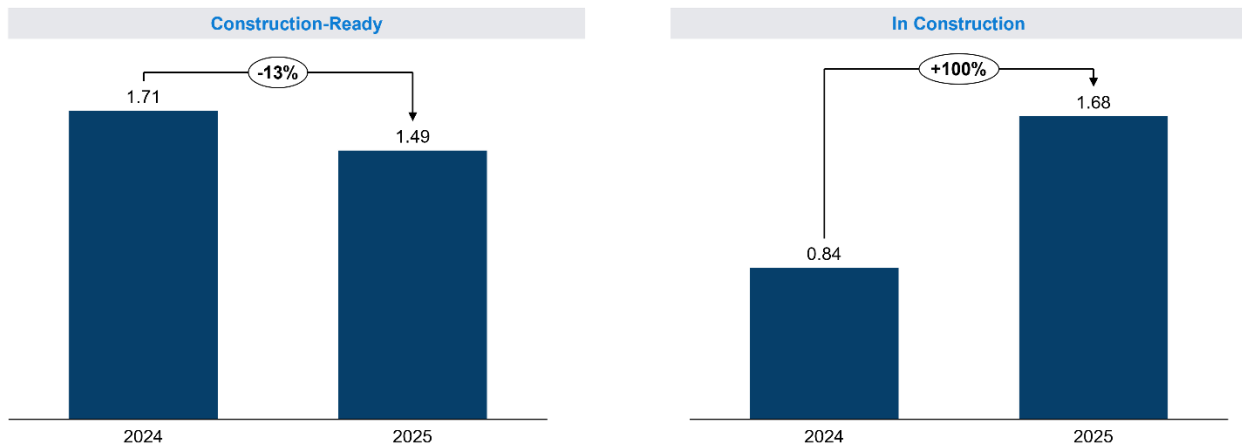
¹⁷ Infralogic, Teneo analysis

¹⁸ Norton Rose Cost of Capital 2026 Outlook, Center for Public Enterprise, SOFR (Secured Overnight Financing Rate) is the benchmark interest rate used in U.S. dollar lending markets, replacing LIBOR. Renewable project debt is typically priced as a spread over SOFR; higher spreads therefore reflect higher perceived project risk or tighter credit conditions

Figure 5: Known U.S. Solar Asset Transaction Valuations of Construct-Ready vs. In-Construction, 2024-2025¹⁹

Known U.S. Solar Asset Transaction Valuations of Construction-Ready vs. In-Construction, 2024-2025

\$M/MW, % change YoY



Taken together, in the case of utility-scale solar, average capex rose 10–14% year over year in 2025 to between \$1.18 and \$1.35 per watt, driven by EPC costs (+40%), labor (+15%) and tariffs on balance-of-system electrical costs (+8%). Some developers report effective development cost increases of 20–30%, depending on sourcing and tariff exposure.²⁰

Price increases, however, have remained muted, perhaps reflecting the sector’s reluctance to pass on higher costs as electricity affordability gains political salience. Solar PPA prices rose approximately 9% year over year.²¹ REC markets generally failed to reprice upward, with some states recording double-digit declines. This contrasts sharply with the dramatic price increases in wholesale power markets.²²

¹⁹ Infralogic

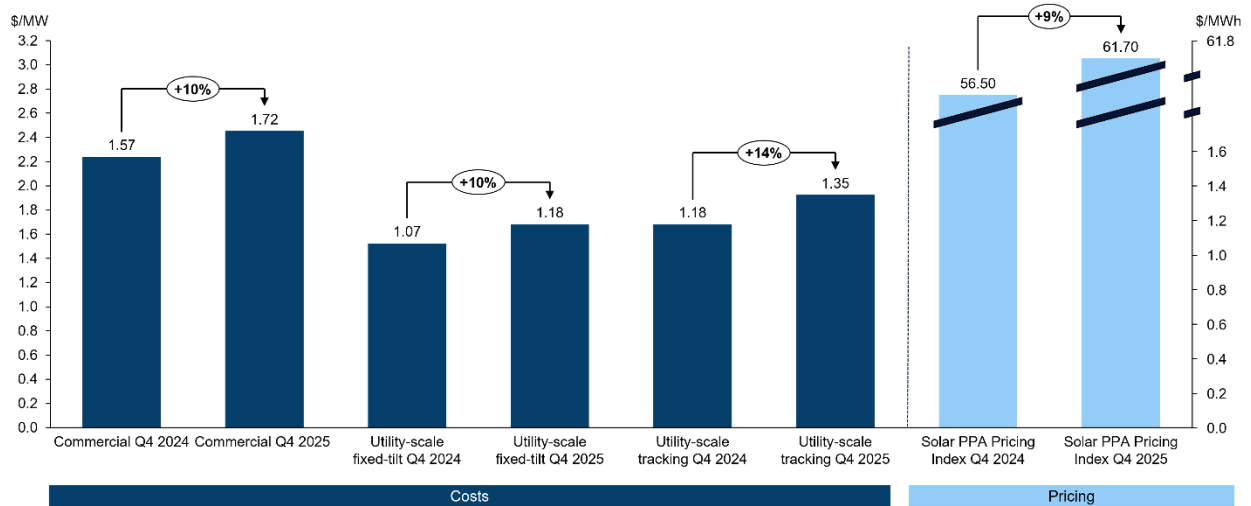
²⁰ Wood Mackenzie

²¹ LevelTen

²² Wholesale power prices surged more sharply: up 62% in NYISO, 60% in ISO-NE, 45% in PJM and 19% in ERCOT

Figure 6: U.S. National Solar Average System CAPEX and PPA Pricing, Q4 2024 vs. Q4 2025²³

U.S. national average system CAPEX vs. PPA pricing, 24Q4–25Q4, \$/W and \$/MWh



More robust screening of projects for investment has been another consequence. Higher sponsor-equity requirements are thinning the pool of financeable projects. Value compression often appears as attrition rather than repricing: marginal projects drop out, while deliverable assets remain bid. Tax credit pricing has softened below \$0.90 (approximately \$0.893 in Q3 2025), reflecting oversupply and weaker buyer demand.²⁴

While the renewable and storage markets have become tougher, this has not sparked the large-scale consolidation of this still highly fragmented sector that many have long anticipated. Distress has concentrated in financing-heavy residential platforms. Sunnova (formerly approximately \$8 billion enterprise value)²⁵, Mosaic and PosiGen illustrate exposure to ABS markets, higher interest rates and tighter tax-equity spreads. Utility-scale distress has been rare and sponsor-specific. No systemic bankruptcy wave of cash-flowing portfolios has materialized.

Some consolidation is occurring. Larger developers with ready access to capital and “safe-harbored” equipment are acquiring sub-600 MW platforms to add storage capability or interconnection positions.

²³ SEIA, Wood Mackenzie, LevelTen PPA pricing data for utility-scale and commercial solar segments

²⁴ Crux Climate

²⁵ Yahoo Finance

Supply Chain – Import Musical Chairs Not Reshoring

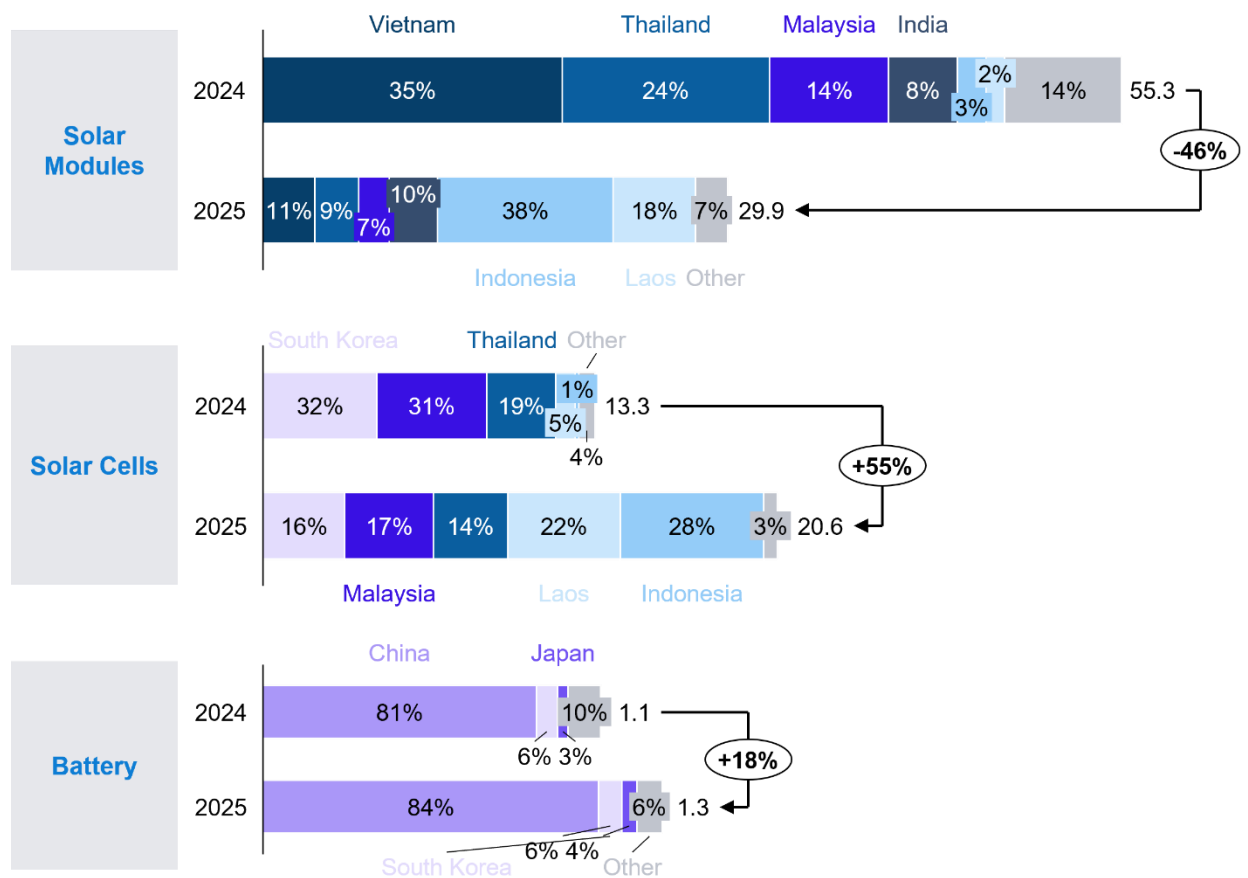
The combination of stricter domestic content rules (e.g., FEOC), supply-side incentives (e.g., 45X) and more uncertain tariffs has led to real changes in renewable value chains, both in terms of sourcing and import composition. It has not yet resulted in significant onshoring of manufacturing.

Solar modules offer one of the clearest signs of progress toward U.S. energy independence, though structural gaps remain. Solar module imports fell 46% year over year in 2025, as sourcing shifted notably toward Indonesia. Its share of U.S. module imports surged from less than 3% in 2024 to over 38% by late 2025, largely displacing Vietnam and Thailand. This shift coincided with rapid growth in domestic module assembly, which exceeded 67 GW in March 2026.

Figure 7: U.S. Solar Module, Cell, and Battery Imports by Country of Origin, 2024-2025²⁷

Known U.S. Imports by Component, 2024-2025

GW [Not to Relative Scale], % of total





Despite this buildout, underlying economics remain challenging. Plant utilization was roughly 29% in 2024, reflecting a persistent cost disadvantage, with U.S. cost of goods sold often up to twice China FOB pricing, even after incentives. At the same time, upstream dependence persists. U.S. solar cell imports rose 55% year over year, underscoring limited domestic cell capacity, which remains around 3 GW.

A similar pattern is evident in battery storage. Battery cell imports increased 18%, with China still supplying approximately 84% of total volumes. While domestic capacity is scaling, the gap between announced and operational supply remains material. Total battery manufacturing capacity across operational, under construction and announced projects reaches roughly 145 GWh for cells and 88 GWh for packs, yet currently operating capacity continues to lag demand.²⁶

Overall, while the U.S. has made measurable progress in assembly, both the PV and battery energy storage system (BESS) sectors continue to face structural barriers to fully reshored supply chains. The most capital-intensive upstream segments remain the least developed.

Conclusion

OB3 has neither vaporized America's renewable sector nor delivered an industrial policy renaissance. It has accelerated a sorting process already under way. Pipelines are shorter, the pricing of risk is more explicit and capital is being deployed more selectively. For the near and medium term, the decisive advantage belongs to those who can finance, procure and interconnect before policy clocks expire. Execution excellence is the coin of the realm more than ever.

As for standing up a competitive domestic manufacturing base for renewable generation and BESS, that will likely require less ambiguous and less ephemeral policy commitments. Whether the increasingly turbulent geopolitical environment, and related global hydrocarbon market prices, will prove a sufficient catalyst for such a change remains to be seen.

Of course, several macroeconomic and geopolitical variables could radically overturn this outlook. Higher natural gas prices, possibly driven by an extended Middle East crisis, could raise wholesale electricity prices and improve renewable competitiveness. Conversely, a major improvement in U.S.-China trade relations that reduces tariffs could ease equipment costs while weakening incentives to build domestic manufacturing capacity. A change in political administration over the next few years could also reset the "solar coaster" once again.

²⁶ SEIA Supply Chain Dashboard, 2025 deployments include all solar and storage segments, respectively

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