# PJM Solar and Battery Forecast 2025

## Phase II - Forecasts

SPGCI Power Market Consulting

October 1, 2025

S&P Global
Commodity Insights

# Agenda


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# Presenters

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# Methodology and assumptions

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# Solar PV and battery forecasting methodology

## Analytical Framework

*The S&P Global outlook for solar power takes into account multiple drivers and inhibitors that reflect the maturity of the market and its growth potential for solar and batteries.*

*Key components of our framework for assessing market attractiveness for solar:*

- State renewable policy (including renewable portfolio standard [RPS], net energy metering [NEM], community solar, and renewable corporate policies)
- Regulatory incentives
- Solar resources
- Site approval
- Grid access and offtake

## Short-term data points

*In the short term (one to four years), our forecast is based primarily on existing policies, the late-stage project pipeline, and status of procurement and equipment orders.*

*Key data inputs collected and assessed by S&P Global energy analysts include:*

- Project announcements
- Utility requests for proposal (RFPs), auctions, and tenders
- Existing mandates and incentives
- Project development track record
- Reported costs and pricing
- Supply chain announcements and equipment orders

## Longer-term assumptions

*In the longer term (5–20 years), our forecast draws upon rigorous bottom-up research and on economic fundamentals, energy prices, and macroeconomic factors.*

*Key data inputs and assumptions include*

- Policy and regulatory trends
- Power demand growth and capacity retirements
- Annual solar power pricing forecasts
- Power and gas prices
- Transmission and grid infrastructure

# Key assumptions

| Solar forecast scenario overview | | | |
|---|---|---|---|
| **Assumptions** | **Scenario 1: “Higher Costs”** | **Scenario 2: “Base case”** | **Scenario 3: “Bounce back solar build”** |
| Federal policy support | OBBBA Update to ITC (Homeowner-collected ITC expires Dec 2025, other tax credits for solar expire Dec 2027) | OBBBA Update to ITC (Homeowner-collected ITC expires Dec 2025, other tax credits for solar expire Dec 2027) | OBBBA Update to ITC (Homeowner-collected ITC expires Dec 2025, other tax credits for solar expire Dec 2027) |
| NEM policies and retail rate structures | Utilities/PUCs (and regulators approve) reform NEM policy earlier owing to costly DG programs. Current retail rate structures are adjusted; existing NEM caps are maintained (and many reduced). Utilities and PUCs also phase out “community solar” and carve-outs for DERs. | From 2025 to 2028, utilities adopt (and regulators approve) changes to NEM and retail rate structures, which result in a more cost-based approach to customer-sited solar compensation (see slide X); current detailed state NEM policy (see slides x–x). | Reflecting a greater emphasis distributed solar as a resource for decarbonization, current retail rate structures and NEM are maintained for three years beyond the reform timeline in the base case; they are then reformed in a similar manner. |
| Solar costs ($/kW) | Solar costs continue to increase for the next five years owing to continued supply chain disruptions and trade tensions before resuming their prior rate of decline. Disruptions are linked to continued trade disruptions and uncertainty associated with ever changing trade policies, shipping backlogs, and higher raw material prices due to elevated global demand. Panel availability is restricted through the late-2020s. Continued project delays owing to grid interconnection, zoning and local ordinances cause development costs to increase. Post 2030, costs are expected to increase at a rate of 1% per year. | Year over year, residential solar costs are up 20% from the 2024 analysis due to increased tariffs and supply constraints. Moving forward, residential solar costs decline by 4% in nominal terms from 2025 to 2033 before slowly increasing to 3% above 2025 by 2046. In real 2024$ terms, prices are expected to be 35% lower in 2046 compared to 2025. | Solar costs decline by 10% in nominal terms from 2025 to 2033, driven by a combination of technology advancements and a more conducive environment for trade following 2028. Post 2033, the decline in costs levels out owing to technology maturity, land scarcity and greater onshoring, ending 5% below 2025 cost on a nominal basis by 2046. |
| State policy support | Current RPS policies and state-level incentives are maintained. | Current RPS policies and state-level incentives are maintained. | Current RPS policies and state-level incentives are maintained. |
| Power demand | Base-case demand | Base-case demand | Base-case demand |

Note: DG = distributed generation. ITC = investment tax credit. PUCs = public utility commissions. DERs = distributed energy resources.

Source: S&P Global

# The OBBBA and a recent executive order severely diminish opportunities for solar projects moving forward

- The One Big Beautiful Bill Act (OBBBA) was signed into law on July 4, 2025, bringing significant changes to the tax credits for wind and solar generation, including behind the meter generation
- The OBBBA has shortened or abruptly ended all tax credits outlined by the Inflation Reduction Act of 2022 (IRA) for solar
  - Homeowner-owned residential solar PV systems must be installed by December 2025 to qualify for the ITC
  - Tax credits for third-party owned systems are available for projects until 2028
- Historically, qualification for renewable generation tax credits have been subject to safe-harbor provisions that allow for projects to qualify for the full value of the tax credit in the year that “construction begins” so long as the project is online within four years of the start of construction
  - The state of construction is currently defined as either physical work of a significant nature or when a taxpayer pays or incurs over 5% of the total cost
  - An executive order[1] issued by President Trump on July 7, 2025 commands the IRS to require a “substantial portion” of a project to be completed in order to secure safe-harbor status. It is unclear what, if anything, the Treasury Department will try to change with regards to the current safe harbor guidance
- Also under the OBBBA, Foreign Entity of Concern (FEOC) restrictions were expanded to prevent FEOC’s and domestic organizations with certain relationships to FEOC’s from qualifying for any production, investment, or manufacturing tax credits currently available, depending on the amount of material for a project that originated from a FEOC.

1. https://www.whitehouse.gov/presidential-actions/2025/07/ending-market-distorting-subsidies-for-unreliable-foreign%E2%80%91controlled-energy-sources/

# Amended timelines for solar construction

- Most utility scale solar projects must be installed by 2028 to qualify for the production and investment tax credits (PTC and ITC) provided for in the IRA
- FEOC restrictions likely to constrain some solar installations after 2026
- 30% ITC offered to homeowners who install solar + storage projects in their home is no longer available for projects installed after December 31, 2025, which eliminates all federal tax credits available for homeowner-owned systems
- Third-party owned systems still collect ITC through 2027
- Projects must be *installed* by these deadlines but it is not stated that they must be interconnected

**Example construction start dates and impact on tax credits for non-homeowner owned solar systems**

| Start of construction (solar PV and wind) | ITC and PTC credit value % | FEOC restriction | In-service deadline |
|---|---|---|---|
| **Before December 2025** | 100% | No | *4 years |
| **January to July 2026** | 100% | Yes (40%) | *4 years |
| **August to December 2026** | 100% | Yes (40%) | Dec. 2027 |
| **January to December 2027** | 100% | Yes (45%) | Dec. 2027 |

**Example construction start dates and impact on homeowner-collected solar investment tax credits**

| Start of construction (solar PV and wind) | ITC and PTC credit value % | FEOC restriction | In-service deadline |
|---|---|---|---|
| **Before December 2025** | 100% | No | Dec. 2025 |

# US solar energy tax credit availability, reflecting changes made in July 2025 following passage of the OBBBA

| | | | Start of construction† | | | | |
|---|---|---|---|---|---|---|---|
| | | | **2006–19** | **2020–21** | **2022** | **2023–27** | **2028 and beyond** |
| **ITC** | **Base rate** (project does not meet labor requirements*) | Base credit | 30% | 26% | 6% | 6% | Investment and production tax credits will no longer be available through 48E or 45Y after December 31, 2027.<br><br>Homeowner-collected ITC for residential solar systems will no longer be available after December 31, 2025<br><br>Prior to passage of the OBBBA both the PTC and ITC were available until at least 2032 and extended until emission targets were reached in the late 2040s in our modeling |
| | | Domestic content** | | | | +2% | |
| | | Energy community*** | | | | +2% | |
| | **Full rate** (project meets labor requirements) | Base credit | | | 30% | 30% | |
| | | Domestic content | | | | +10% | |
| | | Energy community | | | | +10% | |
| **PTC for 10 years (2022 $/MWh)††** | **Base rate** (project does not meet labor requirements) | Base credit | $26 | $15 | $5 | $5 | |
| | | Domestic content | | | | +$1 | |
| | | Energy community | | | | +$1 | |
| | **Full rate** (project meets labor requirements) | Base credit | | | $27.5 | $26 | |
| | | Domestic content | | | | +$3 | |
| | | Energy community | | | | +$3 | |

Data compiled July 2025.
* Labor bonus requires developers to meet prevailing wage and apprenticeship requirements.
** Domestic content bonus requires a certain percentage (rising over time) of components to be made domestically.
*** Energy community bonus requires projects to be sited in census tracts that formerly hosted coal plants or had a significant amount of employment from fossil fuel industries. † Start of construction is defined as having incurred 5% of final qualifying project costs or having completed "physical work of significant nature". Both definitions require that projects make continuous progress toward completion once construction has begun and be placed into service within four years of starting construction to qualify for tax credits.
†† Technology eligibility rules have been relaxed under the IRA, meaning solar photovoltaic (PV) and geothermal are eligible for the PTC, and standalone storage is eligible for the ITC.
Source: S&P Global Commodity Insights.

# Options for NEM and retail rate reform

- SPGCI will not predict specific changes to state or utility NEM policies or rate structures; however, we assume states will choose from a variety of options that reduce the compensation for customer-sited solar but still provide sufficient compensation for a moderate pace of additions.
- Holistic rate reform options for all residential customers: lower volumetric (dollars per kilowatt-hour) price in favor of higher
  - Minimum (fixed) bill charge
  - Peak-demand (dollars per kilowatt) charge
- Narrowly tailored NEM reform options:
  - Reduce bill credits for all solar generation exported to the grid in real time (may require new meters)
  - Add “standby” or similar charges for NEM customers only
- NEM replacement options:
  - Value-based tariff (adjusted periodically to account for changes in wholesale power markets, transmission and distribution costs, etc.)
  - Transition toward time-of-use (TOU) pricing for all NEM customers
  - Competitive process (for example, rolling tenders or RFPs)

# RPS and NEM policy assumptions by state

| Detailed RPS policy assumptions | | |
|---|---|---|
| **State** | **RPS target (percentage of retail sales)*** | **Solar carve-out (percentage of retail sales)*/Distributed carve-outs** |
| DE | 25% by 2025, 28% by 2030, 40% by 2035 | 3.5% by 2025, 5% by 2030, 10% by 2035 |
| DC | 100% by 2032 | 2.85% by 2023, 5.50% by 2032, 10% by 2041 |
| MD | 50% by 2030 | 14.5% by 2030 |
| NJ | 50% by 2030* | 5.1% by 2021, gradually reduced to 1.1% by 2031 |
| OH | 8.5% by 2026 | - |
| PA | 18% by 2021 | 0.5% by 2021 |
| WV | - | - |
| IN | 10% by 2025 (voluntary) | - |
| IL | 25% by 2025, 40% by 2030, 50% by 2040** | Solar PV 55% of retail sales (27.5% for DG and Community Solar) |
| KY | - | - |
| MI | 50% by 2030, 60% by 2035*** | |
| NC | 12.5% by 2021**** | 0.2% by 2020**** |
| VA | 100% by 2045***** | 1,100 MW by 2035 (Dominion only) - nameplate capacity between 50kW-3 MW. Of the 1,100 MW, 35% of capacity procured shall be from the from solar facilities owned by persons other than a utility. Dominion is required to meet 1% of RPS requirements from DG sources less than 1 MW, no more than 3 MW in one single location. No less than 25% of such 1% shall be composed of low-income qualifying projects. |
| TN | - | - |

Note: RPS includes solar carve-outs. RPS targets are based on Tier 1 requirements where applicable. *New Jersey RPS target only includes Class I renewable technologies and the solar carve-out. **Illinois solar carve-out requires that 50% of the solar procurements must be from distributed/community solar. RPS mandates at least 75% of the standard come from wind and solar. Climate and Equitable Jobs Act invests $580 million a year to increase Illinois's clean energy from 9% to 50% by 2040 ***MI also now has a Clean energy standard, which adds nuclear and natural gas generation with CCS to the RPS and requires 80% by 2035 and 100% by 2040. ****RPS compliance in North Carolina can be achieved through energy efficiency and renewable energy credits (RECs) from any state. *****Phase 1 utilities are required to achieve 14% by 2025, 30% by 2030, 65% by 2040, and 100% by 2050 while Phase II utilities are required to achieve 26% by 2025, 41% by 2030, and 100% by 2045. The primary drivers for solar development include existing Public Utility Regulatory Policies Act (PURPA) policy, planned requests for proposal (RFPs), solar resources, solar costs, and the previous state tax credit.

Source: S&P Global

# RPS and NEM policy assumptions by state (continued)

| State net energy metering assumptions | | | |
|---|---|---|---|
| **State** | **Utility/territory** | **NEM cap** | **NEM system size limits (MW)** |
| DE | All utilities | 8% of the capacity needed to meet the electric utility's average Delaware transmission peak demand for the preceding 3 years | For all systems designed to produce no more than 110% of expected aggregate electrical consumptions, subject to limits by rate class: 0.025 (residential), 2 (Delmarva nonresidential), 0.5 (DEC, DEMEC nonresidential), 0.15 (farms on residential rates, waivers possible for larger systems depending on usage) |
| DC | Potomac Electric Power Co (Pepco) | N/A | For 2024, no more than 200% of the customer's historical 12-month usage |
| MD | All utilities | 3,000 MW | 2 or 200% of customer load |
| NJ | Investor-owned utilities (IOUs), electric suppliers | None**** | 100% of customer load |
| OH | IOUs | N/A | Not to exceed 120% of customer annual average load |
| PA | IOUs | N/A | 0.050 (residential), 3 (nonresidential), 5 (microgrids) |
| WV | All utilities | 3% of peak demand during previous year | 0.05 (residential), 2 (industrial for large IOUs), 1 (commercial for large IOUs), 0.050 (C&I for small IOUs) |
| IN | IOUs | 1.5% of utility's summer peak load or by July 2022 ******* | 1 |
| IL | IOUs, retail suppliers | Removed the NEM cap, but included a cap date of December 31, 2024 | N/A |
| KY | IOUs, electric cooperatives except TVA | 1% of utility's peak load in prior year | 0.045 |
| MI | All utilities | 10% of utility average in-state peak load, 50% of which is allocated to systems >20kW but less than 550kW | 0.55, or 110% of customer load |
| NC | IOUs, electric suppliers | N/A | 2 (residential customer-owned systems), 1 (commercial systems up to 200% of contract demand) |
| VA | IOUs, electric cooperatives | 1% of in-state peak load | 0.025 (residential), 3 (nonresidential), up to 100% of expected demand |
| TN | N/A | N/A | N/A |

Note: *NEM remuneration is a tariff structure under which the utility pays customers for excess generation, up to a given amount. The most common arrangement is "full retail rate NEM," in which excess generation is paid the same volumetric price that the customer pays for electricity; so, exports are effectively netted against grid consumption over a given period (typically one year). **NEG over that period is sometimes paid at a lower rate, often based on the utility's avoided cost. ***Total remaining excess kWh at the end of the calendar year (valued at the generation rate) that amounts to greater than $25 will be refunded as a check to the customer, if less than $25 it will be given as a credit. ****While no mandatory cap exists, it as at the discretion of the NJBPU to cap at 5.8% of retail sales. *****SREC-II replaced the transition program (TREC). ******Virtual meter aggregation is limited to the account holder's meters and only those within two miles of the POI. *******As of July 2022, the Indiana Utility Regulatory Commission has approved four utilities in Indiana to transition from net metering to a new lower rate known as "excess distribution generation" and proposed to instantaneous netting rather than monthly net metering.

Source: S&P Global

# RPS and NEM policy assumptions by state (continued)

| State net energy metering assumptions | | | |
|---|---|---|---|
| **State** | **NEM remuneration for on-site use or export generation*** | **NEG remuneration**** | **Community solar** |
| DE | Retail (For commission-regulated utilities, retail does not include the societal benefits charges). Excess generation credits set to the volumetric supply and distribution service charges for all customers and shall not reduce any fixed monthly distribution charges | Monthly carryover. At the end of the annualized billing period, excess kWh credits shall revert to the electric distribution company and are not reimbursed, credited or otherwise remunerated. Excess kWh credits do not include charges for the societal benefits program | Virtual net metering |
| DC | Retail | Carries over at retail rate indefinitely, at generation rate for systems over 100 kW*** | Virtual net metering (less than 5 MW) |
| MD | Retail | Credited to customer's next bill at retail rate; reconciled annually in April at the commodity energy supply rate or can be accrued indefinitely | Virtual net metering (less than 5 MW), individual subscriptions capped at 200kW and credits cannot exceed 200% of subscribers baseline annual usage |
| NJ | As part of the Successor Solar Incentive (SuSI) program: Base $85 SREC-II price ($0.085/kWh), non-residential rooftop < 1MW receives $110, 1-5MW receives $100 SREC-II, non-residential ground mount <1MW receives $90,1-5MW receives $85 ***** | Monthly carryover. At the end of the annualized period customer is compensated at the avoided-cost of wholesale power. | Up to 5 MW receives $90 SREC-II ($0.09/kWh) |
| OH | Less than retail | Credited to next bill at unbundled generation rate (includes energy component but excludes capacity-related compensation | None |
| PA | Retail | Credited at retail rate for a year, then any leftover excess is credited at generation and transmission portion of the retail rate, but not the distribution | Virtual meter aggregation****** |
| WV | Retail (credits cannot reduce monthly bills below the fixed monthly charge) | Retail, perpetual rollover, no annual true up | Virtual net metering |
| IN | Full retail through 2047 for net metering facilities installed through 2017 and through 2032 for those installed through 2022; 125% of average energy market price for facilities installed after 2022 or 1.5% cap is met. Per SB 309, retail rate net metering has been phased out by July 2022. As of July 2022, the Indiana Utility Regulatory Commission approved proposals from four utilities for a net billing system with instantaneous netting. | Full retail through 2047 for net metering facilities installed through 2017 and through 2032 for those installed through 2022; 125% of average energy market price for facilities installed after 2022 or 1.5% cap is met. As of July 2022, the Indiana Utility Regulatory Commission approved proposals from four utilities for a net billing system with instantaneous netting. | None |
| IL | Retail (TOU for customers paying TOU rates) | Credited to next bill at retail supply rate, excess at the end of the annualized period granted to utility. | Virtual net metering |
| KY | Less than retail | Utility will purchase all electricity produced at the rate set by the PSC, instead of the retail rate | Utility-run program |
| MI | Retail | Retail for systems <20kW, for systems >20kW, credited at power supply component of rate. Perpetual rollover | None |
| NC | Retail, for existing. Starting on October 1, 2023 current NEM rider replaced with Residential Solar Choice (Rider RSC) and Net Metering Bridge (Rider NMB). Rider RSC requires TOU Pricing , minimum monthly bills, non-bypassable charges, and grid access fees for systems above 15kW-ac. Rider NMB will be available for a limited number of new customers annually for three years and will not require TOU rates. Customers on Rider NMB can stay on that rate for 15 years, before switching to Rider RSC. Existing net metering customers will be switched to Rider NMB on January 1, 2027. | Carries over at retail rate, granted to utility at beginning of summer billing period. Starting October 1, 2023 customers on the new Riders net exports will be credited at the utilities avoided cost rate on a monthly basis | Utility-run program |
| VA | Retail | Retail | Utility-run program |
| TN | N/A | N/A | None |

Note: *NEM remuneration is a tariff structure under which the utility pays customers for excess generation, up to a given amount. The most common arrangement is “full retail rate NEM,” in which excess generation is paid the same volumetric price that the customer pays for electricity; so, exports are effectively netted against grid consumption over a given period (typically one year). **NEG over that period is sometimes paid at a lower rate, often based on the utility’s avoided cost. ***Total remaining excess kWh at the end of the calendar year (valued at the generation rate) that amounts to greater than $25 will be refunded as a check to the customer, if less than $25 it will be given as a credit. ****While no mandatory cap exists, it as at the discretion of the NJBPU to cap at 5.8% of retail sales. *****SREC-II replaced the transition program (TREC). ******Virtual meter aggregation is limited to the account holder's meters and only those within two miles of the POI. *******As of July 2022, the Indiana Utility Regulatory Commission has approved four utilities in Indiana to transition from net metering to a new lower rate known as “excess distribution generation” and proposed to instantaneous netting rather than monthly net metering.

Source: S&P Global

# RPS and NEM policy assumptions by state (continued)

| State C&I procurement assumptions | | | | |
|---|---|---|---|---|
| **State** | **Unbundled energy attribute certificates** | **Virtual power purchasing allowed** | **Renewable energy offerings from utilities or electric suppliers/green tariff** | **Production for self-consumption—net metering** |
| DE | Allowed | Allowed | Retail choice | Up to 2 MW |
| DC | Allowed | Allowed | Retail choice | Up to 1 MW |
| MD | Allowed | Allowed | Retail choice | Up to 2 MW |
| NJ | Allowed | Allowed | Retail choice | Cannot exceed on-site load |
| OH | Allowed | Allowed | Retail choice | No size limit |
| PA | Allowed | Allowed | Retail choice | Up to 3 MW, 5 MW for microgrids |
| WV | - | Allowed | - | Up to 2 MW |
| IN | - | - | Green tariff enabled to guarantee sufficient RECS; does not require new build | No size limit under green tariff |
| IL | Allowed | Allowed | Retail choice | No size limit |
| KY | Voluntary | - | Green tariff enabled | Up to 45 kW |
| MI | Allowed | - | - | 1 MW |
| NC | Allowed | Allowed* | Green tariff in development | Up to 1 MW |
| VA | Allowed | Allowed** | Green tariff enabled | Up to 1 MW |
| TN | - | | - | - |

Note: Green tariffs only include programs where utilities build new renewables on behalf of corporate customers. *In specific utilities **for agricultural sites and school districts up to 10 MW



Source: S&P Global

# Federal and regional energy storage policy assumptions

| Federal and regional energy storage policy assumptions | | |
|---|---|---|
| **Category** | **Policy** | **Base case** |
| Federal | Investment Tax Credit (ITC) | Battery developers have until the end of 2033 to qualify for a 30% ITC, after which is phases down to 26% in 2034, 22% in 2035, and 0% thereafter. |
| Regional | PJM capacity market (as applicable to battery) | Assume Minimum Offer Price Rule (MOPR) is revised<br>All other existing market rules, including updated ELCC values, remain in place over forecast period |
| State/city | Energy storage targets | Remain in current form |
| State | Tax credits | Remain or expire as currently scheduled |
| State | Incentives (e.g., rebates) | Assume VA  and NJ utilities roll out an incentive program for BTM batteries in effort to comply with state target. Other states remain unchanged |

Source: S&P Global

# Battery policies by state

| Detailed state energy storage policy assumptions | | |
|---|---|---|
| **State** | **Energy Storage Target (MW)** | **Tax Credits** |
| DE | | |
| DC | | |
| MD | 750 MW by 2027, 1.5 GW by 2030, 3 GW by 2023 | 30%* |
| NJ | 2 GW by 2030 | |
| OH | | |
| PA | | |
| WV | | |
| IN | | |
| IL | | |
| KY | | |
| MI | 2.5 GW by 2029 | |
| NC | | |
| VA | 2.7 GW by 2035 (Dominion), 400 MW by 2035 (APCo) | Energy storage systems greater than 5 MW and less than 150 MW are exempt from sales tax. |
| TN | 2.4 GW by 2028 and 5.3 GW by 2038 (Tennessee Valley Authority) | |

Note: *Maryland Energy Administration (MEA) 2018 Energy Storage Tax Credit Program offered 30% tax credit of the total installation costs (up to $5,000 for a residential project and $75,000 for commercial). ** In May 2018, lawmakers passed legislation (S 2314/A 3723) to implement energy storage targets of 600 MW by 2021 and 2 GW by 2030 and requires the BPU to establish a process and mechanism for achieving these targets. ***The regulations instruct APCo and Dominion to construct or acquire 400 MW and 2,700 MW, respectively, of FTM energy storage resources by 2035. ****Indianapolis Power & Light's (IPL) 2019 IRP proposes replacing coal power with renewables and storage, amounting to approximately 240 MW based on an assumed installed capacity of 3 GW.

Source: S&P Global

# Solar and batteries forecast

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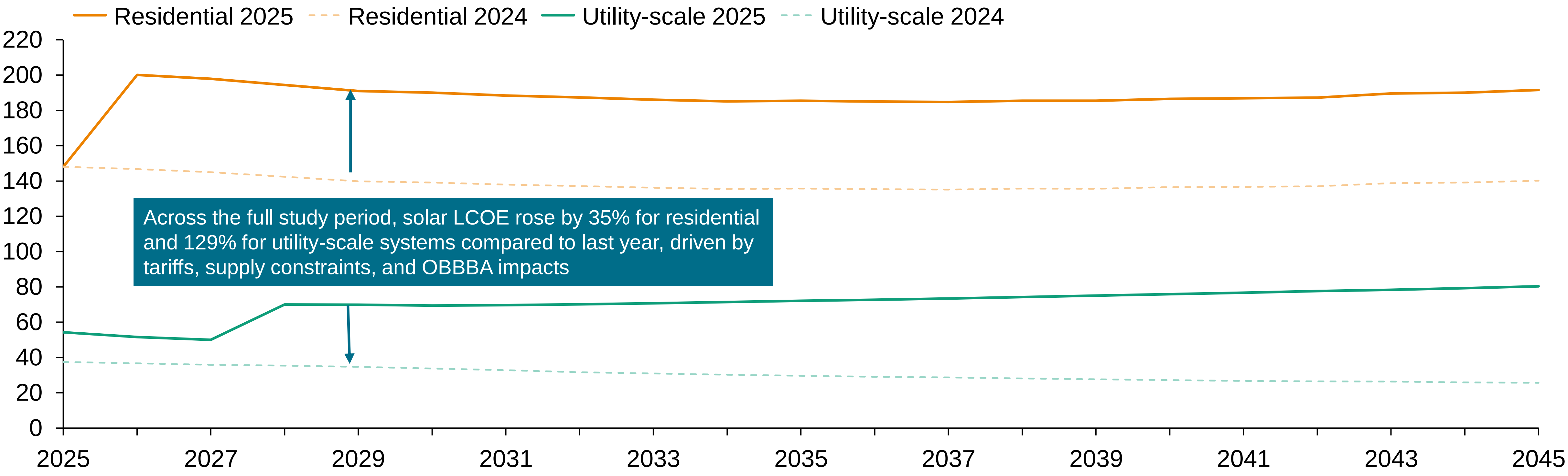
# Solar levelized cost outlooks

## Solar PV levelized cost outlook, base case compared to last year

Nominal $/MWh

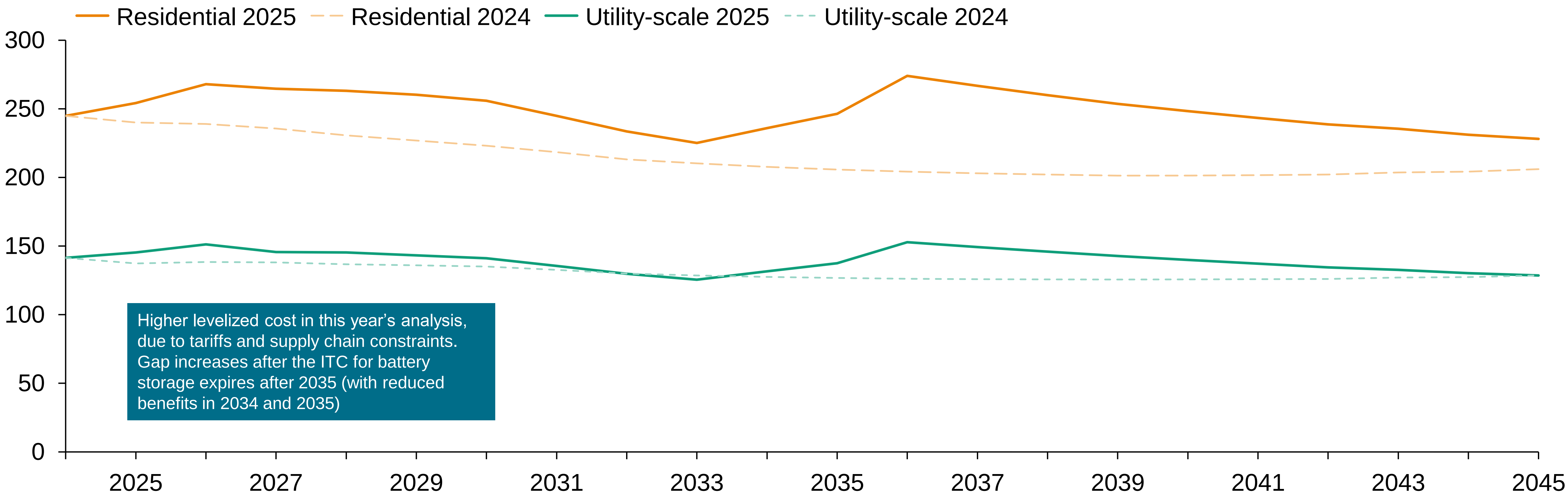



Source: S&P Global

# Battery storage levelized cost outlooks

## Battery energy storage levelized cost outlook, base case compared to last year

Nominal $/kW-year



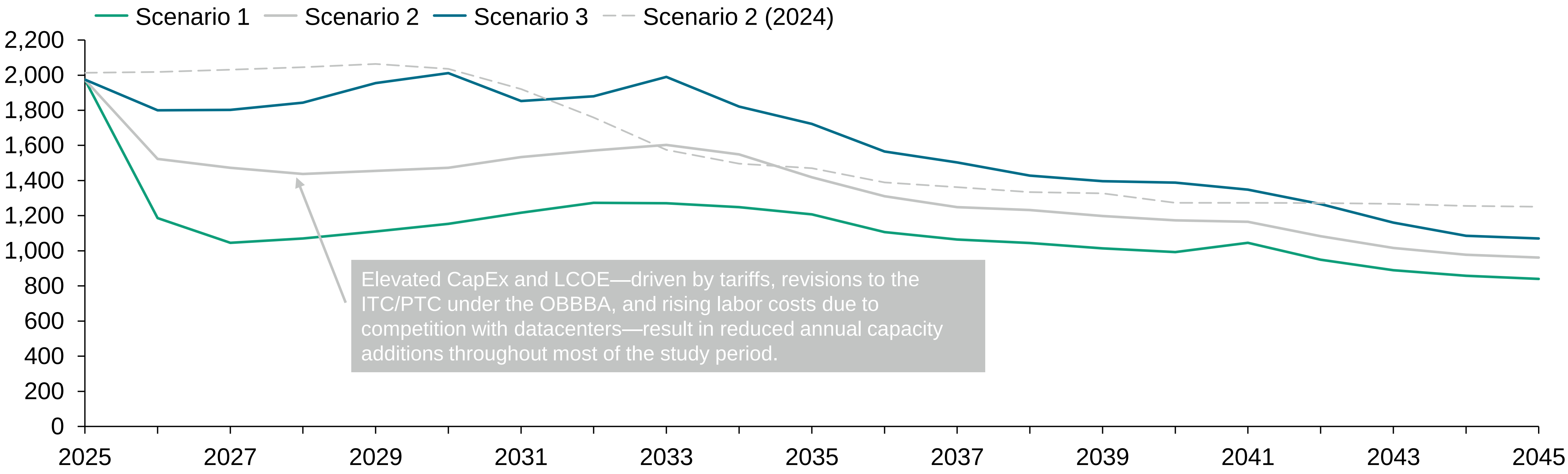

Source: S&P Global

Note: Utility-scale battery is a 50 MW / 200 MWh system. Residential is a 5 kW / 12 kWh system. ITC rate is assumed to be 30%

# BTM solar PV capacity additions by scenario

## Solar forecasts by scenario, entire state

MWkW-year

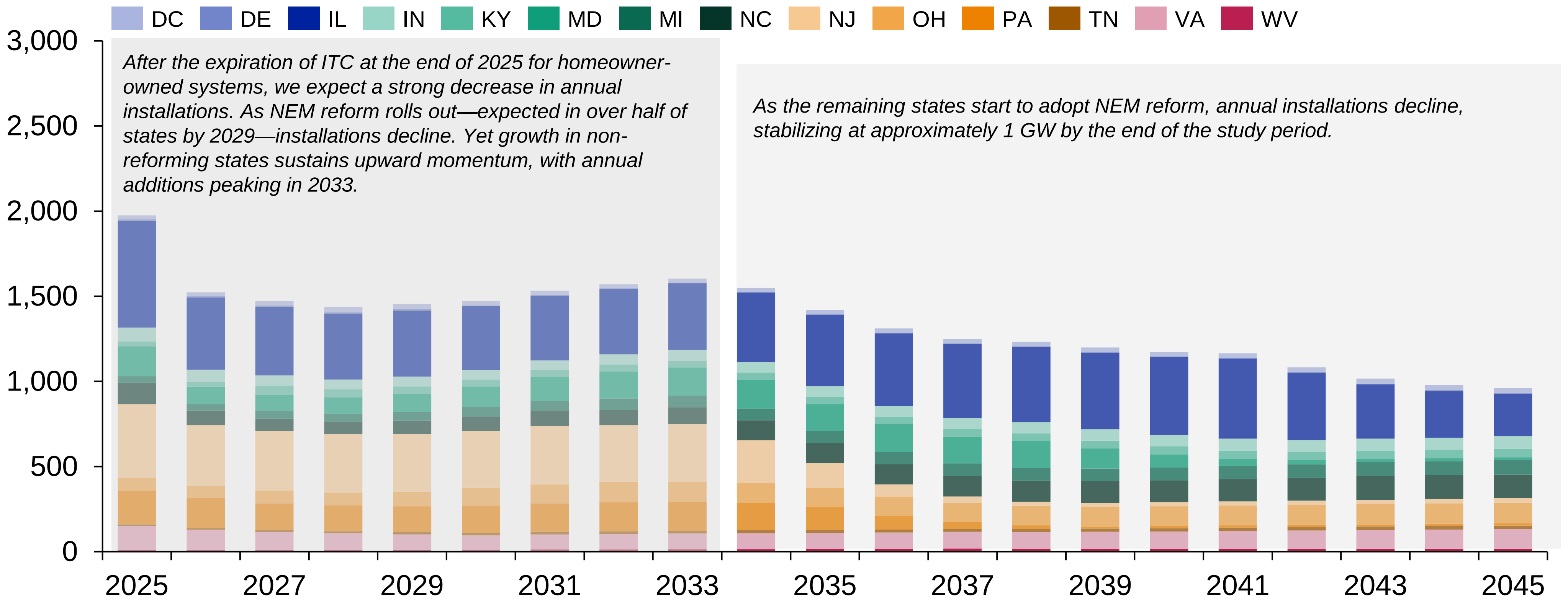



Source: S&P Global

# BTM solar PV capacity additions - Scenario 2:

## BTM solar PV capacity additions, entire state

MW

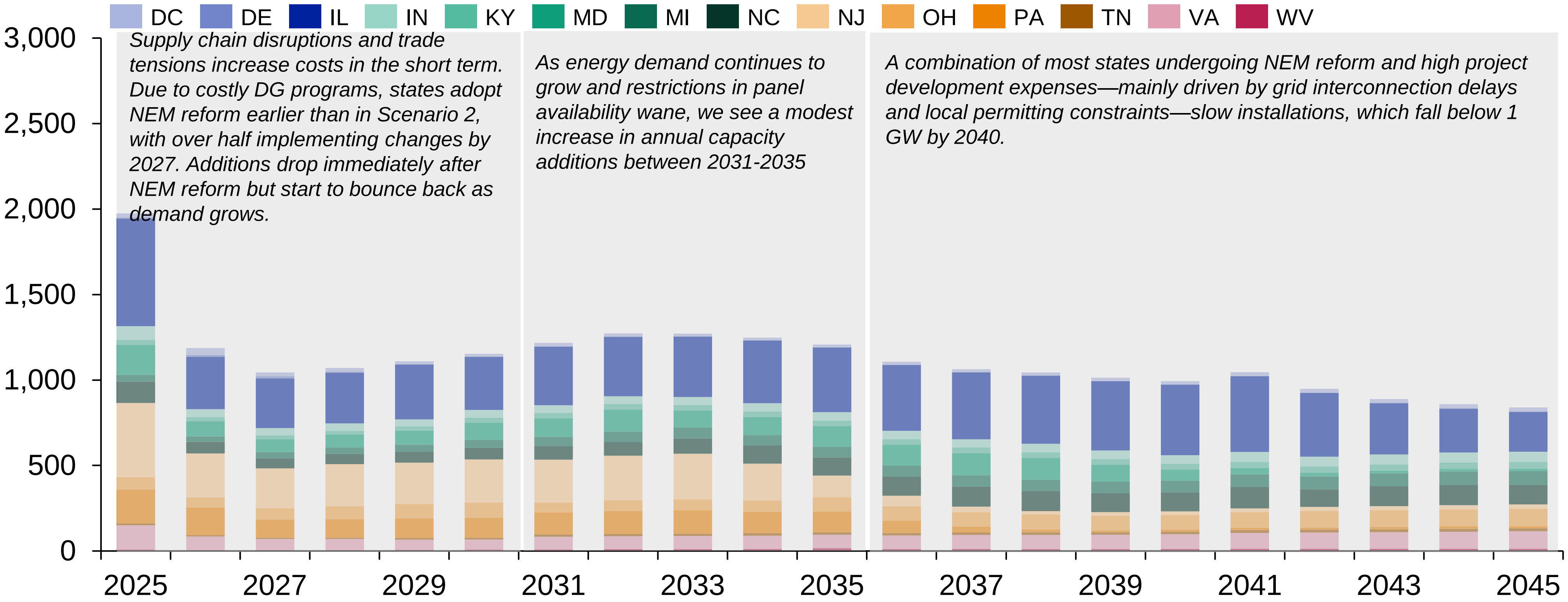



Source: S&P Global

# BTM solar PV capacity additions - Scenario 1

## BTM solar PV capacity additions, entire state

MW

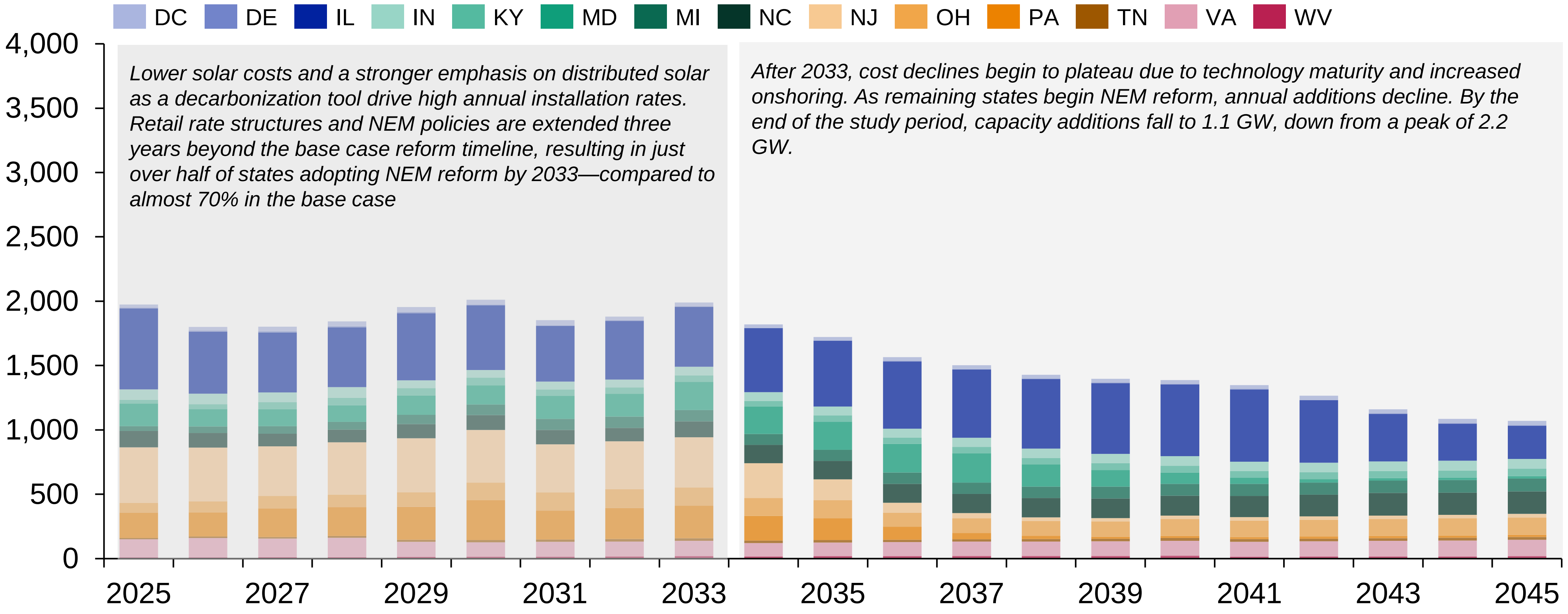



Source: S&P Global

# BTM solar PV capacity additions - Scenario 3

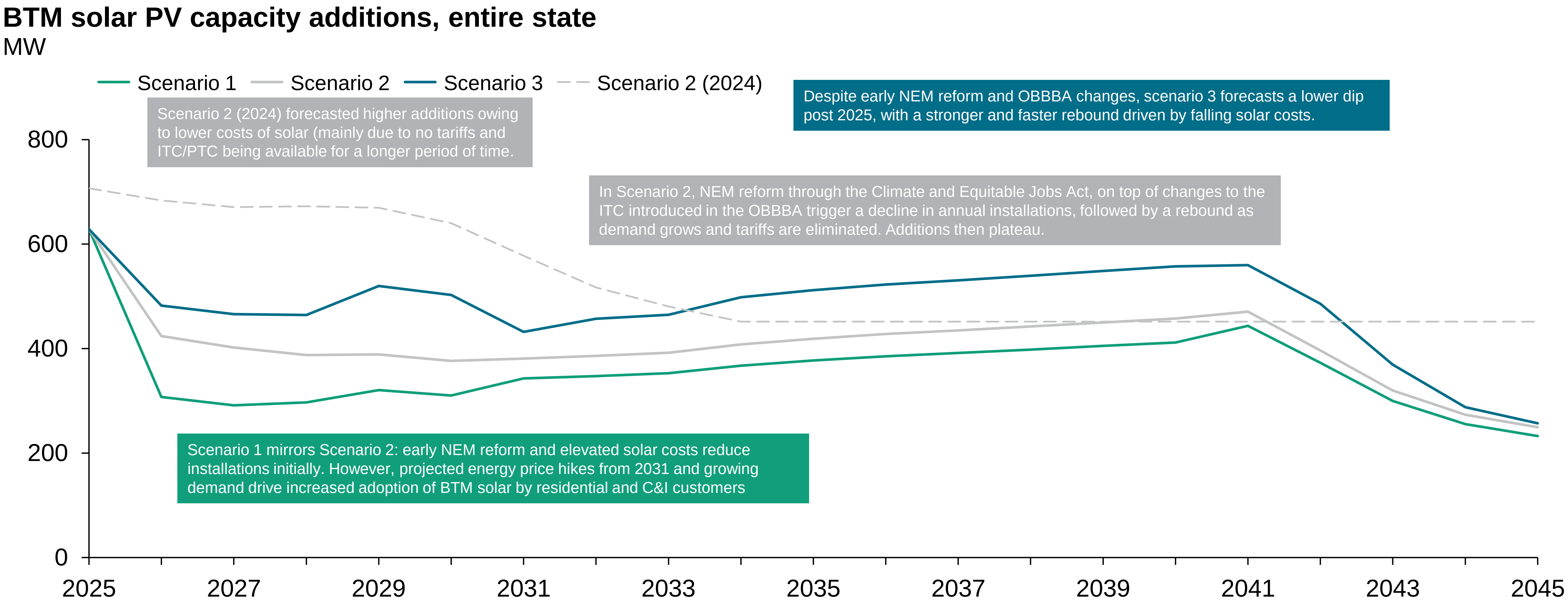
## BTM solar PV capacity additions, entire state

MW




Source: S&P Global

# Illinois solar PV BTM capacity additions by scenario

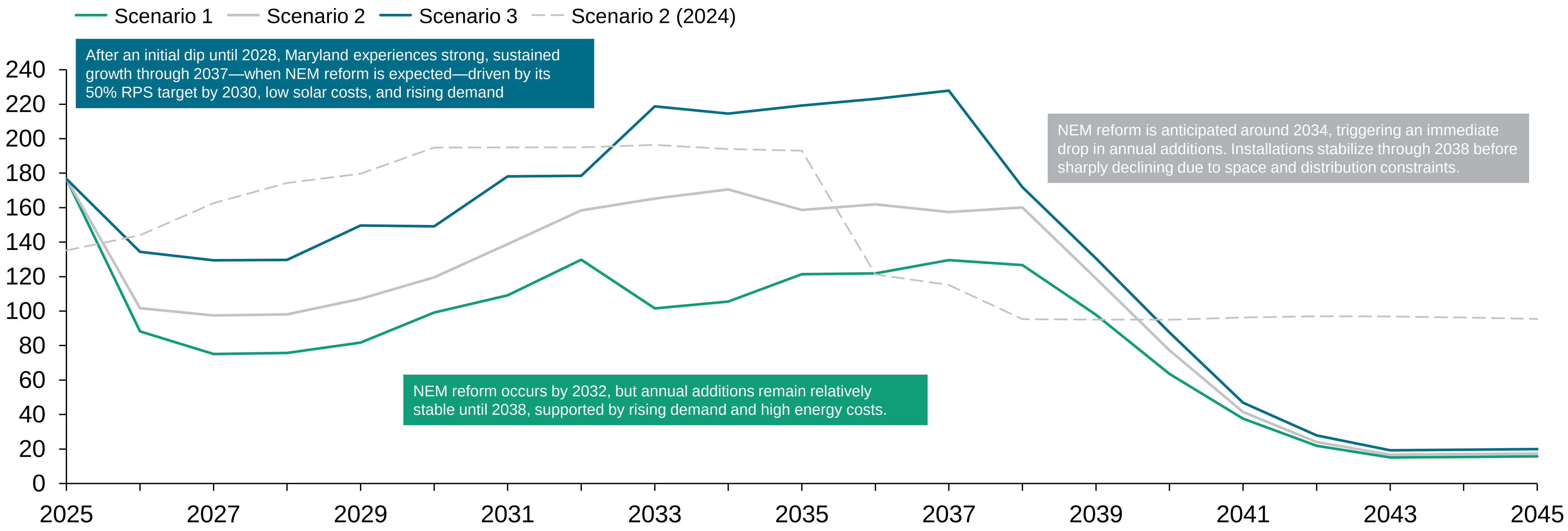



Source: S&P Global

# Maryland solar PV BTM capacity additions by scenario

## BTM solar PV capacity additions, entire state

MW

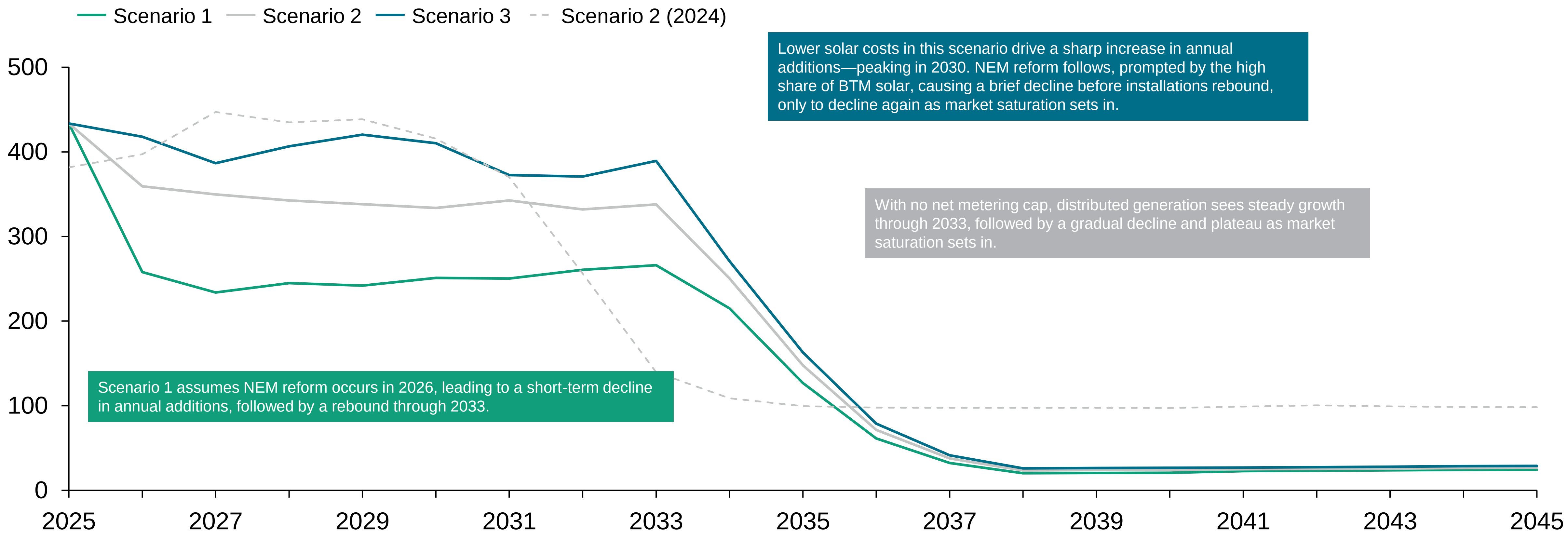



Source: S&P Global

# New Jersey solar PV BTM capacity additions by scenario

## BTM solar PV capacity additions, entire state

MW

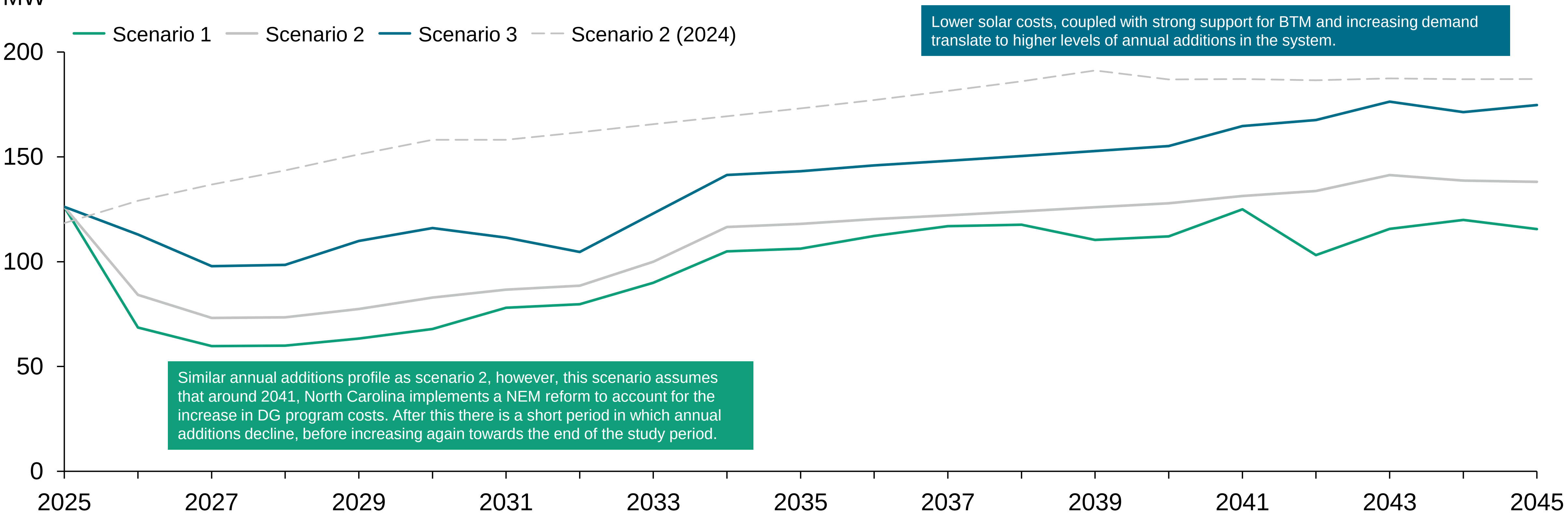



Source: S&P Global

# North Carolina solar PV BTM capacity additions by scenario

## BTM solar PV capacity additions, entire state

MW

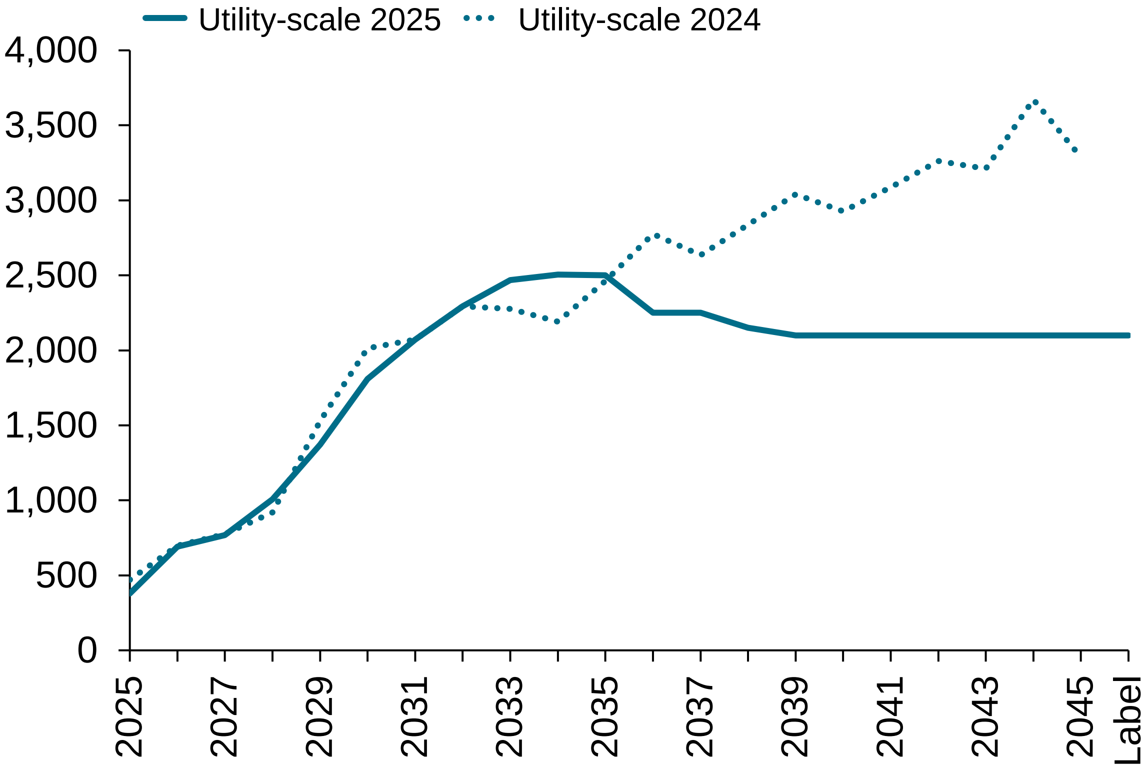



Source: S&P Global

# Battery outlook relative to last year (2025 vs 2024)

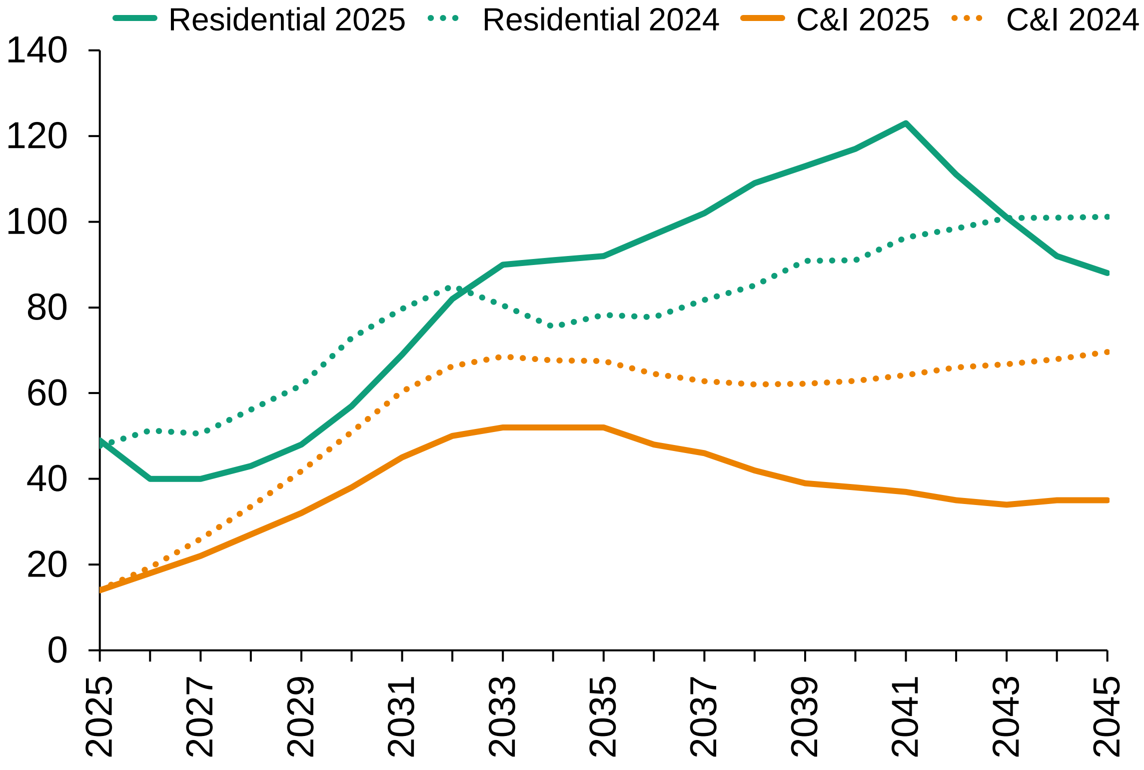
## Utility-scale battery outlook comparison

MW




## Annual residential + C&I battery additions

MW



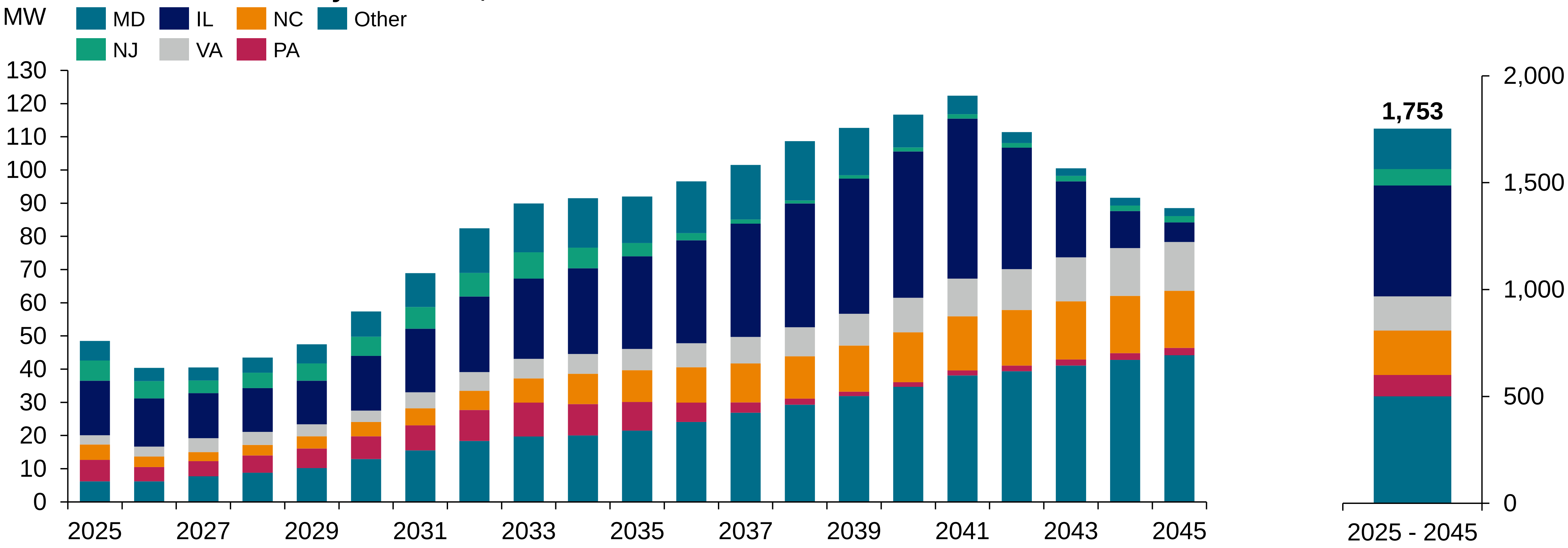

Source: S&P Global



Note that the increase in residential storage in the 2030s compared to last year is a function of a portion of storage additions that were classified as C&I in the 2024 forecast being reclassified as residential in the 2025 forecast

# Residential sector battery outlook

## Annual residential battery additions, entire state

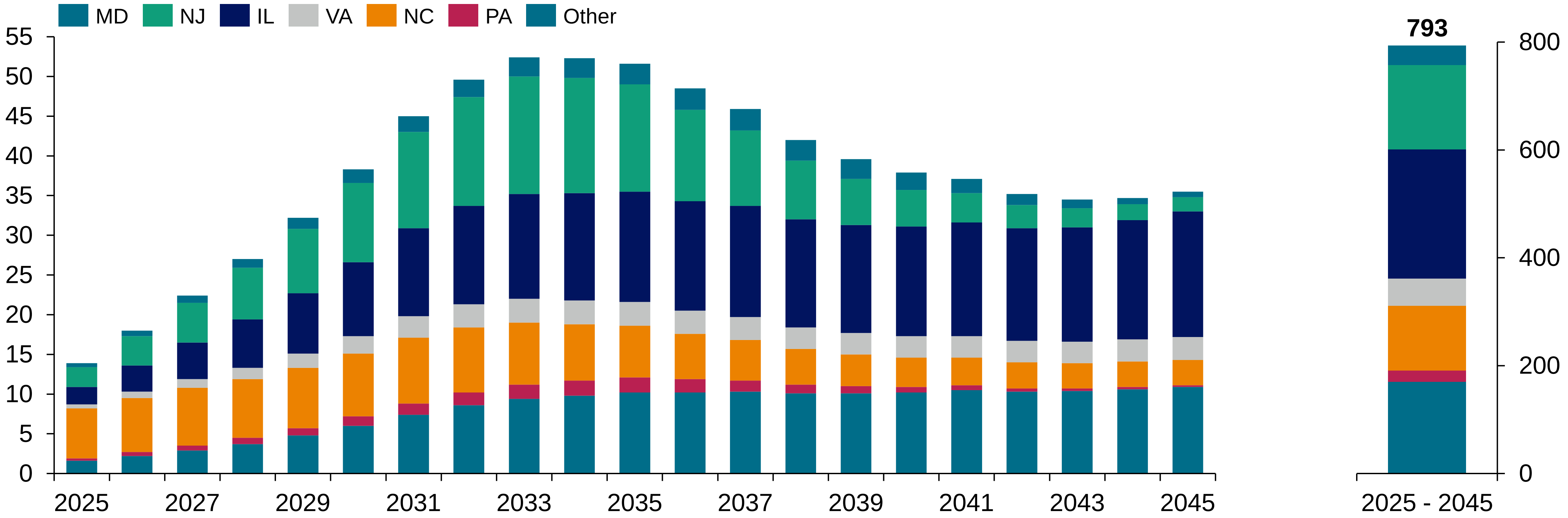



Source: S&P Global

# Commercial and Industrial sector battery outlook

## Annual C&I battery additions, entire state

MW

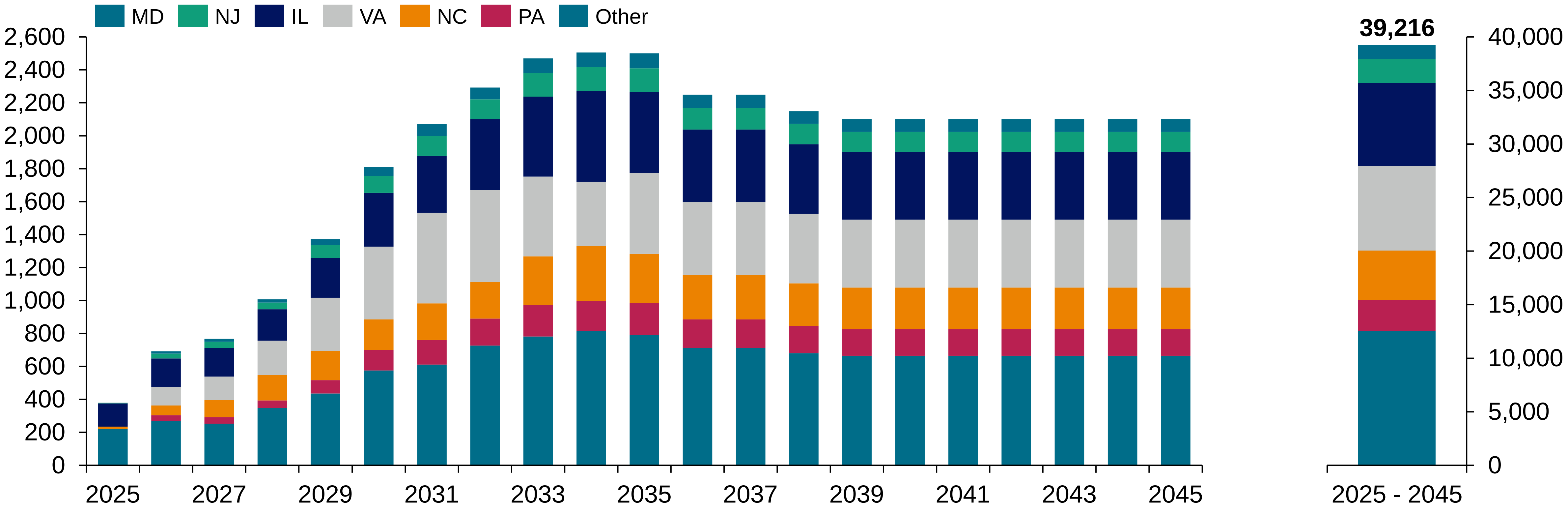



Source: S&P Global

# Utility-scale sector battery outlook

## Annual utility-scale battery additions, entire state

MW

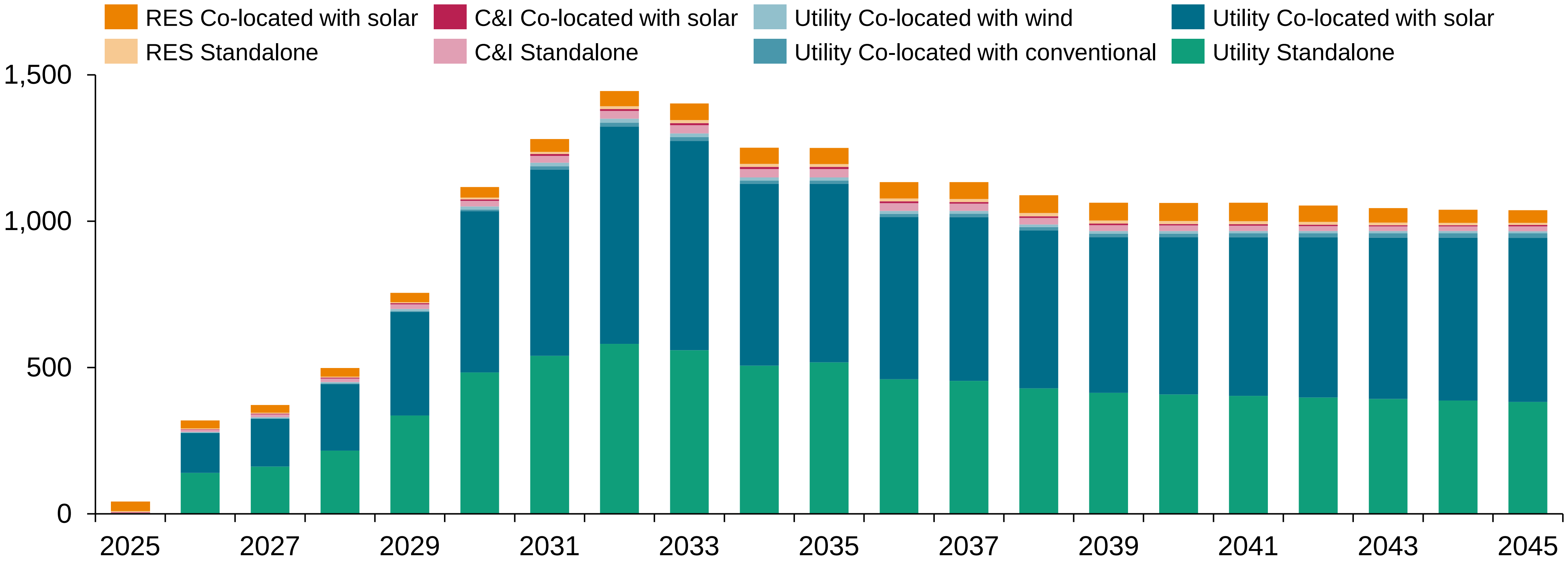



Source: S&P Global

# PJM battery outlook by siting

## Annual breakdown of total battery additions, PJM territory only

MW




Source: S&P Global

# Conclusions for solar and battery forecasts

- **Varying factors at play translate to different stages of contraction and growth across the entire timeframe**
  - ITC expiration date changes introduced by OBBBA, in addition to increased costs from tariffs drive a decrease in annual installations between 2026 and 2028.
  - A modest increase in annual additions is projected between 2029 and 2033, reflecting reduced impact from tariffs and growth in domestic manufacturing.
  - Total annual additions start to decrease again from 2034 onwards as most states have adopted NEM reform.
- **Like last year's report the same four states lead the charge – Maryland, New Jersey, Illinois, and North Carolina**
  - Their combined additions between 2025-2046 accounts for nearly 61% (a drop from last year's 66%) of the forecast across the PJM region. Key legislation in these states, such as the Climate and Equitable Jobs act in Illinois, coupled with state-specific policies, and strong energy demand help stimulate growth across all segments.
- **NEM remains a critical policy driver—inevitable reforms to full retail rate NEM are expected to slow, but not halt, DG solar growth**
  - Most key states are expected to reform their NEM policies in the 2025-2029 period as installed capacity hits current legislative caps.
  - NEM reforms are also likely to support distributed battery storage—common reforms such as TOU and asymmetrical rates create natural incentives for storage, and experience in other states suggests regulators/policymakers may couple those reforms with incentives for flexible load, including batteries.
- **Battery energy storage grows at different speeds based on segment**
  - Utility-scale storage continues to dominate sector additions owing to high demand, better economics and an easier path to market. Utility scale in this year's forecast grows at a similar rate to last years up until 2035, after which the significant reduction in cumulative solar capacity owing to OBBBA changes sees fewer batteries installed.
  - Residential sees a significant reduction in the first few years owing to OBBBA changes, only to later increase. A part of this year's bigger growth compared against last year's forecast is an adjustment in residential capacity that was previously considered as C&I.
  - C&I sees a similar profile to last year's forecast, with reduced numbers across all years.

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