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# US Solar Market Insight

## Executive summary

Q2 2025



## About the report

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**US Solar Market Insight®** is a quarterly publication of Wood Mackenzie and the Solar Energy Industries Association (SEIA)®. Each quarter, we collect granular data on the US solar market from nearly 200 utilities, state agencies, installers, and manufacturers. This data provides the backbone of this US Solar Market Insight® report, in which we identify and analyze trends in US solar demand, manufacturing and pricing by state and market segment over the next five to 10 years. All forecasts are from Wood Mackenzie, Limited; SEIA does not predict future pricing, bid terms, costs, deployment, or supply. The report includes all 50 states, Washington, DC, and Puerto Rico. Detailed data and forecasts are contained within the full version of the report.

### References and Contact

- **References, data, charts, and analysis from this executive summary should be attributed to “SEIA/ Wood Mackenzie US Solar Market Insight®.”**
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- **All figures are sourced from Wood Mackenzie. For more detail on methodology and sources, access the full report at [www.woodmac.com/research/products/power-and-renewables/us-solar-market-insight/](http://www.woodmac.com/research/products/power-and-renewables/us-solar-market-insight/).**

**Note on US Solar Market Insight report title:** The report title is based on the quarter in which the report is released, not the most recent quarter of installation figures.

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## 1. Key figures

- The US solar industry installed 10.8 gigawatts direct current (GW<sub>dc</sub>) of capacity in Q1 2025, a 7% decline from Q1 2024 and a 43% decrease compared with Q4 2024 but still the fourth largest quarter on record.
- Solar accounted for 69% of all new electricity-generating capacity added to the US grid in Q1 2025.
- The US added 8.6 GW of solar module manufacturing capacity in Q1, bringing the total to 51 GW. However, growth in upstream manufacturing capacity remains slow or non-existent. ES Foundry became just the second domestic cell manufacturer when it opened a 1 GW cell factory in South Carolina in January. No new polysilicon or wafer manufacturing came online in Q1.
- Texas installed the most solar capacity in the first quarter of 2025 (2.7 GW<sub>dc</sub>), 92% more than the second-ranked state, Florida. Utility-scale projects dominated installations in both states.
- In Q1 2025, the residential segment installed 1,106 MW<sub>dc</sub> of solar capacity, declining 13% year-over-year and 4% quarter-over-quarter. High interest rates and economic uncertainty continued to suppress demand. California maintained its lead in residential solar state rankings with 255 MW<sub>dc</sub>, but it was the state's lowest quarterly capacity since Q3 2020.
- The commercial solar segment grew by 4% compared to Q1 2024, adding 486 MW<sub>dc</sub> of installed capacity. This increase, driven by California NEM 2.0 installations coming online, made it the only solar segment to grow last quarter. However, the segment experienced a 28% decrease compared with Q4 2024, consistent with seasonal trends.
- The community solar segment installed 244 MW<sub>dc</sub> in Q1 2025, declining 22% year-over-year and 71% quarter-over-quarter. Installations in Maine and New York fueled strong community solar growth at the end of 2024 driven by a net metering change and the alleviation of interconnection backlogs, respectively. Capacity dropped considerably in Q1 in both states, resulting in a decline in national volumes.
- The utility-scale segment installed 9 GW<sub>dc</sub> in Q1 2025, decreasing 7% year-over-year and 43% quarter-over-quarter. High corporate demand drives the short-term momentum, but policy uncertainty will constrain long-term deployment.
- Complex and evolving trade actions will substantially impact solar development over the next five years. Recent changes to anti-dumping and countervailing duties (AD/CVD) on cells and modules from Southeast Asia, as well as the introduction of new, non-industry-specific tariffs over the past few months, may lead to supply chain shifts and potential project delays or cancellations, particularly in the utility-scale segment.
- The US solar industry also faces significant challenges due to recent federal actions, including proposed changes to tax credits that would effectively make them unusable for new projects in the near term and a shift in energy priorities towards fossil fuels, creating an uncertain environment for solar growth in the coming years.
- Our latest five-year outlook projects that the US solar industry will add an average of nearly 43 GW<sub>dc</sub> annually through 2030. This Base case forecast reflects the expected impacts of the latest tariffs *but excludes potential tax credit changes or other provisions proposed in the most recent budget reconciliation bill.*

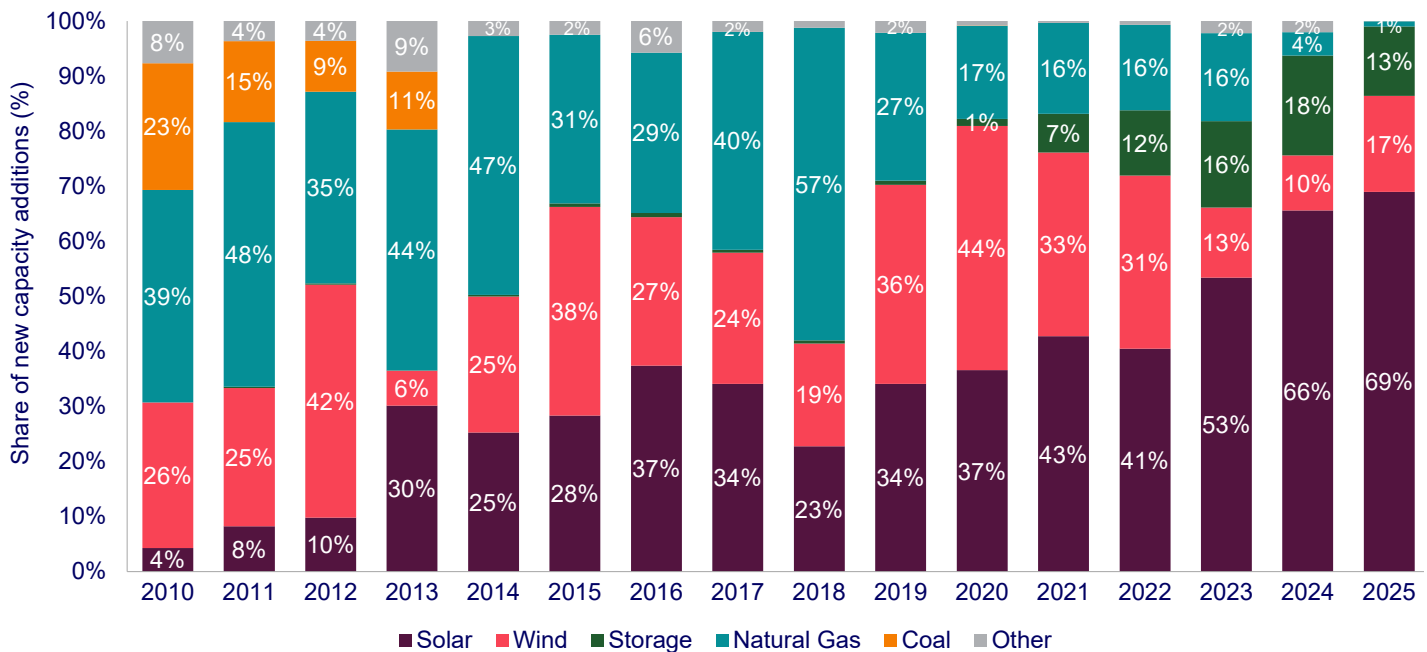
## 2. Introduction

The US solar industry installed 10.8 gigawatts-direct current (GW<sub>dc</sub>) of capacity in the first quarter of 2025. Despite both a quarterly and annual decline in capacity, Q1 2025 was the industry's fourth-best quarter. The utility-scale segment followed a similar trend, with 9 GW<sub>dc</sub> of capacity, which is lower than both Q1 2024 and Q4 2024. However, Q1 2025 still ranks among the segment's top quarters ever. Sixty-five percent of the quarterly utility-scale installations were concentrated in five states: Texas, Florida, Ohio, Indiana and California.

The distributed solar segments showed mixed performances last quarter. Commercial solar grew by 4%, installing 486 MW<sub>dc</sub>, making it the only solar segment to increase compared to Q1 2024. California's NEM 2.0 installations continued to fuel the commercial segment, with the state adding more than 200 MW<sub>dc</sub> in Q1. Community solar installations, however, dropped significantly to 244 MW<sub>dc</sub> after a massive fourth quarter. A net metering deadline in Maine led to a surge in installations at the end of 2024, followed by a dramatic drop in Q1. New York continued to lead the way for community solar installations with more than 100 MW<sub>dc</sub>. Residential solar installed capacity reached its lowest point since Q3 2021, with 1,106 MW<sub>dc</sub> added last quarter. While the first quarter typically sees slower residential installations, the segment continues to face numerous headwinds, including consumer hesitancy to go solar due to economic uncertainty, tariffs, and the availability of the residential solar investment tax credit (ITC).

Overall, photovoltaic (PV) solar accounted for 69% of all new electricity-generating capacity additions in the first quarter of 2025, remaining the dominant form of new electricity-generating capacity in the US.

### New US electricity-generating capacity additions, 2010 – Q1 2025



Source: Wood Mackenzie, note that starting with the Q2 2024 report, capacity additions for the solar, wind, and storage technologies are sourced from Wood Mackenzie data while all other technologies are sourced from the US Energy Information Administration.

### The solar industry faces a perfect storm of Federal policy challenges

The US solar industry faces significant policy headwinds due to multiple recent federal actions. The proposed House budget reconciliation bill, passed by the House on May 22, would, if enacted, eliminate the residential tax credits for both customer-owned and third-party owned lease projects starting in 2026. Section 48E (utility-scale, commercial & industrial, and community solar) projects would have to start construction within 60 days of enactment and be placed in service by the end of 2028 (or the end of 2025 for residential third-party financed systems). While this bill passed the House by one vote, it must now make it through the Senate, where any changes would require the House and Senate to work out a compromise.

Additionally, the bill proposes eliminating electric vehicle tax credits and hydrogen production credits after 2025, as well as imposing prohibitively complex "foreign entity of concern" restrictions that could effectively make the credits unusable in short order. The change from "start of construction" to "placed in service" requirements for tax credit eligibility adds further complexity and risk for developers, as does the elimination of tax credit transferability after 2028. However, many of those points are largely moot, given the short timeline available to begin construction. Likewise, the bill cuts other funding, much of which spending freezes are already holding up.

Furthermore, the executive order to "reinvigorate America's beautiful clean coal industry" signals a stark pivot in federal energy priorities. By elevating fossil fuels and critical minerals while excluding solar, wind and storage from the definition of energy resources, this order aims to accelerate the production of coal, oil, natural gas and uranium. Such a reorientation of federal policy could redirect funding and regulatory support away from solar and towards conventional energy sources, though none of these actions are likely to remedy the gas turbine shortage over the next five years.

### Trade-action whirlwind exacerbates uncertainty

The US solar industry faces a complex and evolving trade landscape that will significantly impact development over the next five years. The flurry of recent trade actions, both industry-specific and non-industry-specific, is reshaping the economics of solar projects and supply chains.

The Trump administration implemented significant trade policy changes in Q1 2025 by modifying and introducing new tariffs. Initially set to take effect in February, a 25% duty was imposed on imports from Canada and Mexico starting March 4, with exceptions for goods under the USMCA trade agreement and a 10% limit on Canadian energy resources and critical minerals. Modifications to Section 232 duties on all imports of steel and aluminum articles followed this action. The new scope of Section 232 removed country exemptions and terminated the exclusion process for steel and aluminum imports; it also equalized the aluminum tariff rate by increasing the duty from 10% to 25% (most recently increased to 50% on June 4). Although the US solar industry doesn't materially import assembled equipment from Canada or Mexico, these tariffs have an indirect impact on the sector. Some components used in the production of inverters and trackers are sourced from these countries, effectively raising production costs for US manufacturers. Notably, despite the US solar industry's reliance on domestically produced steel, market forces triggered an immediate increase in the domestic steel index. This unexpected rise has increased the production costs of tracker manufacturers, potentially affecting project economics. Additionally, US module manufacturers face increased frame costs.

Tariffs on Chinese goods underwent significant fluctuations throughout early 2025 as the administration imposed and modified fentanyl-related and reciprocal tariffs, creating a volatile trade environment. With a 10% fentanyl-related tariff effective on February 4, the duties escalated rapidly, reaching 20% by March 4, then surging from 54% following the imposition of reciprocal tariffs to 104% effective April 9, before peaking at 145% effective on April 12. Chinese and US officials' joint announcement of a 90-day tariff rollback agreement interrupted this upward trajectory on May 12. The resulting tariff structure, effective May 14, comprised a 10% general duty plus a 20% fentanyl-related duty, totaling a 30% tariff that can stack on top of other tariffs (e.g., Section 201, Section 301, AD/CVD). As of May 29, two courts have ruled that the statutes cited by the President do not grant the authority to issue these broad tariffs, thereby adding to the volatility and business uncertainty. However, a federal appeals court subsequently paused their ruling.

While the US solar industry doesn't significantly rely on equipment imports from China, these frequent tariff adjustments have introduced considerable uncertainty into the market. The growth of the solar industry also depends on the development of storage resources. Swings in tariff policy toward China introduce volatility to storage costs, due to China's significant share of the battery manufacturing market. This turbulence may impact supply chain strategies, potentially influencing sourcing decisions and risk assessments for developers and investors. In particular, domestic manufacturers may have to pay increased costs for specific manufacturing equipment and components that are difficult to source from outside China.

More broadly, the "Liberation Day" announcement on April 2 introduced sweeping new tariffs aimed at addressing perceived longstanding "unfair trade practices" and stimulating domestic manufacturing. This policy overhaul, the most significant since the 1930s, implemented a universal 10% tariff on all imports effective April 5 for goods not loaded onto a vessel and in transit. Country-specific duties followed. They range from 10% to 49% effective April 9 for goods not loaded onto a vessel and in transit. Notably exempted were imports from Canada and Mexico, as well as goods already subject to Section 232 tariffs, select energy products, and certain critical minerals. The implementation timeline was adjusted on April 9, with President Trump announcing a 90-day pause on most country-specific reciprocal tariffs while maintaining the universal 10% duty and China-specific duties (up until the May adjustment).

This new tariff structure could have significant implications for the US solar industry, which relies on international sourcing. Unless country-specific duties are renegotiated before the tariff pause ends, key countries for the industry now face substantial tariffs: Thailand (36%) and India (26%) for inverters; Laos (48%), Indonesia (32%), South Korea (25%), and Malaysia (24%) for cells and modules (polysilicon and wafers are notably exempted). These duties would be applied in addition to the existing AD/CVD and Section 201 tariffs. These tariffs may reshape dynamics in the solar sector's supply chain. The industry may experience increased costs and potential supply constraints in the short term, with longer-term implications for project economics and competitiveness.

Adding to this complexity, on April 20, the Department of Commerce (DOC) issued its final determination in the anti-dumping and countervailing duties (AD/CVD) investigation on solar cells and modules. The ruling set cumulative duty rates ranging between 14.64% and 3,500% for manufacturers from Cambodia, Malaysia, Thailand, and Vietnam (CMTV), exceeding the preliminary determination levels. This decision has introduced significant uncertainty for developers who have historically relied on imports from these countries. On May 20, the International Trade Commission issued a final affirmative injury decision. It will trigger a resumption of AD/CVD duty collection at final rates when the *Federal Register* publishes the final ITC report.

Although the final decision was only recently issued, there have been some shifts in solar imports. Specifically, module import patterns have already started to change, while cell import trends have yet to undergo significant shifts. Module imports from CMTV have plummeted from an average of 3.8 GW per month in 2024 to an average of 1.1 GW per month in Q1 2025. Module imports from Cambodia, whose mandatory respondents withdrew from participation in the AD investigation and received the highest company-specific and country-wide AD/CVD rates, have dropped to 0 GW in 2025. Concurrently, we have observed an increased presence of alternative sourcing locations in the US module import mix. For example, the share of module imports from Indonesia and Laos has grown to 34.6% in Q1 2025. The solar industry continues to be nimble, but the rapid proliferation of trade action poses potential challenges in maintaining a steady supply and managing costs. We expect these shifts to continue influencing project economics and development timelines through 2026, with possible long-term implications for the US solar manufacturing landscape.

For utility-scale solar, which is particularly sensitive to equipment costs, trade action could slow deployment in the next 1-2 years as developers navigate higher prices and supply chain disruptions. We anticipate some projects may be delayed or canceled, especially those with tight margins or fixed power purchase agreement prices that are harder to renegotiate.

The cumulative effect of these policy changes creates a challenging and uncertain environment for solar development over the next five years. While underlying demand drivers such as imminent load growth and corporate sustainability goals remain strong, the industry will need to navigate a complex policy landscape with potentially reduced federal support. State-level initiatives and corporate demand will gain more relevance in driving solar growth, partially offsetting federal headwinds. The industry's ability to adapt to this shifting policy terrain will be crucial in determining the pace of US solar deployment through 2030 and beyond.

### **The US solar market will add more than 250 GW<sub>dc</sub> by 2030 in our Base case, but there is a downside risk**

Federal policy and trade action present significant challenges and uncertainty for the US solar industry. Our five-year Base case outlook incorporates the latest effective tariff announcements as of this report's publication date. In addition to the 25% tariffs on Canada and Mexico, we assume settlement of tariffs over the next 90 days, including a 30% tariff rate for China in 2025 and 2026, and a 10% rate for all other countries. However, our outlook does not reflect the provisions in the House budget reconciliation bill.

While tariffs will not significantly impact solar installation volumes this year, more immediate headwinds will lead to declines in all segments in 2025. Residential installations will decrease slightly in 2025, following a 30% market contraction in 2024, as high interest rates and other market headwinds impact consumer demand. Commercial solar capacity will fall by 4% this year compared to 2024, as the backlog of California NEM 2.0 installations is depleted and growth slows in other mature markets such as Maine, New Jersey, and New York. The community solar market will experience a more significant contraction, with capacity declining by 22% year-over-year in 2025, following a record year in 2024. Lastly, utility-scale installations will drop by 2% in 2025 after two solid years of growth. Policy and tariff uncertainty are resulting in a contraction in the segment's pipeline, impacting near-term growth.

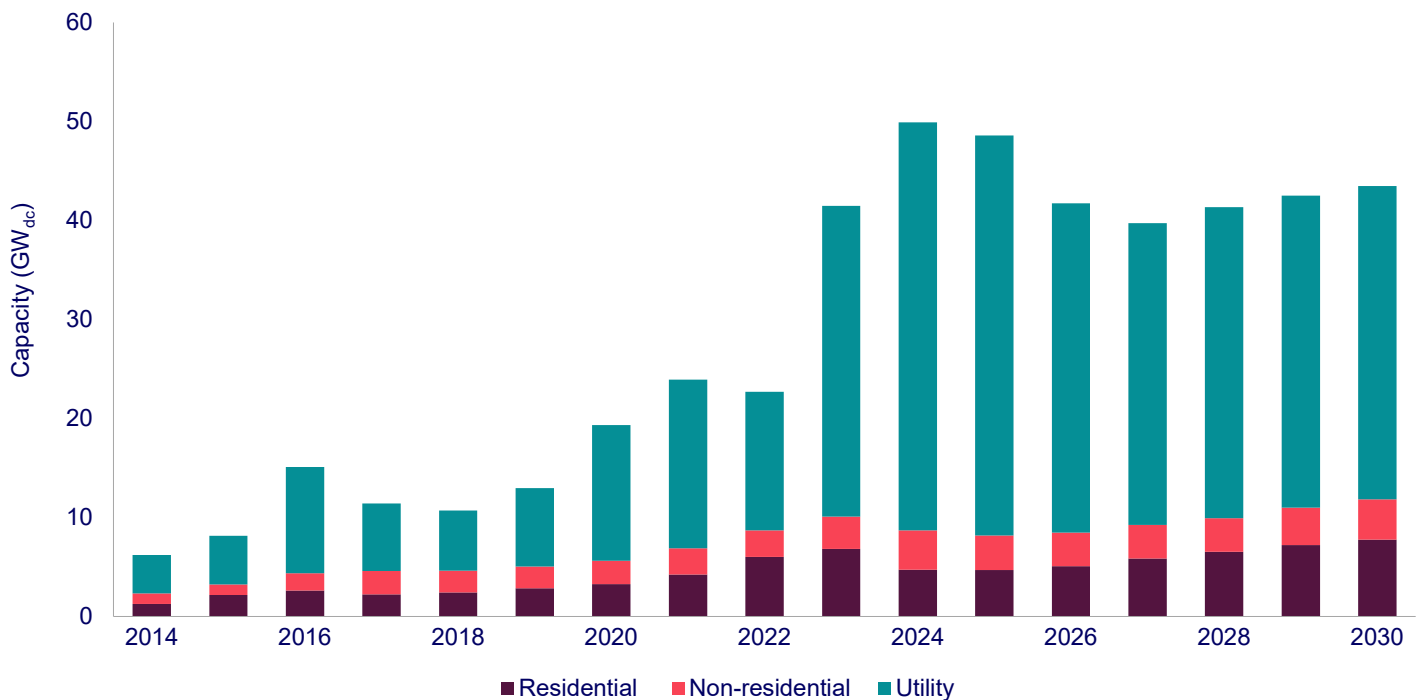
The US solar industry is projected to contract by 2% annually between 2025 and 2030 in our Base case but still add nearly 43 GW<sub>dc</sub> on average each year. In the near term, solar installations will decline at an average rate of 7% from 2025 to 2027.

Policy uncertainty and rising costs due to tariffs will impact market growth across all solar segments. Proposed tax credit changes and stricter regulations on foreign entities could also result in a more significant market contraction.

Industry growth will resume in the second half of our outlook, with solar installations projected to increase by 3% between 2028 and 2030. The solar industry’s supply chain shifting domestically and increased energy demand from AI and data centers are driving this recovery. However, labor shortages and interconnection delays will continue to hinder growth.

It is important to note that the power industry backdrop in which solar competes will have a substantial impact on its trajectory. Wood Mackenzie is now tracking nearly 140 GW of proposed data centers, up from approximately 50 GW a year ago. Moreover, reshoring of manufacturing in clean energy and other industries presents additional large-load facilities that will increase electricity demand. With supply chain constraints on gas turbines and the escalating cost of constructing new gas plants, solar will play a vital role in helping to meet demand growth.

**US solar PV installations and forecasts by segment, 2014-2030**



Source: Wood Mackenzie

State solar PV installation rankings, Q1 2025

State	Rank			Installations (MW <sub>dc</sub> )		
	2023	2024	Q1 2025	2023	2024	Q1 2025
Texas	1	1	1	11,979	10,854	2,659
Florida	3	3	2	3,223	4,856	1,388
California	2	2	3	6,567	4,883	1,011
Ohio	6	5	4			
Indiana	15	9	5			
Arizona	5	6	6			
Illinois	13	4	7			
Wisconsin	9	16	8			
Idaho	27	36	9			
Pennsylvania	12	19	10			
Connecticut	35	34	11			
Kentucky	40	24	12			
Oregon	21	41	13			
Virginia	7	13	15			
Arkansas	18	8	16			
New York	10	7	14			
Michigan	16	23	17			
Louisiana	26	15	18			
Oklahoma	44	30	19			
Puerto Rico	17	26	20			
Missouri	38	22	21			
New Jersey	19	28	22			
Hawaii	25	32	23			
Massachusetts	22	27	24			
Colorado	4	25	25			
Nevada	8	10	26			
Maine	20	18	27			

**Underlying data available in the full report**

Source: Wood Mackenzie

State solar PV installation rankings, Q1 2025

State	Rank			Installations (MW <sub>dc</sub> )		
	2023	2024	Q1 2025	2023	2024	Q1 2025
Kansas	46	47	28	<p style="text-align: center;"><b>Underlying data available in the full report</b></p>		
Maryland	33	29	29			
Rhode Island	24	40	30			
North Carolina	11	31	31			
Minnesota	29	21	32			
Washington DC	45	44	33			
Iowa	43	20	34			
Washington	41	35	35			
Utah	36	17	36			
Montana	31	45	37			
New Mexico	23	11	38			
New Hampshire	42	42	39			
South Carolina	32	39	40			
Georgia	14	12	41			
Delaware	47	46	42			
West Virginia	50	38	43			
Vermont	48	49	44			
Wyoming	51	33	45			
South Dakota	39	37	48			
Nebraska	37	48	46			
Mississippi	28	14	47			
Alaska	49	51	49			
North Dakota	52	52	50			
Tennessee	34	50	51			
Alabama	30	43	52			

Source: Wood Mackenzie

### 3. Market segment outlooks

#### 3.1. Residential PV

- **1,106 MW<sub>dc</sub> installed in Q1 2025**
- **Down 13% from Q1 2024**
- **Down 4% from Q4 2024**

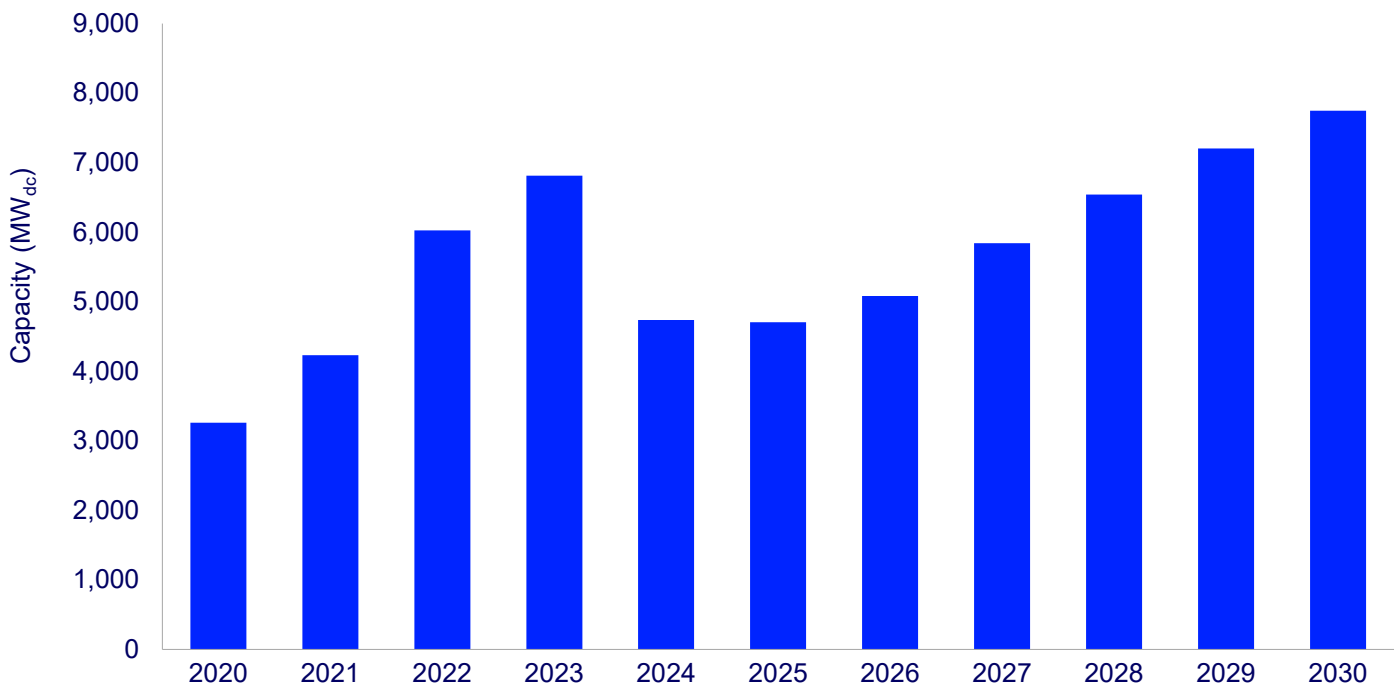
#### Tax credit and tariff uncertainty are top of mind for the residential solar market

In Q1 2025, the residential solar market added 1,106 MW<sub>dc</sub>, representing a 13% year-over-year decline and 4% quarter-over-quarter decrease. Compared to Q1 2024, 22 states experienced drops in installed capacity. California continued to lead the residential solar state capacity rankings with 255 MW<sub>dc</sub>, despite experiencing its lowest quarter since 2020. Puerto Rico and Florida followed, rounding out the top three markets.

Challenging market conditions continue to plague the segment, with some installers reporting unprecedented turmoil. The residential solar market faces significant uncertainty in 2025, grappling with supply chain challenges due to tariffs, the potential elimination of tax credits, and the continued headwinds of high interest rates.

These challenges have dampened optimism for recovery in 2025. We downgraded our five-year residential solar outlook by 9% this quarter, anticipating a slight contraction in installed capacity compared to 2024. Recent tariff announcements have introduced more economic uncertainty and risk, creating consumer hesitancy about making large purchases. The House reconciliation bill's proposed provisions present a major downside risk, including elimination of the tax credits under Section 25D for customer-owned solar systems and Section 48E for third-party owned lease systems. Despite near-term uncertainty and instability, the residential solar market still possesses significant long-term potential, as national market penetration remains under 10%. In our Base case forecast, we expect the segment to grow by 9% on average annually between 2025 and 2030, heavily driven by continued retail rate increases and resiliency concerns.

#### Residential solar installations and forecast, 2020-2030



Source: Wood Mackenzie

### 3.2. Commercial PV

- 486 MW<sub>dc</sub> installed in Q1 2025
- Up 4% from Q1 2024
- Down 28% from Q4 2024

**Note on market segmentation:** Commercial solar encompasses distributed solar projects with commercial, industrial, agricultural, school, government, or nonprofit offtakers, including remotely net-metered projects. This excludes community solar (covered in the following section).

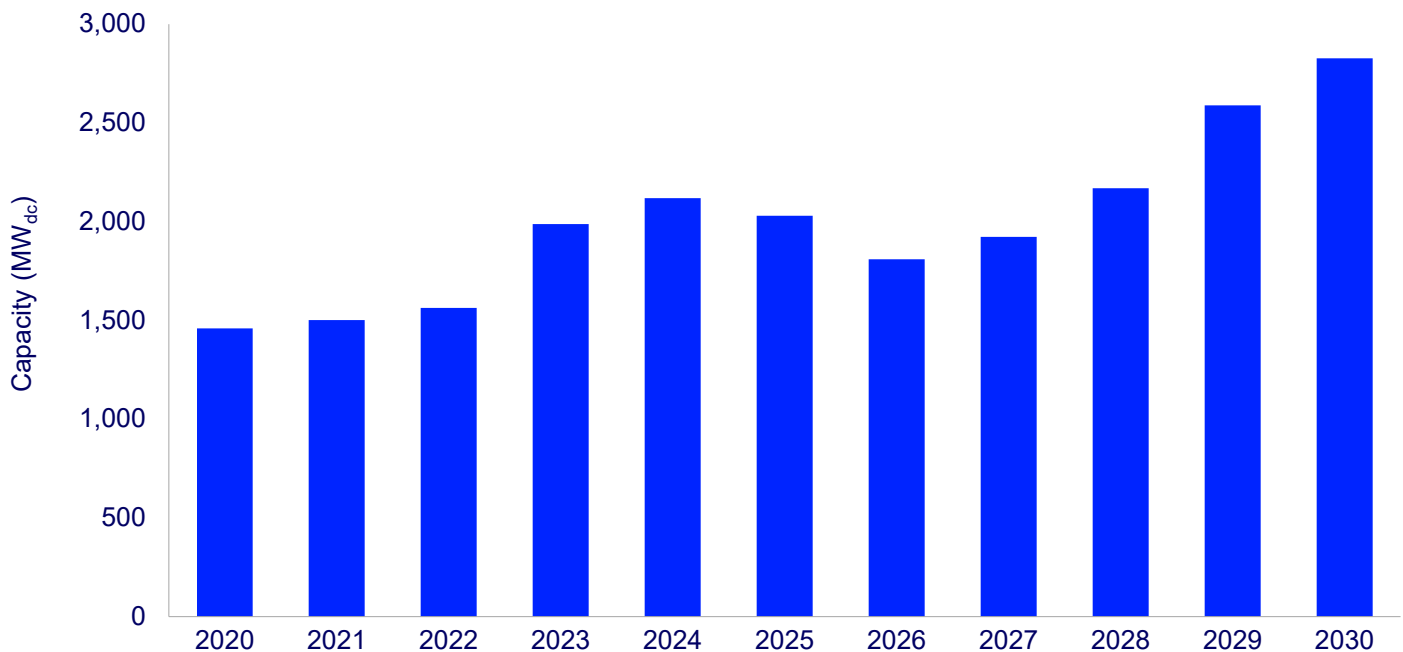
#### The commercial solar sector achieved an all-time high for first-quarter installations

The commercial solar market reached its record first-quarter of installation capacity in Q1 2025. The segment added 486 MW<sub>dc</sub>, a 4% year-over-year increase. Installations declined by 28% compared to last quarter, reflecting the typical difference between the year-end Q4 rush and regular Q1 new capacity. A surge in California’s NEM 2.0 installations fueled this growth, with legacy states such as Illinois and New York contributing substantial volumes of new capacity. Newer markets such as Pennsylvania and Texas also contributed to this solid Q1 performance.

Despite federal uncertainty, developers strive to maintain project development as close to business as usual as possible. However, the industry remains mindful of risks such as the early sunset of the Section 48E Investment Tax Credit, potential termination of transferability, and macroeconomic forces.

Wood Mackenzie has adjusted our commercial solar forecast downward this quarter. Tariffs will affect commercial solar pricing, which resulted in a 4% downgrade to our five-year outlook. California NEM 2.0 projects are continuing to come online this year, taking significantly longer than initially anticipated, which will contribute to a relatively high installation volume of over 700 MW<sub>dc</sub>. We anticipate a state contraction in 2025 and 2026 following the NEM 2.0 surge, resulting in a decline in national volumes in both years. The segment will eventually recover and grow at an average annual rate of 12% from 2027 to 2030, driven by increasing electricity rates and growth from emerging state markets in the Midwest and Southeast.

#### Commercial solar installations and forecast, 2020-2030



Source: Wood Mackenzie

### 3.3. Community solar PV

- **244 MW<sub>dc</sub> installed in Q1 2025**
- **Down 22% from Q1 2024**
- **Down 71% from Q4 2024**

**Note on market segmentation:** Community solar projects are part of formal programs where multiple residential and non-residential customers can subscribe to the power produced by a local solar project and receive credits on their utility bills.

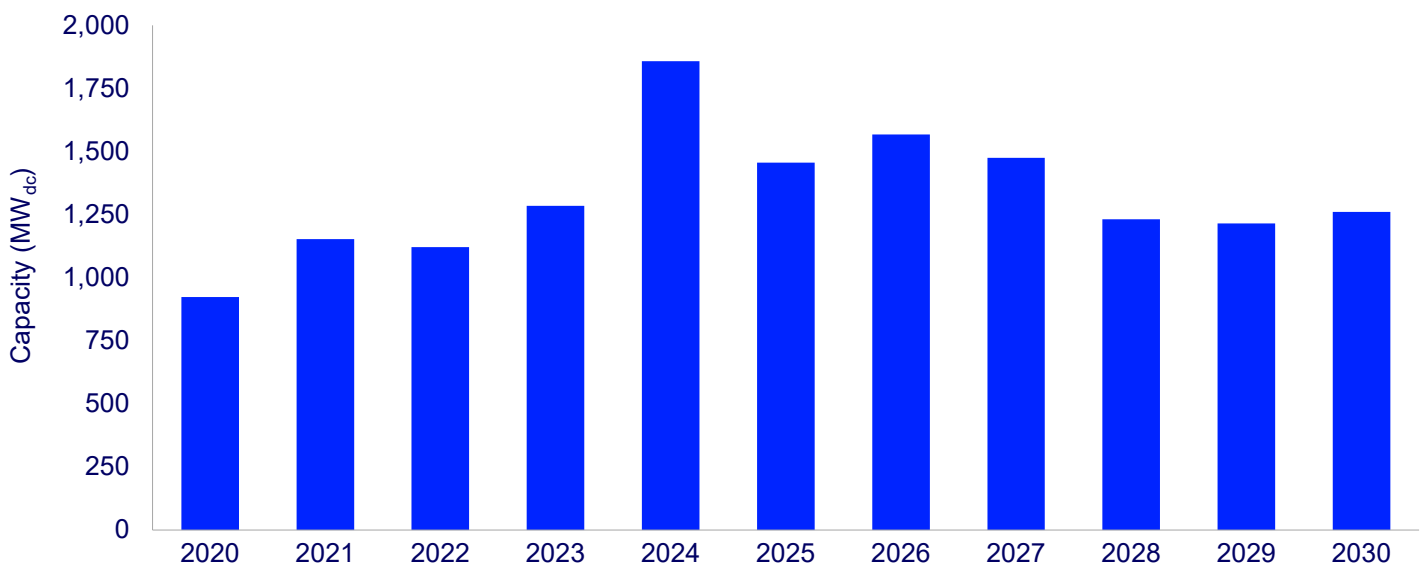
#### Without additional statewide programs, community solar growth will stagnate through 2030

Community solar installations declined 22% year-over-year in Q1 2025, resulting in 244 MW<sub>dc</sub> of new capacity. Installed capacity in Maine and Massachusetts fell by 85% and 78% year-over-year, respectively. New volumes in New York also declined slightly, even as the state continues to represent 52% of the total market. We expect the national community solar market to contract 22% this year, following a particularly strong 2024 for the segment. However, installed capacity in 2025 will still exceed 2023 volumes, reaching approximately 1.5 GW<sub>dc</sub>. New York and Illinois will drive most of this year’s capacity while new successor programs in New Jersey and Maryland continue building momentum.

Community solar capacity under development and construction significantly exceeds our near-term outlook. New York and Illinois alone have a community solar pipeline totaling nearly 5 GW<sub>dc</sub> as of Q1 2025. However, due to lengthy interconnection studies and grid upgrades, we expect only a fraction of that capacity to come online each year. There is more upside in potential new markets with proposed community solar legislation where pre-development project pipelines exceed 1.5 GW<sub>dc</sub>. Despite lengthening project development timelines, pipelines in key community solar state markets remain healthy, supporting the market’s health throughout our five-year outlook.

Overall, we expect the national market to contract by 6% on average annually through 2030. Importantly, our five-year outlook includes only state markets with active programs and excludes those with proposed program legislation, leaving room for upside potential if new legislation passes this year or in the future. New tariffs on solar components resulted in a 4% decrease in our five-year outlook compared to the last quarter. Additionally, the latest draft of the budget reconciliation bill would have a significant impact on the community solar segment. As the reconciliation process unfolds, we will monitor the impacts to our Base case forecast closely.

#### Community solar installations and forecast, 2020-2030



Source: Wood Mackenzie

### 3.4. Utility PV

- **9.0 GW<sub>dc</sub> installed in Q1 2025**
- **Down 7% from Q1 2024**
- **199 GW<sub>dc</sub> of utility-scale solar will be added between 2025 and 2030**

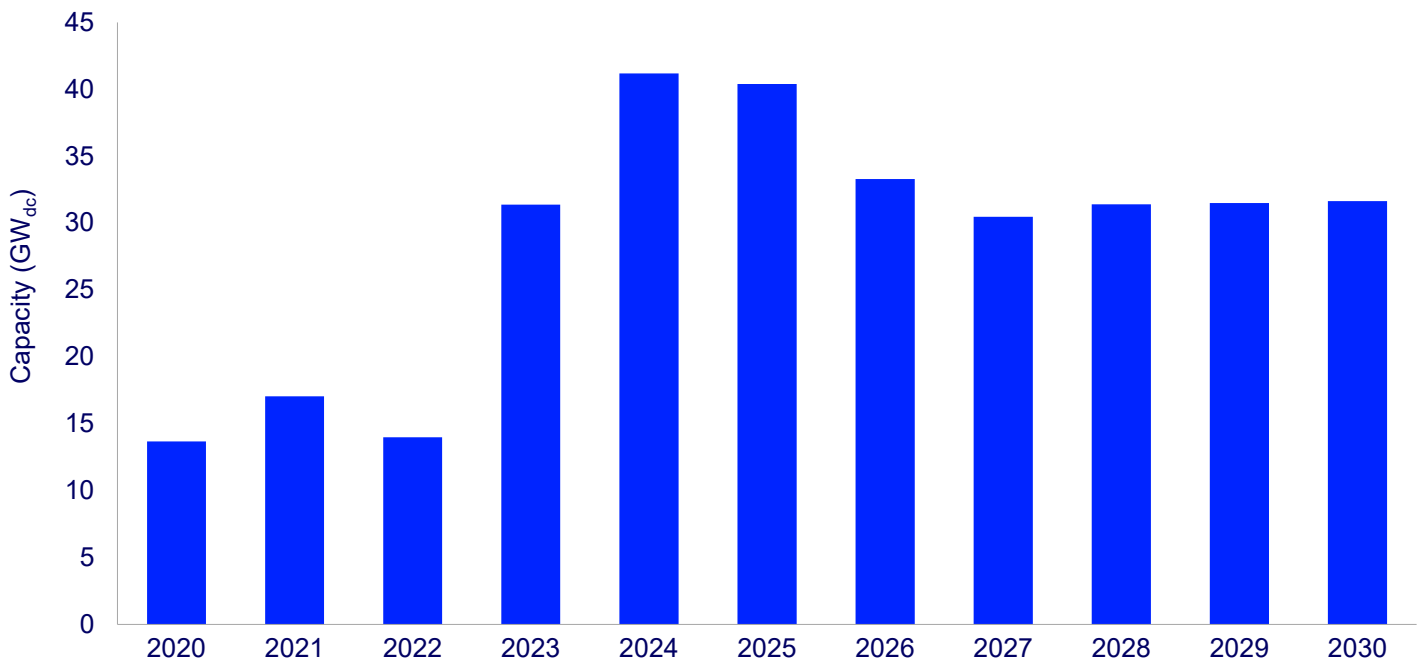
#### Utility-scale solar momentum continues in Q1 2025, but policy uncertainty drives a pipeline contraction

The utility-scale sector installed 9.0 GW<sub>dc</sub> of projects in Q1 2025, representing a 7% decline year-over-year. The top five states with the largest installations are Texas, Florida, Ohio, Indiana, and California, making up over 65% of total installations this quarter. Contracted projects reached 5.7 GW<sub>dc</sub> in Q1 2025, a 2% year-over-year increase. Large corporate buyers such as Meta, Amazon, and Verizon secured 55% of the contracted projects in Q1 2025 to support their growing energy needs and clean energy goals. The bulk of projects with corporate off-takers were in Texas, with the highest activity coming from Meta's PPA contracts.

Wood Mackenzie projects that 199 GW<sub>dc</sub> of new utility-scale solar capacity will be installed from 2025 to 2030. Installation momentum from 2024 will continue into 2025, but installed capacity will start to decline and plateau starting in 2026 from a contraction in the overall pipeline. This decrease is primarily driven by general policy and tariff uncertainty, particularly potential changes in federal tax incentives and ongoing trade disputes affecting solar imports, creating hesitancy for newly contracted and early-stage projects.

Further challenges arise from actions like PJM's gas-focused initiative and market caps, posing potential obstacles for utility-scale solar projects. However, the forecast also has potential upsides, as increasing energy demand from AI and data centers and supply chain issues for large gas turbines position utility-scale solar, paired with storage, as a viable solution to meet expected growth.

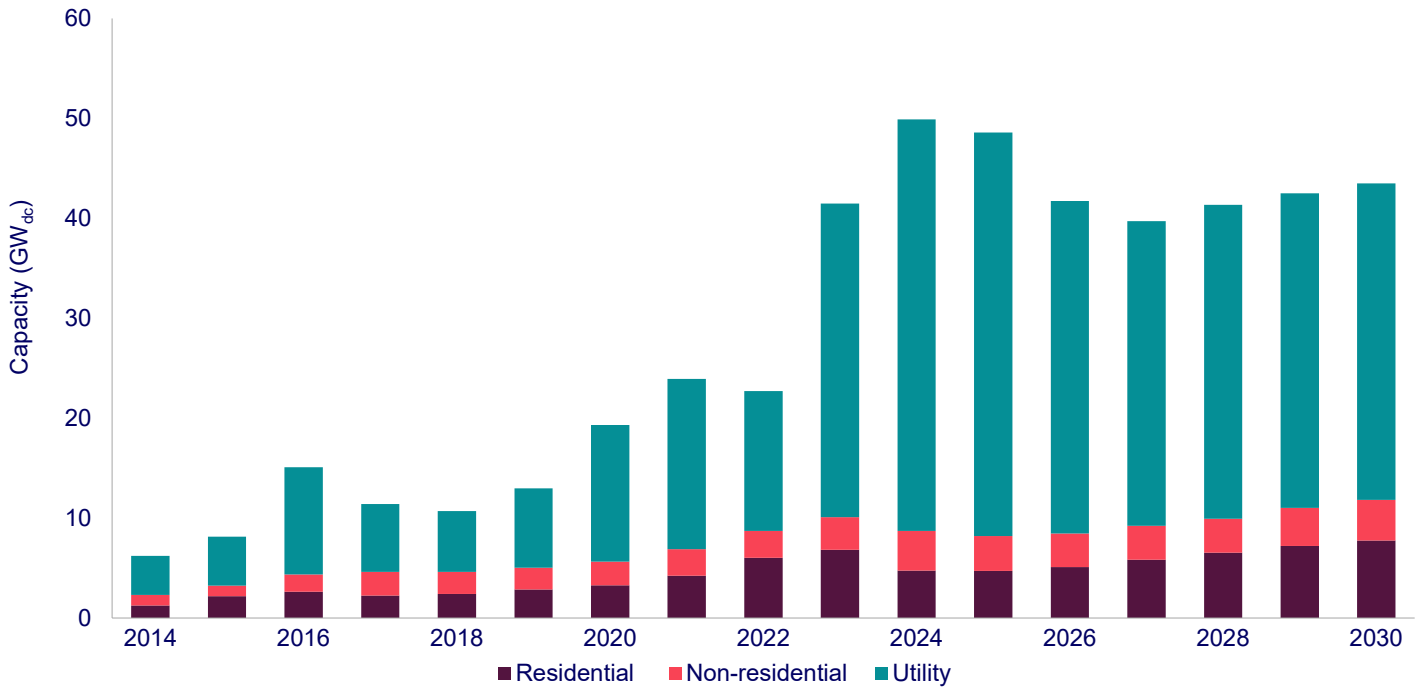
#### Utility-scale installations and forecast, 2020-2030



Source: Wood Mackenzie

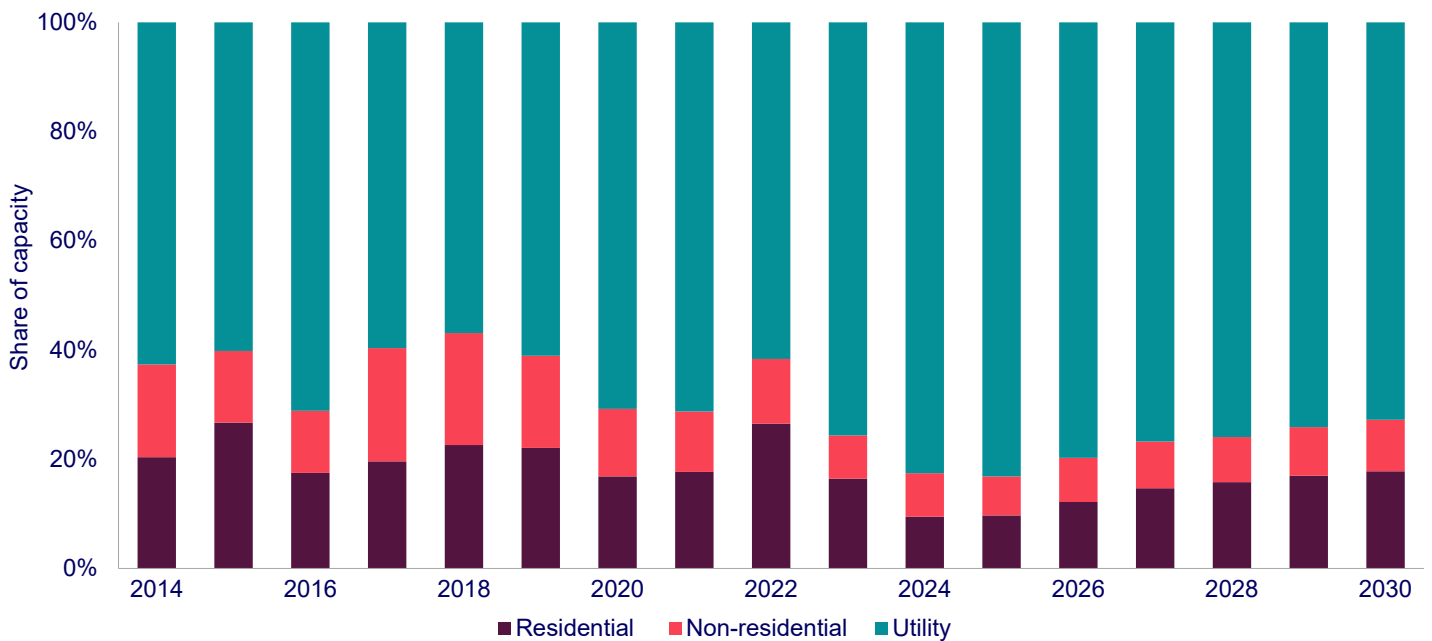
## 4. US solar PV forecasts

US PV installation historical data and forecast, 2014-2030



Source: Wood Mackenzie

US PV share of capacity (historical and forecast), 2014-2030



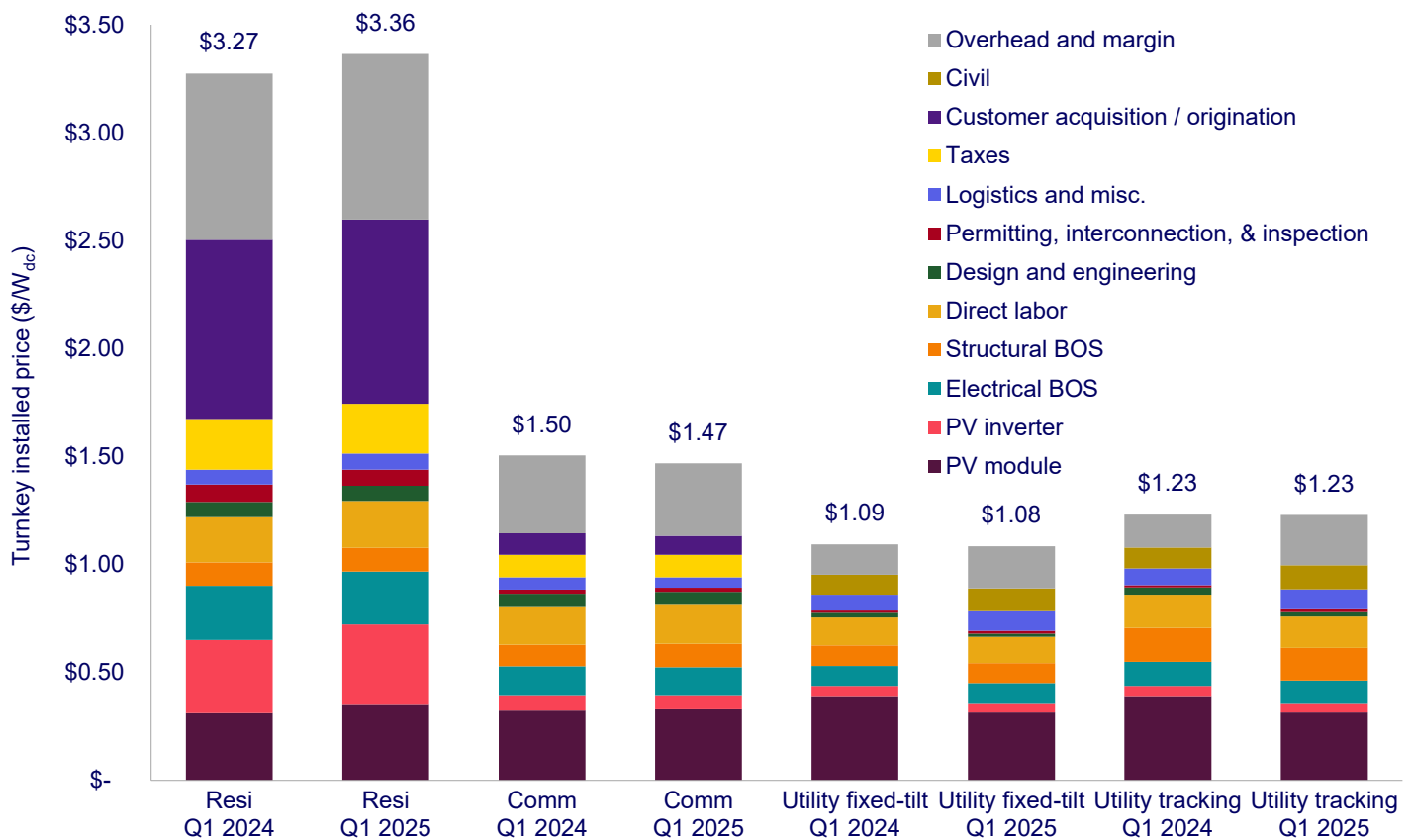
Source: Wood Mackenzie; Note that non-residential solar is broken out into commercial solar and community solar in the full data accompanying the US Solar Market Insight Q2 2025 full report.

## 5. National solar PV system pricing

- Residential system pricing is up 3% year-over-year
- Commercial system pricing is down 2% year-over-year
- Utility-scale system pricing is down 1% for fixed-tilt and remained flat for single-axis tracking year-over-year

Wood Mackenzie employs a bottoms-up modeling methodology to capture, track and report national average PV system pricing by segment for systems installed each quarter. The methodology is based on the tracked wholesale pricing of major solar components and data collected from industry interviews. Wood Mackenzie's Supply Chain data and models are leveraged to enhance and bolster our pricing outlooks. **New this quarter: Wood Mackenzie assumes that all system costs are incurred in the year in which the project is being contracted, and no procurement or construction lags are being factored into the pricing. Module prices for all segments are also now reflective of 'overnight' pricing and do not account for any procurement or delivery lags (previously, modules for the utility segment were assumed to be procured one year prior to the project's commercial operation). The utility segment data no longer breaks out taxes as a separate line item as those are incorporated in the equipment category estimates. These changes have been made to the current system prices as well as historical 2023 prices.**

Modeled US national average system prices by market segment, Q1 2024 and Q1 2025



Source: Wood Mackenzie

Module prices across all segments rose 2-5% in Q1 2025. The adjustment follows changes to available supply and DOC's preliminary antidumping and countervailing duty determinations on PV cells and modules from Cambodia, Malaysia, Thailand, and Vietnam. The impact is most evident in the residential segment, where the average system price increased 3% year-on-year to \$3.36/W<sub>dc</sub> in Q1 2025. Despite higher module prices, prices in the commercial and utility-scale segments decreased or remained flat year-over-year. Commercial PV system prices fell 2% annually to \$1.47/W<sub>dc</sub>, while utility-scale fixed-tilt system prices dropped 1% to \$1.18/W<sub>dc</sub>. Single-axis tracking system prices remained stable at \$1.23/W<sub>dc</sub>.

This counterintuitive trend in the commercial and utility-scale segments stems from technological advancements and cost-saving measures. Most new projects now use Tunnel Oxide Passivated Contact (TOPcon) modules, which offer higher efficiency. The adoption of these modules provides savings on balance of plant equipment, helping to offset increased module prices and reduce overall system costs.

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