Rhodium Group

Clean Investment Monitor: The State of US Clean Energy Supply Chains in 2026

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US clean energy manufacturing capacity has expanded notably since the spring of 2025, when Congress was debating whether to repeal key incentives enacted by the Inflation Reduction Act (IRA). As of Q3 2026, capacity for domestically produced battery modules, battery cells, and solar cells, as tracked by the Clean Investment Monitor (CIM), has roughly doubled from Q1 2025 levels. Domestic manufacturing capacity for solar modules, wind blades, and nacelles has expanded by roughly 50% from Q1 2025, reflecting new facilities that have come online. The growth occurred as long-term projected demand for those clean technologies was dragged down by policy changes, such as the repeal of federal greenhouse gas (GHG) emissions standards for vehicles, and regulatory headwinds, such as permitting constraints on renewable energy. In this analysis, we assess the state of supply chains for solar, wind, batteries, and electric vehicles (EVs) as of Q3 2026 by comparing announced domestic manufacturing capacity from the CIM database with annual deployment of those technologies in 2025, and the range of projected annual deployment of those technologies from 2030 to 2035 as modeled in Rhodium Group's Taking Stock 2026 report. We also summarize trends from our tracking of US clean energy manufacturing investment, updated through Q3 2026.

Assessing the domestic supply chain's current capacity against projected demand

Since our 2025 supply chain assessment, the US clean energy manufacturing base has expanded considerably. In Q1 2025, 305 solar, wind, battery, and EV manufacturing facilities were operating. As of Q3 2026, we track 418 projects in operations. Meanwhile, the long-term domestic demand outlook for electric vehicles and renewable electricity

generation has weakened as federal policies supporting their deployment have been phased down or eliminated.

In this update, we explore how announced domestic manufacturing capacity compares to 2025 deployment and the range of projected average annual deployment from 2030 through 2035 in Taking Stock 2026. Those projections incorporate US policies at the state and federal level as of June 2026, including the accelerated phaseout of the 45Y and 48E wind and solar deployment tax credits, the expiration of 30D and 45W EV tax credits, the repeal of federal greenhouse gas (GHG) emissions standards for vehicles and the revocation of the waiver enabling California to establish the Advanced Clean Cars II and Advanced Clean Trucks programs, as well as permitting constraints for solar and wind.

We evaluate current production from operating facilities and anticipated capacity tied to these operating facilities that have yet to come online. We separately identify capacity levels for under-construction facilities and those that are announced but have not yet broken ground.

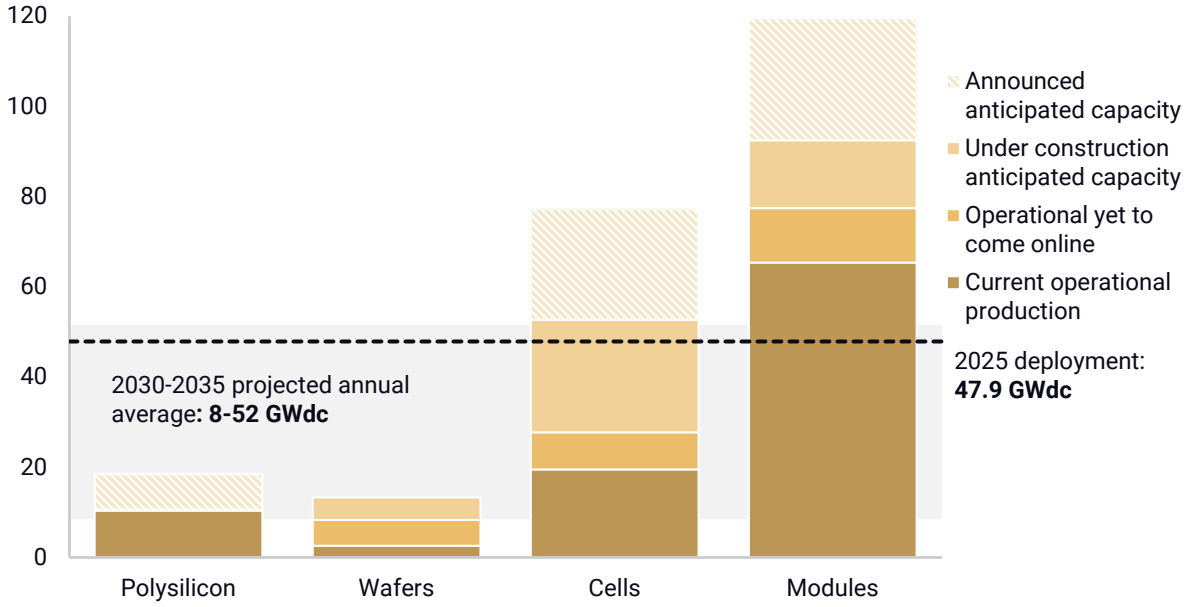
For some clean energy supply chains, such as wind, current domestic capacity is much closer to projected deployment than the outlook in Q1 2025. We found substantial gaps in our 2025 outlook across solar upstream components, wind, and EVs, with batteries the closest to meeting forecasted deployment with domestic capacity. As of Q3 2026, operational manufacturing capacity now appears sufficient, or much closer to sufficient, to supply projected deployment under at least some scenarios from Rhodium Group's 2026 Taking Stock report.

Solar supply chain

In 2025, the US added close to 48 gigawatts-direct current (GWdc) of solar capacity to the grid, spanning commercial, industrial, residential, and utility-scale installations. As of Q3 2026, CIM tracks 131 operational solar manufacturing projects across the US, compared to the 110 operational in Q1 2025. These facilities have the capacity to produce 10 GWdc of polysilicon, 3 GWdc of wafers, 20 GWdc of cells, and 65 GWdc of modules, including thin-film technology. Domestic module manufacturing is sufficient to fulfill 2025 deployment, while upstream components fall short: polysilicon capacity is equivalent to 22% of deployment, wafers to 5%, and cells to 41% (Figure 1).

Rhodium Group projects that the US is poised to see record levels of solar deployment in 2026 and 2027, as developers rush to claim expiring tax credits and electricity demand surges, driven by data centers, EVs, and increased manufacturing activity. Solar deployment remains high through 2030. After that, the range of possible outcomes widens, reflecting uncertainty around future natural gas prices and clean technology costs. From 2030 through 2035, Rhodium Group projects that the US will add 8 to 52 GWdc of solar capacity annually.

FIGURE 1
Domestic solar manufacturing capacity compared to deployment
Annual GWdc per component as of Q3 2026, solar capacity additions in 2025 and projected annual 2030-2035 additions



Source: Rhodium Group, Rhodium Group/MIT-CEEPR Clean Investment Monitor

Current domestic module manufacturing capacity already exceeds the upper end of that range, with an additional 54 GWdc of module capacity expected to come online by 2035. Current domestic cell manufacturing capacity is equivalent to about 38% of projected deployment at the upper end of the range, but additional capacity already ramping, under construction, or announced would exceed projected deployment if those projects materialize. Further upstream, larger gaps remain. Domestic polysilicon manufacturing capacity is expected to reach 19 GWdc by 2035 if announced projects proceed, equivalent to just 36% of projected deployment at the upper end of the range, while wafer capacity, including projects in the pipeline, totals around 13 GWdc, equivalent to 26%.

New Foreign Entity of Concern (FEOC) restrictions added to the 45X manufacturing tax credit have led to corporate restructurings by solar manufacturers seeking to comply with the regulations on specified foreign entities and foreign-influenced entities. Limits on material assistance from prohibited foreign entities (particularly China) may incentivize greater onshoring of upstream component manufacturing. We'll continue to monitor the evolution of the Treasury guidance on material assistance cost ratios as it phases in over the next few years.

Wind supply chain

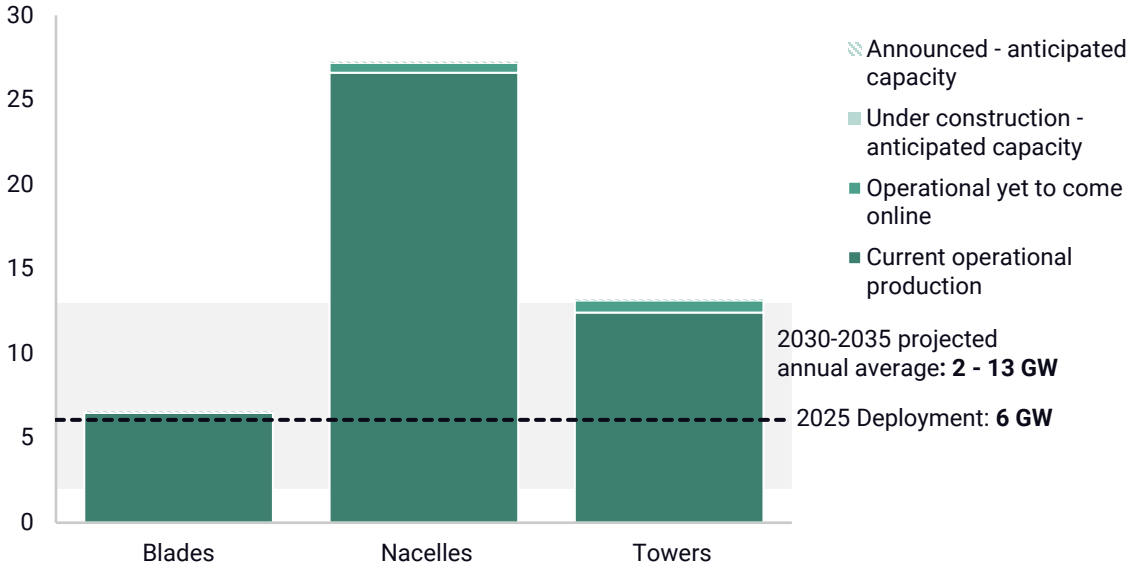
In 2025, we estimate around 6 GW of utility-scale wind was deployed in the US, primarily from onshore wind projects. Current operational production capacity across blades, nacelles, and towers meets this level of deployment. As of Q3 2026, the Clean Investment Monitor tracks 33 operational wind component manufacturing projects across the US, compared to 30 in Q1 2025, with the capacity to annually produce 7 GW of blades, 12 GW of towers, and 27 GW of nacelles.

In the near term, we anticipate less than 1 GW of additional capacity to come online for each component, as operational projects ramp up production. No wind manufacturing projects were under construction as of Q3 2026. A negligible amount of announced capacity that has not yet started construction remains in the pipeline (Figure 2).

FIGURE 2

Domestic wind manufacturing capacity compared to deployment

Annual GW per component as of Q3 2026, wind capacity additions in 2025 and projected annual 2030-2035 additions



Source: Rhodium Group, Rhodium Group/MIT-CEEPR Clean Investment Monitor

The headwinds for wind deployment and manufacturing include stop-work orders affecting offshore wind projects, permitting and interconnection delays, rising construction costs, and the early expiration of 45X tax credits for finished wind components enacted under the One Big Beautiful Bill Act (OBBBA). Still, Rhodium Group projects the US will see several gigawatts of new onshore wind capacity come online this year, as developers rush to claim expiring tax credits and as growth in electricity demand accelerates.

From 2030 through 2035, Rhodium projects the US will deploy 2-13 GW of wind annually, depending on its cost competitiveness with natural gas. Current operational capacity across each wind subcomponent is sufficient to fulfill projected deployment at the lower end of that range. At the upper end, if all announced projects proceed as expected, blade capacity falls 51% short of domestic demand, tower capacity exceeds projected demand by 2%, and nacelle capacity significantly surpasses anticipated demand.

Battery supply chain

Battery deployment in 2025 totaled nearly 181 gigawatt-hours (GWh), comprising both utility-scale battery storage deployments and domestic demand for EV batteries derived from vehicle sales data. As of Q3 2026, we track 172 operational battery projects in the US, compared to 123 in Q1 2025, with around 440 GWh of module capacity and 392 GWh of cell capacity—more than double 2025 deployment. Notably, company-reported capacity often exceeds the actual output. Facilities frequently operate well below stated capacity because of demand, labor, or supply chain constraints.

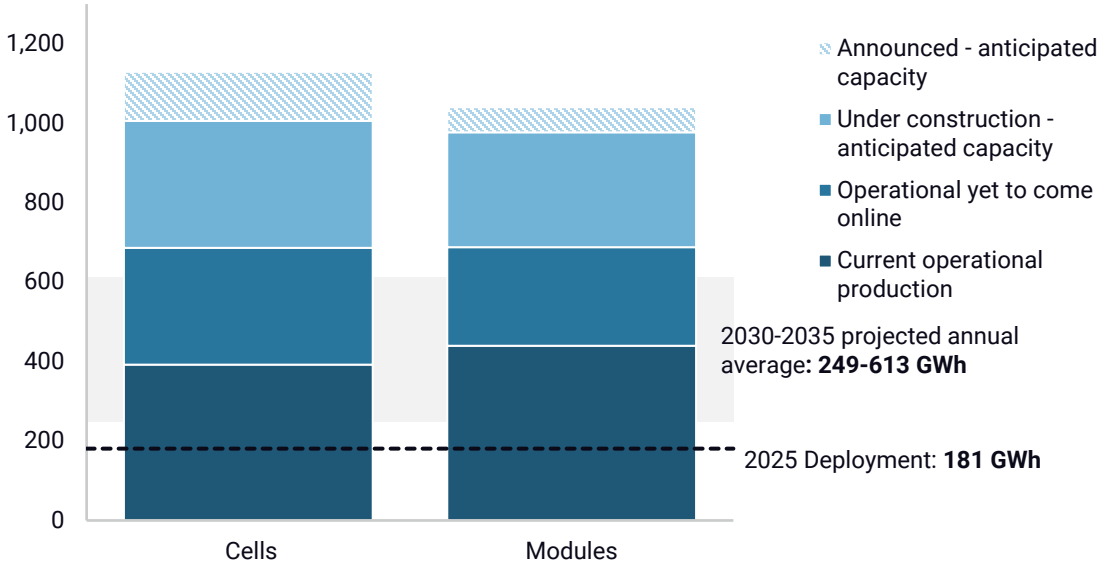
In the near term, domestic demand for EV batteries—the dominant consumer of this technology—is slowing, while battery storage installations appear to be headed for record levels, deploying alongside renewables to capture variable generation that would otherwise be curtailed. US homeowners are also installing residential batteries at a historic level as electricity bills increase. Demand growth from data centers adds another source of uncertainty, since batteries can play a role in managing both grid-connected and behind-the-meter power needs.

From 2030 through 2035, we estimate domestic battery demand could range from 249 to 613 GWh, combining projected EV demand with a feasible estimate of strong stationary storage deployment. Current operational capacity alone is sufficient to fulfill forecasted deployment at the lower end of the 2030-2035 demand range. At the upper end, however, current module capacity is equivalent to 72% of projected deployment, and cell capacity to 64% (Figure 3). When including the remaining capacity ramp associated with operational projects, capacity appears sufficient to meet anticipated demand across the range.

FIGURE 3

Domestic battery manufacturing capacity compared to deployment

Annual GWh per component as of Q3 2026, deployment in 2025 and 2030-2035 projected annual average



Source: Rhodium Group, Rhodium Group/MIT-CEEPR Clean Investment Monitor

Note: Deployment includes utility-scale battery energy storage system (BESS) deployment and average battery requirements for battery electric and plug-in hybrid vehicles. The range of potential demand from 2030-2035 is based on Rhodium Group's Taking Stock 2026 projections, with a lower bound capturing lower EV sales and modest grid storage deployment. We constructed the upper bound to capture substantially higher future grid storage deployment and demand from data centers, reflecting major uncertainties ahead.

Our analysis finds a substantial pipeline of projects that have not yet started or are currently under construction, representing 352 GWh of module capacity and 443 GWh of cell capacity. That additional capacity goes beyond the EV and stationary storage demand captured in our projections, increasing uncertainty around the execution of those outstanding projects. Battery manufacturers are already responding to shifting market and policy dynamics, such as the expiration of consumer EV credits in Q3 2025 and rising electricity demand, including from off-grid data center applications where storage is particularly useful. As of Q3 2026, storage and multi-use production lines account for

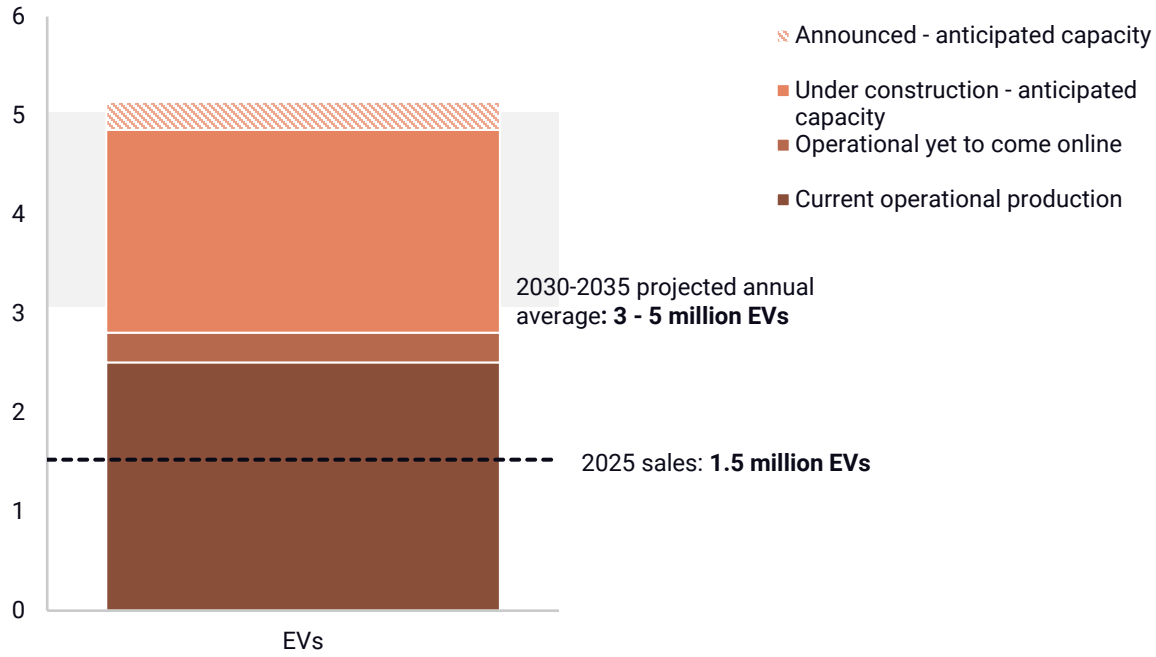
roughly 23% of operational cell manufacturing capacity and 31% of operational module manufacturing capacity. Considering yet-to-come-online capacity at these facilities, storage and multi-use lines account for 63% of cell capacity and 73% of module capacity.

The combination of slower EV sales growth, a large existing manufacturing base, and a substantial pipeline of outstanding capacity increases the risk of factory downsizing and further cancellations. However, faster growth in grid storage and data center infrastructure demand, and the development of additional end markets such as defense, could expand demand for domestically manufactured batteries.

EV manufacturing supply chain

As of Q3 2026, we track 82 operational EV manufacturing projects, compared to 79 in Q1 2025, including new facilities as well as expansions and retrofits of existing facilities. Current capacity tied to these facilities represents around 2.5 million EVs annually, with the ability to ramp up production to an additional 300,000 EVs. Roughly 1.5 million EVs were sold in the US in calendar year 2025, including both battery electric (BEV) and plug-in hybrid (PHEV) models (Figure 4).

FIGURE 4
Domestic EV manufacturing capacity compared to deployment
Annual EV production in millions as of Q3 2026, EV sales in 2025 and 2030-2035 projected annual average



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor
Note: Includes battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), covering light-duty vehicles (LDVs), medium-duty vehicles (MDVs), and heavy-duty vehicles (HDVs).

Looking ahead, Rhodium Group projects annual sales of 3 to 5 million EVs from 2030 through 2035. Current operational capacity falls 9-44% below that range, even after expected production ramps at existing facilities. An additional 21 projects currently under construction would add capacity to produce 2 million more vehicles annually, bringing capacity to 96% of projected demand at the upper end of the range. If announced projects

come to fruition, those would add 300,000 EVs to annual domestic manufacturing capacity, sufficient to meet projected 2030-2035 sales across the range. Similar to battery manufacturing, vehicle assembly plants are subject to drastic changes in utilization rates and vehicle output, often operating at only a fraction of their reported capacity. This adds further uncertainty to the total production capacity estimates in our pipeline.

The EV sales outlook weakened significantly in the wake of the OBBBA, which phased out consumer and commercial EV tax credits, 30D and 45W, in Q3 2025. CIM tracked a record $31 billion of EV purchases that quarter, followed by a substantial 43% decline in Q4 2025. Changes to regulation have also contributed to lower sales forecasts, down 6-7 million vehicles per year from our previous assessment. A February 2026 ruling by the Environmental Protection Agency (EPA) repealed the previously enacted federal greenhouse gas emissions standards that regulate emissions from vehicle manufacturers.

Legacy automakers have responded by revisiting and revising their previous electrification strategies. Since Q3 2025, CIM has tracked $6 billion in canceled EV manufacturing investment, as some automakers have pivoted toward established market ecosystems for traditional gas-powered vehicles, as well as cost-competitive, flexible hybrids and extended-range vehicles. With projected EV sales much closer to already operating or under-construction production capacity, automakers may have less incentive to proceed with previously announced projects at their originally planned scale.

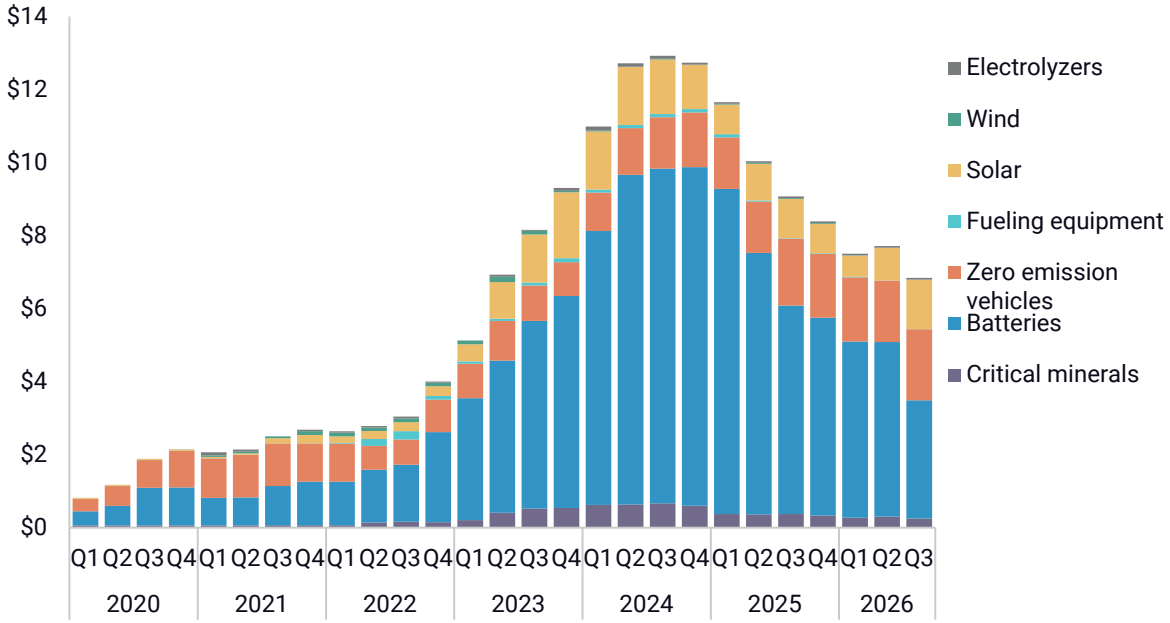
Overview of manufacturing investment in Q3 2026

In addition to assessing the current state of US clean energy supply chains, this report provides a summary of the Clean Investment Monitor's updated Q3 2026 tracking of US clean energy manufacturing investment. In the third quarter of 2026, actual investment in US clean technology manufacturing decreased 11% quarter-on-quarter to $7 billion, the lowest quarter of investment since Q1 2023. This followed a slight Q2 2026 uptick in investment, after six consecutive quarters of declines. New project announcements stalled in Q3 2026, totaling just $2 billion, compared to $11 billion last quarter. Developers canceled around $450 million of announced investment in Q3 2026, all tied to a single critical minerals project.

The electric vehicle (EV) supply chain—critical minerals, batteries, vehicle assembly, and charging equipment—continued to dominate manufacturing investment in Q3 2026, accounting for 79% of total manufacturing investment at around $5 billion. EV assembly investment rose 15% quarter-on-quarter to $2 billion, and is up 7% from this same period last year. Meanwhile, battery investment experienced notable declines both quarter-on-quarter and year-on-year, down 32% and 43%, respectively. This is the lowest quarter of battery investments since Q4 2022. EV investments this quarter reached the highest level on record. Investment in critical minerals projects decreased 16% from the previous quarter to roughly $250 million, down 32% from Q3 2025. Investment in charging equipment declined 9% quarter-on-quarter and 92% compared to Q3 2025.

Outside the EV supply chain, investment in solar manufacturing increased notably, up 52% relative to Q2 2026 and 26% relative to Q3 2025 levels. Investment in wind manufacturing dropped sharply, down 76% quarter-on-quarter and 93% compared to Q3 2025.

FIGURE 5
Actual manufacturing investments by technology
Billion 2025 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

Announced investment across all manufacturing technologies totaled around $2 billion in Q3 2026. Battery manufacturing projects accounted for more than half (52%) of announcements this quarter at $1 billion. The rest came from new solar manufacturing and critical mineral projects, totaling around $600 million each. No new wind manufacturing or EV assembly projects were announced during this quarter.

Canceled investment in Q3 2026 came from one $450 million critical minerals project. That reflects a 73% decline from the previous quarter's $1.7 billion of canceled investment.

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