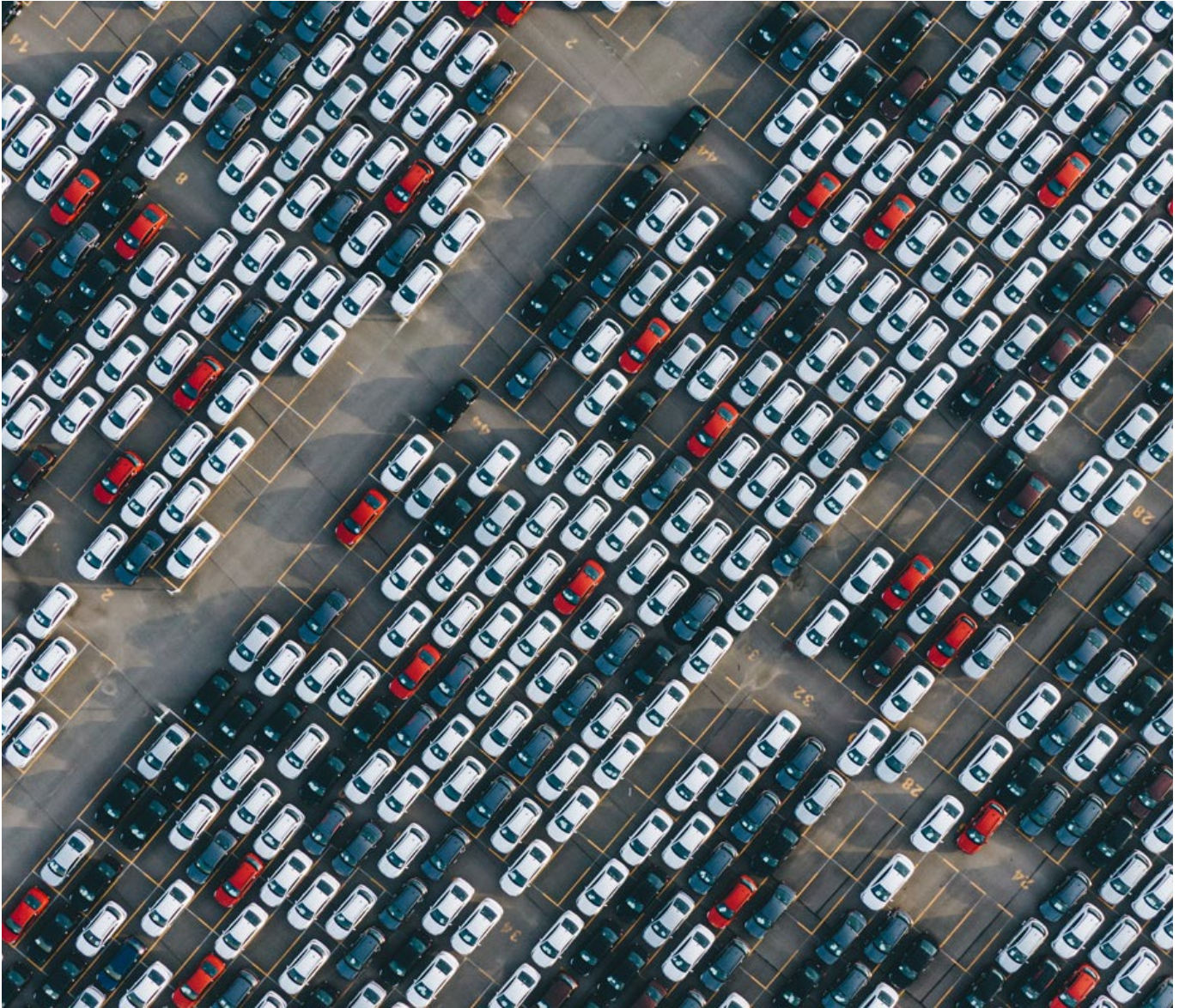




Clean Investment Monitor: Q1 2025 Update

May 13, 2025

Summary

In the first quarter of 2025, clean energy and transportation investment in the United States totaled \$67.3 billion, a 6.9% increase from the same period in 2024 but a 3.8% decrease from the previous quarter. Despite this second consecutive quarterly decline, clean investment continues to represent a significant share of US private investment, accounting for 4.7% of total private investment in structures, equipment, and durable consumer goods in Q1 2025.

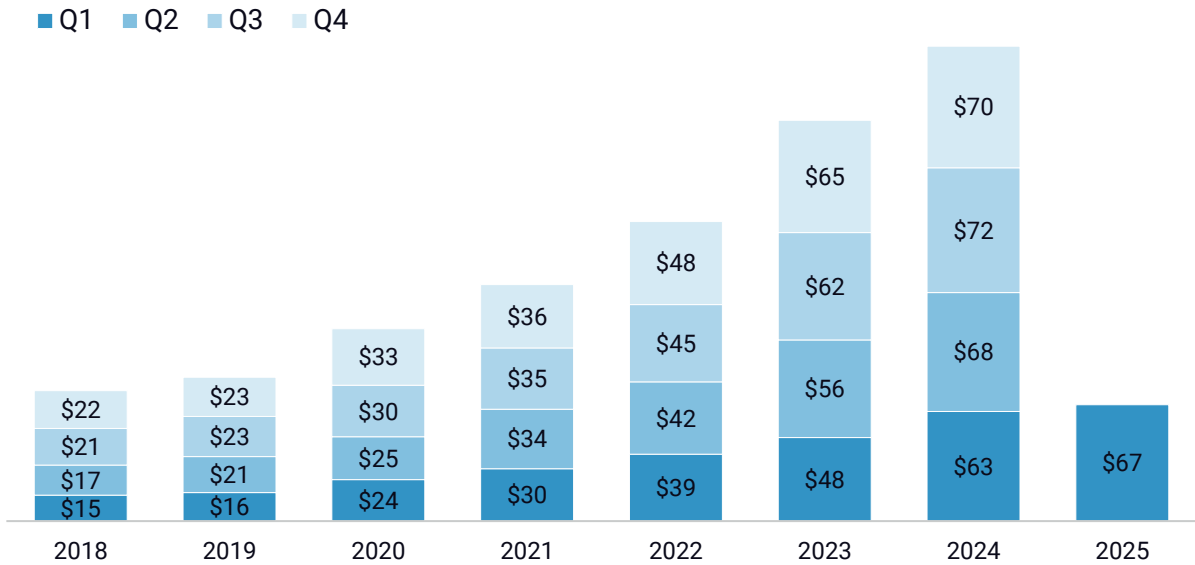
Investment activity was driven primarily by retail consumer purchases and installations of clean technology, which accounted for nearly half of the total at \$33.5 billion. This segment saw 17.4% growth compared to Q1 2024, though investment declined 2.2% from the prior quarter. Investments in manufacturing were up 7.7% relative to Q1 2024, but down 11.5% compared to Q4 2024. Investments in utility-scale clean electricity and industrial decarbonization technologies declined by 7.7% from Q1 2024, but stayed roughly flat compared to Q4 2024.

The pipeline of new project announcements offered a mixed outlook, with \$41.3 billion in new utility clean electricity projects, mainly in solar and storage, a level roughly on par with average quarterly clean energy announcements during 2024. New industrial decarbonization announcements declined sharply to \$79 million, compared to \$16 billion in Q1 2024 and \$7.8 billion last quarter. Companies announced \$9.4 billion in new manufacturing projects, 23% below the value announced in Q1 2024, but a 46% increase from Q4 2024. Six clean technology manufacturing projects, representing \$6.9 billion in investment, were cancelled in Q1 2025, as detailed in our recent [clean energy supply chains report](#).

This report also highlights the jobs created by clean investments. The Clean Investment Monitor database expanded this year to track both the construction and operational jobs generated by completed facilities and those jobs expected from announced facilities that have not yet come online. The data, available at the state and congressional district levels, are derived from publicly reported facility-level data and supplemented by modeled values where necessary.

Our analysis highlights the significant role in job creation of the 2,369 new manufacturing, utility-scale clean electricity, and industrial decarbonization facilities that have opened across the US since the enactment of the Inflation Reduction Act (IRA). Spurred by \$321 billion in company-driven clean investment, those facilities have created nearly 13,000 operational jobs in Texas, more than 12,500 in Georgia, and more than 7,500 in North Carolina and Michigan. Looking ahead, \$522 billion of outstanding investment remains to be spent on construction and installation for announced or under-construction facilities. This pipeline includes 2,217 facilities that are expected to generate significant employment opportunities in South Carolina (14,013), Kentucky (11,795), Tennessee (9,632), Ohio (9,622), and North Carolina (9,299).

FIGURE 1
Clean investment by quarter
Billion 2023 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

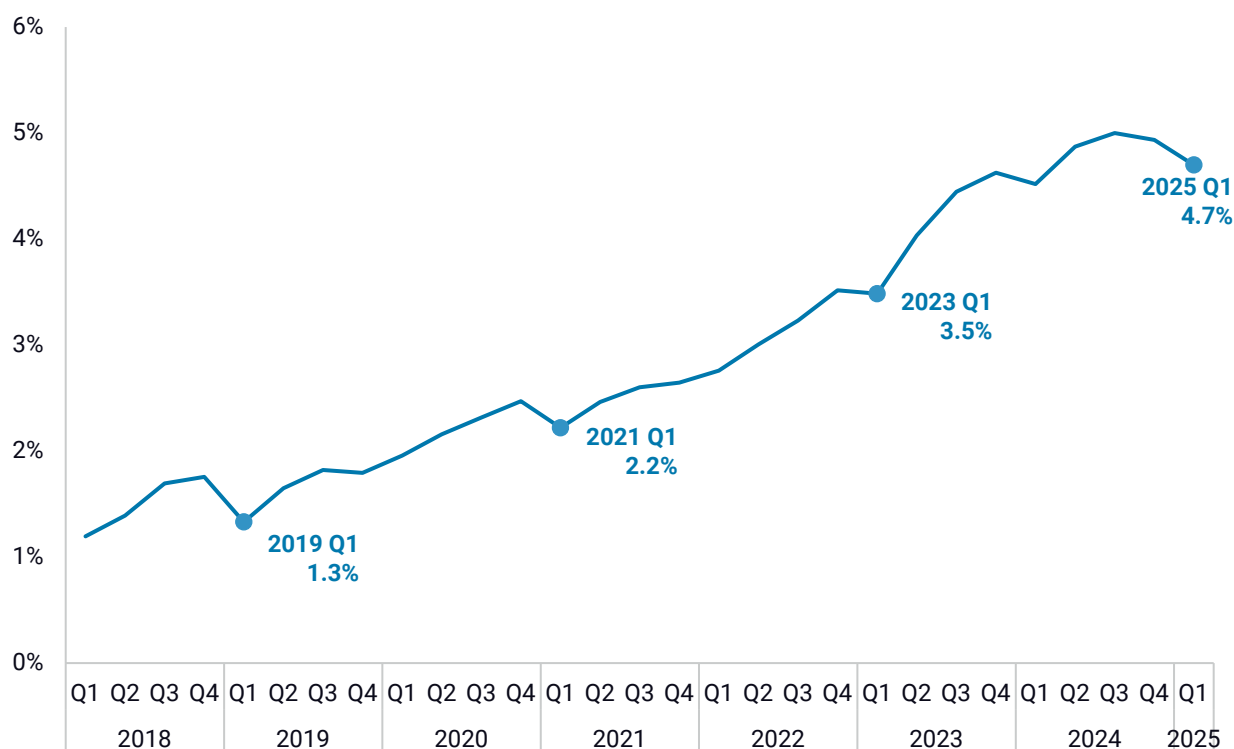
Investment trends

Actual clean energy and transportation investment in the US in Q1 2025 totaled \$67.3 billion (Figure 1). While this represents a 6.9% increase from Q1 2024, it is the second consecutive quarterly decline, with a 3.8% decrease from Q4 2024. In Q1 2025, clean investment accounted for 4.7% of total US private investment in structures, equipment, and durable consumer goods nationwide, down slightly from 4.9% in Q4 2024 but up from 4.5% in Q1 2024 (Figure 2).

FIGURE 2

Actual clean investment as a share of total US private investment

Annualized basis, total investment in all private structures, equipment, and durable consumer goods



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor and Bureau of Economic Analysis

We categorize our clean investment tracking into three segments: investment in the manufacture of GHG emission-reducing technology (“manufacturing”); investment in the deployment of that technology, both to produce clean energy or decarbonize industrial production (“energy & industry”); and investment through the purchase and installation of that technology by individual households and businesses (“retail”). Each dollar figure in this report reflects actual investment—the real dollars spent in the given quarter on retail purchases, facility construction, and equipment purchase and installation. For facilities, we track actual capital expenditures invested over the construction timeline once a project breaks ground. In the following sections of this report, we summarize actual and announced investments, which provide context and insight into potential future actual investments.

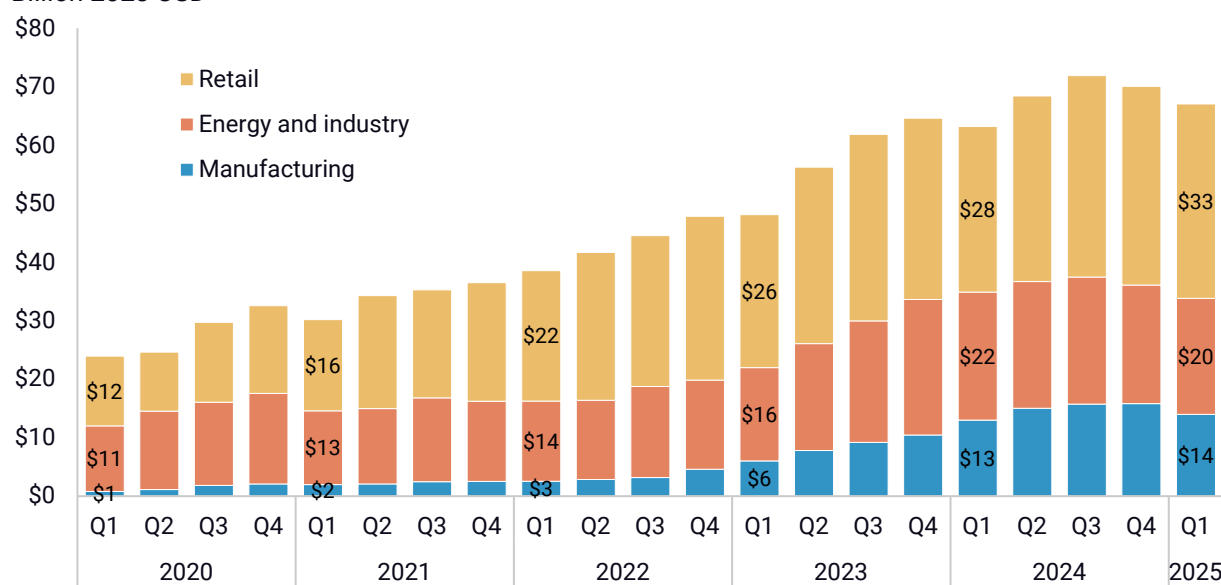
Retail investment again drove clean investment in Q1 2025, accounting for 49.8% of total clean investment at \$33.5 billion. While actual retail investment decreased 2.2% relative to the previous quarter, it was up 17.4% compared to Q1 2024. In the energy & industry segment, \$19.8 billion was invested in clean energy production and industrial decarbonization, roughly the same level as the previous

quarter, but a 7.7% decline compared to Q1 2024. Manufacturing investment decreased by 11.5% quarter-on-quarter to \$14.0 billion invested, though it remained up by 7.7% compared to Q1 2024. Notably, six clean technology manufacturing projects, representing \$6.9 billion in investment, were cancelled in Q1 2025, as detailed in our recent [clean energy supply chains report](#).

FIGURE 3

Actual clean investment by segment

Billion 2023 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

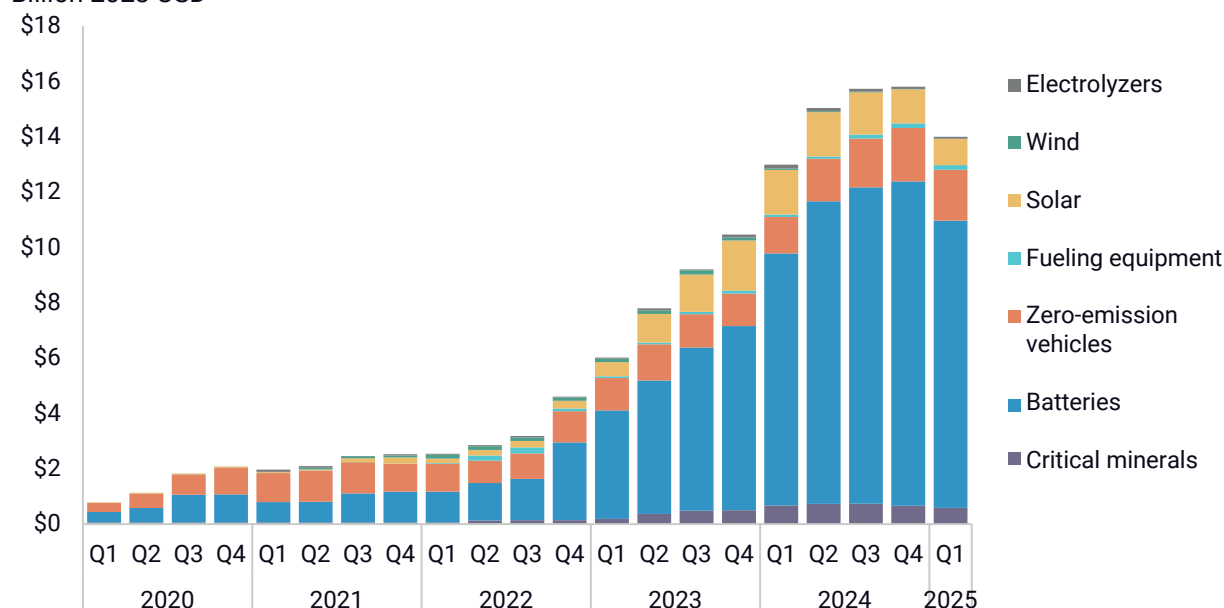
Manufacturing

Manufacturing investment dropped by 11.5% from Q4 2024, though it remained up by 7.7% compared to Q1 2024. The electric vehicle (EV) supply chain—critical minerals, batteries, vehicle assembly, and charging equipment—remained the dominant force in clean manufacturing investment, accounting for \$13 billion (93%) of the total \$14 billion in actual investment (Figure 4). Battery manufacturing investment fell by 11.4% quarter-on-quarter to \$10.4 billion, though it was up 14% relative to Q1 2024. Solar manufacturing investment dropped slightly to just under \$1 billion, a 23.3% decrease from Q4 2024 and a 41.5% decline relative to Q1 2024, marking the fifth consecutive quarterly decline.

FIGURE 4

Manufacturing investment by technology

Billion 2023 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

Companies announced \$9.3 billion in new manufacturing projects in Q1 2025, a 46% increase from Q4 2024, but 23% below the value announced in Q1 2024. Of these Q1 2025 announcements, 75% were in the EV supply chain. The new pipeline includes \$2.3 billion in solar manufacturing and \$0.1 billion in wind manufacturing investment, the first new wind manufacturing projects announced since Q3 2023.

Energy & industry

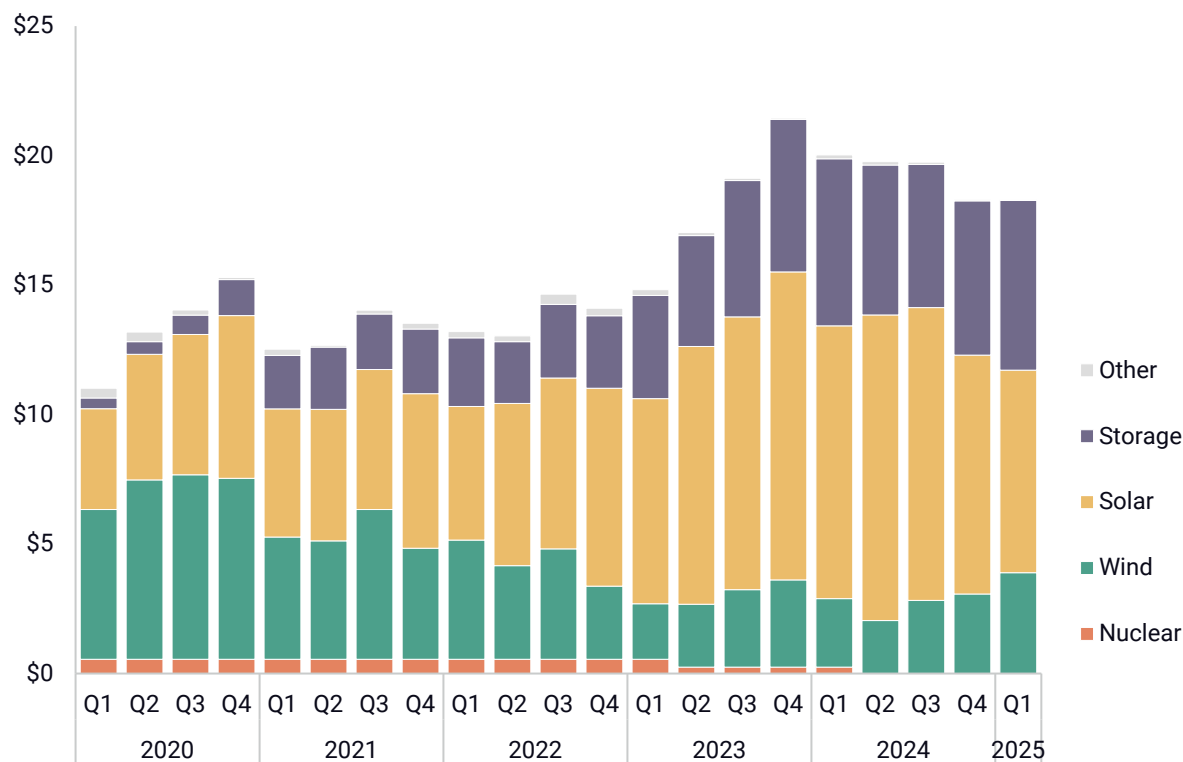
In Q1 2025, the US saw a total of \$19.8 billion in new actual investment in clean energy production and industrial decarbonization, down 0.3% quarter-on-quarter and down 7.7% relative to the same period in 2024. Within this segment, \$18.3 billion (92%) went toward clean electricity and \$1.5 billion (8%) supported industrial decarbonization projects, a distribution consistent with previous quarters.

Utility-scale solar and storage investment dominated clean electricity investment, accounting for \$14.4 billion, a 5.3% decrease from Q4 2024 and a 15.4% decline from Q1 2024 (Figure 5). In contrast, wind investment recorded a third consecutive quarterly increase, rising by 26.8% from the previous quarter to \$3.9 billion in Q1 2025.

FIGURE 5

Electric power investment by technology

Billion 2023 USD



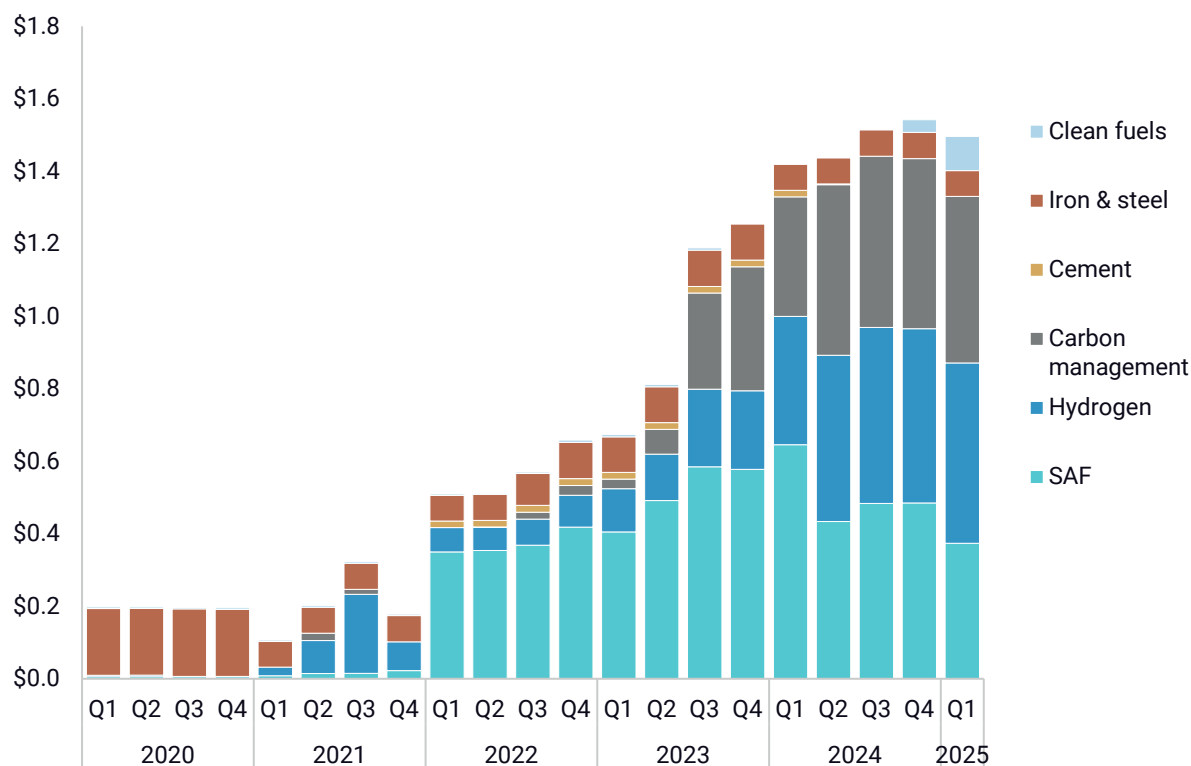
Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

Industrial decarbonization investment declined 3% quarter-on-quarter, but increased 5.4% relative to Q1 2024. Industry actual investment continues to represent a small fraction of the total value of announced projects, with most facilities not yet started and a small number of facilities moving into construction and operation. Hydrogen led actual investment in industry at \$0.5 billion, up 3.4% from the previous quarter and 40.5% compared to Q1 2024. Sustainable aviation fuel (SAF) investment dropped by 22.9% quarter-on-quarter to \$0.4 billion, a 42.1% decline from Q1 2024. The remainder of Q1 industry investment included carbon management at \$0.5 billion and clean fuels at \$0.1 billion, reflecting the highest quarter on record for the latter. Another \$0.1 billion was invested in clean iron and steel production.

FIGURE 6

Industry investment by technology

Billion 2023 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

The pipeline of new energy projects expanded with the addition of \$41.3 billion in new utility electricity project announcements, roughly on par with the quarterly average value of announcements in 2024. Most of these announcements (\$36.5 billion) were for solar and storage projects. In contrast, industry announcements were at their lowest since Q2 2020. Companies announced \$79 million in new projects in Q1 2025, roughly 1% of the value of industry announcements in Q4 2024.

Retail

Consumer spending on zero-emission vehicles (ZEVs), distributed renewable electricity generation and storage, and heat pumps totaled \$33.5 billion in Q1 2025, a 2.2% decline from Q4 2024, but a 17.4% increase compared to Q1 2024.

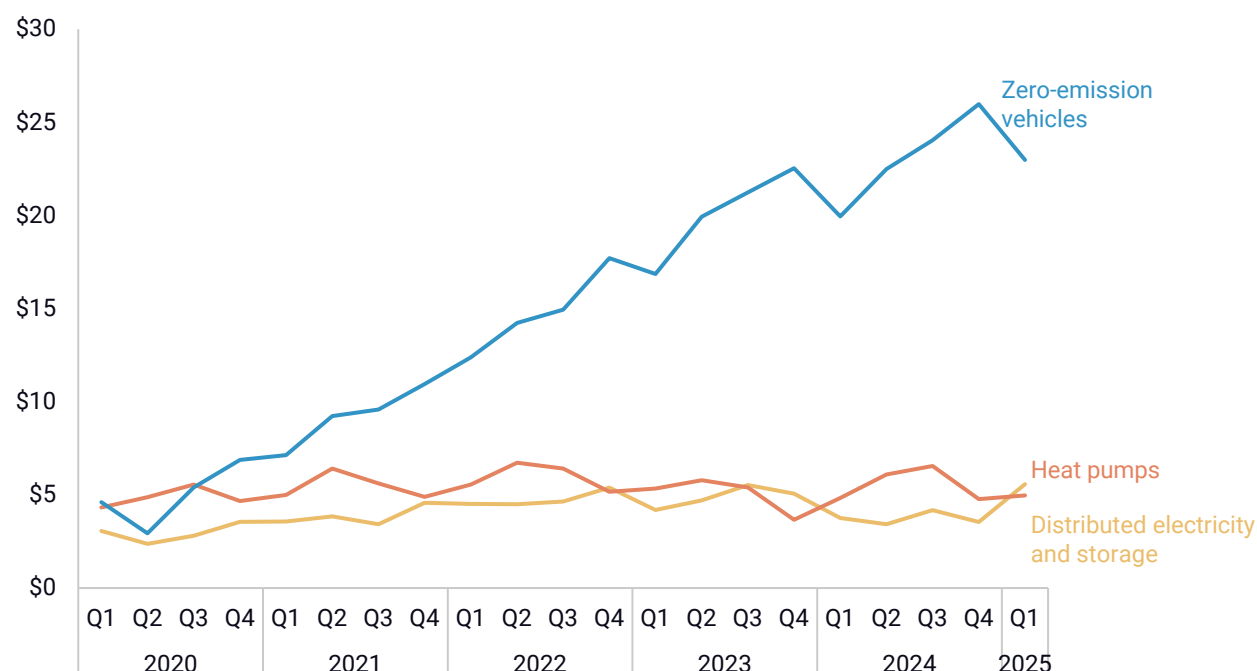
Investments in ZEV registrations (a proxy for sales) declined by 11.5% quarter-on-quarter to \$23.0 billion, predominantly driven by a substantial 21% decline in sales by Tesla. Despite overall ZEV registrations declining quarter-on-quarter, this level represents a 15.2% increase from Q1 2024 (Figure 7).

Distributed electricity generation and storage investment reached a new post-IRA peak in Q1 at \$5.6 billion, up 57.4% from Q4 2024 and 48.3% compared to Q1 2024. Heat pump investments also saw modest growth, rising by 4.2% quarter-on-quarter to \$5.0 billion, a 2.9% increase compared to Q1 2024.

FIGURE 7

Retail investment by technology

Billion 2023 USD



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor

Jobs tied to clean investments

Since the enactment of the IRA in Q3 2022, \$321 billion has been invested in manufacturing, clean electricity, and industrial facilities, and 2,369 new facilities have opened across the US. Looking ahead, \$522 billion of outstanding investment remains to be spent on construction and installation for announced or under-construction facilities. This pipeline includes 2,217 facilities that have yet to come online.

The Clean Investment Monitor (CIM) expanded tracking earlier this year to provide insights into the employment generated by these post-IRA clean technology investments across the US. By adding state and congressional district jobs data—covering both the construction and operational jobs that are directly tied to specific facilities—we provide a clearer understanding of the local economic impacts of the IRA.

For this report, we use CIM data through Q1 2025 (March 31, 2025) to report the operational jobs created so far in each state at completed manufacturing, utility

clean electricity, and industrial decarbonization facilities that have come online since Q3 2022, when the IRA was enacted. Additionally, we report the jobs expected from facilities with outstanding investment, reflecting announced projects that are not yet operational. This jobs data is derived from publicly reported facility-level data and supplemented with modeled values where necessary.

Table 1 ranks the top 20 states by the operational jobs created since Q3 2022, with states that have attracted significant clean technology manufacturing projects leading. Table 2 focuses on the pipeline of outstanding investment, ranking the top 20 states by expected operational jobs if these projects come online. Texas, Georgia, and Michigan ranked among the top 5 on both lists. Within the top 10 on both lists sit Tennessee, Ohio, North Carolina, Arizona, and Indiana. All these states stand out for the significant role that clean technology manufacturing investment is expected to play in job creation in these regions.

In Texas, for example, \$62.3 billion has been invested in new or expanded facilities since the IRA passed, and 29 manufacturing facilities and 209 clean energy and industrial decarbonization facilities have come online during the same period. These facilities have created 12,931 jobs. Companies have announced projects worth \$128.5 billion, which are not yet online but are expected to generate 15,384 operational jobs.

The full dataset is available [at this link](#), including actualized and outstanding investment, jobs numbers, and project counts at the state and congressional district levels.

TABLE 1

Top 20 states ranked by operational jobs created by projects completed post-IRA

Q3 2022–Q1 2025

State	Created operational jobs	Facility count
Texas	12,931	238
Georgia	12,544	62
North Carolina	7,740	68
Michigan	7,593	47
Nevada	6,027	45
Tennessee	5,914	28
Ohio	4,683	48
California	4,393	307
Indiana	4,300	38
Arizona	3,778	64
South Carolina	3,621	34
Florida	2,428	104

Colorado	2,205	53
West Virginia	1,697	7
Alabama	1,646	10
Virginia	1,309	70
Arkansas	1,283	29
Pennsylvania	1,127	32
Minnesota	728	101
New York	717	244

Note: Excludes cancelled projects

TABLE 2

Top 20 states ranked by operational jobs expected from announced facilities that are not yet online

Q3 2022–Q1 2025

State	Outstanding operational jobs	Facility count
Georgia	23,001	38
Texas	15,384	421
Michigan	14,482	38
South Carolina	14,013	55
Kentucky	11,795	45
Tennessee	9,632	42
Ohio	9,622	58
North Carolina	9,299	40
Arizona	7,615	68
Indiana	7,537	47
California	7,324	283
Nevada	7,277	49
Illinois	6,481	103
Kansas	5,287	10
Louisiana	5,068	55
Mississippi	4,382	26
New York	4,004	147
New Mexico	3,800	30
Virginia	3,256	60
Alabama	2,695	23

Note: Excludes cancelled projects

ABOUT THE CLEAN INVESTMENT MONITOR

The Clean Investment Monitor (CIM) is a joint project of Rhodium Group and MIT's Center for Energy and Environmental Policy Research. The CIM tracks public and private investments in manufacturing and deployment of climate technologies in the United States. Through this data and analysis, the CIM provides insights into investment trends, the effects of federal and state policies, and on-the-ground progress in the US towards net-zero greenhouse gas emissions.

ACKNOWLEDGMENTS

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