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Growing the Economy from the Middle Out

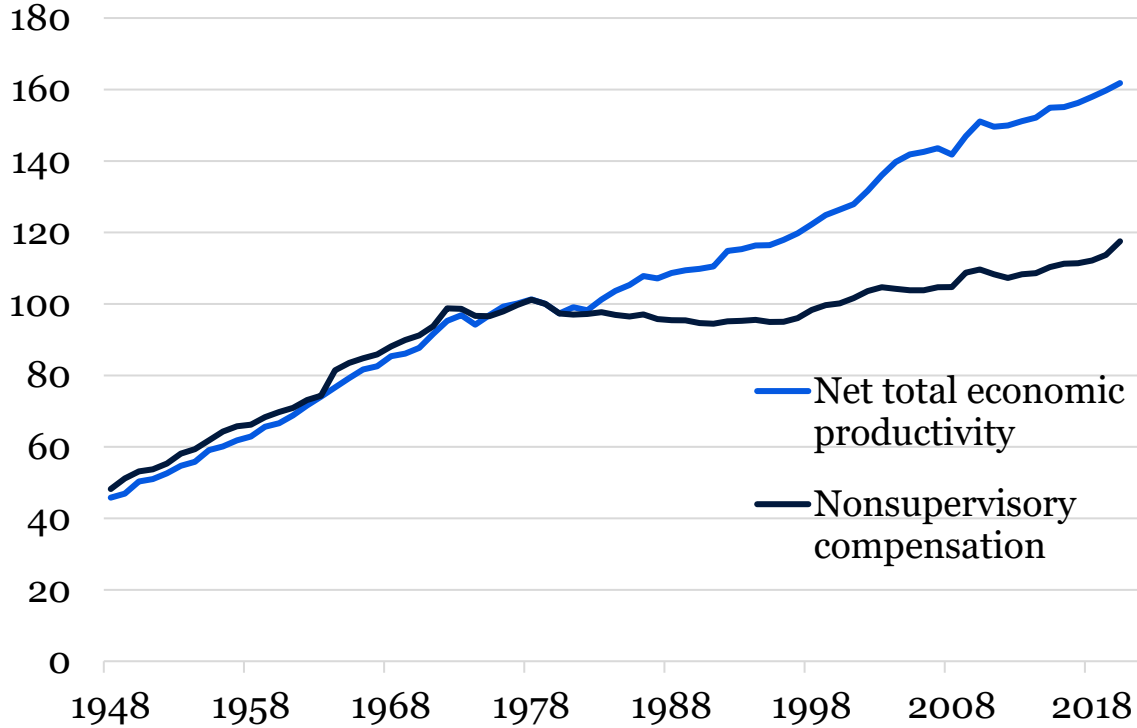
Laying the Foundation for Growth that is
Strong, Stable, and Broadly Shared

September 2024

The United States faces long-standing challenges...

Productivity and worker compensation growth, adjusted for inflation, 1948-2020

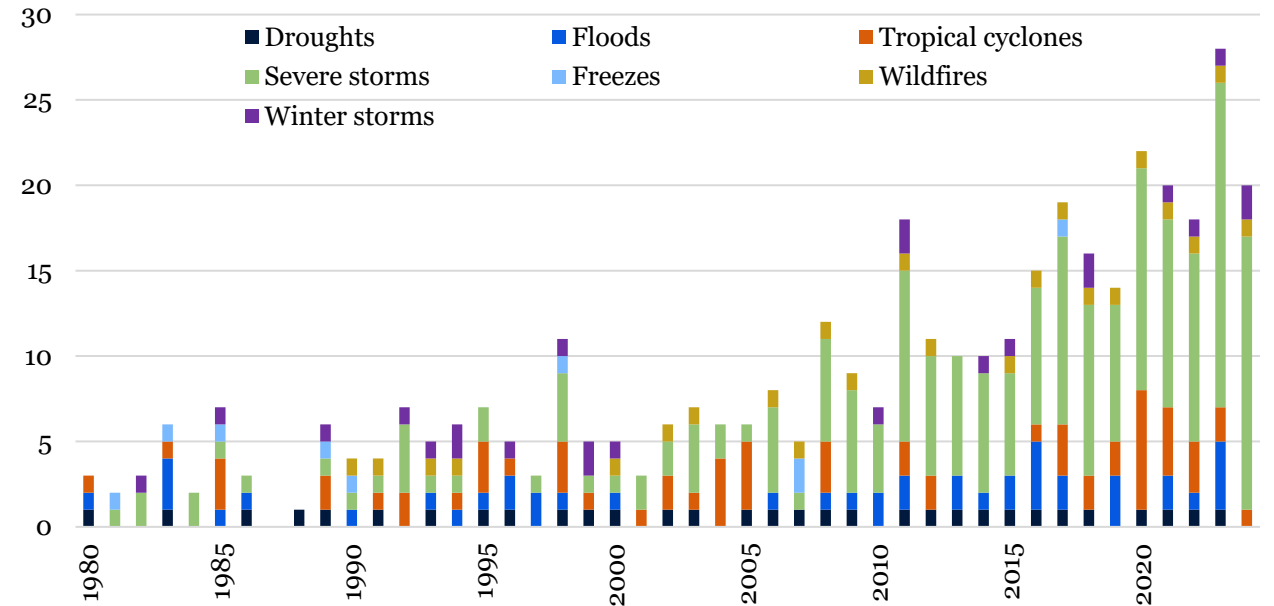
Cumulative change since 1948 (index: 1979 = 100)



Source: Economic Policy Institute, analysis of data from the Bureau of Labor Statistics and the Bureau of Economic Analysis

Number of billion-dollar natural disasters in the United States, 1980-2024

Number of billion-dollar natural disasters



Source: NCEI 2024.

Note: Disaster costs are adjusted for inflation using the Consumer Price Index for All Urban Consumers.

As of September 10, 2024.



With the help of Congress, President Biden has signed into law **historic legislation** to invest in America...

- The American Rescue Plan
- The Bipartisan Infrastructure Law
- The CHIPS and Science Act
- The Inflation Reduction Act



On the supply-side, we're investing across the innovation to commercialization pipeline

Innovation

Commercialization



Come up with a new idea or discovery



Develop the idea into a product or technology



Test early-stage versions of the technology



Access commercial finance to scale and make it widely available

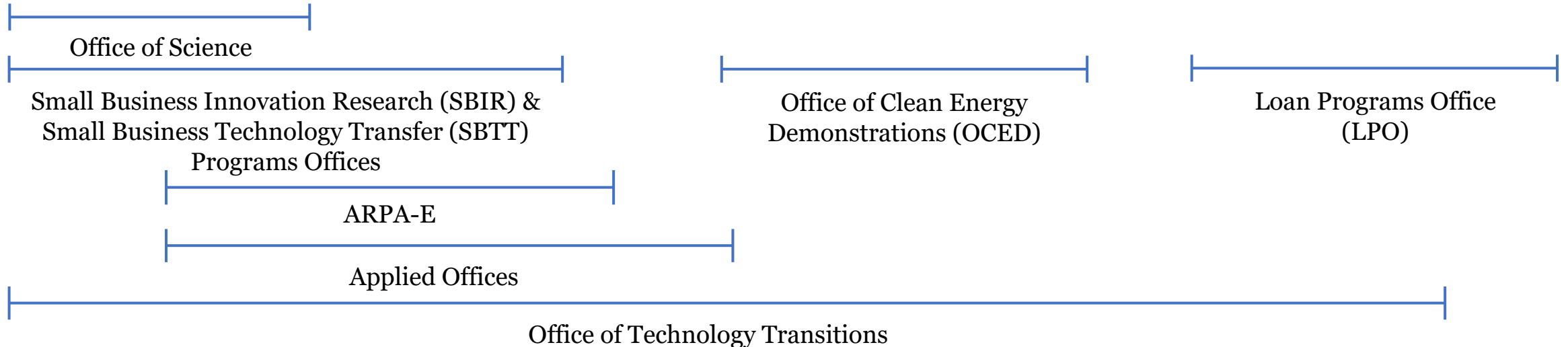
Example:

Scientific breakthrough for next-generation solar cell

Develop prototype of solar photovoltaic system

Test new solar PV system in real world settings

Achieve bankability, deploy at-scale, and drive down costs



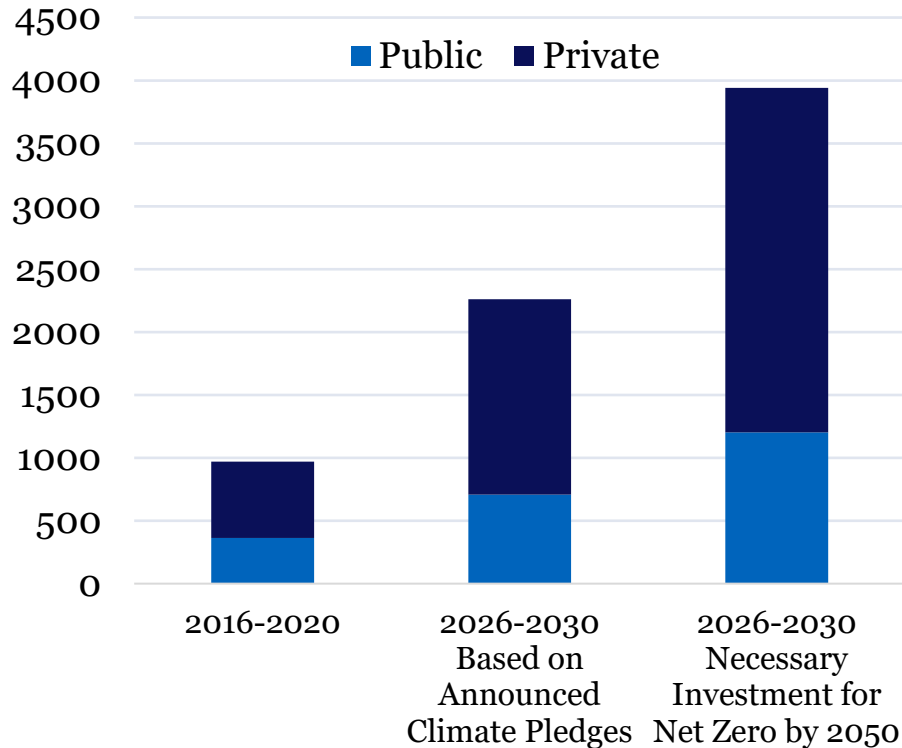
Source: Adapted from Climate Tech VC



To meet emissions targets, we need global investment on an immense scale

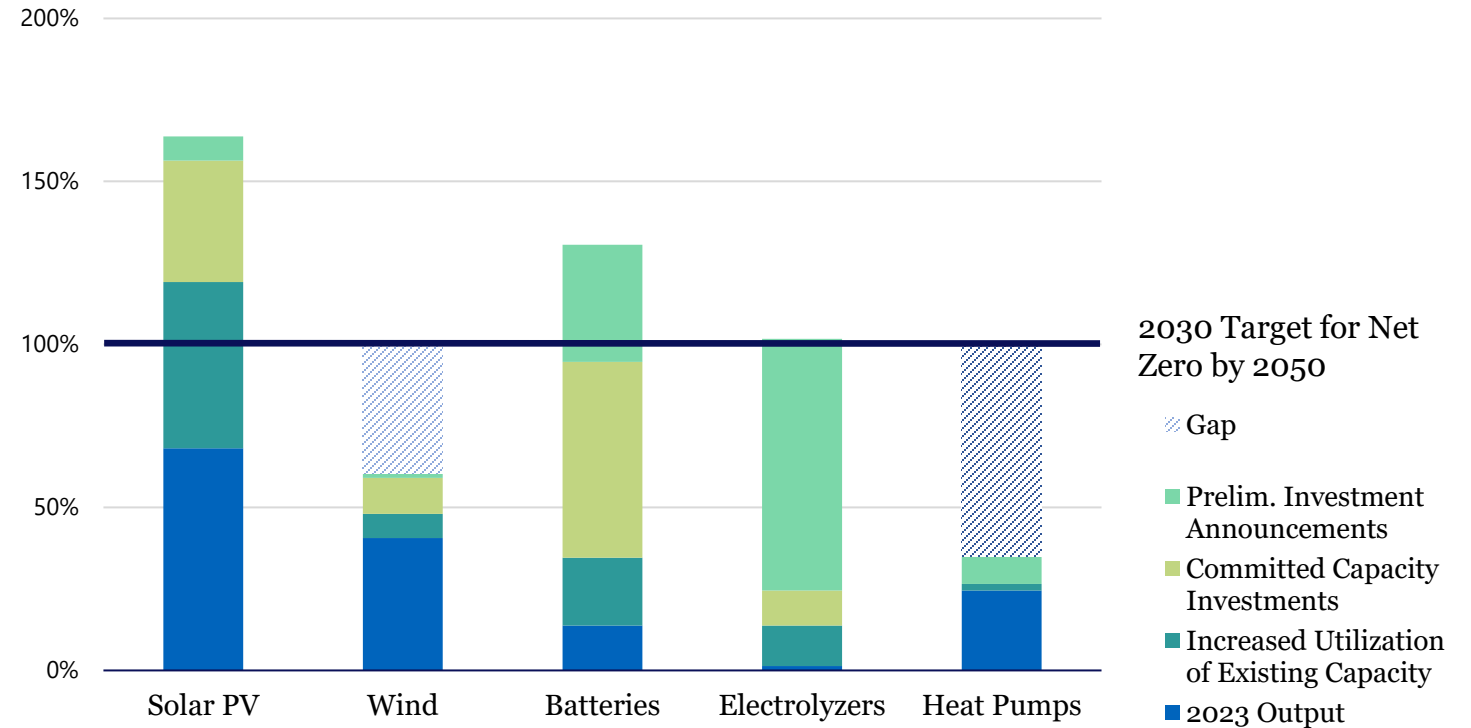
Previous and Estimated Annual Average Global Clean Energy Financing by Sector

Billions of dollars (2020)



Source: International Energy Agency.

Projected and Target Global Manufacturing Capacity, 2030



Sources: International Energy Agency; CEA Calculations.

Note: "2023 Output" and "Increased Utilization" refer to existing manufacturing capacity. "Committed" and "Preliminary" refer to announced manufacturing capacity. "Gap" refers to the necessary increase in manufacturing capacity to reach 2030 target for Net Zero by 2050.





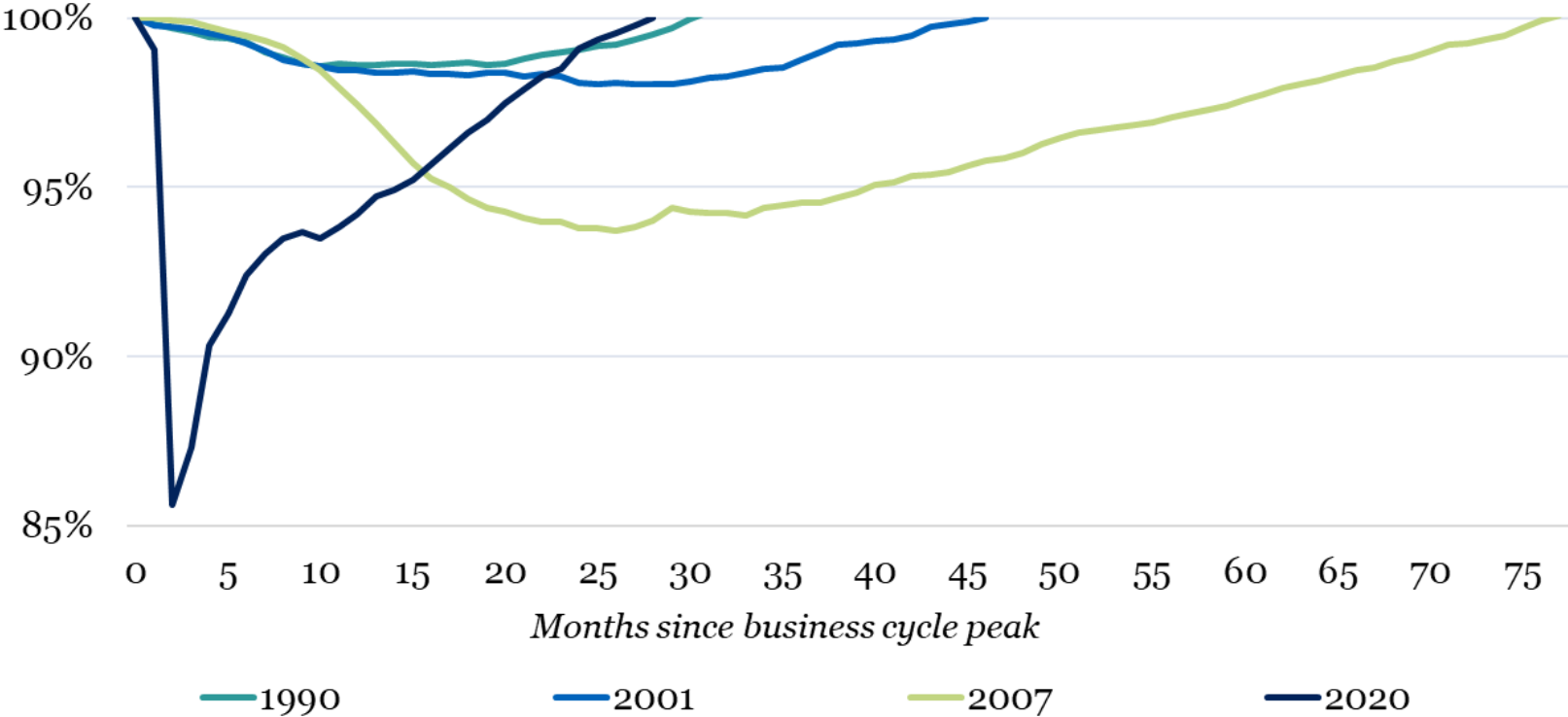
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Indicators of Success

After a deep recession, the economy has experienced one of the fastest—and most equitable—recoveries in decades

Jobs relative to business cycle peak, 1990-2022

Nonfarm payroll employment (peak month = 100 percent)



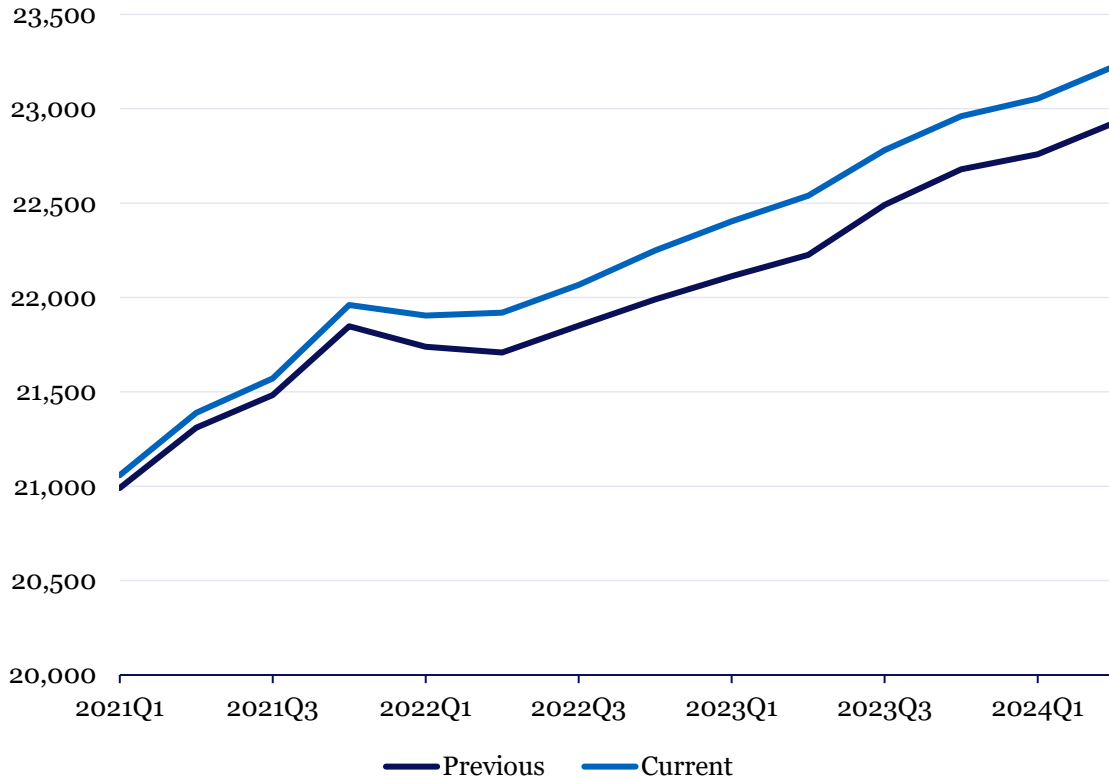
Source: BLS; CEA calculations.



Revisions to GDP show stronger growth than previously measured

Real GDP Previous vs. Revisions

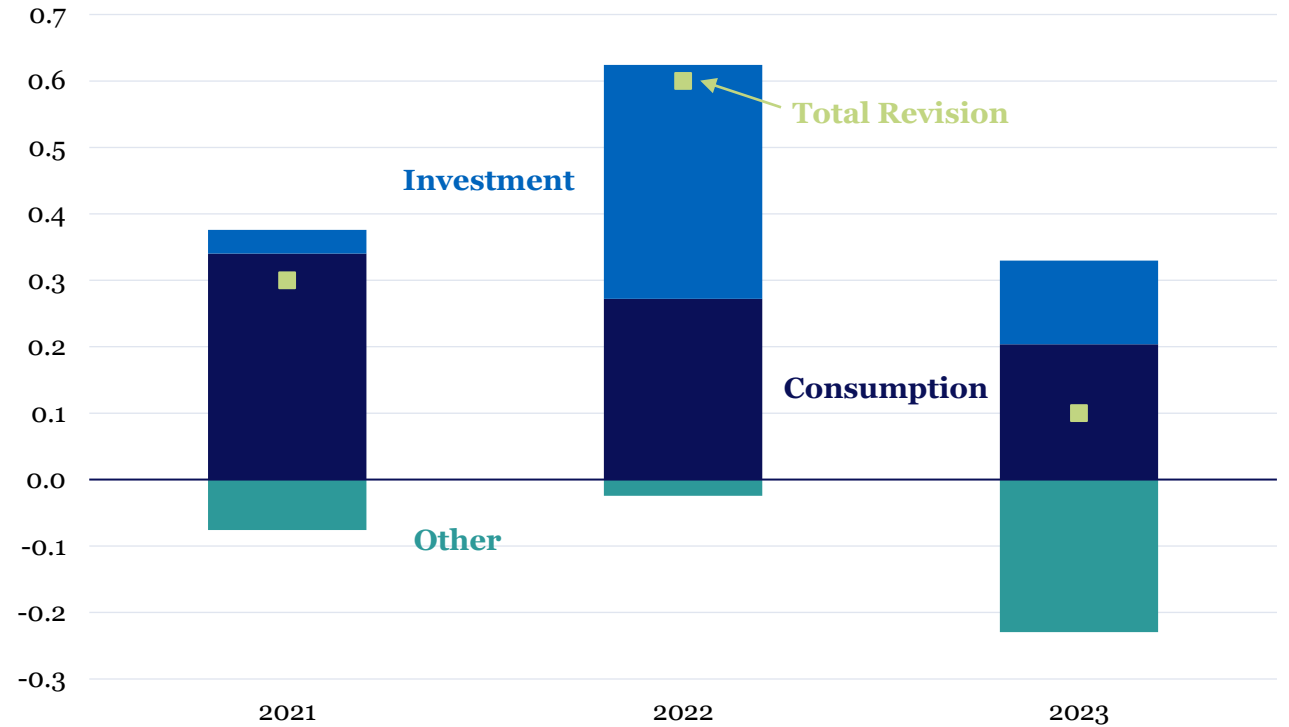
Billions (2017 Dollars)



Sources: Bureau of Economic Analysis, CEA calculations.
As of September 26, 2024 at 8:30 am.

Revisions to Real GDP Growth (Q4/Q4)

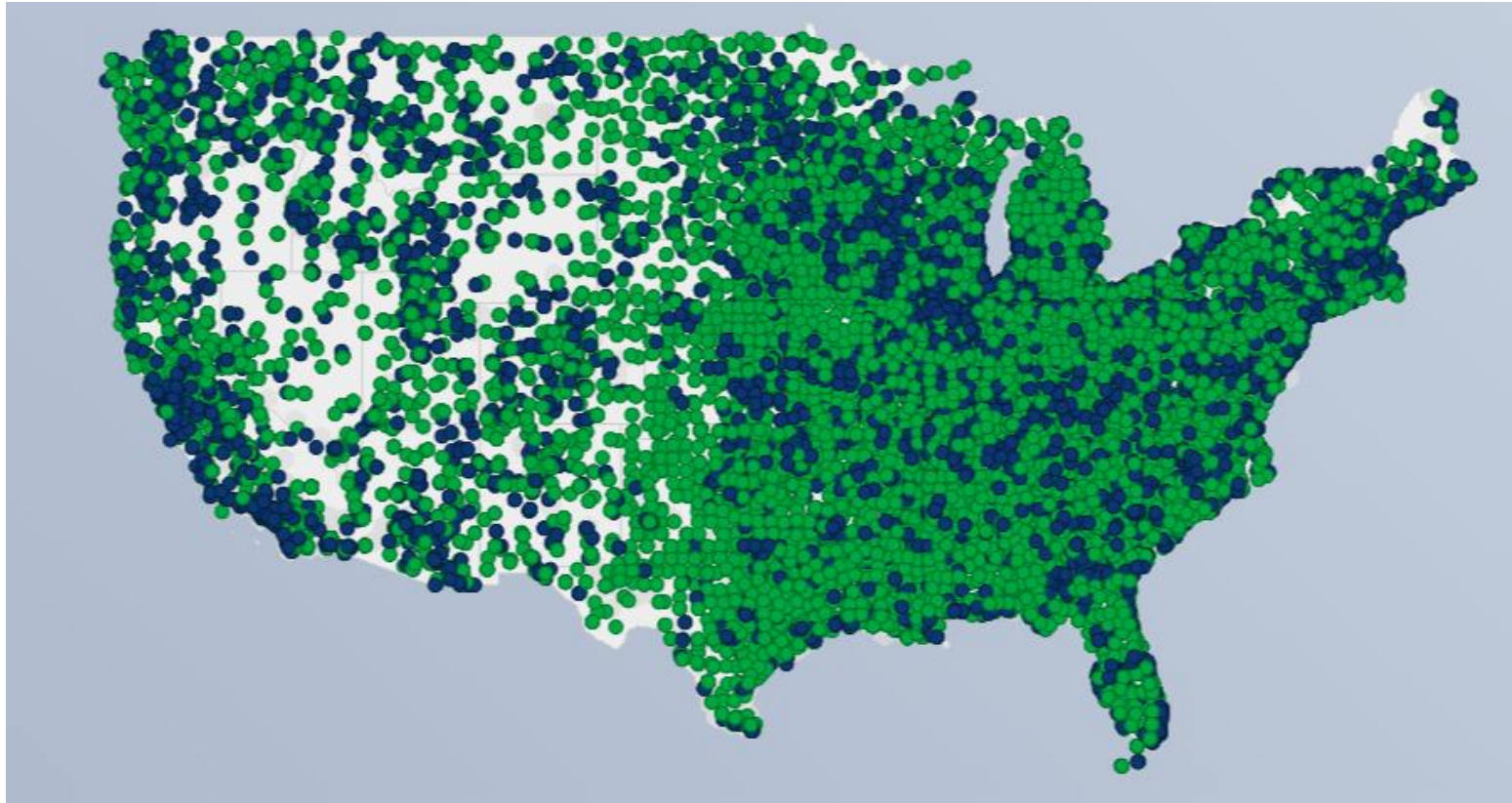
Percentage points



Sources: Bureau of Economic Analysis, CEA calculations.
Note: Consumption is personal consumption expenditures. Investment is gross private domestic investment.
As of September 26, 2024 at 8:30 am.



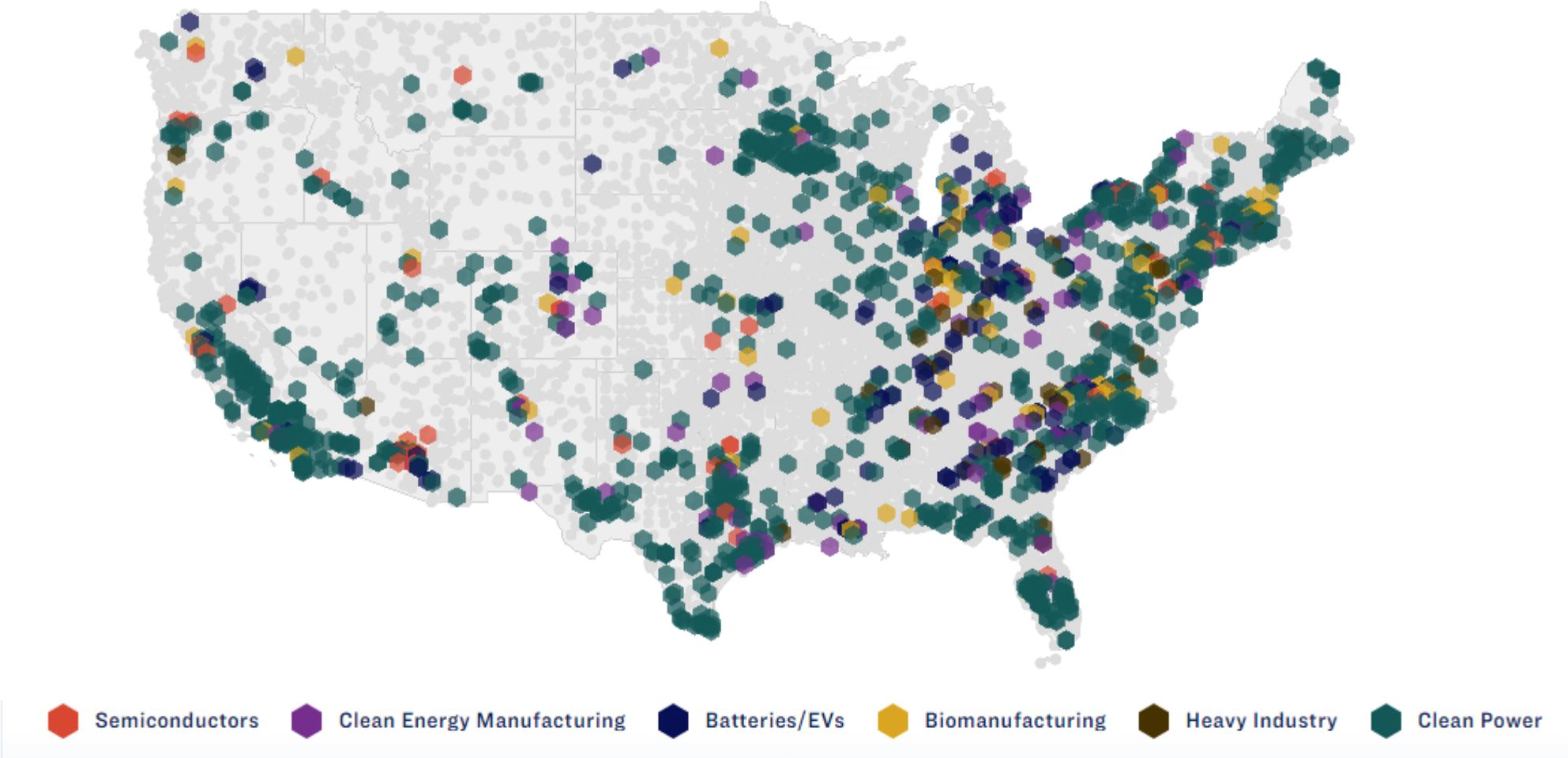
With **67,000** infrastructure, semiconductor, and clean energy projects, totaling over **\$582.8 billion in public investment**, we are seeing benefits across the country



● Discretionary ● Formula



Over \$910 billion in private sector investments have been announced



Over \$395 Billion in private company investment announcements for semiconductors and electronics



Private investment in manufacturing construction is skyrocketing...

Inflation-adjusted private manufacturing construction spending

Billions of 2022 dollars



Source: Census; BEA; BLS; CEA analysis.

Note: Deflated using the PPI Final Demand Construction for Private Capital Investment (post-2009), the Census implicit price deflator for Private Industrial construction (pre-2003), and an interpolation of BEA's implicit price deflator for private fixed investment in manufacturing structures (2003-2008).

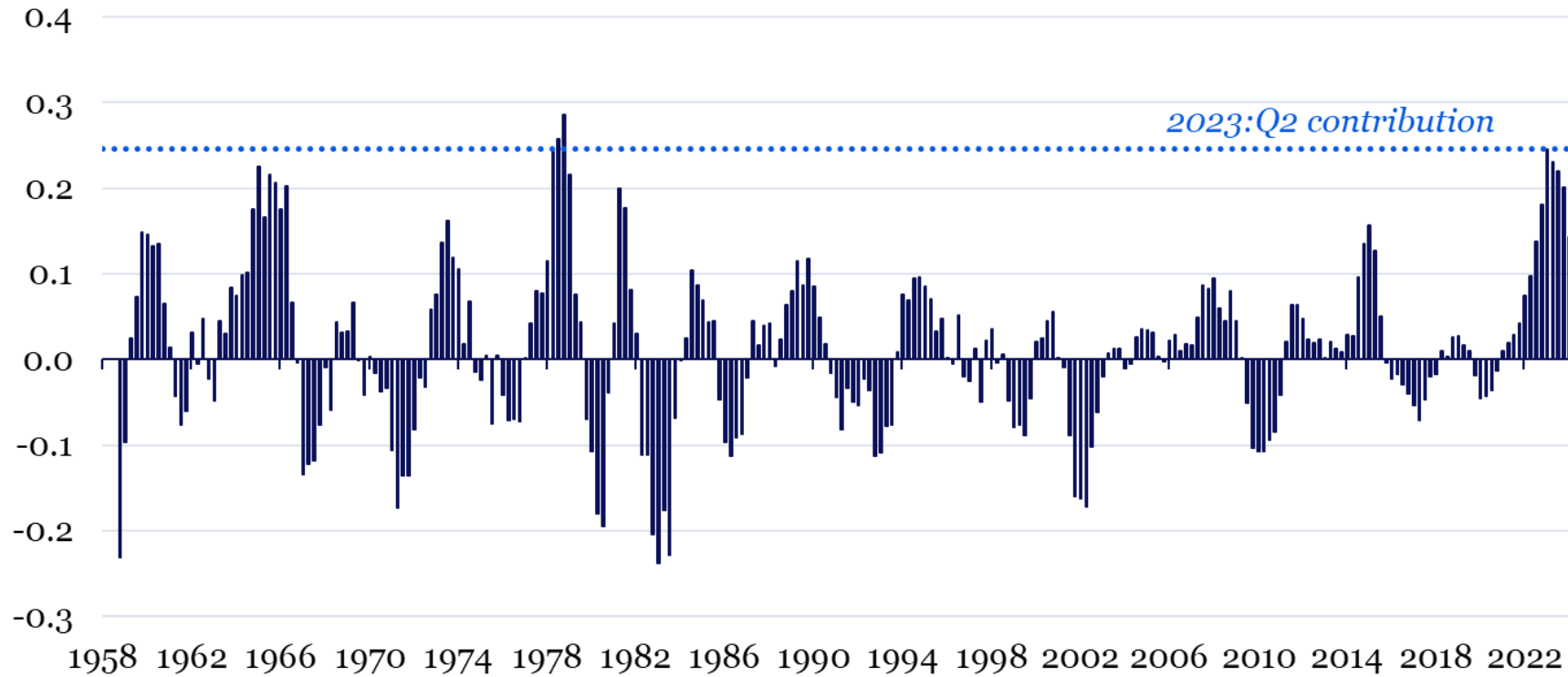
As of September 3, 2024 at 10:00 am.



... strong contribution to GDP growth

Contribution of private nonresidential investment in manufacturing construction to real GDP growth, over time

Contribution to year-on-year real GDP growth, percentage point



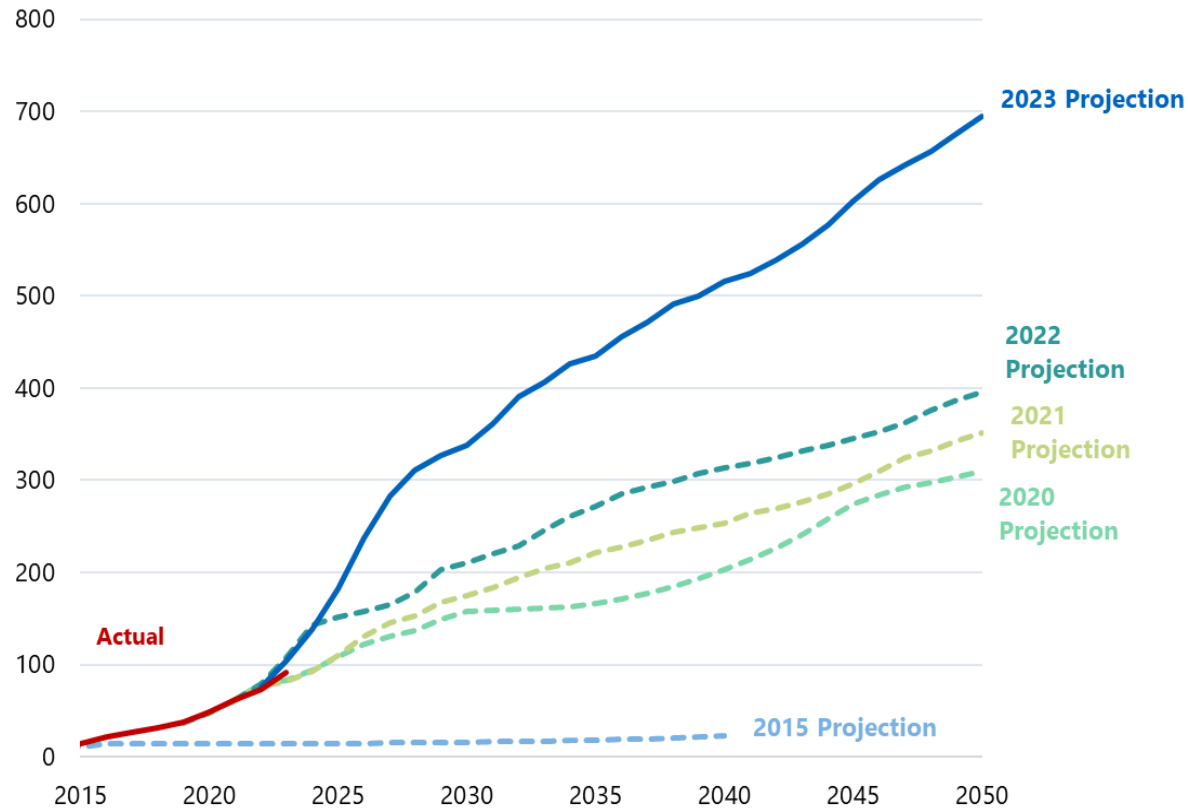
Sources: Bureau of Economic Analysis; CEA calculations
As of September 26, 2024 at 8:30 am.



Clean energy technologies are projected to take off

Solar Capacity Projections Over Time

Gigawatts



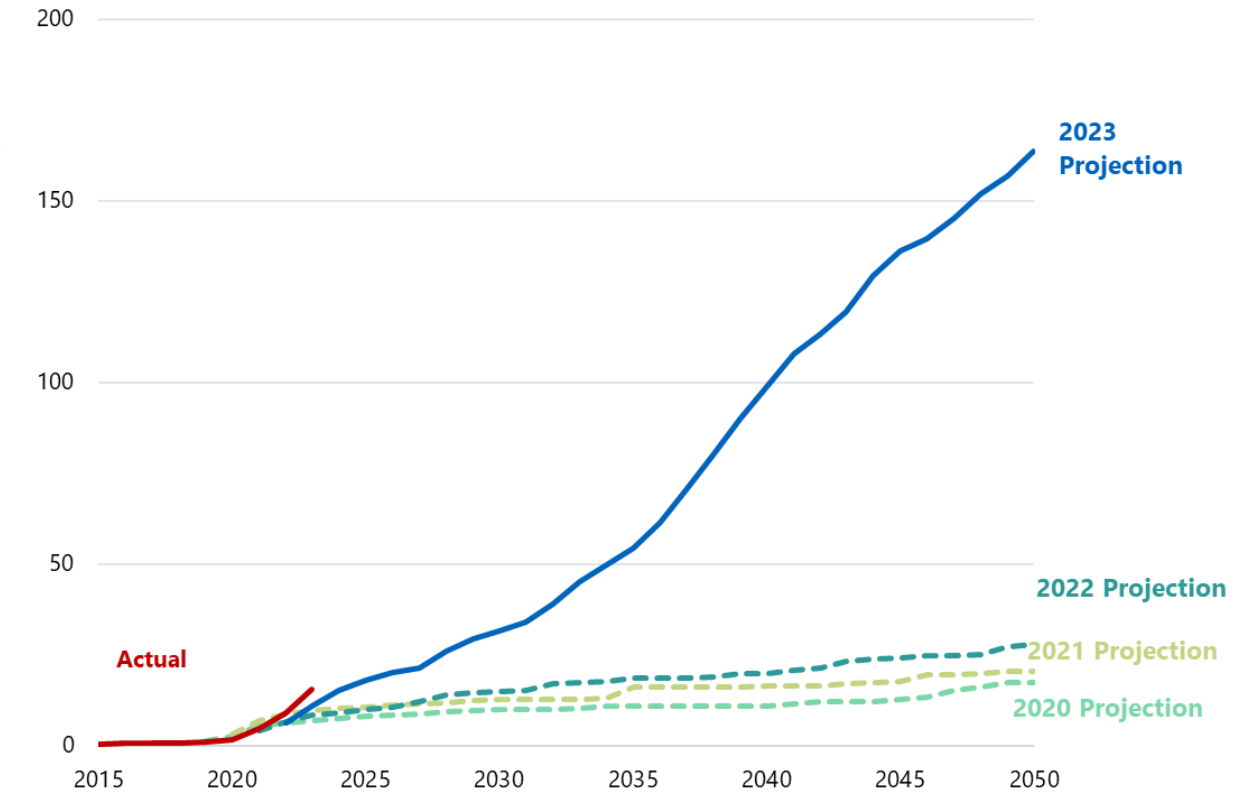
Source: U.S. Energy Information Administration.

Note: Projections from EIA Annual Energy Outlook. Actuals from EIA Monthly Energy Review. All values are for utility-scale solar only.

As of March 26, 2024.

Grid-Scale Storage Capacity Projections Over Time

Gigawatts



Source: U.S. Energy Information Administration.

Note: Projections from EIA Annual Energy Outlook. Actuals from EIA Monthly Energy Review.

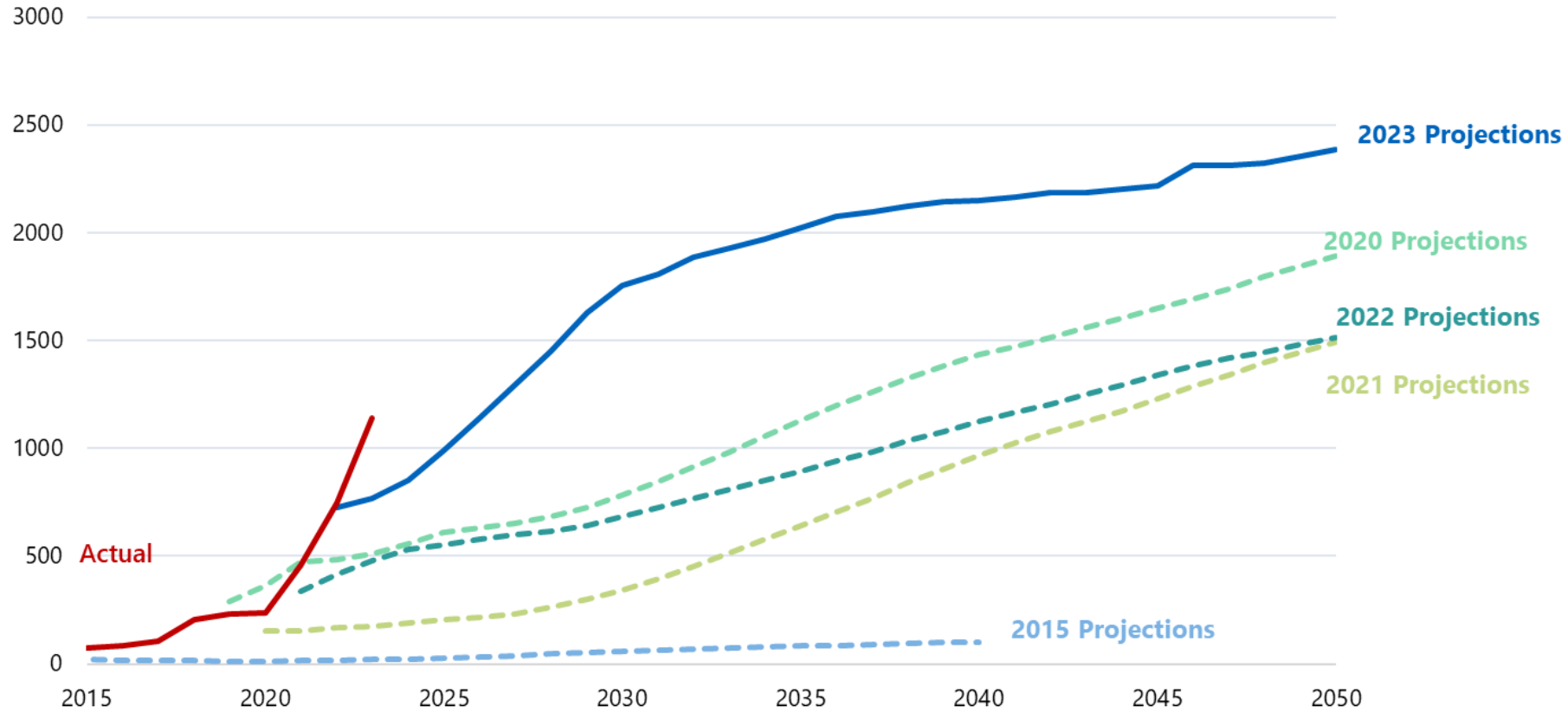
As of March 26, 2024.



Some are already surpassing forecasts...

Annual EV Sales Projections Over Time

Thousands of units sold per year



Sources: U.S. Energy Information Administration, Argonne National Laboratory.

Note: Projections from EIA Annual Energy Outlook. Actuals from ANL Light Duty Electric Drive Sales Monthly Sales Updates.

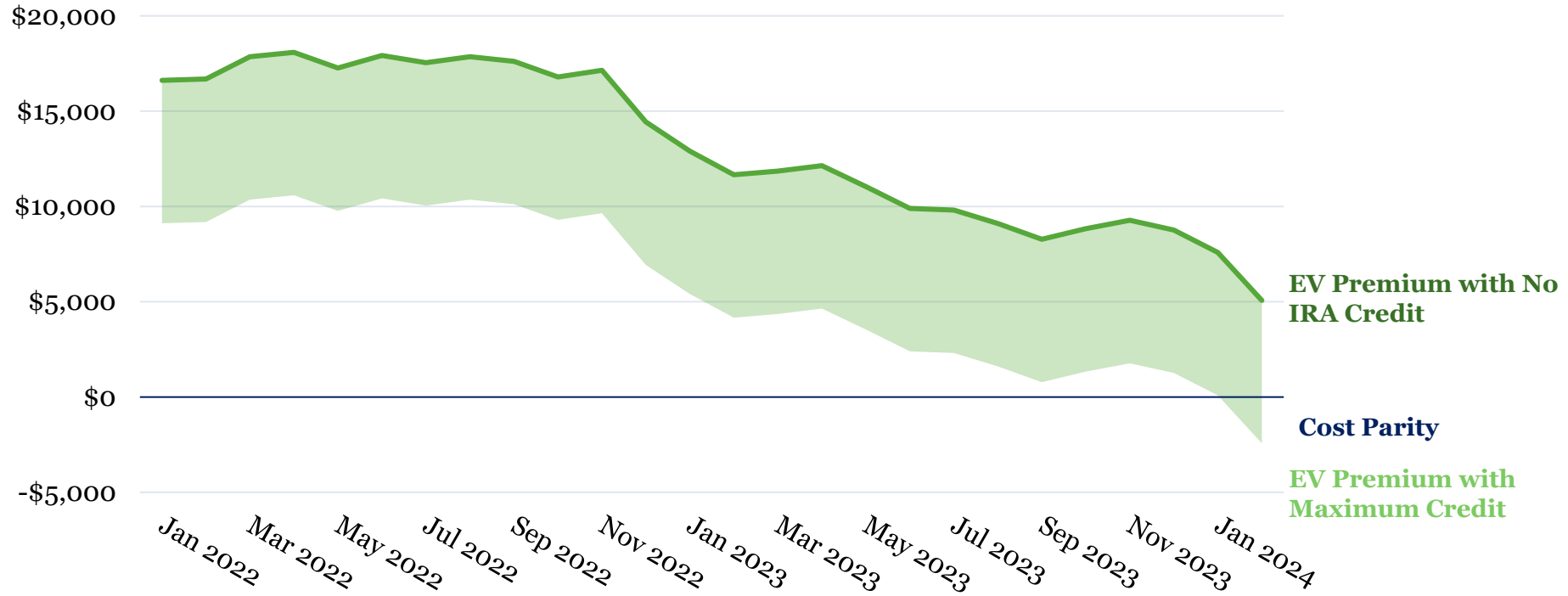
As of January 31, 2024



And costs continue to decrease for EVs

Average Difference in Cost Between New EVs and All New Vehicles

Dollars per vehicle



Source: Cox Automotive, based on average transaction cost
As of March 18, 2024.





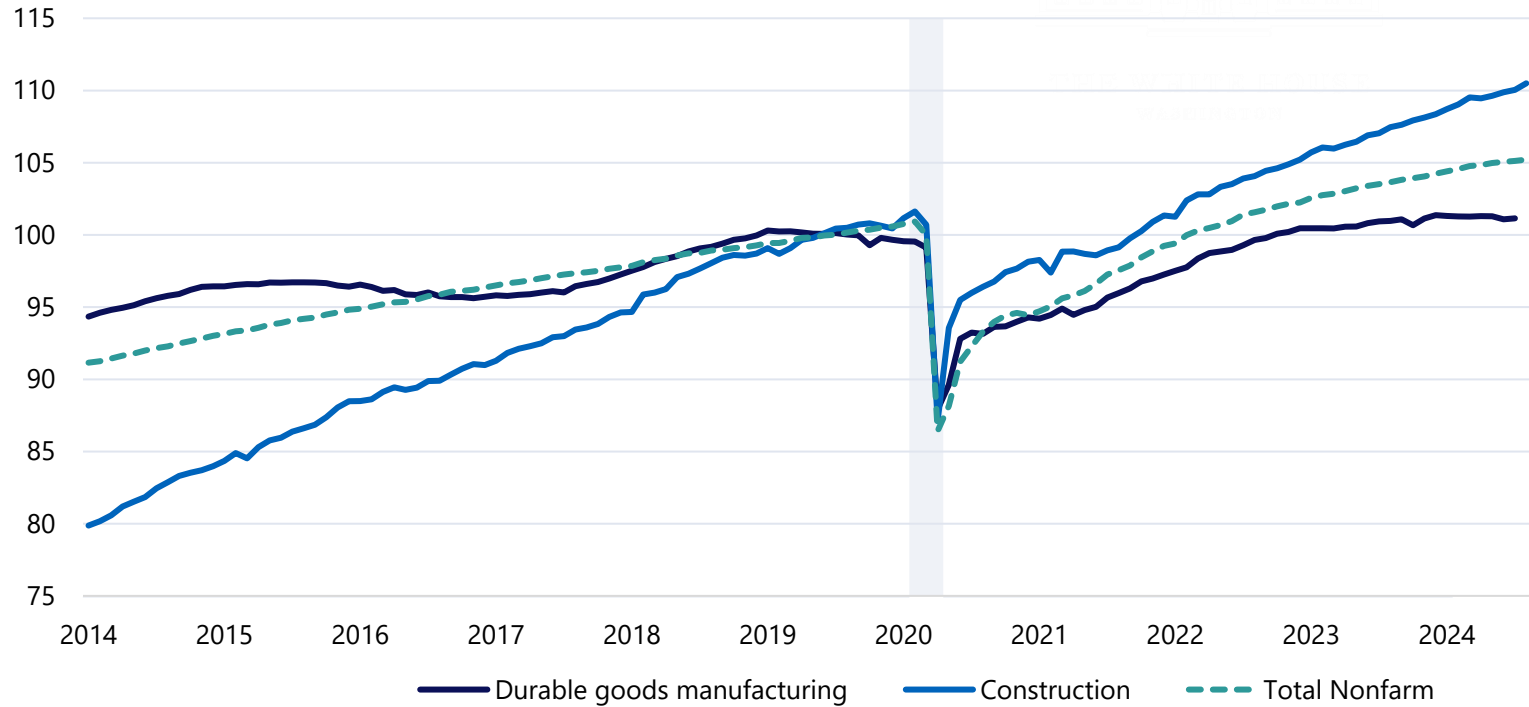
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Empowering and Educating Workers

Construction employment is at a record high; Durable goods manufacturing employment is above pre-pandemic levels

Employment in durable goods manufacturing and construction relative to total nonfarm

Index (2019 average = 100)



917,000

Construction jobs added
(since January 2021)

533,000

Durable goods manufacturing jobs added
(since January 2021)

Source: Bureau of Labor Statistics.

Note: Data are seasonally adjusted. Gray bars indicate recession.

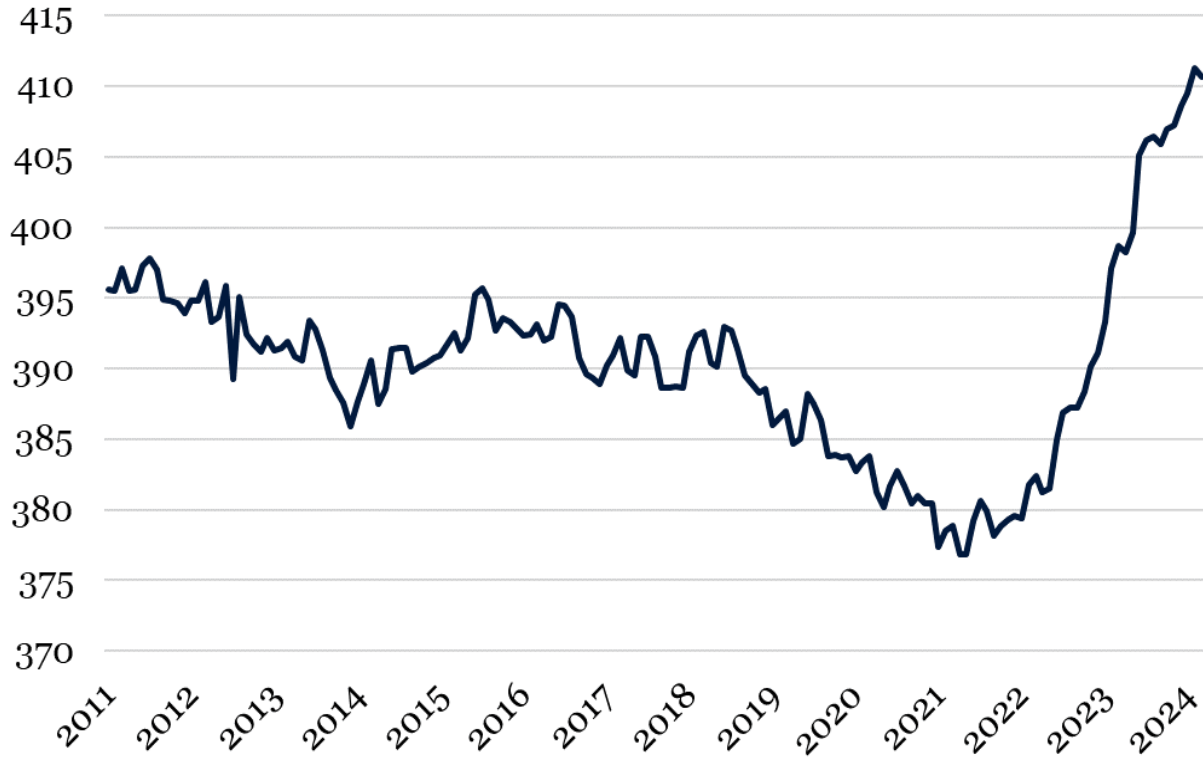
As of September 6, 2024 at 8:30 am.



We are creating high-quality jobs across the country

Employment in power generation and supply

Thousands



Source: QCEW

As of September 4, 2024 at 10:00 am.

Growth in clean energy jobs by state in 2023

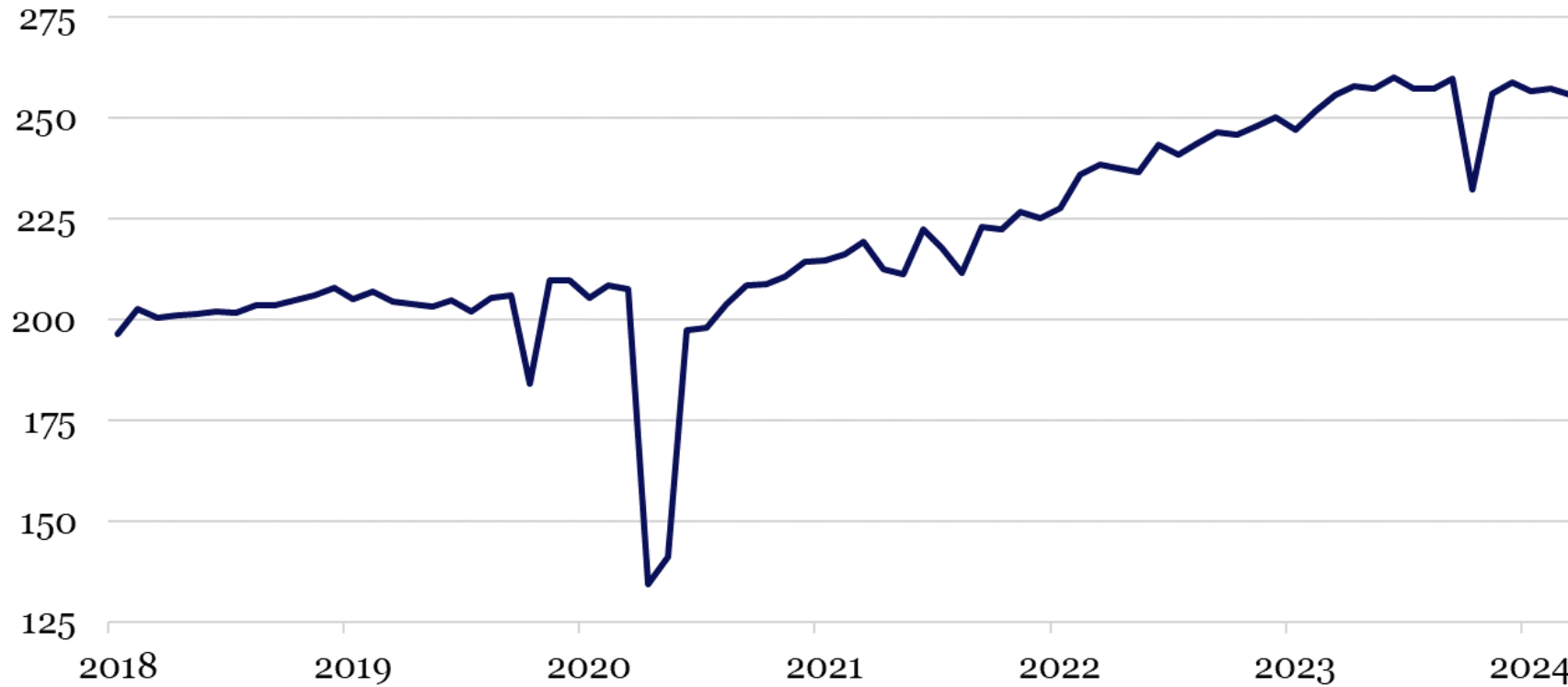


Source: U.S. Department of Energy



Automobile and light truck employment hit a record high in 2023 and is currently above pre-pandemic levels

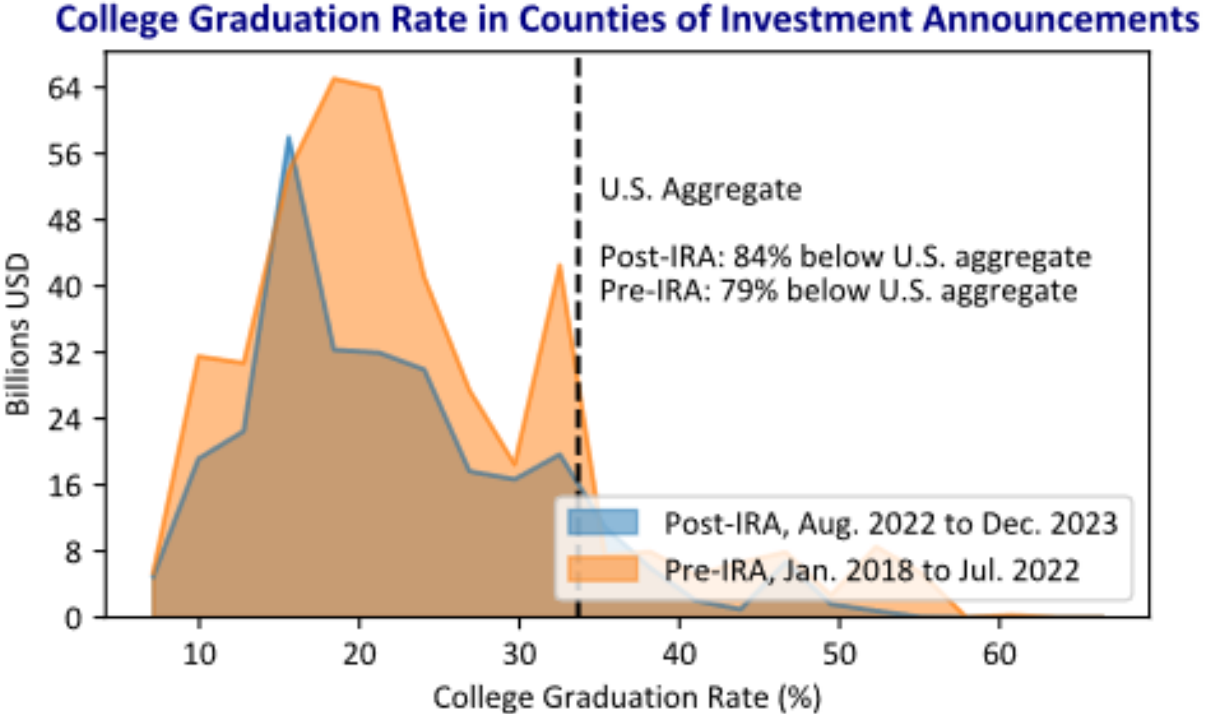
Employment in automobile and light truck manufacturing
Thousands



Source: QCEW
As of September 4, 2024 at 10:00 am.



More than 80 percent of Inflation Reduction Act-related investments are in areas with below average college graduation rates



Source: U.S. Treasury calculations.





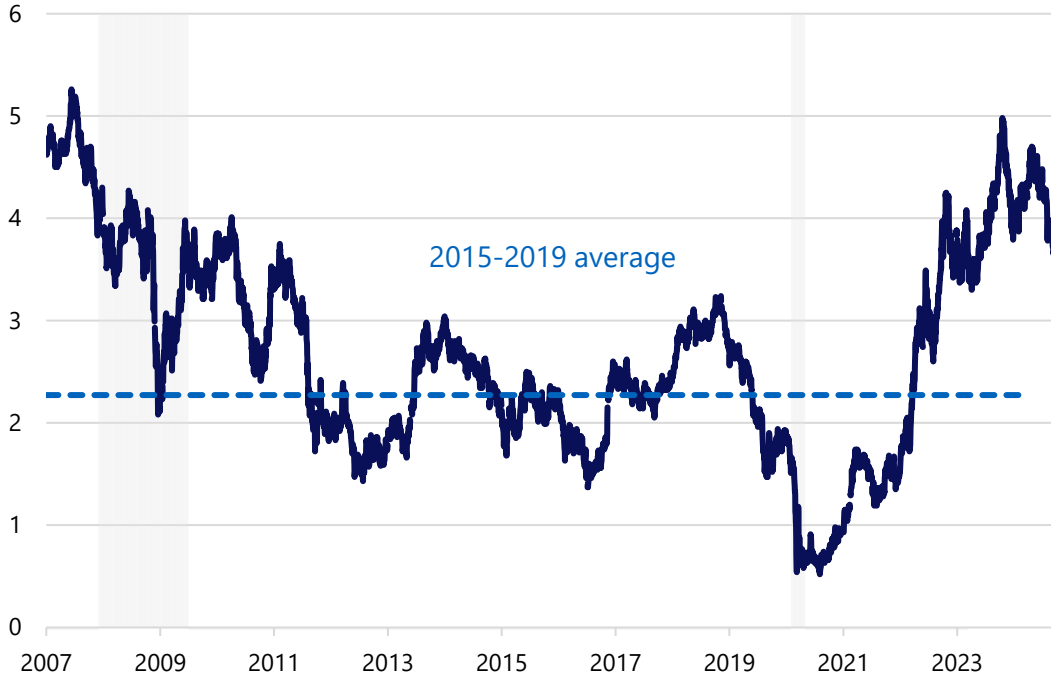
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What we're watching

Financing is more difficult but borrowing costs have come down since recent peaks

Yield on U.S. Treasury Securities at 10-Year Constant Maturity

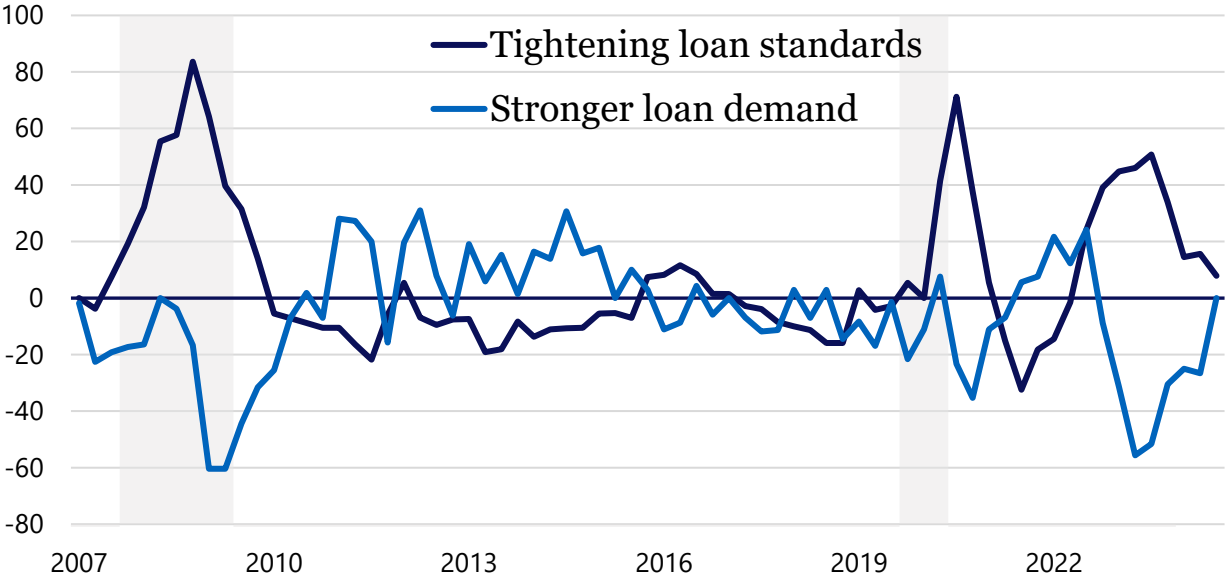
Percent



Source: Federal Reserve Economic Data, CEA calculations.
Note: Gray bars indicate recessions.
As of September 19, 2024 at 5:30 pm.

Senior loan officials reporting tight loan standards and lower loan demand

Percent (net)

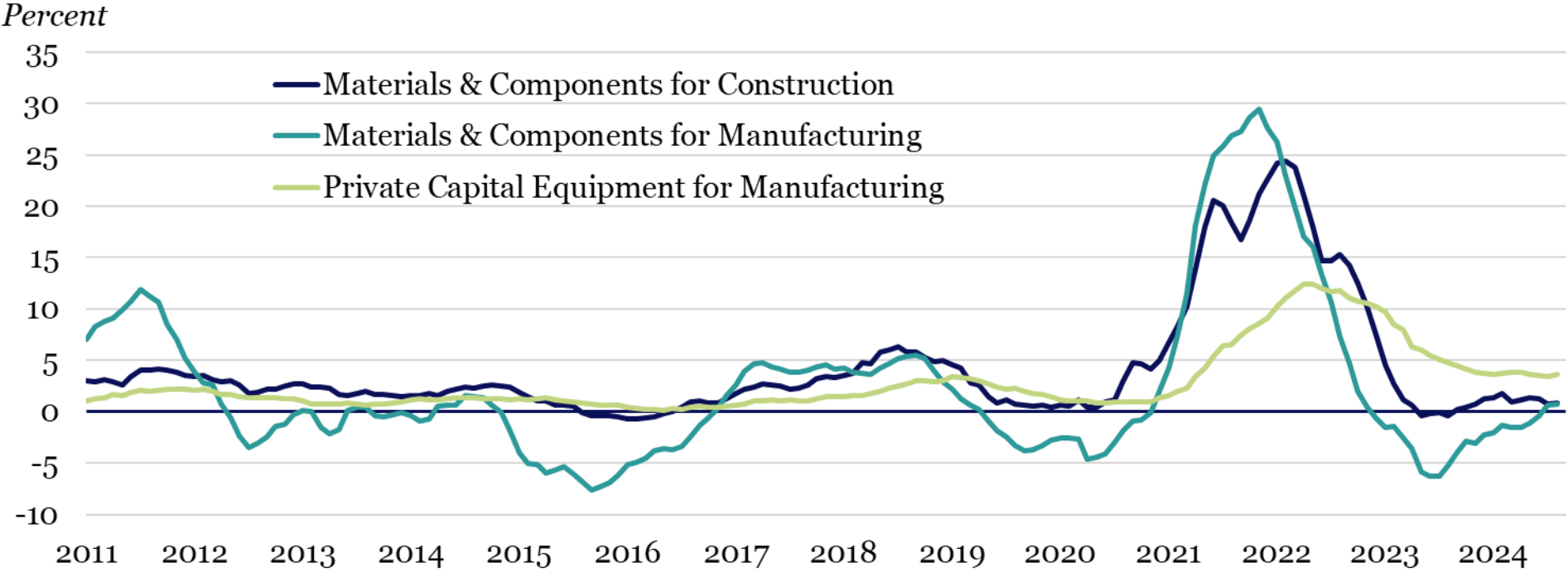


Source: Federal Reserve Board's Senior Loan Officer Opinion Survey
Note: Gray bars indicate recession. Tightening loan standards refer to the percentage of loan officers indicating that their bank's credit standards for approving commercial and industrial loans for non-M&A activity have tightened. Stronger demand refers to net percentage claiming stronger demand for C&I loans over the past three months.
As of August 5, 2024 at 2:00 pm.



In the last year, manufacturing input prices rose 0.8 percent while construction input prices rose 0.9 percent. Private capital equipment input prices remain elevated

Year-over-year change in construction and manufacturing input prices



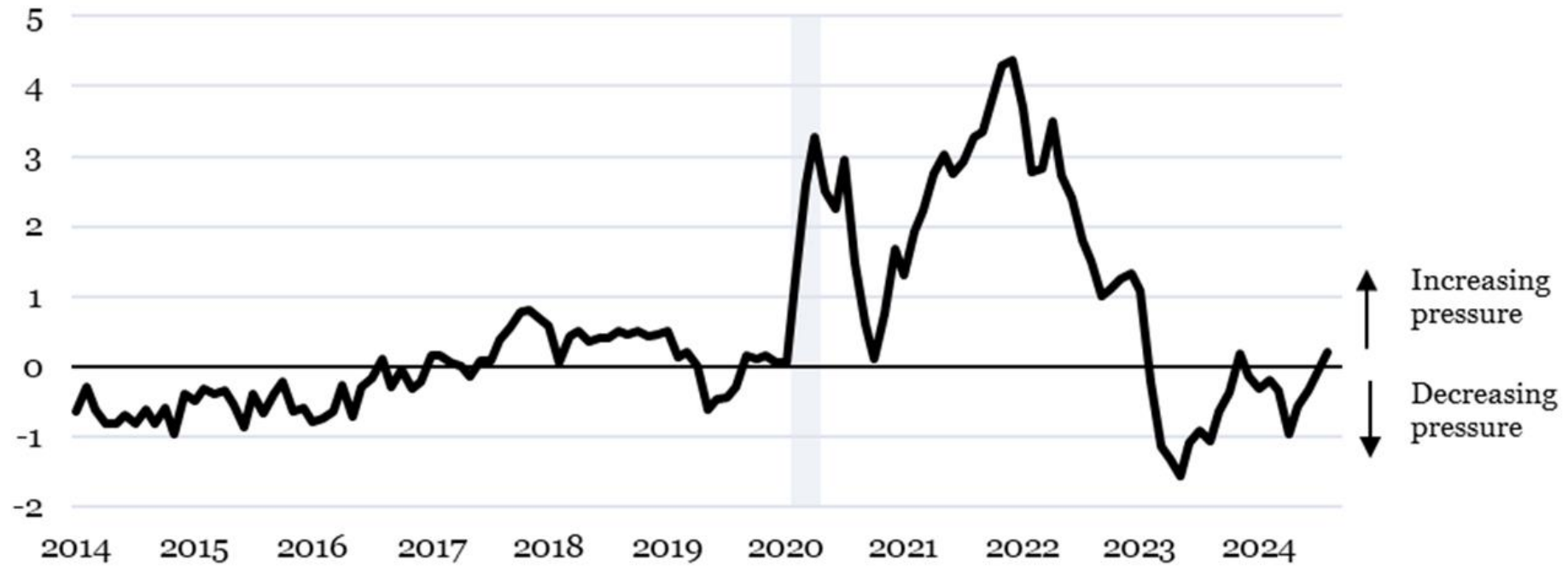
Sources: Bureau of Labor Statistics; CEA calculations.
Notes: Examples of "private capital equipment for manufacturing" include industrial molds, motor trucks, tractors, and conveying equipment. "Materials" refer to partially processed products that will undergo further preparation (e.g., lumber, metals, cement). "Components" refer to completed finished products (e.g., pumps, valves, metal doors).
As of September 12, 2024 at 8:30 am.



Supply chain pressures have normalized after peaking in 2021

Global Supply Chain Pressure Index

Standard deviations from average



Source: Federal Reserve Bank of New York

Note: Gray bar indicates recession.

As of September 6, 2024 at 10:00 am.





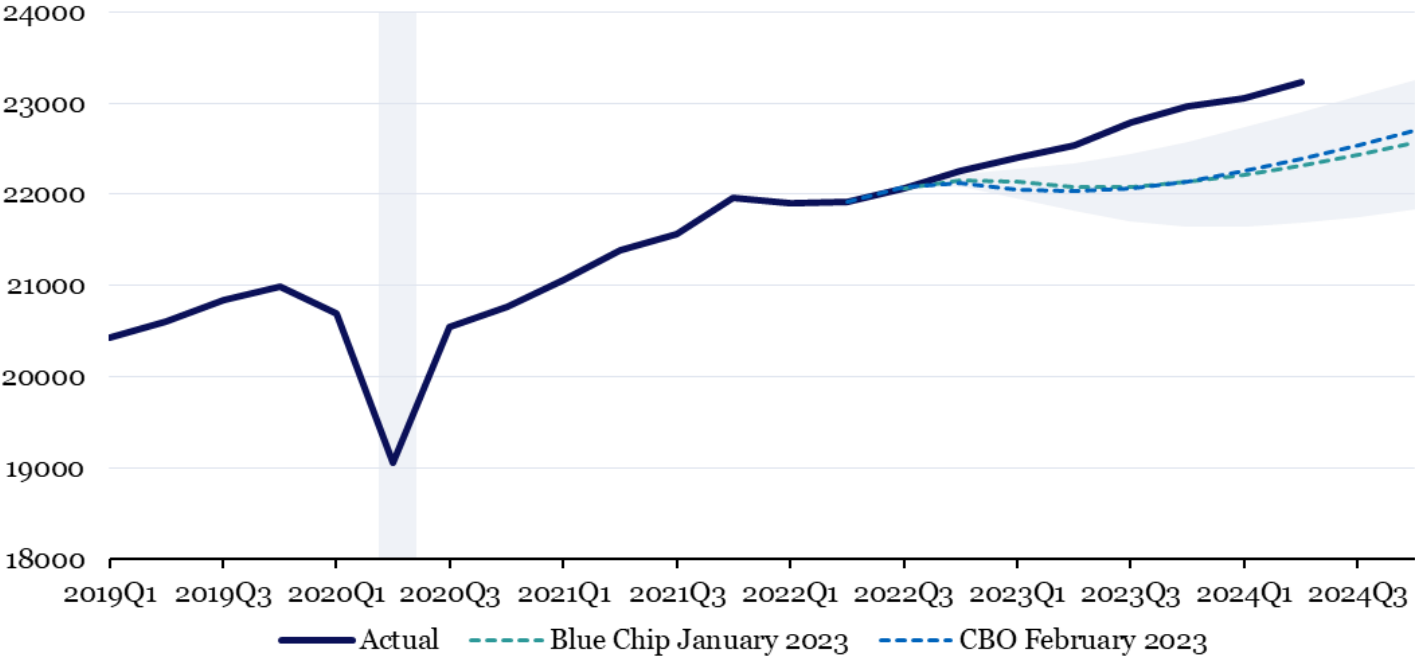
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Appendix

After a deep recession, the economy has experienced one of the fastest—and most equitable—recoveries in decades

Real GDP vs. Forecasts

2017 Dollars



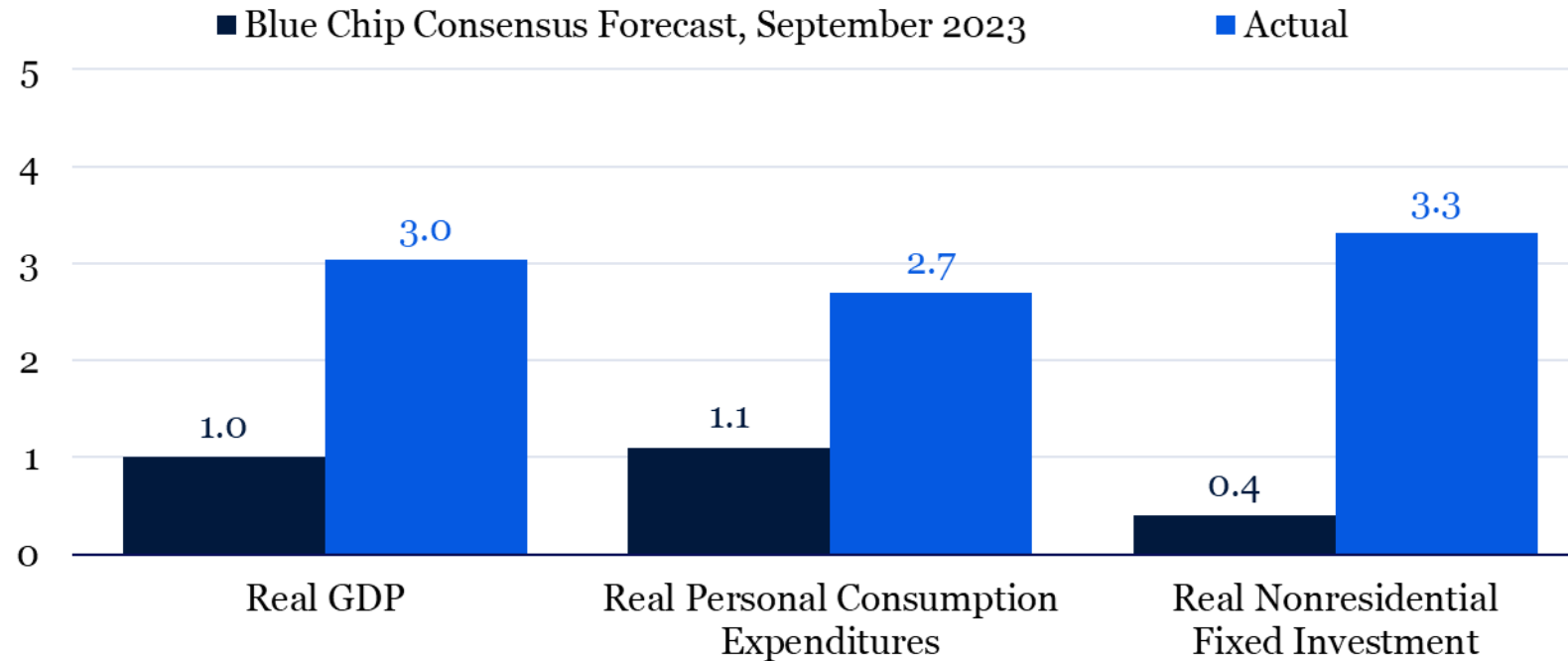
Sources: Bureau of Economic Analysis, Blue Chip, Congressional Budget Office, CEA calculations.
 Note: Gray bars indicate recession. Growth rates from Blue Chip and CBO applied to actual real GDP level in 2022Q3. All forecasts were finalized before 2022Q4 data were released. Shaded area indicates difference between Blue Chip Top 10 and Blue Chip Bottom 10 estimates.
 As of September 26th, 2024 at 8:30 am.



Economic growth continues to outpace forecasts from a year ago

Blue Chip Consensus Forecast and actual percent change in growth, 2023Q1 - 2024Q2

Percent change



Source: Bureau of Economic Analysis; Haver
As of September 26, 2024 at 8:30 am.



Unemployment also beat previous year forecasts

Unemployment Rate vs. Forecasts

Percent



Sources: Bureau of Economic Analysis, Congressional Budget Office, Blue Chip, Federal Reserve Board of Governors, CEA calculations.

Note: All forecasts were finalized before 2022Q4 data were released. SEP data reflects median FOMC projections, Q4 level. Shaded area indicates difference between Blue Chip Top 10 and Blue Chip Bottom 10 estimates.

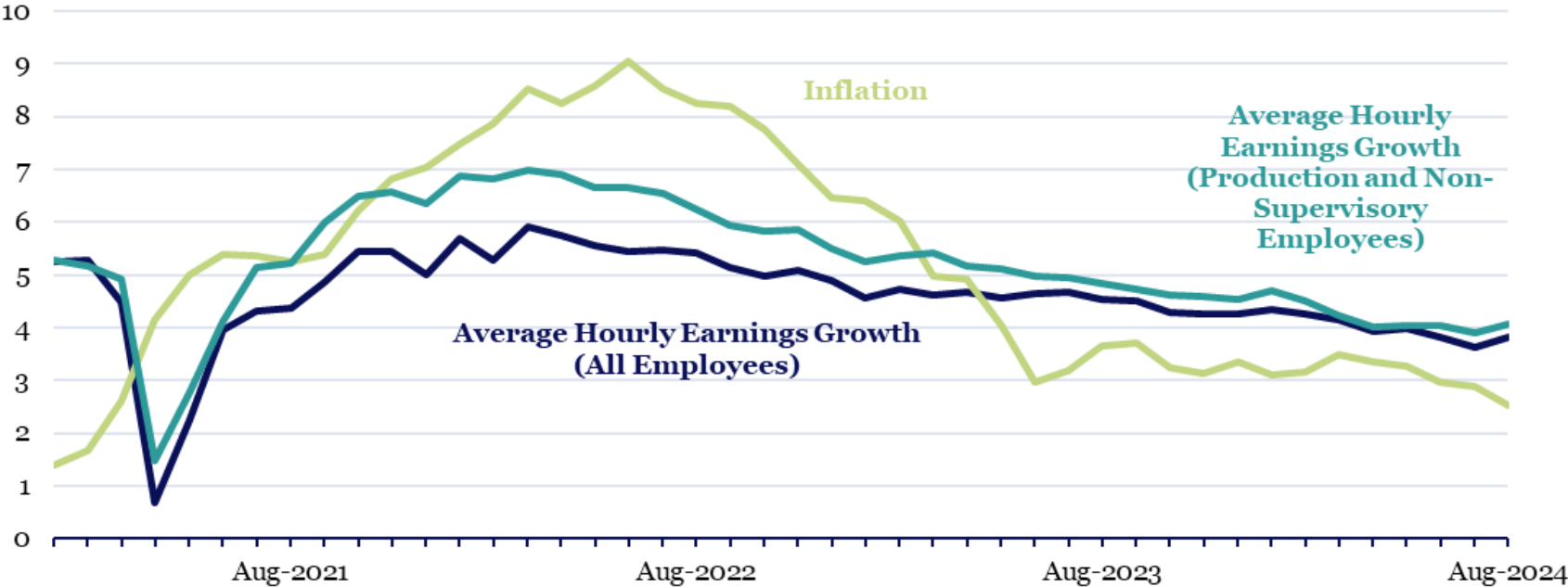
As of September 6, 2024 at 8:30 am.



Yearly Wage Growth Outpacing Inflation for 16 Months in a Row

Nominal average hourly earnings, all employees, and headline CPI-U inflation

Percent, year-on-year



Sources: Bureau of Labor Statistics; CEA calculations.
As of September 11, 2024 at 8:30 am.



Since January 2021, there were a record 19 million **business applications** and over 320,000 applications to start manufacturing businesses

Total business applications, 2010-2024

Monthly applications, thousands



Source: Census.

As of September 12, 2024 at 10:00 am.

Manufacturing business applications, 2010-2024

Monthly applications, thousands



Source: Census.

As of September 12, 2024 at 10:00 am.

