



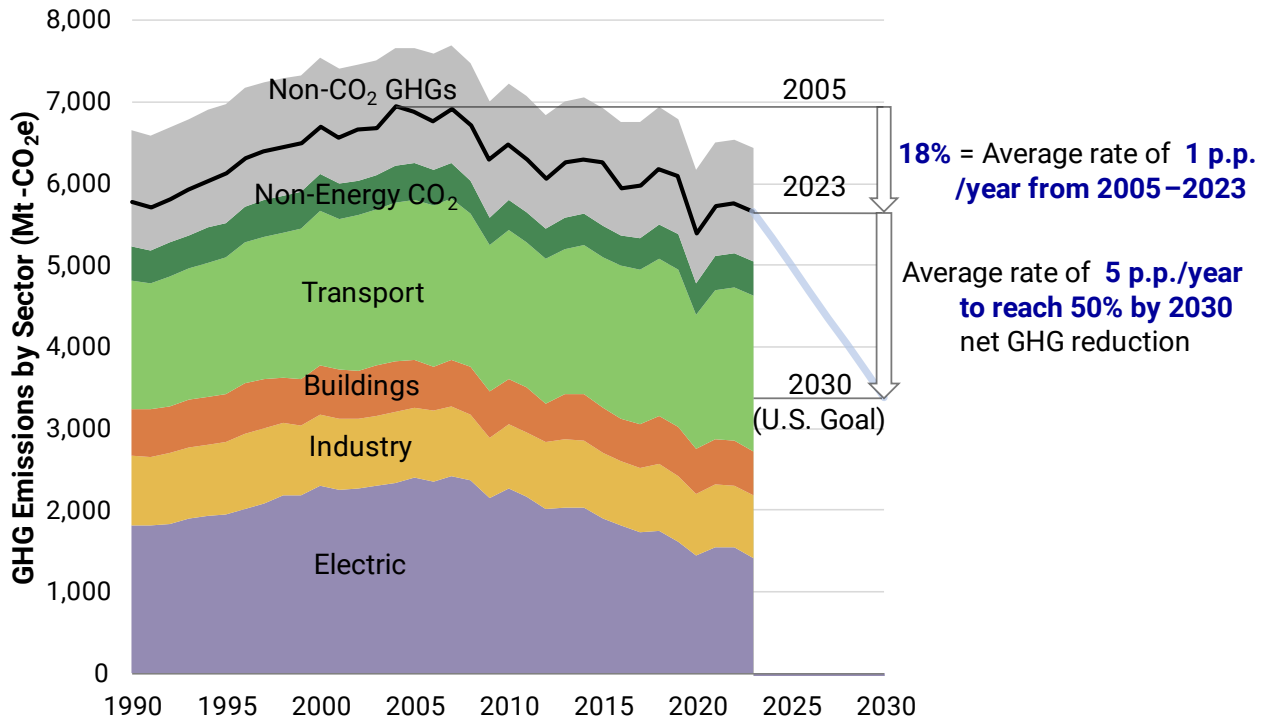
## KEY INSIGHTS

- **Decarbonization rates would need to increase five to six times** their historical pace to reach the 2030 U.S. climate target.
- **In 2023, greenhouse gas emissions across the economy were 18% lower than 2005**, led by the power sector's 41% declines. Transport and industrial emissions increased from 2022 to 2023.
- This accelerated pace would have to continue to reach net-zero emissions by 2050.

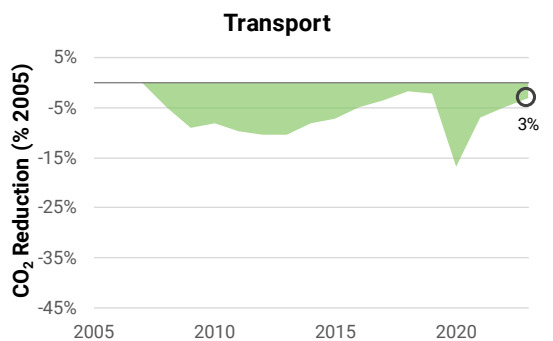
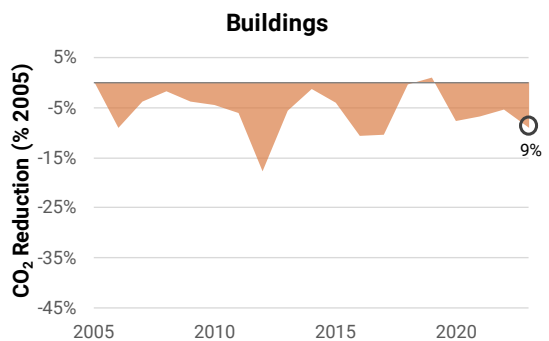
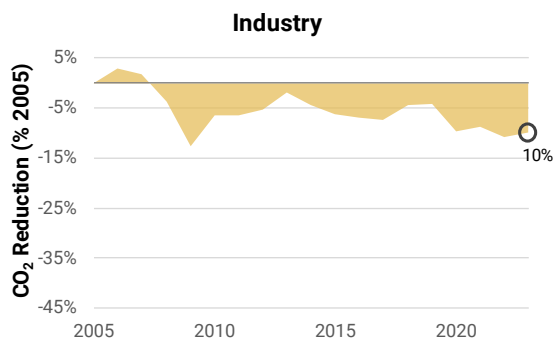
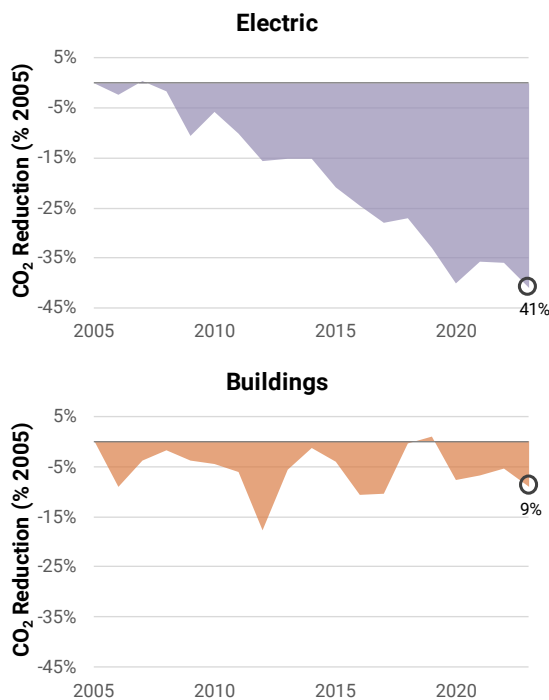
## Updated Emissions Imply Accelerated Efforts to Reach 2030 Climate Target

by John Bistline

In 2023, greenhouse gas (GHG) emissions across the U.S. economy fell by 1.9% from 2022, while GDP grew by 2.4%, according to new data from [Rhodium](#). Since 2005, U.S. emissions declined by 18%, with the electric sector cutting emissions by 41%. However, to reach the [2030 goal](#) under the Paris Agreement to reduce GHG emissions 50-52% from 2005, the U.S. must **increase its decarbonization rate from 1 percentage point (p.p.) to 5-6 p.p. annually** (Figure 1)—a pace previously only seen during the recession of 2009 and 2020 pandemic. The 5-6x speed is greater than the 3x acceleration EPRI highlighted in its [2021 report](#).



**Figure 1. Historical greenhouse gas emissions trends by sector relative to 2030 U.S. target.** Values through 2021 come from U.S. EPA's "[Inventory of U.S. Greenhouse Gas Emissions and Sinks](#)," and 2022/2023 values come from [Rhodium](#).



**Figure 2. Sectoral CO<sub>2</sub> changes over time (% reductions from 2005 levels).** Values through 2021 come from U.S. EPA’s “[Inventory of U.S. Greenhouse Gas Emissions and Sinks](#),” and 2022/2023 values come from [Rhodium](#).

There were several notable sectoral trends, based on the updated [data](#):

- Power sector CO<sub>2</sub> declined 8% from 2022 to 2023. Coal generation continued its decline: 2023 generation was roughly 60% lower than its [peak](#) in the mid-2000’s (with a [17% share](#) in 2023). **Over 80% of economy-wide GHG reductions came from the power sector** relative to 2005.
- Transport emissions rose nearly 2% in 2023, though they declined 3% from 2005 and were lower than pre-pandemic levels. Electric vehicles were nearly 10% of [sales in 2023](#) and up 50% from 2022 levels, which may help to reduce future CO<sub>2</sub>.
- Residential and commercial buildings emissions dropped 4% in 2023 (down 9% from 2005), in part due to the mild winter.
- **Industrial emissions increased 1% and became the second-highest emitting**

**sector**, overtaking the power sector.

[A recent EPRI-led multi-model comparison](#) indicates that current technology trends and policies, including the Inflation Reduction Act, could **reduce economy-wide emissions 33-40% below 2005 by 2030 and 43-48% by 2035**. Additional [actions](#) could narrow this implementation gap, though uncertainties remain about their timing and extent.

This accelerated pace would need to continue to reach [net-zero emissions around 2050](#). In addition to continuing reductions from efficiency, electricity, and [electrification](#), [modeling studies](#) indicate the importance of accelerating the innovation and deployment of emerging technologies—including bioenergy, carbon capture, hydrogen, advanced nuclear, and long-duration storage.

## FOR MORE INFORMATION

Studies explore actions to reach 2030 targets ([link](#)) and implementation gaps with current trends ([link](#)). Other analysis looks at 2050 net-zero targets ([link](#)).

## CONTACT

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