

America's Greenhouse Gas Emissions Increased in 2022



A new report finds that U.S. greenhouse gas emissions increased by 1.3% in 2022, which means there's more work to be done in order to meet the nation's Paris Agreement commitment.

Despite an intensified, global focus on the need to reduce the amount of greenhouse gas (GHG) emissions being produced, the Rhodium Group says GHG emissions in the US increased by 1.3% last year. In its *Preliminary US Greenhouse Gas Emissions Estimates for 2022* report, Rhodium says this is the second year in a row that emissions have increased.

Despite the slight increase, Rhodium says that the “GHG intensity” of the US economy declined in 2022, a turnaround from the more carbon-intensive rebound experienced in 2021, when emissions rose by 6.5%.

“It nonetheless marks a change from 2021, when emissions rebounded faster than the economic growth rate (of 5.9%),” the company reports. “This reversal in 2022 was largely due to the substitution of coal with natural gas—a less carbon-intensive fuel—and a rise in renewable energy generation.”

The Results Varied

Outside of the power sector, Rhodium says U.S. emissions “increased slightly,” with the most significant increase evident in direct emissions from buildings, which rose by 6% and was the only sector to rebound to pre-pandemic levels. “This was largely due to increased energy consumption for heating in homes,” the company says, “as 2022 reported below-average winter temperatures.”

Other key report findings include:

- The electric power sector, which accounts for 28% of overall emissions in the U.S., saw emissions decrease by 1% in 2022.
- Coal generation in the U.S. fell in 2022, returning to the downward trend that had been in place until last year's modest increase.
- Based on monthly and daily generation data from the [U.S. Energy Information Administration \(EIA\)](#), Rhodium estimates that coal generation declined by 8% compared with the previous year.
- Several factors contributed to that decline, including the retirement of coal-fired generators and disruptions to the railroads that deliver coal to power plants.
- Natural gas and renewable energy sources compensated for the decline in coal-based power generation in 2022. Despite high Henry Hub (a natural gas pipeline in Louisiana) prices that were up to 65% higher than they were in 2021), gas consumption for electricity generation increased by 7%.
- Renewable energy generation also saw a significant increase, rising by 12% compared to the previous year. For the first time in over 60 years, renewables surpassed coal in the U.S., generating 22% of total electric power—with coal dropping to only 20%—according to Rhodium.

There's More Work to do

Emissions in the transportation and industrial sectors—the two highest-emitting sectors, which combined account for two-thirds of total US GHG emissions—rose slightly by 1.3% and 1.5%, respectively, according to Rhodium.

“The changes in industrial and transportation sector emissions reflect the impact of inflationary uncertainty,” the company points out in its report. “Industrial production was affected by supply chain turmoil and rising oil prices, leading to higher production and shipping costs. This led to a limited increase in the manufacturing of goods, and emissions in the industrial sector remained mostly unchanged.”

Emissions remained relatively flat in the transportation sector, it adds, due to the impact of rising oil prices on demand. “In the first quarter of 2022, fuel demand in the transportation sector, including gasoline, jet fuel, and diesel, rose slightly,” it says. “However, once the cost of oil began to affect transportation fuel costs, demand remained below 2019’s levels for the rest of the year.”

There’s more work to be done if the U.S. is to meet the emissions target set under the Paris Agreement. That is, to reduce U.S. GHG emissions 50-52% below 2005 levels by 2030. “In 2022, emissions reached only 15.5% below 2005 levels,” Rhodium concludes in the report. “In order to meet the 2025 target of 26-28% below 2005 levels and get back on track for the 2030 Paris goal, the US needs to significantly increase its efforts.”