

Report: US carbon emissions grew in 2021

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In the face of presidential orders and a flurry of legislation to curb carbon emissions, the volume of climate-warming gasses pumped into the atmosphere in the U.S. grew by more than 6 percent in 2021 after a pandemic-driven decline in 2020, according to widely watched data released Monday.

Domestic greenhouse gas emissions rose 6.2 percent in 2021, driven by a spike in the burning of coal to generate electricity and a "rapid rebound" in road transportation, due largely to freight shipments, according to a preliminary analysis published by the Rhodium Group, a nonpartisan research firm.

Analysts expected a rise in emissions as air travel surged, drivers hit the streets after the first year of the pandemic, demand for [consumer goods](#) remained strong and higher natural gas prices prodded a return to coal-fired electricity.

While emissions last year remained below pre-pandemic levels, staying 5 percent lower than those of 2019, they knocked the U.S. off its target to roughly halve emissions by 2030 compared to 2005 and zero them out by mid-century.

With the Biden administration and congressional Democrats' primary proposal to lower domestic emissions—the roughly \$2.2 trillion climate and social program legislation under debate in Congress—is hung up in the legislative gears of Capitol Hill, the U.S. will have to bank on a crosscutting effort of congressional, federal, state, local and private-sector steps to slash emissions, experts say.

"We have a really big challenge ahead to meet President Biden's goals," Kate Larsen, an author of the report and a partner at Rhodium, said in an interview.

In a separate report released on October, Rhodium said the country was on track to fall short of its climate goals to cut emissions 50 percent to 52 percent from 2005 levels by the end of the decade.

Senate Democrats said Tuesday they would plunge ahead with their own version of the House-passed legislation, which experts say would be the largest climate bill Congress has written into law.

The pandemic crushed emissions during its early months, as office workers stayed home, schools went online, businesses shut, airport terminals lay quiet, cars got less use and public transit took on ghost town-like qualities.

Emissions from the transportation and power sectors increased 10 percent and 6.6 percent, respectively, while emissions from industry rose 3.6 percent, Rhodium said. Emissions from buildings climbed 1.9 percent.

The overall jump was due largely to a 17 percent increase in the use of coal for power generation and a rebound in transportation, largely freight.

The pandemic slowed the movement of freight, but it has rapidly snapped back as the demand for goods delivered to homes increased, according to the federal Bureau of Transportation Statistics.

Before the pandemic, the nation's transportation system moved 51 million tons valued at \$51.8 billion each day, according to the Bureau of Transportation Statistics.

That volume dipped sharply during the beginning of the pandemic. But freight travel rebounded more quickly than passenger travel, and by September of 2021, freight demand was edging closer to the previous record of August 2019.

Larsen said the uptick in coal-fired generation wasn't surprising, given that natural gas prices spiked in 2021, adding that she and her colleagues did not anticipate emissions would bounce back faster than the economy.

But that's what happened.

Outpacing economy

Citing Goldman Sachs research, Rhodium found the estimated growth of the U.S. gross domestic product, a proxy for the economy, grew 5.7 percent, lagging behind the emissions growth.

"It's definitely a move in the wrong direction," Larsen said. She and other analysts said the jump in coal power undercuts the idea of some members of Congress, in particular Sen. Joe Manchin III, D-W.Va., that the phaseout of coal and transition to zero-emission fuel sources had already happened.

"There was nothing stopping coal from clawing back a large share of emissions," Larsen said.

Renewables hit record-level deployment in 2020 and broke that threshold last year, reaching 20 percent of the country's electricity generation for the first time.

Lowell Ungar, director of federal policy for the American Council for an Energy-Efficient Economy, said the spike in emissions shows government steps are required to tackle climate change.

"The answer is not working less. It's working smarter and more efficiently," Ungar said by phone. "The real issue is not the one-year numbers. It's in the longer trajectory that we need to be doing much

more."

One avenue for the Biden administration to lower emissions is the Energy Department, which oversees [federal standards](#) for about 60 categories of household goods, appliances and other machinery sold in the U.S. Overall, the standards cover hundreds of millions of products sold and used in the country.

And the DOE has about 50 standards to update, according to a tally the Appliance Standards Awareness Project maintains, with the potential to reap long-term financial and emissions savings for decades.

"That would be savings throughout the country," he said. "The Build Back Better [legislation] has some significant investments that would really sort of kick-start a process to getting the kind of emissions reductions we need," Ungar added, using the term Democrats have given their bill.

Stephen Munro, policy editor at BloombergNEF, said 2022 could see significant economic activity around the electricity grid due to investment from the \$1.2 trillion infrastructure law.

Munro also said federal investment in carbon capture technology—a relatively nascent method of trapping and holding emissions before they enter the atmosphere—could serve as a legislative fulcrum for Democrats to reach a climate bill.

It could draw in a "particular senator from West Virginia" to reach a deal, Munro said, referring to Manchin.

"I look for carbon capture certainly at the congressional level to continue to play a tiebreaker role," he said. "Carbon capture could be a key, albeit an expensive one and albeit an unproven one," he said. "But it could be a political key."

Among other policy tools the Biden administration has is whatever plan it crafts to regulate emissions from the power sector, replacing the Obama-era Clean Power Plan, which the Supreme Court stayed before it went into place.

EPA Administrator Michael Regan has said the agency is ready to use regulations to lower power sector emissions no matter what Congress does.

The Supreme Court has grown more conservative in its leaning since the stay, and now facing a 6-3 conservative majority, the Biden administration will have to write its emissions plan with the court in mind, Munro said.

"It's a big question mark," he said, adding that the EPA is expected to unveil its plans in 2022. "We certainly expect the Biden team to show us something this year."

Paula Glover, president of the Alliance to Save Energy, a bipartisan nonprofit advocacy group, said energy-efficiency steps such as installing new heating and cooling systems, lightbulbs or windows can deliver about 50 percent of the emissions cuts needed for the U.S. to meet its 2050 climate goal.

But those steps would have to be applied in every pocket of the country.

"If we are going to massively decarbonize, that means we're going to have to hit every community," Glover said in an interview.

The COVID-19 pandemic has taken a particular toll on efficiency, since homeowners may be hesitant to allow appliance installers into their homes for fear of catching the virus, or vice versa.

"The reality is the recovery is going to be slower" for efficiency jobs, Glover said.

Larsen said the Rhodium figures were preliminary and missed significant elements: data on land use and trees.

In recent years, she said, land and forests have absorbed about 11 percent to 13 percent of domestic emissions. But the work she helped assemble does not include recent data on those trends, including on wildfires and drought in recent years.

"That's unknown still," Larsen said. "That's unrelated to the pandemic, but it's another piece to

keep in mind. ... So when you put those two pieces together, the picture may be even more bleak."

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