

Wealthiest 10% of Americans Responsible for 40% of U.S. Greenhouse Gas Emissions, Study Finds

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A mansion in Colorado. Liesl Clark / Moment / Getty Images

According to a new University of Massachusetts Amherst (UMass Amherst) [study](#), Americans whose income is in the top 10 percent are responsible for 40 percent of the total [greenhouse gas emissions](#) in the country. It's the first study to connect income with the emissions used to generate it.

The researchers focused on earnings derived from [financial investments](#) and recommended taxes be adopted that hone in on [investment incomes'](#) carbon intensity, a press release from UMass Amherst said.

"Current policies to reduce greenhouse gas (GHG) emissions and increase adaptation and mitigation funding are insufficient to

limit global temperature rise to 1.5°C. It is clear that further action is needed to avoid the worst impacts of [climate change](#) and achieve a just climate future," the authors of the study wrote. "We find significant and growing emissions inequality that cuts across economic and racial lines. In 2019, fully 40% of total U.S. emissions were associated with income flows to the highest earning 10% of households. Among the highest earning 1% of households (whose income is linked to 15–17% of national emissions) investment holdings account for 38–43% of their emissions."

Human consumption like driving vehicles, eating particular types of food and buying



certain kinds or an excess of goods is a long-established generator of greenhouse gas emissions, the press release said.

Environmental policy has tended to focus on limiting consumption or directing it toward things that have less of a carbon footprint, like driving an [electric vehicle](#) or eating [plant-based food](#).

“But consumption-based approaches to limiting greenhouse gas emissions are regressive,” said Jared Starr, a sustainability scientist at UMass Amherst and lead author of the study, in the press release. “They disproportionately punish the poor while having little impact on the extremely wealthy, who tend to save and invest a large share of their income. Consumption-based approaches miss something important: carbon pollution generates income, but when that income is reinvested into stocks, rather than spent on necessities, it isn’t subject to a consumption-based carbon tax. What happens when we focus on how emissions create income, rather than how they enable consumption?”

The study, “Income-based U.S. household carbon footprints (1990–2019) offer new insights on emissions inequality and climate finance,” was published in the journal *PLOS Climate*.

In the study, the research team examined three decades’ worth of data from 1990 to 2019, first from a database of 2.8 billion financial transfers and their intersectoral flow of income and carbon.

From this information, the researchers were able to calculate two separate values: one that represented producer-based income from greenhouse gas emissions and one representing supplier-based emissions,

which are created by industrial suppliers of [fossil fuels](#).

As an example, operating fossil fuel companies doesn’t produce an enormous amount of emissions, but they make a huge amount of profit selling the oil to those who will end up burning it and producing emissions.

Emissions that are producer-based, on the other hand, are those released by operating the business, as with [coal-fired power plants](#).

Using their two main calculations, the research team linked them with a database containing income and demographic data for more than five million people in the U.S. The database separates active sources of income, like wages and salaries, from passive sources of investment income.

“This research gives us insight into the way that income and investments obscure emissions responsibility,” Starr said in the press release. “For example, 15 days of income for a top 0.1% household generates as much carbon pollution as a lifetime of income for a household in the bottom 10%. An income-based lens helps us focus in on exactly who is profiting the most from climate-changing carbon pollution, and design policies to shift their behavior.”

The team not only discovered that more than 40 percent of emissions in the U.S. could be attributed to income earned by the top 10 percent, but that those with earnings in the top one percent generated 15 to 17 percent of the emissions in the country.

The researchers also found that, for the most part, the income linked to the highest emissions came from white, non-Hispanic households, while Black households had the lowest emissions-linked income.



Fossil fuel emissions also had a tendency to increase with age, peak within the 45 to 54 age group, then decline.

“Consumer-facing [carbon taxes](#) would hit poor Americans hardest because the emissions intensity of their purchases tends to be higher than higher-income groups because they’re buying things related to necessities,” while higher-income groups tend to spend more on services, Starr told The Hill. “These low-income groups basically spend all that comes in, whereas as you move up the income ladder, the higher-income groups have really high savings rates, [and] money that they save or re-invest are not reflected in consumer-facing carbon taxes.”

The team found that “super emitters” were almost only found among households in the top 0.1 percent of earners, consisting

mostly of those in real estate, finance, manufacturing, insurance, mining and quarrying.

Starr and the other researchers suggested taxing shareholders and income, rather than consumer products.

“In this way,” Starr said in the press release, “we could really incentivize the Americans who are driving and profiting the most from climate change to decarbonize their industries and investments. It’s divestment through self-interest, rather than altruism. Imagine how quickly corporate executives, board members and large shareholders would decarbonize their industries if we made it in their financial interest to do so. The tax revenue gained could help the nation invest substantially in decarbonization efforts.”

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