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Opinion

What's 'Fair' When It Comes to Carbon Emissions?

The average American and Australian generates nearly 3½ times the global average of carbon dioxide pollution.

By Rob Jackson and Pep Canadell, Dec. 4, 2019, 11:30 a.m. ET The authors are climate scientists.

The Global Carbon Project estimates nearly 37 billion metric tons of carbon dioxide emissions will be added to the atmosphere this year, driven by increased use of oil and natural gas. Credit...Etienne Laurent/EPA, via Shutterstock

The Trump administration recently began the formal process of withdrawing from the Paris climate agreement, citing "the unfair economic burden imposed on American workers, businesses and taxpayers" by the United States' pledge to reduce greenhouse gas emissions. Australia's prime minister, Scott Morrison, expressed similar sentiments: "Australia won't write a blank check with its economy" to fight climate change, "which requires action from around the globe."

What does "fair" mean in the case of greenhouse gas emissions? As citizens of the United States and Australia, two countries heavily invested in fossil fuels, we took a look.

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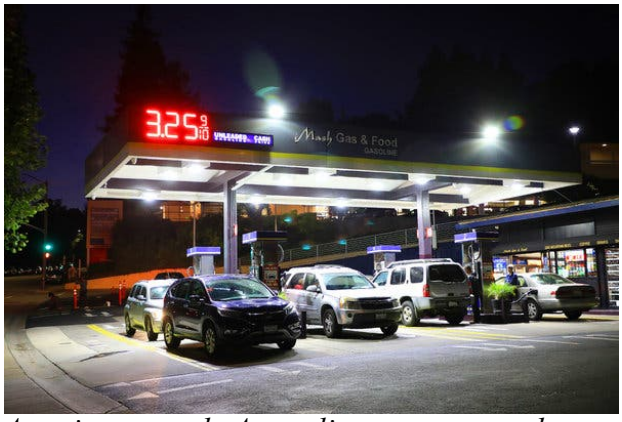
We're part of the Global Carbon Project, a group of scientists who monitor the global carbon cycle. For 2019, we and our colleagues estimate in our latest report that global carbon dioxide emissions will rise 0.6 percent, driven by increased use of oil and natural gas. In all, almost 37 billion metric tons of carbon dioxide emissions will be added to the atmosphere this year, five metric tons for every person on the planet.

The issue of fairness has been a recurring one in the global climate debate. As delegates from the 197 nations that signed the Paris agreement gather in Madrid this week, one of the issues is whether developed nations like ours will provide greater financial help to developing nations to encourage sustainable growth.

The United States and Australia together emit one-sixth of the world's fossil fuel emissions despite having less than a twentieth of the population. An average Australian or American generates 3.5 times the global average, almost 17 tons of carbon dioxide pollution per person every year. That's more than twice the amount of someone in Europe and China, and sky-high compared to the one and two tons by each person in Africa and India. Is that fair?

Carbon dioxide lasts for centuries in the atmosphere. The United States is responsible for one- quarter of all fossil fuel-generated carbon dioxide in the atmosphere today, twice China's cumulative contribution, and far more than any other country. Is that fair?

The International Energy Agency forecasts global oil consumption will grow by seven million barrels a day through 2024. Nearly half of the growth is expected to go to meet the demands of consumers in China and India. That doesn't sound fair, but an average American or Australian burns 10 to 15 times more oil that someone in India does, and five times more than someone in China. Americans and Australians own almost one vehicle per person compared with only one for every 40 people in India and six people in China.



Americans and Australians own nearly one vehicle per person. Credit...Jim Wilson/The New York Times

But those countries are catching up. Car ownership quadrupled in China over the past decade to 240 million. Consumers there bought a million electric cars in 2018, far more than any other country, but they also bought 22 million gasoline-powered cars.

Vehicle ownership in India is expected to grow eightfold over the next 20 years to 235 million, but ownership will still be only one-fifth of the rate in the United States and Australia. If car ownership in India and China were equivalent to that in our two countries, those nations each would have almost a billion more vehicles. That might be fair in a comparative sense, but disastrous for the planet.

If oil consumption is to drop globally, we need to drive fewer miles in more fuel- efficient cars, most of them powered by renewable electricity. Instead, the Trump administration is proposing to roll back vehicle fuel efficiency standards, a dangerous idea that will cost consumers money, kill thousands of Americans from pollution, and increase trade deficits and oil imports. Australia doesn't set mandatory fuel-efficiency standards for vehicles at all. In terms of greenhouse gas emissions, those policies don't seem fair for the rest of the world.

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Air travel is also growing. The airline industry has experienced a "spectacular expansion" of one billion additional passengers in the last five years. Increased fuel efficiency can't offset this rapid rise, so carbon dioxide emissions from air travel are growing at more than 5 percent annually. An American is 17 times more likely to fly today than a person in India and five times more likely than someone in China. That hardly seems fair. But air travel is also changing, too. The rising middle class in India, China and elsewhere will inevitably fly more, pushing up carbon dioxide emissions even higher.

There is some good news. Renewables are growing quickly in Australia, generating 19 percent of the country's electricity in 2018. Coal use in the United States plummeted by half in the last 15 years, replaced by natural gas, renewables and energy efficiency. This remarkable turnabout in the United States has cut carbon dioxide emissions, created hundreds of thousands of jobs and prevented thousands of deaths from air pollution.

But barring a global economic downturn no one seeks, carbon dioxide emissions could be even higher in five years than they are today. If so, growth in global oil and natural gas use will have outpaced stable or slightly declining emissions from coal use.

This is moving in exactly the wrong direction. For the world to meet the goal of keeping the increase in global warming to 2.7 degrees Fahrenheit from preindustrial days, global greenhouse gas emissions must be zero before 2050, and earlier for advanced economies like ours. We want desperately to believe that is still possible.

So it hardly seems fair that Australia's fossil fuel carbon dioxide emissions have increased over the past four years. Or that, while emissions in the United States have decreased, they have done so at a rate slower than for many peer nations in Europe.

The rest of the world knows what's unfair, and right now, they're looking at us.

Rob Jackson is an earth scientist at Stanford University and is the chair of the Global Carbon Project, where Pep Canadell, a research scientist at CSIRO Oceans and Atmosphere in Australia, is executive director. They and their colleagues have just published new research on global carbon emissions in the journals Earth System Science Data, Environmental Research Letters and Nature Climate Change.