

Global carbon dioxide emissions reached record high in 2018

Global carbon dioxide emissions from energy generation climbed for the second straight year in 2018 and reached a record high as global energy demand surged, a new International Energy Agency (IEA) [report](#) shows.

Data: [International Energy Agency](#); Chart: Chris Canipe/Axios

Why it matters: To avert more severe consequences of human-caused global warming, countries need to begin making steep cuts to emissions now. The new data clearly shows that's not happening, as the world hasn't even begun to bend the emissions curve downward, as agreed to in the Paris Climate Agreement.

What they found: The IEA said energy-related CO₂ — which accounts for the vast majority of all CO₂ emissions— climbed by 1.7% last year following a slightly smaller increase in 2017. China, India and the U.S. jointly accounted for 85% of the net emissions growth.

Threat level: A major United Nations scientific [report](#) last October analyzed what's needed to hold the global temperature rise to 1.5°C, or 2.7°F, above pre-industrial levels — the aspirational goal of the Paris deal.

- The UN-led report found that to stay within 1.5°C, net human-caused CO₂ emissions must decline by 45% by 2030 compared to 2010 levels, and reach "net zero" by roughly mid-century.

Details: Overall energy consumption rose by 2.3% last year, which is almost twice the average growth rate since 2010, the IEA said. They attributed the increase to the "robust global economy" and higher heating and cooling needs in some regions.

The big picture: This is at least the second major analysis to show renewed emissions growth over the last 2 years, following a plateau in 2014-2016. Researchers under the banner of the Global Carbon Project have separately concluded that that emissions rose in 2017 and 2018.

By the numbers: Global energy intensity — a measurement of energy use per unit of GDP — fell again last year. But the 1.3% improvement was smaller than in recent years, showing a slowdown in efficiency gains, the IEA said.

- Coal demand moved up slightly, by 0.7%, as higher use in India and China offset declines in Europe and the U.S.
- Worldwide, coal-fired power generation — still the world's largest electricity source — accounted for 30% of global emissions.
- Natural gas demand grew by 4.6% and oil demand grew by 1.3%.

The intrigue: The report includes what it calls the IEA's first assessment of the effect of fossil fuel use on global temperature rise.

Emissions from coal combustion have accounted for over 0.3°C of the nearly 1°C increase in global average surface temperatures so far, the report says, making coal the "single largest source" of global warming to date.

The bottom line: Surging growth in renewables isn't yet enough to begin bending down the global emissions curve as fossil fuel consumption expands as well.

"[M]ore urgent action is needed on all fronts — developing all clean energy solutions, curbing emissions, and spurring investments and innovation, including in carbon capture, utilization and storage," IEA chief Fatih Birol said in statement.

Go deeper:

- [Ocean heat is climbing 40% faster than thought](#)
- [A "cause for alarm" on global fuel economy](#)
- [Carbon removal tech is having a moment](#)