

Pandemic led to 7.5% decrease in 2020 US energy consumption

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Total energy consumption in the U.S. decreased 7.5% nationwide in

2020 compared with 2019 as the COVID-19 pandemic led to lockdowns, business closures and employees working from home, according to a new University of Wisconsin Oshkosh study.

The research conducted by Warren Vaz, an associate engineering professor on UWO's Fox Cities campus, is the first to quantify the effects of pandemic disruptions on [energy consumption](#) trends across all 50 states and the District of Columbia.

"By capturing these trends, it is hoped that policymakers and utilities managers can be better prepared for future challenges," Vaz said.

The study appeared recently in a special issue of the journal *Energies* focused on the economic and social consequences of the pandemic in the [energy sector](#) based on federal data available publicly.

"Lockdowns had a significant impact on energy consumption, about 30% in some cases," Vaz said. "There were wide discrepancies in state's consumption trends. Hawaii saw the largest decrease of about 26%, while Alaska at plus 4% was the only state to record an increase."

Vaz attributed Hawaii's large decrease in consumption to its isolation from other states and its dependence on the tourism industry, which was virtually shut down by the pandemic. Alaska's small increase was likely due to a harsher winter in 2020 compared with 2019 as well as less strict lockdown practices across the state, he said.

Other results showed:

- Fossil fuel consumption decreased, particularly petroleum.
- Renewable energy usage increased but usage of biofuels decreased, up to 88% in Nebraska.
- All major greenhouse gas emissions decreased.

- Carbon dioxide emissions fell by 10.4%.

In addition, Vaz compared the U.S. energy consumption in 2020 to that of other populous countries around the globe, which all showed decreases except for China and Iran, which each experienced slight increases.

More information: Warren S. Vaz, COVID-19 Impact on the Energy Sector in the United States (2020), *Energies* (2022). [DOI: 10.3390/en15217867](https://doi.org/10.3390/en15217867)

Provided by University of Wisconsin Oshkosh

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