

How recovery from COVID-19 and climate policies might affect the use of 'clean' cooking fuels

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Replacing polluting cooking fuels with clean-burning ones can save lives and reduce our impact on the environment. A group of IIASA

researchers shows how recovery from the pandemic and climate mitigation policies might affect access to clean fuels.

Cooking is a fundamental part of life. Yet nearly three billion people still [cook](#) by burning wood or coal on open fires and in smoky stoves. These polluting fuels cause respiratory illnesses, heart problems, and even death. The World Health Organization estimates that [indoor air pollution](#) causes more than four million premature deaths every year—50% of pneumonia deaths are among children under the age of five.

In addition, residential solid fuel burning accounts for about half of global black carbon emissions and a gigaton of carbon dioxide per year—about 2% of global emissions.

The answer is "clean" cooking fuels such as liquid petroleum gas, electricity, and piped gas, which when used in modern stoves result in little to no household pollution.

Yet even before the COVID-19 pandemic, efforts to provide clean fuels and stoves lagged. A recent report claims that this sluggish progress is costing the world more than US\$2 trillion each year from health impacts, productivity losses, and environmental degradation. Plus, recent research suggests air pollution can increase the likelihood of death from COVID-19.

Now emerging evidence suggests that the economic fallout of the pandemic might pose a further setback to efforts to reach the United Nations' Sustainable Development Goal (SDG) to "ensure access to affordable, reliable, sustainable, and modern energy for all" by 2030.

Financial strain following the COVID-19 pandemic means people can't afford clean fuels and must revert to using wood or coal. In addition, ambitious climate mitigation policies could cause [fuel](#) price

increases—unless we have additional policies to ensure energy access and poverty alleviation.

The new research, published in *Nature Energy*, examines different scenarios of socioeconomic and demographic change, climate mitigation policy, and a slow economic recovery from the COVID-19 pandemic.

The study finds that under all scenarios, universal access might not be achieved even in 2050. The authors state that this could hinder progress on other SDGs including those on health, gender, inequality, climate, and land.

"Our study suggests that a protracted recession after the pandemic that assumes a recovery period of twenty years could leave an additional 470 million people unable to afford clean cooking services in 2030. This is relative to a slow economic growth scenario, but one that assumes no pandemic shock," says study lead author and Transformative Institutional and Social Solutions Research Group Leader, Shonali Pachauri. "It also shows that ambitious climate mitigation needs to be accompanied by additional support policies, like targeted subsidies, to prevent an additional 200 million people being unable to transition to clean cooking in 2030."

Those most at risk of not being able to afford to transition to clean cooking are low-income households in sub-Saharan Africa, developing Asia, and Latin America and the Caribbean, says study co-author Miguel Poblite-Cazenave, a researcher in the IIASA Transformative Institutional and Social Solutions Research Group.

Despite a rising population share with clean cooking access, the number of cooking poor remains stagnant.

"Our findings underline the urgency for immediate acceleration in

efforts to make clean cooking accessible and affordable for all," concludes Pachauri.

More information: Shonali Pachauri, Access to clean cooking services in energy and emission scenarios after COVID-19, *Nature Energy* (2021). [DOI: 10.1038/s41560-021-00911-9](https://doi.org/10.1038/s41560-021-00911-9).
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