

# Reduction in wood burning by rural people in China results in less fine particulate matter pollution

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A team of researchers from China, the U.S. and Norway has found that urging rural residents to switch from burning wood and grasses to cleaner fuels for cooking has resulted in less fine particulate matter being spewed into the air. In their paper published in *Proceedings of the National Academy of Sciences*, the group describes their study of air quality for the period from 2005 to 2015 in China and its impact on the health of the people living there.

China is struggling to reduce the amount of atmospheric pollutants that the country emits—the various types, such as fine particulate matter, have been found to cause illness and death in people across the heavily populated nation. To combat the problem, the government has instituted new policies that force polluters (such as power plants, cars and other industrial entities) to clean up their operations. In this new effort, the researchers sought to find out if the government's efforts to reduce air pollution have been working, and how such efforts affect the health of its people.

To learn more about changes in emissions, the researchers carried out chemical transport simulations, conducted ambient household exposure evaluations and finished up with a health-impact assessment. Their assessment of changes in health related to pollutants was based on the amount of fine particulate matter that people were breathing. They report that rates of exposure to particulate matter smaller than 2.5  $\mu\text{m}$ , weighted by population, decreased by 47 percent over the decade they studied.

The researchers found that the biggest difference was due to rural residents burning less wood, grasses and other materials when they cook. In all, reductions in rural burning accounted for approximately 90 percent of the reductions in [fine particulate matter](#) emissions. Interestingly, rural citizens were one of the few groups in the study that did not face new emission reduction policies. The researchers suggest

the reductions came about mainly due to large numbers of people moving from [rural areas](#) to [urban areas](#) and to reductions in the cost of alternative fuel sources for rural dwellers.

**More information:** Bin Zhao et al. Change in household fuels dominates the decrease in PM<sub>2.5</sub> exposure and premature mortality in China in 2005–2015, *Proceedings of the National Academy of Sciences* (2018). [DOI: 10.1073/pnas.1812955115](https://doi.org/10.1073/pnas.1812955115)

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