

# China's efforts to reduce air pollution in major cities found to increase pollution in nearby areas

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A team of researchers with members affiliated with institutions in China, the Netherlands, Czech Republic, the U.S. and Austria has found

that efforts by the Chinese government to reduce air pollution in its major cities have resulted in higher air pollution levels in nearby areas. The group has published a paper describing their findings in the journal *Science Advances*.

Over the past several decades, China has become a major manufacturing powerhouse, but in doing so, has put the health of its urban citizens at risk due to severe air pollution. The pollution mainly comes from factory smokestacks. The problem was highlighted back in 2008 as viewers of the Beijing Olympics saw dense clouds of pollution blanketing major parts of the [city](#). Since then, the Chinese government has instituted policies and rules governing the amount of pollutants a company can emit. The results have been promising—pollution levels have diminished. But it appears the problem has been shifted rather than solved, the researchers on this new effort report. They took and tested air samples from a large number of sites just outside of the big metropolitan areas and found huge increases in air pollution levels.

The researchers note that many of the rules surrounding pollution limits are localized in China. This means that companies that find themselves emitting over the limit can simply move to a nearby area that falls under a different, less strict, jurisdiction. They note also that quite often those people in charge of making rules about [air pollution](#) outside of the metropolitan areas are much laxer about pollutants because they hope to attract companies that will employ people who live there.

In testing the air in areas some distance from cities such as Beijing, the researchers found that, on average, particulate matter was 1.6 times higher than the amount of reductions seen in the cities, which shows that the country is actually producing more of it than ever. They also found that the lax rules outside of [metropolitan areas](#) led to overall emission levels that were 3.6 times higher than they were before the new urban rules were put in place. And they found that overall water consumption

was 2.9 times higher as well. They also discovered that occasionally the winds shifted, pushing the [pollution](#) from the new manufacturing areas back to the cities, covering them once again with dense clouds of pollutants.

**More information:** Delin Fang et al. Clean air for some: Unintended spillover effects of regional air pollution policies, *Science Advances* (2019). [DOI: 10.1126/sciadv.aav4707](https://doi.org/10.1126/sciadv.aav4707)

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