

New research published this week in “The Lancet Planetary Health” reveals a promising path towards clean, healthy air: strong climate change policy, writes Dr. Melissa C. Lott. Dr. Melissa C. Lott is one of the authors of the study “Countdown on health benefits from the UK Climate Change Act: a modelling study for Great Britain”, published by The Lancet Planetary Health.

We are regularly horrified by the photos we see of air pollution in cities like Beijing and New Delhi, but the reality is that many are suffering from unsafe air right here at home. Throughout many cities in Europe, levels of air pollutants are regularly higher than the standards set by the European Union. In fact, last year the European Commission found that 23 of the 28 member states—including Germany, France, Spain, Italy, and the United Kingdom—were in regular violation of air pollution limits. Dirty air was linked to the premature deaths of more than half a million people in the Europe in 2014, according to a recent report by the European Environment Agency.

But new research published this week in The Lancet Planetary Health reveals a promising path towards clean, healthy air: strong climate change policy. The Lancet study examined the UK's landmark Climate Change Act, which requires at least an 80% reduction in greenhouse gas emissions below 1990 levels by 2050, finding that clear public health benefits will be delivered if the targets of the Act are met as the UK strives to meet its commitments under the Paris Agreement.

In turn, ongoing negotiations in Brussels could not only help Europe adopt a comprehensive approach to climate change mitigation, but also go a long way to help reduce air pollution for citizens.

In the new study, researchers modeled the changes in energy and transportation systems that would be necessary to deliver the UK's greenhouse gas reduction targets, then were able to explore how those changes would affect air pollution across the UK.

Nitrogen dioxide and fine particulate matter are two of the worst elements of unsafe urban air. The effects of being exposed to these types of pollution begin during a baby's first weeks in their mother's womb, and continue as their lungs, heart, and brain develop according to the Royal College of Physicians. Early exposure can lead to lifelong health complications; nitrogen dioxide and fine particulates are linked to ailments as broad reaching as asthma, diabetes, heart disease, and cancer. Children and the elderly are most at risk from polluted air, and socio-economically deprived groups are exposed to particularly high concentration of pollutants over their lifetimes.

Fortunately, we know the main culprits behind air pollution and, as The Lancet report makes clear, the choices we make to combat climate change could also clear the air and

immediately yield public health benefits.

For instance, one key finding in the study is that by meeting the CCA's commitments, the UK could end up cutting nitrogen dioxide pollution by 50 to 60% by 2050, which would lead directly to longer life expectancies. Similarly, concentrations of fine particulate matter in cities would decrease significantly if the targets are met.

Most of the benefits could be attributed to a few main changes: replacing diesel vehicles with alternatives that run on electricity and so have no tailpipe emissions, as well as phasing out coal-fired power plants.

Ultimately, the UK experience is proving that national action plans based on long term targets in line with the Paris Agreement can clean up the air for citizens. However, these targets vary widely throughout Europe's member states, and by waiting to outline long-term action plans, states are missing a tremendous opportunity to provide their citizens with safe, healthy air to breathe.

By supporting a proposed goal of net zero emissions by 2050 for instance, the Energy Union Governance could serve as an effective body to harmonise national strategies and support a healthier Europe.

We now know that long-term climate goals can immediately improve public health and save lives. While these climate strategies shouldn't replace other existing public health regulations, strong action can help Europe to not only decarbonise, but to also ensure that Europeans have equal opportunities to breathe clean air.

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