

Simple measures could reduce global warming, save lives

Brian Vastag and Juliet Eilperin, Washington Post, 1-12-12

Simple, inexpensive measures to cut emissions of two common pollutants will slow global warming, save millions of lives and boost crop production around the world, an international team of scientists reported Thursday.

The climate-change debate has centered on carbon dioxide, a gas that wafts in the atmosphere for decades, trapping heat. But in recent years, scientists have pointed to two other, shorter-term pollutants — methane and soot, also known as black carbon — that drive climate change.

Slashing emissions of these twin threats would be a “win-win-win” for climate, human health and agriculture, said NASA climate scientist Drew Shindell, who led the study appearing in the journal *Science*. “Even if you don’t believe climate change is a problem, these things are worth doing.”

Previous studies have noted the benefits of reducing methane and soot. But the new study looked at the specific effect of about 400 actions policymakers could take. Of those, just 14 interventions — such as eliminating wood-burning stoves, dampening emissions from diesel vehicles and capturing methane released from coal mines — would offer big benefits.

“They’re all things we know how to do and have done; we just haven’t done them worldwide,” said Shindell, who works at the NASA Goddard Institute for Space Studies in New York.

But simple changes can be difficult to implement globally, Shindell acknowledged, even when the ultimate benefits dwarf the upfront costs.

Reducing methane and soot would slow global warming dramatically — by almost a degree Fahrenheit — by the middle of the century, according to computer simulations run by the 24-member international team.

At the same time, the simulations show that better air quality would prevent lung and cardiovascular diseases, saving anywhere from 700,000 to 4.7 million lives annually. The wide range reflects uncertainties in the number of deaths caused by air pollution.

Global crop yields would also rise, by 30 to 135 metric tons annually, as rice, corn, wheat and soybean plants would have an easier time absorbing the nutrients they need from the air, according to the report.

“In the absence of a global carbon dioxide agreement, it makes sense to move ahead on global efforts to reduce these other gases,” said Joyce Penner of the University of Michigan, who has studied the climate impacts of soot but was not involved in the new research.

About 3 billion people in the developing world rely on stoves that burn wood, dung and other fuels that throw off soot. Switching to cleaner-burning stoves would help reduce short-term global warming while quickly improving local air quality. Soot particles fall out of the air in less than a week.

But getting people to switch to cleaner-burning stoves is “easier said than done,” said Elizabeth Ransom, a spokeswoman for University Research. With funding from the U.S. Agency for International Development, the

group recently doled out \$1.3 million in grants to three groups studying how to get people in Uganda and India to adopt cleaner-burning stoves, as some projects to introduce modern stoves “just didn’t take off.”

Many of the measures would be inexpensive, Shindell said. For instance, farmers in the developing world often burn agricultural waste, but plowing it under instead would cost almost nothing.

Other interventions, such as capping landfills to trap methane, would be more costly.

Several policy experts said that in the absence of a global treaty to reduce carbon dioxide emissions, the new study should spur national governments to smaller actions.

“This great news could not come at a better time for climate protection,” said Durwood Zaelke, president of the D.C.-based Institute for Governance and Sustainable Development.

Zaelke said the proposed measures are particularly important for the world’s most vulnerable regions, such as the Arctic, which has warmed twice as fast as the rest of the world over the past half-century, and the Himalayas, which have warmed three times as fast.

But even advocates of the strategy warned that world leaders have not yet shown the political will to move ahead.

Brooks Yeager, executive vice president for policy for the advocacy group Clean Air-Cool Planet, said the new study shows that “the technical means to get these reductions are clear.” But, he added, “the bad news is it’s not as easy as it sounds.”

For instance, Yeager said that countries that make up the Arctic Council, including the United States, pledged in 2009 to reduce black carbon. But since then, the Obama administration has cut back on domestic efforts to phase out dirtier diesel engines because of budget constraints. Until 2009, Congress had appropriated between \$75 million and \$150 million for the Diesel Emissions Reduction Act, which gave grants to retire or retrofit polluting diesel vehicles. The program got a boost to \$300 million under the American Recovery and Reinvestment Act, but it has not received any more money since.

State Department spokeswoman Emily Cain said the United States has spent \$60 million to support methane reduction projects overseas and has pledged to spend an additional \$50 million over the next five years. The administration has also committed \$5 million to an Arctic Council initiative to reduce black carbon emissions in Russia.

Yeager and Shindell said that reducing methane and soot, while laudable as a short-term strategy for dampening global warming, would not solve the long-term problem.

“I think it’s a little dangerous to think you can do this instead of reducing carbon dioxide,” Yeager said. “If you don’t reduce carbon dioxide, the benefits of reducing these [pollutants] will recede into the background and be overwhelmed by carbon.”