

Abstract Submitted
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Reducing Pollutants to Slow Global Warming PAUL CARR, AF Research Laboratory Emeritus — Black carbon (BC or soot) and ozone contribute to both degraded air quality and increased global warming. BC comes from everything from oil in ship and truck diesel engines to coal. BC is second only to carbon dioxide in forcing global warming [1]. Soot absorbs sunlight and darkens ice and snow. About 400 emission control measures were modeled to calculate that reducing these pollutants would decrease projected global mean warming $\sim 0.5^{\circ}\text{C}$ by 2050 [2]. This strategy could avoid 0.7 to 4.7 million annual premature deaths from air pollution and increase annual crop yields by 30 to 135 million metric tons due to ozone reductions in 2030. The benefits of methane emission reductions are valued at \$700 to \$5000 per metric ton, which is well above abatement costs (less than \$250).. Implementation substantially reduces the risks of crossing the 2°C threshold.

[1] T. C. Bond with 31 authors from 9 countries. “Bounding the role of black carbon in the climate system: A scientific assessment” January 2013. American Geophysical Union. doi: 10.1002/jgrd.50171

[2] Drew Shindell with 20 co-authors. “Mitigating Climate Change and Improving Health and Food Security.” Science vol 335 pg. 183 13 Jan 2012.

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