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## ***NEW STUDY LINKS FOSSIL FUEL COMBUSTION WITH MORE THAN 1 MILLION DEATHS GLOBALLY***

*Coal accounts for highest fossil fuel pollution emissions and related deaths.*

**BOSTON, MASSACHUSETTS, December 15, 2021** – Fossil fuel combustion, a major source of air pollution, contributed to more than one million deaths globally in 2017, more than 27% of all deaths from outdoor fine particulate matter (PM<sub>2.5</sub>), says a new report published today by the Health Effects Institute (HEI). Coal combustion alone was responsible for half of those deaths, with natural gas and oil combustion accounting for the other half. The burning of solid biofuels, such as wood for indoor heating and cooking, is another major source of PM<sub>2.5</sub>, accounting for an additional 740,000 deaths, especially across South Asia and Sub-Saharan Africa.

HEI initiated the Global Burden of Disease from Major Air Pollution Sources (GBD MAPS) global project to provide a comprehensive understanding of sources contributing the most to

outdoor PM<sub>2.5</sub> pollution and its health impacts. The data are aimed at supporting the active development of targeted air quality management strategies focused on specific pollution sources.

Exposure to air pollution has long been identified as a substantial public health concern, causing severe respiratory and other health problems. According to HEI's *State of Global Air*, PM<sub>2.5</sub> is the sixth highest risk factor for deaths globally, accounting for nearly four million deaths in 2019 alone.

The new report noted that major sources of PM<sub>2.5</sub> can vary by country and region, and different parts of the world were impacted by air pollution in different ways. While fossil fuel combustion made up most of the PM<sub>2.5</sub> across the industrialized nations of the global north, windblown dust was a major source of PM<sub>2.5</sub> in African countries. Overall, the report indicates that a majority of PM<sub>2.5</sub> in outdoor air comes from anthropogenic fuel combustion, suggesting that integrating air quality, energy, and climate policies is likely to bring substantial health benefits.

The study team, led by Dr. Erin McDuffie and Dr. Randall Martin of Washington University in St. Louis, USA, and Dr. Michael Brauer at The University of British Columbia in Canada, provide a first-ever comprehensive global analysis estimating major sources of air pollution for every country in the world. All input data and results have been made publicly available.

Dr. McDuffie said, “Our key objective was to identify major sources of PM<sub>2.5</sub> pollution and to understand how these sources change around the world. In some countries, our results are some of the first pieces of information they have on the major sources in their region.”

The investigators examined specific health impacts of exposure to different sources of PM<sub>2.5</sub> at global, regional, and national scales using updated emissions inventories, satellite and air quality monitoring, and relationships between air quality and health to determine results. In reviewing the report, HEI’s Special Review Panel noted that results provide valuable additions to our understanding of how various sources of air pollution contribute to health burdens, allowing countries around the world to identify priorities and review policies and interventions.

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#### ABOUT HEI

The Health Effects Institute (HEI) is an independent, non-profit research institute funded jointly by the U.S. Environmental Protection Agency, industry, foundations, and development banks to provide credible, high-quality science on air pollution and health for air quality decisions. HEI’s research is selected, overseen, and peer reviewed by leading subject matter experts on environment and health without involvement of HEI’s public or private sponsors.

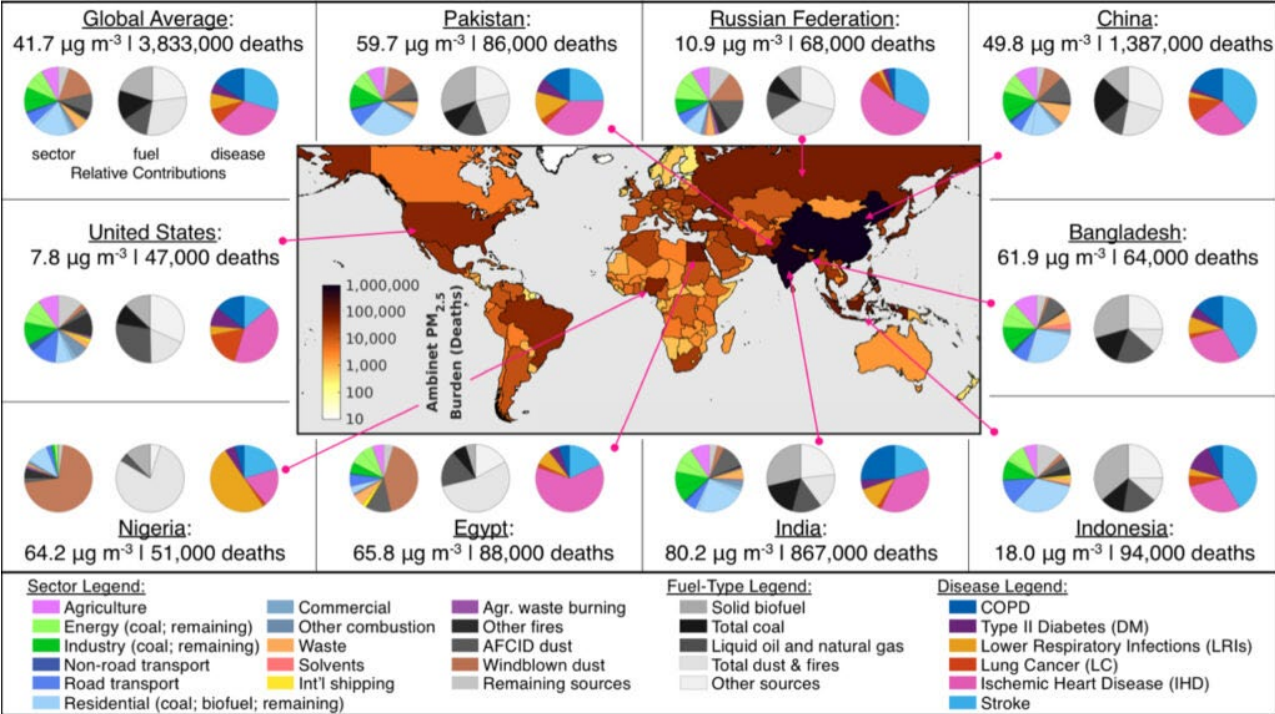


Figure 1: Absolute ambient  $PM_{2.5}$  burden and fractional sector, fuel, and disease contributions for the global average and for the top nine countries (McDuffie, et al., 2021)