



Impact of Air Pollution on Climate Change

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DESCRIPTION

Pollutants put both human and global health in jeopardy when they are released into the atmosphere. According to estimates from the World Health Organization (WHO), air pollution contributes to about seven million deaths worldwide each year. Nine out of ten people currently breathe air that is more polluted than what the WHO recommends, with those in low- and middle-income countries suffering the most. The U.S. Environmental Protection Agency (EPA) has the authority to safeguard public health by regulating the emissions of specific hazardous air pollutants under the Clean Air Act, which was enacted in 1970.

Energy usage and production are the main sources of air pollution. Gases and chemicals are released into the air when fossil fuels are burned. The pollution-related gases methane and carbon dioxide raise the earth's temperature. Smog, which arises when the temperature is warmer and there is more UV light, is a different sort of air pollution that is then made worse by the increased heat. Climate change also worsens the production of pollen and mould because of the damp conditions brought on by severe weather and rising flooding. Natural occurrences like erupting volcanoes, earthquakes, dust storms and meteorites slamming into the Earth's crust can result in climate change and air pollution. In addition to these intensive lifestyles also causing air pollution and global warming. We are producing and consuming more than ever before, which results in increased greenhouse gas emissions as well as particle pollution in the form of "black carbon" and other substances.

Air pollution and climate change are strongly related even though they may appear to be two quite separate problems. As a result, by lowering air pollution, we also preserve the climate. There is a significant overlap between air pollutants and greenhouse gases because they frequently interact. Air pollutants include more than simply greenhouse gases, mostly carbon dioxide but also methane, nitrous oxide, and others. For

instance, diesel engine particulate matter is dispersed around the world and reaches even the most isolated locations, such as the Polar Regions, causing air pollution. When it touches ice and snow, it slightly darkens them, reducing the amount of sunlight reflected back into space and causing global warming. The sub-Arctic region's plants grow a tiny bit larger due to the slightly warmer temperatures, and when they do so through the snow, they create a shadow that, when multiplied by the millions of small plants also have the effect of darkening the Earth's surface and causing further warming. The good news is that changes in air pollution levels take effect right away and have right away impacts. Methane, tropospheric ozone, hydro fluorocarbons, and black carbon are four highly potent, short-lived climate pollutants. Reducing these pollutants quickly can greatly reduce the likelihood of dangerous climate tipping points, such as the irreversible release of carbon dioxide and methane from thawing Arctic permafrost.

The Intergovernmental Panel on Climate Change (IPCC) emphasizes the significance of limiting global temperature increases to 1.5°C below pre-industrial levels. If there is to be any possibility of accomplishing this goal during the next 12 years, immediate action is required. Aerosols, which can be either natural or man-made, can have an impact on the climate in a number of ways, including "through both interactions that scatter and absorb radiation and through interactions with cloud microphysics and other cloud properties or upon deposition on snow- or ice-covered surfaces, thereby altering their albedo and contributing to climate assessment. Aerosols are expressed as a suspension of airborne solid or liquid particles, typically between a few nanometers and 10 μm in size that remain in the atmosphere for at least many hours. Air pollution is the degradation of air quality with adverse effects on human health or the natural or built environment as a result of the introduction, by natural processes or human activity, into the atmosphere of substances which have a direct or indirect harmful effect.

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