

THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND AIR POLLUTION

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While most people are aware, there is a clear and direct relation between air pollution and climate change. Air pollution is the presence of substances in the atmosphere that are harmful to the health of humans and other living beings, or cause damage to the climate or to materials. Air pollution and climate change both are very serious and relevant issues. Although they may seem to be two very different issues, climate change and air pollution are closely interlinked, so by reducing air pollution we also protect the climate. Air pollutants include more than just greenhouse gases—principally carbon dioxide but also methane, nitrous oxide and others—but there's a big overlap: the two often interact with each other. As the quality of air degrades and causes air pollution, there are also simultaneous changes in the climate around.

Air pollution was one of the main reasons for prolonged rains in Delhi in September this year. It is time we take issues like climate change extremely seriously. Studies have shown that cutting SLCP (short-lived chemical pollutants) emissions is key along with limiting greenhouse gas emissions to achieve the Paris Agreement of limiting the global temperature to less than 2°C.

When carbon-based fuels are burned, incomplete combustion causes the emission of carbon dioxide (CO₂) and other pollutants, including particulate matter (PM) (aerosols), which include particles that can cool or heat the Earth's climate by reflecting or absorbing the radiation of the sun.

One type of PM, namely black carbon (BC), remains in the atmosphere for a relatively short time (one week), but strongly absorbs solar radiation. BC emitted from domestic burning of solid fuels, particularly indoors, and high emitting diesel engines is likely to give to climate warming. Black carbon is responsible for about 15 percent of the current excessive warming of global temperatures.

In addition, short-term reductions in black carbon can potentially delay the impact of global warming by about 10 years. A recent analysis suggests climate change policies may have to include a 'pollution safety margin' which accounts for the warming impact of many air pollutants. Available evidence proposes that policies to reduce the harmful effects of air pollutants could accelerate climate change over the coming decades by cutting emissions that currently contribute to cooling the climate. It is extremely important to put restrictions on the air pollution levels and regular checks on the emissions of harmful pollutants to make sure that climate change is under control.

