

FIRST WHO GLOBAL CONFERENCE ON AIR POLLUTION AND HEALTH

IMPROVING AIR QUALITY, COMBATting CLIMATE CHANGE – SAVING LIVES

Climate change and air pollution:
two sides of the same coin

**BREATHE
LIFE**

Key messages

- » Air pollution already kills over seven million people a year, and climate change is emerging as the greatest public health threat of the 21st century.
- » Burning fossil fuels is the primary source of climate-warming emissions, and a major contributor to health-damaging air pollution.
- » Many of the drivers of climate change such as inefficient and polluting forms of energy and transport systems also contribute to air pollution.
- » Actions that reduce greenhouse gas emissions, and particularly those that target short-lived climate pollutants (SLCPs), can generate immediate health benefits, and slow climate change.

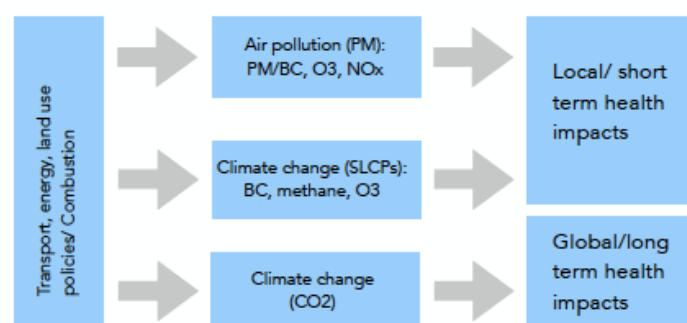
Introduction

Air pollution and climate change are closely linked. The very human activities that are destabilizing the earth's climate also produce the air pollution that is the single greatest environmental threat to health.

The sectors that produce the vast majority of greenhouse gases (GHGs) – energy, transport, industry, agriculture, waste management and land use – are also the main sources of fine particulate matter (PM_{2.5}) and other key air pollutants. These include short-lived climate pollutants (SLCPs) – such as black carbon and ground-level ozone – that also threaten human health.

These are not distant concerns. They are immediate and urgent crises, confronting people everywhere – right now. Both climate change and air pollution have disproportionate impacts on poor and otherwise vulnerable populations including children, seniors, and those with pre-existing conditions. Air pollution is responsible for 7 million premature deaths each year. Climate change is already damaging human health in many ways, including through heat waves, the spread of infectious disease transmitted by vectors and via water, and droughts that undermine food security.

The link between air pollution and climate change

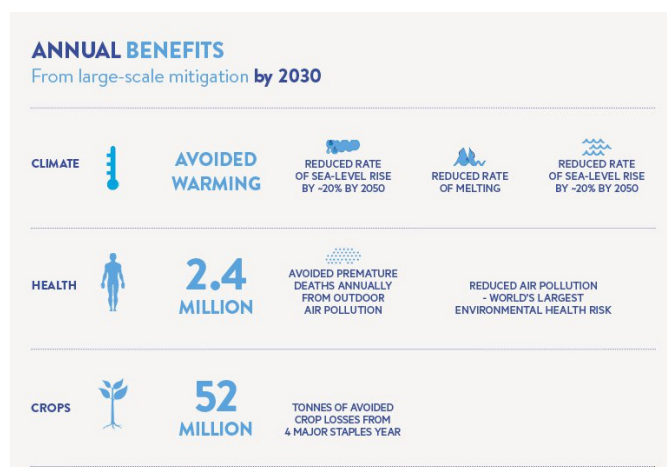


The good news is that strategies to fight both climate change and air pollution go hand in hand. As the same inefficient, polluting, and energy-intensive practices drive both crises, policies that reduce air pollution create benefits for both climate and health. Likewise, measures to reduce GHG emissions also typically lead to reductions in co-emitted pollutants such as particulate matter (PM).

Why it matters

Burning of fossil fuels – for power, transportation, and industry – is the main source of the carbon emissions driving climate change, and a major contributor to health-damaging air pollution.

Scientists anticipate that a warming climate will worsen air quality. If current emissions trends continue, ground-level ozone events are expected to intensify, especially in densely populated areas, leading to more respiratory illness. In certain areas, the frequency and extent of wildfires – and with them, emissions of PM and other pollutants – are projected to increase. In some areas, a drier climate will lead to more dust storms; in others, pollen and other airborne allergens are likely to increase.



Air pollution itself is a major driver of climate change. Roughly half of observed warming to date is due to SLCPs. These pollutants damage human health and have an outsized warming impact on the climate over shorter timescales.

Black carbon also affects important regional climate systems, accelerating glacier retreat in mountainous regions and the Arctic, and disrupting the South Asian Monsoon. In addition to being a powerful GHG, methane is an important precursor of ground-level ozone, which damages crops and human respiratory systems alike.

Acting swiftly to reduce SLCP emissions will benefit human health immediately and slow the rate of near-term warming – benefits that will mostly be felt in the regions where emissions are reduced. A package of cost-effective measures to reduce SLCP emissions from key sources such as transportation, household combustion,

waste, agriculture and industry could reduce warming by as much as 0.6°C by the year 2050, while avoiding 2.4 million premature deaths from ambient air pollution annually by 2030. Many of these are proven policies and technologies that can be quickly implemented.









































Challenges and gaps

Because air pollution and climate change are so closely interlinked, the global efforts to solve them must have a unifying policy framework. This will involve closer coordination between ministries and sectors – energy, environment, health, finance and others – that have traditionally been ‘siloed’.

Although air pollution travels across borders, it is typically regulated locally. This leads to gaps in coverage, in terms of both monitoring and data collection and enforcement of emissions controls. Fragmented policies present particular challenges for reducing SLCPs. There are currently no national or international regulatory obligations to monitor, measure or report black carbon emissions.

Under the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC), each country regularly submits reports on its actions to mitigate climate change. In their nationally determined contributions (NDCs), countries are not required to include reporting on their steps to reduce SLCPs – even though meeting the targets of the Paris Agreement is likely impossible without cutting SLCP emissions. It would be a major step forward if each country submitted plans for reducing and reporting on SLCP emissions in the upcoming renewal of their NDCs in 2020.

In some cases, there can be tradeoffs between climate mitigation and sustainable development and health objectives. Reducing these tradeoff risks requires smart policy designs, to ensure that the most vulnerable do not suffer from the unintended consequences of climate mitigation efforts.

Air Pollutant / GHG	Lifetime/Scale	Climate Impact	Health/Ecosystem Impacts	
Carbon Dioxide (CO ₂)				 Lifetime in Atmosphere = days/weeks Impact Scale = local/regional
Flourinated Gases (F-gases)				 Lifetime in Atmosphere = years Impact Scale = global
Methane (CH ₄)			 	 Warming
Nitrogen Oxides (NO _x)			 	 Cooling
Nitrous Oxides (N ₂ O)				 Human Health Impact
Particulate Matter (PM)			 	 Ecosystem Impact
Sulfur Dioxide (SO ₂)			 	 No direct impact on human health or ecosystems*
Tropospheric Ozone (O ₃)			 	
Volatile Organic Compounds (VOCs)/ Carbon Monoxide (CO)			 	

*No direct impact implies the substance in question either does not directly cause human health or ecosystem impacts or it does not go through a chemical process to create a substance that directly impact human health and ecosystems.

Priorities and opportunities

The vast majority of climate change mitigation measures will strengthen and promote health and sustainable development. As mitigation efforts become more aggressive, these synergies only increase: gains in air quality will lead to significant improvements in health.

There are a range of opportunities for “win-win” policies. Many governments are placing a price on carbon emissions, and some are starting to remove or reform subsidies to fossil fuels, reducing air pollution as well as climate change. Promoting greater use of renewables for electricity generation and household energy, and more

sustainable transport, brings both climate and air quality gains. In some cases, such as facilitating walking and cycling rather than private car use in cities, benefits go beyond air pollution, bring extra health gains from increasing physical exercise.

Reducing SLCP emissions is one of the most powerful tools available for slowing down near-term climate change and protecting health. Cities and countries are already pursuing a range of efforts to tackle black carbon and other SLCPs. Such policies include banning open burning of agricultural waste, and accelerating the transition away from diesel vehicles and towards electric vehicles and other low-emissions transportation systems. As household burning is the source of about 25% of global black carbon emissions, increasing access to clean fuels and devices for cooking, heating and lighting will lead to significant reductions in both black carbon emissions and the household air pollution that kills 3.8 million people each year.

The way forward

In the wake of recent reports from the IPCC and other institutions highlighting the rapidly closing window of opportunity to keep warming under 1.5 degrees centigrade, there is a renewed sense of urgency among decision-makers. A new “Global Movement for Clean Air” can be a powerful catalyst for raising collective ambition for climate mitigation.

The Climate and Clean Air Coalition (CCAC) is spearheading a global movement to reduce SLCP emissions. This effort is bridging the policy divide between air quality and climate change, while raising awareness of their deep links and synergies among the public and policy-makers. Implementing air quality standards in line with WHO air quality guidelines will also help cities and countries meet climate mitigation targets.

Governments should prioritize actions that realize the maximum co-benefits for health and climate. Greater coordination between the health, energy, transport, agriculture, urban planning and other key sectors will be necessary to develop and implement effective strategies for better health and a livable climate.

The health sector, meanwhile, can help countries conduct more evidence-based analysis and estimates of health and climate co-benefits. What the moment demands is a unified governance and policy framework that recognizes reducing air pollution and promoting the right to clean air as powerful drivers for accelerating climate change mitigation efforts, and reducing climate change-related health risks.

