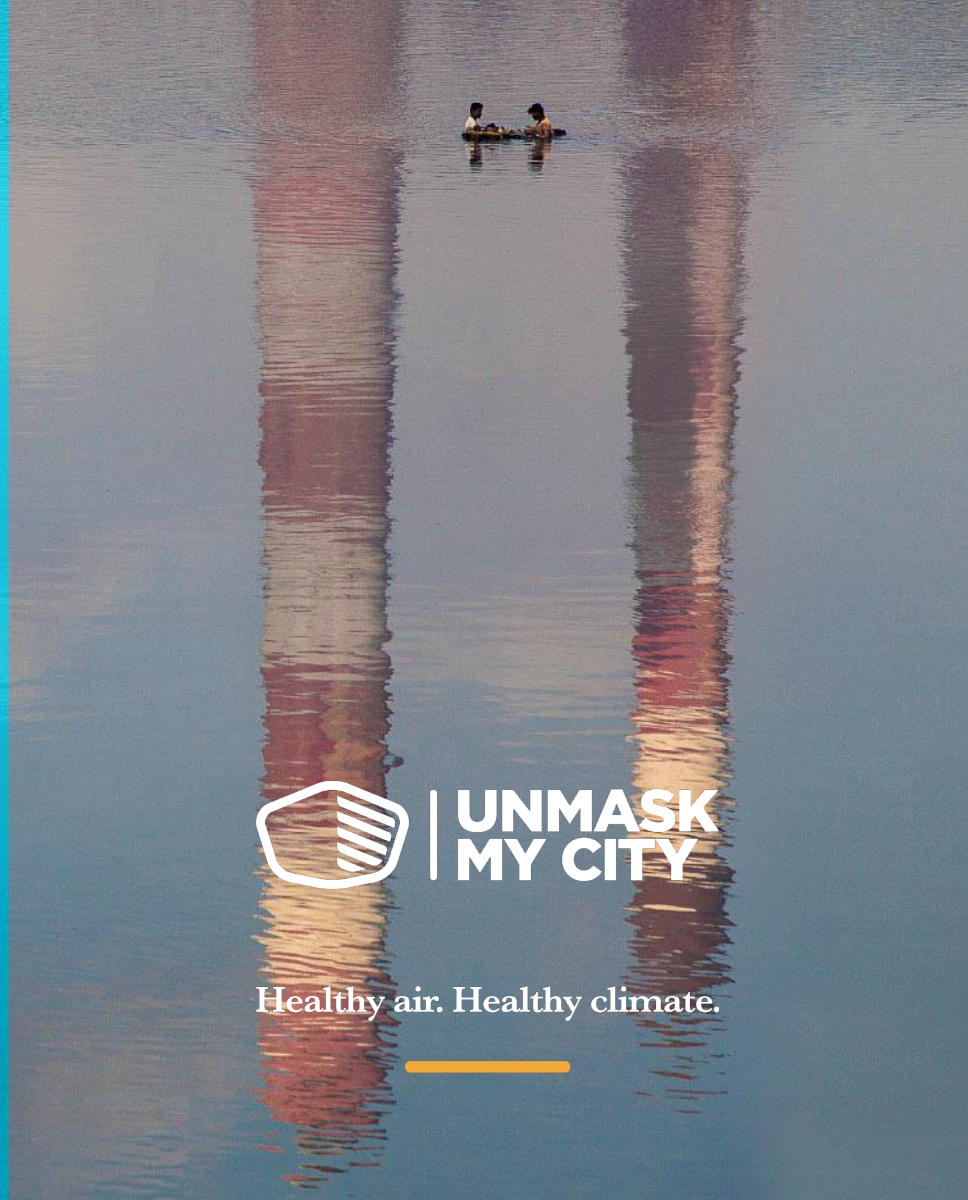
Global Air Pollution, Health and Climate Change

FACT SHEET



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Healthy air. Healthy climate.

The Problem

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Air pollution is responsible for over 6.5 million premature deaths per year.

Three million of these deaths are due to outdoor air pollution. Air pollution is a problem faced in many parts of the world, irrespective of development status: over half of cities in high-income countries fail to meet World Health Organization air quality guidelines, while 98% in low- and middle-income countries fail to do so.[1,2]

Outdoor air pollution predominantly comes from the burning of fossil fuels – for transportation, to heat our homes, and to power our cities. Dust and industrial activities also contribute. Exposure to particulate air pollution (PM10 and PM2.5) is linked to increased respiratory disease, cardiovascular disease, and adverse birth outcomes, and there is growing evidence for impact on brain development and cognitive function.[3] Outdoor air pollution is classified as a cause of lung cancer by WHO's International Agency on Research for Cancer.[4]

PM10 and PM2.5 include pollutants such as sulfate, nitrates, lead and black carbon. These small particles can penetrate deep into the lungs and cardiovascular system, posing serious risk to health.[5]

The Problem

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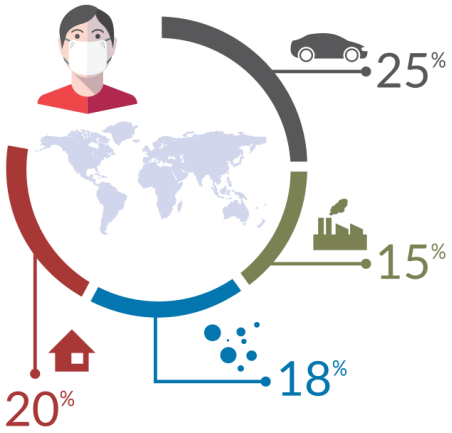
The financial burden of air pollution is mounting. The health costs of outdoor air pollution were US$1.7 trillion in 2010 for the 35 OECD member countries, US$1.4 trillion in China, and US$500 billion in India.[7] And these same pollution sources also contribute to climate change, with additional impacts on health and the economy, through extreme weather events, infectious disease spread and more.[2]

Fortunately, measures to reduce air pollution can reduce these costs and impacts. Reducing air pollution improves health outcomes, while also reducing emissions of major climate pollutants including CO2, black carbon and methane, with follow on economic and social benefits. Some approaches to reducing air pollution and greenhouse gas emissions yield additional benefits to health, such as shifts from car travel to biking and walking that increase people's daily physical activity.[8]



Globally, 25% of PM2.5 comes from transportation sources, 15% of PM2.5 comes from energy production and other industrial activities, 18% from dust and sea salt, and 20% of PM2.5 comes from home fuel burning, and sources are similar for PM10.[6]

Ground-level ozone also contributes to respiratory disease, including asthma, cardiovascular disease, and may have an impact on cognitive development.[1]

Air Quality Monitoring

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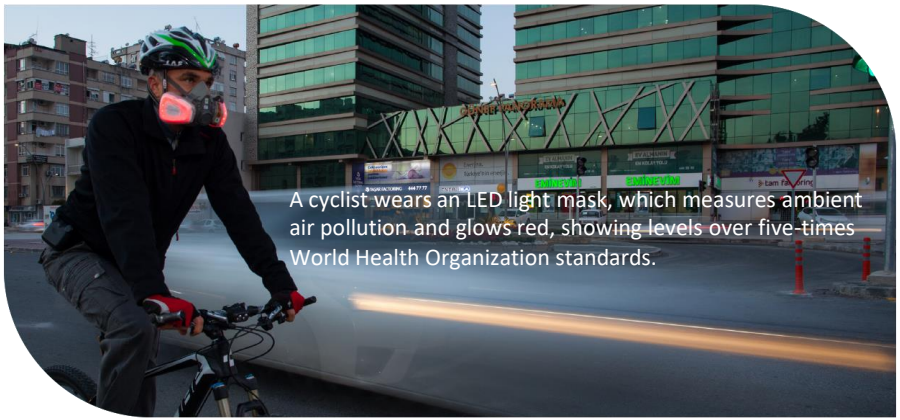
Local air quality monitoring in cities around the globe has nearly doubled since 2014 to include 3000 cities, but data remains insufficient. While 92% of the world's population lives in places that exceed WHO air quality guideline thresholds, many cities around the world still lack reliable local air quality monitoring systems, and the quality and quantity of monitoring varies significantly in those cities where it is taking place.[1,9]

This lack of access to accurate, local data by decision-makers and local health agencies hampers policy and public health responses to urban air pollution. In some cities, new low-cost portable air quality monitors on the market are being used for community-based monitoring, to raise awareness, and to call for formal monitoring and for action to address air pollution.



A cyclist wears an LED light mask, which measures ambient air pollution and glows red, showing levels over five-times World Health Organization standards.

The Solution

While air pollution, climate change, and their impacts on health are global problems, solutions lie where people live.

In 2016 the World Health Organization released a roadmap for addressing global air pollution, and called for health sector leadership from the global to the local level to to guide response to this public health challenge. Cities and countries have begun to implement solutions. Several major countries have committed to phase out coal power, including Finland, the UK and Canada. Paris made public transportation free on several heavy air pollution days.

Many cities around the world are working to improve public transit and infrastructure for biking and walking, and several, from Singapore to Milan, have introduced congestion pricing for traffic into the city. Beijing will be capping total cars in the city while Shanghai has set restrictions on new car sales.

Unmask cities are pushing for local city- and country-based solutions such as congestion charging to reduce car and truck traffic in cities; increased support for active transportation and cleaner-energy public transit; blocking construction of new coal power plants; pushing for a transition away from the dirtiest coal for home heating; monitoring and regulating sources of industrial and natural dust; and more.

◆Action

Everyone deserves to breathe clean air and enjoy a stable climate. Unmask My City calls for all cities to meet World Health Organization air quality guidelines by 2030, to protect our health, and protect our planet.[10,11]

Healthy air. Healthy climate.

www.unmaskmycity.org #UnmaskMyCity

Unmask My City is global initiative by doctors, nurses, public health practitioners, and allied healthcare professionals dedicated to improving air quality and reducing emissions in our cities.

The Global Climate and Health Alliance (GCHA) and its partners Health Care Without Harm, the Health and Environment Alliance, the US Climate and Health Alliance and the UK Health Alliance for Climate Change are connecting with local health partners and their communities to promote practical solutions and create tangible city level policy changes that drive a clear, downward global trend in urban air pollution by 2030.

This will save millions of lives, improve health outcomes for billions of people, and make a huge contribution to greenhouse gas reductions needed to keep the world safe from climate change crises.

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