bharat CLIMATE FORUM

Council for International Economic Understanding | Dalberg

Aironomics 2025

Unlocking India's Blue Skies Economy

Date: May 31, 2025 | **Location:** ITC Maurya, New Delhi

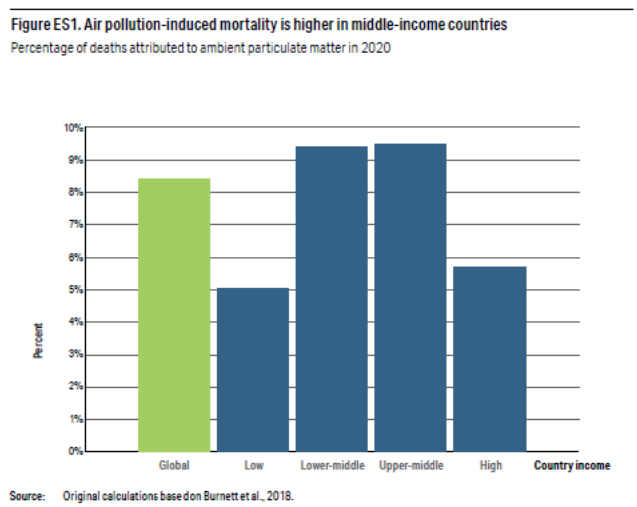
Green Growth and Livable Cities

Context and rationale

Air pollution has emerged as one of the most critical public health and economic crises in South Asia, disproportionately impacting densely populated regions with already strained healthcare and infrastructure systems. The region is home to 37 of the world's 40 most polluted cities and over 60% of its population exposed to PM2.5 levels above WHO safe limits[1]. It contributes to nearly 2 million premature deaths annually, about 9% of total deaths in the region[2]. Beyond its health toll, the economic impact is staggering as air pollution costs are primarily manifested through lost labor productivity, increased healthcare expenditures, suppressed consumer demand, and weakened sectors like tourism and agriculture (airborne pollutants stunt the flowering and growth of crops, causing an estimated 5-12%[3] loss in agricultural yields).

Notably, this challenge is disproportionately higher in middle-income countries, compounding population-level vulnerabilities (see exhibit 1)**.** India exemplifies this challenge at scale. Air pollution in India has emerged as a year-round crisis, profoundly affecting both urban and rural areas, thereby imposing significant health and economic burdens. Major cities such as New Delhi, Mumbai, and Kolkata consistently rank among the most polluted globally, with Delhi's PM2.5 levels averaging 110 µg/m, making it the world's most polluted city in this respect. Kolkata follows closely, with PM2.5 levels averaging 84 µg/m[4]. The primary contributors to this pollution include vehicular emissions, industrial activities, construction dust, and agricultural practices like crop burning. Seasonal variations further exacerbate the situation, with winter months witnessing increased pollution due to factors like crop burning and meteorological conditions that trap pollutants.

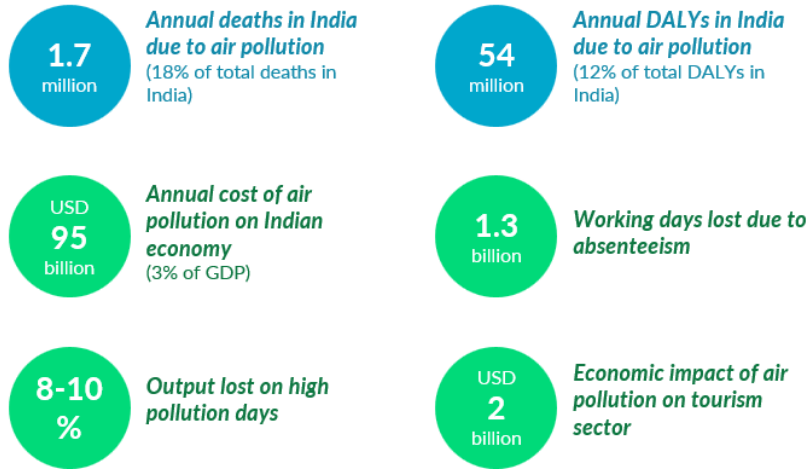
Exhibit 1: Percentage of deaths attributed to ambient particulate matter in 2020



[1] Science Direct, Air pollution and cardiovascular health in South Asia: A comprehensive review
[2] World Bank, Striving for Clean Air
[3] Dalberg Report, Air Pollution's Impact on the Indian Economy
[4] The groundtruth Project, New Delhi, Kolkata Are the Most Polluted Cities in the World; Mumbai Ranks 14th: Report

Exposure to elevated levels of particulate matter (PM2.5 and PM10) contributes to increased morbidity, mortality, absenteeism, and a higher incidence of respiratory and cardiovascular diseases such as asthma, bronchitis, COPD, lung cancer, and heart attacks. Health damages from air pollution in India are estimated to be ~1.36% ($36.8 billion) of the country's GDP[5] (see exhibit 2 for more details). Air pollution contributes to approximately 18% of all deaths in India, leading to an estimated 1.67 million premature deaths in 2019[6]. Notably, life expectancy in Delhi is reduced by almost 12 years due to air pollution[7]. The health burden is particularly severe among vulnerable populations, including children, the elderly, and low-income communities, who often reside near major pollution sources and lack access to adequate healthcare. For instance, in Byrnihat, the world's most polluted town, respiratory infections surged from 2,082 cases in 2022 to 3,681 in 2024, with residents also reporting skin rashes and eye irritation due to persistent exposure to toxic air[8]. Moreover, studies have established a link between prolonged exposure to PM2.5 and an increased risk of type 2 diabetes, highlighting the multifaceted health risks posed by air pollution.

Exhibit 2: Health and economic impact of air pollution in India[9] [10]

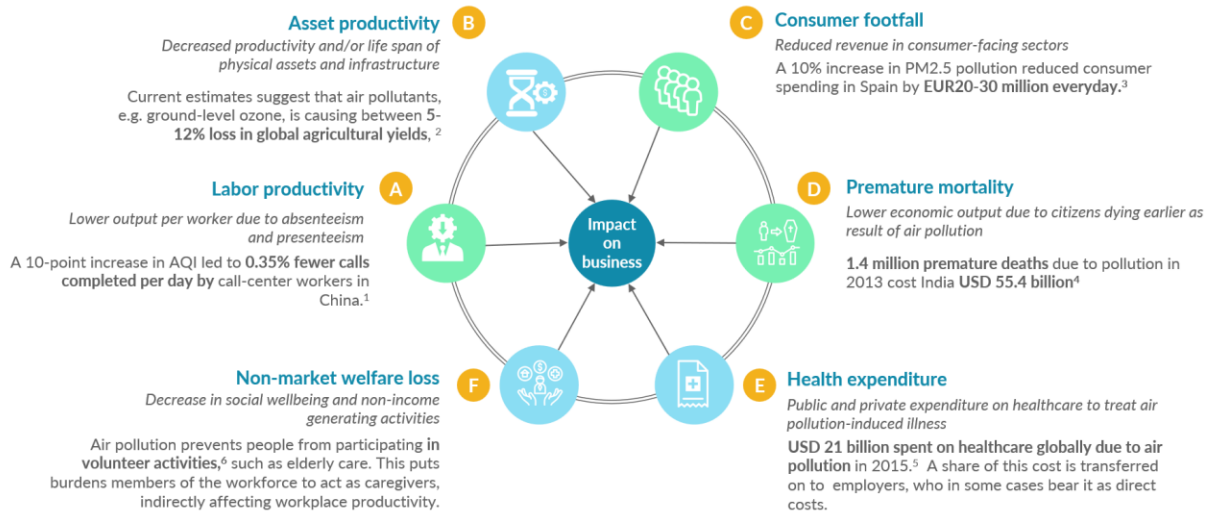


The economic impact of air pollution is both extensive and multifaceted, touching nearly every sector of the economy. Businesses lose an estimated USD 95 billion annually—around 3% of India's GDP—due to pollution-related disruptions[11]. As illustrated in Exhibit 3, these costs manifest across six major pathways. Productivity loss is among the most direct impacts. Air pollution causes 1.3 billion lost working days annually due to absenteeism, particularly in

[5] World Bank, How is India Trying to Address Air Pollution?
[6] The Economic Times, Mounting economic costs of India's killer smog
[7] BreatheSafeAir, Air Pollution in India: A Deep Dive into Causes, Effects, and Solutions
[8] Reuters, Indians battle respiratory issues, skin rashes in world's most polluted town
[9] The Lancet Planetary Health, Health and economic impact of air pollution in the states of India: the Global Burden of Disease Study 2019
[10] Dalberg, Air pollution in India and the impact on business, 2019
[11] Dalberg Report, Air Pollution's Impact on the Indian Economy

labor-intensive sectors like construction and food processing. This is compounded by presenteeism, where workers remain on the job but underperform due to pollution-related health issues. Consumer spending also takes a hit, with reduced footfall during high-pollution months; spending drops by 7.4% in tourism and 1.3% in domestic retail, especially in the food and apparel sectors. The tourism industry alone loses nearly USD 2 billion each year, a figure projected to rise by 40% by 2030 if air quality continues to worsen. The persistent air pollution crisis in India not only devastates public health but also stifles economic growth, creating a vicious cycle that demands urgent and comprehensive intervention. Addressing this issue is critical to safeguarding both the well-being of millions and the long-term prosperity of the nation.

Exhibit 3: Economic costs of air pollution manifests across 6 major pathways



This session aims to bring together leaders from premier public health institutions, international health agencies, industry, and business chambers to unpack the dual public health and economic crisis posed by air pollution in India. The discussion will reinforce air pollution as a persistent, year-round crisis with severe health impacts—particularly on vulnerable populations—and highlight its wide-ranging economic, reputational, and productivity costs, including missed opportunities for investment and growth.

Potential Opportunities and Challenges

The opportunities to mitigate the economic and health impact of air pollution include:

- **Increase in life expectancy by 5 years:** Reducing PM2.5 levels to meet WHO guidelines can increase average life expectancy in India by around 5 years[12]. Also,

[12] Nature India, Air pollution limits in India are too high to prevent deaths, study says

India could save about 150% of India's healthcare budget[11] by reducing pollution-induced health issues

- **$22 Billion higher revenues for consumer-facing businesses:** Bringing air quality up to safe levels in 2019 would have improved consumer footfall in commercial zones in Indian cities, unlocking $22 billion[13] higher revenues for consumer-facing businesses
- **Over $40 billion through workforce productivity gains[11]:** The economy stands to gain significantly from improved air quality through enhanced workforce productivity and reduced absenteeism. For example, the Indian IT sector—contributing 9% of GDP—could recover $1.3 billion (0.7% of its value) by 2030 through improved worker health and performance. Tackling air pollution could reverse an estimated $41 billion annual loss due to absenteeism and presenteeism, strengthening India's economic resilience and global competitiveness.
- **$20–30 billion market potential:** India's air quality management market could reach USD 20 billion annually by 2030[14]. Scalable solutions like EVs—projected to create 50 million jobs[15]—and biogas expansion, which could reduce gas import bills by $29 billion through 2030[16], would be some factors driving this growth.

Key challenges would have to be overcome to leverage these opportunities. Some of these challenges include:

- **Weak institutional accountability dilutes health impact:** Even as evidence mounts on the health benefits of pollution reduction, fragmented responsibility across agencies and levels of government leads to patchy implementation of mitigation measures—such as vehicular emission controls, waste management reforms, and cleaner industrial practices—blunting public health outcomes.
- **Consumer-facing sectors remain vulnerable to seasonal volatility:** Poor and unpredictable air quality continues to suppress consistent commercial activity in urban centers, discouraging long-term investments in retail, hospitality, and tourism despite the latent demand potential.
- **Workplace environments are overlooked in productivity strategies:** Efforts to boost national productivity often ignore the direct impact of ambient and indoor air quality on worker performance, especially in informal and high-density work settings, leaving a key lever unaddressed.
- **Clean-tech job growth held back by weak enablers:** While sectors like EVs and bioenergy show high employment promise, enabling infrastructure, workforce skilling, and policy clarity are not keeping pace—resulting in a widening gap between potential and realized gains.
- **Lack of aggregated demand stifles innovation and scale:** Despite a growing ecosystem of air quality solutions, the absence of structured demand aggregation—

[13] World Economic Forum, Solving India's Air Pollution Can Boost Economy and Business. Here's How
[14] Globalnewswire, India Air Pollution Control Systems Market Report 2024-2030: Clean Air Initiatives Spurs Investments, Surge in Regulatory Mandates, Rising Environmental Awareness Fueling Developments
[15] Invest UP, Economic Survey 2023: EV industry
[16] IEEFA, Greater use of biogas can help India save US$29 billion in import bills between FY2025 and FY2030

especially from urban local bodies and industrial clusters—limits market depth and investor confidence.

Key Focus for Discussion

With a focus on identifying challenges and potential unlocks to achieve India's clean air goals, below are the key questions for the panel discussion:

- Are the health impacts of air pollution being fully recognized, or are we still underestimating the scale and severity of the crisis?
- How is air pollution silently choking India's economic growth across key sectors?
- What will it take to generate credible, localized evidence that links air pollution to both health and economic losses?
- How can states and cities actively unlock the economic upside of clean air through better planning, investment, and execution?
- What is the most effective way to communicate air pollution as an urgent, year-round development issue?

Session Flow

Firestarter: Green Growth and Livable Cities	
Opening Remarks (2 minutes)	• The emcee will briefly underscore that air pollution in India is not just an environmental concern—it is a **severe economic disruptor and public health emergency**. From lost labour productivity and rising healthcare costs to stifled tourism and suppressed consumer demand, the costs are mounting across sectors. • The emcee will **invite the panellists** on stage and introduce them. • The emcee will then hand the session over to the **moderator**.
Moderator Opening Remarks (3 minutes)	The moderator will open by highlighting that air pollution is a **major economic drag**—undermining productivity, growth, and competitiveness. They will call for tighter alignment between health, economic, and investment strategies to treat it as a **core development priority**.
Structured Panel Discussion (20 minutes)	• Moderator asks panellists an **introductory question** to address • Panellists give **brief opening statements** from their vantage point • The moderator asks **pointed questions** to panellists • Each panellist may choose to **build upon or challenge** the view of the previous
Closing thoughts and optional audience Q&A (5 minutes)	• Each panellist concludes with a **closing thought and key takeaway(s)** • They emphasize a **critical call-to-action** for the audience • Time permitting, the panellists may **answer questions** received from the audience