Breathing Hope: Inspiring Health amid Heat and Haze

11 March 2026 | 13:30 – 15:30

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Scene-Setting: Compounded Health Impacts

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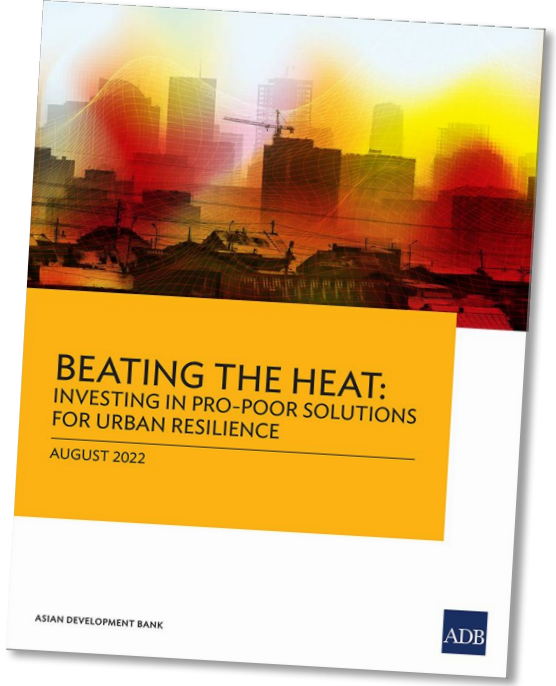
The Backdrop: ADB's Climate Commitments

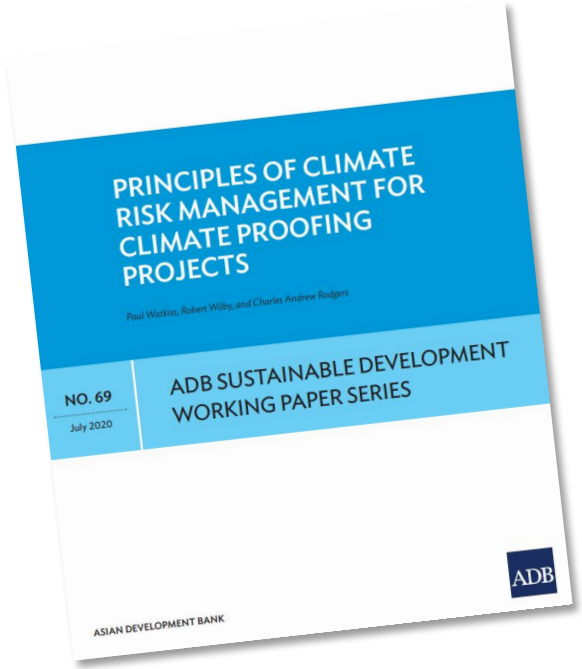
ADB's commitments to climate change

- ADB has committed **$100 billion** in cumulative climate finance from its own resources between 2019 to 2030; **50%** of annual committed finance by 2030.
- At least **$34 billion** is ear-marked for adaptation.

ADB's adaptation work

- **Upstream:** Support governments with climate diagnostics to **inform policies**
- **Midstream:** Help governments with integrating climate resilient into **investment planning**.
- **Downstream:** Making all projects climate resilient. At concept development stage, projects are **screened for climate risks**. If medium or high risk, more **detailed assessments** during project preparation evaluate adaptation options.





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ADB Investments & Financing Commitments

US$100B

Cumulative climate finance target (2019–2030)

US$2.5B+

Invested in air pollution reduction projects to date

75%

Target for the number of ADB operations supporting climate change mitigation and/or adaptation by 2030.

Flagship Initiatives

Beijing-Tianjin-Hebei Air Quality

Loans provided to improve air quality through policy reform, green finance and clean technology adoption.

Ulaanbaatar Clean Heating

Cleaner heating and cooking fuels in Mongolia's ger district, achieving significant air quality improvement

Climate and Health Data Analytics

ESA-ADB partnership developing satellite-based heat stress monitoring for Pakistan with daily UTCI data

Heat & Haze: Regional impacts

Asia and the Pacific is the most climate-vulnerable and disaster-prone region in the world, facing unprecedented threats from extreme heat and deteriorating air quality.

180+

Climate disasters recorded across the region in 2024

4 Billion

People exposed to hazardous air pollution levels

1.5°C

Global temperature exceeded pre-industrial levels in 2024

Extreme Heat: The Silent Killer

489,000 heat-related deaths annually worldwide between 2000 and 2019

2024 was the hottest year in recorded history, exceeding 1.5°C above pre-industrial levels

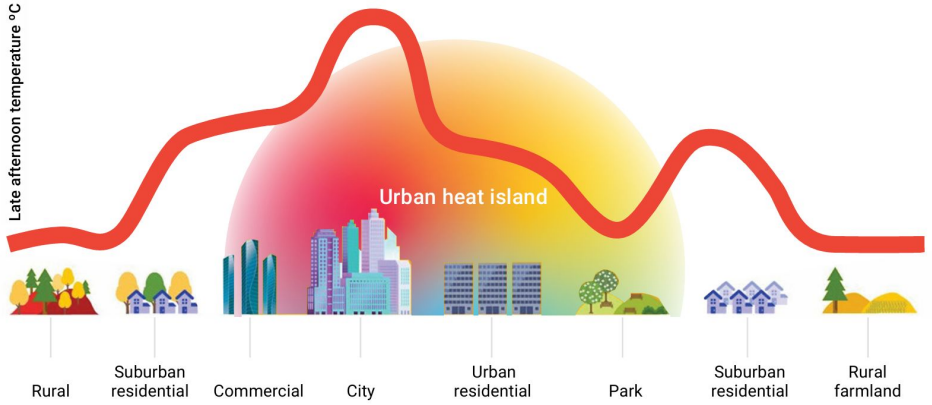
700+ heat-related fatalities in India across 17 states in 2024

52°C temperatures recorded in Pakistan's Sindh province

171 million students are estimated to have had schooling impacted by heatwaves.

Urban Heat Islands

Cities like Delhi, Dhaka, Jakarta, Manila, and Phnom Penh face an additional 2–7°C of warming on top of global temperature increases due to the urban heat island effect.



Source: ESCAP, adapted from K. Faladlu, "Urban heat island", World Meteorological Organization (WMO), 2020.

Air Pollution: Asia's #1 Environmental Health Risk

1 death
every
14 seconds

from outdoor air pollution
in the Western Pacific Region

3.5 million deaths annually
from preventable environmental causes
in the Western Pacific region

92% of Asia and the Pacific's Population Exposed

4 billion people breathe air exceeding WHO safety guidelines

1 in 3 Deaths

In Central, South, and Southeast Asia linked to air pollution (2021)

Children at Risk

100 children under 5 died daily in East Asia & Pacific from pollution-linked causes

Heat Worsens Air Pollution

Rising temperatures degrade air quality further, creating a dangerous feedback loop

Source: WHO Western Pacific 2025; State of Global Air; UNICEF

Health Impacts

EXTREME HEAT

- Heat stroke, exhaustion, and dehydration
- Cardiovascular and respiratory failure
- Increased malaria and dengue transmission
- Reduced nutritional content of food crops
- Mental health decline and cognitive impairment

AIR POLLUTION

- Chronic respiratory diseases (COPD, asthma)
- Lung cancer and cardiovascular disease
- Birth defects and preterm births
- Childhood developmental delays
- Diarrheal diseases from contaminated water

How Heat and Air Pollution Interact

Heat Drives Air Pollution

- Higher temperatures accelerate chemical reactions between ozone precursors (NOx, VOCs, CO), increasing ground-level ozone formation
- Heatwaves significantly increase the risk and severity of wildfires, releasing particulate matter ($PM_{2.5}$) and black carbon
- Rising temperatures amplify dust storms, lifting more particulate matter into the atmosphere
- Short-lived climate pollutants (ozone, black carbon) possess high warming potential, further driving temperature increases

Air Pollution Worsens Heat Vulnerability

- Long-term pollution exposure induces cardiovascular, respiratory, and kidney disease, increasing susceptibility to heat stress
- $PM_{2.5}$ and ozone augment the health impacts of heat, documented across mortality and morbidity outcomes
- Urban areas experience both higher pollution and heat (urban heat island effect), creating dual-exposure zones
- A dangerous feedback loop: heat increases pollution, which increases warming potential, which increases heat further

Source: WHO Technical Brief, "The synergies of heat stress and air pollution and their health impacts," 2025

Who Is Most Vulnerable?

Climate change disproportionately impacts the most vulnerable, with the least adaptive capacity to cope.

Outdoor Workers

Over 70% of the global workforce at risk; informal laborers face the highest heat exposure

Children

Due to their small size, children dehydrate more easily and are also more exposed to the effects of extreme heat than adults.

Women

Disproportionate exposure to heat stress, poor air quality, food insecurity, and pregnancy complications

Elderly Populations

Chronic disease burdens increase with heat; medication interactions with heat stress remain poorly understood

Urban Poor

Informal settlements lack cooling; urban heat islands add 2–7°C to ambient temperatures

Small Island Nations

Rising seas, intensifying storms, and limited health infrastructure compound climate-health risks

The H.E.A.T. Framework

Developed at the Rockefeller Foundation's Bellagio Center | February 2025

H

Health

Health Sector adaptation strategies for strengthening healthcare capacity, medical education, community-based action, and emergency response systems

E

Enablers

Early warning systems, equity-driven policies, and sustainable financing for heat and health measures

A

Architectonics

Adapting the built environment through heat-health urban planning, green spaces, and nature-based cooling solutions

T

Technologies

Leveraging AI, climate-health data integration, and smart health supply chains to enhance preparedness and response

Asia Clean Blue Skies Program (ACBSP)

Launched in September 2022, the ACBSP is ADB's program for improving air quality across Asia and the Pacific through 2030.

Policy & Regulation

Supporting clean air action plans, emission standards, and enforcement in major cities across developing Asia

Investment Pipeline

Identifying, preparing, and financing clean air solutions and low-carbon projects at scale

Monitoring & Data

Strengthening air quality monitoring networks and health impact assessment capabilities

Innovation & Finance

Exploring clean air bonds, credit guarantees, and other innovative financing mechanisms for clean air

Covering 12 countries • US$2.5B+ invested in air pollution reduction • Aligned with the Paris Agreement

Priority Actions

1	**Scale Up Climate-Health Financing**	Mobilize resources through development banks, climate funds, clean air bonds, and private sector engagement
2	**Adopt a "Health in All Policies" Approach**	Integrate heat and air quality considerations into education, labor, urban planning, transport, and agricultural policy
3	**Strengthen Early Warning Systems**	Deploy heat-health surveillance tools, satellite monitoring, and community-level alert networks
4	**Invest in Equitable Cooling Solutions**	Promote eco-friendly cooling access, heat-reflecting building materials, green spaces, and nature-based urban design
5	**Build Regional Coordination**	Tackle transboundary air pollution, share data and best practices, and align national adaptation plans with the H.E.A.T. Framework

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ADB · Urban Resilience Trust Fund · UK International Development Partnership | Progress | Prosperity

Thank you.