



**KGID**  
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SEJONG

# From Policy to Practice: Air Quality Management at the World Bank

**Daniel Mira-Salama**

Lead Environmental Specialist, World Bank

Closing Plenary

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# Access to clean air is imperative in WBG's mission to end extreme poverty and boost prosperity on a livable planet



In 2020, ambient air pollution accounted for

**>5.7M**

deaths globally each year



With corresponding economic damages estimated at

**4.7-6.5%**

of global GDP



Globally, more than 3.3 billion people or

**>45%**

of global population are exposed to PM2.5 levels  $>25 \mu\text{g}/\text{m}^3$  (WHO interim target 2)

**Already a crucial development challenge today,**  
curbing air pollution is necessary for future growth  
and prosperity **on a livable planet**

# WBG's Approach to Tackling Air Pollution

Multi-sectoral and long-term,  
with several key principles

- Holistic – environmental health, environment quality, climate
- Airshed-based to consider transboundary issues
- Cooperative and based on systematic dialogue
- Targeting pollutants with highest health impacts
- Based on pollution abatement potential and cost effectiveness

## Knowledge

- Invest in collecting, assessing, and leveraging air-quality data
- Support evidence-based decision making
- Engage citizens in clean air action
- Provide technical assistance, new evidence generation, development of new tools

## Partnerships

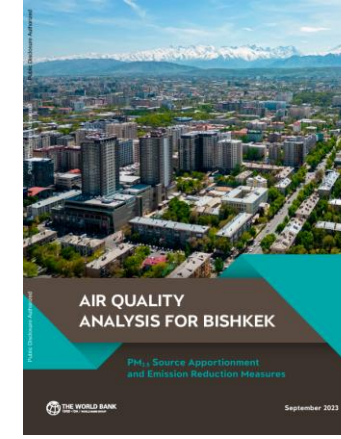
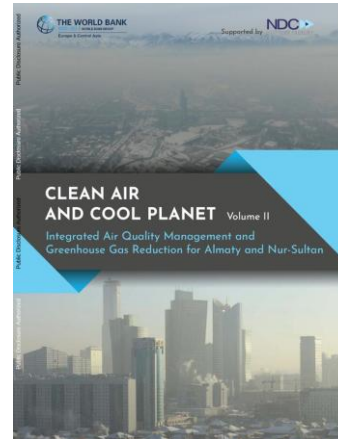
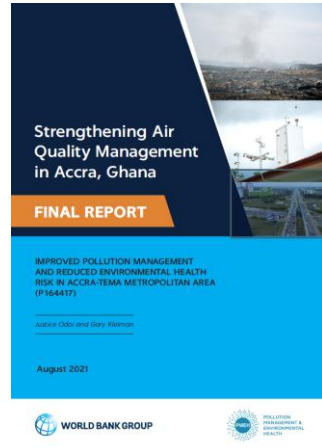
- Institutions for AQM Governance
- Place clean air at the center of the government's agenda
- Empower an airshed approach, promote knowledge exchange across airsheds.
- Enable cooperation between institutions and stakeholders

## Financing

- Financing with catalytic impact
- Establish attractive environments for private sector financing.
- Removing environmentally harmful subsidies and policies.
- Innovative instruments, applied lending, policy support and de-risking private investments.

# Development of Planning Tools for AQM and Airshed Management

- Technical assistance for cost of environmental degradation, detailed source apportionment, air pollution modeling, cost-effectiveness analysis (abatement curves), and health impact assessments
- Cost-effective pollution abatement measures – with climate co-benefits
- Airshed-level decision making and management



# Forging and nurturing platforms Convening stakeholders to close gaps

## Air pollution moves across borders and sectors, facilitation of multisectoral and cross-border collaboration is key for effectiveness management



### Central Asia: First high-level policy dialogue on AQM in CA

- More than 80 senior government officials
- Sharing challenges and actions to improve AQ in CA
- Experiences for AQM from other regions
- Commitment to deepening regional cooperation on AQ



### South Asia: Indo-Gangetic Plains and Himalayan Foothills

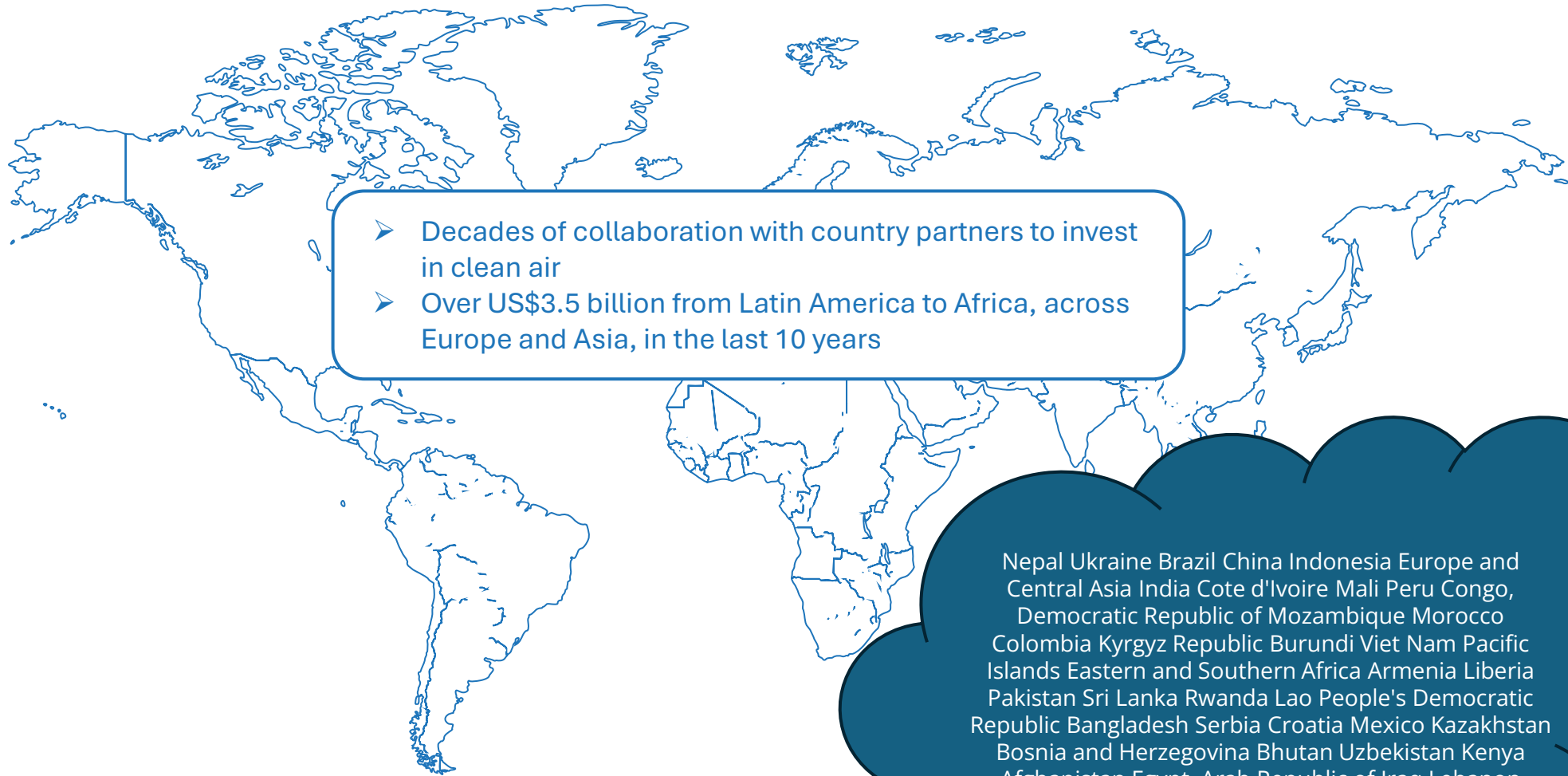
- Platform for multi-country and multi-jurisdictional engagement- IGP-HF "Science Policy Dialogues"
- Evidence-basis for regional dimensions of air pollution
- Promotion of cross-country learning and advisory support



### ASEAN: ASEAN Member States consultation on regional AQM

- ASEAN Secretariat leadership
- Consensus on value of ASEAN support in strengthening AQM in the region
- Identification of priority actions for a regional AQM Framework

# Facilitating and catalyzing investments



- Decades of collaboration with country partners to invest in clean air
- Over US\$3.5 billion from Latin America to Africa, across Europe and Asia, in the last 10 years

Nepal Ukraine Brazil China Indonesia Europe and Central Asia India Cote d'Ivoire Mali Peru Congo, Democratic Republic of Mozambique Morocco Colombia Kyrgyz Republic Burundi Viet Nam Pacific Islands Eastern and Southern Africa Armenia Liberia Pakistan Sri Lanka Rwanda Lao People's Democratic Republic Bangladesh Serbia Croatia Mexico Kazakhstan Bosnia and Herzegovina Bhutan Uzbekistan Kenya Afghanistan Egypt, Arab Republic of Iraq Lebanon Argentina Ecuador Chile St Maarten Honduras Poland Albania Türkiye Romania Philippines Ghana Burkina Faso Senegal Benin Madagascar Seychelles

# Selected Air Quality Management project examples

## GLOBAL

Energy Sector Management Assistance Program (ESMAP) across the globe Clean Cooking Fund to provide access to 100 million people by 2025

**US\$440M**

## MEXICO

Environmental Sustainability and Urban Resilience DPF for (i) strengthening environmental sustainability and resilience, and (ii) expanding access to resilient urban infrastructure and social housing.

**US\$750M**

## COLOMBIA

Sustainable development and green growth development policy loans to support policies and institutional measures for green growth in transport, energy, environmental health and natural resources and, improving environmental quality by reducing PM2.5

**US\$1.2 Bn**

## POLAND

Clean Air Through Greening Residential Heating Program to reduce energy use and air pollution emissions from heating sources in single family buildings

**US\$291.3 M**

## BOSNIA AND HERZEGOVINA

Strengthening AQM and reduce emissions from the residential heating and transport sectors

**US\$50M**

## EGYPT

Greater Cairo Air Pollution Management and Climate Change Project. IBRD and GEF grant to reduce emissions from critical sectors and increase resilience to air pollution

**US\$200M**

## RWANDA AND KENYA

Promotion and distribution of bioethanol-based cookstoves and bioethanol cooking fuel to households, through small and medium-sized enterprises along with the associated generation and monetization of carbon credits. (MIGA)

**US\$126M**

## KYRGYZ REPUBLIC

Air quality improvement project to (i) Strengthen AQM capacity of the Kyrgyz Republic, and (ii) Promote clean residential heating and urban greening measures in Bishkek to reduce PM2.5 emission

**US\$50M**

## TÜRKIYE

Industrial Emissions Reduction Project to unlock long-term financing through the Development and Investment Bank of Türkiye for Turkish manufacturers to adopt emission reduction technologies

**US\$416M**

## PAKISTAN

Punjab Clean Air program to strengthen AQM and reduce PM2.5 exposure in Lahore

**US\$300M**

## INDIA

Clean Air Project to strengthen air quality management and reduce emissions from Priority Sectors in Haryana

**US\$305M**

## MONGOLIA

Ulaanbaatar Clean Air project to enable consumers to access less-emitting heating appliances and services to further develop selected medium-term particulate matter abatement measures in Ulaanbaatar

**US\$27M**

## CHINA

Hebei Air Pollution Prevention and Control Program to reduce emissions of specific air pollutants in key sectors

**US\$500M**

## NEPAL

Under preparation to reduce PM2.5 emissions from priority sources and strengthen AQM

**US\$68M**

## BANGLADESH

Environmental Sustainability and Transformation (BEST) to strengthen AQM and reduce emissions from transport

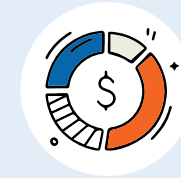
**US\$250M**

# China and the JingJinJi Airshed

The Bank's long-term engagement included:

## Long-term technical assistance program

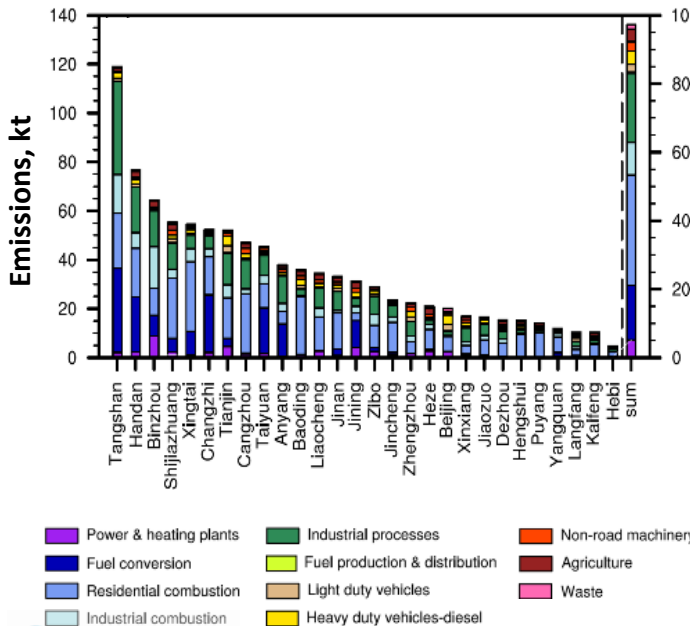
Cost of environmental degradation; detailed source apportionment; air pollution modeling and cost-benefit analysis



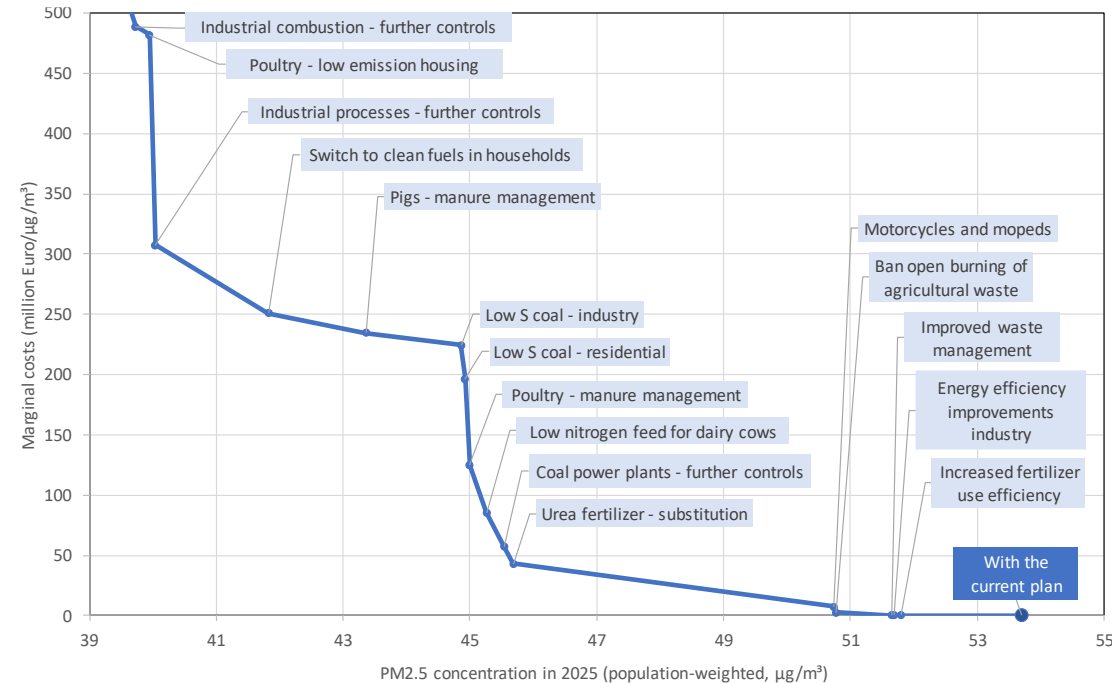
## Investment lending

Informed by TA program: US\$500 m Program-For-Results loan

PM2.5 SOURCES BY CITY, 2015



COST-EFFECTIVE MEASURES TO REDUCE PM2.5 EXPOSURE



# China and the JingJinJi Airshed



Over-achieved the -25% PM2.5 concentration reduction target (Hebei -39% at the end of 2017; Beijing -35.6% at the end of 2017).



Health impacts: 370,000 premature death avoided; Co-benefit: 4-6 million MT of CO2 emission reduced

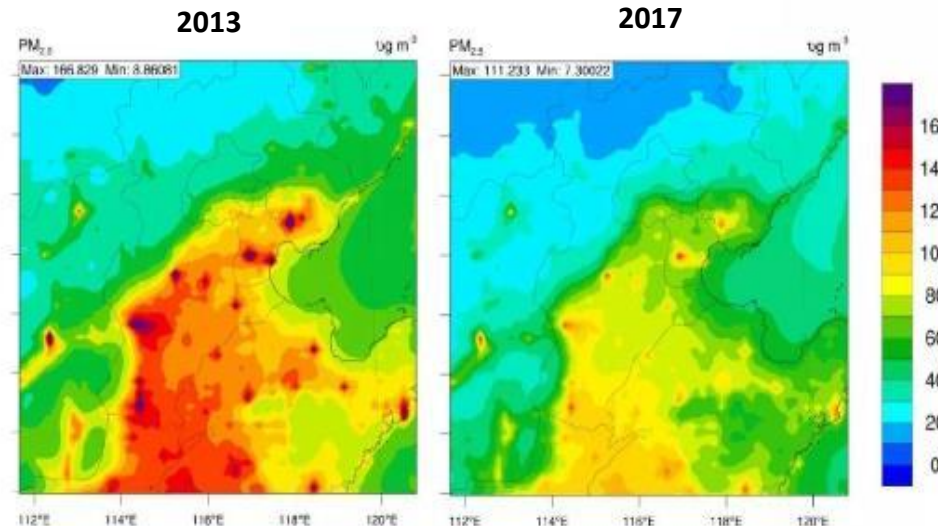


Costs: PfoR loan: US\$500m; Government: US\$675M. Total: US\$1,175M.

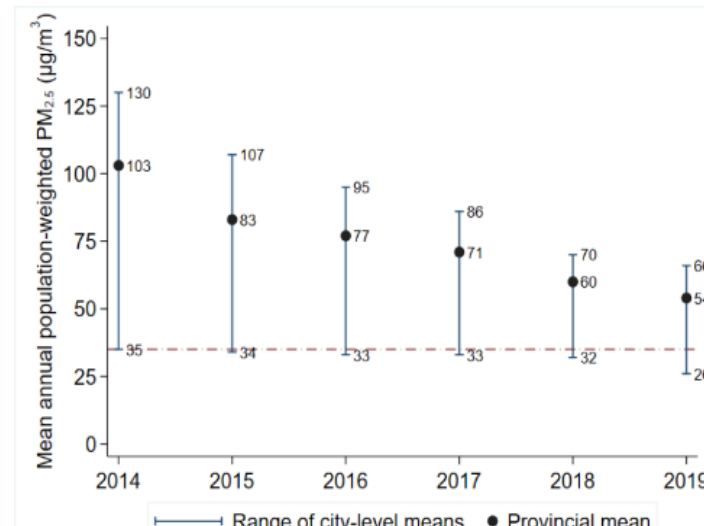
## Program disbursements were made against results in key sectors:

- **Transport:** substituting a polluting public bus fleet with a low-emissions fleet
- **Households:** switching unhealthy coal-based domestic stoves to gas or electric stoves for cleaner cooking;
- **Agriculture:** applying increased Nitrogen Use Efficiency fertilizers to agricultural fields
- **Industry:** implementing a Continuous Emissions Monitoring and Enforcement system for Air Pollutants

## PM2.5 CONCENTRATIONS 2013 & 2017



## HEBEI PROVINCE (11 CITIES)



# Indo-Gangetic Plains and Himalayan Foothills (IGP-HF airshed)

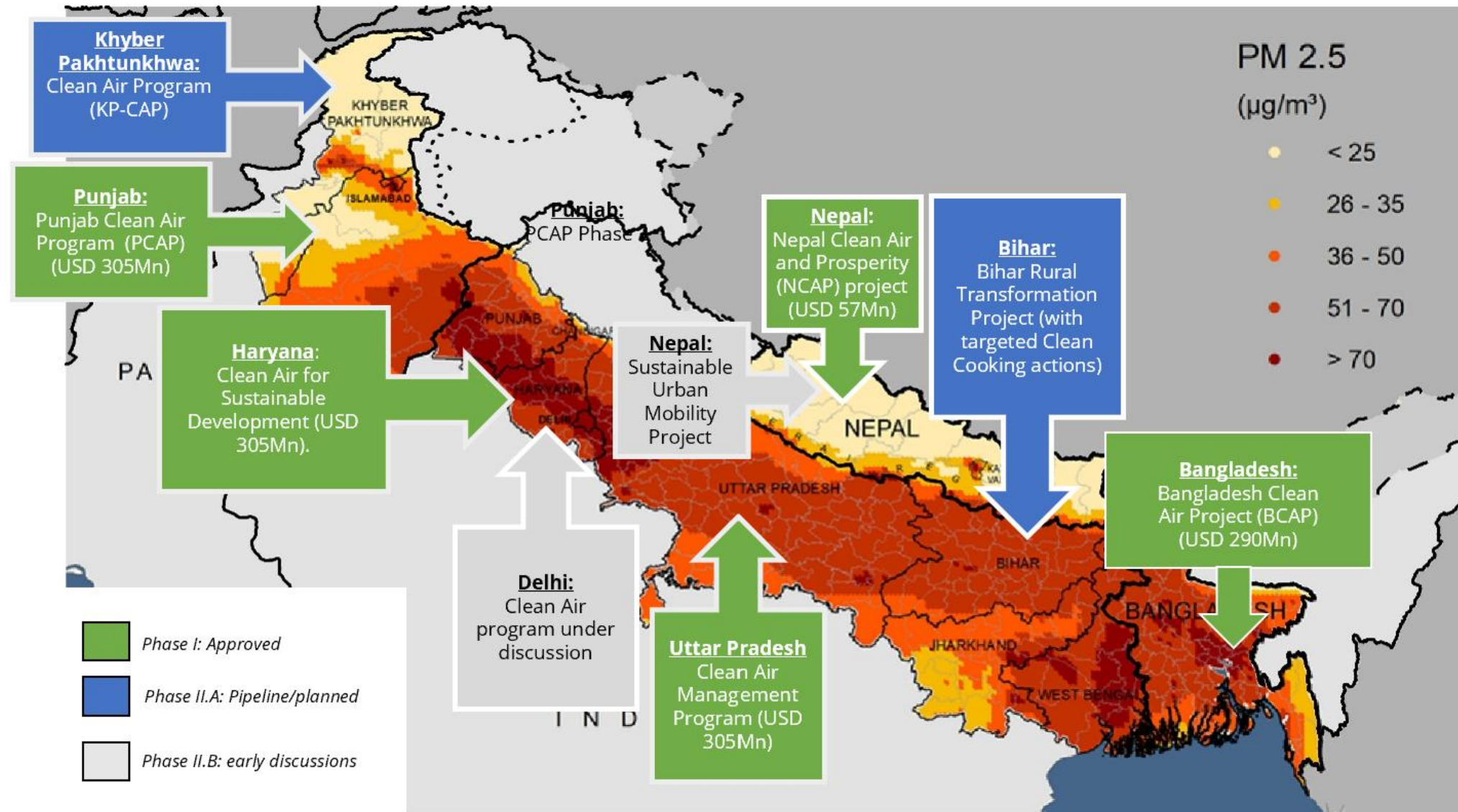
Benefits over **300M people** in project jurisdictions and **1B people** in airshed.

**US\$ 1.24B** IDA/IBRD

**US\$ 417.9M** in **private capital** mobilization in approved projects

## Strategic focus:

- Strengthen Gov. capacity for action
- Multi-sector, phased approach
- Leverage financing



# Clean Air programs as enablers of Green Growth

## Economic opportunities and new jobs in clean industries and services



Air Quality Management



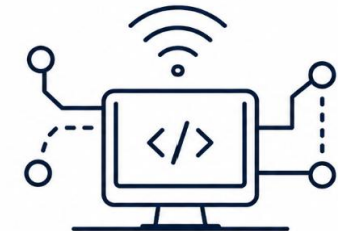
Cleaner Cooking Solutions



Clean Industries



Sustainable Agriculture



Digital Development



Health Protection & Skills Training



Cleaner Transport



Solid Waste Management



Dust Management (Sweeping, road maintenance)

Thank you!