Advancing Air Quality Improvement into NDC for Sustainable Development in Ghana

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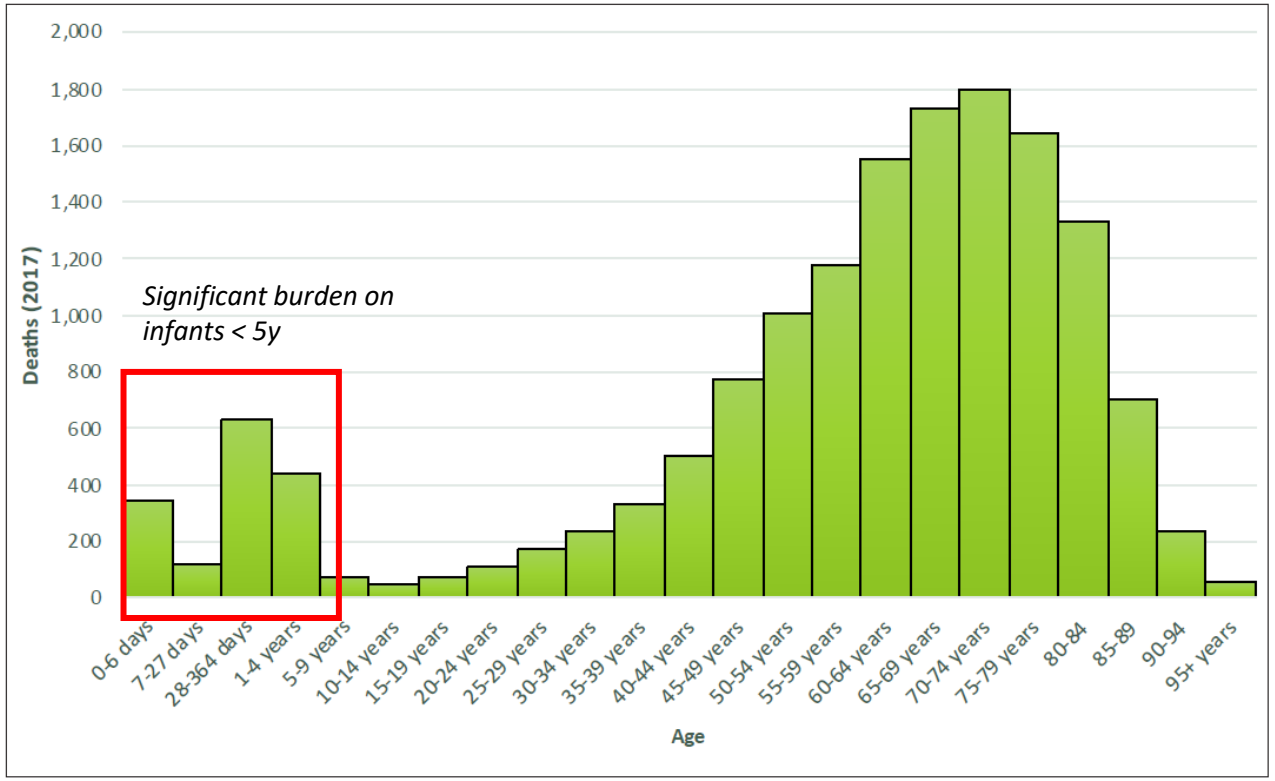
What this presentation will cover

- Ghana’s Air Quality Challenge
- How is the World Bank scaling up support to Clean Air**?**
- Opportunities to further action on air pollution in Ghana

Ghana’s Air Quality Challenge



Strengthening Air Quality Management in Accra, Ghana , World Bank, 2021

Health Burden

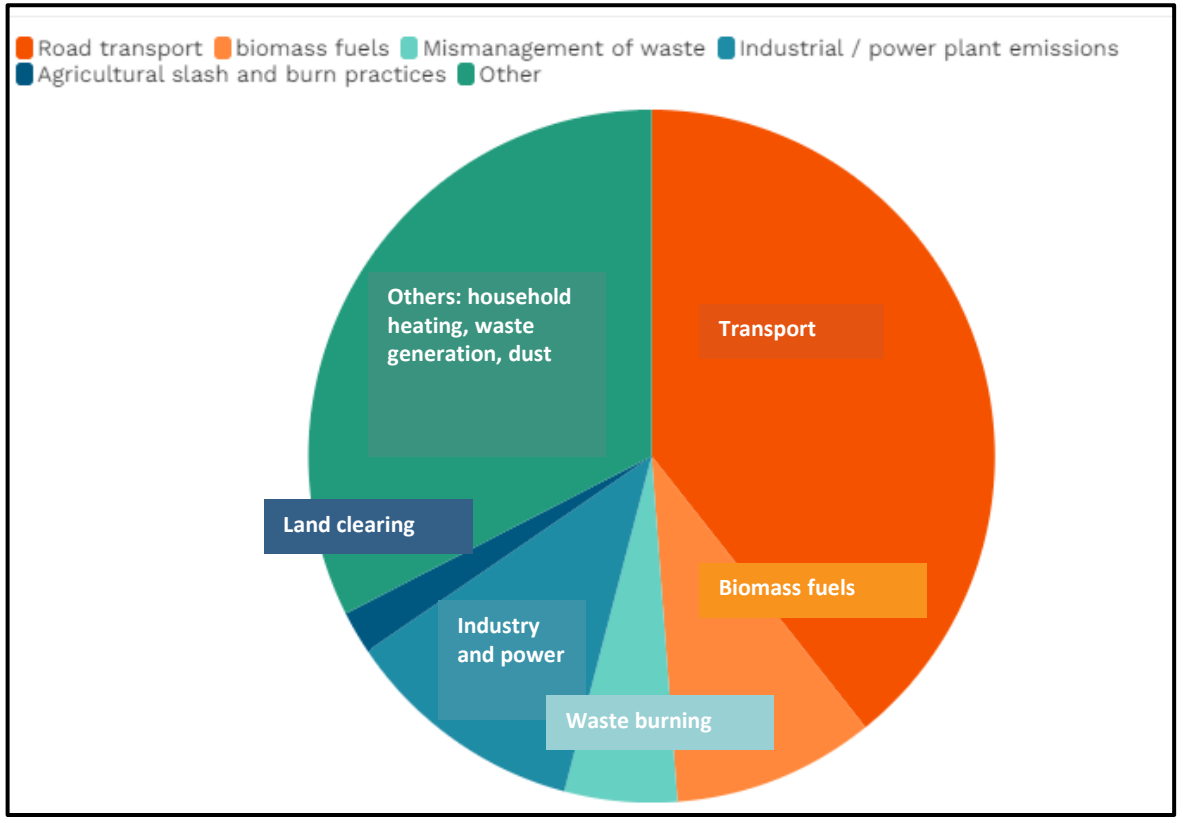
- Air Pollution is ranked as the second risk factor that drives most death and disability combined (IHME, 2021)
- Responsible for approximately 23,600 Ghanaians dying prematurely each year.
- In 2019, at the country level, air pollution related deaths (23,600) exceeded those from malaria (21,600), tuberculosis (10,200), and HIV/AIDS (14,620) in the same year.

Economic Cost

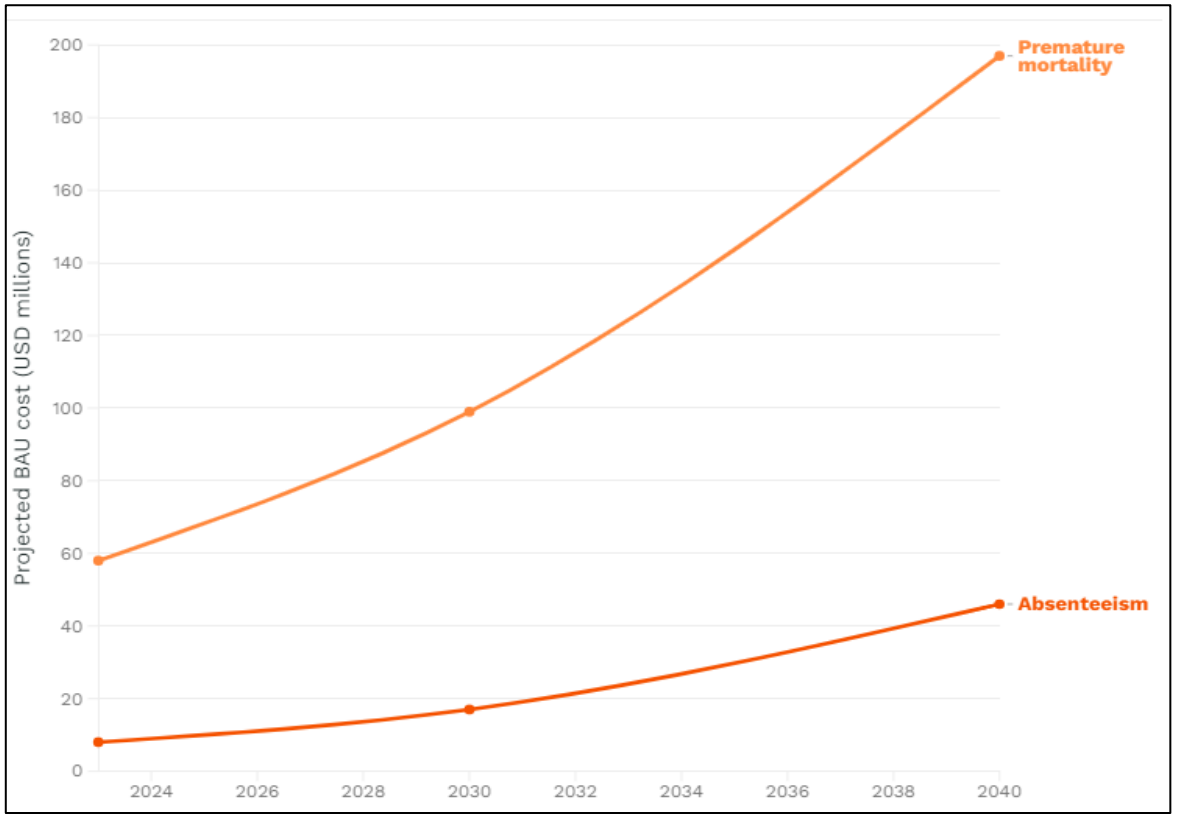
- The economic cost of health damages from air pollution was estimated at US$ 4.3 Billion equivalent to 6.4% of the 2019 country's Gross Domestic Product.

Sources of Air Pollution and Links to GHGs

Sectoral contributions to anthropogenic PM2.5 levels in Accra



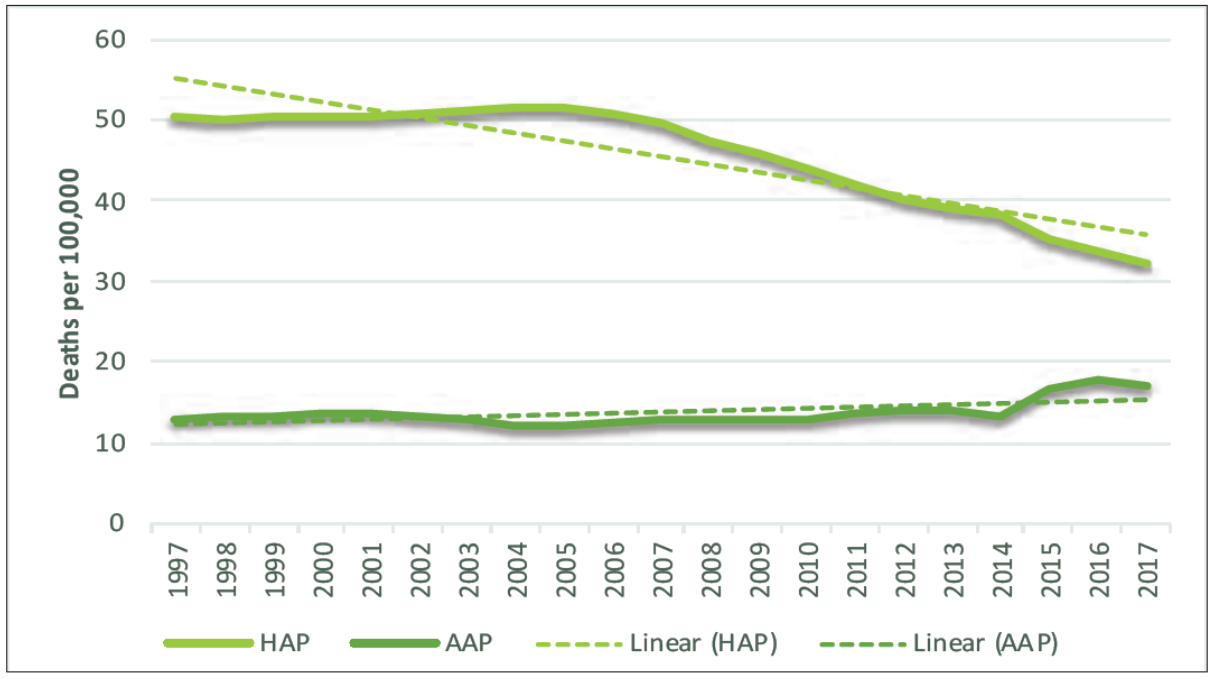
The **projected economic impact** of absenteeism and premature mortality in Accra is expected to **quadruple** in [2019- 2040] along a **business-as-usual path**.



Source: FROM POLLUTION TO SOLUTION IN SIX AFRICAN CITIES, Clean Air Fund, 2023

Trends

Over the past two decades, HAP mortality rate has dramatically decreased, while AAP has increased (consistent with global trends)



Source: GBD(2017) referenced in Strengthening Air Quality Management in Accra, Ghana , World Bank, 2021

How is the World Bank scaling up support to Clean Air?

WORLD BANK GROUP

The first step in World Bank support: A pilot financed by the Pollution Management and Environmental Health (PMEH) Program

Objective:

- Improve capacity to address ambient air-pollution
- Support development of a full-scale Air Quality Management (AQM) plan for the GAMA

Outputs and Achievements

Deployed two (2) Continuous Air Quality Monitoring Stations:

PM2.5/Black Carbon

source Apportionment samples

Developed Air Quality and Short-Lived Climate Pollutants Monitoring Protocols to enhance the underlying database of 2018 AQMP

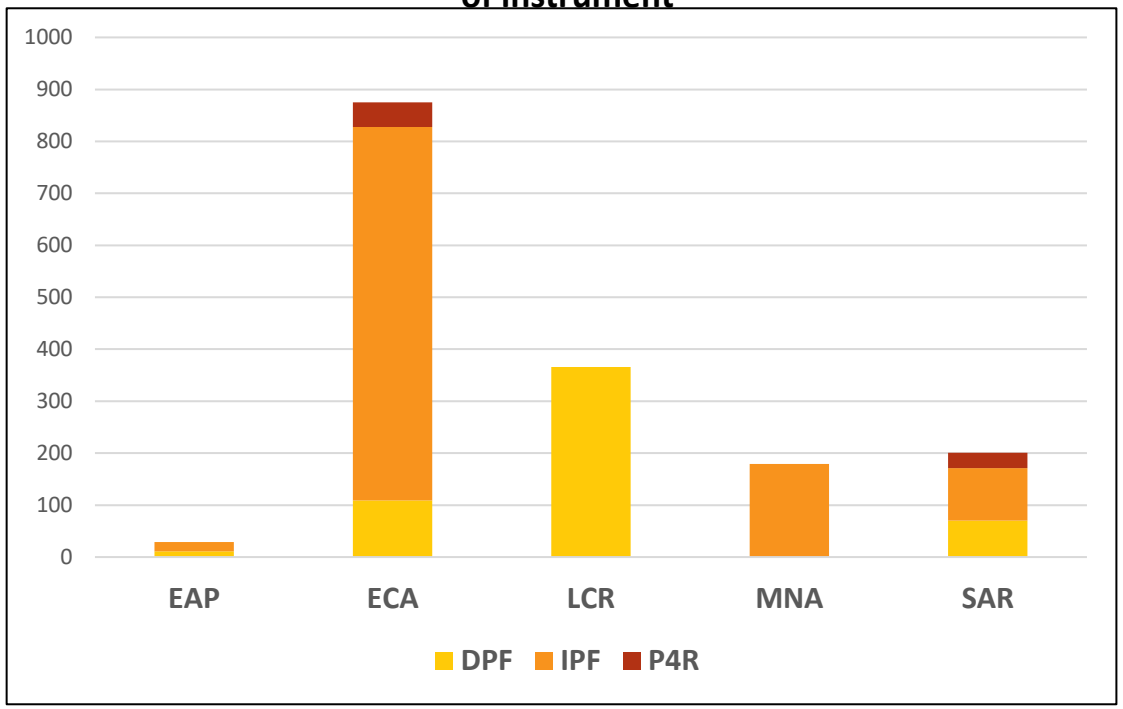
Developed and conducted training for air quality monitoring

Led coordination of international partners to deliver key elements of AQMP update

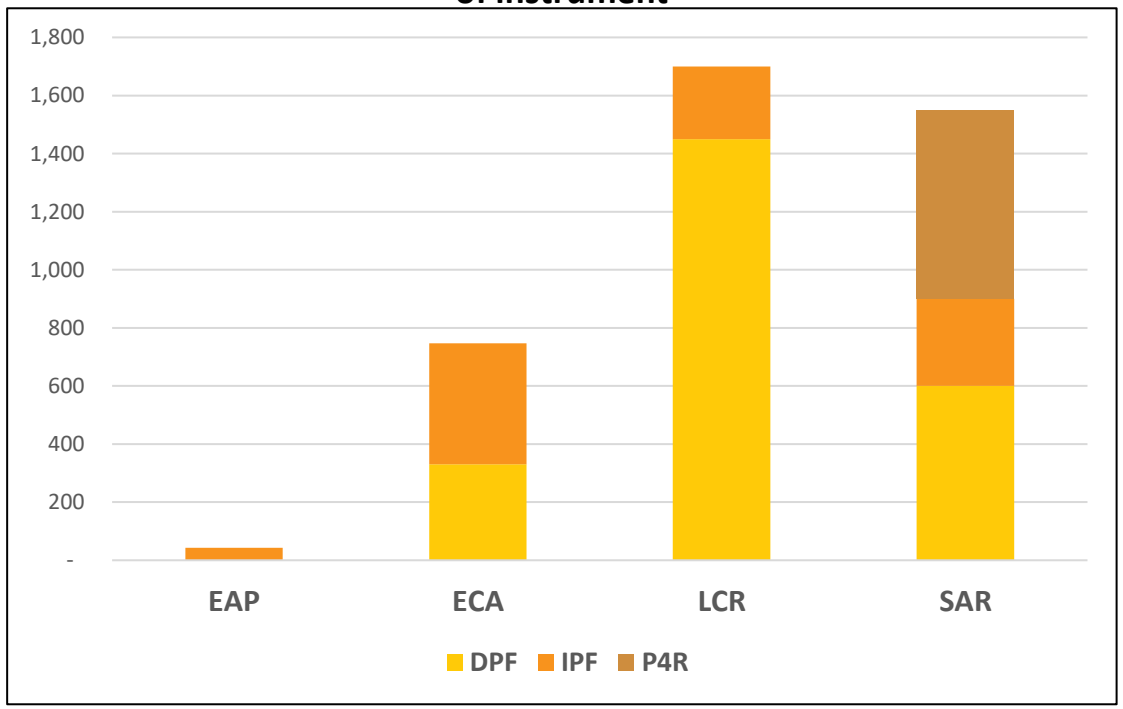
There is demonstrated global experience at the World Bank with effectively reducing air pollution to safer levels through policy and investment actions

[FY2004–FY2020]: The WB portfolio of lending and technical assistance on pollution amounted to $49 billion, of which **$15 billion** targeted air pollution.

Current WB portfolio: Share of $commitment per region and per type of instrument



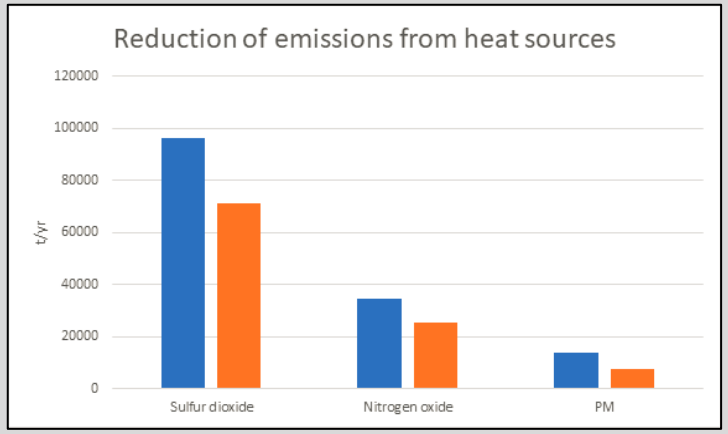
Current WB pipeline: Share of $commitment per region and per type of instrument



Examples of WB projects that have demonstrated results of air quality improvements

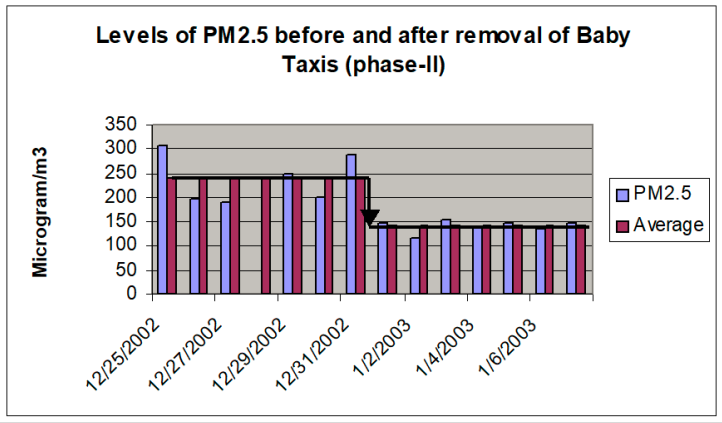
Heat Supply Restructuring Project in Poland (IPF)

- PDO : Reduce environmental pollution through investment in energy -efficient equipment and systems as well as by supporting programs to replace small coal-fired boilers by gas-fired boilers
- Components: An energy sector adjustment component and an investment and technical assistance component – Budget US$507M
- Air quality impacts: Reduction of total emissions from heat sources by 26 % (SO2, NO2, CO2) and 45% (Particulate Matter)
- Time frame: 1991-2000



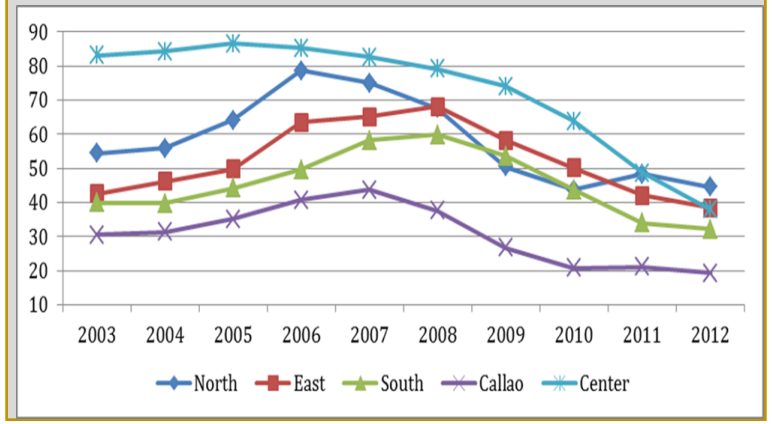
Dhaka Urban Transport, Bangladesh (IPF & LIL)

- PDO : To improve urban transport infrastructure and services in an economically and environmentally sustainable manner and to strengthen the institutional and policy framework and address long-term transport planning and coordination issues in Dhaka.
- Components: Infrastructure development, vehicles and equipment support, institutional strengthening and capacity building & policy support – Budget US$124.9M
- Air quality impacts: Decline by 31 % (PM10) and 41 % (PM2.5) (withdrawal of 2-stroke 3-wheelers)
- Time frame: 2000-2008



Peru Environment Development Policy Loan (DPL) Program

- PDO : Institutional and policy actions to strengthen framework for environmental quality standards, emission levels and environmental monitoring
- Components: Identification & prioritization of cost-effective actions and their implementation, mainstreaming environmental sustainability principles in urban transport and industry sectors – Budget US$50M
- Air Quality Impacts: Decrease of PM2.5 concentrations from 75µg/m³ (2009) to 40 µg/m³ (2012)
- Time frame: 2005-2012



Recent multi-sectoral operations taking a more comprehensive approach to AQM are promising more sustained benefits

SERBIA: PUBLIC SECTOR EFFICIENCY AND GREEN RECOVERY - DPL

- PDO: increase public sector efficiency and transparency and initiate a green recovery.
- Air quality actions are linked with climate change and improvement of governance structures
- Prior actions: initiate actions that address air pollution and provide the legal foundations for low-carbon and climate-resilient growth.
  - ❖ Reduced air pollution via Better Regulation of Sulfur Content in Fuel
  - ❖ Reduce Emission of Pollutants from Large Combustion Plants
- Results Indicators: zero emissions of sulfur dioxide from heavy fuel oil, decreased nitrogen dioxide emissions from large combustion plants, adoption on new by-laws on the Law of Climate Change
- Loan: US$100M, 2020-2022

EGYPT: GREATER CAIRO AIR POLLUTION MANAGEMENT AND CLIMATE CHANGE PROJECT – IPF

- PDO : To reduce air and climate emissions from critical sectors and increase resilience to air pollution in Greater Cairo.
- Components: Enhancing AQM and response system, support operationalization (waste management and improved health care as response to COVID-19), Vehicle Emission reductions (Electric Bus Fleet and Related Infrastructure), enhanced capacity (AQ forecasting, institutional response and AQM planning), behavioral change and communication.
- Results Indicators: Decreased GHG emission from solid waste, and public buses. Decreased Black carbon emission from public buses. Reduction of solid waste fires.
- Loan: US$200M, Time frame: 2020-2026

INDIA: UTTAR PRADESH CLEAN AIR MANAGEMENT PROJECT – P4R

- PDO: Strengthen airshed management systems and improve air quality.
- Components: Strengthening State Capabilities for Air Quality Management and Planning. Prioritized implementation in five sectors – clean cooking, solid waste management and cleaner industries (the brick sector), transportation, and agriculture. Airshed cooperation with other states to address long-range air pollutants from thermal power and large industry stack, heavy-duty truck emissions.
- Results Indicators: Reduce [PM2.5] by up to 31 µg/m3 (from 69 to 38-45 µg/m3) by 2030.
- **Loan: $350 M (IBRD) and $5 M (ESMAP grant), Timeframe: 2024-2030.**

KYRGYZ REPUBLIC: AIR QUALITY IMPROVEMENT PROJECT – IPF

PDO: Strengthen the capacity of the government to manage air quality and to reduce emissions of PM2.5 and greenhouse gases in Bishkek.
Components: Strengthening air quality management systems. Supporting adoption of clean heating solutions through sub-loans to households for switching to clean heating systems. Urban greening through a pilot green belt, specifically designed for reducing air pollution dust, and investments in the urban irrigation system.
Results Indicators: Reduce net PM2.5 and greenhouse gas emissions in Bishkek, from households adopting clean heating options and increased/better maintained public green space.
Loan: $50M (IDA) and $2.4 M (commercial financing), Time frame: 2024-2030

Opportunities to further action on air pollution in Ghana

Ghana's climate commitment under Paris Agreement

Avoid 2,900 deaths due to improved air quality by 2030

- The reduction in emissions of SLCPs (including black carbon in the form of PM2.5) and co-emitted air pollutants (organic carbon, NOx, VOCs, and CO) was included in the GHG mitigation assessment to inform the nationally determined contribution, to quantify the co-benefits for SLCP and air pollutant emission reductions, due to the additional climate, air pollution and health benefits that can be achieved simultaneously to GHG emission reductions.

Thank you!