



OVERVIEW OF THE CURRENT POLICIES ON AIR POLLUTION AND MONITORING STUDIES IN GHANA

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DATA NEEDS FOR BETTER POLICIES ON AIR POLLUTION IN SUB-SAHARAN AFRICA WORKSHOP, ACCRA GHNA
26 MARCH 2021

Agbogbloshie, Accra. Hotspot for e-waste disposal and open-burning



Open-burning (limited scope)



SO_2

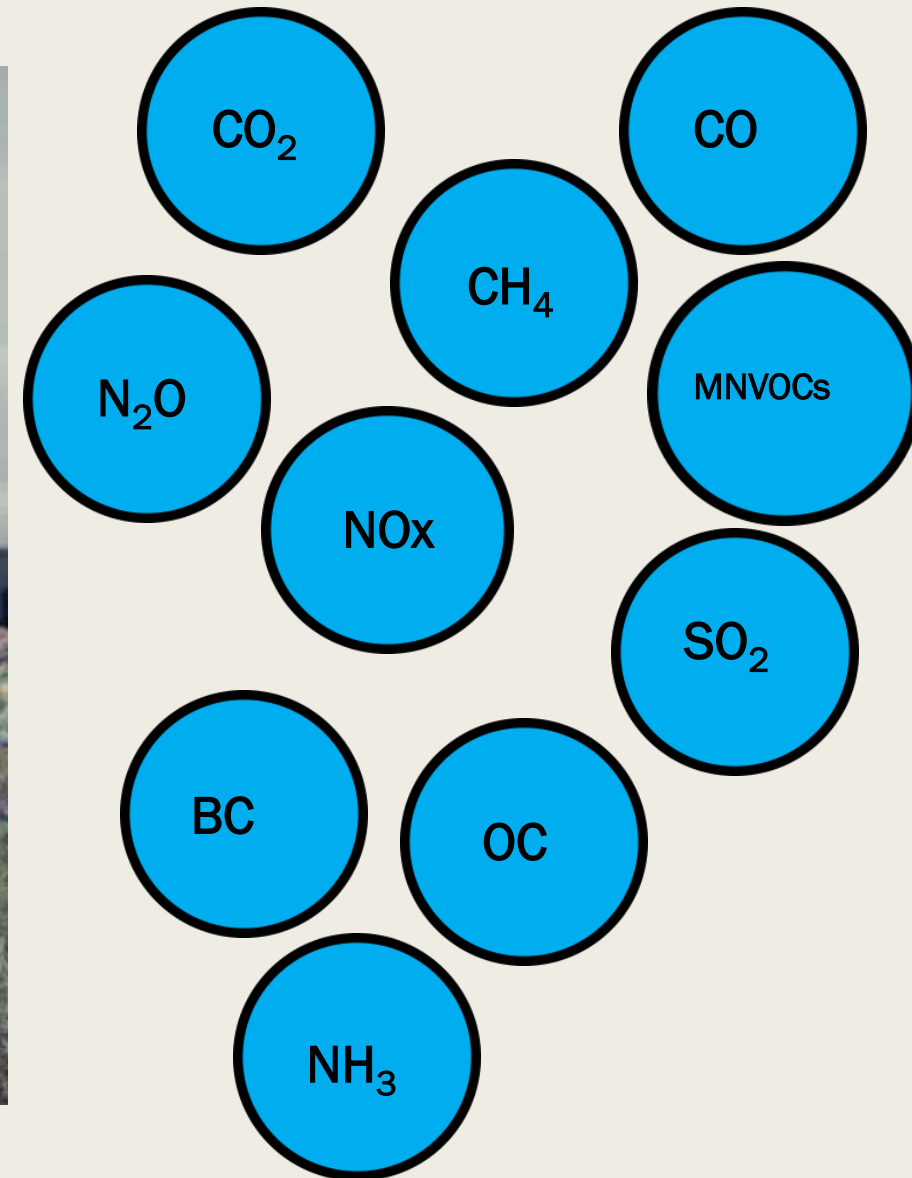
CO_2

PM

CH_4

N_2O

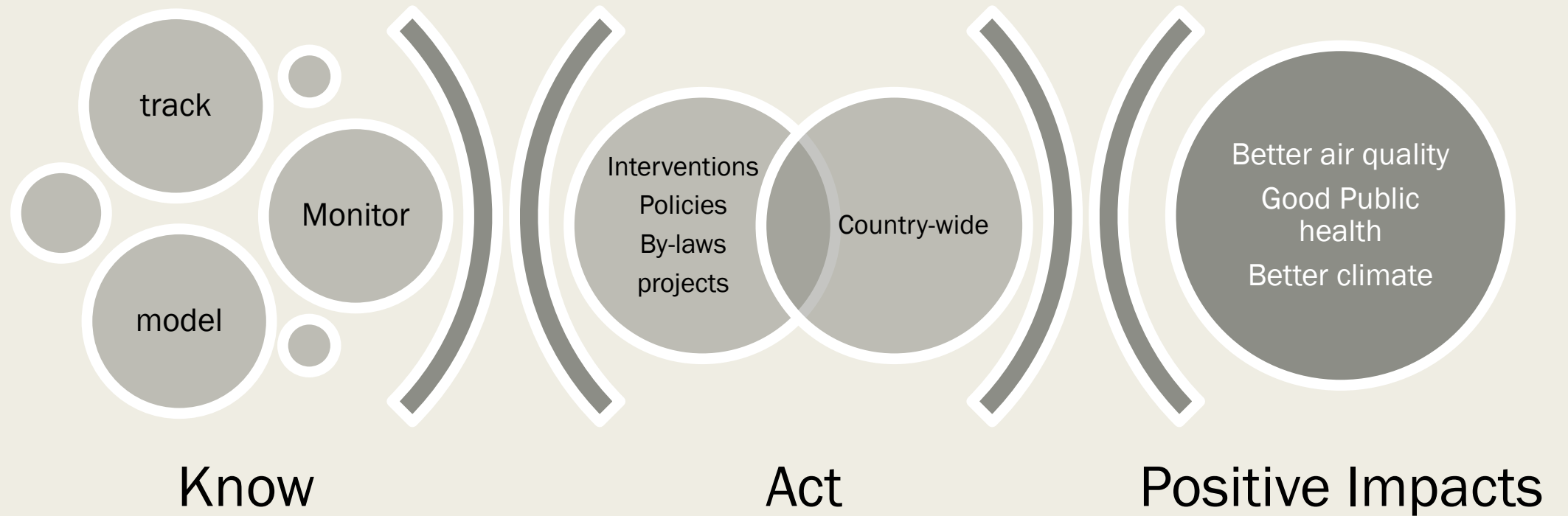
Open-burning (greater scope)







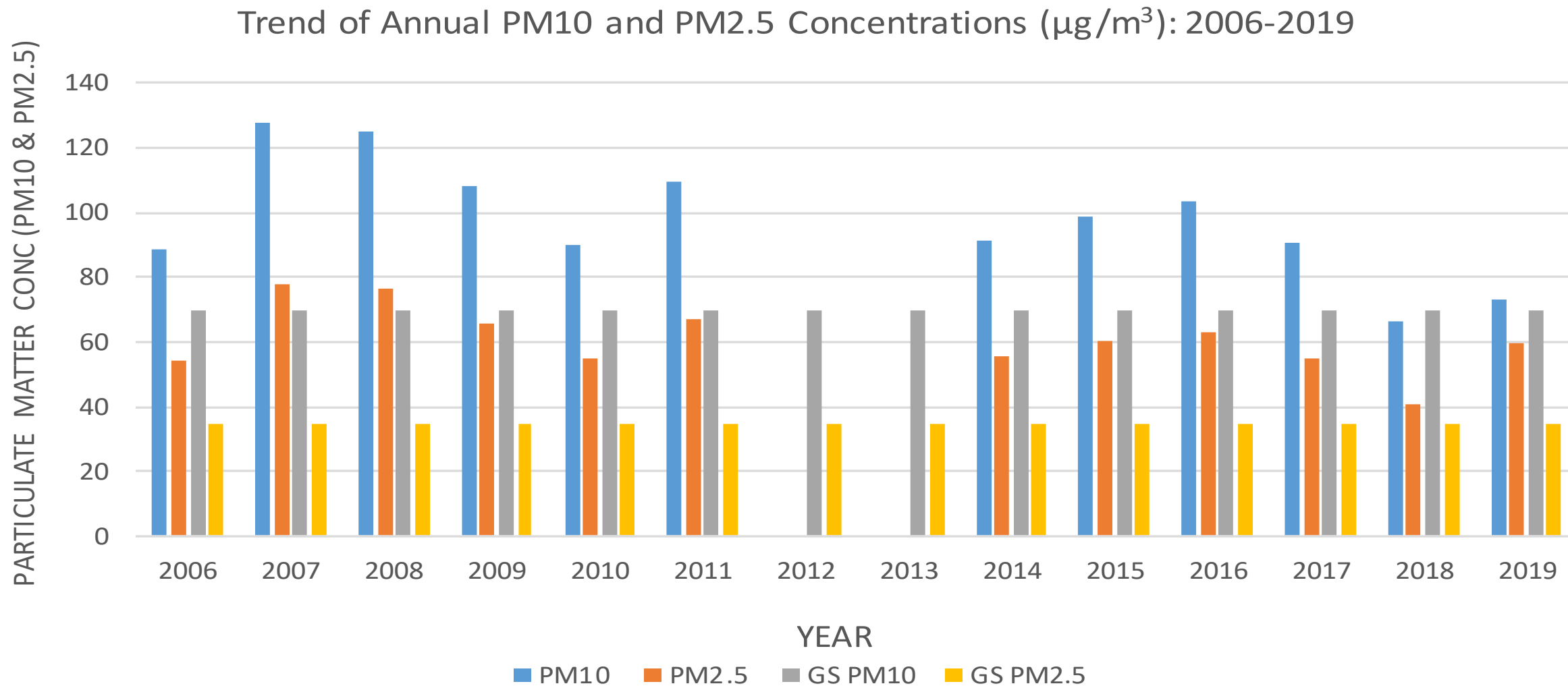
Big picture



Key sources of Air Pollutants in Ghana >>> PM/Black carbon

- Inefficient cooking (low performing stoves and use of firewood) >> household air pollution (HAP) (55%).
- Diesel engines >> ambient air pollution (AAP) (25%).
- Open burning of solid waste >> AAP (15%).
- Informal charcoal production >> AAP (5%).

High levels of annual PM₁₀ and PM_{2.5} concentration (µg/m³): 2006-2019



Air pollution (AP) is the number environmental risk to public health (1 out of 19 for death) in Ghana

- 100% of Ghanaians are exposed to PM_{2.5} levels exceeding WHO guidelines.
- AAP & HAP mortality rate is 105 people per 100,000.
- AP is responsible for 8% of total mortality.
-with about 28,000 Ghanaians dying prematurely yearly. 2800 death annually in GAMA (EPA,2015)
- In the past 2 decades, HAP mortality rate has dramatically decreased, while AAP has slightly increased.

Economic cost of Air Pollution (AP) to Ghana

- Annual total AP has an estimated average cost equivalent to 4.2% of 2017 GDP, equiv US\$2.5B.
- AAP, estimated at US\$1.1 billion is currently less costly than HAP by about US\$250 million/year.
- AAP is estimated to cost US\$264 million dollars/year alone in Accra and Kumasi, Ghana's two largest cities.

Governance

Ghana's policy and regulatory efforts to address AP

- **Inadequate** coordinated policy or regulation to comprehensively address AP, CC and SLCP.
- The EPA Act 1994, Act 490; EAR 1999, LI 1652
- Hazardous and Electronic waste control & Management Act, 2016, Act 917 and Regulation 2250 (LI2250 operationalizes the Basel convention on trans-boundary movement of hazardous wastes and their disposal)
- Ghana Standard for Environment and Health Protection – Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236, 2019)
- Ghana Standard for Environment and Health protection – Requirements for motor vehicle emissions (GS 1219, 2018)
- National Environmental Policy, 2014 (recognizes AP as global problem with health implications; sources of pollution; epidemiological studies; need to develop policy to address AQ-related challenges)
- Local Governance Act 2016, Act 936: abate nuisances eg. open burning of wastes
- GRA Customs Division Law (Act 634) of 2012 (Age-based tax system; penalty on cost, insurance & freight of over-aged vehicles)
- Customs (Amendment) Act 2020, ACT 891 Section 154 (2). to provide incentives for automotive manufacturers and assemblers registered under the Ghana Automotive Manufacturing Development Programme (GAMDP).
- Ghana Transport Policy (2018)

Ghana's policy and regulatory efforts to address AP

- Ghana National Action Plan (**NAP**) to mitigate **SLCP** identifies 16 cross-sectors measures to control SLCPs.
- **GAMA Air Quality Management Plan** (AQMP) and Communication plan published by EPA Ghana.
- Published **Motor Vehicle Emission Standards**. Regulations are being prepared.
- Published **Ambient Air Quality and Point Source/Stack Emissions standards**. Regulations are being prepared.
- ECOWAS Ministers adopted a regional standard on imported **gasoline and diesel fuels (max 50ppm)**. Ghana published sulphur in fuel standard in 2017
- ECOWAS Better Air Quality Initiative (West and Central Africa Regional Framework Agreement on Air Pollution;2009
- Ghana published **national standards for biomass cookstoves**.
- Commissioned **Environmentally Sound Disposal and Recycling** of E-Waste in Ghana to reduce pollution and dangerous toxic gases.

Some AP management related initiatives

- Urban Health and Short-Lived Climate Pollution Reduction Project (UHI), Accra.
- Sustainable Low Emission Transport Projects (soot free buses, fuel economy standards, and electric mobility).
- Motor Vehicle testing centres
- Accra Mega City Air Quality Management Project.
- Open Burning programme at James Town catchment Area in Accra.
- Training of Ghanaian Scientists and NGOs from 13 organizations (including Environmental Protection Agency, Ghana Health Services, Academia/researching institutions, Ministry of Energy (Renewable & petroleum), Ghana Atomic Energy Commission and Kenya Ministry of Health etc.) on Household Air Pollution and monitoring.
- Pollution Management and Environmental Health project.
- Ghana Health and Pollution Action Plan (HPAP)
- Affordable Air Quality Monitoring for Improved Air Quality Management in West Africa.
- Calibration of AQM sensors with Regulatory grade monitors in Ghana

Challenges

- National Environmental policy **does not provide adequate information** for AQ Management in Ghana
- Continuous use of Age-based taxation system; penalty on cost, insurance & freight on over-aged vehicles
- Poor maintenance of vehicles.
- Citing of commercial, small industrial, some residential facilities along major roads
- Gaps in quality data in-country for policy formulation; quality of data?
- Lack of AQ monitoring networks across the country (leading to insufficient information for policy)
- Limited studies in source attributions to AP
- Lack of coordination among key institutions in AQM
- Theft/vandalization of AQM equipment and frequent vehicular knockdown of air quality monitoring posts
- Lack of funds and logistics for AQ Management in Ghana (high cost of consumables and maintenance etc)

Opportunities/Areas Collaborations and lessons

- Strengthen institutional policy and regulatory coordination
- Develop inter-sectorial (Standard) AQ policy for Ghana (Academia and Researchers to support with research data; Mapping & review existing but scattered policies/regulations.)
- Set up AP monitoring network across major cities in Ghana is key (Academia, researchers to collaborate with Regulators & local government). Scale up investments in AP management- joint funding search/project implementation
- Academia, researchers to complement source apportionment studies by EPA Ghana
- Institutional collaborations (regulatory, research, academia etc.) to conduct extensive epidemiological studies
- Researchers/academia to Synchronise use of AQM equipment, calibrate with regulatory sensors to eliminate bias and differential reporting (Co-location of sensors)
- Academic support to analyse the AQ data and make meanings from them for policy formulation
- Enhance communication on AP. Academia/researchers to publish and share publications with regulators & Local Government
- Academia/researchers to Train students on AQM using EPA Regulatory grade equipment etc. conduct modelling , periodic health and economic impact studies

Promote multi-sectoral national engagement >>

- Air quality (AQM policy) & National Action Plan for SCLP mitigation
- Climate change (NDC revision & incorporation into National Plan)
- National medium-term development plan (Agenda for job/AQ managers)
- National health policy
- Local government (National AQM + Climate Action Plan)

Clean Air better for our well-being

Join hands to reduce AP/emissions

Thank you!

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