



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

National Air Quality Management Research, Development and Evidence Strategy

11th Annual Air Quality Governance Lekgotla

Emnotweni Arena and Conference Centre, Nelspruit, Mpumalanga,

DEA-NACA Workshop, Wednesday 5 October 2016

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Presentation Outline

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- Strategy Objectives
- Scope of Strategy
 - Theme 1: Air pollutant chemistry – implications on source management
 - Theme 2: Emissions Management – how can we effectively manage our emissions?
 - Theme 3: Exposure assessment – are we really measuring what we're breathing?
 - Theme 4: AQ Management Tools
 - Theme 5: AQA Implementation and Linkages with Other Sectors
- Other Strategy Components
- Way Forward



Overall Development

- Part of DEA Environmental Sector Research, Development and Evidence Framework, thematic strategy area: **Air Quality (AQ)**
 - A national imperative to work on Evidence Based Policy
 - A platform for policy makers and scientist to engage



Project Approach and Progress

- Internal DEA discussions on scope
- First multi-stakeholder workshop 12 August 2016
- Draft presentation on Strategy shared with stakeholders for input
- Comments received
- Today presenting the revised draft scope
- Solicit one last round of comments



National AQM R,D&E Strategy: Objectives

1. Provide support for effective development and implementation of air quality management policies by:

- Identifying fundamental policy problems in AQM that require research.
- Formulating practical research questions that directly inform the fundamental policy questions.
- Supporting and facilitating research activities that will underpin policies and management actions to minimise the human health impacts of air pollution.
- Facilitating policy alignment around important changes in scientific thoughts, e.g. highlighting to policymakers emerging issues prospectively

National AQM R, D&E Strategy: Objectives

2. Develop an integrated air quality research implementation plan that will:

- Drive and oversee research in air quality management nationally to benefit policymaking.
- Support integration and cooperation in AQ research between South African institutes across e.g., academics, research institutes or trans-disciplinary fields.
- Promote capacity building through research activities so as to enhance AQ management in the country.
- Identify emerging issues and provide guidance for proactive policies making.



National AQM R,D&E Strategy: Objectives

3. Develop an effective communication plan that will:

- Facilitate linkages between scientists and AQM policymakers, e.g. through seminars and think tanks on new findings or contentious issues.
- Ensure evidence (completed research) is available and understood by policymakers – SAAQIS
- Translate scientific research, which would mostly be highly technical for non-specialist policy-makers, into familiar and narrative language for policymakers and society.
- Make researchers become familiar with relevant policy needs so that they would ask appropriate research questions.



Scope of Research Strategy

- Address impacts of air pollution in the country by improving regulators' ability to:-
 - Understand the major sources and health effects of air pollutants; and
 - Manage air pollution, particularly in the metropolitans and air quality priority areas.
 - Be readily used nationally by decision-makers for the development of air quality policies and management actions
 - Be applicable nationally with focus the national air quality priority areas
 - Have a strong public good focus



Theme 1: Air pollutant chemistry – implications on source management

- i. Knowledge (sources, strength, trends) of ozone precursors and atmospheric chemistry in South Africa
- ii. Ozone production and implications on human health, agricultural etc.,
- iii. Composition and structural studies of the primary and secondary aerosol component of PM2.5.
- iv. Identification and quantification of secondary aerosol (SA) – management of precursors.
- v. Air pollutant pathways – wet and dry deposition...



Theme 2: Emissions Management – how can we effectively manage our emissions?

- i. What is the criteria pollutants emission profile of South Africa emissions?
- ii. What are the historical and projected trends of emissions in the country?
- iii. What are the spatial/temporal impacts of emissions on ambient concentrations/deposition?
- iv. How can we effectively manage/reduce atmospheric emissions?
- v. How can the country establish and implement integrated emissions estimation approaches that transcends methodologies and political boundaries (remote sensing, terrestrial observations, etc.)



Theme 2: Emissions Management – how can we effectively manage our emissions?

- vi. How are the synergies between the projected carbon pathways towards low carbon economy and criteria pollutants emissions trends? What will be trade-off/co-benefits?
- vii. What are the trade-offs/co-benefits of low-carbon transition to air quality management? What should the country be prioritising?
- viii. Are the emission factors used in the NAEIS appropriate for South Africa? If not, what critical sectors require country specific emission factors to reduce emission estimation uncertainty?



Theme 3: Exposure assessment – are we really measuring what we're breathing?

- i. Are we really measuring what we are breathing?
- ii. What other pollutants should be considered as criteria pollutants?
- iii. What policies are required to manage these pollutants?
- iv. Are we using the appropriate study designs for health risk assessment?
- v. Air quality and climate change – what are the implications on ambient air quality?



Theme 4: AQ Management Tools

- i. Do we have the **sufficient** tools (**systems, regulations, governance**) to assist in the development/implementation of air quality management strategies?
- ii. How effective are the tools in place?
- iii. Should regulators be considering Integrated AQ Management tools?
- iv. Human capital development??
- v.



Theme 5: AQA Implementation and Linkages with Other Sectors

- i. Has the AQA been/going to be a good invest for South Africa?
 - a) Protection of public, work health and the environment?
 - b) Spurred clear technological innovations?
 - c) Economic benefits – e.g., technological investments by industry, creating jobs?
- ii. What other policy matters are requiring research?



Other Components of the Strategy

- Air Quality Research Implementation Plan
 - Funding Opportunities for AQ Research
 - Roles and Responsibilities
 - Monitoring and Evaluation
- Support for Interpretation and Policy Making
- Knowledge Brokering: Communicating Evidence
- Institutional Governance



Way Forward

- Engage with all stakeholders on the draft Strategy – today
- DEA will incorporate today's comments to draft strategy
- Use this meeting to flesh the detail needed to complete the strategy
- After workshop DEA will finalize the Strategy in consultation with authorities
- Strategy will be published early 2017



Thank you!

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