

THE 2012 NATIONAL FRAMEWORK FOR AIR QUALITY MANAGEMENT IN THE REPUBLIC OF SOUTH AFRICA

Province	Metro / District Municipality	Local Municipality	Initial Air Quality Rating	Number of Government-Owned Air Quality Monitoring Stations	National Ambient Air Quality Passive Sampling Campaign
Western Cape	City of Cape Town Metro	n/a	Poor	12	None
	West Coast DM	Saldanha Bay	Poor	0	None
	Cape Winelands DM	Drakenstein	Potentially Poor	0	None
		Stellenbosch	Potentially Poor	0	None
	Eden DM	Mossel Bay	Potentially Poor	0	None
		George	Potentially Poor	1	None

The national department, based on available information, reasonably believes that: (i) municipalities that are rated as Potentially Poor in Table 18 may be Class 3 or 4 Air Quality Areas (see 5.4.3.2, page 58); and (ii) municipalities that are rated as Poor in Table 18 may be Class 4 or 5 Air Quality Areas.

Given the above, municipalities that are listed in Table 18 will be prioritised for support in terms air quality management.

5.4 Strategy development

5.4.1 Introduction

This section of the National Framework provides details on the mechanisms and norms and standards to address the air quality issues that have been identified and prioritised in the previous section. The various sections that follow, namely Awareness-raising, Standard Setting, Regulations and Air Quality Management Planning are directly aligned with the stages of the governance cycle (Figure 1).

5.4.2 Awareness-raising

The AQA does not provide specifically for awareness-raising activities, however, awareness-raising is one of the strategies identified in the air quality governance cycle depicted in Figure 1 aimed at addressing air pollution problems. In contrast to the formulation of policy and legislation, and the setting of norms and standards, awareness-raising aims to bring about positive changes in air quality by voluntary rather than forced means. Improvements in public knowledge through environmental education, sharing of knowledge and experience, and access to information, can lead to voluntary changes that are often more sustainable than forced changes initiated by legislation.

Awareness-raising is directly linked to two of the cross-cutting issues in the National Framework, namely capacity development (See Paragraph 5.9.2) and information dissemination (See Paragraph 5.9.3). By raising awareness, community well-being and empowerment is promoted and a contribution is made to capacity development. It is important to recognise the value and potential of well-informed and committed citizens for effecting positive change in air quality. Meaningful public involvement in air quality management issues will be strongly encouraged (See Paragraph 5.9.1). Access to information is a key factor in raising awareness and increasing the knowledge of the public (See Paragraph 5.2.1).

Strategies to raise awareness will emphasise the adverse impacts of air pollution, climate change and ozone layer protection, human health and the environment; and the benefits of clean air. All spheres of government have a responsibility to raise awareness around air quality issues amongst the public, the private sector and their own departments. Strategies to raise awareness include, among others the following:

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- Media campaigns in the press, on radio, television, bill boards, etc.;
- Public seminars and workshops;
- Distribution of information material
- Effective education programmes developed for primary and secondary schools taking into account the local context;
- The organisation of clean air events to coincide with recognised events such as World Environment Day; and
- Maintenance of an informative and up-to-date website.

5.4.3 Standard setting

The AQA provides for the setting of standards for:

- Ambient air quality;
- Listed activities;
- Controlled emitters, and
- Controlled fuels.

The setting of these standards shall follow problem identification and prioritisation process. Depending on the nature of the standard, the process followed in establishing the standards must consider various factors such as, but not limited to:

- The health, safety and environmental protection objectives;
- Analytical methodology;
- Technical feasibility;
- Monitoring capability; and
- Socio-economic consequences.

5.4.3.1 The generic standard setting process

The process of developing standards (for ambient air quality, emitted air pollutants by listed activities, controlled emitters and controlled fuels) in terms of AQA is summarised in Figure 5 below.

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Director-General to assist it with the preparation of by-laws on matters affecting the environment and the Director-General may not unreasonably refuse such a request.

The AQA brings the system of air pollution control in line with the constitutional allocation of functions between the national, provincial and local spheres of government. It is within this constitutional approach and cooperative governance that the department has developed model air pollution control by-laws on the 2nd of July 2010 (Gazette No. 3342; Notice 579). The by-laws were published under AQA and may be adapted and adopted by municipalities. The objective of the model air pollution control by-laws is to ensure uniformity across the country on air quality management and not to impose the model bylaw on municipalities. The uniformity in air quality management will nonetheless assist government in implementing and enforcing air quality management plans and achieving acceptable ambient air quality.

One of the purposes, as set out in section 46(4)(a) of the NEMA, is to mitigate adverse environmental impacts. The model by-laws include measures for environmental management, including the following –

- auditing, monitoring and ensuring compliance; and
- reporting requirements and the furnishing of information.

5.9 Cross-cutting principles

5.9.1 Public Participation

5.9.1.1 *The importance of public participation in air quality decision-making*

Government plays a crucial role in achieving and maintaining clean air in South Africa, but it cannot reach this goal alone. Active participation and contributions from individual citizens and citizen groups is of utmost importance in developing, implementing and enforcing air quality management decisions within the context of the AQA. The potential benefits of public participation are numerous. If well-planned and managed, public participation can bring new and important knowledge to the table, mediate between conflicting perspectives early in the process and facilitate more efficient air quality governance. Equally important, public participation in air quality management plays a vital role in strengthening and deepening democracy in South Africa and in giving effect to the constitutional right to an environment which is conducive to health and well-being.

Section 4(2) of the NEMA, which is the overarching environmental law in South Africa embodies a number of principles aimed at ensuring effective and equitable public participation. These principles were listed in Paragraph 1.4 of this document.

5.9.1.2 *Promoting best practices for effective and equitable public participation*

When designing and implementing air quality decision-processes, all three spheres of government in South Africa must strive to apply best practices of engaging with stakeholder groups and citizens, with the goal of reaping the full benefits of public participation. Although the AQA prescribes a standard approach to participation in its Sections 56 and 57, experience suggests that implementing the following measures and principles will significantly contribute towards ensuring effective and equitable participation, as called for in the NEMA. However, experience has also shown that a “one-size-fits-all” approach to public participation is not always effective or efficient and, as such, a flexible and innovative approach to participation must be considered.

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5.9.1.3 Establishment of a national air quality reference group

In order to design and implement participation processes that are both efficient and effective, the national department may establish a representative national reference group or advisory committee (see Figure 11) as and when required. The committee may comprise of representatives from industry, business and civil society, to provide strategic guidance to the National AQO on important aspects of air quality management, especially with respect to participatory processes.

The objective of national air quality reference group will be to:

- Inform the National Air Quality Officer of the views of stakeholders regarding the implementation of the AQA and the National Framework;
- Advise the National Air Quality Officer on any matter concerning air quality management and governance and specifically the setting and achievement of objectives and priorities for air quality governance;
- Advise the National Air Quality Officer on appropriate participatory processes related to the implementation of the AQA and the National Framework; and
- Advise the National Air Quality Officer on appropriate methods of monitoring progress in respect to the implementation of the AQA and the National Framework.

The national air quality reference group will consist of at least 12 but not more than 15 members appointed by the National Air Quality Officer. Membership of the group should be made up of persons who represent stakeholders, and persons who have experience, expertise or skills necessary to enable the group to carry out its functions. To this end, the National Air Quality Officer will invite nominations for membership of the national air quality reference group from interested and affected business and industry associations, non-governmental organisations, organised labour and community groups.

In response to the invitation, stakeholders should submit nominations and a justification for membership of the national air quality reference group to the Director-General: Department of Environmental Affairs.

It is envisaged that this group will meet four times a year, in regular meetings aligned with the quarterly meetings of the National-Provincial AQO forum (see 4.4.4). During these meetings, the national AQO will provide the reference group with an update on progress in respect of the implementation of the National Framework and other air quality related initiatives. In turn, the reference group will assist the National AQO in designing required participatory processes that take, at least, the following into account.

Provision of up-to-date information on project activities

To keep stakeholders informed about on-going and planned air quality management projects and decision-processes (and related public participation opportunities), all three spheres of government must make relevant information available in a timely manner through, for example, dedicated air quality management websites and other suitable means, such as actively notifying known stakeholders (See information dissemination in Paragraph 5.9.3, page 90). At the national level, the DEA will publish a monthly newsletter, the *National Air Quality Office News*, providing a regular overview of on-going and planned air quality related projects, decision-processes and other initiatives. In addition to websites and newsletters, other media will be considered to reach communities (See Paragraph 5.4.2).

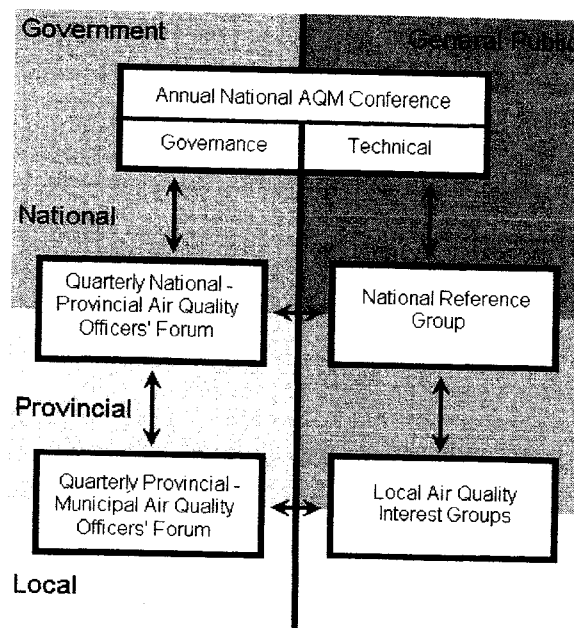


Figure 11: Vertical air quality governance interrelationships

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Effective announcement of public participation opportunities

Public participation opportunities for air quality decision-processes referred to in the AQA must be publicised on the national department websites and in other appropriate media and notifications sent electronically to stakeholders directly using up-to-date databases and electronic mailing lists. Special efforts will be made to ensure that vulnerable and affected communities are informed about relevant decision-processes. Information on the stage in the decision-process at which public participation is planned and the type of public participation activities envisaged will assist stakeholders in planning their participation and assigning necessary time and resources. It will also allow stakeholders to suggest possible adjustments to the envisaged public participation process early in the decision-process.

Ensuring early and balanced participation

Public participation must take place early in the process, when key options are still open. This will ensure that all perspectives are captured and can be properly assessed at the outset. It will also ensure that all stakeholder groups have equal opportunities to convey their views. For major decision-processes, consideration must be given to the organisation of stakeholder workshops and other participatory tools that facilitate in-depth interaction and deliberation at early stages, and which promote face-to-face dialogue.

Responding to stakeholder contributions

Providing feedback and acknowledging written contributions from stakeholders is considered essential to participatory processes and will strengthen the relationship and build trust between government and the public. To address related stakeholder expectations in a practical manner, government must prepare concise response documents that explain the rationale for final decisions or outcomes. Government must also provide explanation on why important comments may not have been addressed. The response document must be made available to the public on request.

Addressing the needs of vulnerable groups

Vulnerable groups and communities have specific needs in order to effectively participate in air quality decision-making. Capacity constraints include lack of technical and human resources as well as lack of financial resources to attend meetings. Government must take cognisance of these constraints when organising meeting locations and times and when setting timelines for public comment.

Professional and skilled process management

Ensuring that public participation processes are managed in a professional manner will enhance the quality of engagement and strengthen the relationship of government with stakeholders. Relevant measures include, for example, neutral facilitation of meetings, making meeting and workshop reports available in a timely manner, and keeping stakeholders informed concerning follow-up activities. The national department will engage, as appropriate, in capacity building activities aimed at strengthening the skills of officials in all spheres of government concerning effective management of stakeholder processes.

5.9.1.4 Issues relevant for specific air quality decision-processes

The AQA includes more than 20 sections authorising government to initiate subsidiary decision-processes. In addition, there are public participation requirements in other existing legislation, such as the Promotion of Access to Information Act, Promotion of Administrative Justice Act, the Public Audit Act and the Municipal Systems Act apply. Government is responsible for the implementation of public participation in development of air quality management tools including the standard setting process and air quality management planning (See Chapters 3 and 4 of this document). Participation in the emission licensing process falls under the responsibility of the applicant (See Paragraph 5.5.2 of this document).

5.9.1.5 Raising awareness and engaging the public in air quality decision-processes

Progress towards achieving the goal of clean air in South Africa requires raising awareness and the meaningful involvement of all citizens (See Paragraph 5.4.2 of this document on awareness-raising and Paragraph 5.9.2 of this document on capacity development).

5.9.2 Capacity development***5.9.2.1 Introduction***

Capacity development is a cross-cutting issue that underpins every element of the environmental governance cycle illustrated in Figure 1. Within the AQA, capacity development is not explicitly addressed, however, its consideration and

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inclusion is necessitated by the obligation for the fulfilment of the duties and responsibilities stipulated in the AQA and elaborated upon in Chapters 3 and 4 of this document.

The scarcity of skills in South Africa is a key constraint to service delivery within both government and the country at large. National government has recognised this through the passing of the Skills Development Act (Act No. 97 of 1998), which aims to provide an institutional framework to devise and implement strategies to develop and improve the skills of the South African workforce. The national department has taken up the challenge through the initiation of an internship programme and the development of an internship policy, and by addressing capacity development as an integral part of many of their projects.

Whilst the skills shortage applies generally in South Africa, the shortage is critical in the field of air quality. The limited pool of current air quality specialists, along with the paradigm shift in approach to air quality management, justifies the need for urgent intervention. A multi-pronged approach to capacity development is needed, where tertiary level training at regional centres, complemented by in-service training, and other interventions are considered. In addition, there is the need for capacity development amongst the general public in order to ensure that civil society can fully contribute to the air quality management process in an effective manner. These latter aspects were addressed in Paragraph 5.4.2 of this document.

5.9.2.2 Definition of capacity building

Although capacity development is often seen as simply the provision of extra financial or staff resources, or the provision of extra skills through training and education, capacity development must be seen as the attempt to build an organisation's capacity to fulfil its role efficiently and effectively. The section below therefore describes a diverse range of strategies that can be implemented to allow effective and appropriate air quality work to be carried out at all levels of governance.

5.9.2.3 Strategies for capacity building

Strategies of capacity development can be distinguished based on the proposed outcomes and the approach of stakeholders to the project. They are categorised as follows:

- Applying additional financial and physical resources - addressing a simple lack of resources within a well-managed organisation to stimulate growth;
- Improving the organisational and technical capabilities - addressing lack of technique and proper structure through activities such as technical assistance, training, systems improvement and better working conditions;
- Helping to settle on a clear strategic direction - addressing lack of consistent direction, overextending, inappropriate objectives or lack of political consensus on organisational purpose through inducing policy dialogue for action and capacity development;
- Protecting innovation and providing opportunities for experimentation and learning - addresses lack of a protected learning space through development of social capital and creation of opportunities to experiment and learn;
- Strengthening the bigger organisational system - addresses systemic capacity through emphasising the development of interrelationships and resolving public policy issues collectively – public-private partnerships;
- Helping to shape an enabling environment - addresses the lack of an enabling environment through creating protected pockets of capacity development or trying to improve institutions and broader social and political patterns;
- Creating more performance incentives and pressures - addresses structural incentives that lead to poor performance by redesigning organisations and improving the overall approach to governance and democratisation.

By identifying the type of strategy to be pursued based on the desired outcomes as well as informed by the current context of capacity, the most appropriate path of capacity development can be followed. This allows the outcomes of the programme or project to fulfil the need identified prior to implementation.

Implicit in the list of strategies outlined above, is recognition that capacity development is much more than training and awareness programmes for individuals. It is also about organisational, management, financial and technical systems and procedures. Having noted this broad definition, proposed interventions for improving technical capacity in the field of air quality management are presented in the next section.

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5.9.2.4 Technical capacity development

A variety of interventions is needed to address the skills shortage in air quality management. All are relevant, with some addressing longer term needs, others the immediate needs and others the need for an informed public.

Tertiary level qualifications

Tertiary level programmes present a long term planning measure aimed at securing future capacity in the field of air quality management. They provide an opportunity to enhance research in the field and to add to the national body of knowledge on air quality management. These inputs are necessary to guide the implementation of the AQA into the future.

There is a need to strengthen tertiary institution offerings in the air quality field. There are few national specialists in air quality and they are scattered across a handful of institutions around the country. A coordinated approach to offering a post-graduate qualification (NQF level 7 and/or 8 i.e. the equivalent of Honours and/or Masters degrees), which could be jointly offered at one or more institutions is recommended.

Internships

Internships provide a means to invest in young people and to provide them with relevant experience that will enable them to function effectively in the work place in the future. These programmes are targeted at providing on-the-job training under the guidance of a mentor and they provide a useful bridge between formal tertiary level training and employment. Internships also provide a means to directly transfer the expertise of people with long-standing professional experience to those with only a practical or theoretical training.

In-service short courses

Short courses provide a means of addressing current capacity needs and targeting particular people and skills that are most urgently needed for intervention. Short training courses, generally ranging from one to five days, are the fundamental aspect of capacity development for those who are already in employment. They provide a means for building on existing skills, refreshing or updating skills, for imparting specialist knowledge, and importantly they directly enhance the internal capacity in an organisation. In many cases single day courses can provide sufficient steerage in the process for AQOs to learn about key issues and follow up any specific issues relating to their own local issues through the means of a helpdesk facility (see below).

The most urgent need is for capacity development amongst government officials at all levels tasked with implementing the AQA. To this end, the national department will consider the development of a suite of air quality modules which could be South African Qualifications Authority (SAQA) accredited at NQF level 7 and delivered to relevant government officials in all spheres of government. In this regard, the use of e-learning through the SAAQIS (see Paragraph 5.2.1.10 of this document) will be investigated to provide broad access to the short courses.

A modular structure is proposed, with modules falling into one of the following categories:

- Bridging training module – a single module on air quality science designed to impart basic knowledge to an employee with no previous formal air quality courses;
- Basic training modules – a suite of modules designed to provide basic detail on all aspects of air quality management – both the scientific aspects and also the policy context;
- Specialist training modules – a suite of modules designed to provide advanced training in selected topics;
- Refresher training module/s – a module designed to provide scientific and technological updates on air quality science.

Partnerships

Bilateral partnerships (e.g. municipality-municipality and province-province) are an excellent means of promoting the replication of best practices and lessons learned, and allowing smaller, less capacitated provinces and municipalities to benefit from the experiences of their stronger counterparts. Pilot projects will be initiated by the national AQO and each of the provincial AQOs.

Forums

Quarterly provincial forums between province and municipalities as outlined in Paragraph 4.4.5 of this document must be used as a capacity development platform for provincial and municipal officials. Such forums can promote the sharing of experiences, the dissemination of ideas and the replication of best practice. These forums are important both in building

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a sense of 'community' within the air quality profession, as well as playing a key role in the feeding of information on the effectiveness of the air quality management process upwards from municipal to national levels.

Public awareness campaigns

Capacity development is not confined to individuals working in the air quality field. There will also be awareness-raising amongst the general public using the approaches outlined in Paragraph 5.4.2 of this document. An informed and knowledgeable civil society leads to better decision-making.

Guidance

One of the key strategies for approaching the issue of capacity development is not to rely on there being a dispersed number of individual expert AQOs all trained to carry out their roles independently. Effective use of resources requires that specialist AQOs are used where they are needed most, where there are numerous pollution sources – or other issues leading to poor air quality. Where expert AQOs are not needed, all that is required is sufficient capacity to be able to ensure that good air quality is maintained.

One way to ensure that non-specialist AQOs are capable of making this judgement is by setting out clear and detailed guidance as to how initial screening and scoping analyses should be carried out. When these studies indicate the likelihood of a significant threat to good air quality, the municipal government will then be able to decide the most appropriate means to approach the problem (for example seeking new skilled officers or training up existing staff).

This guidance can also be used to outline key technical aspects of more advanced analyses; however, the basic role is to ensure that initial assessment of local air quality issues is carried out in a reliable and consistent manner which does not necessarily rely on the technical expertise of the officer responsible. By ensuring that this guidance is clear and prescriptive, it can also play an important role in developing the basic skills of untrained AQOs.

Helpdesk

In addition to any formal, printed guidance notes on aspects of air quality governance, the national department wishes to establish a helpdesk facility. The helpdesk, once available, will provide a means by which AQOs at the provincial and municipal spheres can seek expert advice and information relating to the implementation of the AQA from the national department and from the national department approved advisers. Air quality managers should be able to access the helpdesk by telephone and through e-mail.

National AQO communiqués

Based on frequently asked questions in the various intergovernmental air quality governance forums (see Paragraph 4.4 of this document), the National AQO will continue to compile various discussion, briefing and guidance documents aimed at providing guidance on air quality governance issues. The documents are circulated to all government air quality managers.

Table 25: Capacity development implementation targets

Key milestones	Target date
Capacity development programme developed and phases outlined	2013/2014
Progress on capacity development reported in the NAQO report	Annual

5.9.3 Information dissemination

All aspects of implementing the National Framework require the dissemination of information. The main instrument of dissemination of information will be through the SAAQIS. However, the SAAQIS has limitations in this regard in that it does not necessarily provide access to all stakeholders, especially those that do not have the necessary technology or prior exposure to air pollution information. This means that a strategy for reaching these parts of the population must be developed and tools other than the SAAQIS are needed.

The dissemination of information will raise awareness in the population and this awareness will greatly support the achievement of compliance with air quality standards. Dissemination of information is a skill and experts may be employed to inform and/or drive this process. At the same time, on-going public participation processes will identify the best ways of effectively communicating with all stakeholder groups of the population (see also Paragraph 5.9.1.3 of this document). The following approaches to disseminating air quality information will be considered, amongst others:

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- Newspaper articles;
- Booklets/Pamphlets /brochures/leaflets;
- Posters on air pollution in central places such as schools and hospitals;
- Radio, national and local;
- TV;
- Public meetings;
- Bill boards; or
- Website.

Key information will, where appropriate, be made available in more than one South African official language. The dissemination of information can be done through different stakeholders. Possible routes for dissemination may include:

- The formal schooling system;
- Programmes targeting women;
- Programmes targeting health professionals;
- Programmes targeting political bodies and parties;
- Programmes targeting religious organisations;
- Programmes targeting industry; or
- Programmes targeting NGOs.

To be able to conduct successful awareness-raising, information is required at the appropriate technical level and teachers (or facilitators) need to be trained in the subject matter. The SAAQIS will have a dedicated facility for educational and awareness-raising material so that it is readily available for course presentations and awareness-raising campaigns. Based on this, material and courses can be accessed, printed and copied and made available.

5.9.4 National Air Quality Officer's (NAQO) Report

The National Air Quality Officer will report on an annual basis on the progress relating to the implementation of the National Framework (see also Paragraph 5.2.3.3 of this document). The reports will be issued annually and will be based on the previous year's assessment indicators but will also allow the reporting of additional information relating to the implementation of the National Framework. The draft report will be presented by the National Air Quality Officer during the Annual Air Quality Governance Lekgotla, with the final report published by March each year.

This report will include:

- Progress with respect to implementation of the National Framework;
- A list of priority issues collated by air quality officers at a national, provincial and regional level;
- An identification of recommendations that are required to improve the indicator output;
- Recommendations for the development of new indicators or the amendment of existing indicators;
- A commentary by the national department on the recommendations and proposals, and taking appropriate action on these recommendations over the subsequent 12 months.

Table 26: The National Air Quality Officer's Annual Report related implementation targets

Key milestones	Target date
Publication of the National Air Quality Officer's Annual Report	Annually from 2007/8