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Air Quality Management Plan for the City of Cape Town

Acknowledgements

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Printed by: Wilfred Jewell

Print Funding: DEAT &

Final Report

Air Quality Management Plan for the City of Cape Town

Report AQM 20050823 - 001
23 August 2005

Purpose of the Air Quality Management Plan

The purpose of this plan is to ensure that clean air is achieved and maintained in the City over the next 10 to 20 years. It contains the vision, mission, objectives, strategies and actions needed to achieve this.

EXECUTIVE SUMMARY

Background

The Health Department of the City of Cape Town, with the co-operation and assistance of its Environmental and Scientific Services divisions, has formulated an Air Quality Management Plan (AQMP) for the City of Cape Town.

The draft Air Quality Management Plan and subsequent public participation process earlier this year served as a framework for developing a year one Air Quality Management Plan for the City of Cape Town.

The City would like to take this opportunity to thank all interested and affected parties and organisations that have taken part in the process and who have offered comments.

Based on the comments received, the City has compiled a final 'Air Quality Management Plan for the City of Cape Town' containing 11 main objectives to meet its commitment 'To be the city with the cleanest air in Africa'.

The objectives are further broken down into strategies and action plans in order to meet this commitment. This will be achieved by the formation of a number of multidisciplinary committees with role players from within, as well as outside Council.

The City of Cape Town has compiled a detailed Situation Assessment of Air Quality, which identifies the priority pollutants, sources, impact areas of air pollution, as well as current and possible future approaches to air quality management.

The Situation Assessment must be used as a reference document and be read in conjunction with the plan at all times.

Vision, mission and objectives

The City's vision:

To be the city with the cleanest air in Africa

and mission:

To reduce the health effects of poor air quality on the citizens of Cape Town especially during 'brown haze' episodes

will be achieved through its objectives:

1. To formulate an air quality management system for the City of Cape Town
2. To specify ambient air quality standards and targets for Cape Town
3. To monitor priority pollutants which cause brown haze and affect human health
4. To improve air quality in informal areas
5. To enforce current and future legislation for air quality management
6. To compile a comprehensive emissions inventory database for the City of Cape Town
7. To control vehicle emissions in the City
8. To consider air quality in land use and transport planning
9. To determine the detrimental health effects of poor air quality on the population of the City of Cape Town
10. To establish a comprehensive education and communication strategy for air quality management
11. To periodically review the air pollution situation, report on progress and adjust and update strategies and objectives where needed

The way forward

The setting up of the specialist and multidisciplinary task teams will form a key component in the implementation of this plan.
These task teams will consist of officials from the local, provincial and national spheres of government as well as representatives from academic institutions, NGOs and industry.
The unpacking of each of these strategies and actions will require a significant amount of work in the future and can only be accomplished through the process of co-operative governance and stakeholder buy-in.

Contents

'Brown Haze' - a common sight as we look across the
Cape Flats to the mountains that border our City

Foreword by Cllr Nomsa Mlanjeni: Mayoral Committee Member for Health, Amenities and Sport

The City of Cape Town is focusing its resources on the alleviation of poverty and the sustainable delivery of services to the poorest communities of the City. These priorities are reflected in our Integrated Development Plan (IDP), which provides the vision for a better life with firm goals for achieving a healthier, more liveable city.
The IDP highlights that urban growth, in particular the growth of poorly serviced informal settlement areas, is associated with deterioration in air and water quality.

Air pollution is a key factor that affects the health of a city. In Cape Town, we have become accustomed to the southeaster, which, we may wrongly believe, rids the City of its air pollution. Air pollution levels are frequently high in our informal areas and even inside shacks. Therefore children, women and the elderly are exposed to dangerous levels of air pollution.
In winter regular episodes of the so-called 'brown haze' are a common sight as we look across the Cape Flats to the mountains that border our City.

These episodes and levels of air pollution represent a major health risk to our citizens and portray Cape Town in a negative way to visitors, tourists and residents alike. As the custodians of our City and its people, the City of Cape Town has a responsibility to address the causes of air pollution and to eliminate the risks to the health of our people. This brochure presents the first milestone in our efforts to challenge the causes of air pollution and to minimise its effects.

The City is committed to developing and implementing an Air Quality Management Plan, which will form part of our IDP. By identifying and addressing the causes of air pollution, we will be making Cape Town a better place to live for everyone. This process is in line with our constitutional responsibilities as Local Government and, perhaps more importantly, with the perception of residents that air pollution is one of the key environmental challenges faced by Cape Town.

I have made it my mission to champion this plan through the committees and various structures of the City, as well as through a process of consultation with our stakeholders and citizens. Your contribution and participation in this process will provide a cornerstone, ensuring that we can implement changes and work together to reduce pollution.

I ask each citizen of Cape Town to join us in this challenge to address air pollution. Everyone has a role to play and each of us can contribute to making Cape Town **the city with the cleanest air in Africa**.

An example of a scheduled industry, currently regulated at a national level, which, in the future, would become the responsibility of the City

Introduction by the Director: City Health, Dr Ivan Toms

An Air Quality Management Plan is an internationally recognised tool for the management of air quality in order to protect human health and the environment. Special attention must be given to alleviating the poor air quality being experienced in some informal settlement areas.

The National Environmental Management: Air Quality Management Act will add new responsibilities to the City as regards controlling air pollution. For example, scheduled industries, currently regulated at a national level, would in future become the responsibility of the City. This, together with existing regulation of emissions and licensing listed processes, must form part of the Air Quality Management Plan.

The Integrated Metropolitan Environmental Policy (IMEP) put in place by the City of Cape Town during 2000 provides the impetus and broader framework for the development and implementation of an Air Quality Management Plan. Air pollution was identified by public and stakeholder participation as a priority for the implementation of the IMEP.

This Air Quality Management Plan presents one of the first tangible steps by the City in the process to prepare an Air Quality Management Plan. We thank you for your active participation input and for identifying priority issues.

The mission of the Air Quality Management Plan is to reduce the incidence of brown haze over the City and to protect human health. We are all part of producing this haze, be it by operating an industry, driving a vehicle or making a fire at home.

An effective approach to meeting community expectations in relation to air quality requires a comprehensive and integrated response that addresses all sources of air pollution. This may mean that we, as a community and as individuals, will be required to do things differently in the future, if we wish to have better air quality.

Decisions that the City and the community make today will impact not only on air quality now but also in the future. It is critical, therefore, that we act responsibly and in a manner which does not close off options and opportunities for future generations.

Visible pollutant levels

1. The air pollution situation in Cape Town

Cape Town is able to disperse a lot of air pollution due to the cleansing effects of the southeaster or 'Cape doctor'. Nevertheless, the City experiences pollution levels that cause visible pollution - the 'brown haze' - as well as high levels of other pollutants that are known to affect human and ecological health. In 2003 the air quality monitoring stations recorded 162 days of poor air quality when the levels exceeded international accepted guidelines.

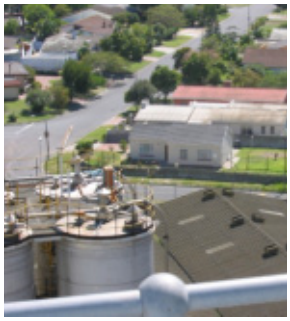
The City of Cape Town has compiled a detailed Situation Assessment of Air Quality that identifies the priority pollutants, sources, impact areas of air pollution, as well as current and possible future approaches to air quality management. The Situation Assessment has been incorporated into this Air Quality Management Plan and the full technical report is available on request from the Air Pollution Control section.

Monitoring data show that air pollution 'hot spot' areas of Cape Town include:

- Household fuel burning areas, particularly informal settlements such as Khayelitsha, due to high particulate concentrations associated with fuel burning

- The Central Business District and residential areas transacted by highways, on-ramps and main feeder roads

- Residential areas close to industrial areas such as Bellville South and Milnerton



- Residential areas close to Cape Town International Airport

Sustainable long-term improvements to air quality will require strict control of industrial pollution, vehicle improvements, cleaner fuels, integrated transport planning, better public transport, community education and participation by all stake holders. Moreover, the City needs partnerships with industry and the community to be successful in each of these spheres.

2. The City of Cape Town's approach to air quality management

Before developing an Air Quality Management Plan, the City and community of Cape Town need to clarify the vision for air quality, the mission for air quality management, and the policy principles that will underpin future actions.
The proposed vision, mission and policy principles for air quality management are described in this section.

2.1. The City's vision for air quality management

At the first stakeholders' workshop on an Air Quality Management Plan for the City, held in June 2004, the following draft vision was proposed.
This has now been accepted as a vision through the process of public participation:

> To be the city with the cleanest air in Africa

2.2. Mission statement

> To reduce the adverse health effects of poor air quality on the citizens of Cape Town especially during 'brown haze' episodes

3. Background

Pollutants that have been noted to exceed human health guideline values and which will therefore be prioritised in terms of their potential to cause unwanted health and other impacts include:

- PM_{10} - suspended particles smaller than 10 microns in diameter, also called inhalable particulate matter
- sulphur dioxide
- nitrogen dioxide
- ozone
- hydrogen sulphide (odour threshold only)
- carbon monoxide
- Existing levels of air pollution have two main impacts:
  1. Poor visibility especially during the 'brown haze' episodes
  2. Health risks

The main cause of brown haze is small particles called PM_{10}, which are also known to cause a health risk if inhaled. Every year during the period from March to August Cape Town experiences episodes of pollution that are associated with calm atmospheric conditions and low-level inversions. These conditions give rise to a visible brown haze, which has been a cause for concern for many years.

The main aims of the Air Quality Management Plan will therefore be to reduce the incidence of brown haze over the City and minimise air pollution in order to protect health.

4. Policy principles for air quality management

The City of Cape Town's approach to air quality management is underpinned by a set of overarching principles. These principles are in line with the Constitution, the National Environmental Management Act, the National Integrated Waste Management Policy, and the City's own Integrated Metropolitan Environmental Policy. The principles contained in the National Environmental Management: Air Quality Management Act have also been taken into account.

4.1 Capacity-building and education

All people must have the opportunity to develop the understanding, skills and capacity for effective participation in achieving sustainable development and sustainable use of air as a resource.

4.2 Duty-of-care

Any person or institution that generates air pollution is accountable for the management of this pollution and should be penalised appropriately for any and every transgression committed.

4.3 Environmental justice

Government and the City must integrate environmental considerations, including air quality considerations, with social, political, economic justice, and development in addressing the needs and rights of all communities, sectors and individuals.

Integrated planning and environmental management provides the incentive for the integration of air quality issues into transportation and land use planning processes.

4.4 Polluter pays

The full cost associated with pollution (including monitoring, management, clean-up and supervision) should be met by the organisations or persons responsible for the source of the pollution.

4.5 Pollution prevention

Measures must continue to be taken to reduce emissions at sources (i.e. source-based controls).

4.6 Public participation

Public participation is necessary for the effective integration of the public's views into the Air Quality Management Plan development and impact assessment processes.

4.7 Public information and education programme

A vigorous programme of educating and informing the public, community and school pupils on each facet and strategy need to be implemented on a continuous basis throughout the formations implementation of the AQMP.

4.8 Cost-benefit analysis

Tools used and interventions implemented will be associated with cost-benefit techniques as outlined in the situation assessment for the City of Cape Town.

Note:

Cost-benefit analysis of emission reduction options comprises possibly the most complex task to be undertaken within air quality management depending on the approach adopted.
A comprehensive cost-benefit analysis would require that each option be evaluated in terms of:

- the potential for securing impact reductions, with cost savings arising due to such impact reductions requiring to be quantified
- financial costs, including capital and operating costs and its feasibility in terms of its social acceptability and desirability

Challenges faced in undertaking such analysis include the absence of local information regarding the costs associated with various impacts, such as hospitalisations and deaths. Local costs related to damages to buildings and agricultural crops, etc. would similarly need to be determined. (Uncertainties regarding the social acceptability and desirability of emission reduction alternatives could be overcome through listing such alternatives for public scrutiny as part of the AQMP development process.)

Alternative approaches to a comprehensive cost-benefit analysis should be considered for implementation. Such approaches include the ranking of emission reduction alternatives based on (listed in terms of increasing complexity)

- emission reductions (requires an emissions inventory to be in place)
- air quality concentration reductions (requires an emissions inventory and dispersion model), or
- health risk reductions (requires an emissions inventory, dispersion model and health risk assessment model)

5. The key objectives and areas for action that need to be addressed for air quality management in Cape Town

The main objectives for air quality management in Cape Town are listed below. Resulting from the process of public participation, 11 objectives have been identified which, if achieved, would assist in realising the vision and mission for air quality management.

They are:

1. To formulate an air quality management system for the City of Cape Town
2. To specify ambient air quality standards and targets for Cape Town
3. To monitor priority pollutants that cause brown haze and affect human health
4. To improve air quality in informal areas
5. To enforce current and future legislation for air quality management
6. To compile a comprehensive emissions inventory database for the City of Cape Town
7. To control vehicle emissions in the City

8. To consider air quality in land use and transport planning

9. To determine the detrimental health effects of poor air quality on the population of the City of Cape Town

10. To establish a comprehensive education and communication strategy for air quality management

11. To periodically review the air pollution situation, report on progress and adjust and update our strategies and objectives where needed

Each of these objectives is discussed below indicating key strategies and their associated proposed time frames for implementation.

Current	Current / Ongoing
short term	less than 1 year
medium term	1-5 years
long term	more than 5 years

Objective 1: To formulate an Air Quality Management System for the City of Cape Town

The Integrated Metropolitan Environmental Policy (IMEP), recommended that air quality management tools should be integrated as part of a comprehensive management system. The manner in which the various tools and methods required to support effective air quality management are integrated, is demonstrated in the diagram below.

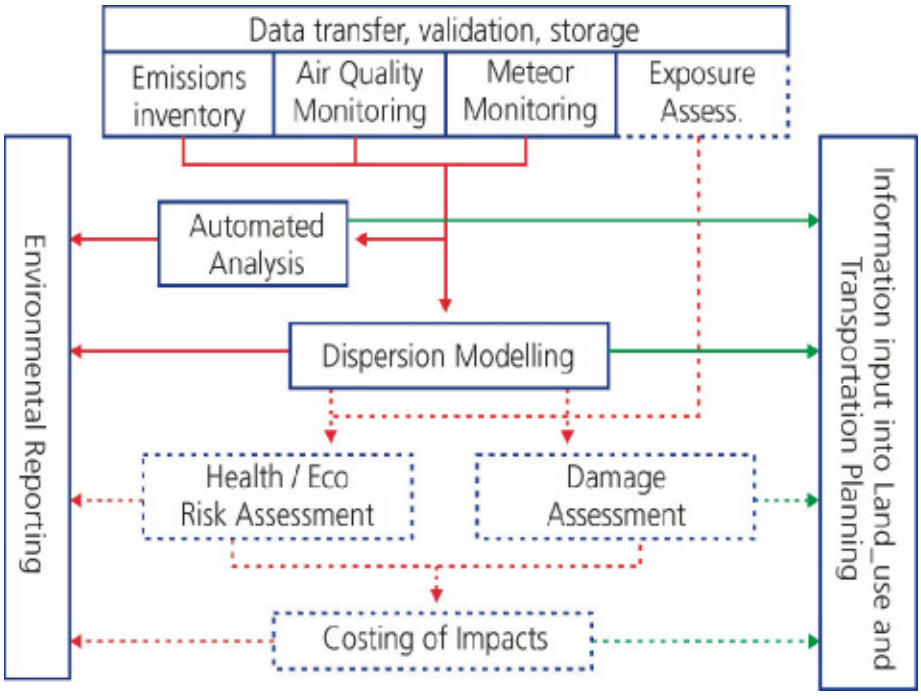


Figure: Air Quality Management System recommended for consideration by the CCT

A comprehensive Air Quality Management System needs to be implemented in support of its Air Quality Management Plan. The deliverables of a well-designed and effective Air Quality Management System as part of a comprehensive Air Quality Management Plan will include the following:

- Coherent, current and quality assured meteorology and air quality monitoring data sets, ready for application in dispersion modelling, health risk assessment, decision making and environmental planning, etc.
- A systematic framework for assembling diverse data streams required for effective air quality management (monitoring data, emissions inventory data, meteorological data, spatial development plans, traffic information)
- Linking of air pollution emissions to ambient air concentrations, and subsequently to human health and environmental risks
- Provision of a transparent, reproducible method for testing emission reduction strategies
-

Key strategies

Strategy	Term
1. Develop a Air Quality Management System for the City of Cape Town	medium
2. Identify the cross-cutting nature of this strategy and all of the other key objectives	short / medium

Action

The existing Air Quality Management Task Team to investigate and ensure the cross-cutting nature of the system with all the objectives detailed in the AQMP.

Objective 2: To specify ambient air quality standards and targets for Cape Town

Background

The overall goals of air quality management are to protect human health and the integrity of natural ecosystems. Short, medium and long-term targets for air pollution levels are needed to measure progress and track change, as well as to link the potential source of pollution to the 'users' of air downstream of the pollution source. Ambient air quality guideline levels indicate 'safe' daily exposure levels for the majority of the population, including the very young and very old, throughout their lifetime.

In order to link pollution levels and non-compliance episodes with the potential for human health risk, the City will be required to adopt or set international acceptable ambient air quality standards. However, at present there are no ambient air quality standards for South Africa. The Department of Environmental Affairs and Tourism have published a set of guidelines in terms

of the Atmospheric Pollution Prevention Act. The pending new national air quality legislation will require the setting of national ambient air quality standards as minimum standards for the country.

Standards South Africa, a division of the South African Bureau of Standards, published a South African National Standard Ambient Air Quality List for common pollutants. These standards are in line with international limits.

Key strategies

Strategy	Term
1. Implement National Ambient Air Quality standards once these are available	short / medium
2. Adopt SANS 1929:2004 and SANAS 69:2004 ambient air quality - limits for common pollutants as standards for the City of Cape Town in the absence of national standards	short
3. Identify appropriate short, medium and long-term targets for air quality in Cape Town	short / medium

Actions

1 Establish Air Quality Monitoring and Standards Working Group

2 Establish the terms of reference to implement the key strategies of this objective

Objective 3: To monitor priority pollutants which cause brown haze and affect human health

Background

Monitoring the quality of air we breathe is important to

- provide a scientific basis for control
- determine if air quality health standards are met
- provide the public with measurements of air quality

The table shows the monitoring stations that currently monitor the priority pollutants, as well as the areas where health guidelines for specific pollutants have been exceeded. Priority pollutants, for this purpose, are defined as the pollutants adopted by the Environmental

Protection Agency of the USA as criteria pollutants, until defined in South African legislation.

In addition to those pollutants that have a local impact, the reduction of greenhouse gas emissions has also been prioritised by the City of Cape Town. Cape Town's approach to global climate change can be seen in the draft Energy Strategy for the City. Important climate change gases include carbon dioxide, nitrous oxide and methane.

Pollutants measured to have exceeded guideline values at specific stations (gray shading indicates pollutant is monitored at the station; 'dot' indicates occurrences where guidelines were exceeded)

Station	PM_{10}	SO_2	NO_2	O_3	CO	H_2S
Athlone			●	●		
Bellville South	●	●				
Bothasig		●	●			●
City Centre	●		●	●	●	
Goodwood	●	●	●	●	●	
Khayelitsha	●					
Killarney	●	●	●			●
Table View	●	●	●			●

Key strategies

Strategy	Term
1. Identify and establish air quality guidelines and measure air pollution against the established guidelines	current
2. Maintain the existing monitoring network in the City	current
3. Investigate and set up monitoringstrategies for the measurement of other pollutants of concern that are not currently monitored (e.g. total Volatile Organic Compounds (VOCs) benzene, $PM_{2.5}$)	medium
4. Evaluate and report daily on air quality, as well as in the annual Statement of Environment report for the City	current
5. To accredit the air quality monitoring network accordance in terms of ISO 17025	short / medium
6. Expand the monitoring capabilities across the city	long term

Actions

1. Continue to monitor air quality at the established monitoring sites and evaluate the data against current air quality guidelines as detailed in the State of Environment Report of the City of Cape Town.

2. Air Quality Monitoring and Standards Working Group to develop the terms of reference to implement strategies 3 to 6 of this objective.

Objective 4: To improve air quality in informal areas

Background

Monitoring has identified that poor air quality in informal settlements such as Khayelitsha is more severe than elsewhere in the City. This poor air quality represents a health risk. The proposed Khayelitsha Air Pollution Strategy will be one of the pilot implementation projects for Cape Town's Air Quality Management Plan to reduce air pollution and minimise health risks in similar informal settlements throughout the City. Experience gained in the City would also be relevant to other local authorities and disadvantaged communities. The City is presently in the process of securing support from the Poverty Alleviation programme of the Department of Environmental Affairs and Tourism to commence with the Khayelitsha Air Pollution Strategy.

Key strategies:

Strategies	Term
1. Select an area in Khayelitsha as a pilot project for intervention	current
2. Use community workers to conduct a detailed survey of households, business, transport and other potential sources of air pollution	short
3. Compile a detailed emission inventory for the area	short
4. Workshop sustainable and economical interventions to reduce air pollution with the community	short
5. Pilot test interventions and monitor their effectiveness	short / medium
6. Greening (planting of vegetation) to be investigated to reduce air pollution	medium

Actions

1. Khayelitsha Air Pollution Strategy (KAPS) Working Group (already established) to implement strategies 1 to 6 above.

2. The City to roll out similar projects in other informal areas.

Objective 5: To enforce current and future legislation for Air Quality Management

Background

Air pollution control is the constitutional function of a local authority. The City is therefore responsible for the enforcement of all relevant national legislation as well as the Air Pollution Control By-law of the City of Cape Town. Enforcement is undertaken in close co-operation with other organs of state, i.e. the Department of Environmental Affairs and Development Planning at provincial level and Department of Environmental Affairs and Tourism at national level. Issues of concern are often addressed through an intergovernmental task team made up of all the relevant role players within the enforcement sectors of the above-mentioned departments.

The new National Environmental Management: Air Quality Management Act promulgated in February 2005 provides for listed or, as previously known, 'scheduled industries' to be licensed by the City. The setting of licensing fees and the management of income of fines needs to be investigated and clarified within the Council.

Current national legislation is contained in the National Environmental Management: Air Quality Management Act, which will impose a number of requirements on the City of Cape Town. These must be addressed in an Air Quality Management Plan forming part of the City's IDP.

The control and management of all sources of air pollution relative to their contributions to ambient concentrations are required to ensure that improvements in air quality are secured in the most timely, even-handed and cost-effective way. This implies that legislation for the regulation of all significant sources needs to be put in place, effective management structures developed, innovative and flexible strategies devised, and sufficient resources allocated.

In addition, the City of Cape Town has enacted its own Air Pollution Control By-law. The by-law, enacted in March 2003, gives City staff the necessary legal empowerment to address air pollution issues of immediate concern.

The following are specifically addressed as part of the by-law.

The Air Pollution Control Section, Directorate: City Health, City of Cape Town, is responsible for the enforcement of the local Air Pollution Control By-law and is contactable at telephone (021) 590-1419.

Key strategies

Strategy	Term
The National Environmental Management: Air Quality Management Act	
1. Implement the Act	short /medium
2. Set up processes to introduce licensing fees for listed industries and accrue the fees for the purpose of air quality management	short
3. Review current permits issued in terms of the Atmospheric Pollution Prevention Act	current
4. Capacity-building	current
5. Communication with industries and communities	current
Air Pollution Control By-law	
1. Continue with the effective implementation of the by-law	current
2. Effectively deal with complaints	current
3. Review by-law	medium
4. Support Government initiatives and legislative approaches to institute a cradle-to-grave concept for the disposal of tyres in South Africa	short term
5. Investigate the revision of the by-law to address the control and regulation on the disposal of tyres in the City - in the absence of national legislation.	medium
6. Investigate the revision of the by-law to enforce air quality standards adopted in the City	medium

Actions

The National Environmental Management: Air Quality Management Act

Air Pollution Control Section of the City Health Department initiate actions to implement strategies 1 to 5. in cooperation with all spheres of government, industry and the community.

Air Pollution Control By-law of the City of Cape Town

Air Pollution Control Section to continue with the implementation of the by-law and implement actions for strategies 1 to 6.

Objective 6: To compile an emissions inventory database for the City of Cape Town

Background

It is imperative for the City to develop a source emission inventory and associated database with distinctions made between industrial and non-industrial sources, point and non-point sources and area sources.
A limited inventory was designed years ago but only contains information on fuel burning equipment in operation in the City and calculates emissions for SO_2, PM_{10}, and No_x. The data is spatially referenced on the GIS system and is updated annually.
The requirement for the future is an emission inventory that is developed as a comprehensive, accurate and current account of all air pollution emissions from all sources including natural sources such as veld fires and wind-blown dust.
The inventory must be capable of being used together with a dispersion-modelling programme in order to model dispersion and evaluate health risk.

Key strategies

Strategy	Term
1. Develop a comprehensive and effective emission inventory	short / medium
2. Make the inventory accessible to the public	medium / long
3. Regularly update the inventory	short
4. Link inventory to other data sources within and outside the Council	long
5. Validate inventory with monitoring data	short
6. Link emission inventory to suitable air-shed modelling programme for health risk assessments	medium / long

Actions

The Air Quality Standards and Working Group to investigate and source a suitable emissions inventory database with associated software, training and modelling capabilities.

Objective 7: To control vehicle emission in the City

Background

The Cape Town Brown Haze Study in 1997[1] attributed 65% of the visible degradation to vehicular emission, of which 49% is caused by diesel-driven vehicles and 16% by petrol-driven vehicles. To date legislation controlling the emissions of vehicles is limited to the smoke density testing of diesel-driven vehicles. The City of Cape Town is proactively implementing roadside testing of diesel-driven vehicles in terms of the Air Pollution Control By-law. Should a vehicle fail a test the driver is issued with a summons and the owner of the vehicle is served with a repair notice. Failure to comply with the notice will result in legal proceedings being instituted.

Unleaded fuel sales in South Africa are currently between 20% to 30% of the total market, whilst the sulfur content of diesel is above internationally acceptable standards. The Department of Environmental Affairs and Tourism and the Department of Minerals and Energy are, in anticipation of the new Air Quality Management Act, formulating a vehicle emission control strategy supported by fuel reformulation, i.e. unleaded petrol and low sulfur fuels (enabling fuels). This should bring South Africa in line with vehicle emission control on par with Euro standards in the future.

To reduce the dependence on motor vehicles in Cape Town, a better, faster, more reliable and safe public transport system is required.

Key strategies

Strategy	Term
1. Support national initiatives such as: ■ fuel reformulation ■ motor vehicles emission control	current
2. Support improved public transport system to limit the influx of vehicles into the city as well as the use of private vehicles	short / medium
3. Encourage the use of car pools	short
4. Continue diesel vehicle testing and enforcement of emission requirements	current
5. Encourage the use of vehicles fitted with emission control equipment	medium
6. Introduce vehicle emission testing with regular road worthy testing	medium / long
7. Support introduction of the clean-burn technology	current / ongoing

Action

Establish a Transport, Planning and Vehicle Emission Working Group to implement the strategies under 1 to 7.

[1] 'Cape Town Brown Haze Study: M C Wicking-Baird, M G de Villiers, R K Dutkiewicz, September 1997

Objective 8: To consider air quality in land use and transport planning

Background

Over the past 10 to 15 years rapid change in urban growth has occurred in the City of Cape Town and the expansion is expected to continue in the future. Urban planning influences where people live, work and recreate as well as the mobility options between these activities.

Within the Council and at Provincial and National level land use and transport planning is being done. The principal aim of the Air Quality Management Plan will be to ensure that the relevant authorities, policies, strategies and plans take into account the potential influence of land use and transport planning on air quality. This will include working with other relevant sectors, such as the City's Energy and Climate Change Strategy, to ensure that all global and local priority pollutants are addressed.

Key strategies

Strategy	Term
1. Develop guidelines for the modelling and prediction of air quality impacts, for use in transport and land use planning	long
2. Reduce the number of vehicle trips within the City of Cape Town	long
3. Support and encourage a safe and more reliable public transport system	long
4. Support cleaner fuel and renewable energy sources for domestic, transport and industrial use	current / ongoing

Action

The Transport, Planning and Vehicle Emissions Working Group to develop terms of reference that will support and ensure the implementation of the above-mentioned strategies.

Objective 9: To determine the extent of any detrimental health effects of poor air quality on the population of the City

Background

Poor air quality in certain parts of the City has been associated with adverse health effects on the community. Comment to this effect has also been made in the public participation process.
There is a need to undertake research to determine the potential impact of poor air quality on health as well as to identify the parameters responsible for this.

Key strategies

Strategy	Term
1. To determine the relationship between the City of Cape Town's air quality and adverse health effects	medium
2. Identify and support research priorities with respect to these adverse health effects	medium
3. Identify funding sources for these health priorities	short

Action

1. Establish a Health Working Group of specialists on health effects and air quality and identify key role players to serve on it.

2. Establish terms of reference, funding sources and research opportunities to implement above strategies.

3. Investigate the association between mortality, morbidity, air quality and hospitalisation as well as the relationship between these and priority pollutants.

Objective 10: Establish a comprehensive education and communication strategy for air quality management

Background

There is a perceived lack of awareness on air quality matters in the City. A general education and awareness campaign is needed to address domestic, vehicular and industrial sources of pollution. Campaigns could, for example, improve community understanding of the benefits of alternative transport modes and correct vehicle maintenance, and also create awareness of sources of domestic pollution (e.g. burning of domestic waste). Education is needed in schools and should also be targeted at adult level.

Key strategies

Strategy	Term
1. Develop the appropriate resources and tools for community awareness and education	short / medium
2. Establish links with polluting industries and businesses in order to encourage best practice and reduction at source strategies	short / medium
3. Publish an annual update of resources, tools and approaches to air quality management, linked to the annual State of the Environment Report	medium

Action

Establish a Public Awareness and Education Working Group to formulate terms of reference for the above strategies.

Objective 11: To periodically review the air pollution situation, report on progress and adjust and update strategies and objectives where needed

Background

The City of Cape Town has compiled a Situation Assessment of Air Quality that details the priority pollutants, sources and impact areas of air pollution, as well as current and possible future approaches to air quality management. The Situation Assessment has been incorporated into this (draft) Air Quality Management Plan and the full technical report is available on request from the Air Pollution Control Section.

The Situation Assessment contains the most current and sound scientific information as a basis for air quality management by the City of Cape Town. In characterising the baseline air quality all existing and available source emission and air pollution monitoring information was collated and analysed. Primary sources of such information include: source data on fuel burning appliances held by the City's Air Pollution Control Section, monitoring data from the City's extensive ambient air pollution monitoring network and information from recently undertaken projects and studies. Results from the 'Dirty Fuels' project, recently completed on behalf of NEDLAC, provide significant additional source and air quality information (Scorgie et al., 2004).

Key strategies

Strategy	Term
1. To report annually on trends of air pollution	current
2. To regularly revise and update the Situation Assessment and Air Quality Management Plan	medium

Action

1. Compile an annual report on air quality trends, complaints, fuel usage, law enforcement and other indicators that enable the City to assess the state of the air quality environment.

2. Regularly reassess the City's AQMP with regard to legislative requirements.

6. The process for the implementation of the Air Quality Management Plan

This section details the way forward and gives priorities and time frames for the process. The setting up of the specialist and multi-disciplinary task teams will form a key component in the implementation of this plan. These task teams will consist of officials from the local, provincial and national spheres of government as well as representatives from academic institutions, NGOs and industry. The existing Air Quality Management Task Team to facilitate the setting up of an

- Air Quality Monitoring and Standards Working Group
- Transport Planning and Vehicle Emissions Working Group
- Health Working Group
- Public Awareness and Education Working Group

The unpacking of each of these strategies and actions will require a significant amount of work in the future and can only be accomplished through the process of co-operative governance and stakeholder buy-in.

The Air Quality Management Task Team will, within the first six months after publication, establish priorities for the implementation of the objectives and strategies of the Air Quality Management Plan based on the availability of resources and funding.

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