

CAPE AGULHAS MUNICIPALITY 2ND GENERATION AIR QUALITY MANAGEMENT PLAN



1ST REVIEW 2019



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CAPE AGULHAS MUNICIPALITY
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Acronyms

AEL	Atmospheric Emission Licence
AQMP	Air Quality Management Plan
AQM	Air Quality Management
AQO	Air Quality Officer
AQOF	Air Quality Officer's Forum
AQMS	Air Quality Management System
CAM	Cape Agulhas Municipality
EMI	Environmental Management Inspector
EHP	Environmental Health Practitioner
IDP	Integrated Development Plan
NO _x	Nitric Oxides
NAAQS	National Ambient Air Quality Standards
NEM: AQA	National Environmental Management: Air Quality Act (No.39 of 2004)
ODM	Overberg District Municipality

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FOREWORD

The Cape Agulhas Municipality is situated in the Overberg, at the Southern Most Tip of Africa, where the two oceans meet. It is the Southern Most Municipality in South Africa, situated to the east of Cape Town beyond the Hottentots – Holland Mountains along the Western Cape South coast.

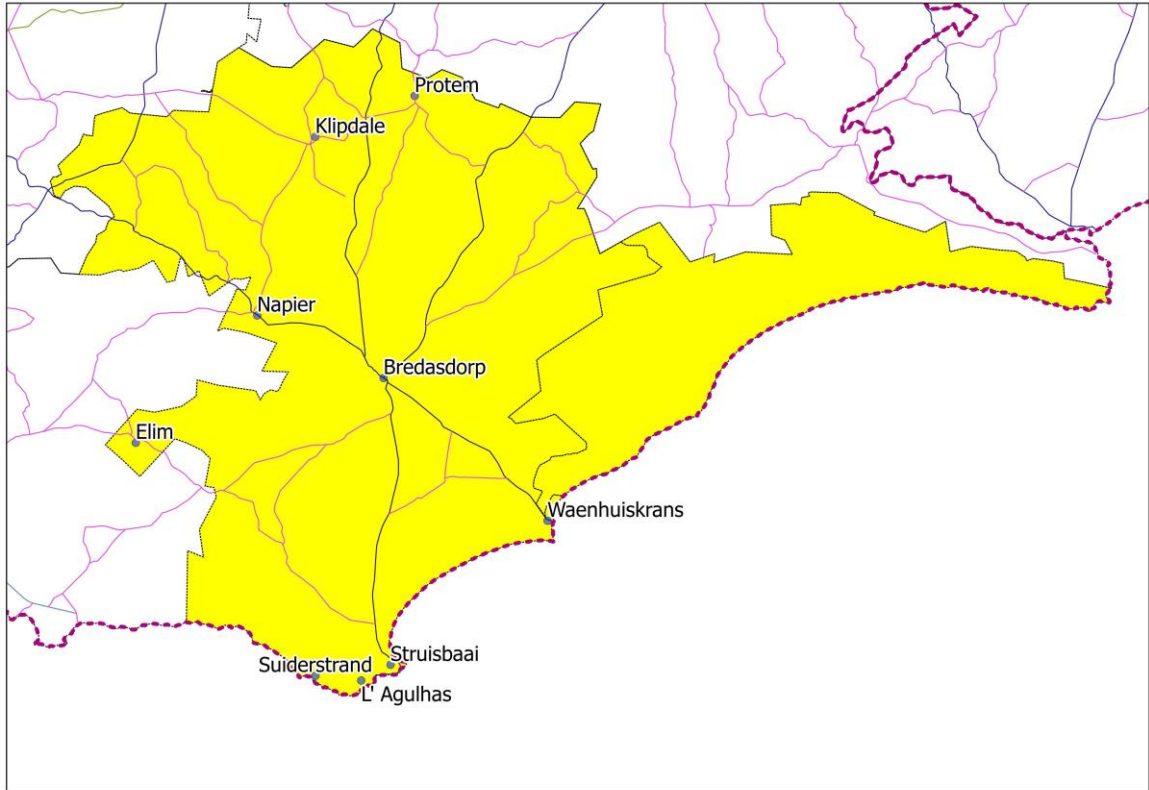


Figure 1: Map of the Overberg District

The landscape is dominated by gently to moderately undulating hills enclosed by mountains and the ocean. The flat and level coastal plain rises from sea level to 100m.

The area has a strong agricultural sector which comprises 11.6 per cent of all agricultural production in the Western Cape. Table 1 below illustrates the real and projected population growth in the district and municipality for the period 1996 to 2019.

Table1: Population growth, 1996 – 2015

Area	1996	2001	Rate %	2015	Rate %	2019 Projection	Rate %
Overberg District Total	159 033	205 945	5,9	270 202	1,7	316 411	2,6
Cape Agulhas	22 011	26 715	4,3	33 897	1,5	39 897	2,8

1996 and 2001 Source: Statistic SA
 Census 2011
 Socio-Economic Profile 2018
 Social Development 2018 projections

1. INTRODUCTION

1.1 PURPOSE OF THE PLAN

Section 15 (1) of the National Environmental Management: Air Quality Act (NEM: AQA), 39 of 2004 places an obligation on Municipalities to develop Air Quality Management Plans (AQMPs) to manage air quality in their regions. The Cape Agulhas Municipality's 1st Generation AQMP was developed and approved in 2014. This document serves as Cape Agulhas 5-year review and update of the latter. This 2nd Generation Cape Agulhas AQMP is based on the above (2014) plan and is informed by the updated Western Cape AQMP (2016) and the Overberg District Municipality AQMP (2018).

As detailed in the NEM:AQA a local municipality has two primary statutory obligations with which it must comply and these obligations are:

- designate an Air Quality Officer (AQO)
- incorporate an Air Quality Management Plan in its IDP

The Air Quality Management function within the Cape Agulhas Municipality resolves under the Building Control Section of the Structural Services Department, with the Manager Building Control, the Officer designated as the Air Quality Officer for CAM.

This Air Quality Management Plan for Cape Agulhas Municipality has thus been developed to comply with the National Environmental Management: Air Quality Act, 39 of 2004 and more specifically to provide guidance on air quality management in the municipal area. Air quality is defined to include noise, dust and odour and addresses all sources of air pollution, i.e. point, area and mobile sources.

CONTEXT OF THE CAPE AGULHAS MUNICIPALITY AQMP

The Cape Agulhas AQMP was prepared by taking into consideration The National, Provincial and local context of air quality management. The various plans, frameworks and policies, applicable are summarized.

NATIONAL LEVEL

National Environmental Management: Air Quality Act. 39 of 2004 (NEM: AQA).

1.2 THE AQMP DEVELOPMENT PROCESS

The Cape Agulhas Municipality developed an AQMP in 2014. The plan was a strategic document that assists the Municipality to set and achieve air quality management goals in a structured, coordinated and measured manner. The 2014 AQMP took into account the roles and responsibilities of the Local Municipality in

respect of air quality management, as outlined in the National Framework for Air Quality Management in South Africa.

2. VISION:

“Clean and healthy air for all in Cape Agulhas”.

The vision of the Cape Agulhas municipality is to advocate the constitutional right of all human beings to clean air is maintained to such a standard where economic and social development will flourish without jeopardizing the environment.

3. MISSION:

“To ensure the effective and consistent implementation of sustainable air quality management practices, to progressively achieve and efficiently maintain clean and healthy air in Cape Agulhas”.

The vision captures the focus of Cape Agulhas Municipality, the community and other stakeholders in the roll-out of the AQMP, to ensure to be effective and maintain implementation of sustainable air quality management practices throughout Cape Agulhas to achieve air quality goals.

4. GOALS:

The four goals of the AQMP to support the vision and mission of Cape Agulhas Municipality, with each goal addressing the different aspects of the vision and are underlined by the objectives to achieve them.

GOAL1: Air quality governance meets requirements to effectively implement the AQMP

This goal addresses the regulatory framework and the institutional capacity required in Cape Agulhas Municipality to carry out the air quality function. This links directly to the goal in AQMP for the Western Cape ‘Ensure effective and constant air quality management’ and the goals in the ODM AQMP of ‘Effective air quality management’.

Goal 2: Reduce atmospheric emissions of harmful pollutants

The goal aims to manage activities that impact on air quality to reduce the emissions of harmful pollutants and the associated impact on human health and their well-being. It links directly to the Provincial AQMP goal to ‘Ensure effective

and consistent compliance monitoring and enforcement’ and ‘To ensure health-based air quality standards are attained and continually met’. This links the ODM AQMP goal of ‘Effective air quality management’ through an ‘Emission Reduction Strategy’.

GOAL 3: Systems and tools are established to effectively implement AQMP

The goal refers to the systems and tools required for effective AQMP implementation, the cornerstone of which is an Air Quality Management System (AQMS). The development of an AQMS links directly to the Provincial AQMP goal ‘To ensure effective and consistent air quality management’ through the development of AQM systems. It also links to the ODM AQMP goal to develop an AQMS. An AQMS is a fundamental unit towards the management of air quality in an area, incorporating the necessary technical elements that provide information on the status of air quality.

GOAL 4: Climate Change

This goal aims to improve the understanding of the impact that climate change is likely to have on the municipality, to support climate change protection programmes including and promoting the reduction and of greenhouses gas emissions and to implement measures to mitigate such impact.

1. To ensure effective and consistent air quality management.
2. To continually engage with stakeholders to raise awareness with respect to air quality.
3. To ensure effective and consistent compliance, monitoring and enforcement.
4. To support climate change protection programmes, including promoting the reduction of greenhouse gas emissions.

5. SUMMARY OF STATUS QUO OF AIR QUALITY MANAGEMENT IN CAPE AGULHAS

5.1 Current institutional capacity of CAM

At Cape Agulhas Municipality the Building Control section situated within the Structural Services Directorate is be responsible for air quality management.

The Cape Agulhas Municipality has appointed an Air Quality Officer (Manager Building Control), and one other official. It is not foreseen that any additional staff structures will have to be established to implement this plan for the immediate future.

5.2 Air pollution sources in the Cape Agulhas Local Municipality

- Industrial operations, Lime and Clay Brick manufacturing
- Agricultural activities such as crop burning and spraying
- Biomass burning (veld fires)
- Domestic fuel burning (wood and paraffin)
- Vehicle emissions
- Waste treatment and disposal
- Dust from unpaved roads
- Other fugitive dust sources such as wind erosion of exposed areas
- Lime dust

Although there are a few sources of air pollutants in Cape Agulhas, the ambient air quality is generally good.

Atmospheric Emissions Sources are as follows:

Industrial and manufacturing emissions from industrial manufacturing processes are typically associated with the combustion of fuel for heat or steam generation. The Atmospheric Emissions Licencing authority is a District Municipal function and the responsibility of the ODM. However, emissions from industrial boilers are likely to result in local areas of elevated concentrations of air pollutants. Ambient particulate concentrations are likely to be high in low – income residential areas where wood is used as primary fuel source and activities such as refuse burning.

Agricultural emissions. Emissions from agricultural activities are most often associated with greenhouse gas emissions. The drift spray and dust from pesticides applications can expose people, wildlife, and the environment to pesticide residues that can cause health and environmental effects and property damage.

Biomass burning. It is an important source of atmospheric emission, but crop residue burning doesn't take place any more.

Pesticide use. Pesticide spraying of crops are still in use and large amounts are used for different crops. The airborne nature of spray drift from the application of pesticides implies an air quality issue. Spray drift is, however not addressed in NEMAQA.

Motor vehicles. Motor vehicle congestion in holiday towns results in elevated ambient concentrations of particulates and NO_x (Nitrogen Oxides) at times.

Residential fuel burning. The majority of households in CAM use electricity, gas or other sources. There are still informal settlements that do not have access to electricity and alternative fuels are used, collection of fire wood and disposal at landfill sites. Landfills have the potential to impact many aspects of the environment, with the main risks to human health, and are likely to be a consequence of as a potential health hazard. Incidental waste burning is localized sources of air pollution.

Wastewater treatment. Air pollutants associated with wastewater includes hydrogen sulphide, mercaptans and ammonia. Volatile organic compounds form by the volatilization of organic compounds in the treatment process are often found in industrial waste.

Wildfires. It occurs seasonally in the Overberg. Uncontrolled fires can emit large volumes of particulate matter, causes smut that deposit on services and are a great nuisance.

5.3 Air Quality monitoring

In terms of Section 8 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004; NEM: AQA), Provinces and Municipalities are mandated to monitor the ambient air quality. In the Western Cape, the Department of Environmental Affairs and Development Planning's Directorate: Air Quality Management (D: AQM), provides a supportive and oversight role to municipalities with respect to air quality management and air quality monitoring. The D: AQM has an air quality monitoring network that monitors the ambient air quality at various points within the Western Cape Province. The air quality results obtained from this network shows that the air pollution levels are generally below the National Ambient Air Quality Standards (NAAQS).

NAAQS are health-based ambient air quality standards that have been established for criteria pollutants in South Africa. The NAAQS serve to indicate what levels of exposure to pollution are generally safe for most people, including the very young and the elderly. Compliance with the ambient standards, therefore implies that the ambient concentrations measured are less than the standard, and therefore, do not pose a health risk. The CAM will in the future conduct ambient real-time air quality monitoring in Bredasdorp.

6. GAPS AND CHALLENGES

- Air quality management requires cooperation from various disciplines within local government which includes amongst others traffic,

- municipal health, fire and rescue, town planning, engineering, building control etc. The successful implementation of air quality management is thus strongly dependent upon cooperation and communication among all sectors and all local governments within the district.
- Inadequate financial provision specifically earmarked for air quality management by CAM.
- The availability of suitably skilled human resources also remains a challenge.
- The idea or perception “Cape Agulhas’s air is clean, so why is air quality management necessary” makes it difficult to gain the attention of decision-makers as well as the general public.
- Town planning and road planning do not always consider the impact of developments on air quality.

7. TARGETS

- Effective and consistent air quality management
- Promote communication in relation to air quality management
- Effective and consistent compliance monitoring and enforcement with regards to noise, dust and odour complaints
- Develop and maintain institutional arrangement between the district and the local municipalities that support air quality management.
- Sustain acceptable air quality levels throughout the area
- Minimize the negative impact on human health and well – being and the environment

8. OBJECTIVES

8.1 EFFECTIVE AIR QUALITY MANAGEMENT

- Build capacity in air quality management within Cape Agulhas Municipality
- To promote cooperation amongst all spheres of government, business, industry and civil society
- To ensure adequate funding for the implementation of the AQMP
- To develop comprehensive education and communication mechanisms, strategies and programmes with respect to air quality
- Develop, implement and maintain an Air Quality Management System
- AQMP review process
- Report annually on air quality management initiatives undertaken by the Local Municipality during the reporting period
- To promote environmental best practices and cleaner development technologies amongst all stakeholders
- Report on the level of compliance with ambient air quality standards

- To promote continuous improvement with respect to compliance
 - To ensure that health-based air quality standards are attained and continually met.
 - Established an Emission Reduction Strategy
- 8.2 PROMOTE COMMUNICATION IN RELATION TO AIR QUALITY MANAGEMENT
 - Attend the Provincial and District Air Quality Officer's Forum in order to ensure proper communication between the District Municipality, local municipalities, provincial government, business and industry as well as interested and affected parties in Cape Agulhas municipality.

8.3 COMPLIANCE MONITORING

- Establish a compliance monitoring system within the Cape Agulhas municipality.
- Have an Air Quality by-law in place.

9. MONITORING

Monitoring and reporting on progress with regard to the implementation of the AQMP is a key factor in maintaining momentum for the roll-out of interventions as well as providing a way to update all key stakeholders.

10. EVALUATION

Continuous evaluation is an essential element of the AQMP implementation as it allows for a thorough assessment of the AQMP including the shortcomings and strength evident in implementation. Evaluation is an internal mechanism to measure the performance with regard to the implementation of the AQMP. The evaluation process will assess the AQMP implementation outcomes, which are based on the AQMP indicators. Annual evaluation of the AQMP implementation will be conducted. Monitoring and evaluation.

11. REVIEW

Monitoring and reporting on progress with regard to the implementation of the AQMP is a key factor for maintaining momentum for the roll-out of interventions and providing a way to update key stakeholders. This plan is reviewed on a 5-

year basis to determine the success of the AQMP implementation, shortcomings and strengths in implementation. This provides the opportunity to adjust the AQMP or parts of it if the desired outcome is not being achieved. The internal revision was communicated to stakeholders through a limited public participation process followed by a further iteration and publication. Annual reviews are also conducted as part of reporting submitted to the ODM AQO as required in terms of Section 17 of NEM:AQA.

The next review will be in 2024.

12. Table 2: IMPLEMENTATION PLAN

Timeframes: Short-term (6-12 months); Medium-term (1-2 years); Long-term (3-5 years)					
GOALS	OBJECTIVES	TARGETS	ACTIVITIES	TIMEFRAMES	
Effective Air Quality Management	Effective Air Quality Management	Build capacity in air quality management within the Building Control Section	With continuous training and development in air quality management in the Building control section	Continuous	
	Develop, implement and maintain an Air Quality Management System	Compilation of an emissions inventory for CAM	Compile an emission inventory of all line sources	Medium	
			Compile an emission inventory of all area sources	Medium	
			Compile an emission inventory of all industrial sources	Short	
			Compile an emission inventory of all mobile sources		
	Do own ambient monitoring		To get ambient monitoring equipment.	Continuous	
				Continuous	
	Establish an annual AQMP review process	Review systems, structures and processes to review progress in relation to the AQMP.	Establish a committee to review the AQMP	Short – Medium	
			Create awareness campaigns around the negative health impacts of domestic fuel burning	Continuous	
			Encourage the distribution of alternative forms of domestic energy such as LPG, LSF, gas, methanol, etc.	Continuous	
			Traffic	Review vehicle emissions database with updated traffic count data as these become available	Long
				Promote comprehensive vehicle emissions monitoring and diesel vehicle testing programmes in congested areas	Continuous

			Compile a detailed assessment of the vehicle fleet in CAM including information on vehicle numbers, type, age and fuel usage.	Long		
		Agriculture	Obtain information on the quantity of pesticides used in the District	Continuous		
			Promote the safe and responsible use of pesticides throughout the district.	Medium – Long		
			Promote safe and responsible agricultural burning practices.	Short – Medium		
		Biomass Burning	Liaise with fire services to assist in air pollution control	Short – Medium		
			Obtain information from local Fire Departments to maintain and update a database of the locations of veld fires and the extent of the areas burnt	Short – Medium		
			Maintain a database for regional scheduled burn areas that are published for agricultural and management fires	Short – Medium		
		Waste Treatment and Disposal	Develop an emissions inventory of waste burning sources (incinerators, sewage and waste water treatment works)	Short – Medium		
			Ensure all operating incinerators are permitted	Continuous		
			Maintain a current database of permitted and non-permitted landfill sites	Continuous		
		Promote communication in relation to Air Quality Management	Attend the Provincial and D Air Quality Officer's Forums. In order to ensure proper communication between business and industry as well as any other interested affected parties.	A committee/forum at a sub-district level representing all interested and affected parties.	Establishment and management of an Air Quality Officers Committee/ Forum	Short-term
				Regular reporting and discussions on issues of AQM.	"Continually submit the state of air quality report to ODM for inclusion in the state of air quality of the district ."	Annually

Compliance monitoring	Conduct ambient air quality monitoring.	Build capacity, get own equipment and do AQ monitoring in house.	To get real-time data on Air Quality	Continuous
	Attend to noise, dust and odour complaints.	Adhoc	Keep a complaints register / database regarding noise, dust and odour complaints lodged, including the following: detailing nature of complaint, date & time, and what was done to resolve the complaint, etc. for reporting purposes. .	
	Develop an Air Quality by-law	Build capacity to ensure Air Quality compliance in the Cape Agulhas.	Allow EHP's to investigate and maintain a good Air Quality standard	Medium - Long

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