

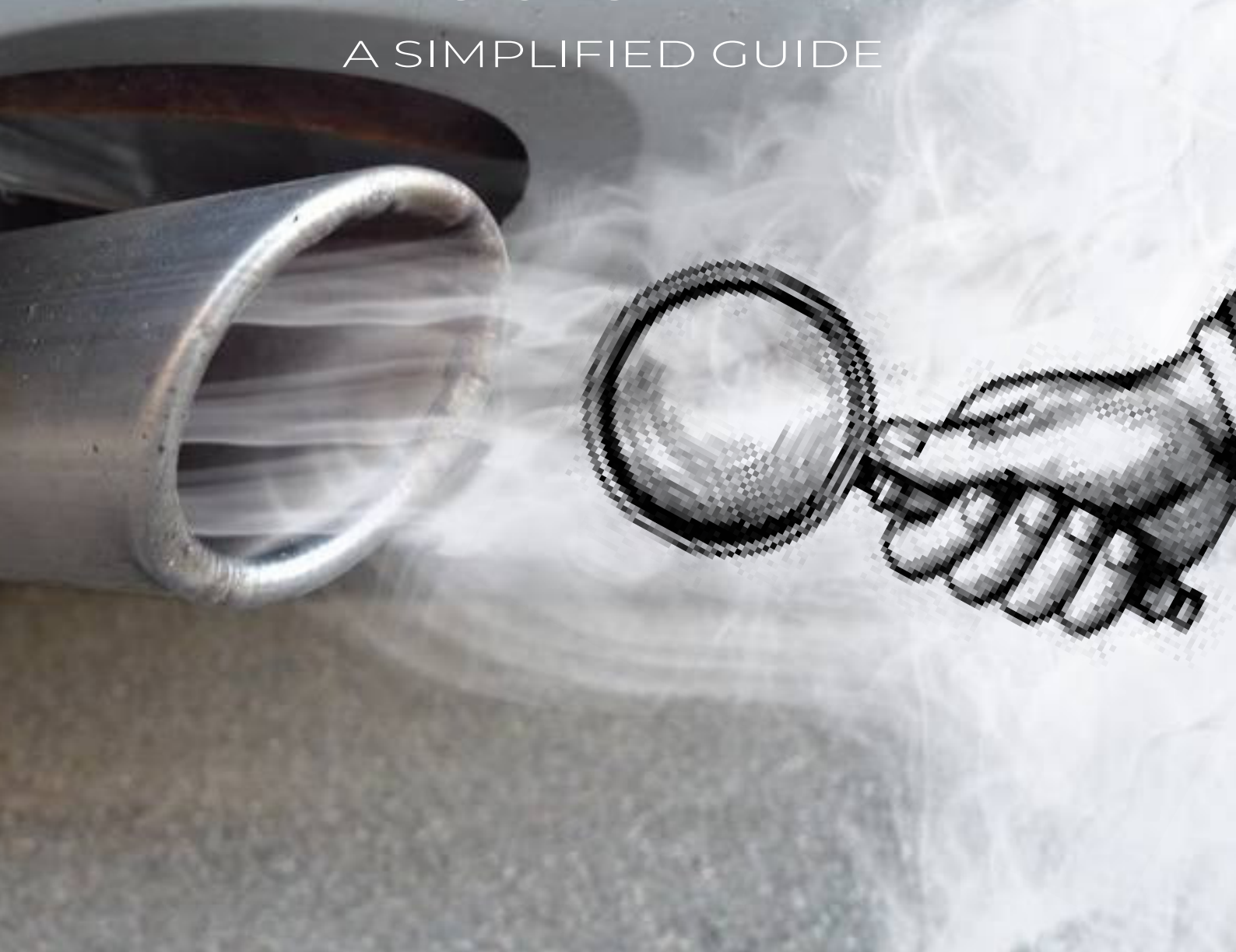


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NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

MANAGEMENT OF VEHICULAR EMMISSIONS IN KENYA

A SIMPLIFIED GUIDE





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A SIMPLIFIED GUIDE

A publication of the National Environment Management Authority (NEMA)
Kenya

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By publishing this Guide, NEMA expresses that the content represents an
important contribution to enrich the related discourse on Kenya's environmental
policy but does not endorse the content as Government policy, but that it serves
as a guide to the management of vehicular emissions in Kenya

Preface



Vehicular emissions adversely affect air quality, public health, environmental sustainability, and climate resilience.

The transport sector is a key driver of Kenya's socio-economic development, supporting trade, mobility, tourism, and regional integration. However, rapid urbanization, population growth, and increased motorization have led to a significant rise in vehicular emissions, contributing to deteriorating air quality, adverse public health effects, environmental degradation, and climate change challenges.

Motor vehicle emissions have become a major environmental and public health concern in Kenya, particularly due to older and poorly maintained vehicles, low fuel efficiency, and the continued use of high-emission technologies. In response to these challenges, the Government of Kenya, through the Ministry of Environment, Climate Change and Forestry and the National Environment Management Authority (NEMA), gazetted the Environment Management and Coordination (Air Quality) Regulations, 2024, which introduce mandatory vehicular emission testing requirements.

This Guide on the Management of Vehicular Emissions in Kenya provides practical guidance to stakeholders on strategies for reducing vehicle-related emissions as the country prepares to implement the Vehicular Emission Testing Programme. The guide reflects Kenya's commitment to sustainable development, climate change mitigation, environmental protection, and public health improvement. It also supports the implementation of national environmental policies, laws, and regulatory frameworks aimed at promoting cleaner and more sustainable transport systems.

The publication is intended to strengthen compliance, enhance institutional coordination, encourage responsible vehicle ownership and maintenance, and support Kenya's transition toward cleaner, safer, and sustainable mobility systems. Through collective responsibility, effective enforcement, innovation, and public participation, Kenya can reduce vehicular emissions, improve air quality, protect ecosystems, and safeguard the well-being of current and future generations.

Emilio Mugo
CHAIRMAN, BOARD OF MANAGEMENT

Acknowledgement



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Their collective efforts and professional insights greatly informed the development of practical, user-friendly and context-specific IEC materials intended to enhance public awareness, promote compliance and support effective implementation of vehicular emissions management in Kenya.

The Authority further appreciates all participants and stakeholders whose engagement and contributions supported the successful completion of this guide in the shared pursuit of cleaner air, healthier communities and sustainable urban environments.

Mamo B. Mamo, PhD, EBS
DIRECTOR GENERAL

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Acronyms

Cap	Chapter
FBOs	Faith Based Organizations
GHG	Green House Gas Emissions
KEBS	Kenya Bureau of Standards
KS EAS 1047	Kenya Standards East Africa Standards 1047
NEMA	National Environment Management Authority
PM	Particulate Matter

Key Definitions

Air pollution	means contamination of the indoor or outdoor environment by any physical, chemical or biological agent that modifies the natural characteristic of the atmosphere
Air quality	means the concentration prescribed under the Act of a pollutant in the atmosphere at the point of measurement
Air quality standard	means an air quality level as established by these Regulations setting a limit of contaminant levels in the atmosphere
Emission	means discharge of pollutants into the atmosphere from any source
Emission limits	means the permissible levels of emission of pollutants set out in these Regulations
Excessive emission	means emission of an air pollutant in excess of an emission standard or emission target
Hydrocarbon	means any organic compound consisting predominantly of carbon and hydrogen;
Improvement order	means the instructions to a proponent or operator issued in writing by the Authority requiring compliance with the provisions of the Act
Licence	means an air pollutant emission licence granted under these Regulations
Mobile source	means a moving producer of air pollutant, mainly forms of transport including motorcycles, tricycles, cars, trucks, cranes, trains, locomotives, ships, tug boats and aircrafts;
Monitoring	means any periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements or pollutant levels in various media or in humans, animals, and other living things
Nitrogen oxides	means the sum of nitric oxide and nitrogen dioxide expressed collectively as a nitrogen dioxide equivalent
Owner	means any person who owns or operates a facility, source, or air pollution control equipment, as the case may be
Particulate matter	includes smog, aerosols, fly ash, black carbon, cinders, and other solid particles of any kind
Pollutant	includes any solid, liquid, vapour, gas or aerosol, or combination hereof that causes contamination of the indoor or outdoor environment
PM2.5	means particulate matter with an aerodynamic diameter of less than or equal to a nominal 2.5 micrometers, as determined by the appropriate reference methods

Smoke	means visible aerosol or small gas-borne particles resulting from incomplete combustion of materials, predominantly of carbon and other combustible material
Vehicle	means a motorcycle, a tricycle, cars, and trucks as falling velocity; defined in KS 1515 and KS EAS 1047
Vehicle emission testing center	means any registered facility designated by the Authority for the purposes of testing motor vehicles on exhaust emissions

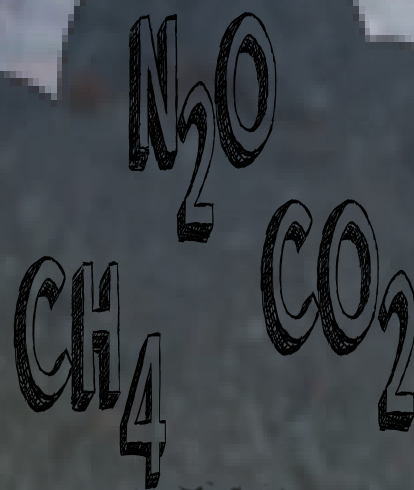
About the Guide

This simplified guide explores the causes and effects of vehicle emissions in Kenya, the existing legal and regulatory framework, and practical measures that individuals, transport operators, and the government can adopt to reduce air pollution. The guide seeks to create awareness and encourage collective responsibility in promoting cleaner transportation and a healthier environment for present and future generations.

This guide gives simplified and practical approaches on the management of vehicular emissions in Kenya. It aims to bridge the gap between technical environmental regulations and everyday users of vehicles, including vehicle owners, drivers, mechanics, transport operators, and the general public.

By translating complex information into clear and actionable steps, the guide seeks to promote better understanding, encourage responsible vehicle use, and support behavioural change towards sustainable transport practices.

Introduction



Introduction

Air pollution has become one of the most pressing environmental and public health challenges in Kenya, particularly in rapidly growing urban centres such as Nairobi, Mombasa, Kisumu, and Nakuru. A significant contributor to this problem is vehicular emissions, which arise from the increasing number of motor vehicles on Kenyan roads, many of which are second-hand imports with aging engines and limited emission control technologies.

Vehicular emissions release harmful pollutants such as carbon monoxide, nitrogen oxides, sulphur dioxide, hydrocarbons, and fine particulate matter (PM_{2.5}), which degrade air quality and pose serious risks to human health. Prolonged exposure to these pollutants is associated with respiratory illnesses, cardiovascular diseases, and reduced overall quality of life. In addition, transport-related emissions contribute to climate change, further compounding environmental challenges.

Despite existing regulations and efforts by Government institutions, challenges remain in managing emissions from motor vehicles. These include, limited public awareness, poor vehicle maintenance practices, and the rise of informal automotive repair practices that may include tampering with emission control systems such as catalytic converters (mufflers).

Situation Analysis

Kenya has experienced rapid growth in the transport sector over the last two decades due to urbanization, population growth, and economic development. The increasing number of motor vehicles on Kenyan roads has improved mobility, trade, and access to services. However, this growth has also led to a significant rise in vehicular emissions, which have become a major source of air pollution in the country. Rapid urbanization has led to high traffic, resulting in increased release of harmful gases and smoke into the environment.

Vehicular emissions in Kenya mainly come from petrol and diesel-powered vehicles. These emissions contain pollutants such as carbon monoxide, nitrogen oxides, sulphur dioxide, hydrocarbons, and particulate matter (PM_{2.5}). Public transport vehicles, especially matatus, buses, and heavy commercial trucks, contribute significantly to air pollution because many of which are old and poorly maintained. The importation of second-hand vehicles, traffic congestion in urban areas, which leads to fuel wastage and prolonged engine idling, both of which increase emissions. Tampering of catalytic converter at workshops, garages and along vehicle supply chains near ports driven by black-market demand for valuable elements has further worsened the problem of vehicle emissions in the country.

The effects of vehicular emissions are increasingly visible in Kenya. Poor air quality has been linked to respiratory illnesses such as asthma, bronchitis, and other lung diseases, especially among people living or

working near busy roads. Environmental impacts include global warming, climate change, acid rain, and damage to ecosystems. Air pollution also affects economic productivity through increased healthcare costs and reduced life expectancy.

The Government of Kenya has taken several measures to manage vehicle emissions and improve air quality. Policies introduced include fuel quality standards, promotion of cleaner fuels, and regulations controlling the age of imported vehicles. Kenya has also adopted cleaner fuel standards such as diesel with 10% ppm sulphur content to minimize pollution.

Despite these efforts, several challenges continue to affect effective vehicle emission management in Kenya. Weak enforcement of regulations, inadequate monitoring systems, and lack of public awareness limit the success of emission control measures.

Although the Government of Kenya has introduced policies and regulations to manage vehicle emissions, implementation and compliance remain inadequate. There is need for stronger policies, better enforcement mechanisms, public education and awareness. Effective management of vehicle emissions in Kenya will require cooperation among government agencies, vehicle owners, transport operators, private organizations and the public to achieve cleaner air, improved public health and contribute to sustainable environmental conservation.

If the problem of vehicle emissions is not properly addressed, Kenya may continue to experience worsening air quality, increased health problems, environmental degradation, and negative impacts on economic productivity and quality of life.

Justification

Many people, including vehicle owners and public transport operators, have limited understanding of the causes, effects, and control measures related to vehicle emissions. A simplified guide would therefore help bridge this knowledge gap by presenting information in a clear and easy-to-understand manner. By increasing awareness and promoting responsible practices, the guide can support efforts to improve public health and environmental sustainability. The simplified guide would help explain policies and encourage compliance among motorists, transport operators, and other stakeholders.

The guide will offer practical solutions for emissions control, such as regular servicing, proper engine maintenance, use of cleaner fuels, reduced vehicle idling and adoption of cleaner technologies like hybrid and electric vehicles. Finally, the guide will serve as an educational resource for students, researchers, policymakers, environmental organizations, media and the general public. It supports environmental education, policy implementation, and public participation in promoting cleaner transportation systems and sustainable environmental management in Kenya.

General Objective

To provide clear, accessible, and practical understanding of effective management of vehicular emissions in Kenya for improved air quality, public health, and environmental sustainability.

Specific Objectives

Specific objectives of this guide are to;

1. Simplify provisions of the regulations and air quality science for easier understanding by users of the guide.
2. Highlight how vehicles contribute to air pollution and the associated health and environmental effects.
3. To enhance voluntary compliance with provisions of Air Quality Regulations, 2024.

Scope of application

The scope applies to the following categories of vehicles;

1. Cars
2. Trucks
3. Buses
4. Matatus
5. Pick-ups
6. Motorcycles
7. Tricycles (Tuktuk)

Target Stakeholders

- i. General public
- ii. Private motor vehicle owners/operators
- iii. Public transport providers
- iv. Government agencies
- v. Development partners
- vi. Research Institutions and academia
- vii. Media
- viii. FBOs
- ix. VETCs



Policy, Legal and Institutional Framework



POLICY FRAMEWORK

Policies, Laws and regulations in Kenya addressing mobile air sources; primarily motor vehicles, motorcycles, and construction machinery; focus on controlling emissions, setting ambient air quality standards, and enforcing inspection procedures. The key regulatory framework is spearheaded by the National Environment Management Authority (NEMA).

Constitution

The Constitution of Kenya 2010 provides the legal basis for regulating mobile emission sources (vehicles, trains, ships, aircraft) primarily through environmental rights. Article 42 guarantees every person the right to a clean and healthy environment, and Article 69 imposes a duty on the state to protect the environment from pollution.

National Electric Mobility Policy (2026)

Under the State Department of Transport, National Electric Mobility Policy (2026) sets the framework for promoting electric vehicles to reduce carbon emissions and reliance on fossil fuels.

Integrated National Transport Policy, 2009

Recognition of Growing Pollution: The policy recognized that rapid growth in motorized transport—specifically the increasing reliance on private vehicles and older small-capacity buses/motorcycles for public transport—contributed significantly to urban air pollution and greenhouse gas (GHG) emissions.

- **Need for Emission Standards:** It highlighted the necessity of developing, introducing, and enforcing vehicle emission limits to manage the environmental impact of road transport.
- **Inspection and Maintenance (I/M):** The policy proposed the introduction of regular emission testing for all vehicles, including motorcycles, to ensure that emission reduction technology is maintained on in-use vehicles.
- **Environmental Monitoring:** It called for strengthening environmental audit processes and managing the environmental impact of transport, particularly in major cities.
- **Alternative Transport:** The 2009 policy encouraged a shift from private vehicles to more sustainable modes like public transport, non-motorized transport (walking and cycling), and the exploration of cleaner technologies.

Environmental Management and Coordination Act (EMCA), Cap 387

Empowers the National Environment Management Authority (NEMA) to regulate emissions from vehicles, trains, ships, and aircraft to prevent air pollution.

Climate Change Act Cap 387A

Mandates the reduction of greenhouse gases, influencing policies on vehicle emissions and the promotion of electric mobility. Section 17 (Regulation of GHG Emissions): Mandates NEMA to monitor, report, and regulate emissions, establishing the basis for restricting polluting vehicle emissions.

Environmental Management and Coordination (Air Quality) Regulations, 2024:

These regulations focus on controlling air pollution from internal combustion engines by setting emission standards, promoting electric mobility, and requiring emission testing.

The regulations mandate annual emission testing for commercial vehicles and biennial testing for private vehicles. The regulations enforce strict limits, targeting a reduction in air pollution.

Standards Act, CAP 496

The Standards Act (Cap 496, Laws of Kenya) establishes the Kenya Bureau of Standards (KEBS) and authorizes it to set standards for quality and specifications for goods, including vehicle imports. It mandates inspection of imported vehicles to ensure compliance with emission standards, particularly regarding imported vehicles' age and environmental standards.

Key Implications on Vehicle Emissions via Cap 496:

- **Import Standards:** KEBS uses the Standards Act to implement the "8-year rule" for imported second-hand vehicles, which aims to phase out older, higher-emission cars, as of 2026.
- **Quality Inspection:** Vehicles must meet Kenyan standards (such as those for fuel efficiency and emission quality) during the Pre-Export Verification of Conformity (PVoC) process before entering the country.
- **Technical Committees:** The Kenya Standard Code of practice for inspection of road vehicles regulates vehicle condition for both safety and environmental reasons.
- **Emission Testing:** While the Standards Act focuses on standards, the Environmental Management and Coordination (Air Quality) Regulations, 2024 enacted under the environmental act work alongside it to require annual emission testing for commercial vehicles and biennial testing for private vehicles

Kenya Standard (KS)

Sets the standards for motor vehicle exhaust emissions, transitioning towards Euro 4/IV standards to minimize pollution.

- Visible Emission Prohibition: Operating a motor vehicle that emits visible smoke or air contaminants in excess of set standards (KS EAS 1047)
- Importation Age Limit: Importing vehicles older than eight years is prohibited, based on Kenya Standard 1515.

INSTITUTIONAL FRAMEWORK

National Environment Management Authority (NEMA)

- Responsible for setting standards, monitoring air quality, and enforcing regulations.
- The Authority to order inspections for vehicles emitting visible smoke.
- Develop guidelines for designating Vehicular Emission Testing Centres (VETCs) nationwide.

The Kenya Bureau of Standards (KEBS)

prohibits the importation of vehicles older than eight years (effective 2000).

County Governments:

Responsible for passing local laws to regulate pollutants at the County level.

Obligations of Different Stakeholders



OBLIGATIONS OF THE AUTHORITY

- Development of guidelines to designate Vehicle Emission Testing Centres (VETCs) to ensure compliance
- Development of Code of Practice for designated and licensed VETCs
- Designation and licensing of VETCs
- Promotion of compliance through education and awareness.
- Complement the government in pushing for the adoption of sustainable mobility initiatives.

OBLIGATIONS OF REGULATED ENTITIES

- Vehicle owners and operators must ensure their vehicles comply with the prescribed emission limits under KS EAS 1047.
- Commercial vehicles and Public Service Vehicles (PSVs) must undergo emissions testing every year.
- Private vehicles older than five years must undergo emissions testing once every two years.
- Emissions testing must only be conducted at centres designated and licensed by NEMA.
- Vehicle owners and operators must minimize emissions such as smoke density, carbon monoxide and hydrocarbons.
- Transporters must ensure no visible dust or particulate matter is released during transportation of materials.
- Vehicle owners and operators should adopt good vehicle maintenance practices and appropriate emission reduction technologies.
- Vehicle owners and operators must comply with improvement notices issued for non-compliant vehicles.
- Where applicable, vehicle owners may be required to pay the prescribed pollution tax for vehicles that fail re-testing requirements

Designation of Vehicular Emission Testing Centre (VETC)

Any person or institution intending to operate a Vehicular Emission Testing Centre (VETC) must apply for designation by NEMA through the following process:

1. Submit the prescribed application form to NEMA through the online licensing platform.
2. Pay the required application fee.
3. Ensure the testing centre has qualified personnel, approved equipment, and adequate testing facilities.
4. NEMA evaluates the application within thirty (30) days.
5. Successful applicants are issued with a Designation Letter authorizing operation of the testing centre.
6. Apply annually for an Operational Licence from NEMA.
7. Maintain valid third-party insurance cover for testing operations.

LICENCING PROCEDURE/FEES

Application Process for designation and licensing as a VETC

Key Steps



NOTE: the application is subject to evaluation process and feedback issued. The record of decision can either be approval, pending with issues or rejection.

Fees Prescribed under the Thirteenth Schedule of the Air Quality Regulations, 2024

The Thirteenth Schedule of the Air Quality Regulations, 2024 prescribes the applicable fees for designation and operation of Vehicular Emission Testing Centres, as well as vehicular emissions testing charges.

A. Fees for Vehicular Emission Testing Centres (VETCs)

ITEM	FEES (KSHS.)
Application fee for designation of a Mobile Source Testing Centre	50,000
Annual Operational Licence fee	100,000

B. Vehicular Emissions Testing Fees

CATEGORY OF VEHICLE	FEES (KSHS.)
Motorcycles and tricycles	1,000
Motor vehicles below 3.5 tonnes	5,000
Vehicles between 3.5 and 7 tonnes	10,000
Vehicles above 7 tonnes	20,000

OFFENCES AND PENALTIES

Emitting pollutants beyond prescribed limits

A person shall not cause or allow emissions from a mobile source beyond the prescribed standards.

Penalty

- Comply with the Improvement notice
- Undertake Re-testing
- Issuance of provisional compliance certificate only
- Payment of pollution tax for a period of 5 years..
- De-registration
- Deregistration of Non-Compliant Vehicles
- Vehicle scrapped according to the law

GENERAL PENALTY UNDER THE REGULATIONS

Any person who fails to comply with the Regulations commits an offence.

Penalty

- Fine not exceeding KSh 4 million or
- Imprisonment not exceeding 4 years or
- Both fine and imprisonment

Offence	Relevant Regulation	Description	Implications for Non-Compliance
Failure to meet emission limits after re-testing	Regulation 31 (3)	Any mobile source that fails emission standards after re-testing is considered non-compliant.	Payment of pollution tax and issuance of provisional compliance certificate only
Continuous failure to comply with emission standards	Regulation 31(4) (5)(6)	A mobile source that continuously fails emission standards for five years after servicing and maintenance is declared environmentally unfit.	Declaration of vehicle as environmentally unfit De-registration of vehicles by the agency responsible for vehicle registration Scrappage of vehicles by the Authority

Dispersion of particulate matter during transportation	Regulation 33	No person shall cause or allow the dispersion of visible particulate matter from any material being transported by motor vehicle or any other mode of transportation.	Subject to enforcement action
General failure to comply with the Regulations	Regulation 67	Any person who fails to comply with the Air Quality Regulations commits an offence.	Fine not exceeding KSh 4 million or imprisonment not exceeding 4 years or both

What is Your Obligation?



SPOT A SMOKING VEHICLE?

GATHER INFO:

*Smelling
pollutants beyond
prescribed limits?*



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REPORT ONLINE OR BY PHONE



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