

Mauritius Air Quality Overview

This document is based on research that UNEP conducted in 2015, in response to Resolution 7 of the UNEA 1. It describes country-level policies that impact air quality. Triple question marks (???) indicate that information for the section couldn't be found.

Please review the information, and provide feedback. A Word version of the template can be provided upon request. Corrections and comments can be emailed to Vered.Ehsani@unep.org and George.Mwaniki@unep.org.

Mauritius Air Quality Overview		
Goals	Status	Current Policies & Programmes
GENERAL OVERVIEW	<p>Overall situation with respect to air quality in the country, including key air quality challenges:</p> <ul style="list-style-type: none"> ● Air quality in Mauritius is one of the best in the world ● The main sources of air pollution in Mauritius are from the burning of fossil fuel for heat generation in industries, electricity generation and transportation. ● WHO estimates that outdoor air pollution causes 100 premature deaths annually¹ <p>Air quality monitoring system:</p> <ul style="list-style-type: none"> ● The Ministry of Environment has two mobile stations and two fixed ambient air monitoring stations ● The Independent Power Producers (IPPs) have installed Continuous Monitoring Emissions system (CEMS) to monitor their emissions. 	<p>National Ambient air quality standards: Exists</p> <p>National Air Quality Policy: No</p> <p>Air Quality legislation / programmes:</p> <ul style="list-style-type: none"> □ In Mauritius, air pollution control is regulated under the Environment Protection (Standards for Air) Regulations 1998. <p>Other: Ministry of Environment, Sustainable Development & Beach and Disaster Management is the enforcing agency for air.</p>
REDUCE EMISSIONS FROM	<p>Industries that have the potential to impact air quality:</p> <ul style="list-style-type: none"> ● Air pollution from industrial installations 	<p>Emission regulations for industries:</p> <ul style="list-style-type: none"> □ Industrial emissions are regulated under the Environment Protection (Standards for Air)

<p>INDUSTRIES</p>	<p>emanates from the following: food processing (largely sugar milling), textiles, clothing, chemicals, metal products, transport equipment, nonelectrical machinery among others as per the industrial activity listed under the environment protection (industrial waste audit) regulations 2008</p> <p>GDP of country: USD 11.9 B in 2013² Industries' share of GDP: 22%³ Electricity sources:</p> <ul style="list-style-type: none"> ● 79.7% of electricity in year 2014 is generated from fossil fuel, 3.1% from hydroelectric plants and the rest 17.1% is generated from other renewable sources⁴ <p>Others</p> <ul style="list-style-type: none"> ● 	<p>Regulations 1998.</p> <p>Small installation's emissions regulated: <i>(Yes/No)</i></p> <p><i>Yes. Emissions regulated under the Environment Protection (Standards for Air) Regulations 1998</i></p> <p>Renewable energy investment promoted:</p> <ul style="list-style-type: none"> ● In the Long Term Energy Strategy 2009-2025, the government aims at increasing the renewable energy share to 35% by 2025 <p>Energy efficiency incentives: <i>(ex: Subsidies, labelling, rebates etc)</i></p> <ul style="list-style-type: none"> ● An Energy Efficiency Management Office (EEMO) has been established in 2011 to promote the efficient use of energy and national awareness for the efficient use of energy as a means to reduce carbon emissions and protect the environment. ● The EEMO will introduce legislation for the labelling of selected household electrical appliances that will regulate energy consumption based on the standard load or energy efficiency index. ● A levy of Energy Consumption under the Excise regulations 2013 is charged on inefficient appliances. ● An Energy auditing program is being carried by the private sector with financial support of international partners for the textile sector, hotels and cooling system (including for buildings), supermarkets, air compressed systems, steam and heating systems, pumps and fans and hot water production (solar) covering 100 biggest consumers. The expected outcome of the program is Rs 600 Million yearly saving on energy bill for the private sector.
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- As part of a Feasibility Study on Energy Efficiency in Public Buildings energy audits were conducted in 2014 in 5 public buildings and the results were extrapolated for 13 additional buildings. The feasibility study came up with options of the institutional framework that would arrange financing for projects designed to improve the energy efficiency and maintenance costs for facilities.
- The Accelerated Income Tax Depreciation Provision for Green Investment has been reintroduced and made permanent in 2015 in respect of energy efficiency equipment (50% straight line).

Incentives for clean production and installation of pollution prevention technologies:

- The Accelerated Income Tax Depreciation Provision for Green Investment has been reintroduced and made permanent in 2015 in respect of desalination plant, composting equipment, pollution control equipment, water efficient plant (50% straight line)

Actions to ensure compliance with regulations: (*monitoring, enforcement, fines etc*)

- Enforcement actions are initiated as per the Environment Protection Act 2002. Scheduled industries are required to comply with the Environment Protection (Industrial Waste Audit) Regulations 2008, where one of the main objectives is to ensure self compliance to existing environmental standards including the air standards.
- Other actions at national level: Regular joint monitoring are carried out in industries with relevant Ministries/Authorities to ensure compliance

		<p>Other actions at national, sub-national and / or local level to reduce industrial emissions: <i>(can include incentives to move industries to less populated areas here)</i></p> <ul style="list-style-type: none"> ▪ Establishment of a Mauritius Renewable Energy Agency to promote the development of renewable energies. Government is aiming to raise the share of local renewable energy in the electricity generation mix to 35% or even higher by 2025; ▪ Preparation of Nationally Appropriate Mitigation Actions (NAMAs) for Mauritius is underway with focus on wind energy which is expected to reduce GHG emission of the order of 14, 200 tCO₂/yr; ▪ Development of the National Grid Code to enable CEB to purchase electricity from small independent power producers (SIPPs); ▪ Establishment of 8 SMART Cities in partnership with the private sector; and ▪ Option under consideration: use of new biomass sources such as Arundo Donax as well as Liquefied Natural gas.
<p>REDUCE EMISSIONS FROM TRANSPORT</p>	<p>Key transport-related air quality challenges: <i>(ex: vehicle growth, old fleet, dirty fuel, poor public transport etc)</i></p> <ul style="list-style-type: none"> ● Light Duty Vehicles (LDVs) increased from 141,586 in year 2005 to 241,030 in year 2013. ● The number of hybrid cars from 2010 to 2013 has been doubling each year. ● Projections show that a total of 446,354 LDVs would be registered in 2030 and 691,929 LDVs in 2050. ● The fleet of light duty vehicles is expected to double in 2030 and triple in 2050 compared to 2013 figures 	<p>With the support of UNEP and Donor Agencies, Mauritius is implementing the Global Fuel Economy Initiative. Phase I of the project was completed in December 2014 and Phase II is on-going and expected to be completed in June 2017.</p> <p>Vehicle emission limit: <i>(Euro rating)</i></p> <ul style="list-style-type: none"> ● To promote the use of more energy efficient vehicles, a CO₂ emission rebate is granted and deducted from the Excise Duty for vehicles below a threshold of 150 g CO₂/km. A tax is imposed for vehicles above the threshold of 150 g /km. ● The Road Traffic (Control of Vehicle Emissions) Regulations is in force since 2002. Presently Euro I diesel engines are imported. ● All vehicles use lead free gasoline

<ul style="list-style-type: none"> ● Mauritius has a well-developed bus transport system and the bus fleet is being renewed with new semi-low floor buses. Government is providing grant for purchase of semi-low floor buses. ● Private car ownership is 175 cars per 1000 individuals in 2014 ● The fleet of light duty vehicles is expected to double in 2030 and triple in 2050 compared to 2013 figures 	<p>Fuel Sulphur content: <i>(in ppm)</i></p> <ul style="list-style-type: none"> ● Diesel sulphur content is restricted at 50ppm <p>Fuel Lead content:</p> <p>Restriction on used car importation: The Consumer Protection (Control of Imports) Regulations imposes a number of conditions for import of second hand vehicles. e.g Motorcars, dual purpose vehicles (including 2x4 and 4x4 double-cab truck) shall -</p> <ul style="list-style-type: none"> ● Be between 18 months and 4 years from the date of first registration, at the date of shipment. ● Be covered by an inspection certificate certifying that the vehicle has been inspected not earlier than 2 months before the date of shipment; and the roadworthiness and usability of the vehicle. ● Be covered by an auction sheet specifying the grade of the vehicle which shall not be below the grade of 3.5 on a scale of 1 to 5 (This applies to second hand cars originating from Japan). <p>Actions to expand, improve and promote public transport and mass transit:</p> <p>Actions to promote non-motorized transport: <i>(ex: include sidewalks and bike lanes in new road projects, car -free areas etc)</i></p> <ul style="list-style-type: none"> ● Promotion of eco-friendly vehicles through the introduction of a Green taxation system since July 2011 which is based on the CO2 emission of motor cars instead of engine capacity; and ● Decreasing the sulphur content in diesel fuel from 2500 ppm to 500 ppm in 2010 and further decreasing the sulphur content of diesel to 50 ppm in 2012; and ● The regulatory body for vehicle registration and licensing i.e. National Transport Authority (NTA) has a yearly bus replacement programme based on a policy that public transport buses shall be delicensed on reaching the age of 16 years and be replaced by a semi-low floor bus using Euro II emission standards. To that effect, government has introduced a financial mechanism under which operators benefit from a subsidy of R1.0 m on the purchase of a modern semi-low floor bus and they are also exempted from the payment of the Value Added Tax (VAT) amounting to over half a million rupees (Rs 550,000).
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		<p>The following policies are under consideration:</p> <ul style="list-style-type: none"> • Promotion of public transport or high-occupancy vehicles (HOVs) • Park and ride system • Road pricing • Road decongestion • Car-free areas in city for pedestrians
<p>REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR</p>	<p>Outdoor, open burning: <i>(ex: is it commonly done? burning what kinds of wastes? etc)</i></p> <p>The practice of burning sugar cane before harvesting, in Mauritius, causes severe, though often localized air pollution</p>	<p>Legal framework: <i>(ex: is burning banned?)</i></p> <p>There is no such provision under regulations made by Local Authorities and the Local Government Act. However under the Criminal Code Act 1838 Section 385, Third Class Contravention part (g) this is considered to be an offence and is prohibited.</p> <p>Actions to prevent open burning of municipal waste and / or agricultural waste: Local Authorities offer at least a weekly waste collection service to householders and regular service at all commercial areas thus preventing stacking of wastes and any need to effect burning.</p>
<p>REDUCE EMISSIONS FROM OPEN BURNING: INDOOR</p>	<p>Dominant fuels used for cooking and space heating:</p> <p>Impact:</p> <p>•LPG gas is mainly used for cooking. Space heating is not a practice here since Mauritius is a tropical island.</p>	<p>Indoor air pollution regulated: <i>(Yes / Io) No</i></p> <p>Promotion of non-grid / grid electrification: 100 % access to electricity (Source: World Bank: http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS)</p> <p>Promotion of cleaner cooking fuels and clean cook stoves: LPG gas is used mainly for cooking.</p> <p>Other actions to reduce indoor biomass burning, or to reduce its emissions: Indoor biomass burning is not a practice in Mauritius</p>

¹ WHO, 'WHO | Country Profiles of Environmental Burden of Disease', WHO, 2008
http://www.who.int/quantifying_ehimpacts/national/countryprofile/en/#T.

² 'Countries of the World - 32 Years of CIA World Fact Books', 2015 <http://www.theodora.com/wfb/#R>.

³ 'Countries of the World - 32 Years of CIA World Fact Books'.

⁴ 'Statistics Mauritius, Energy and Water, Year 2014'.