

## Madagascar Air Quality Policies

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](mailto:Vered.Ehsani@unep.org) and [George.Mwaniki@unep.org](mailto:George.Mwaniki@unep.org).

<b>Madagascar Air Quality Policy Matrix</b>		
<b>Goals</b>	<b>Status</b>	<b>Current Policies &amp; Programmes</b>
GENERAL OVERVIEW	<p><b>Overall situation with respect to air quality in the country, including key air quality challenges:</b></p> <ul style="list-style-type: none"> <li>● Indoor air pollution is the most important exposure pathway of air pollutants in Madagascar</li> <li>● Traffic emissions have also been identified as an important cause of outdoor air pollution in major cities in Madagascar</li> <li>● Traffic related emissions are exacerbated by the importation of second-hand vehicles</li> <li>● Poor solid waste management is also an important source of air pollution</li> <li>● Majority of the households use kerosene and biomass based fuel (charcoal) for domestic cooking leading to substantial indoor exposure to air pollution</li> <li>● WHO estimates that outdoor and indoor air pollution causes 18700 premature deaths annually<sup>1</sup></li> <li>●</li> </ul>	<p><b>National Ambient air quality standards: ???</b></p> <p><b>National Air Quality Policy: ???</b></p> <p><b>Air Quality legislation / programmes: ???</b></p> <p><b>Other: ???</b></p> <ul style="list-style-type: none"> <li>●</li> </ul>

<sup>1</sup> WHO, 'WHO | Country Profiles of Environmental Burden of Disease', WHO, 2008  
 <[http://www.who.int/quantifying\\_ehimpacts/national/countryprofile/en/#T](http://www.who.int/quantifying_ehimpacts/national/countryprofile/en/#T)>.

	<p><b>Air quality monitoring system:</b></p> <ul style="list-style-type: none"> <li>● Currently air quality monitoring is limited</li> <li>● The National Institute of Sciences and Nuclear Technology monitors major air pollutants in Madagascar</li> </ul>	
REDUCE EMISSIONS FROM INDUSTRIES	<p><b>Industries that have the potential to impact air quality:</b></p> <ul style="list-style-type: none"> <li>● Air pollution from industrial installations emanates from the following: meat processing, seafood, soap, beer, leather, sugar, textiles, glassware, cement, automobile assembly plant, paper, petroleum, tourism among others</li> </ul> <p><b>GDP of country:</b> USD 10.53 B in 2013<sup>2</sup></p> <p><b>Industries' share of GDP:</b> 16.4%<sup>3</sup></p> <p><b>Electricity sources:</b></p> <ul style="list-style-type: none"> <li>● 65.6% of the installed electricity generating capacity (430000 KW in 2010) is generated from fossil fuel, 34.4% from hydroelectric plants<sup>4</sup></li> </ul> <p><b>Others ???</b></p> <ul style="list-style-type: none"> <li>●</li> </ul>	<p><b>Emission regulations for industries: ???</b></p> <p><b>Small installation's emissions regulated: (Yes/No) ???</b></p> <p><b>Renewable energy investment promoted: ???</b></p> <p><b>Energy efficiency incentives: (ex: Subsidies, labelling, rebates etc) ???</b></p> <p><b>Incentives for clean production and installation of pollution prevention technologies: ???</b></p> <p><b>Actions to ensure compliance with regulations: (monitoring, enforcement, fines etc) ???</b></p> <ul style="list-style-type: none"> <li>● <b>Other actions at national, sub-national and / or local level to reduce industrial emissions: (can include incentives to move industries to less populated areas here) ???</b></li> </ul>
REDUCE EMISSIONS FROM TRANSPORT	<p><b>Key transport-related air quality challenges:</b> (ex: vehicle growth, old fleet, dirty fuel, poor public transport etc)</p> <ul style="list-style-type: none"> <li>●</li> </ul>	<p><b>Vehicle emission limit: (Euro rating)</b></p> <p><b>Fuel Sulphur content: (in ppm)</b> Fuel sulphur content restricted at 5000ppm</p> <p><b>Fuel Lead content:</b> All vehicles use lead free gasoline</p> <p><b>Restriction on used car importation: ???</b></p>

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

<sup>3</sup> 'Countries of the World - 32 Years of CIA World Fact Books'.

<sup>4</sup> 'Countries of the World - 32 Years of CIA World Fact Books'.

		<p><b>Actions to expand, improve and promote public transport and mass transit: ???</b></p> <p><b>Actions to promote non-motorized transport:</b> (ex: include sidewalks and bike lanes in new road projects, car-free areas etc) ???</p>
<p>REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR</p>	<p><b>Outdoor, open burning:</b> (ex: is it commonly done? burning what kinds of wastes? etc)</p>	<p><b>Legal framework:</b> (ex: is burning banned?) ???</p> <p><b>Actions to prevent open burning of municipal waste and / or agricultural waste: ???</b></p>
<p>REDUCE EMISSIONS FROM OPEN BURNING: INDOOR</p>	<p><b>Dominant fuels used for cooking and space heating:</b></p> <ul style="list-style-type: none"> <li>● Household air pollution is the second leading cause of disease in Madagascar, where more than 99% of households rely on solid biomass for cooking</li> <li>● The average concentrations of fine particulate matter and carbon monoxide in kitchens significantly exceeded World Health Organization guidelines for indoor exposure</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>● WHO estimates that indoor air pollution causes 12700 premature deaths annually<sup>5</sup></li> </ul>	<p><b>Indoor air pollution regulated:</b> (Yes / No) ???</p> <p><b>Promotion of non-grid / grid electrification: ???</b></p> <p><b>Promotion of cleaner cooking fuels and clean cook stoves: ???</b></p> <p><b>Other actions to reduce indoor biomass burning, or to reduce its emissions: ???</b></p>

<sup>5</sup> WHO, 'WHO | Country Profiles of Environmental Burden of Disease', WHO, 2008  
[http://www.who.int/quantifying\\_ehimpacts/national/countryprofile/en/#T](http://www.who.int/quantifying_ehimpacts/national/countryprofile/en/#T).