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 and George.Mwaniki@unep.org.

### Madagascar Air Quality Policy Matrix

<table>
<thead>
<tr>
<th>Goals</th>
<th>Status</th>
<th>Current Policies &amp; Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL OVERVIEW</td>
<td>Overall situation with respect to air quality in the country, including key air quality challenges:</td>
<td>National Ambient air quality standards: ???</td>
</tr>
<tr>
<td></td>
<td>● Indoor air pollution is the most important exposure pathway of air pollutants in Madagascar</td>
<td>National Air Quality Policy: ???</td>
</tr>
<tr>
<td></td>
<td>● Traffic emissions have also been identified as an important cause of outdoor air pollution in major cities in Madagascar</td>
<td>Air Quality legislation / programmes: ???</td>
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<tr>
<td></td>
<td>● Traffic related emissions are exacerbated by the importation of second-hand vehicles</td>
<td>Other: ??</td>
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<tr>
<td></td>
<td>● Poor solid waste management is also an important source of air pollution</td>
<td>•</td>
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<td></td>
<td>● Majority of the households use kerosene and biomass based fuel (charcoal) for domestic cooking leading to substantial indoor exposure to air pollution</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>● WHO estimates that outdoor and indoor air pollution causes 18700 premature deaths annually(^1)</td>
<td>•</td>
</tr>
</tbody>
</table>

| REDUCE EMISSIONS FROM INDUSTRIES | Air quality monitoring system:  
● Currently air quality monitoring is limited  
● The National Institute of Sciences and Nuclear Technology monitors major air pollutants in Madagascar |
| Industries that have the potential to impact air quality:  
● 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 |
| GDP of country: USD 10.53 B in 2013<sup>2</sup>  
Industries’ share of GDP: 16.4%<sup>3</sup>  
Electricity sources:  
● 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>  
Others ??? |
| Emission regulations for industries: ???  
Small installation’s emissions regulated: (Yes/No) ???  
Renewable energy investment promoted: ???  
Energy efficiency incentives: (ex: Subsidies, labelling, rebates etc) ???  
Incentives for clean production and installation of pollution prevention technologies: ???  
Actions to ensure compliance with regulations: (monitoring, enforcement, fines etc) ???  
● 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) ??? |
| REDUCE EMISSIONS FROM TRANSPORT | Key transport-related air quality challenges:  
(ex: vehicle growth, old fleet, dirty fuel, poor public transport etc)  
● |
| Vehicle emission limit: (Euro rating)  
Fuel Sulphur content: (in ppm) Fuel sulphur content restricted at 5000ppm  
Fuel Lead content: All vehicles use lead free gasoline  
Restriction on used car importation: ??? |

<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’.
<table>
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<tr>
<th>REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR</th>
<th>Outdoor, open burning: (ex: is it commonly done? burning what kinds of wastes? etc)</th>
<th>Legal framework: (ex: is burning banned?)</th>
</tr>
</thead>
</table>
| REDUCE EMISSIONS FROM OPEN BURNING: INDOOR | Dominant fuels used for cooking and space heating:  
- Household air pollution is the second leading cause of disease in Madagascar, where more than 99% of households rely on solid biomass for cooking  
- The average concentrations of fine particulate matter and carbon monoxide in kitchens significantly exceeded World Health Organization guidelines for indoor exposure  
Impact:  
- WHO estimates that indoor air pollution causes 12700 premature deaths annually\(^5\) | Indoor air pollution regulated: (Yes / No)  
Promotion of non-grid / grid electrification:  
Promotion of cleaner cooking fuels and clean cook stoves:  
Other actions to reduce indoor biomass burning, or to reduce its emissions: |

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[http://www.who.int/quantifying_ehimpacts/national/countryprofile/en/#T].