

## Senegal 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>Senegal 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> <p>The city of Dakar concentrates most of the economic activities (a population of 3.1 million, 310000 registered vehicles, 70% of the industrial plants).</p> <p>Therefore air pollution became a key issue due to rapid urbanization and industrialisation.</p> <p><sup>1</sup><b>Air quality monitoring system:</b></p> <ul style="list-style-type: none"> <li>• Departments in charge of transport and environment setup in November 2009 the Air Quality Monitoring Center (CGQA) which is now operational with a network of 5 air quality monitoring stations around the city of Dakar and a reference laboratory.</li> </ul> <p>Daily Air Quality Index (AQI) is available for public and government's information.</p>	<p><b>National Ambient air quality standards:</b></p> <p>The NS-05-062 standard is the Senegalese standard on air pollution.</p> <p><b>National Air Quality Policy:</b></p> <p>In the framework of the Urban Mobility Improvement Program (PAMU), two components has been setup:</p> <ol style="list-style-type: none"> <li>1. Laboratory for air quality management (CGQA)</li> <li>2. Car inspection center (CCTVA) equipped with automobile exhaust gas analysers</li> </ol> <p>The Transport and Urban Mobility Support Project (PATMUR) which is the next step of PAMU has dedicated a part of its budget to air quality management by reinforcing CGQA's capacities, especially in traffic-related air pollution assessment.</p> <p><b>Air Quality legislation / programmes:</b></p> <ul style="list-style-type: none"> <li>• Air pollution prevention is regulated by the decree on air pollution prevention of 2003</li> </ul> <p><b>Other:</b></p>
REDUCE EMISSIONS FROM	<p><b>Industries that have the potential to impact air quality:</b></p>	<p><b>Emission regulations for industries:</b> Emissions from industries are regulated by the Environmental code of 2001 through its chapter I. The NS-05-062 standard (2003) set the</p>

<sup>1</sup> <http://www.air-dakar.org>

INDUSTRIES	<ul style="list-style-type: none"> <li>The most important industries are; agricultural and fish processing, phosphate mining, fertilizer production, petroleum refining; iron ore, zircon, and gold mining, construction materials, ship construction and repair among others</li> </ul> <p><b>GDP of country:</b> USD 15.4B in 2013</p> <p><b>Industries' share of GDP:</b> 22.7%</p> <ul style="list-style-type: none"> <li><b>Electricity sources:</b></li> <li>90% of the installed electricity generating capacity (638,000 KW in 2010) is generated from fossil fuel; the rest 10% is generated from renewable sources.<sup>2</sup></li> <li>Almost all the electricity generated in Senegal is derived from fossil fuels, thus power generation is also an important source of air pollutants</li> <li>PM SO<sub>2</sub>, and NO<sub>X</sub> are some of the most important air pollutant from Industrial sources in the country</li> </ul>	<p>threshold values.</p> <p><b>Small installation's emissions regulated:</b> <i>(Yes/No) ???</i></p> <p><b>Renewable energy investment promoted:</b></p> <ul style="list-style-type: none"> <li>Energy sector policy development letter 2012-2017 : Diversification of energy sources by introducing coal and natural gas with an objective of 20% in installed electrical capacity from renewable energy in 2017</li> </ul> <p><b>Energy efficiency incentives:</b><i>(ex: Subsidies, labelling, rebates etc) ???</i></p> <p><b>Incentives for clean production and installation of pollution prevention technologies:???</b></p> <p><b>Actions to ensure compliance with regulations:</b><i>(monitoring, enforcement, fines etc) ???</i></p> <p><b>Other actions at national, sub-national and / or local level to reduce industry:</b> <i>(can include incentives to move industries to less populated areas here)</i></p> <p><b>Establishment of a thermal regulation in progress</b></p> <ul style="list-style-type: none"> <li>National program to reduce emission through energy efficiency in the building sector aims to establish a thermal regulation and to produce thermal insulation material using Typha<sup>3</sup>. <ul style="list-style-type: none"> <li>Reduce emissions from the envelope</li> <li>Reduce emissions from electrical equipment</li> <li>Reduce Emissions from sanitary hot water production</li> <li>Reduce emissions from lighting , cooling</li> </ul> </li> </ul>
REDUCE EMISSIONS FROM TRANSPORT	<p><b>Key transport-related air quality challenges:</b> <i>(ex: vehicle growth, old fleet, dirty fuel, poor public transport etc.)</i></p> <ul style="list-style-type: none"> <li>Road transport is the dominant form of transport accounting for 95% of all transport in Senegal</li> <li>Freight and passenger transport is usually provided by private companies or individuals,</li> </ul>	<p><b>Vehicle emission limit:</b> <i>(Euro rating):</i> The NS-05-060 standard set the limit values for exhaust gas emissions. Regulated pollutants are carbon monoxide and hydrocarbons (gasoline car) and smoke opacity (diesel car)</p> <p><b>Fuel Sulphur content:</b> <i>(in ppm)</i> Fuel (diesel) sulfur content restricted at 5000ppm</p> <p><b>Fuel Lead content:</b> Unleaded gasoline restrictions since 2005</p> <p><b>Restriction on used car importation:</b></p> <ul style="list-style-type: none"> <li>The age limit for used cars that can be imported in Senegal is 8 years.</li> </ul>

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

<sup>3</sup> <http://www.pneeptypha.org>

	<p>with a few government owned and operated buses</p> <ul style="list-style-type: none"> <li>• Private car ownership is low with 22 cars per 1000 individuals in 2008</li> <li>• The vehicle fleet is characterized by aged vehicles, which worsens the air quality situation especially in urban areas</li> <li>• Vehicle emissions are a major source of PM, NO<sub>2</sub> and CO</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-importation inspection is required for road worthiness</li> </ul> <p><b>Actions to expand, improve and promote public transport and mass transit</b></p> <ul style="list-style-type: none"> <li>• The realization of the regional express train ;</li> <li>• The implementation of the BRT project (Bus Rapid Transit)</li> <li>• The renewal of the urban bus fleet</li> </ul> <p><b>Actions to promote non-motorized transport:</b> <i>(ex: include sidewalks and bike lanes in new road projects, car-free areas etc)</i></p> <ul style="list-style-type: none"> <li>• The completion of cycle paths on the ridge west of Dakar</li> <li>• Achieving wide sidewalks on phases 2 and 3 of the VDN</li> </ul> <p><b>Other transport-related actions:</b></p>
<p>REDUCE EMISSIONS FROM OPEN BURNING OF AGRICULTURAL / MUNICIPAL WASTE (OUTDOOR)</p>	<p><b>Outdoor, open burning:</b> <i>(ex: is it commonly done? burning what kinds of wastes? etc)</i></p> <ul style="list-style-type: none"> <li>• Uncontrolled waste burning, which is a common practice, is one of the practices that contributes to deteriorating air quality in urban centers</li> <li>• Agricultural waste burning can also impact air quality in the rural areas.</li> <li>• Due to the waste composition (plastics, waste tires, and other organic/inorganic materials) unregulated waste burning can be a source of health impairing emissions such as dioxins and furans</li> </ul>	<p><b>Legal framework:</b> <i>(ex: is burning banned?)</i></p> <ul style="list-style-type: none"> <li>• The Environmental Code controls waste management through its chapters 3 and 5 of its Title 2 termed: "Preventing and combating pollutions and nuisances", Title 3 on the protection and implementation of receptors and its Title 4 dealing with diverse sanctions and provisions.</li> </ul> <p><b>Actions to prevent open burning of municipal waste and / or agricultural waste:</b></p>
<p>REDUCE EMISSIONS FROM OPEN BURNING OF BIOMASS (INDOOR)</p>	<p><b>Dominant fuels used for cooking and space heating:</b></p> <ul style="list-style-type: none"> <li>• Wood is the dominant fuel used for cooking accounting for 45% of the energy mix in Senegal</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Indoor air pollution causes an estimated 6,300 premature deaths every year</li> <li>• Air pollution from indoor sources is the single</li> </ul>	<p><b>Indoor air pollution regulated:</b> <i>(Yes / No) No</i></p> <p><b>Promotion of non-grid / grid electrification:</b></p> <ul style="list-style-type: none"> <li>• Installed solar power is in the order of 3MW in 2013.</li> <li>• Rural electrification emergency program (PNUER) : increase rural electrification from 29% in 2013 to 60% in 2017, with a decentralized electrification component using solar mini-grids PV or hybrids (solar/ diesel group) for 392 villages</li> </ul> <p><b>Promotion of cleaner cooking fuels and clean cook stoves:</b></p> <ul style="list-style-type: none"> <li>• The promotion of the use of alternative fuels for cooking, for example agricultural waste</li> </ul>

	<p>largest contributor to the negative health effects of air pollution in Senegal.</p> <ul style="list-style-type: none"> <li>• The residential sector consumed the majority of the primary energy supply in 2013, with 48% of total final consumption being attributed to the sector.</li> </ul>	<p>products, has also been suggested as a source of energy efficiency improvements in the residential sector.</p> <ul style="list-style-type: none"> <li>• PERACOD/GIZ Senegal improved cooking stoves program (FASEN): dissemination of more than 600000 cooking stoves between 2006 and 2015</li> <li>• Sustainable and participatory management of traditional and substitution energies project(PROGEDE) : dissemination of more than 500000 improved cooking stoves</li> <li>• Senegal Biogas national program (PNB-SN): more than 800 biodigesters built between 2009 and 2014. 10000 biodigesters building program between 2015 and 2019.</li> </ul> <p><b>Other actions to reduce indoor biomass burning, or to reduce its emissions:</b></p> <ul style="list-style-type: none"> <li>• The potential for efficiency in rural households is also recognized by the government, and programs have been put in place as part of the current rural electrification program to improve lighting efficiency in rural households, primarily through subsidized CFL-light bulb distribution.</li> <li>• Programs have been put in place as part of the current rural electrification program to improve lighting efficiency in rural households, primarily through subsidized CFL-light bulb distribution.</li> </ul>
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