

Germany 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.

Germany Air Quality Policy Matrix		
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"> ● Stringent limit values and measures to prevent emissions from industry, transport and private households have helped to significantly decrease air pollution in Germany compared to previous decades. ● However, concentrations of particulate matter and nitrogen oxides still exceed current limit values. ● Calculations by the Federal Environment Agency of Germany show that exposure to fine particles causes about 47,000 premature deaths per year in Germany ● <p>Air quality monitoring system:</p> <ul style="list-style-type: none"> ● Air quality is measured by a sophisticated national air quality monitoring network. 	<ul style="list-style-type: none"> ● Complete harmonization with European Union air quality legislation ● The current standards are contained in the Clean Air for Europe (CAFE) Directive (EP & CEU, 2008) and the Fourth Daughter Directive (EP & CEU, 2004). ● These Directives also include rules on how Member States should monitor, assess and manage ambient air quality. <p>National Air Quality Policy</p> <ul style="list-style-type: none"> ● The EU air quality policy has a long term goal of achieving levels of air quality that do not result in unacceptable impacts on, and risks to, human health and the environment." ● European Union air quality policy aims to; <ul style="list-style-type: none"> - Develop and implement appropriate instruments to improve air quality. - Control of emissions from mobile sources, through fuel quality improvement, - Promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims. <p>Air Quality legislation / programmes:</p> <ul style="list-style-type: none"> ● Germany's regulations on air quality are all based on provisions adopted by the EU ● Air quality control in Germany is mainly governed by the Act on the Prevention of Harmful Effects on the Environment Caused by Air Pollution, Noise, Vibration and Similar Phenomena, (the Federal Emission Control Act (BImSchG) for short) and its implementing ordinances and administrative regulations. ● In addition, there are also provisions on air quality control at Federal State levels. <p>Other:</p> <p>The German government bases air pollution control on four strategies:</p> <ul style="list-style-type: none"> ● laying down environmental quality standard

		<ul style="list-style-type: none"> ● emission reduction requirements according to the best available technology ● product regulations ● laying down emission ceilings <ul style="list-style-type: none"> ● In Germany, the responsibility to meet air quality levels enables local and regional authorities to set up air quality plans containing various measures to improve air quality. ● Well-known examples for local measures are Low Emission Zones, which exclude vehicles without low emission standards from areas within the zone
REDUCE EMISSIONS FROM INDUSTRIES	<p>Industries that have the potential to impact air quality:</p> <ul style="list-style-type: none"> ● Air pollution from industrial installations emanates from the following: iron, steel, coal, cement, chemicals, machinery, vehicles, machine tools, electronics, automobiles, food and beverages, shipbuilding, textiles among others <p>GDP of country: USD 3.593 trillion in 2013¹</p> <p>Industries' share of GDP: 30.1%²</p> <p>Electricity sources:</p> <ul style="list-style-type: none"> ● 51% of the installed electricity generating capacity (178.4 million KW in 2010) is generated from fossil fuel, 7% from nuclear, 6% from hydroelectric plants and the rest 36% is generated from other renewable sources³ <p>Others ???</p> <ul style="list-style-type: none"> ● 	<p>Emission regulations for industries:</p> <ul style="list-style-type: none"> ● A large share of the emissions reduction necessary to meet the EU targets in Germany will be achieved by the implementation of the EU directive on industrial emissions. ● Industrial emissions within the European Union are regulated under the Industrial Emissions Directive (IED), which was issued on 21 December 2007 ● The directive's aim was to achieve significant benefits to the environment and human health by reducing harmful industrial emissions across the EU, in particular through better application of Best Available Techniques. ● The IED entered into force on 6 January 2011 and has to be transposed into national legislation by Member States by 7 January 2013. ● European legislation establishes air quality objectives (limit and target values) for the different pollutants. Limit values are concentrations that must not be exceeded in a given period of time. <p>Small installation's emissions regulated: (Yes/No) yes</p> <p>Renewable energy investment promoted:</p> <ul style="list-style-type: none"> ● In Germany, electricity from renewable sources is supported through a feed-in tariff. ● The criteria for eligibility and the tariff levels are set out in the Act on Granting Priority to Renewable Energy Sources (EEG) ● Germany provides policies for the promotion of renewable energy sources covering training, certification and research programmes, a self-commitment of public authorities, the support of district heating networks and the introduction of building obligations regarding the use of heat produced from renewable energy.

¹ 'Countries of the World - 32 Years of CIA World Fact Books', 2015 <<http://www.theodora.com/wfb/#R>>.

² 'Countries of the World - 32 Years of CIA World Fact Books'.

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

		<p>Energy efficiency incentives: (<i>ex: Subsidies, labelling, rebates etc</i>)</p> <ul style="list-style-type: none"> ● In energy savings and energy efficiency Germany follows a three-tiered approach consisting of requirements, support and information. <p>Incentives for clean production and installation of pollution prevention technologies: ???</p> <p>Actions to ensure compliance with regulations: (<i>monitoring, enforcement, fines etc</i>) ???</p> <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>
<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"> ● Transport is among the most important source of air pollution in Germany ● Public transport in Germany is well developed and several options spanning from railways, trams, metros and bus are available for commuters. ● Use of private cars is discouraged as demonstrated by the high fuel cost which stood at USD 1.49 per litre in 2015⁴. ● Private car ownership is high with 588 cars per 1000 individuals in 2012⁵ 	<p>Vehicle emission limit: (<i>Euro rating</i>)</p> <ul style="list-style-type: none"> ● Emissions standards for vehicles correspond to Euro 6 for LDV vi HDV standards. ● European Union emission regulations for new light duty vehicles (passenger cars and light commercial vehicles) are specified in Regulation 715/2007 (Euro 5/6) [2899]. ● Emission standards for light-duty vehicles are applicable to all vehicles not exceeding 2610 kg (Euro 5/6). ● EU regulations introduce different emission limits for <i>compression ignition</i> (diesel) and <i>positive ignition</i> (gasoline, NG, LPG, ethanol,...) vehicles. Diesels have more stringent CO standards but are allowed higher NOx. ● Positive ignition vehicles were exempted from PM standards through the Euro 4 stage. Euro 5/6 regulations introduce PM mass emission standards, equal to those for diesels, for positive ignition vehicles with direct injection engines. <p>Fuel Sulphur content: (<i>in ppm</i>)</p> <ul style="list-style-type: none"> ● The 2000/2005 emission standards were accompanied by an introduction of more stringent fuel regulations that require “Sulphur-free” diesel and gasoline fuels (≤ 10 ppm S) must be mandatory from 2009. ● Maximum allowable sulphur level in petrol and diesel fuels is 10ppm <p>Fuel Lead content: All vehicles use lead free gasoline</p> <p>Restriction on used car importation: ???</p> <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</i></p>

⁴ ‘Gasoline Prices around the World, 28-Sep-2015 | GlobalPetrolPrices.com’ <http://www.globalpetrolprices.com/gasoline_prices/> [accessed 5 October 2015].

⁵ World Bank, *Worldwide Total Motor Vehicles (per 1,000 People)*, 2011 <<http://chartsbin.com/view/1114>> [accessed 30 June 2015].

		<p><i>new road projects, car-free areas etc)</i></p> <ul style="list-style-type: none"> ● Partnership of Air Quality and Low-Emission Mobility has been founded in a couple of cities to improve air quality
REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR	<p>Outdoor, open burning: <i>(ex: is it commonly done? burning what kinds of wastes? etc)</i></p>	<p>Legal framework: <i>(ex: is burning banned?) ???</i></p> <p>Actions to prevent open burning of municipal waste and / or agricultural waste: ???</p>
REDUCE EMISSIONS FROM OPEN BURNING: INDOOR	<p>Dominant fuels used for cooking and space heating:</p> <p>Impact:</p> <ul style="list-style-type: none"> ● 	<p>Indoor air pollution regulated: <i>(Yes / No) Yes</i></p> <ul style="list-style-type: none"> ● The amendment to the Ordinance on Small Firing Installations (1. BImSchV), which entered into force in March 2010, was an important step towards reducing particulate matter emissions from small firing installations such as stoves and tiled stoves. ● The amended requirements for new installations and the modernization of existing installations will achieve a noticeable reduction in particulate matter emissions, averaging 5 to 10 % in the residential areas concerned. <p>Promotion of non-grid / grid electrification: ???</p> <p>Promotion of cleaner cooking fuels and clean cook stoves:</p> <p>Other actions to reduce indoor biomass burning, or to reduce its emissions: ???</p>