

United States of America Air Quality Catalogue

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.

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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 has greatly improved in the United States in the last few decade due to regulations, technology improvements and economic changes. • Since the passage of the Clean Air Act in 1970, the United States has cut down on air pollutants by 69 percent as of 2014, according to the EPA. • Ground level ozone and particulate matter are some of the most important pollutants in the USA • However, approximately 57 million people still live in areas in the United States with unhealthy levels of air pollution. (source: http://www3.epa.gov/airtrends/aqtrends.html#comparison) • Topography and weather conditions are some of the external factors that aggravate air pollution in the United States especially in urban centres • WHO estimates that outdoor air pollution 	<p>National Ambient air quality standards: Exists</p> <ul style="list-style-type: none"> • The U.S. Clean Air Act (CAA) provides the principal framework for national, state, tribal and local efforts to protect air quality. • To protect public health and welfare nationwide, the law requires the U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) based on the latest science, and requires states to adopt enforceable plans to achieve the standards. • The Clean Air Act identifies two types of national ambient air quality standards. Primary standards for the public health protection and Secondary standards for public welfare <p>National Air Quality Policy:</p> <ul style="list-style-type: none"> • The U.S. Clean Air Act (CAA) provides the principal framework for national, state, tribal and local efforts to protect air quality. <p>Air Quality legislation / programmes:</p> <ul style="list-style-type: none"> • The Clean Air Act (CAA) is the federal law passed in 1970, and last amended in 1990, which forms the basis for the national air pollution control effort. • Basic elements of the act include national ambient air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. <p>Other:</p>

	<p>causes 40600 premature deaths annually¹ however, a study by the OECD reviewed this number upwards to 110,292 in 2010</p> <p>Air quality monitoring system:</p> <ul style="list-style-type: none"> • Air quality is monitored by a sophisticated national air quality monitoring network. • Most of the ambient air monitoring networks supporting air quality management are designed and operated, following federal guidelines, by tribal, state, or local governments 	<ul style="list-style-type: none"> • The CAA prescribes a complicated set of responsibilities and relationships among federal, states, tribal, and local agencies. • The federal government coordinates efforts through the United States Environmental Protection Agency (USEPA) and sets national air quality standards and approaches to pollution mitigation so that it can provide a basic level of environmental protection to all individuals in the U.S. • State and local governments then develop, implement, and enforce specific strategies and control measures to achieve the national standards and goals. • The CAA empowers EPA to oversee the activities carried out by these agencies. In addition, the federal courts also have a role in AQM – final agency rules promulgated under the CAA are subject to judicial review and any citizen may file a civil action against EPA
<p>REDUCE EMISSIONS FROM INDUSTRIES</p>	<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: petroleum, steel, motor vehicles, aerospace, telecommunications, chemicals, electronics, food processing, consumer goods, lumber, mining among others <p>GDP of country: USD 16.72 trillion in 2013²</p> <p>Industries' share of GDP: 19.5%³</p> <p>Electricity sources:</p> <ul style="list-style-type: none"> • 75.3% of the installed electricity generating capacity (1.039 Billion KW in 2010) is 	<p>Emission regulations for industries:</p> <ul style="list-style-type: none"> • The Clean Air Act requires EPA to regulate emissions of listed toxic air pollutants from a published list of industrial sources referred to as "source categories." • As required under the Act, EPA has developed a list of source categories that must meet control technology requirements for these toxic air pollutants. • The EPA is required to develop regulations (also known as rules or standards) for all industries that emit one or more of the pollutants in significant quantities. • All new industrial plants or major additions to existing plants, regardless of size or location need to adhere to New Source Performance Standards (NSPSs). These are standards determined by the EPA considering cost, environmental effects, and state of the art technology. • After the EPA sets the standards, it is the responsibility of the state to issue permits and enforce them.

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'.

	<p>generated from fossil fuel, 9.7% from nuclear, 7.6% from hydroelectric plants and the rest 5.3% is generated from other renewable sources⁴</p> <p>Others</p> <ul style="list-style-type: none"> • Each year in the U.S., industrial operations emit about 89 million tons of pollutants into the air. (source: http://www3.epa.gov/airtrends/aqtrends.html#comparison) 	<ul style="list-style-type: none"> • New sources in non-attainment areas are required to adhere to the lowest achievable emissions rate (LAER) which is the lowest emissions rate achieved by a similar source or the lowest rate for a similar source in a State Implementation Plan (SIP) anywhere in the country. • A new source wishing to enter a Prevention of Significant Deterioration area needs to use the best achievable control technology (BACT) which is based on a maximum amount of achievable reductions once cost and technology are considered. • These standards, LAER and BACT, need to be at least as strict as NSPS. <p>Small installation's emissions regulated: <i>(Yes/No)</i> yes</p> <p>Renewable energy investment promoted:</p> <ul style="list-style-type: none"> • The federal government, acting primarily through the federal tax code, and most state and local governments throughout the US have adopted legislation to support and incentivise the use of renewable energy. • One of the federal government's primary policies in support of renewable energy is the federal electricity production tax credit (PTC) • The PTC provides a per-kilowatt-hour tax credit for a ten-year period beginning on the placed in service date for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during a taxable year. <p>Energy efficiency incentives: <i>(ex: Subsidies, labelling, rebates etc)</i></p> <ul style="list-style-type: none"> • States have adopted various policies that support greater investment in and adoption of energy efficiency <p>Incentives for clean production and installation of pollution prevention technologies:</p> <ul style="list-style-type: none"> • Compliance assistance (program initiated by EPA) involves actions and programs designed to encourage and assist affected industries to follow the relevant environmental laws. <p>Actions to ensure compliance with regulations: <i>(monitoring, enforcement, fines etc)</i></p>
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⁴ 'Countries of the World - 32 Years of CIA World Fact Books'.

		<ul style="list-style-type: none"> • EPA’s compliance and enforcement goals are to use tough civil and criminal enforcement for violations that threaten communities and the environment. • Compliance and enforcement programs encompass a range of actions and activities, including: <ul style="list-style-type: none"> • compliance monitoring; • administrative, civil, and criminal enforcement; • compliance assistance; • compliance incentives and auditing; • planning and results; • data systems; and, • environmental justice
<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 the US • In the major cities public transport is well developed and several options spanning from railways, trams, metros and bus are available for commuters. • Use of personal cars is the most dominant mode of transport • Low fuel cost which stood at USD 0.68 per litre in 2015⁵ does not deter the use of private cars. • Private car ownership is high with 809 cars per 1000 individuals in 2012⁶ 	<p>Vehicle emission limit: <i>(Euro rating)</i></p> <ul style="list-style-type: none"> • EPA regulates the emissions from mobile sources by setting standards for the specific pollutants being emitted. • EPA established progressively more stringent emission standards for carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter, starting in the mid-1970s for on-road vehicles and in the early 1990s for non-road engines and equipment. • These standards specifically restrict emissions of CO, NO_x, PM, HCHO, NMHC. • Currently Tier 2 standards are the current set of federal emissions regulations. • Tier 2 standards require that vans, pickups and large SUVs be subject to the same emissions regulations as passenger cars irrespective of the fuel used. • The new Tier 3 standard will come into force in 2017 <p>Fuel Sulphur content: <i>(in ppm)</i></p> <ul style="list-style-type: none"> • Maximum allowable sulphur level in petrol and diesel fuels is 15ppm <p>Fuel Lead content: All vehicles use lead free gasoline</p> <p>Restriction on used car importation:</p>

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

⁶ World Bank, *Worldwide Total Motor Vehicles (per 1,000 People)*, 2011 <<http://chartsbin.com/view/1114>> [accessed 30 June 2015].

		<ul style="list-style-type: none"> • Used cars imported into the country must conform to all the EPA and department of transportation requirements. <p>Actions to expand, improve and promote public transport and mass transit:</p> <ul style="list-style-type: none"> • Public institutions are encouraged to employ various methods that reduce emissions from the use of personal cars, such initiatives include: telecommuting, flexitime, compressed workweeks, staggered work hours, and incentives for public transportation and ridesharing <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"> • The U.S. Department of Transportation works with state and local level stakeholders to promote and implement these types of actions/policies.
REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR	<p>Outdoor, open burning: <i>(ex: is it commonly done? burning what kinds of wastes? etc)</i></p> <ul style="list-style-type: none"> • Forest fires can significantly deteriorate air quality in some regions within the US • Burning of agricultural waste can also impact local regional air quality 	<p>Legal framework: <i>(ex: is burning banned?)</i></p> <ul style="list-style-type: none"> • Most states have regulations governing open burning • Individuals can apply for open burning permits when need be <p>Actions to prevent open burning of municipal waste and / or agricultural waste:</p> <ul style="list-style-type: none"> • Open burning rules and regulations are enforced by insurance fines and penalties
REDUCE EMISSIONS FROM OPEN BURNING: INDOOR	<p>Dominant fuels used for cooking and space heating:</p> <ul style="list-style-type: none"> • Burning of biomass for space heating is still common during wintertime <p>Impact:</p>	<p>Indoor air pollution regulated: <i>(Yes / No)</i></p> <ul style="list-style-type: none"> • On February 3, 2015, EPA promulgated new source performance standards for residential wood heaters to make new heaters significantly cleaner <p>Promotion of cleaner cooking fuels and clean stoves:</p> <ul style="list-style-type: none"> • Energy star is an EPA voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency.