

Israel 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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Israel Air Quality Catalogue		
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 in Israel has improved in recent years, largely as a result of increased use of natural gas for electricity generation and stringent environmental requirements within the framework of emission permits to air and business licensing conditions. • Particulate matter pollution is the most problematic air pollutant in Israel in terms of its impact on health. • Israel's specific conditions, such as concentration of population and industry in the coastal area, rapid industrial development, small land area and singular geological, topographical and climatic features aggravate the problems of air pollution. • The rapid emergence of industrial plants in the vicinity of urban centres coupled by an increase in the number of motor vehicles has exacerbated air pollution problems. • National estimates of air pollutant emissions show a trend of decrease in air pollutant emissions since 2000, with the exception of fine particles (PM2.5) and ozone, which have remained unchanged. • Despite continuous increases in the total national energy requirement, SO₂ emissions have been reduced significantly. 	<p>National Ambient air quality standards:</p> <ul style="list-style-type: none"> • Ambient air quality standards were first set in Israel in 1992 within the framework of the Abatement of Nuisances Law. • Within the framework of the Clean Air Law, 2008, the Minister of Environmental Protection is required to set air quality standards, including target values, ambient values, alert thresholds and reference values. • Air quality standards for 27 air pollutants were promulgated in 2011 and are updated every three years. <p>National Air Quality Policy:</p> <ul style="list-style-type: none"> • A National Air Pollution Reduction and Prevention Program until 2020 was adopted by government decision no. 707 in 2013. The program focuses on the prevention of air pollution from transportation, industry, energy and households. • The national program includes such components as encouraging carpooling and public transportation, promoting a program to switch public transportation to natural gas use, incentivizing plants to use less polluting fuels, switching to a “smart electric network,” etc. • Policy measures to reduce air pollution include improving fuel quality, requiring best available techniques (BATs) to limit industrial emissions, reducing taxes on low-pollution vehicles and increasing enforcement efforts. <p>Air Quality legislation / programmes:</p> <p>The Clean Air Law, 2008, came into effect in January 2011. It provides a comprehensive framework for the reduction and prevention of air pollution, by imposing obligations on the government, local authorities and the industrial sector. Provisions of the law require, among others:</p>

	<p>Air quality monitoring system:</p> <ul style="list-style-type: none"> ● Israel's national air monitoring network is composed of more than a 100 monitoring stations across the country which measure criteria pollutants including particulate matter, sulphur dioxide, nitrogen oxides, ozone and carbon monoxide. ● As of 2013, the Air Monitoring Network is accredited for testing in accordance with the requirements of ISO/IEC 17025:2005. ● In 2013, periodic environmental sampling for pollutants that cannot be continuously monitored by the network was instituted in 14 sampling points throughout the country at a frequency of once in two weeks. ● The OECD estimates that outdoor air pollution in Israel causes 2500 premature deaths annually¹ 	<ul style="list-style-type: none"> ● establishment of emission limit values ● emission permits from major industrial polluters ● publication of air quality data and forecasts ● air pollutant monitoring and sampling ● enforcement and strict penalties. <p>Other:</p> <ul style="list-style-type: none"> ● In recent years the government has introduced various measure to reduce air pollution from all sources; transportation, industry, electricity production and quarrying. ● The Protection of the Environment (Releases and Transfers to the Environment – Reporting and Registering Obligations) Law, 2012 imposes reporting obligation on facilities with significant impact on the environment. The annex to the law includes a list of 114 pollutants and 74 activities by several industrial sectors and the information is publicly accessible on an internet-based PRTR. http://www.sviva.gov.il/English/env_topics/IndustryAndBusinessLicensing/PRTR/Pages/default.aspx
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: power generation, petrochemical industries, chemical industry, mineral industry (quarries), metal production and processing industry, among others². <p>GDP of country: USD 304.22 B in 2014³</p> <p>Industries' share of GDP: 25.7%</p> <p>Electricity sources:</p> <ul style="list-style-type: none"> ● 97.4% of the installed electricity generating capacity is generated from fossil fuel (coal and natural gas) and 	<p>Emission regulations for industries:</p> <ul style="list-style-type: none"> ● The Clean Air Law of 2008 is the principal legislative instrument for controlling air pollution. It sets requirements for emission permits from major industrial polluters. Emissions Permit regulations, which came into force in 2010, require applications for emissions permits to be prepared according to specific guidelines based on reference documents (BREFs) on Best Available Techniques (BAT). ● Small installation's emissions regulated: (<i>Yes/No</i>) Yes. Under the Licensing of Businesses Law, 1968, maximum permissible emission levels are set within the framework of conditions in the businesses licenses of small and medium installations. Uniform specifications have been set for some sectors. Businesses are monitoring to ensure ongoing compliance with environmental license conditions. <p>Renewable energy investment promoted:</p>

¹ OECD (2014), The Cost of Air Pollution: Health Impacts of Road Transport, OECD Publishing. <http://dx.doi.org/10.1787/9789264210448-en>.

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

³ World Bank Open Data - <http://data.worldbank.org/country/israel>.

	<p>2.6% from renewable sources⁴.</p> <ul style="list-style-type: none"> ● Over the past decade, electricity consumption has risen steadily - averaging 2.5% a year. 	<ul style="list-style-type: none"> ● Government Resolution No. 3954, dated August 21, 2008, decided on a five-year investment program for renewable energy including practical and theoretical research and on establishing an R&D center for renewable energy technologies in the Negev region of Israel. ● Government Resolution No. 4450 (SE/176), dated January 29, 2009, set a target for the generation of 10% of Israel's electricity needs from renewable energy sources by 2020. ● Government Resolution No. 542, dated September 20, 2015, set a target of 17% for the generation of electricity from renewable energy out of the total electricity consumption in 2030 (within the framework of a decision on the reduction of greenhouse gas emissions and increased energy efficiency). ● The government provides financial incentives for renewable energy production via feed-in tariffs. The payments reflect the reduction in costs that result from the prevention of pollutant emissions. ● A “net metering” reform was introduced in 2013 which enables domestic and larger consumers to produce and use their own renewable energy. <p>Energy efficiency incentives: (<i>ex: Subsidies, labelling, rebates etc</i>)</p> <ul style="list-style-type: none"> ● Government Resolution No. 3261 (SE/69), dated March 13, 2008, set a target for reducing electricity consumption by 20% of the electricity consumption forecast for 2020. ● Government Resolution No. 4095, dated September 18, 2008, decided on a series of cross-sectional energy efficiency measures which will lead to a 20% reduction in electricity consumption by 2020. ● Government Resolution No. 542, dated September 20, 2015 set a target of 17% reduction in electricity consumption by 2020 relative to the electricity consumption forecast for 2030 under the business as usual scenario (within the framework of a decision on the reduction of greenhouse gas emissions and increased energy efficiency). ● An energy efficiency reduction program for small and medium enterprises was launched in 2013, which includes subsidized consultations on energy consumption and identification of energy-saving solutions. <p>Incentives for clean production and installation of pollution prevention</p>
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⁴ 'The World Factbook - Central Intelligence Agency'. <https://www.cia.gov/library/publications/the-world-factbook/geos/is.html>

technologies:

- Natural gas
- A national plan for greenhouse gas emissions reduction, which was approved by the government in November 2010, included a subsidy program for energy efficiency and greenhouse gas reduction investments in the industrial, commercial and municipal sectors. As part of the package, approved projects based on innovative technologies developed by Israeli companies which are commercially installed for the first time were eligible for an additional subsidy.
- The Office of the Chief Scientist in the Ministry of Economy supports the development of innovative technologies, including the clean-tech market.
- The Ministry of Economy provides financial assistance to support pilot plants for technology demonstration and is helping to establish green industrial zones, based on integrated environmental management.
- The EU-funded MED TEST II project in collaboration with UNIDO helps to build capacity for green Industry and facilitate transfer of environmentally sound technology. 7 Israeli industrial companies have been chosen to take part in the project, which is now in the implementation phase.
- The aim of a planned Resource Efficiency and Clean Production Knowledge Center is to promote environmental innovation and provide advice and support for industries and businesses required to comply with IPPC legislation. The Center will collect and disseminate information on strategies and policies to promote green growth and resource efficiency.

Actions to ensure compliance with regulations: (*monitoring, enforcement, fines etc*)

- Beginning in 2000, the Ministry of Environmental Protection implements spot checks in stacks of industrial plants. Violations of emission standards lead to enforcement measures.
- Industries are required to report on the results of their self-monitoring once a year.
- Enforcement measures range from administrative enforcement, including temporary or permanent shutdown of a business, cleanup and remediation orders and permit revocation, to criminal enforcement including fines and possible imprisonment.

		<ul style="list-style-type: none"> • Administrative financial sanctions were introduced into the Clean Air Law in order to make enforcement more time-efficient and monetary sanctions more proportionate to non-compliance. • 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> • Government Resolution No. 529, dated September 6, 2015, calls for a national plan to reduce air pollution and environmental hazards in Haifa Bay. The action plan sets regional targets for the reduction of air pollutant emissions from industrial sources in Haifa Bay, for expanding air quality monitoring and sampling, and for reducing the risks of hazardous materials, including the relocation of hazardous facilities such as fuel farms and fuel tanks to less populated sites. http://www.sviva.gov.il/English/env_topics/IndustryAndBusinessLicensing/Haifa-Bay-Industrial-Zone/Pages/Plan-to-Reduce-Air-Pollution-and-Environmental-Risks-in-Haifa-Bay-2015-2020.aspx • Introduction of natural gas to replace more polluting fuels as an energy source in the industrial sector is promoted whenever possible. A dedicated governmental fund assists industrial companies in making the switch. • An Environmental Impact Index of Public Companies was introduced in 2014. This index ranks the potential environmental impact of factories across Israel. This is determined by: data from the PRTR submitted by the company (see above), the proximity of its factory to population centers and water sources, risks arising from the storage of hazardous materials at the facility, and compliance with environmental protection laws. The index allows investors to receive straightforward information about a company's environmental risk level. http://www.sviva.gov.il/English/env_topics/Sustainable%20Development/Environmental-Impact-Index/Pages/2015-Public%20Companies-Impact-Index.aspx
REDUCE EMISSIONS FROM TRANSPORT	<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"> • Vehicle numbers have increased nearly threefold since 	<p>Vehicle emission limit: <i>(Euro rating)</i></p> <p>Israel uses several policy tool to limit emissions from cars this tools includes:</p> <ul style="list-style-type: none"> • Vehicle emission standard requirements are identical to EU limits in terms of Euro rating.

	<p>1990, reaching 2.96 million at the end of 2014.</p> <ul style="list-style-type: none"> ● The motorization rate reached 358 cars per 1000 individuals in 2014⁵. ● Transportation sources are responsible for a substantial percentage of the concentrations of hydrocarbons, nitrogen oxides and particulates in the environment, especially in city centers. ● One third of vehicular emissions are from diesel buses and trucks although these make up only 5% of the vehicles on the road. ● Public transport is dominated by bus routes, including a BRT system in Haifa. Bus transportation accounts for about 85% of public transportation use. ● Use of private cars is discouraged by high purchase prices and high fuel costs, stood at USD 1.60 per litre in 2015⁶. 	<ul style="list-style-type: none"> ● Rules and technical specifications have been set for air pollution emission tests from diesel and gasoline-powered vehicles in vehicle inspection stations during annual road worthiness tests. ● Israel's air quality monitoring network includes transportation stations situated at road level along main transportation arteries to monitor the primary pollutants emitted from vehicles. ● Mobile enforcement units are responsible for roadside enforcement. Vehicles with excessive emissions are taken off the road. ● An 83% purchase tax is imposed on all vehicles powered by conventional combustion engines. ● The "green tax" car reform directly links the purchase tax on a vehicle to its emission levels, providing an incentive for buying low polluting vehicles: cleaner conventional combustion engine cars enjoy a purchase tax rebate and low purchase taxes are imposed on hybrids (30%) and electric cars (8%). ● Publication of air pollution emission data is required in all vehicle advertisements as of 2009. ● In January 2015, the Ministry of Environmental Protection issued instructions on air pollution reduction to owners of heavy vehicle fleets. The instructions set an average target for the vehicle fleet to ensure compliance with Euro 4 and Euro 5 emission standards by 2018 and require the gradual use of alternative propulsion systems (electric, hybrid, natural gas, or biodiesel) so that by 2020, 3% of the fleet will be powered by alternative fuels. ● Monitoring trends show a decrease in carbon monoxide and hydrocarbon emissions due to improvements in emission reduction technologies including catalytic converters which are mandatory since 1994. <p>Fuel Sulphur content: (<i>in ppm</i>): Diesel and gasoline sulphur content is regulated at 10ppm</p> <p>Fuel Lead content: All vehicles use lead free gasoline since 2004</p> <p>Restriction on used car importation: Importation of used vehicles is limited.</p>
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⁵ World Bank, *Worldwide Total Motor Vehicles (per 1,000 People)*, 2011 <<http://chartsbin.com/view/1114>> [accessed 30 June 2015].

⁶ 'Gasoline Prices around the World, 28-Sep-2015 | GlobalPetrolPrices.com' <http://www.globalpetrolprices.com/gasoline_prices/> [accessed 5 October 2015].

		<p>Actions to expand, improve and promote public transport and mass transit:</p> <ul style="list-style-type: none"> ● Interurban rail travel has increased and passenger volume has grown, with a 35% increase in the number of passengers since 2010. ● A fast lane to Tel Aviv is reserved for public transport and for carpooling as well as for paying customers. Tolls vary depending on traffic conditions. The lane includes a parking lot from where free shuttles to Tel Aviv are available. ● A light rail system is in planning for the Tel Aviv metropolitan area. ● A light train is in operation in Jerusalem since 2011. ● Electrification of the rail system is in planning ● A Jerusalem-Tel Aviv high speed rail line is under construction to connect Jerusalem to the Greater Tel Aviv Metropolitan area. ● Plans call for establishing rail connections between all major and medium-sized Israeli cities. ● Israel's interurban and urban city bus and rail systems are being integrated to improve the connectivity between train stations and bus lines. ● Dedicated bus lanes have been expanded. ● Discounts for public transport are available to children, students and the elderly. ● Transfer tickets and smart cards were introduced to the public transport system. <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"> ● Israel's first "Low Emission Zone" is in planning for Haifa within the framework of the national plan to reduce air pollution in Haifa Bay. It will restrict the entry of diesel vehicles unless equipped with particulate filters. ● Promotion of a bill to encourage bicycle use that would create and add bike paths and create financial incentives for bicycling. ● Establishment of a bike rental system, entitled Tel-O-Fun, in Tel Aviv in 2011 and expansion to nearby cities. ● Development of bike paths in Tel Aviv and other cities. ● Creation of pedestrian paths and pedestrian malls within cities. ● Tel Aviv city ordinance will require developers to ensure provision of shade (by trees or other measures) in public areas of new projects, commencing 2016. <p>Other transport-related actions:</p>
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<p>REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR</p>	<p>Outdoor, open burning: <i>(ex: is it commonly done? burning what kinds of wastes? etc)</i></p> <ul style="list-style-type: none"> ● Most of the solid waste is disposed in landfills. ● There is some burning of agricultural waste. 	<p>Legal framework: <i>(ex: is burning banned?)</i></p> <ul style="list-style-type: none"> ● Abatement of Nuisances Regulations (Prevention of Unreasonable Air and Odor Pollution from Waste Disposal Sites) 5750-1990 prohibit emissions of smoke, gas, fumes and dust that are released from waste burning in waste disposal sites. Burning of waste is prohibited in such sites. ● Public Health Regulations (Abatement of Nuisances) (Removal of Plastic Sheets), 1993 prohibit the burning of plastic sheets in agricultural fields. ● Abatement of Nuisances Regulations (Air Pollution from Premises), 1962 prohibit the emission of black smoke into the public domain. ● The Clean Air Law prohibits the emission of pollutants into the air. ● Numerous local authorities have enacted bylaws to prohibit the open burning of municipal waste. ● The burning of agricultural prunings is prohibited except by special permit due to phytosanitary considerations. <p>Actions to prevent open burning of municipal waste and / or agricultural waste:</p> <ul style="list-style-type: none"> ● An inter-ministerial committee is reviewing alternatives to the burning of agricultural waste (yard waste).

		<ul style="list-style-type: none"> • Financial support is provided to socio-economically weak local authorities for solid waste collection and treatment. • Designated inspectors of the Ministry of Environmental Protection and Ministry of Agriculture enforce the prohibitions on the burning of municipal and agricultural waste. • Awareness-raising campaigns have been launched on the hazards of open burning of waste.
<p>REDUCE EMISSIONS FROM OPEN BURNING: INDOOR</p>	<p>Dominant fuels used for cooking and space heating:</p> <p>Impact: Liquefied petroleum gas (LPG), which is a clean burning fuel, is used for cooking in Israel Fireplaces for space heating are rare in Israel</p>	<p>Indoor air pollution regulated: <i>(Yes / No)</i> No</p> <p>Promotion of non-grid / grid electrification: Net metering was introduced in Israel in 2013, enabling independent renewable energy generation for the self-consumption of electricity and the return of excess electricity to the national grid in return for electricity credits. As part of a renewable energy initiative by Eilat and Eilat, two local authorities in the south of Israel, an Off-Grid Village was established in Kibbutz Ketura. The village serves as a platform for technology companies who develop off-grid technological solutions for parts of the world that are not connected to the power grid. http://www.renewable-energy-eilat.org/off-grid/</p> <p>Promotion of cleaner cooking fuels and clean cook stoves: LPG is used for cooking in Israel</p> <p>Other actions to reduce indoor biomass burning, or to reduce its emissions:</p>