

United Kingdom 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.

United Kingdom 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"> • Overall, UK air quality compares favourably with other EU Member States. The UK currently meets EU limits for almost all pollutants. • However the UK still faces a significant domestic challenge in reducing levels of NO₂ to meet EU limit values, along with 16 other EU Member States. • Concentrations of some of air pollutants are higher than the WHO Air Quality Guideline values. This is particularly so with respect to NO₂ and O₃. • The UK Committee for the Medical 	<p>National ambient air quality standards: yes</p> <ul style="list-style-type: none"> • The current standards are contained in the Ambient Air Quality Directive (EP & CEU, 2008) and the Fourth Daughter Directive (EP & CEU, 2004). These Directives set limit values for concentrations of air pollutants and 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 UK is committed to improving air quality through continued implementation of EU legislation and its international commitments as a Party to the UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP). • 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. • In December 2015 the UK published revised Air Quality Plans² which set out how the UK will reach compliance with EU limit values for NO₂ in all zones outside London

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486636/aq-plan-2015-overview-document.pdf

	<p>Effects of Air Pollutants (COMEAP) estimated that an annual effect equivalent to roughly 29,000 deaths in the UK was attributable to anthropogenic particulate matter air pollution in 2008. COMEAP is planning to publish a report in the first half of 2016 on quantifying the association between long-term exposure to NO₂ and mortality.</p> <ul style="list-style-type: none"> • The UK has 629 Air Quality Management Areas, all of which are declared for either NO₂ or PM₁₀ emissions, or both. <p>Air quality monitoring and modelling:</p> <ul style="list-style-type: none"> • Air quality in the UK is assessed through a combination of monitoring and modelling, as well as through the development and upkeep of a national emissions inventory. • The Department for Environment, Food and Rural Affairs currently supports a sophisticated national network of 268 monitoring sites, measuring concentrations of 13 pollutants. Many local authorities also undertake monitoring separately for the purpose of Local Air Quality Management. • Data from monitoring is supplemented 	<p>by 2020 and in London by 2025.</p> <ul style="list-style-type: none"> • In the five-year period from 2010-2015 the UK committed over £2 billion in transport measures to improve air quality. • Daily UK air pollution forecasts are produced for five pollutants; nitrogen dioxide, sulphur dioxide, ozone, and particles measured as PM₁₀ and PM_{2.5}. The forecasts are provided via a number of channels including the UK-Air website³ to allow people to plan ahead and take recommended action to reduce the effects of air pollution. • The Department for Environment, Food and Rural Affairs have set up a multi-agency response that is convened in the event of any air pollution episodes. This group aims to make sure that key messages are communicated quickly to the relevant people. <p>Air quality legislation / programmes:</p> <ul style="list-style-type: none"> • UK regulations on air quality are based on provisions adopted by the EU. Total EU emissions of key air pollutants are limited under the Gothenburg Protocol to the UNECE Convention on Long Range Transboundary Air Pollution and the EU National Emissions Ceiling Directive (2001/81/EC). As new provisions are made, UK legislation will be adapted accordingly. • EU legislation is supplemented by Local Air Quality Management under the Environment Act 1995. Local Authorities are required to assess air quality in their areas and designate Air Quality Management Areas if improvements are necessary. <p>Other:</p> <ul style="list-style-type: none"> • In 2015 the EU reached agreement on a new Directive to reduce pollution from medium-sized combustion plants.
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³ <http://uk-air.defra.gov.uk/>

	<p>with compliance modelling¹. This modelling is underpinned by emissions data from the National Atmospheric Emissions Inventory (NAEI) and calibrated using data from the monitoring network.</p>	<ul style="list-style-type: none"> • A revised National Emissions Ceiling Directive with stricter national emission ceilings for the six main pollutants is currently under negotiation in the EU.
<p>REDUCE EMISSIONS FROM INDUSTRIES</p>	<p>Industries that have the potential to impact air quality:</p> <ul style="list-style-type: none"> • Major industries in the UK include; machine tools, electric power equipment, automation equipment, railroad equipment, shipbuilding, aircraft, motor vehicles and parts, electronics and communications equipment, metals, chemicals, coal, petroleum, paper and paper products amongst others. <p>GDP of country: USD 2.49 trillion in 2013⁴</p> <p>Industries' share of GDP: 20.5%</p> <p>Electricity sources:</p> <ul style="list-style-type: none"> • 76% of the installed electricity generating capacity (89.24 million KW in 2012) is generated from fossil fuel, 4.8% from hydropower, 11.2% from nuclear and the rest 8% from renewable sources. 	<p>Emissions regulation for industry:</p> <ul style="list-style-type: none"> • Agreed in 2010, the Industrial Emissions Directive (IED) sets standards and stringent emissions limits on harmful pollutants that industry across the EU must comply with. • Mandatory standards and emissions limits are set out as conditions in environmental permits that all installations must obtain from the relevant regulator, in order to operate. Applications, permits, monitoring data and other information must also be placed on a public register. • The legislation also requires regular monitoring and periodic, risk-based inspections. • Additional domestic-level legislation applies to smaller industrial installations that are regulated by Local Authorities, which set limits on emissions to air. <p>Small installation's emissions regulated: (Yes/No) yes</p> <p>Actions to ensure compliance with regulations (monitoring, enforcement, fines etc):</p> <ul style="list-style-type: none"> • If an installation does not comply with its permit conditions under the IED, the relevant competent authority takes the necessary enforcement action, requiring the installation to make changes to meet the conditions as soon as possible. Should the conditions continue not to be met they can withdraw the permit. If the

¹ <http://uk-air.defra.gov.uk/research/air-quality-modelling>

⁴ 'Countries of the World - 32 Years of CIA World Fact Books', 2015 http://www.theodora.com/wfbcurrent/united_kingdom/united_kingdom_economy.html

		<p>installation continues to operate, the regulator has further powers of enforcement, including notices to prosecution, to ensure compliance. Similar provisions apply to industry regulated under domestic legislation.</p> <ul style="list-style-type: none">• Monitoring must meet the quality requirements set by the relevant competent authority. <p>Energy efficiency incentives: <i>(ex: Subsidies, labelling, rebates etc):</i></p> <p><u>Energy Saving Opportunity Scheme (ESOS)</u></p> <ul style="list-style-type: none">• A mandatory energy assessment scheme for all large undertakings (employing more than 250 people and/or with annual turnover exceeding €50m and balance sheet exceeding €43m). Requires an audit of energy used in their buildings, industrial processes and transport to identify cost-effective saving measures. ESOS was developed to meet the requirements of EU Energy Directive (2012/27/EU).• Businesses do not report data to the government, but are required to report compliance to the Environment Agency, who administer the scheme. <p><u>Climate Change Agreements (CCAs)</u></p> <ul style="list-style-type: none">• A voluntary scheme which enables energy intensive participants to pay reduced rates of Climate Change Levy (CCL) in exchange for signing up to agreed energy efficiency or carbon reduction targets <p><u>CRC Energy Efficiency scheme (formerly the Carbon Reduction Commitment)</u></p> <ul style="list-style-type: none">• A mandatory carbon emission reporting and pricing scheme covering large, non-energy intensive energy users in both public and private sectors.• Companies have to buy allowances for every tonne of carbon emitted over a threshold (6,000 megawatt hours). Aimed at organisations not covered by the EU Emissions Trading Scheme.
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<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 main source of air pollution in the UK. At least half the Air Quality Management Areas in the UK result from road transport emissions. Transport infrastructure including cross-modal connectivity in the UK is well developed and several options spanning from standard and light railways, bus and occasionally river are available for commuters. Use of private cars is discouraged in many urban environments through traffic management, access charging and parking controls. Private car ownership is high with 519 cars per 1000 individuals in 2010. 	<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 than positive ignition vehicles. 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 the introduction of more stringent fuel regulations that require “Sulphur-free” diesel and gasoline fuels (≤ 10 ppm S) from 2009. Maximum allowable sulphur level in petrol and diesel fuels is 10ppm. Fuel Lead content: All vehicles use lead free fuel.

		<ul style="list-style-type: none"> • Restriction on used car importation: Imported vehicles without EU type approval must apply for national approval scheme and/or comply with Construction and use regulations depending on the age of the vehicle. <p>Actions to expand, improve and promote public transport and mass transit:</p> <p>Actions to promote non-motorized transport: (ex: include sidewalks and bike lanes in new road projects, car-free areas etc)</p> <ul style="list-style-type: none"> • £665m invested 2011-2015: £600m to support 96 projects across 77 local authorities to increase the use of buses, cycling and walking. An additional £65m to support 44 local authorities in 2015/16. • £580m invested 2015-2020 for a new ‘Access’ fund for sustainable travel, building on the legacy of the Local Sustainable Transport Fund and supporting growth in cycling and walking. • £593m invested 2011-2020 in a variety of measures to support cycling under the Local Sustainable Transport Fund, Bikeability, the Cycle Ambition Scheme, and Cycle Rail.
<p>REDUCE EMISSIONS FROM OPEN BURNING: OUTDOOR</p>	<p>Outdoor, open burning:</p> <ul style="list-style-type: none"> • The outdoor burning of commercial or industrial waste by businesses, organisations or individuals is illegal in the UK. • The open burning of vegetation, untreated wood and untreated timber by farmers, agricultural or horticultural contractors or the building industry is not uncommon at the place where these wastes are produced. • The open burning of garden waste by householders is not uncommon in the United Kingdom. Open burning of 	<p>Legal framework:</p> <ul style="list-style-type: none"> • The recovery and disposal of waste requires a permit under EU legislation. This legislation also allows Member States to provide for exemptions from the need for a permit, providing general rules are laid down for each type of exempt activity, and the operation is registered with the relevant authority. • In England and Wales authorities have given effect to the permitting requirements through the Environmental Permitting (England and Wales) Regulations 2010. The Environment Agency is the main competent authority responsible for issuing environmental permits and registering exemptions in England. • The Regulations provide an exemption (known as D7) from the need for an environmental permit allowing the burning of certain wastes (plant tissue, sawdust, shavings and cuttings from untreated

	<p>domestic waste is less common.</p>	<p>timber and waste bark and wood) in the open at the place where it is produced.</p> <ul style="list-style-type: none"> • This exemption is subject to limits on the amount of waste stored and burnt. In order to be exempt businesses are required to meet the general rules of the exemption. This exemption must be registered with the Agency. Registration is free and is valid for three years. <p>Actions to prevent open burning of municipal waste and / or agricultural waste:</p> <ul style="list-style-type: none"> • The uncontrolled burning of other wastes (other than by householders) in the open is illegal in the UK under the provisions of the Environment Protection Act 1990. • The Clean Air Act 1993 also makes it an offence to allow dark smoke to be emitted from any industrial or trade premises, with a fine of up to £20,000. • The burning by householders of their own domestic or garden waste is not banned. However, there are laws to prevent the potential nuisance that can be caused by the open burning of waste. The Environmental Protection Act 1990 places a duty on local authorities to investigate complaints of smoke nuisance, which can result in a Statutory Nuisance Abatement Notice being served. Failure to comply with an abatement notice can lead to prosecution and fines.
<p>REDUCE EMISSIONS FROM OPEN BURNING: INDOOR</p>	<p>Dominant fuels used for cooking and space heating:</p> <ul style="list-style-type: none"> • Some residential homes use wood burning stoves for space heating. • Although the efficiency of these stoves has significantly improved over the years, wood burning represents the highest polluting form of heating. 	<p>Indoor air pollution:</p> <ul style="list-style-type: none"> • The Clean Air Act 1993 gives powers to Local Authorities to create smoke control areas in which it is an offence to emit smoke from the chimney of a building unless using an “exempt” appliance/fireplace or “authorised” fuel. • Exempted fireplaces must meet emission standards defined in BS PD 6436:1969 and Clean Air Act (Emission of Grit and Dust from Furnaces) Regulations (SI 1971/162) dependent on their output. • Authorised fuels have an average smoke emission of less than 5

	<ul style="list-style-type: none"> • Air pollution from stoves is affected by the complex interplay of several factors including the type of stove or boiler, chimney design, fuel and patterns of operation. 	<p>grams per hour when tested to the standard (BS3841) and contain less than 2% sulphur (by dry weight with a 95% confidence limit)</p> <p>Promotion of non-grid / grid electrification: N/A</p> <p>Promotion of cleaner cooking fuels and clean cook stoves:</p> <ul style="list-style-type: none"> • To be used within smoke control areas appliances & fuels must have passed tests which show they can be used without emitting smoke (or a substantial quantity of smoke). • Quality Assured Fuel Scheme run by HETAS (Heating Equipment Testing and Approval Scheme) provides recognised standard for wood and biomass fuel quality and a scheme for testing and approval of solid fuel and biomass appliances. • HETAS commenced a national information campaign in 2015 to provide information on and encourage uptake of more efficient and clean stoves. <p>Other actions to reduce indoor biomass burning, or to reduce its emissions:</p> <ul style="list-style-type: none"> • HETAS in discussion with Stove Industry Alliance (SIA) on the development of an industry led voluntary scheme that would provide a star rating system in relation to emission levels from participating solid fuel stoves. Hopes to increase consumer awareness of the benefits of choosing more efficient solid fuel stoves and drive further improvements from manufacturers in reducing emission levels from their products. • Ecodesign Directive introduces emission limits for all solid fuel boilers and local spaces heaters from 2020 and 2022 respectively. This applies across Europe and will therefore help towards tackling some of the transboundary sources of emissions.
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