

Quick Start Guide

Session 2: Basics Regarding Legislation

June 2024



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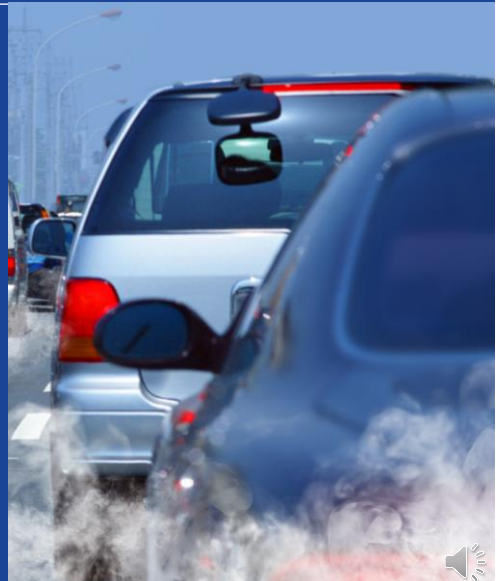
Contents

- Introduction to Air Quality
- History of Air Quality
- International Commitments and Guidance
- Current Domestic Legislation
- Local Data on Air Quality
- Future Air Quality Policy



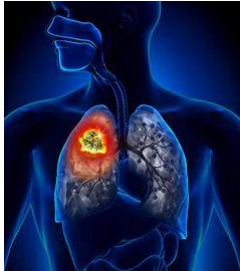
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Introduction to Air Quality



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Why have Air Quality Legislation?



WHO Air Quality Guidelines 2021– Aiming for Healthier Air for all: A Joint Statement by Medical, Public Health, Scientific Societies and Patient Representative Organisations, doi: [10.3389/ijph.2021.1604465](https://doi.org/10.3389/ijph.2021.1604465)

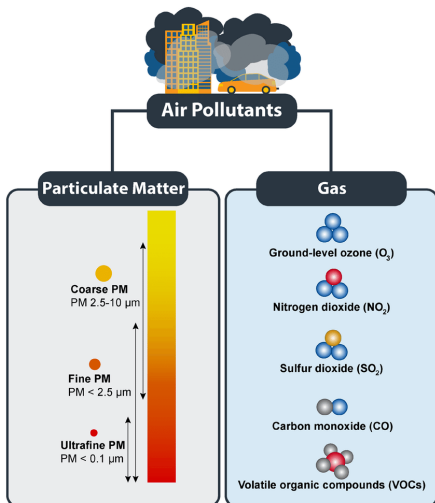
[We need to talk about nitrogen: air pollution's impact on nature \(wcl.org.uk\)](#)

[Health matters: air pollution - GOV.UK \(www.gov.uk\)](#)

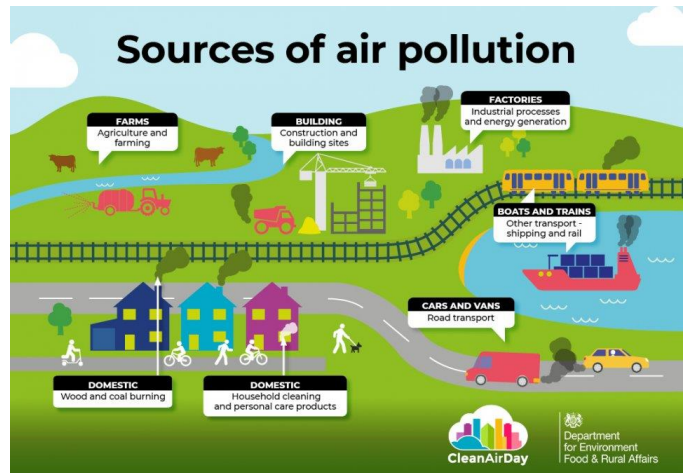


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Recap of Air Pollutants of Concern



<https://www.clarity.io/blog/how-measuring-different-types-of-air-pollutants-creates-a-more-holistic-picture-of-air-pollution>

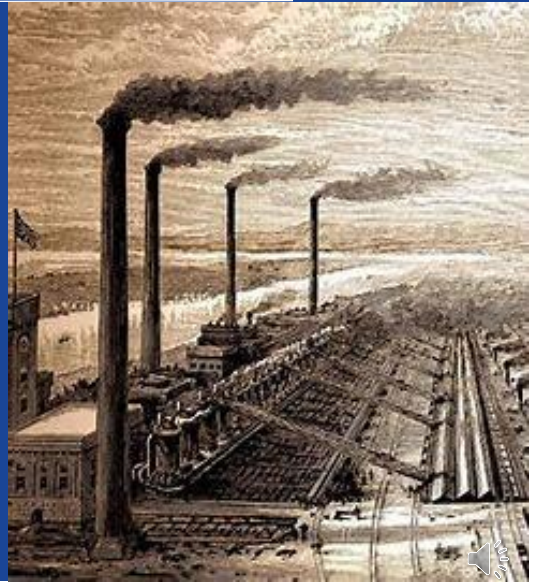


<https://www.cleanairhub.org.uk/clean-air-information/the-basic-information/where-does-air-pollution-come-from>



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History of Air Pollution



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History of Air Pollution



Ancient civilisation



Roman empire



Lead ingot: <https://en.m.wikipedia.org/wiki/File:Lingotesplomocarthagonova.jpg>
Study for the Torches of Nero: https://ga.m.wikipedia.org/wiki/%C3%8Domh%C3%A1:Siemiradzki_Study_for_the_Torches_of_Nero.jpg



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History of Air Pollution

Ancient civilisation



Roman empire



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History of Air Pollution

Medieval England
13th and 14th century



Besançon, Bibliothèque municipale, ms. 864

17th century



<https://libraries.ucsd.edu/speccoll/weather/b4162440.html>



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History of Air Pollution

Industrial revolution and the Victorian era



Hardie, D. W. F., *A History of the Chemical Industry in Widnes*, Imperial Chemical Industries Limited, 1950

Legislation and Milestones during this period:

- 1.1845:** The Railway Clauses Consolidated Act required railway engines to consume their own smoke.
- 2.1875:** The Public Health Act laid the foundation for smoke abatement legislation.



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History of Air Pollution

20th Century



Front cover of the Telegraph during The Great Smog of 1952

Newspaper: <https://www.telegraph.co.uk/on-demand/0/the-crown-how-the-telegraph-covered-the-london-smog-of-1952/>
 Protest: <https://www.nlm.nih.gov/exhibition/fiftyyearsago/detail-OB13336.html?imgid=15>



Legislation and Milestones during this period:

- 1.1952:** The Great Smog
- 2.1956:** The Clean Air Act introduced smoke control areas and regulated chimney heights.
- 3.1968:** Clean Air Act
- 4.1974:** [The Control of Pollution Act regulated motor fuel composition and limited sulfur in fuel oil².](#)
- 5.1993:** Clean Air Act



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History of Air Pollution

20th Century



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Protest: <https://www.nlm.nih.gov/exhibition/fiftyyearsago/detail-OB13336.html?imgid=15>



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History of Air Pollution

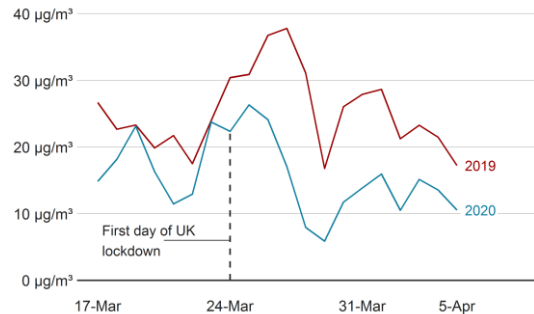
Early 21st Century to present day



<https://www.shutterstock.com/image-photo/city-london-one-leading-centres-global-86318044>

Air pollution in the UK has fallen compared with last year

Average daily nitrogen dioxide (NO2) readings



µg/m³ = micrograms per cubic metre

DOI: [10.1007/s11869-020-00944-1](https://doi.org/10.1007/s11869-020-00944-1)



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International Commitments and Guidance



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International Commitments and Guidance



- Designed to reduce acidification, eutrophication, and ground-level nitrogen.

1. Set emission ceiling values for SO_2 , NO_x , VOC, and NH_3 .
2. Sustainable nitrogen management
3. Best practice for domestic wood heating
4. Mandatory VOC emission values for different activities, and solvent management plans



https://en.m.wikipedia.org/wiki/File:Lake_Shenorock.jpg



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International Commitments and Guidance



- The EU Directive 2008/50/EC limits sulphur dioxide, NO_x, particulate matter (PM₁₀, PM_{2.5}), lead, benzene and carbon monoxide concentrations from 2010.

1. Limit values for NO_x, PM, lead, benzene, and CO, and target values for O₃
2. Facilitates collection and exchange of information on air quality
3. Ensures information is publicly available
4. Cost of mitigation methods less than cost to healthcare as a result of air pollution

Due to be revised later in 2024



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International Commitments and Guidance



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International Commitments and Guidance



<https://www.env-health.org/clean-air-for-all-on-the-road-to-revised-eu-air-quality-standards-for-better-health/>

1. Clear evidence of the damage air pollution inflicts on human health
2. New air quality levels to protect the health of populations by reducing levels of key air pollutants.
3. The guidelines cover six pollutants where evidence has advanced the most on health effects from exposure



World Health Organization



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Brexit and its Impact on Air Quality Regulations in the UK



<https://www.theguardian.com/politics/2020/jan/26/farewell-europe-the-long-road-to-brexit>

Brexit has had a significant impact on the UK's air quality legislation. Here are some key points:

- Continuity of EU Law
- Modification and Renaming
- Impact on Enforcement
- Potential Loosening of Regulations
- Commitment to Air Quality Targets



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Post-Brexit Environmental Regulation in the UK



https://commons.wikimedia.org/wiki/File:Sign_in_front_of_the_CJEU_complex_March_2023.png



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Overcoming the “Governance Gap”



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Domestic Air Quality Legislation



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The National Emission Ceilings Regulations 2018

Table 2

National reduction commitments in 2020 and in each subsequent year up to and including 2029

The figures show the percentage reductions to be made for the purpose of regulation 6(2).

SO ₂	NO _x	NM VOC	NH ₃	PM _{2.5}
59%	55%	32%	8%	30%

Table 3

National reduction commitments in 2030 and in each subsequent year

The figures show the percentage reductions to be made for the purpose of regulation 6(3).

SO ₂	NO _x	NM VOC	NH ₃	PM _{2.5}
88%	73%	39%	16%	49%

https://assets.publishing.service.gov.uk/media/63e508428fa8f50509bdd926/Revised_National_Air_Pollution_Control_Programme__NAPCP_.pdf

Policy paper

Air Quality: Revised UK National Air Pollution Control Programme

The National Air Pollution Control Programme (NAPCP) sets out measures and analysis for how emission reduction commitments can be met across the UK.



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Air Quality Standards Regulations 2010

Nitrogen dioxide	
Averaging period	Limit value
One hour	200 µg/m ³ not to be exceeded more than 18 times a calendar year
Calendar year	40 µg/m ³

Sulphur dioxide	
Averaging period	Limit value
One hour	350 µg/m ³ not to be exceeded more than 24 times a calendar year
One day	125 µg/m ³ not to be exceeded more than 3 times a calendar year

Carbon monoxide	
Averaging period	Limit value
Maximum eight hour daily mean ⁽¹⁾	10 mg/m ³

https://assets.publishing.service.gov.uk/media/63e508428fa8f50509bdd926/Revised_National_Air_Pollution_Control_Programme__NAPCP_.pdf



<https://commons.wikimedia.org/wiki/File:AirQualityLondon1.jpg>



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The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

PART 2
Annual Mean Concentration Target for PM_{2.5}

Target

4. The annual mean concentration target is that by the end of 31st December 2040 the annual mean level of PM_{2.5} in ambient air must be equal to or less than 10 µg/m³ ("the target level").

PART 3
Population exposure reduction target for PM_{2.5}

Target

7. The population exposure reduction target is that there is at least a 35% reduction in population exposure by the end of 31st December 2040 ("the target date"), as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018 ("the baseline period"), determined in accordance with regulation 8.

https://assets.publishing.service.gov.uk/media/63e508428fa8f50509bdd926/Revised_National_Air_Pollution_Control_Programme__NAPCP_.pdf

The modelling indicates that, over the course of 18 years, achieving these targets would result in:

- **214,000 fewer cases** of cardiovascular disease
- **56,000 fewer strokes**
- **70,000 fewer cases** of asthma
- **23,000 fewer cases** of lung cancer



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Euro Standards



<https://www.shutterstock.com/image-photo/air-pollution-vehicle-exhaust-pipe-on-523980847>

Euro standard	Date
EURO 1	July 1993
EURO 2	January 1997
EURO 3	January 2001
EURO 4	January 2006
EURO 5	January 2011
EURO 6	September 2015

DOI:[10.1080/02723638.2013.867670](https://doi.org/10.1080/02723638.2013.867670)

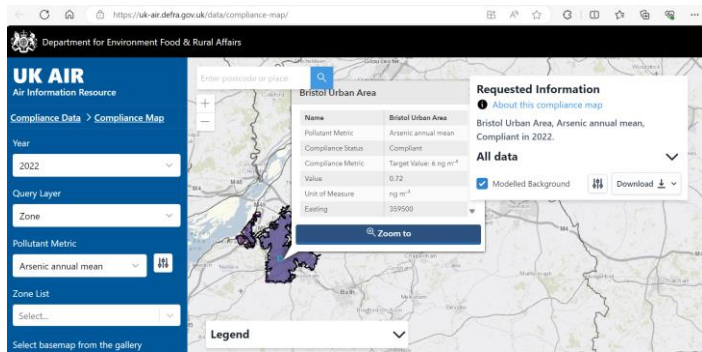


Local data on air quality



Air Quality Assessment Zones

Figure 2-1 UK Zones for Ambient Air Quality Reporting 2019



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Air Quality Strategy

Some powers available to local authorities through the Air Quality Strategy:

- Local Air Quality Management (LAQM) Regime (e.g. declaring air quality management areas)
- Power to take actions to Improve Air Quality (e.g. smoke control zones)



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Future Air Quality Policy



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Proposals for UK legislative changes



UK Parliament

Parliamentary Bills

House of Commons

[UK Parliament](#) > [Parliamentary Bills](#) > [Clean Air \(Human Rights\) Bill](#)

[Bill feed](#)

Clean Air (Human Rights) Bill

Private Members' Bill (under the Ten Minute Rule)

Originated in the House of Commons, Session 2023-24

Last updated: 31 May 2024 at 15:08

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Future EU Air Quality Policy

Proposal for a
**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND
OF THE COUNCIL**
on ambient air quality and cleaner air for Europe
(recast)

{SEC(2022) 542}
{SWD(2022) 345, 542, 545}



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Summary

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