



BRIEFING PAPER

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Air Pollution: Meeting Nitrogen Dioxide Targets

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Contents:

1. Background
2. Has the UK Government been doing enough on NO₂?
3. *UK plan for tackling roadside NO₂ concentrations 2017*
4. Brexit
5. Reducing emissions from transport



Contents

| | |
|--|-----------|
| Summary | 3 |
| 1. Background | 4 |
| 1.1 Legislative framework | 4 |
| 1.2 Urban pollutants of concern | 5 |
| 1.3 Progress on meeting air quality targets | 7 |
| 1.4 Diesel and NO _x emissions | 9 |
| 2. Has the UK Government been doing enough on NO₂? | 10 |
| 2.1 Select Committee reports | 11 |
| 2.2 EU infringement proceedings against Member States | 14 |
| 2.3 UK Court proceedings | 14 |
| NO ₂ Air Quality Plan 2015 | 15 |
| Further Judicial Review 2016 | 15 |
| 3. UK plan for tackling roadside NO₂ concentrations 2017 | 17 |
| Taxation of new diesel cars | 18 |
| 3.1 Reactions to the 2017 Plan | 19 |
| Further court action by ClientEarth | 20 |
| 3.2 Air Quality Joint Select Committee Inquiry 2017 | 20 |
| 4. Brexit | 21 |
| 4.1 Government position | 22 |
| 5. Reducing emissions from transport | 22 |
| 5.1 Euro 6 standards compliance | 23 |
| 5.2 Diesel scrappage | 23 |
| 5.3 Driving and parking restrictions | 24 |
| 5.4 Ultra-Low Emission Vehicles (ULEVs) | 25 |
| 5.5 Clean Air Fund and Vehicle Excise Duty | 26 |
| 5.6 Support for individuals and businesses | 26 |

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[It was -4 Celsius this Morning](#) by [David Holt](#)

Summary

Despite the trend in falling total UK emissions of air pollutants, concerns remain about pollutants in urban areas in particular; their impacts on lifelong health; and the UK Government's failure to meet legally binding EU air quality targets.

Air pollution impacts

The Government's latest [Air Quality Plan](#) for tackling nitrogen dioxide (NO₂) published in July 2017 acknowledged poor air quality as the largest environmental risk to public health in the UK. The [Royal College of Physicians](#) estimates that the annual cost of health problems resulting from exposure to air pollution in the UK exceeds £20 billion. This includes costs to society and business, health services and individuals who are affected. In addition, the potential adverse health impacts from exposure to particulate matter and nitrogen dioxide, beyond the fairly well understood impacts on cardiovascular and respiratory disease, are the subject of much attention and ongoing research.

Meeting air quality targets

Under EU legislation, Member States must meet air quality targets for a range of pollutants. A deadline for reducing NO₂ levels was extendable from 2010 to 2015, as long as an adequate air quality plan to reduce emissions was in place. However, several countries, including the UK, have failed to meet this deadline. Currently a number of areas in the UK do not meet the NO₂ targets, especially roadsides in urban centres.

The UK's continuing failure to meet air quality targets has led to ClientEarth taking the Government to court successfully several times since 2014 over the lack of an effective plan to reduce NO₂ levels. A further court case was launched in November 2017. These, combined with the [Dieselgate](#) scandal, when it became clear that many diesel cars were not meeting legal emissions limits under real driving conditions, has raised awareness of the impacts of air pollution on health. The UK is also subject to EU infringement proceedings for failure to meet NO₂ targets.

The UK is obliged under international treaties to reduce overall emission of certain pollutants, but local air quality targets are contained in EU legislation. The Government has stated its commitment to maintaining air quality targets after Brexit.

Reducing transport emissions

A range of measures have been proposed at a local and national level to address the link between emissions from transport, diesel emissions in particular, and NO₂ pollution. The Government published [Air quality plan for nitrogen dioxide \(NO₂\) in UK \(2017\)](#) on 26 July 2017. This included a range of proposals focused on action in local areas where emissions are highest, including an extension of earlier proposals for clean air zones.

In addition, there has been a focus on more stringent emissions controls and live testing for vehicles; extending existing emissions zones where worse emitting vehicles are excluded; and a diesel scrappage scheme and support for Ultra Low Emission Vehicles.

Further reading

This brief primarily covers the UK efforts to address NO₂ pollution. For details of individual air pollutants, their sources and impacts see POST note on [Ambient Air Quality](#). Defra's [UK Informative Inventory Report \(1990 to 2015\)](#) published in March 2017, provides data on UK pollutant emissions and the [Air Quality Plan](#) 2017 provides more detailed information on NO₂ sources.

1. Background

Despite the continued falling trend in total UK emissions, concerns remain about air pollutants in urban areas in particular; their impacts on lifelong health; and the UK Government's failure to meet legally binding EU air quality targets.

This brief primarily covers the UK efforts to address nitrogen dioxide (NO₂) pollution. For detailed information on individual air pollutants, their sources and impacts see POST note on [Ambient Air Quality](#). The Department for the Environment, Food and Rural Affairs' (Defra) [UK Informative Inventory Report \(1990 to 2015\)](#), published in March 2017, provides data on UK pollutant emissions and the [Air Quality Plan](#) 2017 provides more detailed information on NO₂ sources.

1.1 Legislative framework

Action to manage and improve air quality in the UK has been driven by international agreements and EU legislation, which require both reductions in total national emissions and the setting of maximum pollution levels for local air quality.

Under the United Nations Economic Commission for Europe (UNECE) Convention on Long-Range Transboundary Air Pollution, the 1999 [Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone](#) requires reduction of total national emissions of transboundary air pollutants. The EU and the UK are both signatories to the protocol which is implemented through the [National Emissions Ceilings Directive](#). The Directive was updated as part of the EU 2013 [Clean Air Policy Package](#). On announcing the Clean Air Policy Package the EU Commission set out the benefits for health and the natural environment of the proposals:

By 2030, and compared to business as usual, the clean air policy package is estimated to:

- avoid 58 000 premature deaths,
- save 123 000 km² of ecosystems from nitrogen pollution (more than half the area of Romania),
- save 56 000 km² protected Natura 2000 areas (more than the entire area of Croatia) from nitrogen pollution,
- save 19 000 km² forest ecosystems from acidification.¹

In addition, the [Air Quality Directive 2008/50/EC](#) legislates EU-wide for cleaner air by setting legally binding standards for ambient air quality. The Directive sets targets for hourly and daily limits for a range of pollutants, sets how often these limits can be exceeded in a year and requires Member States to monitor and assess air quality. Member States must meet these air quality targets by certain deadlines.² The deadline for NO₂ was extendable from 2010 to 2015, as long as

¹ EU Commission, [Environment: New policy package to clean up Europe's air](#), 18 December 2013

² See Box 1 (p8 below) for details of the deadlines and targets.

Governments put an adequate plan in place for meeting the targets, and the exceedance period was kept as short as possible. However, several countries, including the UK, have failed to achieve this. Currently a number of areas in the UK do not meet the NO₂ targets, especially roadsides in urban centres.

UK regulations

As [set out by Defra](#), it is the UK Government's responsibility to ensure we meet international and EU targets, but responsibility for meeting air quality limit values are devolved to the national administrations.

The 2001 National Emissions Ceilings Directive (NECD) is implemented in the UK through [National Emission Ceilings Regulations 2002](#) which set total national limits for emissions of sulphur dioxide, nitrous oxides, volatile organic compounds and particulate matter from 2010.

The Air Quality Directive is implemented in England through the [Air Quality Standards Regulations 2010](#). Equivalent regulations exist in [Scotland](#), [Wales](#) and [Northern Ireland](#). Scotland has also introduced regulations setting [stricter targets](#) for particulate matter. Many of the measures to address air quality are implemented at a local authority level, through the creation of [Air Quality Management Areas](#) or AQMAs.

In addition, since 2011, under the [Localism Act](#), the Government has had discretionary powers to pass all or part of any EU fines on to local authorities deemed responsible for breaches of EU legislation.

1.2 Urban pollutants of concern

The Government's latest [Air Quality Plan](#) for tackling nitrogen dioxide (NO₂), published in July 2017, acknowledged poor air quality as the largest environmental risk to public health in the UK.³ The [Royal College of Physicians estimated](#) that the annual cost of health problems resulting from exposure to air pollution in the UK exceeds £20 billion.⁴ This includes costs to society and business, health services and individuals who are affected.

Air pollution can have obvious and immediate short term effects but it will also have health impacts throughout life. Groups such as children, the elderly, and those with pre-existing health conditions can be particularly at risk but so are those who live in urban areas, and near busy roads.⁵

Long term health implications of exposure to air pollution can include increased risk of lung cancer and cardiovascular disease and in pregnancy, air pollution exposure can have a detrimental effect on fetal lung development. Potential wide ranging associations between air

³ Defra, DfT [UK plan for tackling roadside nitrogen dioxide concentrations An overview](#), July 2017

⁴ RCPCH and RCP, [Every breath we take: the lifelong impact of air pollution](#), February 2016

⁵ Defra, [Short-term effects of air pollution on health](#), June 2013

pollution and health are the subject of ongoing research. These include type 2 diabetes, anxiety and dementia.⁶

There are three pollutants that are of main concern in urban areas: nitrogen dioxide, particulate matter and ozone. The UK is meeting its current targets on particulate matter and ozone, as set out in the next section. However, as with many other Member States, the UK has struggled in meeting NO₂ targets.

Particulate matter (PM) are small breathable particles classified according to size. PM is not a single compound. It is made up of a mixture of solid and liquid particles of organic and inorganic chemicals; and includes some naturally occurring ones, such as salt and dust.⁷ Two sizes are referred to in air quality legislation: PM₁₀, with a diameter of 10 micrometres (one thousandth of a millimetre or less); and PM_{2.5} with a diameter of 2.5 micrometres or less.

Sources of PM are classified as either primary, such as particles from engine combustion or break and tyre wear; or secondary, when other chemicals react to form PM in the atmosphere. PM₁₀ and smaller particles can penetrate and lodge inside the lungs.⁸ PM_{2.5} are small enough to pass from the lungs into the bloodstream.⁹

Nitrogen Oxides (NO_x) refers to both nitrogen oxide (NO) and nitrogen dioxide (NO₂). Both are produced as the result of engine combustion. NO can be converted to NO₂ in the atmosphere by reaction with ozone. NO_x can also react in the atmosphere to form PM.¹⁰ At short-term concentrations exceeding 200 micrograms per cubic meter (µg/m³), NO₂ is a toxic gas which causes significant inflammation of the airways¹¹. Long term exposure can also affect lung function.¹² Figure 1 sets out the modelled (not actual) annual mean concentrations of NO_x across the UK. This shows that concentrations are higher and most likely to exceed air quality limits in urban areas.

Ozone (O₃) is not reported as part of transboundary pollution obligations as it is not a primary pollutant. Instead it is formed from other pollutants, such as NO, in the environment, especially in warm sunny weather.¹³ This means that as NO_x emissions in urban areas decrease it can result increased ozone concentrations. Ozone acts as an irritant to the eyes, nose and lungs. It can also affect vegetation, impacting crop yields and ecosystems.¹⁴

⁶ RCPCH and RCP, [Every breath we take: the lifelong impact of air pollution](#), February 2016

⁷ WHO Fact Sheet, [Ambient \(outdoor\) air quality and health](#), September 2016

⁸ *ibid*

⁹ SEPA, [The chemistry of air pollution](#), [website accessed 11 October 2017]

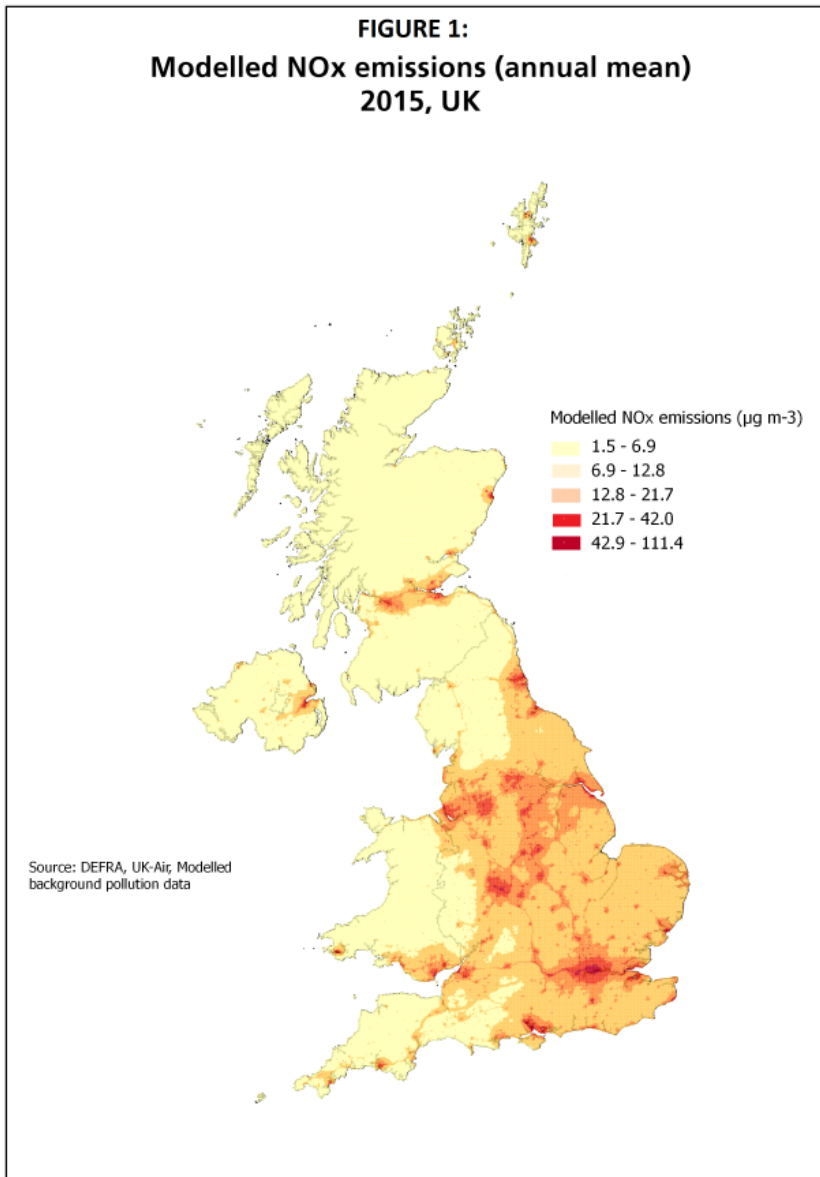
¹⁰ Air Quality Expert Group, [Particulate Matter in the United Kingdom](#), 2005

¹¹ WHO Fact Sheet, [Ambient \(outdoor\) air quality and health](#), September 2016

¹² Air Quality Expert Group, [Nitrogen Dioxide in the United Kingdom](#), 2004

¹³ WHO Fact Sheet, [Ambient \(outdoor\) air quality and health](#), September 2016

¹⁴ Air Quality Expert Group, [Ozone in the United Kingdom](#), 2009



1.3 Progress on meeting air quality targets

The latest available data on meeting EU air quality targets was published by Defra in [Air Pollution in the UK 2016](#) in September 2017. This summarised the situation in the 43 Air Quality Zones that the UK is divided into under the EU legislation. It set out to what extent the UK met NO₂ targets in 2016, and highlighted the annual mean target of a maximum mean concentration as being particularly problematic:

- The UK met the limit value for hourly mean nitrogen dioxide (NO₂) in all but two zones.
- Six zones were compliant with the limit value for annual mean NO₂. The remaining 37 exceeded this limit value.^{15,16}

¹⁵ Defra, [Air Pollution in the UK 2016](#). September 2017. List of 37 authorities p43

¹⁶ The six zones that met the annual limit for NO₂ in 2016: Blackpool Urban Area; Preston Urban Area; Highland; Scottish Borders; Northern Ireland; Brighton/Worthing/Littlehampton

Box 1 below sets out the EU targets for NO₂, PM and ozone under the Air Quality Directive.

Box 1: Air Quality Directive emission limits and targets for NO₂, PM and Ozone for the protection of human health¹⁷

- **By January 2005 for PM₁₀** a maximum annual mean concentration of no more than 40µg/m³ ; and a 24 hour mean concentration of 50µg/m³ (micrograms per meter cubed) not to be exceeded more than 35 times a year
- **By January 2010 for NO₂:** a maximum annual mean concentration of no more than 40µg/m³; and an hourly mean concentration of 200µg/m³ not to be exceeded more than 18 times in a year
- **By January 2015 for PM_{2.5}** a maximum mean concentration of 25µg/m³
- **By January 2020 for PM_{2.5}** a maximum mean concentration of 20µg/m³
- **By January 2010 for ozone** a target of a daily 8 hour ozone mean of 120 µg/m³ not to be exceeded more than 25 days a year (averaged over 3 years). A long term objective of a daily 8 hour ozone mean of 120 µg/m³, with no exceedances from January 2020

The Directive sets levels of pollution above which the public must be informed and alerted. The Directive also includes higher limits for some pollutants, including ozone, aimed at protecting ecosystems and vegetation.

The report also set out the progress that has been made on a range of other pollutants, including PM and ozone:

- All zones met both the target values for ozone; the target value based on the maximum daily eight-hour mean, and the target value based on the AOT40 statistic [the accumulated amount of ozone over the threshold value of 40 parts per billion (ppb)]
- All zones except one exceeded the long-term objective for ozone, set for the protection of human health. This is based on the maximum daily eight-hour mean.
- Five zones exceeded the long-term objective for ozone, set for the protection of vegetation. This is based on the AOT40 statistic [the accumulated amount of ozone over the threshold value of 40 ppb]
- All zones met the limit value for daily mean concentration of PM₁₀ particulate matter, without the need for subtraction of the contribution from natural sources.
- All zones met the limit value for annual mean concentration of PM₁₀ particulate matter, without the need for subtraction of the contribution from natural sources.
- All zones met the target value for annual mean concentration of PM_{2.5} particulate matter, the Stage 1 limit value, which came into force on 1st January 2015 Stage 2 limit value which must be met by 2020. All zones met the EU limit values for sulphur dioxide, carbon monoxide, lead and benzene.¹⁸

¹⁷ Defra UK-air , [National air quality objectives and European Directive limit and target values for the protection of human health](#) [website visited 30 November 2017]

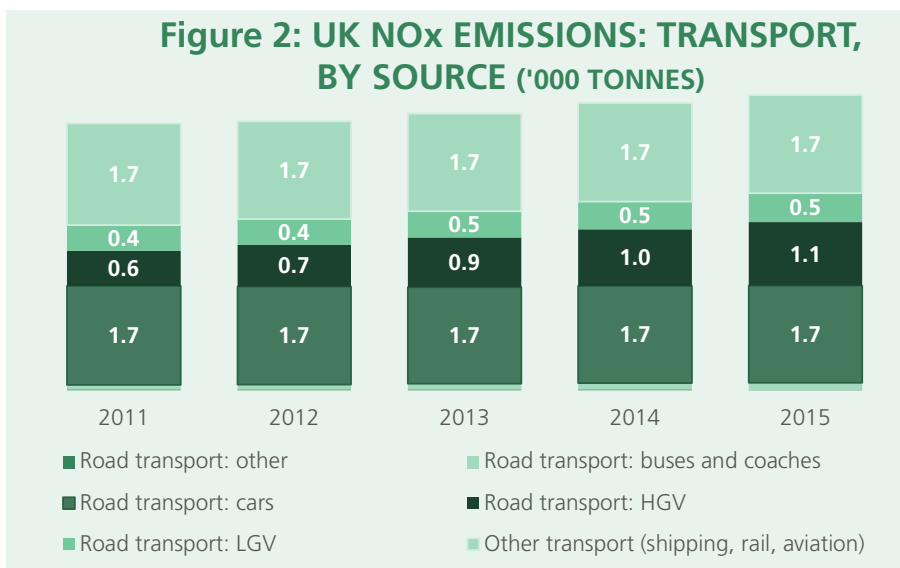
¹⁸ Defra, [Air Pollution in the UK 2016](#), September 2017

1.4 Diesel and NOx emissions

Diesel engines are responsible for the largest proportion of UK roadside NOx emissions according to the [UK Informative Inventory Report \(1990 to 2015\)](#) published in March 2017, despite the fact that UK total NO₂ levels have fallen by 69% since 1990. A December 2016 [National Statistics release on air pollution](#) in the UK summarises the changing levels of nitrogen oxide emissions for road traffic:

Increases in road traffic account for the steep climb in nitrogen oxide (NOx) emissions between 1984 and 1989. The introduction of catalytic converters and stricter emission regulations have resulted in a strong downward trend since 1990. However road transport still accounts for 34 per cent of UK NOx emissions in 2015 and the rate of reduction from this sector has slowed down due to the increased contribution from diesel vehicles.¹⁹

This overall fall in emissions masks the high emissions that are registered in high traffic roads, particularly in urban areas. The DfT has estimated that, in areas where NO₂ roadside levels exceed legal limits, transport is responsible for 80% of roadside NOx emissions.²⁰ Figure 2 provides a breakdown of NOx emissions by transport source up to 2015. This shows cars and HGVs are the biggest source of roadside NOx emissions.



Source: National Atmospheric Emissions Inventory

In the same year data published by Defra shows that on average diesel cars produced 35% of roadside NOx emissions, diesel vans 22%, diesel HGV 18% and diesel buses 16%. By comparison petrol cars produced 8%.²¹

¹⁹ Defra National Statistics Release: [Emissions of air pollutants in the UK, 1970 to 2015](#), 21 December 2016, p7

²⁰ DfT [Vehicle Emissions Testing Programme](#), April 2016

²¹ Defra, [UK plan for tackling roadside NO₂ concentrations](#), 26 July 2017.

Dieselpgate Scandal

Real life vehicle emissions are generally higher than those measured in controlled emissions standards tests.²² However, it became apparent in 2015 that one of the contributing factors to the ongoing difficulties in reducing NO₂ in urban areas was the use of software in cars by manufacturers to circumvent NO_x emissions testing. In September 2015 the United States Environmental Protection Agency (EPA) issued a Notice of Violation of the Clean Air Act to the Volkswagen (VW) group. The notice alleged that Volkswagen installed software in its model year 2009-2015 2.0 litre diesel cars that circumvented EPA emissions standards; that these vehicles emitted up to 40 times more pollution than emissions standards allowed.²³

VW admitted that this software affected nearly 1.2 million UK-registered vehicles.²⁴ Other manufacturers have also since been implicated. This led to a number of enquiries looking into 'real world' emissions from vehicles across several brands. An April 2016 Department for Transport, [Vehicle Emissions Testing Programme](#) report highlighted the results of on road tests for Euro 5 standard diesel cars, for sale between 2009 and 2016. The approval NO_x emissions limit for these cars was 0.18g/km.²⁵ However, the tests found that on average emissions were six times higher than the legal test limit:

It can be seen that all of the results are substantially higher than this limit, with the best results being about three times higher, and the worst about ten times higher. However it is important to note that these results are not directly comparable to each other as the exact test conditions varied from test to test.

5.21 On average our measured road test NO_x emissions from Euro 5 vehicles were 1135 mg/km - over six times higher than the 180 mg/km official legislative NEDC laboratory test limit.²⁶

2. Has the UK Government been doing enough on NO₂?

As referred to above, although responsibility for meeting air quality targets locally is devolved, the UK Government retains responsibility for meeting national targets, reporting and submitting action plans to the EU. Member States who did not expect to meet the pollution targets for NO₂ by 2010, were allowed a derogation of the compliance date to 2015. They were also required to produce a plan setting out how the target would be met by that date, at the latest.

²² The European Environment Agency, [Explaining road transport emissions: A non-technical guide](#), 2017

²³ United States Environmental Protection Agency website, [Learn About Volkswagen Violations](#) [downloaded on 15 November 2017]

²⁴ "1.2 million Volkswagens in the UK have the emissions cheating software" [Business Insider UK](#), 30 September 2015

²⁵ RAC, [Euro 1 to 6 Standard](#) [website as of 30 November 2017]

²⁶ Department for Transport, [Vehicle Emissions Testing Programme](#), April 2016, p22

As part of this process the Government published [Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007](#) which acknowledged difficulties in meeting the NO₂ 2010 deadline. In September 2011 the Government published [Air Quality Plans for the achievement of EU air quality limit values for nitrogen dioxide \(NO₂\) in the UK](#). The Plan set out to what extent the UK had failed to meet the 2010 date:

Parts of 40 of the 43 UK zones have not achieved full compliance with the annual NO₂ limit value in 2010. Parts of three of the 40 zones are also non-compliant with the hourly limit value in 2010. The UK is therefore submitting to the European Commission air quality plans with a view to postponement of the compliance date to 2015 where attainment by this date is projected.²⁷

The three areas that had met the limit were Blackpool Urban Area, Highland and Scottish Borders. The plan listed the 40 zones (p9-11) that had not achieved compliance for NO₂, and included 15 which were only expected to meet the limits by 2020.²⁸ It also acknowledged that Greater London would not do so until 2025.²⁹

The UK 2011 Air Quality plan acknowledged that of the 40 zones failing to meet NO₂ targets 15 would not meet the targets until 2020, and Greater London would not do so until 2025

2.1 Select Committee reports

The Environmental Audit Committee (EAC) has published several reports, see box 2, that have been critical of the Government's approach tackling air pollution since 2010. The Environment, Food and Rural Affairs Committee also published a report on air quality in 2016.

Box 2: Select Committee Reports

- House of Commons Environment, Food and Rural Affairs Committee, [Air Quality](#), fourth report of session 2015-16, 20 April 2016
- House of Commons Environmental Audit Committee, sixth report, [Action on Air Quality](#) 8 December 2014 and Twelfth Special Report, [Action on Air Quality: Government Response to the Committee's Sixth Report of Session 2014-15](#), 1 March 2015.
- House of Commons Environmental Audit Committee, [Air Quality: a follow up report](#), Ninth Report, 26 October 2011 and [Government Response to the Committee's Report](#) 27 February 2012.
- House of Commons Environmental Audit Committee Fifth Report, Session 2009-10, [Air Quality](#), 22 March 2010 and [Government response to the Committee's Report](#), 22 November 2010.

The EAC published [Air Quality](#) in March 2010. That report highlighted the impacts of air quality and the UK's lack of progress in meeting EU emission limits, and called on the Government to do more to address the issue. Evidence to the Committee at the time from the Air Quality

²⁷ Defra, [Air Quality Plans for the achievement of EU air quality limit values for nitrogen dioxide \(NO₂\) in the UK](#), September 2011. p9-11

²⁸ The fifteen areas listed not expected to meet the deadline until 2020 were the West Midlands, Greater Manchester, West Yorkshire, Teesside, Southampton and Glasgow Urban Areas, together with the Potteries, Kingston-Upon-Hull, North West & Merseyside, Yorkshire & Humberside, West Midland, North, South East, East Midlands and Eastern.

²⁹ *ibid*

12 Air Pollution: Meeting Nitrogen Dioxide Targets

Management Resource Centre highlighted the lack of national action on the issue, despite awareness of the health impacts of poor air quality:

Government reports have identified the health impacts of air quality in the UK as being almost twice those of physical inactivity (£20 billion compared to £10.7 billion—Defra Air Quality Strategy 2007, Chief Medical Officers Report 2004) yet it fails to receive quite the same level of attention as the latter within medical and media circles. Similarly, some studies have suggested that the cardiovascular risk of exposure to traffic pollution "may well be similar to that played by passive smoking" (COMEAP 2006), however at the level of national action there seems to be little evidence of comparative attention being given to the issue.³⁰

The EAC concluded:

The cost-benefit analysis is clear: what is needed is the political will to make this a priority and to commit the resources to address it now so that we can reap the benefits of improved health.³¹

In its response to the report the Government acknowledged that more needed to be done and focused on the actions at local levels stating that "for improving local outcomes Government believes that there needs to be a shift in power from the central state back into the hands of individuals, communities and councils".³²

The Committee returned to the issue in 2011 when it published [Air Quality: a follow up report](#). The EAC's view was that, despite the evidence of the damage caused by air pollution growing stronger and the UK's failure to meet EU targets for safe air pollution limits, the step change it had called for had not happened.³³

The Committee was also critical of the Government's approach to dealing with the failure to meet NO₂ limits, stating of the Government that:

Its apparent tactic of avoiding EU fines by applying for extensions to limit value targets, with an expectation that target values will be diluted in the near future, is putting the health of UK residents at risk.

Applications for compliance extensions which lack sufficient policy measures to back them up could result in unlimited fines from the European Commission.³⁴

The Committee returned to the issue for a third time in December 2014, following the first court ruling against the Government's Air Pollution plan (see section 2.3 below). The Committee's report, [Action on Air Quality](#), made clear its view that meeting EU standards should be the minimum requirement and that:

³⁰ EAC Report [Air Quality, Memorandum submitted by the Air Quality Management Resource Centre](#), University of the West of England, Bristol (AQ07), December 2009

³¹ EAC Fifth Report, Session 2009-10, [Air Quality](#), 22 March 2010 p3

³² EAC, [Air Quality Government Response](#), 20 November 2010 p5

³³ EAC Ninth Report, Session 2010-12, [Air quality: A follow up report](#), 14 November 2011

³⁴ Ibid, p10

Regardless of EU rulings it is unacceptable that UK citizens could have their health seriously impaired over decades before this public health problem is brought under control.³⁵

The Committee report went on to suggest a number of measures, including updating the [Air Quality Strategy 2007](#), and for transport emissions:

- Building in air quality obligations to transport infrastructure;
- Examining fiscal and other measures to gradually encourage a move away from diesel vehicles towards low emission options
- Applying pressure at European level to ensure effective EU legislation and emission standards backed up by a robust testing regime.³⁶

The Committee concluded that “a fresh approach is needed for the health challenge we face, coordinating action by local authorities and communities as well as the Government”.³⁷

The [Government response](#) to the Environmental Audit Committee report, published in March 2015, set out the measures put in place by the Government to meet air quality targets. These included:

- £2 billion spend on green transport initiatives since 2011.
- £100m funding on air quality improvements to the strategic road network as part of the delivery of the Road Investment Strategy.
- Investment in forecasting and monitoring to keep the public informed of air pollution levels.
- Supporting local authorities in identifying the best solutions and schemes such as the Air Quality Grant Scheme and the Clean Vehicle Technology Fund.
- Working with the European Commission and other Member States to ensure the latest standards Euro 6 light delivers the expected emission reductions under real world conditions.³⁸

However it did not commit to the publication of a new National Air Quality Strategy, as the Committee had called for.

The Environment Food and Rural Affairs Committee published a report on [Air Quality](#) in April 2016, after the Dieseltgate scandal and the publication of the Government’s 2015 amended air quality plan for NO₂ (see section 2.3 below). The Committee recommended wider implementation of chargeable clean air zones than proposed by the Government at the time and a diesel scrappage scheme.³⁹

³⁵ EAC Committee, [Action on Air Quality](#), Fifth Report Session 2014-15, 8 December 2014, p2

³⁶ EAC Committee, [Action on Air Quality](#), *Fifth Report Session 2014-15*, 8 December 2014, p2

³⁷ *ibid*

³⁸ EAC, [Action on Air Quality: Government Response to the Committee's Sixth Report of Session 2014-15](#), 1 March 2015

³⁹ House of Commons Environment, Food and Rural Affairs Committee, [Air Quality](#), Fourth report of session 2015-16, 20 April 2016

2.2 EU infraction proceedings against Member States

The EU Commission's aim is to "achieve full compliance with existing air quality standards by 2020 at the latest".⁴⁰ In February 2014 the EU Commission began [legal proceedings](#) against the UK for its failure to meet air quality targets for NO₂. These could result in the UK Government being fined for breach of the legislation, although proceedings can take many years.

This was followed in February 2017 by [final warnings](#) to Germany, France, Spain, Italy and the United Kingdom for failing to address repeated breaches of NO₂ limits. In its announcement, the Commission reiterated that NO₂ pollution is a serious health risk and that most emissions result from road traffic. The Commission referred to failures in 16 air quality zones, including London, Birmingham, Leeds and Glasgow. In its statement, the Commission set out possible policy options for the UK and the next steps it could take:

Possible measures to lower polluting emissions, at the same time accelerating the transition to a low-carbon economy, include reducing overall traffic volumes, the fuels used, switching to electric cars and/or adapting driving behaviour. In this context, reducing emissions from diesel-powered vehicles is an important step towards achieving compliance with EU air quality standards

While it is up to the Member State authorities to choose the appropriate measures to address exceeding NO₂ limits, much more effort is necessary at local, regional and national levels to meet the obligations of EU rules and safeguard public health.⁴¹

The EU commission has also brought actions for failing to meet other pollutant targets. The European Court of Justice (ECJ) ruled against Bulgaria on air quality on 5 April 2017, in a case bought by the European Commission in September 2015. The court ruled that Bulgaria was in breach of air quality legislation "by exceeding the daily and annual limit values for PM₁₀ concentrations systematically and continuously from 2007 until 2014" in various air quality zones. The Court also stated that "the Member State has not implemented appropriate and effective measures to keep the exceedance period for limit values for PM₁₀ concentrations as 'short as possible'".⁴² The [full ruling](#) is available on the ECJ website.

2.3 UK Court proceedings

The Government's failure to meet NO₂ targets led to [ClientEarth](#), a UK charity, taking the Government to court in 2014. They argued against the UK's position that enforcement of air quality measures lay at EU level. The proceedings arose out of the continuing failure of the UK since 2010 to secure compliance in certain zones with the limits for

⁴⁰ EU Commission, [A Clean Air Programme for Europe](#), 18 December 2013

⁴¹ European Commission, [Commission warns Germany, France, Spain, Italy and the United Kingdom of continued air pollution breaches](#), 15 February 2017

⁴² [Case C-488/15](#) European Commission V Republic of Bulgaria, supported by Republic of Poland

nitrogen dioxide levels set by European Union law, under Directive 2008/50/EC.⁴³ The Supreme Court referred several questions to the Court of Justice of the European Union (CJEU) and, having received a response to its questions from the CJEU, in its ruling on 29 April 2015 the Supreme Court unanimously ordered that the government must submit new air quality plans to the European Commission no later than 31 December 2015.⁴⁴

This was not an isolated ruling. National courts in other Member States have also found against their own Government's policies to reduce emissions. For example, in July 2017 a judge in Germany ruled that [Stuttgart](#) will need to ban diesel vehicles in 2018 to meet its air quality targets.⁴⁵

NO₂ Air Quality Plan 2015

Following the court order, Defra launched a consultation on [Draft plans to improve air quality in the UK](#) in September 2015. What were then meant to be the final [plans](#) were published on 17 December 2015.⁴⁶ These updated and replaced the previous 2011 [NO₂ Air Quality Plan](#).

In order to comply with NO₂ limits, the proposals included a new commitment to legislate for Clean Air Zones (often referred to as Low Emission Zones or LEZs) for Birmingham, Leeds, Nottingham, Derby and Southampton, which were to be introduced by 2020. The aim of the proposed zones was to discourage older and more polluting buses, taxis, coaches and lorries, by charging them to access key parts of these cities. The proposal explicitly excluded cars. It also included new plans for 38 air quality zones, including in the Greater London Area. Further details can be found in the Government [press release](#).⁴⁷

Further Judicial Review 2016

Following the publication of the new air quality plan, ClientEarth asked the High Court for a judicial review of the plan on the basis that the Government had breached its legal duty to produce new air quality plans to bring air pollution down to legal levels in the "shortest possible time".⁴⁸

The Court [ruled](#) on 2 November 2016 and quashed the 2015 Air Quality Plan.⁴⁹ The judgement focused on the Directive's requirement to keep exceedances "as short as possible". The judgement rejected any regard to cost for setting the target date. In addition, it concluded that setting a compliance date for 2020, rather than determining when compliance

An April 2016 High Court judgement rejected any regard to cost for setting a target compliance date. In addition, it concluded that setting a date for 2020, rather than determining when compliance could be achieved and working towards that was incorrect.

⁴³ [Directive 2008/50/EC](#) on ambient air quality and cleaner air for Europe

⁴⁴ Supreme Court, [R \(on the application of ClientEarth\) \(Appellant\) v Secretary of State for the Environment, Food and Rural Affairs \(Respondent\)](#), 29 April 2015

⁴⁵ ClientEarth, [Stuttgart judge demands diesel bans from 2018, ruling retrofits will not tackle pollution](#), 28 July 2017

⁴⁶ Defra, [Air quality in the UK: plan to reduce nitrogen dioxide emissions \(2015\)](#), December 2015

⁴⁷ Defra, [The Government announces plans to improve air quality in cities](#), 17 December 2015

⁴⁸ "Judge decides UK government will face renewed legal action over air quality" [ClientEarth](#), 28 April 2016

⁴⁹ ClientEarth v Secretary of the State for the Environment Food & Rural Affairs [2016] [EWHC](#) 2740 (Admin)

could be achieved and working towards that, was incorrect. The judgement also concluded that relying on older emissions models, which were known to significantly underestimate real driving emissions, to model future emissions was incorrect:

It seems to me plain that by the time the plan was introduced the assumptions underlying the Secretary of State's assessment of the extent of likely future noncompliance had already been shown to be markedly optimistic. In my judgement, the AQP did not identify measures which would ensure that the exceedance period would be kept as short as possible; instead it identified measures which, if very optimistic forecasts happened to be proved right and emerging data happened to be wrong, might achieve compliance. To adopt a plan based on such assumptions was to breach both the Directive and the Regulations.⁵⁰

Following this judgement, the Court was required to decide on relief following the decision that the government's Air Quality Plan for the reduction of nitrogen dioxide emissions had failed to comply with EU and domestic law. The Court held that a new draft modified Air Quality Plan should be produced by April 2017. The final plan should be published and sent to the European Commission by 31 July 2017.⁵¹

Following the announcement of the June 2017 general election, the Government applied to the court to postpone the publication of the consultation. This application failed and the Government was ordered to consult on a third version by May 2017 and keep to the July 2017 publication date.⁵²

The Government's then published its [Draft UK Air Quality Plan for tackling nitrogen dioxide](#) and associated [consultation document](#) in May 2017. The Government was criticised for a lack of detail in the plan and for delegating action to local authorities.⁵³ ClientEarth again took the Government to court over concerns about the draft plan. The Court ruled that the plan was not unlawful as it was in draft form and was not the final version.⁵⁴

⁵⁰ High Court Ruling, [ClientEarth -v- Secretary of State for the Environment, Food and Rural Affairs EWHC 2740 \(Admin\) Case No: CO/1508/20162](#) 2 November 2016

⁵¹ High Court Ruling, [R \(on the application of ClientEarth\) V Secretary of State for Environment Food and Rural Affairs \(2016\) QBD \(Admin\) \(Garnham J\)](#) 21 November 2016

⁵² HIR (on the application of Client Earth v Secretary of State for Environment Food and Rural Affairs) (2016) [EWHC](#) 3613 (Admin)

⁵³ Business Green, [Draft Air Quality Plan: Green economy reacts](#), 5 May 2017

⁵⁴ ["Latest legal challenge to Tory air pollution plans fails"](#), *The Guardian*, 5 July 2017

3. *UK plan for tackling roadside NO₂ concentrations 2017*

The Government published [Air quality plan for nitrogen dioxide \(NO₂\) in UK \(2017\)](#) on 26 July 2017. This focused exclusively on emissions from transport. The Government also committed to the publication of a Clean Air Strategy in 2018 which will address other sources of air pollution. The [Government announcement](#) stated that it was “focused on delivering nitrogen dioxide (NO₂) compliance at the roadside in the shortest amount of time”.⁵⁵

The Plan set out (in Annex K) the results for modelling NO₂ pollution on roadsides. It shows the projected levels of those roads in future years and when, in the absence of further action, they would be expected to come within legal limits. A Government press release accompanying the 2017 Plan sets out that analysis of over 1,800 of Britain’s major roads showed that a number of these - 81 or 4% - were due to breach legal pollution limits for NO₂, with 33 of these outside of London.^{56 57 58}

The Government’s 2017 Plan emphasizes the role of local authorities and set out the actions they would need to take. The Government intends to place a legal requirement on local authorities to produce draft action plans by March 2018 and final plans by the end of that year that deliver compliance in the shortest possible time:

It is vital that action is taken in the shortest time possible to improve air quality in those areas where air pollution is above legal limits. The government has previously said that relevant local authorities will have up to 18 months to produce their plans. In order to inject additional urgency into this process, we will now require local authorities to set out initial plans 8 months from now, by the end of March 2018. These will be followed by final plans by the end of December 2018. To assist local authorities in meeting these timescales, we will ensure they can immediately draw on our Implementation Fund, as well as central government expertise.⁵⁹

An additional £255m of funding was announced that would be made available to local authorities through a new Clean Air Fund to support improvements which will reduce the need for restrictions on polluting vehicles.⁶⁰ The Plan also includes detail of existing measures on transport, including existing funding of £2.7bn. As part of the plan the

The Government estimates that 88 sites, 33 outside London, are due to still breach NO₂ limits in the next 3-4 years without additional action

⁵⁵ Defra, DfT, [Plan for roadside NO₂ concentrations published](#), 26 July 2017

⁵⁶ Defra, DfT, [Plan for roadside NO₂ concentrations published](#), 26 July 2017 p31

⁵⁷ Councils listed as needing to take action: Basildon, Rochford, Coventry, Leeds, Nottingham, Southampton, Bath and North East Somerset, Derby, Manchester, Stockport, Birmingham City Council, Fareham, Middleborough, Rotherham, Surrey Heath, Bolton Metropolitan, Gateshead, New Forest, Rushmoor, Tameside Metropolitan, Bristol I, Greater London Authority, Newcastle, Salford Metropolitan Borough, Trafford, Bury, Guildford, North Tyneside, Sheffield.

⁵⁸ A page on the Defra website, [Air Quality Plan for nitrogen dioxide \(NO₂\) in UK \(2017\): Zone Plans](#), provides links to the plans for the 42 UK areas.

⁵⁹ Defra, DfT [UK plan for tackling roadside nitrogen dioxide concentrations An overview](#), July 2017, para 21

⁶⁰ *ibid*, para 19

18 Air Pollution: Meeting Nitrogen Dioxide Targets

Government also announced that it would be banning the sale of petrol and diesel cars by 2040.⁶¹

The new Plan set out an expanded role for clean air zones, compared to what had been set out in the 2015 Air Quality Plan. It distinguished between non-chargeable zones, an area where targeted action is taken to improve air quality, and chargeable zones, where in addition vehicle owners are required to pay a charge to enter or move within an area. The announcement also made clear that any charges on polluting vehicles should only be considered by local authorities for inclusion in their plans after all other options have been exhausted:

Any restrictions or charging on polluting vehicles should be time-limited and lifted as soon as air pollution is within legal limits and the risk of future breaches has passed.⁶²

The Plan also set out details of when charging will be considered appropriate, and what measures should be included in local authority plans:

Plans could include a wide range of measures such as: changing road layouts at congestion and air pollution pinch points; encouraging public and private uptake of ULEVs; using innovative retrofitting technologies and new fuels; and, encouraging the use of public transport. If these measures are not sufficient, local plans could include access restrictions on vehicles, such as charging zones or measures to prevent certain vehicles using particular roads at particular times. However, local authorities should bear in mind such access restrictions would only be necessary for a limited period and should be lifted once legal compliance is achieved and there is no risk of legal limits being breached again.⁶³

And that local authority final plans will have to be approved by the Government:

Government will assess plans to ensure they deliver the necessary air quality compliance, are fair, cost effective and where possible deliver wider benefits. Government will provide feedback on Local Authorities' initial plans and will decide whether or not to approve final plans.⁶⁴

Taxation of new diesel cars

The Government also set in the Plan its intention to change the tax regime for new diesel, later in 2017, to provide some of the announced funding:

Additional measures to improve air quality announced through this Plan will therefore be funded through changes to the tax treatment for new diesel vehicles, or through reprioritisation within existing departmental budgets. Further details on changes to the tax regime will be announced later in the year.⁶⁵

An announcement was made in Budget 2017, see Section 5.5 for further details.

⁶¹ Defra, [Plan for roadside NO2 concentrations published](#), 26 July 2017

⁶² Defra, [Plan for roadside NO2 concentrations published](#), 26 July 2017

⁶³ Defra, DfT [UK plan for tackling roadside nitrogen dioxide concentrations An overview](#), July 2017, para 19

⁶⁴ *ibid* para 22

⁶⁵ *Ibid* para 20

3.1 Reactions to the 2017 Plan

There was concern about how effective measures in the Plan would be on air quality in the shorter term. [Client Earth](#), was critical of the Plan, calling it a “plan for more plans”. It questioned whether it would result in action “as soon possible” and said that the Government was “passing the buck” to local authorities to come up with schemes.⁶⁶

In August 2017 ClientEarth wrote to the Government seeking “immediate clarification about the guidance given to local authorities on how to evaluate the best ways of bringing air pollution down as soon as possible as well as how ministers will ensure that air quality limits are met across England.”⁶⁷

Environmental groups expressed disappointment that the Plan did not provide more detailed measures. Greenpeace UK called it “gimmicky”.⁶⁸ WWF called the plan “unambitious” and said that it lacked accountability.⁶⁹ Environmental Protection UK expressed concern about whether local authorities would have sufficient resources, in terms of funding staffing and expertise, to tackle air quality issues.⁷⁰

The [Royal College of Physicians](#)’ view was that “the plan is still clearly inadequate”. It called for a clear mandate for additional cities to be able to implement Clean Air Zones.⁷¹

The Local Government Association said the plans to allow councils to switch their focus from monitoring air quality to improving air quality was the right move and welcomed the additional funding. It also called on the Government to introduce a national diesel scrappage scheme.⁷²

The Mayor of London said that “a half-hearted commitment from Government simply isn't good enough”. He called for Government funding for a diesel scrappage scheme.⁷³

[Mayors](#) of several cities were also critical of the plan.⁷⁴ Sheffield City Council [questioned](#) whether the strategy met the Government’s legal duties and stated it “contains a lack of real action in tackling this huge problem”.⁷⁵ The leaders of Oxford, Birmingham, Leicester, Southampton and Liverpool wrote a joint letter to the Environment

⁶⁶ ClientEarth, [Gove falls at first hurdle on air pollution, say environmental lawyers](#), 26 July 2017

⁶⁷ ClientEarth, [ClientEarth demands urgent clarification on UK government’s air quality plans](#), 16 August 2017

⁶⁸ “Government’s air quality plan branded inadequate by city leaders” [The Guardian](#), 26 July 2017

⁶⁹ “Why the government’s Air Quality Plan needs accelerating” [WWF](#), 26 July 2017

⁷⁰ “EPUK Statement on the Government’s National Plan for NO₂” [Environmental Protection UK](#), 27 July 2017

⁷¹ Royal College of Physicians, [Public health cannot wait until 2040, say health leaders, 26 July](#), 2017

⁷² “Councils respond to Government air quality plan” [Local Government Association](#), 26 July 2017

⁷³ Mayor of London, [Mayor of London Sadiq Khan’s response to Government Air Quality Plan](#), 26 July 2017

⁷⁴ [“Government’s air quality plan branded inadequate by city leaders”](#), [The Guardian](#), 26 July 2017

⁷⁵ Sheffield City Council, [Sheffield City Council reacts angrily to Government’s air quality announcement](#), 26 July 2017

Secretary to criticise the Government's plan and to urge the Secretary of State to do more now to crack down on polluting vehicles.⁷⁶ The Mayor of the West Midlands combined authority welcomed the plan.⁷⁷

The [Society of Motor Manufacturers and Traders](#) pointed out in a statement that the Government's ambition for zero carbon cars and vans by 2040 was already known, and expressed concern about possible impacts on the sector of a ban.⁷⁸

The [Labour Party](#) said that the Government's plans lacked detail and pushed the problem onto local authorities:

Despite the scale of the problem of illegal air pollution, we are presented today with further consultations and delays, a squeamish attitude to clean air zones, shunting the problem onto local authorities and no detail about how the Government's 2040 target will be achieved. With nearly 40 million people living in areas with illegal levels of air pollution, action is needed now, not in 23 years' time.⁷⁹

Further court action by ClientEarth

On 7 November 2017 ClientEarth announced that it would again take legal action against the UK Government "over its persistent failure to deal with illegal air pollution across the country".⁸⁰ Its grounds for judicial review were set out in a press release as follows:

ClientEarth's grounds for judicial review are:

- 1.The latest plan backtracks on previous commitments to order 5 cities to introduce clean air zones by 2020.
- 2.The plan does not require any action in 45 local authorities in England, despite them having illegal levels of air pollution.
- 3.The plan does not require any action by Wales to bring down air pollution as quickly as possible.⁸¹

A [High Court hearing](#) is set to take place before 23 February 2018.⁸²

3.2 Air Quality Joint Select Committee Inquiry 2017

The Environment Food and Rural Affairs, Environmental Audit Committee, Health, and Transport Committees launched a joint inquiry in March 2017. The aim of the inquiry was to examine whether the revised Government air quality plan for NO₂ would go far enough to cut pollution "not only to meet legal limits but also to deliver maximum

⁷⁶ Oxford City Council, [Oxford City Council joins leaders from cities across England to criticise Government's Clean Air Plan](#), 27 July 2017

⁷⁷ West Midlands Combined Authority, [Mayor welcomes publication of government's Air Quality Plan](#), 26 July 2017

⁷⁸ SMMT, [SMMT statement in response to government diesel and petrol plans](#), 26 July 2017

⁷⁹ Labour Party press release, [Sue Hayman responds to Government's plans to ban all new petrol and diesel cars and vans from 2040](#), 26 July 2017

⁸⁰ ClientEarth, [ClientEarth launches new air pollution legal action](#), 7 November 2017

⁸¹ *ibid*

⁸² Client Earth, [UK government will face court hearing over toxic pollution](#), 5 December 2018

health and environmental benefits".⁸³ The inquiry was halted when the 2017 General Election was announced. Following the election the joint enquiry was [relaunched](#) on 9 October 2017.

As part of the inquiry, which held the first of [several evidence sessions](#) on 23 November 2017, the National Audit Office published a report on [Air Quality](#) on 16 November 2017. This set out a number of key points including the following:

- A key component of the 2017 Plan is an expectation that 28 local authorities will implement new air quality measures to achieve compliance 'in the shortest possible time'.
- Government selected these local authorities based on the central scenario of a complex modelling process that is subject to substantial uncertainty.
- The new expectations on local authorities come at a time when they are facing funding pressures.
- Local authorities will need support from a wide range of other organisations to resolve local air quality problems.⁸⁴

4. Brexit

The Government has confirmed that environmental rights will continue following Brexit on a UK legal basis and that it intends to uphold its obligations under international environmental treaties.⁸⁵ Following Brexit, the UK would still be a signatory to the [Gothenburg Protocol](#), which requires reduction in the total emissions of a range of pollutions, although it does not set daily and average concentrations as set out in EU legislation. Existing air pollution regulations will remain or will be transposed via the EU Withdrawal Bill.

Some environment and health organisations have expressed concerns that policies on air pollution could be weakened following the UK exit from the EU. For example, soon after the referendum ClientEarth challenged the Government to affirm its commitment to environmental laws such as those on air pollution.⁸⁶ In a 2016 debate, the Chair of the Environmental Audit Committee, Mary Creagh, expressed the view that EU membership had been key for air quality, and had allowed campaigners to hold the Government to account.⁸⁷ She also said there were "question marks about what will happen to air pollution standards in the brave new Brexit world."⁸⁸

⁸³ Commons Select Committees, [Four Committees launch a joint inquiry on air quality](#), 20 March 2017

⁸⁴ NAO, [Air Quality](#), 16 November 2017

⁸⁵ HM Government, [Legislating for the United Kingdom's withdrawal from the European Union](#), updated 15 May 2017

⁸⁶ ClientEarth, [Brexit "challenge" to politicians over UK environmental laws](#), 24 June 2016

⁸⁷ [HC Deb 12 July 2016, c193](#)

⁸⁸ *ibid*

4.1 Government position

In response to questions on this issue, Dr Therese Coffey, Under-Secretary of State for Environment and Rural Affairs, stated that the UK has a long commitment to improving the environment and this will continue after the UK leaves the EU.⁸⁹ A further response from 8 March 2017 confirmed that the Government had no plans to change limit values and targets for air quality:

Justin Madders Air Pollution: EU Law

To ask the Secretary of State for Environment, Food and Rural Affairs, whether the Government plans to retain the air quality targets contained in the 2008 Ambient Air Quality Directive after the UK has left the EU.

Answered by: Dr Thérèse Coffey 08 March 2017

The Ambient Air Quality Directive (including its limit values and target values) was transposed into law in England through the Air Quality Standards Regulations 2010. There are no plans to change the limit values and target values in the Regulations.⁹⁰

The [Government has said](#) that it would use Brexit as an opportunity to develop a comprehensive approach to improving the environment “in a way that is fit for our specific needs”. Defra has been developing a 25-year plan for the environment which is expected to be published by Christmas or in early 2018.⁹¹

On 12 November 2017, the [Government announced](#) plans to consult on a new, independent statutory body that would hold Government to account for upholding environmental standards in England; and on the scope and content of a new national policy statement to ensure environmental principles underpin policy making. The consultation is expected in early 2018.

For further information see Library briefing paper, [Brexit and the environment](#).

5. Reducing emissions from transport

A range of measures have been proposed at a local and national level to address the link between emissions from transport, diesel emissions in particular, and NO_x emissions. These include more stringent emissions controls and live testing for vehicles; extending emissions zones where worse emitting vehicles are excluded; a diesel scrappage scheme and support for Ultra Low Emission Vehicles.

⁸⁹ [HC Written Question 44855 Air Pollution](#), 8 September 2016

⁹⁰ [HC Written Question 66372 Air Pollution: EU Law](#), 8 March 2017

⁹¹ Environmental Audit Committee Oral evidence: *The Government's Environmental Policy*, [HC 544](#), 1 November 2017, Q74 [accessed 7 November 2017]

5.1 Euro 6 standards compliance

All new cars must comply with European exhaust emissions standards. The [Euro 6 emissions standard](#) for passenger cars was introduced for all new registered cars from September 2016. This set a reduction in NOx emissions for diesel engines from 0.18g/km, for the previous Euro 5 standard, to 0.08g/km, a 67% reduction.⁹²

Following the 2015 emissions test revelations further tests were carried out by a range of organisations on diesel passenger cars. They compared NOx emissions under laboratory conditions to emissions under real driving conditions for Euro 5 and Euro 6 emission standard cars. For example, an International Council for Clean Transportation (ICCT) report published in September 2017 concluded that:

For Euro 6 vehicles, the average real-world level of nitrogen oxide (NOx) emissions is 4.5 times above the Euro 6 limit. Only 10% of Euro 6 cars outperform the Euro 6 limit, while the rest of vehicles exceed the Euro 6 standard by up to 12 times.⁹³

The European Environment Agency 2016 publication [Explaining road transport emissions: A non-technical guide](#) provides further detail on the emissions testing, the reasons for variations between laboratory and road testing, and what is being done to improve the testing regime. This includes the introduction of new [real driving emissions \(RDE\) testing](#) methods. The Transport Select Committee examined these issues in more detail in its report [Volkswagen emissions scandal and vehicle type approval](#), published in July 2016. The accompanying [Government response](#) to this report was published in October 2016.

In August 2017 the Government announced the introduction of a new emissions test designed to stop car manufacturers cheating on the emissions test and also highlighted the creation of a Market Surveillance Unit, which tests vehicles already on the road to make sure they meet emissions standards under real driving conditions.⁹⁴

5.2 Diesel scrappage

In February 2017 the Mayor of London put forward proposals for the government to create a National Vehicle Scrappage Fund, which could be accessed by cities that implement Clean Air Zones. The fund would then be used to pay for proposals that would help individuals and businesses who were the least able to afford to comply with the government's Clean Air Zones.⁹⁵ A document was published by TFL further setting out the proposals, [Proposal for a National Vehicle Scrappage Fund](#), February 2017.

⁹² The AA website, [Limits to improve air quality and health](#) [downloaded on 15 November 2017]

⁹³ International Council for Clean Transportation, [Test results confirm: Only 10% of Euro 6 cars meet emission limit in real-world driving conditions](#), 3 September 2017

⁹⁴ DfT [Tough new 'real world' test comes into force for diesel cars to clean up our air](#), 27 August 2017

⁹⁵ Mayor of London, [Mayor calls on Government to adopt diesel scrappage fund](#), 13 February 2017

In August and September 2017 several car manufacturers announced schemes which offer financial incentives for trading in older diesel cars for newer models. The [BBC news website](#) reported on how some of the schemes would work:

Renault-Nissan and Kia are the latest car companies to launch car trade-in schemes, aimed at persuading UK customers to swap older, more polluting, car models for new ones.

Earlier Volkswagen and Toyota announced diesel scrappage schemes, joining BMW, Ford, Hyundai, Mercedes-Benz and Vauxhall who have all launched schemes.

The car companies will accept trade-ins from any brand registered before 2010.

It comes as the "toughest ever" new-car emissions tests begin to be rolled out.

Kia and Renault are offering £2,000 off new models, for part-exchanged vehicles, all of which will be taken off the road.

Nissan is calling its scheme a "switch" scheme since not all the cars traded in will be scrapped. The firm is also offering a £2,000 incentive and encouraging customers to consider buying their all-electric Leaf model.

VW will give discounts of up to £6,000 to trade in diesel vehicles when buying a new car. Meanwhile, Toyota is offering up to £4,000 off models more than seven years old.

Amongst the biggest firms marketing cars in the UK only Peugeot, Landrover, Honda, Citroen, Fiat and Volvo, have not announced trade-in schemes.⁹⁶

In November 2017 an RAC Foundation report, [MOToring Along: The lives of cars seen through licensing and test data](#), led by a group of academics, analysed the MOT information of 22 million individual vehicles to use mileage, emissions and registered keeper data to map exactly where the highest polluting vehicles are kept. It concluded that the most polluted areas tend to contain older cars that are driven less.

5.3 Driving and parking restrictions

The [revised Air Quality Plan for Nitrogen Dioxide 2015](#) proposed the introduction of 'low emission' or 'clean air' zones in five cities: Birmingham, Leeds, Nottingham, Southampton and Derby. Following this, the Government published a consultation on draft Regulations and a [draft Clean Air Zone Framework](#) in October 2016.⁹⁷ A finalised [Clean Air Zone Framework](#) was published by the Government in May 2017. It sets out the principles local authorities should follow when setting up Clean Air Zones in England.⁹⁸

London has had a [low emission zone](#) (LEZ) since 2008, which has been strengthened over time and covers most of Greater London. The [Mayor of London, Sadiq Khan](#), announced in February 2017 that from 23 October 2017 older diesel cars would be charged an additional £10 per

⁹⁶ "Car makers offer scrappage deals in race for new customers", [BBC news website](#), 1 September 2017

⁹⁷ Defra, DfT, [Implementation of Clean Air Zones in England](#), 13 October 2017

⁹⁸ HM Government, [Clean Air Zone Framework](#), May 2017, p2

day for driving in London. This [T-Charge](#) applies to all cars and vans (diesel and petrol) that do not meet the pre-2006 Euro 4 Standard; or lorries and HGVs that do not meet the separate Euro IV standard.⁹⁹

The Mayor of London's [Ultra Low Emissions Zone](#), will be introduced in April 2019, which is a year earlier than originally intended. This will replace the T-Charge, and apply an additional charge for entry into the congestion charge zone (which is smaller than the LEZ zone). This will apply to all vehicles that do not meet required standard. In the case of diesel cars this is the Euro 6 standard. Detailed information on Low Emission Zones is set out in the Library Briefing Paper on [Local Road Charges](#).¹⁰⁰

Oxford Councils have [announced plans](#) to ban non-zero emissions vehicles progressively from the city centre. The proposal is to ban emitting vehicles from a small number of streets in 2020 and all vehicle types across the whole city centre in 2035.¹⁰¹ Westminster Council introduced a trial [50% surcharge on parking fees](#) of £2.45 an hour in Marylebone for diesel cars and vans from April 2017.¹⁰² Brent Council [announced plans](#) in 2016 to introduce a pollution surcharge for diesel car permits in October 2018.¹⁰³

These measures reflect policy changes that are being implemented in other major cities across the world. For example four cities, Madrid, Paris, Athens and Mexico City, [announced plans](#) in December 2016 to ban all diesel vehicles from city centres by 2025.¹⁰⁴

5.4 Ultra-Low Emission Vehicles (ULEVs)

The Government is increasingly focusing on encouraging the uptake of ultra-low emission vehicles (ULEVs), such as electric and plug-in hybrid electric vehicles. [The Office for Low Emissions Vehicles](#) aims to support the early market for ULEVs:

The Office for Low Emission Vehicles (OLEV) is a team working across government to support the early market for ultra-low emission vehicles (ULEV). We are providing over £900 million to position the UK at the global forefront of ULEV development, manufacture and use. This will contribute to economic growth and will help reduce greenhouse gas emissions and air pollution on our roads.

There is an increasing range of incentives available to encourage the uptake of ULEVs. For example the [Government announced £35m of funding](#) in October 2016 to boost the uptake of ultra-low emission cars and scooters. It also announced in March 2017 a new £23 million fund to accelerate the take up of [hydrogen vehicles](#). The Mayor of London

⁹⁹ Mayor of London, [Mayor: £10 'Toxicity Charge' for most polluting cars starts October 23](#), 17 February 2017

¹⁰⁰ Commons Library Briefing Paper, [Local Road Charges](#), 10 May 2016

¹⁰¹ Oxford City Council, [City and County Councils propose historic reduction in Oxford's air pollution with world's first Zero Emission Zone](#), 10 October 2017

¹⁰² City of Westminster, [Westminster to trial diesel-based parking surcharges](#), 27 January 2017.

¹⁰³ Brent Council, [Changes to on-street parking in Brent agreed](#), 28 June 2016

¹⁰⁴ The Guardian, [Four of world's biggest cities to ban diesel cars from their centres](#), 2 December 2016.

[announced funding of £2.5m](#) for the support of electric vehicles, including infrastructure, in January 2017. Full details are available in the Commons Briefing Paper on [Electric Vehicles and Infrastructure](#).

5.5 Clean Air Fund and Vehicle Excise Duty

As part of the Autumn Budget 2017 the Chancellor announced changes to Vehicle Excise Duty for diesel engines. The revenue would be used to create the £220 million Clean Air Fund announced in the 2017 plan, that will “allow local authorities in England with the most challenging pollution problems to help individuals and businesses adapt as measures to improve air quality are implemented”. This would be paid for by:

- a Vehicle Excise Duty (VED) supplement that will apply to new diesel cars first registered from 1 April 2018, so that their First-Year Rate will be calculated as if they were in the VED band above. This will not apply to next-generation clean diesels – those which are certified as meeting emissions limits in real driving conditions, known as Real Driving Emissions Step 2 (RDE2) standards.
- a rise in the existing Company Car Tax diesel supplement from 3% to 4%, with effect from 6 April 2018. This will also apply only to diesel cars which do not meet the Real Driving Emissions Step 2 (RDE2) standards ¹⁰⁵

5.6 Support for individuals and businesses

As part of the Clean Air Fund implementation the Government also launched a consultation on [Additional measures to support individuals and businesses affected by local NO₂ plans](#) in November 2017. This included proposals in the following areas:

- Measures to support individuals and businesses to upgrade their vehicles to low emission alternatives.
- Measures making it easier for individuals to undertake a shift in the transport that they use.
- Measures to reduce the cost of a charging zone on certain individuals.
- Targeted vehicle scrappage schemes.¹⁰⁶

¹⁰⁵ HM Treasury, [Autumn Budget 2017](#), 22 November 2017

¹⁰⁶ Defra, [Additional measures to support individuals and businesses affected by local NO₂ plans](#), 2017

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