5 ClientEarth3 judgement – February 2018

Neutral Citation Number: [2018] EWHC 315 (Admin)

Case No: CO/4922/2017

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMINISTRATIVE COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 21/02/2018

Before :

MR JUSTICE GARNHAM

- -

Between :

The Queen (on the application of ClientEarth) No.3	**Claimant**
- and -	
(1) Secretary of State for Environment, Food and Rural Affairs **(2) Secretary of State for Transport** **(3) Welsh Ministers**	**Defendants**
And	
Mayor of London	**Interested Party**

- -

Nathalie Lieven QC & Ravi Mehta (instructed by **ClientEarth**) for the **Claimant**
Kassie Smith QC & Julianne Morrison (instructed by **Government Legal Department**) for the **First Defendant**
Jonathan Moffett QC (instructed by **Government Legal Department**) for the **Welsh Ministers**

Hearing date: 25th January 2018

- -

Approved Judgment

Mr Justice Garnham:

Introduction

1. On 26 July 2017 the Department for Environment, Food and Rural Affairs ("DEFRA") published the "UK plan for tackling roadside nitrogen dioxide concentrations" and associated documents (hereafter "the 2017 Plan"). This was the third attempt by the UK Government to provide an Air Quality Plan ("AQP") that met its obligations in law.

2. The first AQP, produced in 2011, was quashed by order of the Supreme Court in 2015. The Government was made the subject of a mandatory order requiring the Secretary of State to prepare new air quality plans in accordance with a defined timetable (see R (on the Application of ClientEarth) v The Secretary of State for the Environment, Food and Rural Affairs [2015] UKSC 28, 4 All ER 724). The second AQP, produced in purported compliance with the order of the Supreme Court, was published on 17 December 2015.

3. In a judgment dated 2 November 2016 ([2016] EWHC 2740 (Admin), ("the November 2016 judgment"), I held that the 2015 plan was also deficient. I made a direction that DEFRA must publish a new AQP, which complied with the relevant EU Directive and domestic Regulations, by 31 July 2017. It was in purported compliance with that order that DEFRA published the 2017 Plan.

4. The Claimant in these proceedings is "ClientEarth", a registered charity, whose objects include promoting and encouraging the "*enhancement, restoration, conservation and protection of the environment, including the protection of human health, for the public benefit*". By these proceedings, the Claimant challenges the 2017 Plan on the ground that it too failed to meet DEFRA's legal obligation. ClientEarth was also the claimant in the two previous judicial review cases. The Defendants are the Secretaries of State for Food, Environment and Rural Affair, and for Transport, and the Welsh Ministers. The Secretary of State for Food, Environment and Rural Affair has taken the lead for the Defendants in this case (and I refer to him hereafter as "the Secretary of State").

5. Proper and timely compliance with the law in this field matters. It matters, first, because the Government is as much subject of the law as any citizen or any other body in the UK. Accordingly, it is obliged to comply with the Directive and the Regulations and with the orders of the court. Second, it matters because, as is common ground between the parties to this litigation, a failure to comply with these legal requirements exposes the citizens of the UK to a real and persistent risk of significant harm. The 2017 Plan says that "*poor air quality is the largest environmental risk to public health in the UK. It is known to have more severe effects on vulnerable groups, for example the elderly, children and people already suffering from pre-existing health conditions such as respiratory and cardiovascular conditions*". As I pointed out in the November 2016 judgment, DEFRA's own analysis has suggested that exposure to nitrogen dioxide (NO_2) has an effect on mortality "*equivalent to 23,500 deaths*" every year.

The Legislative Scheme

6. At paragraphs 6-15 of the November 2016 judgment, I set out and explained the legislative background relevant to the arguments in that case. That background remains

relevant to this challenge but it is not necessary to repeat all that detail here. It suffices for me to note the following provisions, all of which are cited in the November 2016 judgment:

7. Article 13 of Directive 2008/50/EC ("the 2008 Directive") imposes limit values and alert thresholds for the protection of human health. It provides:

> "*1. Member States shall ensure that, throughout their zones and agglomerations, levels of sulphur dioxide, PM10, lead and carbon monoxide in ambient air do not exceed the limit values laid down in Annex XI.*
>
> *In respect of nitrogen dioxide and benzene the limit values, specified in Annex XI may not be exceeded from the date specified therein.*"

8. Article 23 provides that:

> "*Where, in given zones or agglomerations, the levels of pollutants in ambient air exceeds any limit value…member states shall ensure that air quality plans are established for those zones and agglomerations in order to achieve the related limit value…specified in Annexes XI and XIV.*
>
> *In the event of exceedances of those values for which the attainment deadlines have already expired the air quality plan shall set out appropriate measures, so that the exceedance period can be kept as short as possible.*"

9. Annex XI to the 2008 Directive imposes a limit value for nitrogen dioxide of an average of 200ug/m^3 in any given hour (which is not to be exceeded more than 18 times in a calendar year) and an average of 40ug/m^3 which applies to each calendar year.

10. Annex XV sets out information to be included in the local, regional or national air quality plans for improvement in ambient air quality. Amongst the information required is detail of those measures or projects adopted with the view to reducing pollution. The Plan must list and describe all the measures set out in the project, set out a timetable for implementation, provide an estimate of the improvement of air quality planned and the expected time required to obtain that objective.

11. The 2008 Directive was brought into domestic law in the UK by means of four sets of regulations, one for each of the home nations. Regulation 26 of the English Regulations (the Air Quality Standards Regulations 2010 (2010/1001)) requires the Secretary of State, when the levels of nitrogen dioxide (amongst other pollutants) exceeds any limit value, to draw up and implement an AQP so as to achieve that limit value.

12. Regulation 26 also specifies that the AQP must "*include measures intended to ensure compliance with any relevant limit value within the shortest possible time….*" and "*must include the information listed in Schedule 8.*"

13. In addition to the provisions referred to in the November 2016 judgment, it is material to note the following five additional provisions.

14. First, paragraph 8 of Schedule 8 (which, as noted above, is referred to in Regulation 26 of the English Regulations) specifies, as part of the information which must be included in air quality plans, the following:

> "*Details of those measures or objectives adopted with a view to reducing pollution following 11 June 2008 - (a) listing and description of all the measures set out in the project; (b) the timetable for implementation; (c) estimate of the improvement of air quality planned and of the expected time required to attain these objectives*"

15. Second, the Air Quality Standards (Wales) Regulations 2010 (2010/1433) impose, on the Welsh Ministers, duties in respect of Wales equivalent to those imposed on the Secretary of State in respect of England. In particular, regulations 13 and 20 of those Regulations provide:

> "13.(1) *...the Welsh ministers must ensure levels of ...nitrogen dioxide...do not exceed the limit values set out in Schedule 1 in any zone...*
>
> (Schedule 1 imposes the same limit values as are imposed in England.)
>
> *20. Where the level of ...nitrogen dioxide...in ambient air exceeds any of the limit values in Schedule 1 in any zone...the Welsh Ministers must draw up and implement an air quality plan to achieve the relevant limit value...in that zone.*"

16. Third, Articles 6-7 of the 2008 Directive makes provision for assessment criteria and sampling points in order to ensure consistent monitoring of ambient air quality across the EU.

17. Fourth, in December 2011, the European Commission published a Commission Implementing Decision laying down rules for the 2008 Directive as regards reporting of ambient air quality. Paragraph 1 of Article 13 of that decision provides that:

> "*Member States shall make available the information set out in Parts...K of Annex II to this Decision on air quality plans as required by Article 23 of Directive 2008/50/EC including (a) the mandatory elements of the air quality plan as listed pursuant to Article 23 of the Directive 2008/50/EC in Section A of Annex XV to Directive 2008/50/EC...*"

18. Part K requires the provision of information as to matters including:

> *"(14) Planned implementation: start and end date*
> *(15) Date when the measure is planned to take full effect*

(16) Other key implementation dates
(17) Indicator for monitoring progress
(18) Reduction in annual emissions due to applied measure…"

19. Finally, s85 of the Environment Act 1995 provides, as material:

> "*(3) If it appears to the [the Secretary of State]*
>
> *(a) that air quality standards or objectives are not being achieved, or are not likely within the relevant period to be achieved, within the area of a local authority…*
>
> *the appropriate authority may give directions to the local authority requiring it to take such steps as may be specified in the directions…*
>
> *(7) It is the duty of a local authority to comply with any direction given to it under or by virtue of this Part.*"

20. It is against that statutory framework that the new AQP was developed.

Developing the 2017 Air Quality Plan

21. Shortly after the November 2016 judgment, DEFRA set about the task of preparing a new AQP.

22. I was provided with a detailed and helpful statement from Mr Andrew Jackson, Deputy Director of a unit established by DEFRA and the Department for Transport and known as the Joint Air Quality Unit ("JAQU"). It is apparent from the statement that very considerable time and effort was devoted to the preparation of the plan by officials and ministers.

23. A long list of potential policy options to tackle nitrogen dioxide emissions was identified; strategy papers analysing the problem were produced; proposals were discussed with the Greater London Authority, other local authorities and the devolved administrations. Amongst the options was a wider deployment of clean air zones ("CAZs") than that contemplated by the 2015 plan.

24. In 2016 the Government had published a "Clean Air Zone Framework in England" which set out the principles for the operation of a CAZ. As was subsequently to be explained in paragraph 103 of the 2017 Plan, CAZs fall into two categories:

> *"a. Non-charging Clean Air Zones – These are defined geographic areas used as a focus for action to improve air quality. This action can take a range of forms including, but not limited to, those set out in Section 2 of the Framework but does not include the use of charge based access restrictions.*
>
> *b. Charging Clean Air Zones – These are zones where, in addition to the above, vehicle owners are required to pay a*

> *charge to enter, or move within, a zone if they are driving a vehicle that does not meet the particular standard for their vehicle type in that zone. Clean Air Zone proposals are not required to include a charging zone, and local authorities may consider alternatives to charging such as access restrictions for certain types of vehicles.*"

25. As a result of the work described above it was determined, consistent with the analysis referred to in the November 2016 judgment, that "Charging Clean Air Zones" (or "Charging CAZs") were the preferred option for reducing roadside NO_2 emissions.

26. By the middle of April 2017, a draft AQP was nearing completion. DEFRA sought an extension of time from the Court for the production of the draft plan because of the approach of local, and then national, elections. I granted a modest extension to cover the local election, but refused a much longer one in respect of the general election ([2017] EWHC 1618 (Admin)). The date of the publication of the final report was maintained at 31 July 2017.

27. In accordance with the amended order of the Court, a draft air quality plan and supporting technical report were published on 5 May 2017. Those documents were then put out to consultation. In June 2017 ClientEarth sought an order that the Secretary of State should produce a supplement to the draft published in May 2017. I refused that application ([2017] EWHC 1966 (Admin)).

28. The consultation process ended on 15 June by which time some 743 substantive responses had been received. The responses included a substantive one from ClientEarth and a number of pro forma responses from members of the public who were encouraged to respond by ClientEarth. A summary of the responses to the consultation was published subsequently.

29. The period between the end of the consultation period and production of the final AQP was marked by high level meetings between officials and ministers at which decisions were made as to the final shape of the report. On 26 July 2017 the Government and the devolved administrations published 3 documents. First, the "UK plan for tackling roadside nitrogen dioxide concentrations: an overview" (also known as "the Overview Document"). Second, the "UK plan for tackling roadside nitrogen dioxide concentrations: Detailed plan" ("the Detailed Plan"). Third, the technical report.

30. On 27 July 2017 the Government published a Direction to 23 local authorities under s85(5) of the Environment Act 1995. This Direction, entitled "The Environment Act 1995 (feasibility study for nitrogen dioxide compliance) air quality direction 2017", required the 23 authorities to undertake a feasibility study to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which the authority is responsible, in the shortest possible time.

The 2017 Air Quality Plan

31. Identification of what are the critical elements of the new air quality plan is not contentious and I am able to summarise the position in relatively short compass.

Zones, Local Authorities and National Measures

32. Section 3 of the Detailed Plan explains that the UK is divided into 43 zones for air quality reporting. In all but two zones, the UK is achieving the statutory hourly mean limit value for NO_2. However, 37 zones exceeded the statutory annual mean limit value for NO_2 in 2015.

33. These zones are not co-terminal with local authority areas; many zones incorporate more than one local authority area. For the purposes of its operation, however, the 2017 Plan is directed to local authorities, who are to have a central role in bringing the plan into effect. Section 7.4.1 of the Detailed Plan outlines the requirement for local authority-led action plans in England. Paragraph 90 of the Detailed Plan provides that:

> *"Given the local nature of the problem, local action is needed to achieve improvements in air quality. As the UK improves air quality nationally, air quality hotspots are going to become even more localised and the importance of action at a local level will increase. Local knowledge is vital to finding air quality solutions that are suited to local areas and the communities and businesses affected. A leading role for local authorities is therefore essential."*

34. It is acknowledged that locally-led solutions will need to be implemented within a national framework designed to ensure that compliance will be achieved within the shortest possible time.

35. The 2017 Plan identifies a range of existing actions that were already being taken to tackle local NO_2 exceedances and reduce overall emissions. First, there is action taking place across the UK, including, for example, improvements to emissions testing for vehicles. Second, there is action being taken in England: for example, action by Highways England to improve air quality on the strategic road network in England, and action to update Government procurement policy to encourage the purchasing of cleaner vehicles by Government.

Non-Compliant Areas and Annex K

36. The 2017 Plan explains that on 31 July 2017 the Government published 37 individual zone plans for each non-complaint zone in the UK. I return to the contents of the local plans below.

37. The degree of non-compliance exhibited and forecast for different local areas varies widely. Annex K to the Detailed Plan sets out these different forecasts by reference to local authorities. Different approaches are adopted in the Plan depending on the degree of non-compliance forecast.

38. First, there are 23 local authorities representing areas with the greatest problem, i.e. those with exceedances projected beyond the next three to four years. Second, there are the five cities that were previously the focus of the 2015 AQP (Birmingham, Leeds, Nottingham, Derby and Southampton). Third, there are 45 local authorities which currently have air quality exceedances, but which are expected to achieve compliance with the NO_2 limit values by 2021.

39. Although different measures are planned for each of these groups, the plan explains that "*the UK government has identified Clean Air Zones that include charging as the measure it is able to model nationally which will achieve statutory NO_2 limit values in ... the shortest possible time*". Accordingly, this measure is to be used as "*the benchmark for assessing locally-led solutions*".

40. For the first group, those areas with exceedances projecting beyond the next three to four years, local authorities are required to develop local plans in order "*to achieve the statutory NO_2 limit values within the shortest possible time*". Paragraph 111 of the Detailed Plan explains that if local authorities adopt a Charging CAZ, modelling suggests that they could achieve statutory NO_2 limit values in most cases by 2021. That allows for the time needed to design, commission and install CAZs and bring them into operation.

41. Given the potential impacts on individuals and businesses of CAZs and other measures, the Plan provides that if local authorities can identify measures other than Charging CAZs, which are *at least as* effective at reducing NO_2, then such measures are to be preferred. However, the local authority must demonstrate that these will deliver compliance as quickly as a Charging CAZ. The Government will only approve local authority plans if the local authority can show that its plan is likely to cause NO_2 levels in the area to reach legal compliance within the shortest time possible (and that it provides a route to compliance which reduces exposure as quickly as possible). By virtue of the July 2017 Direction, these local authorities are subject to legal duties to develop and implement such local plans.

42. The relevant 23 local areas are required to develop local plans and implement them "at pace" so that air quality limits are achieved within the shortest possible time. Specifically, they are required to set out initial plans by the end of March 2018, at the latest, and final plans by the end of December 2018 at the latest.

43. A somewhat different approach is taken to the second group, the five cities that were previously the focus of the 2015 AQP. That AQP anticipated that the five cities would be mandated to implement Charging CAZs which would achieve compliance by 2020. Consequently, paragraph 112 of the 2017 Plan makes clear that:

> *"The UK government continues to expect local authorities in the five cities named above to deliver their Clean Air Zones by the end of 2019, with a view to achieving statutory NO_2 limit values within the shortest possible time, which the latest assessment indicates will be in 2020."*

44. The 2017 Plan provides that the five cities are working to the same timetable as they were under the 2015 AQP. A more detailed breakdown of the proposed timetable was set out in the draft Technical Report published in May 2017. The Secretary of State contends that JAQU and Defra have been engaging, and continue to engage, intensively with each of the five cities and have been closely supporting them in the development of their plans for achieving compliance. JAQU has provided feedback on the Outline Business Cases submitted by the five cities to date.

45. On 19 December 2017, new Directions were issued to each of the five cities under s85(5) of the Environment Act 1995 requiring the relevant local authority to prepare,

as part of its feasibility study, a full business case for the area for which it is responsible, which was to be submitted to the Secretary of State as soon as possible, and by 15 September 2018 at the latest. JAQU has indicated to the cities that it is intended subsequently to use Ministerial Directions to direct each local authority to implement its local plan (full business case) once it has been approved by the Secretary of State.

46. The third group are the 45 local authorities which currently have air quality exceedances, but which are expected to achieve compliance with the NO_2 limit values by 2021. The 2017 Plan proceeds on the basis that these local authorities are not required to develop further local plans or undertake a feasibility study benchmarked against a Charging CAZ.

47. The situation as regards these local authority areas is not homogenous. Of these 45 local authorities, 12 are expected to achieve compliance in 2018, a further 10 are expected to achieve compliance in 2019, a further 13 are expected to achieve compliance in 2020, and the remaining 10 are expected to achieve compliance in 2021.

48. The Detailed Plan explains that the implementation of a CAZ is expected to take up to three years. Paragraph 116 provides that the government

> *"will only require local authorities to develop plans where evidence suggests measures could be put in place to bring forward achievement of statutory NO_2 limit values".*

49. However, the Plan says that the government is conscious that some local authorities, namely these 45, are forecast to have air quality exceedances *"which are close to, but below air quality limits in 2021"* and therefore it

> *"will consider further steps to ensure that air quality in these areas improves and to ensure that forecast levels remain compliant. These steps could include preferential access to funding and government support to access and build on best practice."*

50. The Technical Report also explains that:

> *"Those areas with the greatest problem, with exceedances projected beyond the next three to four years, will be required to develop local plans. Other areas will also be expected to take steps now to reduce emissions if there are measures they could take to bring forward the point where they meet legal limits and government will take steps to support them."*

51. The Secretary of State asserts that, depending on the extent and source of the exceedances, different local authorities are adopting different policies and measures to address air quality issues. He says that JAQU has undertaken a review of the situation in these areas which the unit proposes to share with them to help them to focus their efforts. It is said that all 45 local authorities can also access support from DEFRA as

part of the Local Air Quality Management (LAQM) framework, including a dedicated LAQM helpdesk.

Wales

52. The Welsh Ministers are responsible for those parts of the 2017 Plan which fall within their devolved competence and for which they have been designated the competent authority for the purposes of Directive 2008/50/EC. The Welsh AQP primarily consists of the Detailed Plan and the zone plans for the four Welsh air quality zones.

53. For reasons that will become apparent, I need to say no more about background to the claim against the Welsh Ministers.

The Competing Arguments

54. I had the benefit of detailed skeleton arguments from Nathalie Lieven QC and Ravi Mehta on behalf of the Claimant, and Kassie Smith QC and Julianne Morrison for the Secretary of State. I also heard careful and well-structured oral submissions from Ms Lieven and Ms Smith. I am grateful to all Counsel and to those who instruct them for the manner in which this case has been prepared and argued. I do not intend to do more here than summarise the parties' respective arguments; the skeletons provide a more detailed overview of their cases.

55. Ms Lieven advanced two principle grounds in support of her contention that the 2017 Plan is unlawful in respect of England.

56. In her skeleton argument she summarised her first argument by saying that "*a substantial number of local authority areas in England are unaccounted-for.*" She went on to develop that argument in rather less bald terms. She says that in relation to 45 local authority areas in England, the AQP "*includes no concrete, impact-assessed measures to ensure compliance in the 'shortest possible time', nor any requirement for responsible local authorities to "carry out feasibility studies or to identify such measures, despite identifying ongoing breaches of limit values".*

57. Ms Lieven says that the adoption of a benchmark provided by Charging CAZs is misplaced in the case of these areas because it avoids the obligation to ensure compliance in the "*shortest possible time*". She says that the 45 Local Authorities will not have the same access to funding as the local authorities who are included in the Direction. She says that the Individual Zones Plans contain lists of measures designed to ensure compliance with legal limit values, but with "*largely unquantified impacts*". She says that no timeline is given for additional measures to be taken in the 45 local authority areas, no concrete measures are identified and no indication is given of the likely improvements from those steps. She says that in any event projected compliance is based on over-optimistic modelling.

58. Ms Lieven's second ground relates to provision made in the 2017 Plan for the five cities alongside London that were previously to be mandated to introduce CAZs (Birmingham, Leeds, Nottingham, Derby and Southampton). She contends that the Detailed Plan originally imposed no legal requirement for the timing or scope of their introduction of Charging CAZs. She says that "*the 2017 Directions effectively concede part of this claim*". Nonetheless she argues that these directions do not meet the

requirements of EU law for a clear and legally enforceable timetable for implementation of the necessary measures.

59. In response, Ms Smith argues that the first complaint is "*misconceived*". The 45 local authority areas are not "*unaccounted-for*". In each area, action is being taken to address air quality issues. The individual zone plans for the areas covered by the 45 local authorities set out the measures that have been implemented to date, or are planned and being taken in each area to reduce NO_2 levels within a reporting Zone.

60. She says that the government has identified Charging CAZs as the measure that will achieve compliance with the NO_2 limit values in the shortest possible time and the benchmark against which any local authority plans will be assessed. Given the projected timeframe for compliance in each of these areas, the introduction of CAZs would not bring forward compliance. Consequently, she argues it would be disproportionate and inappropriate for these areas to be mandated to take steps towards introducing one. In particular, she contends, the preparation of feasibility studies and necessary local consultation is not expected to identify measures that could be worked up and introduced in time to bring forward compliance.

61. This does not mean, Ms Smith contends, that no further action will be taken in these areas. In particular, in those areas which are forecast to have air quality exceedances which are close to, but below air quality limits in 2021, as well as the matters set out in the individual zone plans, the Government "*will consider further steps to ensure that air quality in these areas improves and to ensure that forecast levels remain compliant. These steps could include preferential access to funding and government support to access and build on best practice.*" She says that JAQU is already engaging with relevant authorities in order to identify what further steps can be taken to support them.

62. Ms Smith says that the national monitoring and modelling used for the purposes of the 2017 Plan has been undertaken in accordance with the criteria set out in and the requirements of the Air Quality Directive.

63. According to Ms Smith, ClientEarth's second complaint is also misconceived. The Joint Air Quality Unit, she says, is working intensively with the five cities to ensure that they deliver their CAZs to the timetable anticipated by the 2017 Plan (i.e. CAZs to be in place by the end of 2019, achieving compliance in 2020). She argues that ClientEarth is wrong to contend that the Plan can only be effective if the Secretary of State imposes mandatory timetabling requirements, addressing all stages of the process, on the five cities from the outset.

64. In any event, she says, that is not required by the Air Quality Directive. Moreover, she says, the 2017 Plan always envisaged mandating authorities to act to implement their measures in accordance with the timetable outlined in the 2015 AQP. Legally binding Ministerial Directions have now been issued to the five cities to submit their full business cases to the Secretary of State by 15 September 2018, and Directions will subsequently be issued requiring each of the five cities to implement its local plan, as set out in its full business case, once it has been approved by the Secretary of State.

65. Ms Smith disputes ClientEarth's contention that the decision to issue the December Directions concedes part of its claim. Instead, the issuing of the 2017 Directions demonstrates that the Secretary of State is continuing to work to ensure that the five

cities achieve compliance as soon as possible. She says that the change in the means of applying obligations (a move from a Statutory Instrument to legally binding Directions) does not assist the Claimant's case. The use of Directions is predicated on the need for a tailored, timely and focused approach.

Discussion

66. Central to the argument as it was developed at the hearing was Table 1 of Annex K to the Detailed Plan, which provides a summary of proposed remedial measures. That table identifies local authorities in England "*with roads with concentrations of* NO_2 *forecast above legal limits and assuming no additional measures*". It is possible to identify from that table three categories of local authority.

67. The first consists of the Greater London Authority (the plans in respect of which are not challenged in this case) and the five cities of Birmingham, Derby, Leeds, Nottingham and Southampton (excluding a single stretch of road in the New Forest). The 2015 Plan assumed a Clean Air Zone was required in each of these areas. The second consists of 23 local authorities (including New Forest District Council but excluding Halton Borough Council where the opening of the Mersey Gateway Bridge was thought likely to solve the problem), which are to be "*required to produce local action plans by March 2018*". The third is the 45 local authorities which are "*not required to conduct a feasibility study*". Ms Lieven's first ground focuses on the third category and her second on the first category.

The 45

68. It is perfectly plain that the 45 local authorities are not "*unaccounted for*" as Ms Lieven's skeleton asserted. On the contrary, they are expressly identified in Table 1 and discussed in paragraph 116 of the Detailed Plan which I have set out above.

69. It is equally apparent, however, that the fact that these 45 local authority areas are expected to achieve compliance with the statutory NO_2 limit values by 2021 has led the Government to impose on them less onerous obligations than is the case for the 28, namely the five cities and the 23 other authorities (plus London) in respect of which compliance will not be achieved until after 2021. It is also plain that the reason for this distinction is the Government's assessment that these 45 will become compliant, without further measures being taken, within the period of three years which it would take to design, install and bring into operation a Charging CAZ.

70. Whilst no concession is made, no real point is taken on the assertion that it would take three years to introduce a Charging CAZ, nor on the assertion that Charging CAZs are the most effective means of addressing NO_2 exceedances. Nor can it be said that there is any error of approach in the government adopting Charging CAZs as the yardstick against which any alternative scheme is to be tested. In consequence, there is no challenge in this regard to the proposals in the 2017 plan in respect of the 23 authorities or to the plan to introduce CAZs in the five cities.

71. But where, in my judgment, the Government's plan is flawed, and seriously flawed, is in its application of the 3 year benchmark to the 45 local authority areas where compliance is anticipated within 3 years in any event. Plainly, it would be pointless to

require these local authorities to embark on the expensive and time consuming enterprise of establishing a CAZ in an area where compliance will be achieved within the same period without a CAZ. But the Government cannot sensibly, or lawfully, substitute the application of its benchmark, however rational in respect of areas where a CAZ is the most efficacious solution, for the requirements of the Directive and the Regulations in areas where it is not.

72. The obligation imposed by Article 23 of the 2008 Directive is specific to each and every zone or agglomeration. The obligation to devise air quality plans applies "*where, in given zones or agglomerations, the levels of pollutants in ambient air exceed any limit value*" (emphasis added). When the obligation arises the Article requires Member States to ensure that AQPs are established "*for those zones*".

73. As I explained in the November 2016 judgment, the proper construction of Article 23 imposes a three-fold obligation on the Secretary of State; he must aim to achieve compliance by the soonest date possible; he must choose a route to that objective which reduces exposure as quickly as possible; and that he must take steps which mean meeting the value limits is not just possible, but likely. It follows that the Secretary of State must ensure that there is in place a plan for each zone which meets the three-fold obligation.

74. Because the obligation is zone-specific, the fact that each of the 45 local authority areas will achieve compliance in any event by 2021 is of no immediate significance. The Secretary of State must ensure that, in each of the 45 areas, steps are taken to achieve compliance as soon as possible, by the quickest route possible and by a means that makes that outcome likely. The CAZ benchmark cannot be treated as a means of watering down those obligations.

75. Nor is it an answer to this point to say, as Ms Smith does, that the current plan, with its careful application of the CAZ benchmark, is a "proportionate" response by the government to the issue raised by NO_2 emissions. Implicit in that submission is a suggestion that cost may play a part in determining the national AQP; that when viewed as a whole, the 2017 Plan is reasonable because it demands expenditure and action where there are exceedances that will persist, but demands less when the effluxion of time will bring zones into compliance without such costs. I reject that argument.

76. For the reasons I explained at paragraph 50 of the November 2016 judgment, the obligations imposed by the 2008 Directive are not qualified by reference to their cost:

> *"I reject any suggestion that the state can have any regard to cost in fixing the target date for compliance or in determining the route by which the compliance can be achieved where one route produces results quicker than another. In those respects the determining consideration has to be the efficacy of the measure in question and not their cost. That, it seems to me, flows inevitably from the requirements in the Article to keep the exceedance period as short as possible."*

77. In consequence, the expression "proportionate" has a very particular meaning in the present context. I stand by the definition of that word offered in the November 2016 judgment: "the *measures a Member State may adopt should indeed be "proportionate",*

but they must be proportionate in the sense of being no more than is required to meet the target". I note that DEFRA chose not to appeal the 2016 decision. Because the target in view is compliance with the 2008 Directive in all zones, the expense of doing so promptly in any one zone is of no relevance to the need for, or the content of, a plan in that zone. Cost might be taken into account if there were two equally effective means of achieving the objective in view in one particular zone or one local authority area within that zone, but it is illegitimate to decline properly to design or fund the necessary measures in that zone because the benefit to be gained is modest or of limited duration compared with other zones. All that matters is whether such a plan will hasten the achievement of compliance.

78. Furthermore, there is, in respect of the 45 local authorities, no mechanism for enforcing the local plan. On 15 November 2017, the DEFRA Parliamentary Under Secretary of State, Dr Thérèse Coffey, wrote to 33 of the 45 local authorities (those who are not expected to achieve compliance in 2018) encouraging them to bid for the annual air quality grant; stressing the importance of taking action to achieve compliance in the shortest time possible; offering training and materials; and requesting further information on the steps they are taking to achieve compliance. On 19 January 2018, a week before the hearing, a similar letter was sent to the 33. In effect, these local authorities are being urged and encouraged to come up with proposals to improve air quality over the next three years but are not being required to do so.

79. In my judgment, that sort of exhortation is not sufficient. The obligation placed on Member States by Article 23 is to *ensure* that air quality plans are established; the competent authority in the UK for the purposes of the 2008 Directive is the Secretary of State (see Regulation 3 of the English Regulations); and polite letters from the Government urging additional steps by individual local authorities are not enough. Whilst I see no obligation on the Secretary of State to impose legal directions on local authorities covering every stage in the process of achieving compliance, in my view the failure to make mandatory any step in the case of the 45 means that the Government cannot show either that it is taking steps to "*ensure*" compliance or, as a result, that compliance is "*likely*".

80. It follows that the 2017 Plan, in its application to the 45 local authority areas, does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations.

81. Furthermore, each plan must comply with the requirements of the 2008 Directive and the Regulations as to its form. As noted above, Annex XV of the Directive sets out information to be included in local (and other) AQPs. That includes information which identifies the measures being adopted, which sets out a timetable for implementation and provides an estimate of the improvement of air quality planned and the expected time required to attain that objective. Schedule 8 of the English Regulations mirrors those requirements and requires the plans to include details of the measures or objectives adopted, with a description of all the measures set out in the project; the timetables for implementation; an estimate of the improvement of air quality planned and the expected time required to attain those objectives.

82. The local plans produced as part of the 2017 Plan do not meet those requirements. Little time was devoted to the text of the local plans at the hearing but it is apparent that each local plan follows a similar template. After an introduction and general

information about the zone (or agglomeration), there is a description of the "overall picture for the 2013 reference year", a section identifying measures that address the exceedances of the NO_2 limit value in the zone and then an analysis of "baseline model projections".

83. In section 4 of each template words to the following effect appear:

> *"Relevant Local Authority measures within this exceedance situation are listed in Table C.1 (see Annex C). Table C.1 lists measures which a local authority has carried out or is in the process of carrying out, plus additional measures which the local authority is committed to carrying out or is investigating with the expectation of carrying out in the future."*

84. A list of measures which have been carried out, are underway, are promised or are being investigated, does not constitute compliance with Annex XV or Schedule 8; it does not amount to a plan describing the measures set out in a project; with timetables for implementation; estimates of the improvement of air quality that will follow and an indication of the expected time required to attain the objectives.

85. Ms Lieven suggests that "feasibility studies" ought to have been required for the 45; Ms Smith counters that these were needed for CAZ but not otherwise. The 2008 Directive and the English Regulations do not specify the development of "feasibility studies", but they do, in my judgment, require the Secretary of State, if he is not to carry out the task himself, to devise some mechanism by which the 45 local authorities can be required to develop plans to address NO_2 exceedances in their areas in a manner that is consistent with the three-fold obligation. "Feasibility studies" is as good a name as any for the first stage of that process.

86. It follows that, as regards those 45 local authority areas, the 2017 Plan does not include the information required by Annex XV of the Directive and Schedule 8 of the English Regulations.

87. As noted above, the circumstances of the 45 local authorities are not homogenous. In particular, 12 are expected to achieve compliance this year. I will hear submissions on relief when this judgment is handed down, but it does not seem to me sensible to require (and I did not understand Ms Lieven to demand) any form of feasibility study in respect of the 12 authorities anticipated to achieve compliance this year. Feasibility studies for measures less complicated than CAZs will undoubtedly take significantly less time than the year or so I understand is required for CAZs. But they will take some time. And thereafter, there will need to be a process by which the outcome of the study is approved and the necessary work commissioned. In those circumstances, it seems to me that the prospect of making any difference to the outcome in these 12 areas is so remote as to make the exercise pointless.

88. For those reasons, and to that extent, this element of the challenge must succeed. Ms Lieven advanced further argument to the same end which it is not strictly necessary for me to address, but in deference to the quality of the argument deployed on this issue, particularly in writing, I set out my conclusions, albeit briefly.

Modelling and Monitoring

89. First, it is said that the 2017 Plan does not sufficiently take into account the results of Local Authority modelling and monitoring in the 45 local authority areas, relying instead on DEFRA's national model. Second, it is argued, the modelling used in the 2017 Plan does not take account of the risk of displacement, i.e. the risk that air quality could be made worse in these 45 local authorities as a result of the displacement of older, more polluting vehicles from the areas that do introduce Charging CAZs. Third, it is argued that the 2017 Plan places reliance on various national measures that it announces, which it appears to assume will have a positive effect on air quality in these Local Authorities, but which have not been modelled. It is said that in consequence the projected compliance of these 45 local authority areas rests on unspecified, un-timetabled measures which have not been modelled. Ms Lieven relies on the witness statements of Dr Claire Holman in support of these arguments.

90. In my judgment none of those points adds anything of substance to the argument.

91. As to the first, I accept the evidence that national monitoring and modelling used for the purposes of the 2017 Plan has been undertaken in accordance with the criteria set out in the Air Quality Directive. I fail to see how that can be criticised on the basis of different results obtained by others that may or may not have been conducted in accordance with the Directive. Further, as Ms Smith contends, "*the fact that local modelling may produce different results from those produced by national modelling does not mean that the latter is wrong or "overoptimistic*" .

92. As to the second, the evidence demonstrates that the possible effect of displacement was expressly drawn to the attention of local authorities who are to conduct feasibility studies. Both Mr Jackson and Mr Roald Dickens, a senior adviser in DEFRA's Environmental Quality Directorate, make that point. It is right to say that the same point was not made about the 45 local authorities. But that, undoubtedly, is a consequence of the fact that the 45 have not been required to implement feasibility studies to address NO_2 exceedances in their areas in the manner I have now ruled is necessary. I have no doubt that now studies are to be required in the 33 areas, the same point will be made to their local authorities.

93. As to the third, it is plain that the modelling in the 2017 Plan does *not* rely upon the benefits expected to flow from the non-modelled measures. That means that there are in place additional measures which might reduce exceedances but which are not factored into the calculations. To that extent at least DEFRA's modelling is conservative.

94. I would add that, in my judgment, modelling future compliance with NO_2 limit values is pre-eminently a matter of technical judgement upon which expert opinion is likely to be decisive. DEFRA established an independent panel of experts to provide guidance on this issue. As Ms Smith submits, any challenge to such modelling must show clear legal error or irrationality. I see no such legal error or irrationality here.

The 5 Cities

95. The criticism of the plans for the five cities in the Claimant's Grounds was the lack of any *obligation* on the cities to comply with the Plan.

96. It was noted that the 2015 AQP had proposed that Charging CAZs would be introduced in Birmingham, Leeds, Nottingham, Derby and Southampton in order to address serious exceedances there; and that the 2017 Plan noted the expectation that they would deliver compliance by 2020. But, it was asserted, no legal requirement to enforce such a timeline was imposed by the 2017 Plan. It was pointed out that the individual AQPs for each of these five cities simply records an *expected* timeline or an intention for CAZs to be introduced by particular dates, but no obligation to do so.

97. In my judgment, for the reasons set out above in relation to the 45 local authorities, there was some merit in that argument. However, on 19 December 2017, in exercise of the power conferred by s85(5) of the Environment Act 1995 the Secretary of State issued Ministerial Directions to the five cities, (the "Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2017"). As submitted by Ms Smith, these impose requirements on the five to submit full business cases to the Secretary of State by 15 September 2018. In my judgment, those Ministerial Directions meet the primary point advanced by Ms Lieven. The critical first step of detailed business cases is now a legal obligation.

98. Ms Lieven complains that there is still no legally mandated timetable for implementation after the business cases are produced. Ms Smith responds that there is no legal obligation to mandate a timetable. She says the timetable is set out in the Plan, and the Ministerial Directions are the first step in ensuring that timetable will be complied with. Further Directions will follow once the business cases have been reviewed.

99. In my view, Ms Smith's analysis on this issue is to be preferred. The Directive and the Regulations require that there must be a timetable, but not that the timetable is itself mandated in law. The Plan as regards the five cities is clear. Paragraph 111 provides:

> *"The UK government continues to expect local authorities in the five cities named above to deliver their Clean Air Zones by the end of 2019, with a view to achieving statutory* NO_2 *limit values within the shortest possible time, which the latest assessment indicates will be in 2020."*

100. The obligation on the Secretary of State is to ensure that that plan is followed so as to meet the obligations on him imposed by the 2008 Directive and the English Regulations. The issuing of the Ministerial Directions in December 2017 demonstrates how the Secretary of State intends to ensure the Plan will be adopted. Ms Smith made clear that further targeted and tailored Ministerial Directions will be issued in order to require implementation of those measures.

101. In my judgment, the Secretary of State's approach to this issue is a sensible, rational and lawful one. Furthermore, in my view, the clear indication from the Secretary of State as to the next step of the process, is sufficient; were the Secretary of State to fail to act as he has indicated, it is unlikely that this Court would hesitate in requiring him to do so.

Wales

102. Mr Moffett QC told me that, from the outset of these proceedings, the Welsh Ministers have accepted that the Welsh AQP does not satisfy the requirements of either the Directive or the Welsh Regulations and were prepared to give an undertaking that they will correct the position.

103. Accordingly, the only discrete issue that arises in the context of the claim against the Welsh Ministers is that of what remedy, if any, the Court should grant. As to that, it was agreed between Ms Lieven and Mr Moffett that they would seek to agree an appropriate order having seen this judgment in draft. That seemed to me a sensible way to proceed and I will hear submissions from them on relief when this judgment is handed down.

Conclusions

104. For the reasons set out above I conclude that the 2017 Air Quality Plan is unlawful in that:

i) in its application to the 45 local authority areas, it does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations (see paragraph 80);

ii) the 2017 Plan does not include the information required by Annex XV to the Directive and Schedule 8 to the English Regulations, in respect of those same local authority areas (paragraph 86); and

iii) it contains no compliant AQP for Wales (paragraphs 103).

105. I will hear counsel further on the precise details of the relief that is appropriate. But I indicate now that I would be minded:

i) to make a declaration that the 2017 Plan is unlawful in those respects;

ii) to grant a mandatory order requiring the urgent production of a Supplement to the 2017 Plan containing measures sufficient to rectify the deficiencies identified above; and

iii) to direct that the 2017 Plan remains in force whilst the Supplement is produced in order to avoid any delay in its implementation.

106. As indicated above, I will also hear submissions as to the position of the Welsh Ministers.

107. I have given permission to the Defendants to enlarge the group of persons who, upon appropriate undertakings to the Court, may have sight of the embargoed judgment; if a similar application is made by the Claimants I will give it consideration.

108. I end this judgment where I began, by considering the history and significance of this litigation. It is now eight years since compliance with the 2008 Directive should have been achieved. This is the third, unsuccessful, attempt the Government has made at devising an AQP which complies with the Directive and the domestic Regulations. Each successful challenge has been mounted by a small charity, for which the costs of

such litigation constitute a significant challenge. In the meanwhile, UK citizens have been exposed to significant health risks.

109. It seems to me that the time has come for the Court to consider exercising a more flexible supervisory jurisdiction in this case than is commonplace. Such an application was made to me when the November 2016 judgment was handed down. I refused it on that occasion, opting for a more conventional form of order. Given present circumstances, however, I would invite submissions from all parties, both in writing and orally, as to whether it would be appropriate for the Court to grant a continuing liberty to apply, so that the Claimant can bring the matter back before the court, in the present proceedings, if there is evidence that either Defendant is falling short in its compliance with the terms of the order of the Court.

6 ClientEarth1 judgements – April 2015

3 Two judgements are reproduced below: 29th April 2015 (appeal) and 1st May 2013.

Easter Term
[2015] UKSC 28
On appeal from: [2012] EWCA Civ 897

JUDGMENT

R (on the application of ClientEarth) (Appellant) *v* Secretary of State for the Environment, Food and Rural Affairs (Respondent)

before

Lord Neuberger, President
Lord Mance
Lord Clarke
Lord Sumption
Lord Carnwath

JUDGMENT GIVEN ON

29 April 2015

Heard on 16 April 2015

Appellant
Ben Jaffey
(Instructed by ClientEarth)

Respondent
Kassie Smith QC
(Instructed by Government Legal Department)

LORD CARNWATH: (with whom Lord Neuberger, Lord Mance, Lord Clarke and Lord Sumption agree)

Introduction

1. These proceedings arise out of the admitted and continuing failure by the United Kingdom since 2010 to secure compliance in certain zones with the limits for nitrogen dioxide levels set by European law, under Directive 2008/50/EC. The legal and factual background is set out in the judgment of this court dated 1 May 2013 [2013] UKSC 25, and need not be repeated. For the reasons given in that judgment, the court referred certain questions to the Court of Justice of the European Union (CJEU). That court has now answered those questions in a judgment dated 14 November 2014 (Case C-404/13). It remains to consider what further orders if any should be made in the light of those answers.

2. Central to the referred questions were the interpretation of, and relationship between, three provisions of the Directive: articles 13, 22 and 23. Article 13 laid down limit values "for the protection of human health", and provided that in respect of nitrogen dioxide, the limit values specified in annex XI "may not be exceeded from the dates specified therein", the relevant date being 1 January 2010. Article 22 provided a procedure for the postponement of the compliance date for not more than five years in certain circumstances and subject to specified conditions. Article 23 imposed a general duty on member states to prepare "air quality plans" for areas where the limit values were not met. By the second paragraph of article 23(1), in cases where "the attainment deadline (was) already expired", the air quality plans were required to set out appropriate measures, so that the exceedance period can be kept "as short as possible".

3. The required contents of air quality plans prepared under article 23 were laid down by annex XV section A. In addition, where an application for an extension of the deadline was made under article 22, the plan was to be supplemented by the information listed in annex XV section B. The additional requirements were, first, information concerning the status of implementation of 14 listed Directives, not all directly relevant to nitrogen dioxide emissions (para 2), and, secondly, information on –

> "all air pollution abatement measures that have been considered at appropriate local, regional or national level for implementation in connection with the attainment of air quality objectives",

including five specified categories of measures, such as for example:

> "(d) measures to limit transport emissions through traffic planning and management (including congestion pricing, differentiated parking fees or other economic incentives; establishing low emission zones);" (para 3)

4. When making the reference, this court determined to make a declaration of the breach of article 13, notwithstanding its admission by the Government. Differing in this respect from the Court of Appeal, this court thought it appropriate to do so, both as a formal statement of the legal position, and also to make clear that, regardless of arguments about articles 22 and 23 of the Directive, "the way is open to immediate enforcement action at national or European level".

The referred questions and the CJEU's response

5. The questions referred by this court were as follows:

> "(1) Where, under the Air Quality Directive (2008/50/EC) ('the Directive'), in a given zone or agglomeration conformity with the limit values for nitrogen dioxide was not achieved by the deadline of 1 January 2010 specified in annex XI of the Directive, is a member state obliged pursuant to the Directive and/or article 4 TEU to seek postponement of the deadline in accordance with article 22 of the Directive?
>
> (2) If so, in what circumstances (if any) may a member state be relieved of that obligation?
>
> (3) To what extent (if at all) are the obligations of a member state which has failed to comply with article 13 affected by article 23 (in particular its second paragraph)?
>
> (4) In the event of non-compliance with articles 13 or 22, what (if any) remedies must a national court provide as a matter of European law in order to comply with article 30 of the Directive and/or article 4 or 19 TEU?"

6. The CJEU, for reasons it did not clearly explain, decided to reformulate the first two questions:

> "By its first and second questions, which it is appropriate to consider together, the referring court asks, in essence, (i) whether article 22 of Directive 2008/50 must be interpreted as meaning that, where conformity with the limit values for nitrogen dioxide laid down in annex XI to that Directive cannot be achieved in a given zone or agglomeration of a member state by 1 January 2010, the date specified in annex XI, that State is, *in order to be able to postpone that deadline for a maximum of five years*, obliged to make an application for postponement in accordance with article 22(1) of Directive 2008/50 and (ii) whether, if that is the case, the State may nevertheless be relieved of that obligation in certain circumstances." (para 24, emphasis added)

As will be seen, the reformulation of the first two questions, in particular by the inclusion of the emphasised words, has introduced a degree of ambiguity which it had been hoped to avoid in the original formulation. This has had the unfortunate effect of enabling each party to claim success on the issue. Fortunately, for reasons I will explain, it is unnecessary to making a final ruling on this difference, or to make a further reference for that purpose.

7. The court's answers to the three questions as so reformulated were:

> "1. Article 22(1) of Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe must be interpreted as meaning that, in order to be able to postpone by a maximum of five years the deadline specified by the Directive for achieving conformity with the limit values for nitrogen dioxide specified in annex XI thereto, a member state is required to make an application for postponement and to establish an air quality plan when it is objectively apparent, having regard to existing data, and notwithstanding the implementation by that member state of appropriate pollution abatement measures, that conformity with those values cannot be achieved in a given zone or agglomeration by the specified deadline. Directive 2008/50 does not contain any exception to the obligation flowing from article 22(1).

> 2. Where it is apparent that conformity with the limit values for nitrogen dioxide established in annex XI to Directive 2008/50 cannot be achieved in a given zone or agglomeration of a member state by 1 January 2010, the date specified in that annex, and that member state has not applied for postponement of that deadline under article 22(1) of Directive 2008/50, the fact that an air quality plan which complies with the second subparagraph of article 23(1) of the Directive has been drawn up, does not, in itself, permit the view to be taken that that member state has nevertheless met its obligations under article 13 of the Directive.
>
> 3. Where a member state has failed to comply with the requirements of the second subparagraph of article 13(1) of Directive 2008/50 and has not applied for a postponement of the deadline as provided for by article 22 of the Directive, it is for the national court having jurisdiction, should a case be brought before it, to take, with regard to the national authority, any necessary measure, such as an order in the appropriate terms, so that the authority establishes the plan required by the Directive in accordance with the conditions laid down by the latter."

8. The parties have made written and oral submissions on the appropriate response to the CJEU decision. In summary, Mr Jaffey for ClientEarth invites the court:

> i) to confirm, in accordance with their interpretation of the CJEU judgment, that the article 22 time extension procedure was mandatory, and to quash the existing air quality plan which was prepared under an error of law in that respect;
>
> ii) to direct the production within three months of a new air quality plan under article 23(1) demonstrating how the exceedance period will be kept "as short as possible", and complying with the additional and stricter requirements of annex XV section B.

9. In response Miss Smith for the Secretary of State submits that the correct interpretation of the CJEU decision is that the article 22 procedure was not mandatory, and that, given the stated intention of the Secretary of State to prepare updated plans by the end of the year, no further relief is necessary or appropriate.

The Commission's submissions to the CJEU

10. There was no Advocate General's opinion in this case to provide background to the court's characteristically sparse reasoning. However, the European Commission had presented detailed Observations, which help to fill the gap. Their submission contains a valuable discussion of the legal and factual background to the relevant provisions of the Directive and their objectives, before giving the Commission's proposed responses to the referred questions. They give a much clearer answer to the first two questions than the court - ostensibly in favour of the Government, but in terms which may be regarded as making it a somewhat Pyrrhic victory in its practical consequences. Their answers to the third and fourth questions are in substance the same as those given by the court, in essence for the same reasons albeit more fully stated.

11. The Commission explained that the limit values for nitrogen dioxide were previously defined in Directive 99/30/EC in April 1999, which also fixed the date for compliance at 1 January 2010. In that respect the 2008 Directive made no change. However, a review in 2005 had shown that compliance would be problematic for a significant number of states. In recognition of this, the 2008 Directive introduced, in article 22, the possibility of an application for an extension of up to five years, subject to "a number of substantive requirements and procedural safeguards" (para 22), and subject to approval and supervision by the Commission. Although the choice of measures was left to member states, annex XV section B lays down a new requirement for "a very detailed scientific examination and consideration of all available measures", and entailing "a degree of effort by a member state to demonstrate that it will introduce and implement the most appropriate measures to tackle the anticipated delay in compliance …" (para 25).

12. Article 22 was thus conceived as "derogation, albeit one subject to significant procedural and substantive requirements and safeguards" (para 27). Where a member had not applied for derogation for particular zones, but the limits were exceeded, then article 13 was breached and article 23 applied. The Commission pointed out that in such cases, the state would have been already bound to take all necessary measures to secure compliance by January 2010, and would have had 11 years (from 1999) to do so:

> "In the Commission's view, therefore, the second subparagraph of article 23(1) must be seen as an emergency mechanism that applies where there is already a serious breach of Union law that results in grave dangers to human health. In that regard, it must also be seen as a specific implementation of article 4(3) TEU, where a member state is already in breach of Union law and is already bound to remedy that breach." (para 34)

13. In the Commission's view, article 22 was "the only lawful solution offered by the legislator to member states facing a problem of compliance" (para 37). They stressed the "key point" that air quality plans produced under article 22 have to meet the stricter conditions laid down by annex XV section B:

> "If a member state could circumvent such conditions by using article 23 instead of article 22 in situations where exceedances were predictable, this would result in a kind of self-service derogation (*derogation à la carte*) and in an erosion in oversight, enforcement and in the standard of legal protection of public health that would be contrary to both the structure and the spirit of the Directive." (para 39)

14. Commenting on the compliance situation in the United Kingdom, the Commission observed that there appeared to have been a choice of "less expensive and intrusive measures" than those that would be required to put an end "to a string of continuous breaches of the limit values". The plans submitted showed that for the relevant zones "the UK only expects compliance to be achieved for each zone between 2015 and 2020 or even between 2020 and 2025 (London)" (para 43).

15. In answer to the first two questions, the Commission expressed the view that the article 22 procedure was not mandatory, but was foreseen as "an optional derogation" for member states to obligations that already existed (para 48). The consequence was that the United Kingdom was not obliged, in terms of TEU article 4(3), to apply for a derogation; but rather it was obliged to adopt all necessary measures to put an end to the infringement of article 13 as soon as possible. The infringement for article 13 resulted, not from its decision not to apply for a derogation, but from its failure to adopt adequate measures to achieve compliance by January 2010 (para 53).

16. With regard to the third question (the relationship between articles 13 and 23), the Commission emphasised that, if the state chose not to apply for derogation under article 22, it remained under a mandatory obligation under article 23 to prepare air quality plans showing measures appropriate to keep the exceedance period "as short as possible". Noting "the emergency character" of plans drawn up under the second subparagraph, it commented on the relevance of annex XV section B:

> "The obligation in the second subparagraph of article 23(1), in the case of exceedances for which a derogation has not been granted, requires member states to achieve a very precise result - compliance with the limit values for nitrogen dioxide in the

> shortest possible period of time. In other words, the Directive requires the member state to bring the infringement of article 13 to as swift an end as possible by adopting measures that would be appropriate for the specific zone or agglomeration and that would most swiftly and concretely tackle the specific problems in that area. These measures, as opposed to the ones referred to in annex XV section B, will have to tackle any problems *in concreto*, for each zone …" (para 62)

In other words, the obligation under article 23(1) was not less onerous than annex XV section B, but more specific. As the Commission observed:

> "It would be perverse if article 23(1) were treated as requiring a lesser effort from member states than article 22." (paras 64)

17. The Commission also noted ClientEarth's concerns that the plans submitted by the United Kingdom "were simply not ambitious enough" to address the problem in as short a time as possible (para 65). This view seemed to be confirmed by Mitting J's observation in the High Court that a mandatory order would "impose upon taxpayers and individuals a heavy burden of expenditure which would require difficult political choices to be made". The Commission noted the European court's rejection of similar arguments of "impossibility" in a line of cases under the air quality Directives, beginning with (Case C-68/11) *Commission v Italy* (19 December 2012); and, by analogy, in an earlier series of cases relating to the bathing water Directive, beginning with (Case C-56/90) *Commission v United Kingdom* [1993] ECR I-4109. The Commission observed:

> "In each of these cases, the court found no obstacle to rely on annual bathing water reports to declare failures, finding unfounded any arguments as to difficulties faced by member states." (para 79)

18. In line with these observations, the Commission's answer to the third question was that, where a member state finds itself in breach of article 13, it may either request and obtain a derogation under article 22, or comply with article 23(1) by preparing plans to bring the breach to an end as soon as possible:

> "That is to say that the air quality plan must foresee effective, proportionate and scientifically feasible measures to address the specific emissions problems in the relevant zone as swiftly as possible, subject to judicial review by the domestic courts.

> A failure by a member state to do so would result in the infringement also [of] article 23(1) of the Directive, alongside article 4(3) TEU." (para 84)

19. With regard to the fourth question (the duty of the national court), the Commission noted that the United Kingdom's claim that it was not possible to achieve earlier compliance had not yet been tested in the national court. It regarded this as "a particularly serious question" where there was an established breach of article 13 "resulting in a clear and grave hazard to human health" (para 87). It reviewed the authorities on the right of individuals to invoke Directives before national courts, and the duty of the latter to provide appropriate remedies for their breach. It was the duty of national courts to ensure that those directly concerned by a violation of article 13 were in a position to require the competent authorities either to seek and obtain a derogation under article 22, or, if they chose not to do so, to adopt and communicate to the Commission air quality plans, compliant with article 23(1), so as to deal with the specific problems in the relevant zones as swiftly as possible (para 113).

Non-compliance - the present position

20. Before discussing the proposed responses to the CJEU decision, it is appropriate to record the present position in respect of compliance with the Directive, as summarised in the frank and helpful evidence of Jane Barton on behalf of the Secretary of State. The latest information, published in July 2014, shows a significant deterioration since the case was last before the court (and as compared to the information considered in the Commission's submission):

> "In July 2014, the UK Government published updated projections for concentrations and expected dates for compliance with the annual mean limit values in the Air Quality Directive. … These projections showed that compliance would be achieved later than previously projected. The previous projections for NO_2 published in September 2011 … show 27 zones compliant by 2015, 42 zones compliant by 2020 and all 43 zones compliant by 2025. The updated projections up to 2030 show five out of 43 zones compliant by 2015, 15 zones by 2020, 38 by 2025 and 40 by 2030. The remaining three zones would not be compliant by 2030 (Greater London Urban Area, West Midlands Urban Area and West Yorkshire Urban Area)."

21. It is fair to add that the failures of compliance are not confined to the United Kingdom. Analysis of 2013 air quality compliance data reported by member states indicated that 17 member states reported exceedances of the hourly mean limit value. One of the reasons for the worsening position is said to be failure of the European vehicle emission standards for diesel vehicles to deliver the expected emission reductions of oxides of nitrogen. Ms Barton explains:

> "The main reason for this is that the real world emission performance of a vehicle has turned out to be quite different to how the vehicle performs on the regulatory test cycle. Vehicles are emitting more NOx than predicted during real world operation. This disparity has meant the expected reductions from the introduction of stricter euro emission standards have not materialised. In fact, as is recognised in the new Clean Air Programme for Europe, average real world NOx emissions from Euro 5 diesel cars type-approved since 2009 now exceed those of Euro I cars type-approved in 1992."

She adds that this is a problem which cannot easily be addressed by individual member states, since they cannot unilaterally set stricter vehicle emission standards than those set at EU level. The European Commission, with the support of the UK Government, has made a proposal to introduce a new test procedure from 2017 to assess NOx emissions of light-duty diesel vehicles under real world driving conditions.

22. Even if some aspects of the problem may be affected by matters beyond the control of individual states, this has not led to any loosening of the limit values set by the Directive, which remain legally binding. In February 2014, the Commission launched a formal infringement proceeding against the UK for failure to meet the nitrogen dioxide limit values. It is not clear why for the moment only the UK has been selected for such action. It may have been triggered by the declaration made by this court in 2013, which was referred to in the Commission's press release, and the detailed consideration given by the Commission in connection with the CJEU case. Without sight of the correspondence with the Commission (which is said to be confidential), it is not possible to comment on the scope of that action or its likely timing and outcome. However, as is clear from the answer to the fourth question, any enforcement action taken by the Commission does not detract from the responsibility of the domestic courts for enforcement of the Directive within this country.

23. It is in any event accepted by the Secretary of State that the air quality plans which were before the court in 2011 will need to be revised to take account of the new information, and of new measures to address the problems. It is intended that

these should be submitted to the European Commission, following consultation, by the end of this year. It is estimated that on average around 80% of nitrogen dioxide emissions at sites exceeding the EU limit values come from transport, so that developing effective transport measures is regarded as a key priority for work and investment. According to Ms Barton, the Government has since 2011 committed over £2 billion in measures to reduce transport emissions. Other initiatives are being developed at local level. One example is what she describes as a "game-changing" proposal by the Mayor of London, published on 27 October 2014, for an "Ultra-Low Emission Zone" (ULEZ) in central London from 2020. One of the issues for consideration in the appeal is whether these proposals should be taken on trust, or should be subject to some measure of court enforcement.

Discussion

24. These proceedings were commenced in July 2011, shortly following the publication in June of air quality plans for consultation under article 23, which included an indication of the zones for which the Secretary of State did not intend to apply under article 22 because compliance within the extended time-limit was considered impossible. At that time the possibility of an effective application under article 22 for a postponement to January 2015 remained a live issue, at least in theory. It is understandable therefore that the focus of the claim was on that article. Unfortunately, the time taken by the proceedings, including the reference to the CJEU, has meant that article 22, with one possible exception, is of no practical significance. An extension to January 2015, the maximum allowed under that article, is of no use to the Secretary of State. Indeed, it may have been in anticipation of this position that the CJEU felt able to avoid a direct answer.

25. The possible exception relates to the requirements of annex XV section B, which would apply to a plan produced under article 22, but not, in terms, under article 23. However, the difference is more apparent than real. The purpose of the listed requirements under article 22 appears closely related to the procedure envisaged by the article, which involves approval and supervision by the Commission. As the Commission explained, the requirements of article 23(1) are no less onerous, but may be more specific than those under article 22. They are also subject to judicial review by the national court, which is able where necessary to impose such detailed requirements as are appropriate to secure effective compliance at the earliest opportunity. A formulaic recitation of steps taken under the long list of Directives in paragraph 2 of section B may be of little practical value. Mr Jaffey realistically limited his claim to paragraph 3 of section B, which he described as a "checklist" of measures which had to be considered in order to demonstrate compliance with either article. I agree with that approach, but do not regard it as necessary to spell it out in an order of the court.

26. In those circumstances I need comment only briefly on the court's answer to the first two questions. As already noted, the problem with the court's reformulation was that it introduced ambiguity in both question and answer. The court did not say whether the state was or was not obliged to make the application; but simply that it was obliged to so "in order to be able to postpone … the deadline specified by the Directive …". This formulation appeared to start from the assumption that the state was seeking to extend the deadline, and to leave open the question whether it was obliged to do so. On the other hand, the concluding statement that "Directive 2008/50 does not contain any exception to the obligation flowing from article 22(1)" might be thought to imply an unqualified obligation in all circumstances.

27. Before this court, both counsel have bravely attempted their own linguistic analysis of the reasoning to persuade us that the answer is clearer than it seems at first sight. I am unpersuaded by either. Understandably neither party wanted us to make a new reference, although that might be difficult to avoid if it were really necessary for us to reach a determination of the issues before us. If I were required to decide the issue for myself, I would see considerable force in the reasoning of the Commission, which treats article 22 as an optional derogation, but makes clear that failure to apply, far from strengthening the position of the state, rather reinforces its essential obligation to act urgently under article 23(1), in order to remedy a real and continuing danger to public health as soon as possible. For the reasons I have given I find it unnecessary to reach a concluded view.

28. The remaining issue, which follows from the answers to the third and fourth questions, is what if any orders the court should now make in order to compel compliance. In the High Court, Mitting J considered that compliance was a matter for the Commission:

> "If a state would otherwise be in breach of its obligations under article 13 and wishes to postpone the time for compliance with that obligation, then the machinery provided by article 22(1) is available to it, but it is not obliged to use that machinery. It can, as the United Kingdom Government has done, simply admit its breach and leave it to the Commission to take whatever action the Commission thinks right by way of enforcement under article 258 of the Treaty on the Functioning of the European Union." (para 12)

The Court of Appeal adopted the same view. That position is clearly untenable in the light of the CJEU's answer to the fourth question. That makes clear that, regardless of any action taken by the Commission, enforcement is the responsibility of the national courts.

29. Notwithstanding that clear statement, Miss Smith initially submitted that, in the absence of any allegation or finding that the 2011 plans were as such affected by error of law (apart from the interpretation of article 22), there is no basis for an order to quash them, nor in consequence for a mandatory order to replace them. I have no hesitation in rejecting this submission. The critical breach is of article 13, not of article 22 or 23, which are supplementary in nature. The CJEU judgment, supported by the Commission's observations, leaves no doubt as to the seriousness of the breach, which has been continuing for more than five years, nor as to the responsibility of the national court for securing compliance. As the CJEU commented at para 31:

> "Member states must take all the measures necessary to secure compliance with that requirement [in article 13(1)] and cannot consider that the power to postpone the deadline, which they are afforded by article 22(1) of Directive 2008/50, allows them to defer, as they wish, implementation of those measures."

30. Furthermore, during the five years of breach the prospects of early compliance have become worse, not better. It is rightly accepted by the Secretary of State that new measures have to be considered and a new plan prepared. In those circumstances, we clearly have jurisdiction to make an order. Further, without doubting the good faith of the Secretary of State's intentions, we would in my view be failing in our duty if we simply accepted her assurances without any legal underpinning. It may be said that such additional relief was not spelled out in the original application for judicial review. But the delay and the consequent change of circumstances are not the fault of the claimant. That is at most a pleading point which cannot debar the claimant from seeking the appropriate remedy in the circumstances as they now are, nor relieve the court of its own responsibility in the public interest to provide it.

31. In normal circumstances, where a responsible public authority is in admitted breach of a legal obligation, but is willing to take appropriate steps to comply, the court may think it right to accept a suitable undertaking, rather than impose a mandatory order. However, Miss Smith candidly accepts that this course is not open to her, given the restrictions imposed on Government business during the current election period. The court can also take notice of the fact that formation of a new Government following the election may take a little time. The new Government, whatever its political complexion, should be left in no doubt as to the need for immediate action to address this issue. The only realistic way to achieve this is a mandatory order requiring new plans complying with article 23(1) to be prepared within a defined timetable.

32. Although Mr Jaffey initially pressed for a shorter period than that proposed by the Secretary of State, he made clear that his principal objective was to secure a commitment to production of compliant plans within a definite and realistic timetable, supported by a court order. In the circumstances, I regard the timetable proposed by the Secretary of State as realistic. There should in any event be liberty to either party to apply to the Administrative Court for variation if required by changes in circumstances.

33. Finally, I should mention a further important issue which we have not been called upon to determine as part of these proceedings, but which may well arise in connection with the new plans. This concerns the interpretation of the words "as short as possible" in article 23(1). The judgments of the European court noted by the Commission (para 17 above), in particular the Italian case (relating to the precursor of article 13 itself) indicate that the scope for arguing "impossibility" on practical or economic grounds is very limited. Miss Smith sought to distinguish the Italian case, on the grounds that it related to article 13, not article 23. Mr Jaffey objects that this argument takes insufficient account of the direct relationship between the two articles, as underlined by both the Commission and the CJEU. If this remains an issue in relation to the new air quality plans, when they are published for consultation, it may call for resolution by the court at an early stage to avoid further delay in the completion of compliant plans.

34. That is a further factor which makes it desirable that the new plans should be prepared under a timetable approved by the court, with liberty to apply for the determination of such issues as and when they arise in the course of the production of the plan, without the need for the expense and delay of new proceedings.

35. For these reasons, I would allow the appeal. In addition to the declaration already made, I would make a mandatory order requiring the Secretary of State to prepare new air quality plans under article 23(1), in accordance with a defined timetable, to end with delivery of the revised plans to the Commission not later than 31 December 2015. There should be provision for liberty to apply to the Administrative Court for variation of the timetable, or for determination of any other legal issues which may arise between the present parties in the course of preparation of the plans. The parties should seek to agree the terms of the order, or submit proposed drafts with supporting submissions within two weeks of the handing-down of this judgment.

Easter Term
[2013] UKSC 25
On appeal from: [2012] EWCA Civ 897

JUDGMENT

R (on the application of ClientEarth) (Appellant) *v* The Secretary of State for the Environment, Food and Rural Affairs (Respondent)

before

Lord Hope, Deputy President
Lord Mance
Lord Clarke
Lord Sumption
Lord Carnwath

JUDGMENT GIVEN ON

1 May 2013

Heard on 7 March 2013

Appellant	*Respondent*
Dinah Rose QC Emma Dixon Ben Jaffey (Instructed by Client Earth)	Kassie Smith (Instructed by Treasury Solicitors)

LORD CARNWATH, DELIVERING THE JUDGMENT OF THE COURT

1. This is the judgment of the court, giving reasons for making a reference to the Court of Justice of the European Union (CJEU). The court has also decided that, on the basis of concessions made on behalf of the respondent, the appellant is entitled to a declaration that the United Kingdom is in breach of its obligations to comply with the nitrogen dioxide limits provided for in Article 13 of Directive 2008/50/EC ("the Air Quality Directive"). Decisions on the extent of other relief (if any) will have to await the determination of the CJEU on the questions referred. In these circumstances the judgment does no more than set out the factual and legal context of the dispute, and the issues of European law which now arise (as a basis in due course for a reference in compliance with the recommendations of the CJEU: 6 November 2012 C 338/1).

Background

2. Nitrogen dioxide is a gas formed by combustion at high temperatures. Road traffic and domestic heating are the main sources of nitrogen dioxide in most urban areas in the UK. The Air Quality Directive imposes limit values for levels of nitrogen dioxide in outdoor air throughout the UK. These limits are based on scientific assessments of the risks to human health associated with exposure to nitrogen dioxide. These risks are described in the agreed statement of facts and issues:

> "At concentrations exceeding the hourly limit value, nitrogen dioxide is associated with human health effects. Short term heightened concentrations of nitrogen dioxide are associated with increased numbers of hospital admissions and deaths. At elevated concentrations, nitrogen dioxide can irritate the eyes, nose, throat and lungs and lead to coughing, shortness of breath, tiredness and nausea. Long-term exposure may affect lung function and cause respiratory symptoms. Nitrogen dioxide, along with ammonia, also contributes to the formation of microscopic airborne particles, one of the many components of particulate matter (PM_{10} and $PM_{2.5}$) which have been calculated to have an effect equivalent to 29,000 premature deaths each year in the UK. It is currently unclear which components or characteristics of particulate matter lead to these health impacts."

European Air Quality Legislation

3. The current EU legislative framework governing air quality has its origins in the Air Quality Framework Directive of September 1996 (96/62/EC) (the Framework Directive). The general aim of the directive, as stated in article 1, was

> "to define the basic principles of a common strategy to:
>
> - define and establish objectives for ambient air quality in the Community designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole,
>
> - assess the ambient air quality in Member States on the basis of common methods and criteria,
>
> - obtain adequate information on ambient air quality and ensure that it is made available to the public, inter alia by means of alert thresholds,
>
> - maintain ambient air quality where it is good and improve it in other cases."

4. Article 2 contained the key definitions which have been carried into the later directives, including:

> "'limit value` shall mean a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained;
>
> 'target value` shall mean a level fixed with the aim of avoiding more long-term harmful effects on human health and/or the environment as a whole, to be attained where possible over a given period;
>
> 'margin of tolerance` shall mean the percentage of the limit value by which this value may be exceeded subject to the conditions laid down in this Directive;

5. A "zone" was defined as a "part of their territory delimited by the Member States", and an "agglomeration" was defined as;

> "a zone with a population concentration in excess of 250 000 inhabitants or, where the population concentration is 250 000 inhabitants or less, a population density per km² which for the Member States justifies the need for ambient air quality to be assessed and managed."

6. By article 4(1) the Commission was required to submit proposals on the setting of limit values for various atmospheric pollutants, one being nitrogen dioxide. They were required to take account of the factors listed in Annex II, which included "economic and technical feasibility". Article 7(1) required member states to take the "necessary measures to ensure compliance with the limit values". By article 7(3) they were required to draw up –

> "action plans indicating the measures to be taken in the short term where there is a risk of the limit values … being exceeded. Such plans may, depending on the individual case provide for measures to control and, where necessary, suspend activities, including motor-vehicle traffic, which contribute to the limit values being exceeded".

7. Article 8 headed "Measures applicable in zones where levels are higher than the limit value" provided:

> 1. Member States shall draw up a list of zones and agglomerations in which the levels of one or more pollutants are higher than the limit value plus the margin of tolerance…
>
> 3. In the zones and agglomerations referred to in paragraph 1, Member States shall take measures to ensure that a plan or programme is prepared or implemented for attaining the limit value within the specific time limit.
>
> The said plan or programme, which must be made available to the public, shall incorporate at least the information listed in Annex IV."

8. Article 11 contained detailed provisions for information to be given to the Commission about areas of non-compliance and progress in dealing with it. In particular, member states were required to "send to the Commission the plans or programmes referred to in Article 8(3) no later than two years after the end of the year during which the levels were observed" (art 11(1)(a)(iii)).

9. A further Directive 1999/30/EC ("the First Daughter Directive") contained the detail of the limit values, margins of tolerance, and deadlines for compliance for the various pollutants. Annex II set two types of limit values for nitrogen dioxide, an hourly limit value (a maximum of 18 hours in a calendar year in which hourly mean concentrations can exceed 200 micrograms µg/m3) and an annual mean limit value (mean concentrations must not exceed 40 µg/m3 averaged over a year). The deadline for achieving both limit values was 1 January 2010. It is to be noted that for some other pollutants (sulphur dioxide and particulates) an earlier date was set (1 January 2005).

10. The 2008 Air Quality Directive was a consolidating and amending measure. As paragraph (3) of the preamble explained, the earlier directives -

> "…need to be substantially revised in order to incorporate the latest health and scientific developments and the experience of the Member States. In the interests of clarity, simplification and administrative efficiency it is therefore appropriate that those five acts be replaced by a single Directive and, where appropriate, by implementing measures."

The Framework Directive and the First Daughter Directive were repealed (Article 31), but the same limit values, margin of tolerances, and deadlines were reproduced in annex XI of the new directive.

11. Article 13 provides:

> *Limit values and alert thresholds for the protection of human health*
>
> "1. Member States shall ensure that, throughout their zones and agglomerations, levels of sulphur dioxide, PM_{10}, lead, and carbon monoxide in ambient air do not exceed the limit values laid down in Annex XI.
>
> In respect of nitrogen dioxide and benzene, the limit values specified in Annex XI may not be exceeded from the dates specified therein.
>
> …

> The margins of tolerance laid down in Annex XI shall apply in accordance with Article 22(3) and Article 23(1)…"

The difference between the first and second paragraphs of article 13 appears to reflect the fact that the former relates to limits which, unlike those for nitrogen dioxide, had already come into effect at the time of the directive. The absolute terms of the obligation under article 13 may be contrasted, for example, with article 16 which requires "all necessary measures not entailing disproportionate costs" to achieve the "target value" set for concentrations of $PM_{2.5}$.

12. Of direct relevance to the present appeal are articles 22 and 23. They come in different chapters: the former in chapter III ("Ambient and Air Quality Management", the latter in chapter IV ("Plans"). The relevant parts are as follows:

> "*Article 22 Postponement of attainment deadlines and exemption from the obligation to apply certain limit values*
>
> 1. Where, in a given zone or agglomeration, conformity with the limit values for nitrogen dioxide or benzene cannot be achieved by the deadlines specified in Annex XI, a Member State may postpone those deadlines by a maximum of five years for that particular zone or agglomeration, on condition that an air quality plan is established in accordance with Article 23 for the zone or agglomeration to which the postponement would apply; such air quality plan shall be supplemented by the information listed in Section B of Annex XV related to the pollutants concerned and shall demonstrate how conformity will be achieved with the limit values before the new deadline.
>
> …
>
> 3. Where a Member State applies paragraphs 1 or 2, it shall ensure that the limit value for each pollutant is not exceeded by more than the maximum margin of tolerance specified in Annex XI for each of the pollutants concerned.
>
> 4. Member States shall notify the Commission where, in their view, paragraphs 1 or 2 are applicable, and shall communicate the air quality plan referred to in paragraph 1 including all relevant information necessary for the Commission to assess whether or not the relevant conditions are satisfied. In its assessment, the

Commission shall take into account estimated effects on ambient air quality in the Member States, at present and in the future, of measures that have been taken by the Member States as well as estimated effects on ambient air quality of current Community measures and planned Community measures to be proposed by the Commission.

Where the Commission has raised no objections within nine months of receipt of that notification, the relevant conditions for the application of paragraphs 1 or 2 shall be deemed to be satisfied.

If objections are raised, the Commission may require Member States to adjust or provide new air quality plans.

Article 23 Air quality plans

1. Where, in given zones or agglomerations, the levels of pollutants in ambient air exceed any limit value or target value, plus any relevant margin of tolerance in each case, Member States shall ensure that air quality plans are established for those zones and agglomerations in order to achieve the related limit value or target value specified in Annexes XI and XIV.

In the event of exceedances of those limit values for which the attainment deadline is already expired, the air quality plans shall set out appropriate measures, so that the exceedance period can be kept as short as possible. The air quality plans may additionally include specific measures aiming at the protection of sensitive population groups, including children.

Those air quality plans shall incorporate at least the information listed in Section A of Annex XV and may include measures pursuant to Article 24. Those plans shall be communicated to the Commission without delay, but no later than two years after the end of the year the first exceedance was observed…"

13. Annex XV section A lists categories of information to be included in air quality plans generally (generally reproducing the categories in Annex IV of the Framework Directive); section B sets out additional information to be provided under article 22(1), including "information on all air pollution abatement measures that have been considered … for implementation in connection with the attainment

of air quality objectives", under specified headings. The headings include, for example

> "(a) reduction of emissions from stationary sources by ensuring that polluting small and medium sized stationary combustion sources (including for biomass) are fitted with emission control equipment or replaced;
>
> (b) reduction of emissions from vehicles through retrofitting with emission control equipment. The use of economic incentives to accelerate take-up should be considered;
>
> ...
>
> (h) where appropriate, measures to protect the health of children or other sensitive groups."

14. The term "air quality plan" was new to this directive, but not the content of article 23. The "correlation table" (annex XVII) indicates that article 23 and annex XV section A were designed to reproduce with amendments the effect of article 8(1)-(4), and annex IV of the Framework Directive, where the corresponding term was "measures". The time-limit of two years, in the third paragraph, corresponds to that set by article 11(1)(a)(iii) for submission of plans under article 9(3).

15. By contrast, article 22 and annex XV section B were new. The purpose was explained by paragraph (16) of the preamble:

> "(16) For zones and agglomerations where conditions are particularly difficult, it should be possible to postpone the deadline for compliance with the air quality limit values in cases where, notwithstanding the implementation of appropriate pollution abatement measures, acute compliance problems exist in specific zones and agglomerations. Any postponement for a given zone or agglomeration should be accompanied by a comprehensive plan to be assessed by the Commission to ensure compliance by the revised deadline. The availability of necessary Community measures reflecting the chosen ambition level in the Thematic Strategy on air pollution to reduce emissions at source will be important for an effective emission reduction by the timeframe established in this Directive for compliance with the limit values and should be taken

> into account when assessing requests to postpone deadlines for compliance."

16. A Commission communication relating to notifications under article 22 was issued on 26 June 2008. It noted that a majority of member states had not attained the limit values for PM_{10} even though they had become mandatory on 1 January 2005. Current assessments indicated that a similar situation might arise in 2010 when limit values for nitrogen dioxide would become mandatory (para 3). The notification procedure was described as follows:

> "The initial notifications are expected principally to concern PM10, for which the potential extensions will end three years after the entry into force of the Directive, i.e. on 11 June 2011. In view of the existing levels of non-compliance with the limit values for PM10, it is important to submit notifications as soon as possible after the Directive enters into force for zones and agglomerations where Member States consider that the conditions are met. When preparing the notifications, care must, however, be taken to ensure that the data necessary to demonstrate compliance with the conditions are complete.
>
> 9. As regards nitrogen dioxide and benzene, the limit values may not be exceeded from 1 January 2010 at the latest. Where the conditions are met, the deadline for achieving compliance may be postponed until such time as is necessary for achieving compliance with the limit values, but at maximum until 2015. The aim must be to keep the postponement period as short as possible. If an exceedance of the limit values for nitrogen dioxide or benzene occurs for the first time only in 2011 or later, postponing the deadline is no longer possible. In those cases, the second subparagraph of Article 23(1) of the new Directive will apply."

Air Quality Plans in the United Kingdom

17. For the purposes of assessing and managing air quality, the UK is divided into 43 'zones and agglomerations'. 40 of these zones and agglomerations were in breach of one or more of the limit values for nitrogen dioxide in 2010.

18. On 20 December 2010, in response to a letter before action from ClientEarth, the Secretary of State indicated that air quality plans were being drawn up for Greater London and all other non-compliant zones and

agglomerations as part of the time extension notification process under article 22. It was said that these plans would demonstrate how compliance would be achieved in these areas by 2015. However, when draft air quality plans were published on 9 June 2011 for the purposes of public consultation, the proposals indicated that in 17 zones and agglomerations, including Greater London, compliance was expected to be achieved after 2015.

19. The UK Overview Document stated (referring to projections shown in Table 1):

> "The table shows that of the 40 zones with exceedances in 2010, compliance may be achieved by 2015 in 23 zones, 16 zones are expected to achieve compliance between 2015 and 2020 and that compliance in the London zone is currently expected to be achieved before 2025" (para 1.3).

20. On 19 September 2011, the Secretary of State published an analysis of responses to the consultation. It stated, in response to comments that the plans did not meet the requirements for a time extension under Article 22:

> "The Introduction to the UK Overview document makes clear that the European Commission advised Member States to also submit air quality plans for zones where full compliance is projected after 2015. As set out in paragraph 1.1 of the UK Overview document, the UK will be submitting plans with a view to postponement of the compliance date to 2015 where attainment by this date is projected. Plans for zones where full compliance is currently expected after that date will also be submitted to the Commission under Article 23 on the basis that they set out actions to keep the exceedances period as short as possible."

21. Final plans were submitted to the Commission on 22 September 2011, including applications for time extensions under Article 22 in 24 cases supported by plans showing how the limit values would be met by 1 January 2015 at the latest. In the remaining 16 cases, no application has been made under Article 22 for a time extension, but air quality plans were prepared projecting compliance between 2015 and 2025.

22. In a decision dated 25 June 2012, the European Commission raised objections to 12 of the 24 applications for time extensions, unconditionally approved nine applications, and approved three subject to certain conditions being

fulfilled. It made no comment on the zones for which compliance by 2015 had not been shown.

23. A letter from the Commission (EU Pilot) dated 19 June 2012 referred to "multiple complaints" concerning the UK's compliance with PM_{10} and NO_2 limit values in the Air Quality Directive, including its failure to request time extensions for 17 zones, in which the NO_2 limits were exceeded. The letter commented:

> "The Commission has noted your confirmation that these zones have indeed not applied under Article 22 of the Directive and is considering how to address this issue under its wider enforcement strategy for the Directive. At this point, the Commission would like to draw your attention to the obligation of setting out 'appropriate measures, so that the exceedance period can be kept as short as possible', as provided by Article 23 for all zones and agglomerations where an exceedance is taking place and no time extension has been requested under Article 22…."

24. Another letter from the Commission (Directorate-General Environment) to ClientEarth dated 29 June 2012 commented on their own complaint of non-compliance:

> "We will await the outcome of your appeal to the United Kingdom's Supreme Court in *R (ClientEarth) v. Secretary of State for the Environment, Food and Rural Affairs* and your further update on the situation to decide how best to proceed with this matter given that it now appears clear that numerous Air Quality Plans, including the plan for London, were not communicated to the Commission under Article 22 of Directive 2008/50/EC as was originally thought… The Commission would have some considerable concerns if Article 23 of the Directive were seen to be a way of allowing Member States to circumvent the requirements of Article 22 of the Directive. Article 22 of the Directive was introduced in order to afford Member States additional time for compliance for up to a maximum of 5 years, on condition that an air quality plan is established in accordance with Article 23 and communicated to the Commission for assessment. It is only under these conditions that Member States can be afforded additional time for compliance and Article 23 itself cannot be relied upon to further extend this clearly prescribed and limited time extension clause.

> As explained, our normal policy is to stay or close complainant files where the issue in question is before the national courts so as to allow national proceedings to run their course before deciding whether or not to instigate our own infringement proceedings under Article 258 of the Treaty on the Functioning of the European Union (TFEU): The national courts are the key authority in Member States tasked with the interpretation and implementation of EU law. The fact that the Commission has powers to bring its own infringement proceedings against Member States under Article 258 TFEU should not mean that individuals cannot plead these obligations before a national court as has been recognised by the Court of Justice as long ago as 1963 (*Van Gend en Loos* judgment [1963] ECR 1). As the Court already recognised in that case, a restriction of the guarantees against an infringement by Member States to the procedures under Article 258 TFEU would remove all direct legal protection of the individual rights of their nationals. The Court concluded that the vigilance of individuals concerned to protect their rights amounted to an effective supervision in addition to the supervision entrusted by Article 258 TFEU to the Commission."

The proceedings

25. The present proceedings for judicial review had been commenced on 28 July 2011. The claimants sought –

> "(i) a declaration that the draft nitrogen dioxide air quality plans do not comply with the requirements of EU law; and (ii) a mandatory order requiring the Secretary of State to (a) revise the draft air quality plans to ensure that they all demonstrate how conformity with the nitrogen dioxide limit values will be achieved as soon as possible and by 1 January 2015 at the latest, and (b) publish the revised draft air quality plans as public consultation documents, giving a reasonable timeframe for response".

By amendment, the Appellant also sought a declaration that the United Kingdom is in breach of its obligations to comply with the nitrogen dioxide limits provided for in Article 13 of Directive 2008/50/EC.

The proceedings

26. The claim was heard by Mitting J on 13 December 2011. He dismissed the claim (*R (ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs* [2011] EWHC 3623 (Admin)). He held that article 22 was discretionary. He declined in any event to grant a mandatory order:

> "… such a mandatory order, like the imposition of an obligation on the Government to submit a plan under Article 22 to bring the United Kingdom within limit values by 1 January 2015, would raise serious political and economic questions which are not for this court. It is clear from all I have seen that any practical requirement on the United Kingdom to achieve limit values in its major agglomerations, in particular in London, would impose upon taxpayers and individuals a heavy burden of expenditure which would require difficult political choices to be made. It would be likely to have a significant economic impact. The courts have traditionally been wary of entering this area of political debate for good reason." (para 15)

He also declined to make a declaration:

> "… A declaration will serve no purpose other than to make clear that which is already conceded. The means of enforcing Article 13 lie elsewhere in the hands of the Commission under article 258 of the Treaty on the Functioning of the European Union, and if referred to it, the Court of Justice of the European Union under Article 260. Those remedies are sufficient to deal with the mischief at which the 2008 Directive is aimed." (para 16)

27. The appeal was dismissed by the Court of Appeal on 30 May 2012 ([2012] EWCA Civ 897). Laws LJ, giving the only substantive judgment, agreed with Mitting J that article 22 was discretionary. In those circumstances, he declined to consider the issue of a mandatory order which he regarded as "moot". Of the judge's reasons for refusing a declaration he said:

> "… it seems to me that he was, with respect, plainly right and the contrary is not contended. His judgment speaks as a declaration. No substantive issue of effective judicial protection arises from his refusal to grant a formal declaration." (paras 22-23)

28. Permission to appeal to the Supreme Court was granted by the court on 19 December 2012.

The submissions of the parties (in summary)

ClientEarth

29. ClientEarth does not accept that the UK has considered or put in place all practical measures to ensure compliance by 2015.

30. In any event, article 22 is a mandatory procedure which applied to any member state which remained in breach of the relevant limit value at 1 January 2010. That is confirmed by article 22(4): where in the view of a member state paragraph 1 "is applicable", the state "shall" notify the Commission and communicate the required air quality plan. Paragraph 1 is applicable where "in a given zone or agglomeration, conformity with the limit values for nitrogen dioxide or benzene cannot be achieved by the deadlines specified…"

31. Article 23 does no more than preserve the system already in place under the previous directive. It is not an alternative procedure for a state which is in breach of the limit value, nor a means by which it can avoid the more stringent controls set out in annex XV(B) or the maximum margins of tolerance set by article 22(3).

32. The lower court erred in disregarding the responsibility of the domestic courts to provide an effective remedy for the admitted breach of article 13 (see eg Joined Cases C-444/09 and C-456/09 *Gavieiro Gavieiro and Iglesias Torres* ([2010] ECR I-0000, paras 72, 75). Neither practical difficulties nor the expense of compliance can be relied on as defences (see eg Case C-390/07 *Commission v UK* [2009] ECR I-00214, para 121; Case C-68/11 *Commission v Italy* paras 41, 59-60).

The Secretary of State

33. The Secretary of State accepts that the UK is in breach of article 13 in relation to certain zones, and that for certain zones it has not produced plans showing conformity by 2015; but asserts that for those zones compliance within that timetable is not realistically possible, due to circumstances out of its control and unforeseen in 2008. These problems are shared with other states. In many cases the Commission has rejected plans submitted under article 22 because the notifications have failed to fulfil the condition of demonstrating compliance by 2015.

34. Article 22 is not mandatory, as indicated by the use of the word "may" in article 22(1). An air quality plan demonstrating compliance by 1 January 2015 is

only required if a member state is applying under Article 22 for postponement of the deadline. Further, postponement can only properly be sought if the state is able to demonstrate how conformity will be achieved by the new deadline.

35. Where postponement is not sought, the state is at immediate risk of infraction proceedings, but remains subject to a continuing duty, under the second paragraph of article 23, to maintain plans setting out "appropriate measures so that the exceedance period can be kept as short as possible". That paragraph (which was not in the earlier Directives) envisages, and provides for, the situation in which a Member State has failed to comply with the relevant limit values by the relevant deadline.

36. The refusal of discretionary relief by the courts below was consistent with EU principles, both of effective judicial protection, which leave to domestic systems the procedural conditions governing actions for the protection of the rights under Community law (Case 33/76 *Rewe-Zentralfinanz eG and Rewe-Zentral AG v Landwirtschaftskammer für das Saarland* [1976] ECR 1989 at §5); and of "sincere co-operation", in cases of "unforeseeable difficulties" which make it "absolutely impossible" to carry out obligations imposed Community law (see Case C-217/88 *Commission v Federal Republic of Germany* [1990] ECR I-2879 at §33).

The court's preliminary conclusion

37. The court is satisfied that it should grant the declaration sought, the relevant breach of article 13 having been clearly established. The fact that the breach has been conceded is not, in the court's view, a sufficient reason for declining to grant a declaration, where there are no other discretionary bars to the grant of relief. Such an order is appropriate both as a formal statement of the legal position, and also to make clear that, regardless of arguments about the effect of articles 22 and 23, the way is open to immediate enforcement action at national or European level.

38. The other issues raise difficult issues of European law, the determination of which in the view of the court, requires the guidance of the CJEU, and on which accordingly as the final national court we are obliged to make a reference.

39. Taking note of the draft questions provided by the appellants, and subject to any further submissions of the parties, the following questions appear appropriate:

i) Where in a given zone or agglomeration conformity with the limit values for nitrogen dioxide cannot be achieved by the deadline of 1 January 2010 specified in annex XI of Directive 2008/50/EC ("the Directive"), is a

Member State obliged pursuant to the Directive and/or article 4 TEU to seek postponement of the deadline in accordance with article 22 of the Directive?

ii) If so, in what circumstances (if any) may a Member State be relieved of that obligation?

iii) If the answer to (i) is no, to what extent (if at all) are the obligations of a Member State which has failed to comply with article 13, and has not made an application under article 22, affected by article 23 (in particular its second paragraph)?

iv) In the event of non-compliance with article 13, and in the absence of an application under article 22, what (if any) remedies must a national court provide as a matter of European law in order to comply with article 30 of the Directive and/or article 4 or 19 TEU?

40. The parties are accordingly requested to submit to the court (if possible in agreed form) their proposals for any revisions to the questions to be referred to the CJEU, together with brief summaries of their respective submissions as to the answers to those questions. These should be submitted within 4 weeks of this judgment.

7 DEFRA National Air Quality Objective limits

(reproduced from 'National air quality objectives and European Directive limit and target values for the protection of human health'. Department for Environment Food & Rural Affairs [Online]. Available at https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf)

National air quality objectives and European Directive limit and target values for the protection of human health

Pollutant	Applies	Objective	Concentration measured as [10]	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved (by and maintained thereafter)
Particles (PM_{10})	UK	50 µg/m³ not to be exceeded more than 35 times a year	24 hour mean	31 December 2004	50 µg/m³ not to be exceeded more than 35 times a year	1 January 2005
	UK	40 µg/m³	annual mean	31 December 2004	40 µg/m³	1 January 2005
	Indicative 2010 objectives for PM_{10} (from the 2000 strategy and Addendum) have been replaced by an exposure reduction approach for $PM_{2.5}$ (except in Scotland – see below)					
	Scotland	50 µg/m³ not to be exceeded more than 7 times a year	24 hour mean	31 December 2010	50 µg/m³ not to be exceeded more than 35 times a year	1 January 2005
	Scotland	18 µg/m³	annual mean	31 December 2010	40 µg/m³	1 January 2005
Particles ($PM_{2.5}$) Exposure Reduction	UK (except Scotland)	25 µg/m³	annual mean	2020	Target value - 25 µg/m³	2010
	Scotland	10 µg/m³		31 December 2020	Limit value - 25 µg/m³	1 January 2015
	UK urban areas	Target of 15% reduction in concentrations at urban background		Between 2010 and 2020	Target of 20% reduction in concentrations at urban background.	Between 2010 and 2020

National air quality objectives and European Directive limit and target values for the protection of human health

Pollutant	Applies	Objective	Concentration measured as [1]	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Nitrogen dioxide	UK	200 µg/m³ not to be exceeded more than 18 times a year	1 hour mean	31 December 2005	200 µg/m³ not to be exceeded more than 18 times a year	1 January 2010
	UK	40 µg/m³	annual mean	31 December 2005	40 µg/m³	1 January 2010
Ozone	UK	100 µg/m³ not to be exceeded more than 10 times a year	8 hour mean	31 December 2005	Target of 120 µg/m³ not to be exceeded by more than 25 times a year averaged over 3 years	31 December 2010
Sulphur dioxide	UK	266 µg/m³ not to be exceeded more than 35 times a year	15 minute mean	31 December 2005	-	-
	UK	350 µg/m³ not to be exceeded more than 24 times a year	1 hour mean	31 December 2004	350 µg/m³ not to be exceeded more than 24 times a year	1 January 2005
	UK	125 µg/m³ not to be exceeded more than 3 times a year	24 hour mean	31 December 2004	125 µg/m³ not to be exceeded more than 3 times a year	1 January 2005
Polycyclic Aromatic Hydrocarbons	UK	0.25 ng/m³ B[a]P	as annual average	31 December 2012	1.0 ng/m³	31 December 2012

National air quality objectives and European Directive limit and target values for the protection of human health						
Pollutant	**Applies**	**Objective**	**Concentration measured as[1]**	**Date to be achieved by (and maintained thereafter)**	**European Obligations**	**Date to be achieved by (and maintained thereafter)**
Benzene	UK	16.25 µg/m^3	running annual mean	31 December 2003	-	-
	England and Wales	5 µg/m^3	annual average	31 December 2010	5 µg/m^3	1 January 2010
	Scotland, Northern Ireland	3.25 µg/m^3	running annual mean	31 December 2010	-	-
1,3-butadiene	UK	2.25 µg/m^3	running annual mean	31 December 2003	-	-
Carbon monoxide	UK	10 mg/m^3	maximum daily running 8 hour mean/in Scotland as running 8 hour mean	31 December 2003	10 mg/m^3	1 January 2005
Lead	UK	0.5 µg/m^3	annual mean	31 December 2004	0.5 µg/m^3	1 January 2005
		0.25 µg/m^3	annual mean	31 December 2008	-	-

National air quality objectives and European Directive limit and target values for the protection of vegetation and ecosystems						
Pollutant	**Applies**	**Objective**	**Concentration measured as[1]**	**Date to be achieved by (and maintained thereafter)**	**European Obligations**	**Date to be achieved by (and maintained thereafter)**
Nitrogen oxides	UK	30 µg/m^3	annual mean	31 December 2000	30 µg/m^3	19 July 2001
Sulphur dioxide	UK	20 µg/m^3	annual mean	31 December 2000	20 µg/m^3	19 July 2001
	UK	20 µg/m^3	winter average	31 December 2000	20 µg/m^3	19 July 2001
Ozone: protection of vegetation and ecosystems	UK	Target value of 18,000 µg/m^3 based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	Average over 5 years	1 January 2010	Target value of 18,000 µg/m^3 based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	1 January 2010

8 Local Air Quality Management, Technical Guidance (TG16), February 2018

4 Selective pages reproduced – cover page, Page 1-1, Table 1.1

Department
for Environment
Food & Rural Affairs

Part IV of the Environment Act 1995

Environment (Northern Ireland) Order 2002 Part III

Local Air Quality Management

Technical Guidance (TG16)

February 2018

The Scottish Government
Riaghaltas na h-Alba

Department of the Environment
www.doeni.gov.uk

Llywodraeth Cymru
Welsh Government

CHAPTER 1: Introduction – Local Air Quality Management (LAQM)

1.01 This technical guidance (LAQM.TG16)[1] supersedes all previous versions, the most recent being the April 2016 release of LAQM.TG16. It is designed to support local authorities in carrying out their duties under the Environment Act 1995, the Environment (Northern Ireland) Order 2002, and subsequent regulations. LAQM is the statutory process by which local authorities monitor, assess and take action to improve local air quality. Where a local authority identifies areas of non-compliance with the air quality objectives set out in Table 1.1, and there is relevant public exposure, there remains a statutory need to declare the geographic extent[2] of non-compliance as an Air Quality Management Area (AQMA) and to draw up an action plan detailing remedial measures to address the problem. A general introduction to the system is provided in the Policy Guidance documents[3].

Who Should Read this Document?

1.02 The primary users will be technical officers within local authorities charged with air quality duties under the regulations cited above in England, Scotland, Wales and Northern Ireland. Secondary users will include transport, planning and policy officials. London has its own system of LAQM and local authorities in Greater London should refer to separate guidance prepared by the Mayor of London, which may refer to this document.

What has Changed?

1.03 The LAQM system across the UK has changed. England, Scotland and Wales have adopted a new streamlined approach which places greater emphasis on action planning to bring forward improvements in air quality and to include local measures as part of EU reporting requirements. It also sees the introduction of an air quality Annual Status Report (ASR) for England and Annual Progress Report (APR) for Scotland and Wales to reduce the burden of the cycle of Updating and Screening Assessments, Progress Reports, Detailed Assessments, Further Assessments[4] and Action Plan Progress Reports.

1.04 Authorities will continue to appraise air quality, with the main emphasis on those pollutants shown to be challenging in respect of compliance – Nitrogen Dioxide (NO_2), Particulate Matter (PM_{10}) and (except in Wales) Sulphur Dioxide (SO_2), whilst introducing a new role for local authorities to work towards reducing levels of $PM_{2.5}$ in England and a

---

[1] LAQM.TG16 refers to LAQM Technical Guidance (TG16)

[2] Authorities should declare the area of exceedance as a minimum but can declare an area that is wider if they wish

[3] Separate Policy Guidance exists for England, Scotland, Northern Ireland, Wales and London

[4] Further Assessments have already been removed via statute in England, Wales and Scotland. Whilst Further Assessments are still a formal requirement under Part III of the Environment (Northern Ireland) Order 2002, in practice, NI Policy Guidance recommends that Further Assessments not be submitted as separate documents but taken forward in parallel with the development of Air Quality Action Plans

Table 1.1 – UK Air Quality Objectives and Pollutants - LAQM

Pollutant	Objective	Averaging Period	Obligation
Nitrogen dioxide (NO_2)	200µg/m³ not to be exceeded more than 18 times a year	1-hour mean	All local authorities
	40µg/m³	Annual mean	All local authorities
Particulate Matter (PM_{10})	50µg/m³ not to be exceeded more than 35 times a year	24-hour mean	All local authorities
	50µg/m³ not to be exceeded more than 7 times a year	24-hour mean	Scotland only
	40µg/m³	Annual mean	All local authorities
	18µg/m³	Annual mean	Scotland only
Particulate Matter ($PM_{2.5}$)	Work towards reducing emissions/concentrations of fine particulate matter ($PM_{2.5}$)	Annual mean	England only (encouraged in Wales)
	10µg/m³	Annual mean	Scotland only
Sulphur dioxide (SO_2)	266µg/m³ not to be exceeded more than 35 times a year	15-minute mean	All local authorities
	350µg/m³ not to be exceeded more than 24 times a year	1-hour mean	All local authorities
	125µg/m³ not to be exceeded more than 3 times a year	24-hour mean	All local authorities
Benzene (C_6H_6)	16.25µg/m³	Running annual mean	All local authorities
	5µg/m³	Annual mean	England and Wales only
	3.25µg/m³	Running annual mean	Scotland and Northern Ireland only
1,3-Butadiene (C_4H_6)	2.25µg/m³	Running annual mean	All local authorities
Carbon Monoxide (CO)	10mg/m³	Maximum daily running 8-hour mean	England, Wales and Northern Ireland only
	10mg/m³	Running 8-hour mean	Scotland only
Lead (Pb)	0.25µg/m³	Annual mean	All local authorities

LAQM Systems across the United Kingdom

1.13 Currently different Review and Assessment methodologies exist across the UK. It is important for those using LAQM.TG16 to refer to the section relevant to their country.

Phased Approach: Northern Ireland

1.14 The LAQM system is still to be reviewed in Northern Ireland. Until then, the previous system based on phased reporting remains. Round 6 of this process started in 2015. This is summarised in Table 1.2.

9 British Medical Journal: Nov 27th 2019, editorial, $PM_{2.5}$s "The health effects of fine particulate air pollution: The harder we look, the more we find"

1 Please note, the reference to "PM2.5 concentration was below the World Health Organisation's guideline of 25 μg/m^3" refers to the WHO 24-hour mean guideline. The WHO annual mean is 10 μg/m^3 as described in our main document.

thebmj

BMJ 2019;367:l6609 doi: 10.1136/bmj.l6609 (Published 27 November 2019)

EDITORIALS

Check for updates

The health effects of fine particulate air pollution

The harder we look, the more we find

Matthew Loxham *Biotechnology and Biological Sciences Research Council future leader fellow*, Donna E Davies *professor of respiratory cell and molecular biology*, Stephen T Holgate *clinical professor*

School of Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, Southampton, UK

Fine particulate matter (PM) of diameter less than 2.5 microns ($PM_{2.5}$) is ubiquitous, emanating especially from transport and combustion sources. Since a seminal 1993 study showing a clear association between airborne $PM_{2.5}$ and mortality rates in six cities in the United States,[1] many attempts have been made to quantify the global annual burden of mortality due to $PM_{2.5}$—0.8 million in 2005,[2] 3.15 million in 2015,[3 4] and almost 9 million in 2018.[5] This increase reflects not a 10-fold rise in $PM_{2.5}$ exposure, but improved modelling of $PM_{2.5}$ concentrations, and use of real world exposure-response associations incorporating new data from developing nations, which has led to conclusions with increased reliability and, unfortunately, of increased mortality.

$PM_{2.5}$ has been associated with diseases of the respiratory and cardiovascular systems, with cardiovascular disease likely occurring through systemic inflammation and possibly translocation of particulate matter into the circulation.[6] Indeed, ultrafine particles (<100 nanometres in diameter) have been found in the brain and heart.[7 8] These mechanisms indicate that effects are not limited to respiratory and cardiovascular systems, but uncovering new associations could require hypothesis free analysis of a dataset large enough to achieve sufficient statistical power.

In a linked study, Yaguang Wei and colleagues (doi:10.1136/bmj.l6258) report analyses of more than 95 million US hospital admissions of Medicare beneficiaries and $PM_{2.5}$ concentrations on the day before presentation.[9] In addition to confirming previously established associations between short term $PM_{2.5}$ concentration and respiratory, cardiovascular, and Parkinson's disease, and diabetes mellitus, the authors found that each 1 $\mu g/m^3$ increase in $PM_{2.5}$ was associated with 2050 extra hospital admissions, 12 216 days in hospital, and $31m (£24m, €28m) in care costs, through diseases not previously associated with $PM_{2.5}$. These diseases included septicaemia; fluid and electrolyte disorders; renal failure; and infections of the urinary tract, skin, and subcutaneous tissue. Taking into account corresponding values presented for the burden of diseases already associated with $PM_{2.5}$ exposure, the burden of these newly associated diseases represents 31-38% of the total $PM_{2.5}$ associated effect, similar to a recent figure for the burden of disease not previously associated with $PM_{2.5}$.[10] This proportion suggests that current figures for $PM_{2.5}$ associated morbidity, which focus on established disease associations, might be considerable underestimates.

Crucially for informing policy, these associations remained even when the analysis was restricted to days when the $PM_{2.5}$ concentration was below the World Health Organization's guideline of 25 $\mu g/m^3$, confirming the conclusions of other authors finding no safe lower limit for exposure to $PM_{2.5}$.[11] More optimistically, even small decreases in $PM_{2.5}$ concentration could have substantial benefits over a large population, although extrapolation to the global population requires caution, because government funded health insurance in the US, including Medicare, is skewed towards individuals aged older than 65, certain ethnic groups, and people on low incomes.[12]

People on low incomes and ethnic minorities tend to be more affected than others by equivalent PM exposure,[13] and more exposed overall on both national and international levels.[14 15] Air pollution is a global problem and must be tackled as such. While the WHO is currently revising its guidelines, these are not legally binding. However, reducing pollutant concentrations is critical to reducing the incidence and exacerbation of the myriad conditions that have been associated, with varying strengths of evidence, with PM and other air pollutants.[16 17]

Our knowledge of the health effects of PM is still lacking in many areas—notably the range of disease outcomes associated with particulates and their causality; and the effects of long term exposure, indoor exposure, and ultrafine PM. The relative effects of different PM sources, and any differences between primary PM (released from source) and secondary PM (formed by reactions of pollutant gases following release), are also poorly understood. We urgently need more epidemiological research to uncover new disease associations and to investigate newly reported associations, and toxicology research to explore potential causative mechanisms. Funding streams should also take account of the cross disciplinary research required for such studies to be performed. As the burden of disease associated with pollution becomes more apparent, better awareness among

Correspondence to: M Loxham m.loxham@soton.ac.uk

BMJ 2019;367:l6609 doi: 10.1136/bmj.l6609 (Published 27 November 2019)

health professionals and the public is needed to help prevent and control pollution associated disease exacerbations, and to push for policies to reduce emissions.

During the 2008 Beijing Olympics, transport and industrial restrictions substantially improved air quality, accompanied by a 46% drop in relative risk of outpatient visits for asthma.[18] Such restrictions are probably unsustainable, but progress has still been made. Thirteen years after the aforementioned study on six US cities,[1] which highlighted the association between premature mortality and fine particulate matter, the authors re-evaluated the situation. In the intervening years, five of the six cities showed reduced $PM_{2.5}$ concentrations, and a proportionate reduction in $PM_{2.5}$ associated mortality.[19]

Clearly, there is much still to learn, but we should not mistake knowledge gaps for paucity of evidence. The sooner we act, the sooner the world's population will reap the benefits.

Competing interests: The BMJ has judged that there are no disqualifying financial ties to commercial companies. The authors declare the following other interests: ML is funded by a future leader fellowship from the Biotechnology and Biological Sciences Research Council and a senior research fellowship from the National Institute for Health Research Southampton Biomedical Research Centre; SH is a cofounder and non-executive board director of Synairgen, a consultant for Dyson on air quality issues, a UK Research and Innovation Clean Air Champion and a member of the Natural Environment Research Council; DD is a cofounder and shareholder of Synairgen, and is also a consultant to the company. The BMJ policy on financial interests is here: https://www.bmj.com/sites/default/files/attachments/resources/2016/03/16-current-bmj-education-coi-form.pdf.

Provenance and peer review: Commissioned; not peer reviewed.

1 Dockery DW, Pope CA3rd, Xu X, etal . An association between air pollution and mortality in six U.S. cities. *N Engl J Med* 1993;329:1753-9. 10.1056/NEJM199312093292401. 8179653
2 Cohen AJ, Ross Anderson H, Ostro B, etal . The global burden of disease due to outdoor air pollution. *J Toxicol Environ Health A* 2005;68:1301-7. 10.1080/15287390590936166. 16024504
3 Lim SS, Vos T, Flaxman AD, etal . A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010 [corrections in: *Lancet* 2013;381:1276 and *Lancet* 2013;381:628]. *Lancet* 2012;380:2224-60. 10.1016/S0140-6736(12)61766-8. 23245609
4 Lelieveld J, Evans JS, Fnais M, Giannadaki D, Pozzer A. The contribution of outdoor air pollution sources to premature mortality on a global scale. *Nature* 2015;525:367-71. 10.1038/nature15371. 26381985
5 Lelieveld J, Klingmüller K, Pozzer A, etal . Cardiovascular disease burden from ambient air pollution in Europe reassessed using novel hazard ratio functions. *Eur Heart J* 2019;40:1590-6. 10.1093/eurheartj/ehz135. 30860255
6 Brook RD, Rajagopalan S, Pope CA3rd, etal. American Heart Association Council on Epidemiology and Prevention, Council on the Kidney in Cardiovascular Disease, and Council on Nutrition, Physical Activity and Metabolism. Particulate matter air pollution and cardiovascular disease: An update to the scientific statement from the American Heart Association. *Circulation* 2010;121:2331-78. 10.1161/CIR.0b013e3181dbece1. 20458016
7 Maher BA, Ahmed IA, Karloukovski V, etal . Magnetite pollution nanoparticles in the human brain. *Proc Natl Acad Sci U S A* 2016;113:10797-801. 10.1073/pnas.1605941113. 27601646
8 Miller MR, Raftis JB, Langrish JP, etal . Inhaled nanoparticles accumulate at sites of vascular disease. *ACS Nano* 2017;11:4542-52. 10.1021/acsnano.6b08551. 28443337
9 Wei Y, Wang Y, Di Q, etal . Short term exposure to fine particulate matter and hospital admission risks and costs in the Medicare population: time stratified, case crossover study. *BMJ* 2019;367:l6258.
10 Burnett R, Chen H, Szyszkowicz M, etal . Global estimates of mortality associated with long-term exposure to outdoor fine particulate matter. *Proc Natl Acad Sci U S A* 2018;115:9592-7. 10.1073/pnas.1803222115. 30181279
11 Khreis H, Cirach M, Mueller N, etal . Outdoor air pollution and the burden of childhood asthma across Europe. *Eur Respir J* 2019;54:1802194. 10.1183/13993003.02194-2018. 31391220
12 Berchick ER, Barnett JC, Upton RD. Health insurance coverage in the United States: 2018. Current population reports P60-267(RV). Washington, DC: US Government Printing Office, 2019.
13 Di Q, Wang Y, Zanobetti A, etal . Air pollution and mortality in the Medicare opulation. *N Engl J Med* 2017;376:2513-22. 10.1056/NEJMoa1702747. 28657878
14 Zhang Q, Jiang X, Tong D, etal . Transboundary health impacts of transported global air pollution and international trade. *Nature* 2017;543:705-9. 10.1038/nature21712. 28358094
15 Tessum CW, Apte JS, Goodkind AL, etal . Inequity in consumption of goods and services adds to racial-ethnic disparities in air pollution exposure. *Proc Natl Acad Sci U S A* 2019;116:6001-6. 10.1073/pnas.1818859116. 30858319
16 Schraufnagel DE, Balmes JR, Cowl CT, etal . Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 2: Air Pollution and Organ Systems. *Chest* 2019;155:417-26. 10.1016/j.chest.2018.10.041. 30419237
17 Thurston GD, Kipen H, Annesi-Maesano I, etal . A joint ERS/ATS policy statement: what constitutes an adverse health effect of air pollution? An analytical framework. *Eur Respir J* 2017;49:1600419. 10.1183/13993003.00419-2016. 28077473
18 Li Y, Wang W, Kan H, Xu X, Chen B. Air quality and outpatient visits for asthma in adults during the 2008 Summer Olympic Games in Beijing. *Sci Total Environ* 2010;408:1226-7. 10.1016/j.scitotenv.2009.11.035. 19959207
19 Laden F, Schwartz J, Speizer FE, Dockery DW. Reduction in fine particulate air pollution and mortality: Extended follow-up of the Harvard Six Cities study. *Am J Respir Crit Care Med* 2006;173:667-72. 10.1164/rccm.200503-443OC. 16424447

10 DEFRA: Public Health: Sources and Effects of PM2.5

2 Reproduced from https://laqm.defra.gov.uk/public-health/pm25.html

Department
for Environment
Food & Rural Affairs

Google Custom Search Search

Public Health: Sources and Effects of PM2.5

What is Particulate Matter? What is $PM_{2.5}$? Particulate matter (PM) is a term used to describe the mixture of solid particles and liquid droplets in the air. It can be either human-made or naturally occurring. Some examples include dust, ash and sea-spray. Particulate matter (including soot) is emitted during the combustion of solid and liquid fuels, such as for power generation, domestic heating and in vehicle engines. Particulate matter varies in size (i.e. the diameter or width of the particle). $PM_{2.5}$ means the mass per cubic metre of air of particles with a size (diameter) generally less than 2.5 micrometres (µm). $PM_{2.5}$ is also known as fine particulate matter (2.5 micrometres is one 400^{th} of a millimetre).

Health Effects of PM: Inhalation of particulate pollution can have adverse health impacts, and there is understood to be no safe threshold below which no adverse effects would be anticipated [1]. The biggest impact of particulate air pollution on public health is understood to be from long-term exposure to $PM_{2.5}$, which increases the age-specific mortality risk, particularly from cardiovascular causes. Several plausible mechanisms for this effect on mortality have been proposed, although it is not yet clear which is the most important. Exposure to high concentrations of PM (e.g. during short-term pollution episodes) can also exacerbate lung and heart conditions, significantly affecting quality of life, and increase deaths and hospital admissions. Children, the elderly and those with predisposed respiratory and cardiovascular disease, are known to be more susceptible to the health impacts from air pollution [2]. Potential mechanisms by which air pollution could cause cardiovascular effects are described in the Committee on the Medical Effects of Air Pollution (COMEAP) report "Cardiovascular Disease and Air Pollution" (2006) (PDF, 1.75MB, 215 pages).

Sources of $PM_{2.5}$: Human-made sources of $PM_{2.5}$ are more important than natural sources, which make only a small contribution to the total concentration. Within UK towns and cities, emissions of $PM_{2.5}$ from road vehicles are an important source. Consequently, levels of $PM_{2.5}$ (and population exposure) close to roadsides are often much higher than those in background locations. In some places, industrial emissions can also be important, as can the use of non-smokeless fuels for heating and other domestic sources of smoke such as bonfires. Under some meteorological conditions, air polluted with $PM_{2.5}$ from the continent may circulate over the UK – a condition known as the long range transportation of air pollution. Long range transport, together with pollution from local sources, can result in short term episodes of high pollution which might have an impact on the health on those sensitive to high pollution.

In addition to these direct (i.e. primary) emissions of particles, $PM_{2.5}$ can also be formed from the chemical reactions of gases such as sulphur dioxide (SO_2) and nitrogen oxides (NO_x: nitric oxide, NO plus nitrogen dioxide, NO_2); these are called secondary particles. Measures to reduce the emissions of these precursor gases are therefore often beneficial in reducing overall levels of $PM_{2.5}$.

Primary emissions of PM, the formation of secondary PM within the UK and long range transport of pollution from outside the UK all contribute to regional PM levels across the UK. Local primary emissions are also important in urban areas.

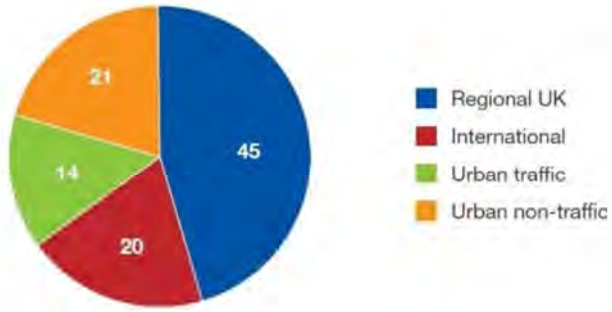

Figure 1. Percentage contributions to modelled annual mean ambient $PM_{2.5}$ concentrations at urban background [3] locations [4]. (Urban non-traffic emissions include: industrial, commercial and domestic emissions. "Regional UK" refers to national emissions in non-urban areas).

Distribution of air pollution: With the exception of ozone, concentrations of air pollutants are generally higher in urban than rural areas. For $PM_{2.5}$, there is a gradient in concentration across the country with higher concentrations found in the South East than other areas. Within cities, air quality (particularly in relation to concentrations of PM_{10} and NO_2) tends to be worse close to busy roads, where poorer communities often live.

Further Information

UK Compliance Study Action Plans

Air Pollution in the UK 2016

---

[1] Air Quality Guidelines, Global Update 2005, World Health Organization (2006) (PDF, 3.8MB, 496 pages)

[2] Air Quality and Health Question and Answer, World Health Organisation (PDF, 49.5KB, 3 pages)

[3] Urban background is an urban location distanced from sources and therefore broadly representative of citywide background conditions, for example, elevated locations, parks and urban residential areas.

[4] UK modelling under the Air Quality Directive (2008/50/EC) (PDF, 8.97MB, 235 pages)

11 Update of WHO Global Air Quality Guidelines

3 Reproduced from http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/activities/update-of-who-global-air-quality-guidelines, accessed Nov 29th 2019

Update of WHO Global Air Quality Guidelines

53 18

Air pollution is the largest single environmental risk for health, recognized by the World Health Assembly (WHA) Resolution of May 2015 as being of major public health concern.

The latest edition of WHO AQGs for ambient air pollutants was published in 2006, and included recommendations for the classical air pollutants particulate matter (PM), ozone (O3), nitrogen dioxide (NO2) and sulfur dioxide (SO2).

Since then, the evidence base for adverse health effects related to short- and long-term exposure to these pollutants has become much larger and broader. The WHA Resolution recognized the role of WHO AQGs for both ambient air quality and indoor air quality in providing guidance and recommendations for clean air that protect human health. In particular, it requested the Director-General to strengthen WHO capacities in the field of air pollution and health through the development and regular update of WHO AQGs in order to facilitate decision making, and to provide support and guidance to MS in their efficient implementation.

As a result in 2016 WHO has started the work towards the update of the Global Air Quality Guidelines. The project is benefitting from funds and/or in-kind support from the European Commission (DG-Environment), the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, the Swiss Federal Office for the Environment and the US Environmental Protection Agency (EPA). It is expected to provide up-to-date recommendations to continue protecting populations worldwide from the adverse health effects of ambient air pollution.

WHO Expert Consultation: Available evidence for the future update of the WHO Global Air Quality Guidelines (AQGs) (2016) (http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/2016/who-expert-consultation-available-evidence-for-the-future-update-of-the-who-global-air-quality-guidelines-aqgs-2016)

Air Quality Guidelines Global Update 2005. Particulate matter, ozone, nitrogen dioxide and sulfur dioxide (http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/pre2009/air-quality-guidelines.-global-update-2005.-particulate-matter,-ozone,-nitrogen-dioxide-and-sulfur-dioxide)
WHO/Europe, 2005

Air Quality Guidelines for Europe: Second Edition (2000) (http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/pre2009/air-quality-guidelines-for-europe)
WHO/Europe, 2000

12 April 2019: PM10 and NO2 levels not improved since 2015, O3 at record highs, Defra says

4 Reproduced from https://airqualitynews.com/2019/04/25/pm10-and-no2-levels-remaining-steady-defra-says/

The UK's air quality and emissions news and information site

airqualitynews.com

PM10 and NO2 levels not improved since 2015, O3 at record highs, Defra says

25.04.2019

HEALTH, NEWS

THOMAS BARRETT

Defra has released its annual air pollution statistics report, which shows roadside PM10 and NO2 levels have not improved since 2015 with levels of O3 increasing to record levels.

The report summarises the concentrations of particulates (PM10, PM2.5), nitrogen dioxide (NO2) and ozone (O3) from monitoring sites measured by the Automatic Urban and Rural Network (AURN) and also covers the number of days when air pollution was 'moderate or higher' for any of those four or sulphur dioxide (SO2).

It found annual mean concentrations of PM10 at UK roadside monitoring sites in 2018 were 19 µg/m3, compared with 17 µg/m3 in 2017 and 19 µg/m3 in 2016.

However, annual hours when roadside PM10 pollution was moderate or higher decreased substantially from 116 hours in 2017 to 65 hours in 2018.

There were also, on average, fewer hours of moderate or higher levels of NO2 pollution in 2018 compared with 2017 at roadside sites – but overall levels remained high, with an annual mean concentration of 33 µg/m3.

The data revealed that there has been an overall decrease in NO2 pollution over the past two decades, with levels almost halving since 1997.

London Marleybone Road and Cardiff Centre were two of the worst urban sites for air pollution, having had 32 and 24 days where levels were moderate or higher.

Exhaust emissions have been blamed for exceedances of the NO2 limit

There were high numbers of hours of moderate or higher levels of ozone (O3) pollution in 2018, which saw the greatest number of hours for this measure since 2006 for rural sites, and since 2008 for urban sites.

O3 is not emitted directly in significant quantities but is created in the air through chemical reactions between other pollutants in sunlight, with more being created on hot, still, sunny days, with researchers attributing the high levels in 2018 to the UK's prolonged hot summer.

Reacting to the report, sustainable transport charity Sustrans said that whilst they appreciated overall levels of pollution have shown long-term improvement, they are 'concerned' that PM10 and N02 pollution remains high, with around 80% of NO2 concentrations coming from local transport sources.

'Air pollution is a real threat to people's health as well as to the natural environment contributing to raising annual temperatures,' said Dr Andy Cope, Sustrans director of research and monitoring.

'If we are really serious about improving the quality of the air we breathe, we need to make lifestyle choices that contribute fewer emissions. In transport terms, we need to put an end to the chronic traffic congestion our on roads and our over-dependence on single passenger motor transport,' he added.

Read the report here

YOU MAY ALSO ENJOY READING