



Department
for Environment
Food & Rural Affairs



Department
for Transport

Clean Air Zone Framework

Principles for setting up Clean Air Zones in
England

February 2020



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1. Introduction

1. This framework sets out the principles for the operation of Clean Air Zones in England. It provides the expected approach to be taken by local authorities when implementing and operating a Clean Air Zone.
2. The government is committed to building a stronger economy and a fairer society. A cleaner, healthier environment benefits people and the economy. Clean air is essential for making sure the UK is a welcoming, healthy and prosperous country for people to live and work.
3. Over recent decades, UK air quality has improved significantly thanks to concerted action at all levels but there is more to do. Poor air quality is the largest environmental risk to public health in the UK and investing in cleaner air and doing even more to tackle air pollution are priorities for the UK government. Action must be proportionate though, with the interests of local people at the heart of action to improve air quality.
4. Action to improve air quality is grounded in our modern industrial strategy. The government has identified ten key pillars to drive forward its industrial strategy,¹ including delivering affordable energy and clean growth, alongside investing in science, research and innovation, upgrading infrastructure and driving growth across the country. Local authorities have a role to play in supporting and co-ordinating this as they develop and implement their proposals for tackling air quality.
5. By improving air quality we can reduce the impacts on people's health of pollutants such as nitrogen dioxide (NO₂) and particulate matter and create great places for living in, as well as great places to work.
6. Clean Air Zones are one measure for helping us to deliver this ambition. Our vision for Clean Air Zones is:
“Clean Air Zones improve the urban environment to support public health and the local economy, making cities more attractive places to live, work, do business and spend leisure time. They support cities to grow and transition to a low emission economy thus ensuring these benefits are sustainable for the long term.”
7. Our environment is a precious natural asset that provides us with numerous benefits such as clean water, clean air, food, timber, flood protection and recreation. The development of this Clean Air Zone framework is an important step in our integrated and ambitious environmental agenda and delivering the government's industrial strategy.

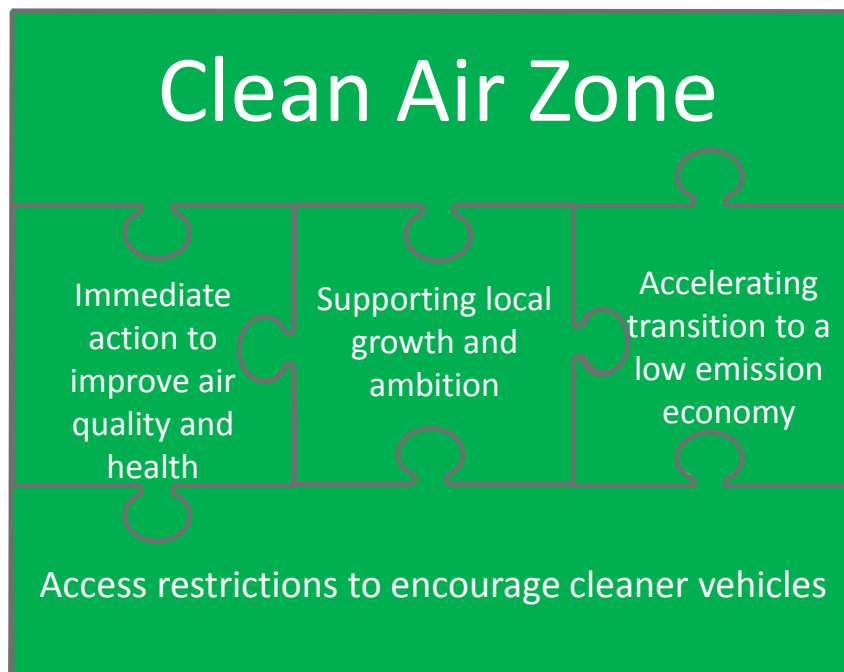
1.1. What is a Clean Air Zone?

8. A Clean Air Zone defines an area where targeted action is taken to improve air quality and resources are prioritised and coordinated in order to shape the urban

¹ BEIS (2017) Developing a modern industrial strategy
www.gov.uk/government/news/developing-a-modern-industrial-strategy

environment in a way that delivers improved health benefits and supports economic growth.

9. Clean Air Zones aim to address all sources of pollution, including nitrogen dioxide and particulate matter, and reduce public exposure to them using a range of measures tailored to the particular location.
10. Within a Clean Air Zone there is also a particular focus on measures to accelerate the transition to a low emission economy. This will ensure improvements are ongoing and sustainable, support future development and decouple local growth from air pollution.
11. Clean Air Zones bring together local measures to deliver **immediate action** to improve air quality and health with **support for cities to grow** while delivering sustained reductions in pollution and a **transition to a low emission economy**. Where there are the most persistent pollution problems, this is supported by restrictions to encourage only the cleanest vehicles to operate in the city. This is summarised in the diagram below.



12. Clean Air Zones fall into two categories:

- **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 but does not include the use of charge based access restrictions.
- **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.

1.2. What is this framework?

13. This framework sets out the principles for the operation of Clean Air Zones in England. It provides the expected approach to be taken by local authorities when implementing and operating a Clean Air Zone.
14. A Clean Air Zone designed in line with the principles in this framework will give an additional advantage to an authority bidding for competitive central government funding where air quality is one of the stated assessment criteria for that fund, unless stated otherwise.
15. All Clean Air Zones need to provide businesses and individuals with the same clear signals on what needs to change to improve air quality, while offering them a range of choices on the action they could take in response.
16. A consistent approach enables everyone to make straightforward economic and operational decisions, for example about the vehicles they buy and how they use them, knowing they will be acceptable in all zones. This ensures that local authorities have a choice of actions to deliver the desired outcome, and likewise gives businesses and individuals choices on how to act. This means they can select the action which best suits their need.
17. This framework identifies the outcomes Clean Air Zones are expected to deliver aligned with three themes:
 - supporting local growth and ambition (decoupling growth and pollution).
 - accelerating the transition to a low emission economy.
 - immediate action to improve air quality and health.
18. Local authorities can use the actions set out under these themes, and/or their own alternatives, to deliver the Clean Air Zone outcomes. They should ensure businesses and members of the public have: a clear expectation of what a zone is; an understanding of how they will be affected; and a range of choices they can take in response to how it affects them.
19. This document is split into two sections:
 - Section 2: General approach to Clean Air Zones – this section applies to all Clean Air Zones, both charging and non-charging.
 - Section 3: Access restrictions – this section sets out the additional requirements for charging Clean Air Zones.
20. Local authorities should aim to address each of the three themes set out in Section 2 although specific actions may vary depending on local need. Where access restrictions are required these should be implemented in line with Section 3.

2. General approach to Clean Air Zones

21. The desired outcomes and action to support each of the three themes set out in paragraph 16 are identified in this section. It highlights potential measures that could be taken. The list of measures is not exhaustive and there may be other measures that could fulfil these aims. The final approach taken beyond minimum requirements will depend on local need and further innovation as plans are developed.

22. Government is keen to progress air quality commitments as part of devolution deals. Devolved areas that prioritise air quality in deals will be encouraged to meet the minimum requirements set out in section 2.2 as part of local measures to implement Clean Air Zones. These requirements on local authorities will not place new financial burdens on councils.

2.1. Emission standards

23. Clean Air Zones should be designed to deliver the cleanest possible fleet. The minimum emission standards required for entry into a charging zone without paying a charge are explained in Section 3.4 and detailed in Annex A. Clean Air Zones are about much more than these access restrictions. These minimum standards represent a good starting point but should not limit ambition. Local authorities may seek to go further where appropriate, for example in the standards used for their public procurement, in local bus partnerships, or in encouraging local business ambition.
24. The government has set a clear long term ambition for all new cars and vans to be zero emission by 2040, and for nearly every car and van to be zero emission by 2050. Local authorities and others should aim to deliver the best possible long term outcomes, which could include setting ambitions for schemes that reflect the very best environmental performance rather than just the minimum emission standards.
25. These minimum standards will be periodically updated to reflect the long term ambition in line with the process set out in Section 3.5.

2.2. Minimum requirements

26. To give certainty that a zone will deliver improvements in air quality, and maintain these, there are a number of minimum requirements that all zones should meet across the three themes. In implementing a Clean Air Zone, local authorities will need to consider the impact on local residents, and the need for any mitigating measures. They will also need to take action as necessary to support growth and protect the economy of their local high streets and town centres, whilst ensuring that their Clean Air Zone proposals will not result in the displacement of the most polluting vehicles away from town centres to surrounding areas.
27. As a minimum any Clean Air Zone is expected to:
 - be in response to a clearly defined air quality problem, seek to address and continually improve it, and ensure this is understood locally;
 - have signs in place along major access routes to clearly delineate the zone;
 - be identified in local strategies including (but not limited to) local land use plans and policies and local transport plans at the earliest opportunity to ensure consistency with local ambition;
 - provide active support for ultra low emission vehicle (ULEV)² take up through facilitating their use;

² The Office for Low Emission Vehicles currently considers ultra low emission vehicles to be new cars or vans that emit less than 75 grams of CO₂ from the tailpipe per kilometre driven. They will typically include an electric powertrain.

- include a programme of awareness raising and data sharing;
- include local authorities taking a lead in terms of their own and contractor vehicle operations and procurement in line with this framework;
- ensure bus, taxi and private hire vehicle emission standards (where they do not already) are improved to meet Clean Air Zone standards using licensing, franchising or partnership approaches as appropriate; and
- support healthy, active travel.

2.3. Supporting local growth and ambition

2.3.1. Raising awareness and understanding

28. Clean Air Zones should involve engaging and informing the community to ensure they understand the importance of good air quality, the choices available to them, the impacts they make and how these contribute to a successful zone.

Engaging local communities

29. People are more likely to become engaged with, and supportive of initiatives, if they have first-hand experience of the problem and if action to address it is highly visible.
30. *Raising awareness* and understanding of air quality issues, their impact and the need for action is therefore an important part of delivering a successful Clean Air Zone, as is visibility of both the zone itself and the solutions on offer.
31. When introducing a Clean Air Zone it is important to raise awareness of both the impacts of poor air quality and the action that can be taken to address them. It is important to do these two things together to ensure people feel empowered to take action rather than anxious. This will be an important part of publicity around a zone to enlist the support of people and communities.
32. *Demonstrating progress* and maintaining engagement is also important. Air pollution can be substantially improved if decisive action is taken on emission sources. If pollution sources are removed air quality will improve, and will stay that way so long as the emission sources do not return.
33. There are a range of forms that such activity might take, making use of social, local, and other media, and scope for innovative ways of engaging the public and business.
34. *Campaigns* should help highlight the health and environmental benefits, and stimulate action by demonstrating alternatives and ways people can reduce and avoid pollution. Examples of activity might include:
- communications campaigns and ‘Clean Air’ days.
 - interactive websites, using real time pollution monitoring.
 - education activities using schools, community groups, health centres and doctors surgeries.
 - disseminating advice and alerts during high air pollution episodes.
 - working with local businesses to help raise awareness among employees.
 - open data and sharing of information.
 - engaging the public through citizen science projects.

35. Campaigns should also seek to offer, for example, ways to reduce pollution including information about public transport alternatives, advice about cycling and walking, and local cycling and walking maps and apps to find alternative routes. Directors of Public Health should also be engaged in the development and implementation of Clean Air Zones by advising on health impacts and messages, and encouraging local public health networks to engage in awareness raising activities.

Publicising the zone

36. One of the most powerful routes to publicise the Clean Air Zone is to make it physically exist 'on the ground'. As a minimum requirement there must be traffic signing strategies in place along major access routes and at entry points to clearly delineate the zone, and alternative routes for those who wish to divert around it. This will be essential for all types of zones. Further advice on signing is set out in Annex C.
37. One of the key elements of the zone is giving people and businesses choices on how to act. It is important that they are given sufficient time to make these choices and put them into action. The details of a zone should be announced as far in advance as possible and publicised widely. As zones have a strong focus on transport those living or working outside the zone will also need to be made aware.

Monitoring

38. An important part of developing understanding and maintaining a focus on the aim of a Clean Air Zone will be monitoring its impacts and ensuring it is achieving its objectives for NO₂ and other pollutants. Local authorities will need to undertake appropriate monitoring and assessment of air quality levels, and on changes in driver behaviour, in order to evaluate whether the measures implemented are having the anticipated impact, need adjusting, or are still needed if they have achieved their air quality improvement outcomes. Where air quality has improved to the level required and there is evidence that this improvement would be maintained, the Government expects local authorities to remove the elements of the zone that are no longer required at the earliest opportunity.
39. Local Air Quality Management Technical Guidance (TG16)³ provides advice on the monitoring options available, the considerations to bear in mind to obtain value for money, and what the monitoring aims to achieve. For example, for NO₂, two technologies have been approved – the reference method (chemiluminescence) and diffusion tubes but other approaches may be appropriate for specific campaign work. Data needs to be properly quality controlled, and local authorities can obtain help and assistance from the Local Air Quality Management website⁴ and helpdesk.

³ Local Air Quality Management Technical Guidance (TG16) <https://laqm.defra.gov.uk/documents/LAQM-TG16-February-18-v1.pdf>

⁴ <https://laqm.defra.gov.uk/>

2.3.2. Delivering local ambition

40. A Clean Air Zone supports local plans for growth. The zone will become part of, and fit with, local strategies, plans and policies and transport plans. There will be clear leadership in delivering the goals of the zone including by local authorities and other public bodies 'leading by example' across the different themes.

Making the best use of the local authority role in land use planning

41. Where a Clean Air Zone is introduced it should be identified in the local plans and policies and local transport plan at the earliest opportunity to ensure it is consistent with wider ambition.
42. How and where building and other developments are planned and built can have an effect on air quality. Approaches to planning in Clean Air Zones can help support a range of themes in this framework and encourage more sustainable behaviour, for example in the way people use electric vehicles and by making cycling and walking easier and more attractive. There are also opportunities to make strong links to approaches to other environmental behaviours including nature conservation, waste minimisation and energy efficiency.
43. The purpose of the planning system is to support sustainable development by performing an economic, social and environmental role. This is outlined in the National Planning Policy Framework⁵ which sets out national planning policies and principles for England and how these are expected to be applied. It outlines land-use planning principles which should underpin plan-making and decision-taking, which includes minimising pollution, and provides a framework within which local people and their accountable councils produce their own distinctive local and neighbourhood plans which reflect the needs and priorities of their communities.
44. To support the National Planning Policy Framework, Planning Practice Guidance on air quality⁶ provides guiding principles on how planning decisions should take account of the impact of new development on air quality. This guidance will be updated to include reference to the UK plan for nitrogen dioxide and to reflect the introduction of Clean Air Zones.
45. In granting planning permission appropriate mitigation should be considered as set out in the Planning Practice Guidance, including the use of planning conditions and obligations. Options might include steps to support ULEVs in developments in Clean Air Zones; requirements to support parking and recharging of Clean Air Zone compliant vehicles; and design and support for public transport, walking and cycling accessibility.
46. Permitted development rights are a national grant of planning permission which allow certain building works and changes of use to be carried out without having to make a planning application. Permitted development rights are subject to conditions and limitations where necessary to control impact and to protect local amenity. This might include consideration by the local planning authority of matters for prior approval such as transport and highways etc. The local planning authority can attach conditions to the permission only in regard to such matters for prior approval.

⁵ National planning policy framework: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁶ Planning Practice Guidance on Air Quality <http://planningguidance.communities.gov.uk/blog/guidance/air-quality/>

Optimising traffic management

47. Appropriate approaches to traffic management in Clean Air Zones can help reduce pollution both by helping to reduce traffic and/or smooth traffic flow, encourage more active travel and support alternative ways of travel. It can help improve the experience for those cycling and walking, improve journey times and encourage the use of public transport. Options may include:
- improving road layouts and junctions to improve traffic flow and create safer more convenient conditions for active travel.
 - improved traffic signing strategies to highlight pollution levels and alternative routes.
 - improving road layouts and junctions to optimise traffic flow, for example by considering removal of road humps.
 - bus priority schemes to improve reliability and journey times, making buses more attractive as an alternative mode.
 - public realm improvements to create town centre environments that are attractive to cyclists and walkers.
 - optimising traffic signal operation to reduce unnecessary traffic queues, and the associated emissions.
 - creating safe, continuous and convenient cycling and walking networks.
 - developing connected vehicle and smart infrastructure strategies which improve traffic conditions and support sustainable urban mobility.
 - using real-time information to better inform travellers of their choices and to manage demand for transport.

Local authority and public sector leadership in fleet procurement and operations

48. Local authorities and other public bodies can demonstrate leadership both to business and their local community in the way they act and operate. This can be particularly true in the vehicles they buy, the way they operate and the requirements placed on contractors.
49. Local authorities and other public bodies operating within a Clean Air Zone should ensure the fleet they operate, or is operated on their behalf, in a Clean Air Zone, and ideally in the wider authority, meets the standards for the zone. There is also an opportunity to demonstrate how new technologies and approaches can go further than the standards. The use of ULEVs, alternative fuels and approaches to 'grey fleet'⁷ can all demonstrate a lead. This might include working with their staff on engagement and incentive schemes to reduce vehicle use, such as car clubs and car sharing schemes, cycling incentives and facilities, or flexible working practices.
50. In procuring vehicles and services operating in a Clean Air Zone, local authorities should:

⁷ i.e. vehicles owned by employees used for business travel

- ensure vehicles related to local authority use conform to at least the Clean Air Zone standards.
- set minimum supplier requirements related to air quality in procurement award criteria and for contract operations.
- develop approaches to incentivise and encourage employees to address air quality impacts.
- develop approaches to minimise the air quality impact of their day to day operations.
- seek to publicise their approaches to demonstrate and encourage others to follow their lead.

51. All central government departments and their related organisations must ensure that they meet Government Buying Standards⁸ when buying goods and services for those product groups covered. The transport standards set out minimum and best practice award and operation criteria for various vehicles. The use of the standards in procurement is mandatory for central government departments and their related organisations, and encouraged for the wider public sector. The Government Buying Standards are in the process of being revised. When finalised, the standards will be in line with Clean Air Zone requirements. Once the standards are updated it is recommended that local authorities use these criteria as the starting point for fleet procurement and operations.

Joining up Clean Air Zones and Local Air Quality Management

52. Through the Local Air Quality Management system local authorities are required to assess air quality in their area. They should designate an Air Quality Management Area (AQMA) if improvements are necessary to meet national air quality objectives, and they should produce an air quality action plan describing the pollution reduction measures they will put in place to ensure national pollutant objectives are met. Declaring an AQMA is a statutory obligation under the Environment Act 1995.
53. The designation of an AQMA does not mean that a Clean Air Zone also needs to be put in place; it may however be an indicator that the local authority should consider whether implementing a Clean Air Zone is an appropriate measure to address the air quality problem. Local authorities will need to take into account the particular circumstances and the nature of the pollutant(s) the AQMA is seeking to address when making decisions about which measures to put in place to improve air quality. A Clean Air Zone may be just one of the solutions. Should a decision be taken to introduce a Clean Air Zone, a local authority will need to take account of any impacts on any AQMAs outside the Zone as well as other areas, for example through displacement of vehicles.
54. Local Air Quality Management Policy Guidance (PG16)⁹ sets out more details of these requirements, and actions that authorities may consider. The guidance has been designed to maximise the public health benefits of local authority action, in particular on priority pollutants such as NO₂ and particulate matter (PM₁₀/PM_{2.5}).

⁸ <https://www.gov.uk/government/collections/sustainable-procurement-the-government-buying-standards-gbs>

⁹ <http://laqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf>

Local authorities should consider the advice in this guidance alongside this framework.

Improving collaboration and joining up approaches

55. It is important for local authorities to work closely with others with an interest in the area concerned to ensure a joined up approach, and to coordinate their approaches internally, utilising their environment, health and transport expertise. Actions on a range of agendas other than air quality contribute to achieving clean air. For example: carbon reduction and climate change mitigation; supporting active travel and other approaches to health improvements; reducing traffic congestion; noise abatement; and improvements to the natural environment.
56. Local authorities should therefore consider the range of stakeholders they may need to engage with both in and beyond their immediate locality:
 - At a local level, this may include local firms and business groups, including bus companies, taxi and private hire firms, freight and delivery companies, retailers, schools, community groups, charities, and local Health and Wellbeing Boards.
 - At a national level, this may include Highways England, the Environment Agency, Natural England, Public Health England, and neighbouring authorities including their Directors of Public Health.
 - At a national level government departments will provide advice through the Joint Air Quality Unit (comprising the Department for Environment, Food and Rural Affairs, and the Department for Transport),
57. Where the most practical boundary for a Clean Air Zone crosses local authority boundaries or responsibilities, authorities should work together from the earliest opportunity on the development and implementation of the zone. Administrative boundaries should not become an artificial constraint on the area of a zone where this would deliver a poorer outcome or risk negative impacts that could otherwise be mitigated.
58. Where a Clean Air Zone may involve the need to consider and/or address the impact of traffic from the Strategic Road Network, discussion with Highways England should be commenced at the earliest opportunity. Highways England has committed to support and work in partnership with local authorities exploring how to deliver Zones.

2.3.3. Improving the business environment

59. Clean Air Zones help businesses to grow sustainably through making cities attractive, healthy places for their employees and customers, and so can contribute to improved profitability.

Working with businesses to recognise and incentivise action

60. Businesses can play an important role in improving air quality through both how they operate and through influencing their employees' behaviour. Improving air quality should be considered an important part of corporate responsibility and sustainability. Businesses which make improvements should be supported and

rewarded for their action creating a virtuous circle where the city becomes an attractive place for businesses and their customers.

61. Local authorities should work with local businesses to explain the aims of a zone and encourage the uptake of programmes to address air quality. Authorities should encourage businesses to take a lead and work with their local communities. This may include:
- Working with SMEs and other businesses to help them understand their options for adapting to a Clean Air Zone, and the support available to them.
 - engaging business participation in environmental sustainability and training programmes, for example to improve driver behaviour, and campaigns to raise employee awareness.
 - working with local employers to increase awareness in their staff about local public transport choices and alternatives, and initiatives such as car clubs and car sharing.
 - encouraging businesses to commit to use only their cleanest vehicles in a Clean Air Zone.
 - encouraging businesses to commit, when buying new vehicles, to purchase those in line with or higher than Clean Air Zone standards.
 - encouraging businesses to adopt approaches to operations that can support a Clean Air Zone.
 - encouraging large taxi or private hire users, such as universities and hospitals, to require ultra low emission vehicles within their contracts and promote travel planning to minimise use.
 - encouraging the uptake of business recognition schemes such as Go Ultra Low Company status¹⁰, ECO stars¹¹, LCRS¹² and FORS¹³
 - developing delivery service plans with local businesses.
62. There may be opportunities to develop focused local business initiatives. For example, working with local fora such as Chambers of Commerce. Clean air neighbourhood schemes can bring large companies, SMEs and local communities together to undertake measures to support the aims of the Clean Air Zone. Developing fora for local business sectors such as freight companies can allow the sharing of best practice and develop action.
63. Local authorities should also consider the role of incentive schemes to provide an opportunity to reward business. These may range from ‘High Street’ or local award schemes to recognise Clean Air Zone friendly businesses, through to preferential business rates if they can demonstrate strong commitment and action in support of the ambitions of a Clean Air Zone.

¹⁰ <https://www.goultralow.com/company-cars-and-fleet-vehicles/go-ultra-low-companies/#>

¹¹ <http://www.ecostars-uk.com/>

¹² Logistics Carbon Reduction Scheme: <http://lcrs.org.uk/>

¹³ Fleet Operator Recognition Scheme: <https://www.fors-online.org.uk/cms/>

Supporting efficient operation

64. Eliminating unnecessary journeys will improve air quality but can also improve the efficiency of business operations and reduce costs. There are a range of actions which could be taken, examples might include:
- working with other businesses to reduce vehicle mileage by consolidating deliveries.
 - using technology to reduce the need for business travel.
 - flexible working for staff.

2.4. Accelerating transition to a low emission economy

65. A Clean Air Zone provides for sustainable long term improvements in air quality that can be maintained as cities grow and develop. Increasing use of ULEVs or, where these are not yet appropriate, alternative low emission fuels, will ensure that improvements in air quality are sustained. They support innovation and facilitate the wider use of successful solutions.

2.4.1. Accelerating ultra low emission vehicle take up

66. Clean Air Zones make it easier and more worthwhile for individuals and businesses to switch to ULEVs.

Actively supporting and facilitating the use of ULEVs

67. Clear policies to facilitate use of ULEVs in Clean Air Zones together with active support and incentives can help more people to move to these types of vehicles.
68. Local authorities should ensure their relevant strategies and policies are consistent with, and support the use of, ULEVs in Clean Air Zones. For example, transport plans; in preparing local plans and policies, local planning authorities should take into account the National Planning Policy Framework (NPPF). They should ensure plans and policies are consistent with the principles and policies set out in the NPPF, including those for greenhouse gas emissions and sustainable transport. For example, through facilitating planning developments to incorporate facilities for charging plug-in and other ultra low emission vehicles where practical.
69. Promotion and demonstration schemes both to the public and to particular sectors or business groups likely to be affected by Clean Air Zones, such as taxi drivers, can showcase technologies and allow people to become more familiar with ULEVs. This might include demonstration and test drives; together with advice on use, the business case, and the financial incentives available.

Providing incentives and benefits for the use of ULEVs

70. Ensuring that Clean Air Zones provide 'in use' incentives for ULEVs should also help incentivise drivers affected by Clean Air Zones to choose ULEVs in any decisions about buying a new vehicle. This may take the form of priority access or benefits for ULEV use, including:
- providing preferential parking bays or access for ULEVs.

- lower parking fees for ULEVs.
- preferential delivery bays or access for ULEVs.
- ULEV taxis being given preference at ranks.
- dedicated taxi only city centre and strategic charging hubs.
- allowing access to bus lanes, and exemptions from other restrictions.

71. As the use of ULEVs rises over the longer term, local authorities will need to review these type of priority access measures regularly. It will be important to ensure that, as the use of ULEVs increases, these type of measures continue to be appropriate and do not have congestion impacts and take account of the differing needs of all road users.
72. Where compatible with other requirements such as noise and safety, local authorities could consider giving other exemptions to vehicles operating with zero tailpipe emissions within the zone, such as allowing night-time delivery or delivery access to pedestrian areas.

2.4.2. Improving services and infrastructure

73. Clean Air Zones provide opportunities to use a transition to ULEVs as a driver for improving or introducing new services and to focus the provision of supporting infrastructure. Together with engagement and raising awareness in local communities and businesses about the aims and ambitions of the zone, and the alternative public transport options, it will help further reduce emissions.

Ensuring local services complement Clean Air Zone standards

74. Consistent with setting a lead in procurement of vehicles and operations, local authorities should ensure that the local services they provide that operate in a Clean Air Zone are consistent with and, where possible, go beyond the standards for a zone. This may include:
- working with bus operators through any of the new mechanisms in the Bus Services Act 2017, including partnership working.
 - developing low emission park and ride schemes potentially in partnership with local businesses.
 - seeking to harmonise strong, low emission standards in taxi licences with neighbouring authorities.
75. Local authorities should also work in their local communities to encourage innovative approaches to reducing vehicle use in Clean Air Zones and increase cooperation between local businesses. This may include:
- bringing together local SMEs to consolidate deliveries within a Clean Air Zone and, for example, enable the 'last mile' to be provided by ULEV and/or e-cargo bikes.
 - support for car and van clubs, and ULEVs in car and van clubs.

Ensuring infrastructure supports Clean Air Zone standards

76. Local authorities in Clean Air Zones should also ensure the provision of suitable infrastructure in support of ULEV use within Clean Air Zones, either directly through

policy approaches, consideration in their investment/low emissions development strategies or engaging with local businesses. At the same time they should highlight this provision to users. This may include ensuring provision of:

- plug-in vehicle charging networks.
- residential on-street vehicle charging.
- rapid chargepoints and rapid hubs.
- charging at 'destination' points such as bus depots, transport hubs, shopping centres, car parks, and leisure facilities.
- plug-in charging at workplaces and business parks.
- charge points in ULEV priority access areas and delivery bays.
- hydrogen refuelling stations for hydrogen fuel cell electric vehicles.

77. Local authorities could also consider the provision of suitable infrastructure as part of evaluating alternative fuels (for example Liquefied Petroleum Gas or Liquefied and Compressed Natural Gas) and if proven to deliver air quality benefits to support their wider use.

2.4.3. Supporting innovation

78. A Clean Air Zone is at the forefront of innovation providing an opportunity to help business and academia to evaluate new technologies and, once proven, support their wider use.

Developing and evaluating new approaches

79. Local authorities can use the provision of Clean Air Zones to support academia and business in trialling innovative approaches to improving air quality. New technologies and innovation can provide growth opportunities for the UK and for local businesses. It is important that such approaches are evidence based, focused on evaluating the impacts (costs and benefits) of the innovation and support the aims of the Clean Air Zone.

80. Local authorities can facilitate the exploring of new air quality solutions and help in the evaluation of their potential future benefits once further development work has been undertaken. This may include working with business and academia to:

- support demonstration trials of new technologies.
- trial the role of geofencing for larger polluting vehicles to operate in zero emission mode within Clean Air Zones.
- develop the use of telematics for vehicles within zones to help guide and influence driver behaviour.
- improve understanding of the benefits and future role of alternative energy sources.
- trial innovative new rail freight models and new technologies to provide for reliable, flexible and rapid delivery services that reduce the number of road freight journeys in cities.
- evaluate how changing the physical built environment can improve air quality e.g. air quality barriers and building design.
- evaluate potential solutions that improving the natural environment can provide. For example, planting of additional trees and vegetation where carefully chosen, located and maintained, may help reduce pollution.

81. Where local authorities are uncertain of the potential applicability of new technologies or approaches to delivering Clean Air Zone aims, the Joint Air Quality Unit can assist them in assessing suitability¹⁴.

Transport energy sources

82. There is a broadening spectrum of UK transport energy sources, and innovations are likely to continue in coming years. Although the Government is clear that the goal is for zero tailpipe emissions through the use of electric of motors, several alternative energy sources (such as Compressed Natural Gas/Liquefied Natural Gas/Liquefied Petroleum Gas) have also been identified as having the potential to reduce pollutant emissions and as such could be considered for evaluation by local authorities as part of their Clean Air Zone planning.
83. Local authorities considering evaluation and use of alternative energy sources should look for evidence of significant air quality improvements whilst ensuring that other negative environmental impacts (such as increases in greenhouse gas emissions) are minimised or reduced. As emission benefits from alternative energy sources can vary depending on the type of vehicle, the use to which they will be put and their operating conditions, local authorities should look for evidence of air quality improvements from comparable situations. Depending on the nature of solution being proposed some of this evaluation may be readily available or local authorities could partner with business and academia to help evaluate the technology.
84. The level of support for alternative fuels will depend on the individual business case and might take into account elements such as: opportunities for alternative emission reduction mechanisms; current fleet and how it is used; existing infrastructure; etc. Some alternative energy sources are likely to have the greatest benefit in adapting older, more polluting vehicles.
85. Many of these alternative energy sources will have benefits beyond air quality. If a local authority chooses to support alternative energy sources as part of its Clean Air Zone, it would be beneficial to gather evidence on the wider environmental impact, including both air quality and greenhouse gas emissions. Other benefits such as changes to noise or the driver/passenger experience could also be recorded. This can then be used to aid future decision making both locally and more widely.
86. The action local authorities could consider if wishing to support alternative energy sources could include (but is not limited to) consideration of fuels used in local authority fleets, facilitating refuelling infrastructure through the planning process and gathering evidence of environmental benefits.
87. Where local authorities have conducted evaluation of alternative fuels they should aim to disseminate their findings to other authorities. The Joint Air Quality Unit can assist in this¹⁵. A strategy setting out the road to zero vehicle emissions will be published within the next year. This will provide further information on alternative fuels and ultra low emission vehicles.

¹⁴ Queries should be addressed to NEED new email

¹⁵ *ibid*

2.5. Immediate action to improve air quality and health

88. A Clean Air Zone has immediate impacts on levels of pollutants such as nitrogen dioxide and particulate matter. A zone can bring health benefits from the outset, which increase over time with the sustained focus a zone will bring.
89. There should be a clear link between the objectives of a Clean Air Zone and local health objectives, and local authorities should consider reflecting those links within local public health and partnership statements (such as Joint Strategic Needs Assessments and Health and Wellbeing strategies).

2.5.1. Reducing local emissions

90. A Clean Air Zone results in direct actions to reduce emissions within the zone. These can be focussed on particular locations such as bus depots, behaviours such as idling, sites with particular emission problems and through working with specific local businesses.

Engine idling

91. Unnecessary engine idling can contribute to emissions. Local authorities may consider action on idling as part of communications activity and /or using their existing powers to tackle issues of excessive engine idling on public roads within Clean Air Zones.
92. The Traffic Commissioner has powers to issue Traffic Regulation Conditions at the request of local authorities. Local authorities may consider requesting the use of these powers to restrict idling at specific locations for buses. The Traffic Commissioner can also place anti-idling conditions on operating centres for freight vehicles in certain circumstances.

Non-road mobile machinery

93. Non-road mobile machinery (NRMM) comprises mobile equipment not directly related to the transportation of passengers or goods, such as excavators, bulldozers and cranes used in construction. The engines in this type of machinery can emit significant pollutants, depending on their age and the emission standard. This may be particularly relevant to machinery being used on construction sites.
94. In assessing the need to introduce a Clean Air Zone a local authority will need to assess the contribution of emissions from such machinery. Should a local authority consider there is a significant impact from this type of machinery, it should seek to work with local businesses to address the associated emissions, for example by encouraging them to deploy newer, cleaner equipment in the zone, or to consider the retrofitting of equipment.
95. Local authorities may wish to seek agreements with business on minimum emissions standards for NRMM to be used within their Clean Air Zone. As a

minimum, agreements might aim to use engines at stage IIIB¹⁶ and agree higher standards where practical. Full details of the various emission stages and limit values applicable to NRMM can be found in the NRMM Directive (97/68/EC)¹⁷. However, some NRMM is likely to be specialist and not always at an appropriate standard therefore local authorities will need to take these types of issues into account in working with businesses to agree an approach.

96. A local authority may further consider using the land use planning system to address emissions in Clean Air Zones from such machinery via the development of Supplementary Planning Guidance and planning conditions relating to the construction phase of the development.

Ports

97. Where a Clean Air Zone is close to a port there may be emissions associated with its direct operation and the traffic to and from the location. How to address these types of emissions will depend on the particular circumstances. Many of the approaches outlined elsewhere in this framework, such as on improving the business environment, will support raising awareness and reducing vehicle mileage of businesses and others using ports and their facilities. Local authorities should look to work closely with port operators, as well as continuing to tackle other significant sources of emissions in the development of a zone. This may include:
 - encouraging the consideration of connecting ships to an onshore electricity supply.
 - developing time tabled delivery for vehicles.
 - encouraging vehicles used to be of the latest Euro standards and the exploration of retrofitting options for specialist machinery.

Generators

98. Some generators have very high NO_x emission rates (particularly diesel generators, but also some gas generators) and their use is increasing in response to energy market incentives. Emissions can be sufficiently high that they lead to breaches of legal limits for NO₂. Within Clean Air Zones, local authorities should consider the air quality impact of plants of this nature that are subject to planning permission and set conditions that safeguard local air quality; businesses requiring back-up power supplies should be encouraged to source plant with low emissions or no emission alternatives whenever possible, and testing hours should be restricted to the minimum required to ensure the safe running of the back-up generator. Businesses and air quality officers in local authorities should work together to identify

¹⁶ The dates by which engines need to comply with certain stages vary depending on engine size and category. The dates for stage IIIB are as follows: for engines 130kW ≤ P < 560 kW, Jan 2011; for engines 56kW ≤ P < 130 kW, Jan 2012 and for engines 37kW ≤ P < 56 kW, Jan 2013.

¹⁷ On the 1st January 2017 the NRMM Directive was replaced by a new EU Regulation (2016/1628/EC). It has introduced a new emissions stage (Stage V) which has set more stringent limits but does not begin to affect the placing on the market until 2019. Although the Regulation repealed the Directive elements of it still remain valid until all aspects of Regulation take effect which will not be until end of 2021.

appropriate times to test generators to reduce the risk of high local NO₂ concentrations. Defra is considering the responses to the public consultation on proposals to regulate emissions from this source from 2019.

Stoves and wood burners

99. Smoke from wood and coal burning appliances contributes to particulate matter emissions. Evidence suggests that emissions of PM₁₀ and smaller can have detrimental effects on health. Small particles from smoke, soot and dust can get into the lungs and blood and be transported around the body. Clean Air Zones can provide the opportunity for Local Authorities to encourage the use of cleaner, more modern technology and quality fuels in order to minimise emissions. This can include:

- promoting the use of seasoned wood. Properly seasoned and dried wood can reduce levels of pollution from a home stove by up to 50%.
- advocating the use of modern appliances. Independent tests commissioned by the stove industry have shown that an Ecodesign Ready stove produces 90% fewer emissions than an open fire and 84% fewer than a stove of ten years ago.
- promoting safe and correct installation of appliances by a registered competent installer and continued maintenance of appliances.
- publicising the location of smoke control areas and the legal obligations within these locations.

Low NO_x boilers

100. Clean Air Zones can also provide the opportunity to encourage the use of low NO_x boilers in domestic and business premises within the area. Through engagement with local communities, local authorities can seek to raise awareness of the energy efficiency and air quality benefits of newer equipment. Local authorities can encourage business and others, when considering upgrading or replacing such equipment, to explore newer or alternative technologies, and to encourage their efficient use.

2.5.2. Encouraging healthy and active travel

101. A Clean Air Zone encourages the voluntary use of more sustainable and active travel that, in turn, can improve people's health while cutting air pollution.

Raising awareness of the options

102. This theme also strongly links to awareness raising and gaining acceptance of the zone. There are a range of opportunities that will also provide a link across a number of the themes in this framework. This may include:

- developing school travel planning to tackle emissions from the 'school run' via walk to school initiatives.
- communications activity around the potential health benefits of active travel and air quality.

- working with business, local communities, schools, further education colleges and universities to encourage the provision of attractive and secure facilities such as cycle racks and changing facilities.

103. A programme of practical support for local authorities, LEPs and delivery partners to help them to develop Local Cycling and Walking Infrastructure Plans has been launched by the Department for Transport¹⁸. Guidelines on the preparation of, and supporting the production of, these plans through sharing of knowledge and good practice has also been issued¹⁹. The guidance enables local bodies to take a strategic approach to improving conditions for cycling and walking in order to support increases in travel on foot and by bike.

Making active travel safer and easier

104. The Department for Transport's Cycling and Walking Investment Strategy sets out a long-term vision for walking and cycling to 2040²⁰. At the heart of the Strategy is a desire for walking and cycling to become the norm for a short journey or as part of a longer journey. The Strategy will enable a combination of infrastructure and behaviour change measures to help make active travel safer and easier so it becomes a normal everyday activity.

105. Barriers to greater active travel, including concerns regarding safety, need to be addressed to improve uptake. Guidance in Local Transport Note 2/08: Cycle Infrastructure Design²¹ is comprehensive and allows councils to design good, safe schemes within current legislation.

106. Potential action includes:

- the provision of safe, convenient, attractive and continuous cycling and walking facilities and routes, particularly to schools, businesses and local amenities.
- the provision of safe, convenient and continuous cycle and walking networks linking public transport hubs such as rail stations within Clean Air Zones to employment and education.
- improving traffic signing, with walking and cycling distances or journey times to encourage take-up.
- the provision of route planning apps and maps to highlight the ease of alternatives.
- optimising traffic management (as in section 2.3.2) to support safe cycling.
- encouraging cycle hire schemes and the provision of cycling training advice, such as through Bikeability.

¹⁸ <https://www.gov.uk/government/news/government-publishes-12-billion-plan-to-increase-cycling-and-walking>

¹⁹ <https://www.gov.uk/government/publications/local-cycling-and-walking-infrastructure-plans-technical-guidance-and-tools>

²⁰ <https://www.gov.uk/government/publications/cycling-and-walking-investment-strategy>

²¹ <https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208>. The Department for Transport is to consider how to refresh this guidance, taking account of the new opportunities to encourage cycling introduced in the Traffic Signs Regulations and General Directions 2016.

107. E-bikes can also provide an easy zero emission alternative for some journeys. Local authorities should also seek to support an increase in the relative share of e-bikes.

2.5.3. Encouraging cleaner vehicles

108. Clean Air Zones encourage the cleanest vehicles to operate within the zone, changing the overall fleet mix to be less polluting with knock on benefits outside the zone.

Improving existing vehicles

109. As well as encouraging uptake of new cleaner vehicles, local authorities can also consider incentives to support improvements in existing vehicles. This can particularly be targeted towards those vehicles that it might otherwise be costly to upgrade such as specialist vehicles. Examples include:
- the retrofit of additional emissions abatement equipment to existing vehicles.
 - encouraging the upgrade of refrigeration units on cold chain vehicles to the least polluting options.

Access restrictions

110. As part of the introduction of a zone local authorities should consider using existing powers to raise the standard of buses, taxis and private hire vehicles within their area. In particular they, together with relevant transport and licensing authorities, should consider:
- introducing emission requirements for taxis and private hire vehicles using existing licensing powers. These requirements should be in line with the relevant vehicle standards set out at section 3.4 and detailed in Annex A. Local licensing authorities may also wish to consider further requirements, including setting age limits for taxis and PHVs, and encouraging the use of alternative fuels such as LPG.
 - working with bus operators and developing quality partnership schemes to support cleaner vehicles by introducing emissions standards in line with those set out in this framework. The Bus Services Act 2017 provides for Enhanced Partnership and Advanced Quality partnerships with bus operators, to provide further options for local authorities to seek improvements.
111. This approach has already been used, for example, in cities such as Oxford, Norwich and Brighton who have introduced the equivalent of a non-charging zone for buses. Several licensing authorities have set emissions limits for taxis and private hire vehicles.
112. Operating a Clean Air Zone in this way would provide a route for local authorities to deliver benefits by supporting behaviour change without imposing direct financial burdens. As such it could also be linked to a range of actions, such as those set out in section 2, and encourage individuals and businesses across all vehicle types to think about the modes of transport they use and what type of vehicles they purchase.

3. Additional access restrictions for charging zones – operational standards and requirements

113. Clean Air Zone proposals are not required to include a charging zone. This section sets out the vehicle standards and other requirements to be followed if Local Authorities choose to set up a charging Clean Air Zone. It is expected that any local authority putting in place a charging zone will follow these requirements.

3.1. Preparing and planning for a charging zone

114. Decisions about whether to introduce a charge based Clean Air Zone will need to take account of a wide range of issues both in the zone and in neighbouring areas. These will include the:
- reduction in emissions and concentrations of NO₂, and other pollutants, required;
 - type of emission sources that need to be addressed;
 - type of vehicles that need to be addressed;
 - scope and boundary of the zone;
 - implications from any traffic displaced to surrounding areas; and
 - social, economic and health benefits from the introduction of a zone.
115. The introduction of the zone will need extensive engagement and consultation with neighbouring authorities, local communities and businesses to: explain the aims, including the potential health and economic benefits; understand any concerns; and assess the need for any mitigating actions.
116. In developing a zone it is important to recognise that the longer businesses and individuals have to make these changes the easier it will be for them to do so, and therefore more likely they will, but this needs to be balanced by the ongoing health impacts of pollution. Early engagement in the planning of a zone will help raise awareness of the potential for implementation. It will allow individuals and businesses to prepare for the zone's introduction and to understand the impacts on their personal circumstances.
117. Time will need to be allowed between formally announcing the details of a zone and it beginning to operate to allow businesses and individuals to adjust.

3.2. The legal basis for introducing a charging Clean Air Zone

118. The ability for charging authorities to introduce a Clean Air Zone is set out in the Transport Act 2000. Part III of the Act empowers local authorities (as "charging authorities") to make a local charging scheme in respect of the use or keeping of motor vehicles on roads.
119. Matters to be dealt with in charging schemes by charging authorities include:
- designating the roads and classes of vehicles subject to a charge;

- the charges imposed;
- the manner in which charges are to be made, collected, recorded and paid;
- the period for which a scheme is in force;
- exemptions and reduced rates from charges; and
- enforcement regimes and penalties for non-payment of charges.

3.3. Classes of charging Clean Air Zone

120. Central to the introduction of a Clean Air Zone is consistency in the type of vehicles that will be allowed free entry. The class of Clean Air Zone chosen should be sufficient to enable the zone to meet clear and ambitious air quality aims that will deliver associated health benefits.
121. In general vehicles, such as lorries and buses, or high frequency users such as taxis and private hire vehicles (PHVs) emit higher levels of pollution within the zone on a per vehicle basis. Clean Air Zones have been grouped into classes covering different vehicle types as set out in Annex A. The types of vehicles covered by a zone broaden from class to class.
122. When setting up a Clean Air Zone, local authorities will need to consider the sources of vehicle pollution. They should consider each class of zone in order and select the most appropriate one to meet the air quality challenge in the zone.
123. Before introducing a Class A zone a local authority should explore all possible routes to reduce emissions from buses, taxis and PHVs through existing non charging routes, for example using licensing or working with bus operators through any of the new mechanisms in the Bus Services Act 2017 to raise the emission standards of vehicles entering the area. This may be part of a non-charging zone as set out in section 2.
124. To ensure a consistent approach on vehicles which frequently operate within the zone, taxis and PHVs will be treated on an equivalent basis. Any local authority zone bringing in charging or licensing requirements for non-compliant taxis should also place similar requirements on non-compliant PHVs.
125. For a given class of zone all vehicle types identified as in that class should be subject to the restrictions. A local authority should not select individual vehicle types within a class, or 'mix and match' vehicles across classes. (For example a zone could not charge only coaches and LGVs - a zone covering all vehicles up to LGVs would have to be introduced).

3.4. Vehicle standards for entering or operating within a charging Clean Air Zone

126. To ensure that only the cleanest vehicles are encouraged to enter or operate in a charging Clean Air Zone, common standards need to be set for their entry. Vehicles that conform to more recent euro standards should emit less pollution than older

vehicles in their class. Annex A sets the minimum Euro standard²² for vehicles of that type which will be allowed free entry into the zone. Other vehicles should be subject to a charge unless they are covered by an exemption, a discount on the charge, or other acceptable vehicle requirements set out in this framework, such as meeting retrofitting or ultra low emission requirements.

3.4.1. Ultra low emission vehicles

127. Fully electric or hydrogen fuel cell vehicles will not be charged for entering or moving through a Clean Air Zone.
128. Other vehicles which meet the definition of ultra low emission vehicles and minimum emissions requirements set out in Annex A may apply for an exemption from the charge. These could include:
 - hybrid vehicles that otherwise do not meet the euro standard/age requirements for their type.
 - plug-in hybrid vehicles which are geo-fenced to operate in electric only mode within the zone.

3.4.2. Retrofitted vehicles and accreditation

129. Retrofitting a vehicle can provide an alternative to buying a new vehicle to meet the standards for a Clean Air Zone. There are a range of existing and emerging retrofitting options for vehicles and it can be difficult for purchasers and local authorities to know whether a particular technology is credible.
130. The government is currently developing a Clean Vehicle Retrofit Accreditation Scheme (CVRAS). The accreditation scheme will provide independent evidence that a vehicle retrofit technology will deliver the expected pollutant emissions reductions and air quality benefits. The scheme will enable drivers, technology manufacturers, businesses and local authorities to be confident that the retrofit technologies being used provide the appropriate emissions reductions for free entry to a Clean Air Zone. We expect the accreditation scheme to be in place in 2017.
131. Retrofitted vehicles which meet the requirements of a Clean Air Zone as accredited under this scheme will be exempt from a charge.

3.5. Future standards

132. The UK has a long term ambition for all new cars and vans to be zero emission by 2040, and for nearly every car and van to be zero emission by 2050. This means over the next few decades the number of electric and ultra low emission vehicles on

²² Successive emissions standards have been set by the European Commission for certain types of vehicle. There are separate standards for light vehicles (cars and vans) and heavy vehicles (HGVs, buses etc.). The standards for light vehicles are indicated with a number e.g. Euro 6, while those for heavy vehicles are indicated with a roman numeral e.g. Euro VI. The most recent standards are Euro 6 for light-duty vehicles and Euro VI for heavy-duty vehicles. See: http://ec.europa.eu/growth/sectors/automotive/environment-protection/emissions/index_en.htm and http://europa.eu/rapid/press-release_MEMO-15-5705_en.htm

UK roads will significantly increase. It is one of the aims of Clean Air Zones to support this transition and they will always favour those vehicles with the very best environmental performance.

133. Historically vehicle standards have evolved over time to take account of both technological advances and changes in the evidence on things like the impact of emissions. The ambitions of cities will likewise increase.
134. To meet these needs the minimum vehicle standards in Annex A of this framework will be periodically updated. This progression of standards should be considered in setting the ambition for Clean Air Zones and driving the early adoption of the best technologies. However, it is recognised that businesses and others need sufficient certainty in order to plan and make the most economic decisions in response to Clean Air Zones, therefore:
 - it is intended that the current standards set out above will remain in place until at least 2025, and for cars and vans, ULEVs will always be the most favourable category.
 - a full process and timetable for the long term updating and tightening of the standards will be consulted on and in place by the end of 2018.
135. It is recognised that data and understanding on emissions from vehicles will continue to evolve. Should significant new evidence on emissions emerge that may mean a need to consider an earlier revision than set out in this framework, the government will ensure a sufficient time period before any changes are introduced.

3.6. Vehicle detection - automatic number plate recognition

136. Automatic number plate recognition (ANPR) will be used for the operation of charging Clean Air Zones. Cameras will capture all vehicles on the monitored road(s), regardless of whether it is their final destination or they are moving within or passing through the zone.
137. The number and distribution of fixed and/or mobile cameras required will be determined by the relevant local authority in order to deliver the objectives of their Clean Air Zone.
138. The Joint Air Quality Unit is working with the Driver Vehicle and Licensing Agency and others on identifying compliant vehicles with the Clean Air Zone standards set out in this framework. Local authorities introducing a Clean Air Zone should consult with the Joint Air Quality Unit to discuss enforcement and identification of vehicles.

3.7. Hours of operation

139. It is open to any local authority to decide on the hours when a scheme operates. If the local authority chooses to implement a Clean Air Zone, the government has assumed in its modelling that the zone would operate constantly. However, if a local authority can demonstrate that, by operating on a reduced hours basis, it will still achieve compliance with air quality limit values in the shortest possible time, it could bring forward such a scheme.

3.8. Signing

140. As stated in paragraph 26 of this framework a minimum requirement for setting up a Clean Air Zone is to “have signs in place along major access routes to clearly delineate the zone”. Annex C²³ sets out what signs should be used to delineate a Clean Air Zone, whether it is a charging or a non-charging one.

3.9. Exemptions and discounts

141. There is a general presumption that the requirements for charging Clean Air Zones will apply to all vehicles according to the relevant zone class.
142. There will be certain circumstances where exemptions and discounts from a charge will be appropriate. This may be because of: a person’s particular circumstances; the type of vehicle concerned may be difficult or uneconomic to adapt to comply with a zone’s requirements; or the operation a vehicle is engaged in is particularly unique or novel.
143. Discounts and exemptions should, in general, be based on the principal that;
 - specialist vehicles that can never be compliant should qualify for an exemption from a charge;
 - a sunset period should be allowed for specialist or more novel vehicles that can become compliant in a suitable time to allow for them to be changed.
144. While exemptions should be kept to the minimum necessary in order to maximise the benefits of a zone, local authorities may also consider additional exemptions or discounts based on particular local circumstances. Local authorities may consider ways in which the cost of any charge to enter areas could be reduced for groups they identify as facing particular challenges, so long as this is achieved in a way which does not slow down the achievement of the outcomes of the zone. This might, for example, take into account the location of a charging zone in relation to key local businesses or services.
145. Local Authorities will also need to think about enforcement relating to exemptions and discounts in designing a zone. This section sets out where national exemptions should apply, and the circumstances in which local exemptions or discounts may be appropriate. Additional exemptions should not be applied where doing so would negate the overall benefits of the zone.

3.9.1. Historic and specialist vehicles

146. A small number of vehicles will be exempt from paying a charge to enter a Clean Air Zone due to their age and/or their unsuitability for retrofitting or purchasing a replacement vehicle. This will include:
 - vehicles with a 'historic' vehicle tax class.

²³ Annex C will be published separately later

- certain types of non-road going vehicles which are allowed to drive on the highway such as agricultural machines; digging machines; and mobile cranes. Local Authorities should assess the nature of the specialist vehicle(s) concerned and provide for an exemption on a case by case, or by type, basis.

147. Military vehicles are exempt from charges by virtue of Section 349 of the Armed Forces Act 2006.

3.9.2. Emergency service vehicles

148. A local authority should liaise closely with the emergency services to understand the type of vehicles in their fleets and the activities for which they are used.
149. Emergency services use a range of specialist and/or novel or adapted vehicles, such as aerial ladders and major incident command vehicles where it may generally not be suitable to provide a replacement vehicle to the standards of the zone. These vehicles will be exempt from a charge.
150. Local authorities may exempt emergency service fleets more generally should they choose to do so. Local authorities are encouraged to reach voluntary agreements with the emergency services over the use of vehicles in their fleet within Clean Air Zones. The agreements should be as ambitious as possible, including seeking to agree to use vehicles in line with the standards in this framework as far as practicable, particularly in the case of non-emergency work.

3.9.3. Blue Badge holders and vehicles used by a disabled person exempt from Vehicle Excise Duty

151. Vehicles within the disabled passenger vehicle tax class will be exempt from paying a charge in a Clean Air Zone.
152. A local authority may choose to give a discount or exemption to holders of a Blue Badge whether driving a vehicle, or as a passenger, should analysis of local circumstances warrant such an approach.

3.9.4. Community transport vehicles

153. Community transport, such as minibuses, provided by small operators and local groups can provide an important access to employment, education and training for people who may otherwise be isolated. Local authorities may choose whether to give a discount or exemption to such services based on their assessment of local circumstances.

3.9.5. Residents who live within a Clean Air Zone

154. It is important that local authorities consider the impact of a zone on local residents. By the simple virtue of their location they will not have the choice open to others of avoiding a zone when in a vehicle.
155. Local authorities should consider allowing residents who live within a charging Clean Air Zone additional time to comply with vehicle restriction requirements by

providing for a discount on charges where these are included. Discounts may be set at a local authority's discretion at up to 100% of a charge.

156. In assessing the need for a grace period, and the length of time one may be necessary for, local authorities should take account of the change needed in vehicle mix to meet a zone's air quality aims, as well as the social, economic and health impacts of a zone's introduction.
157. Should a local authority decide to give residents who live in a Clean Air Zone additional time to comply, they may wish to consider a sunset period from a zone's introduction be allowed during which the discount applies. This should allow residents sufficient time to change their vehicles (three years may be appropriate). Local authorities should ensure discounts are only available while residents live within a zone.
158. While residents within a charging Clean Air Zone will be directly affected, it is also important that the impact on residents in neighbouring areas are considered. A local authority may also consider whether a discount for residents in designated areas next to the zone should be provided for in line with the requirements set out in this section. Care will need to be taken that this does not undermine the aims of a zone, and these types of discount are expected to be kept to a minimum.

3.10. Levels of charge

159. Local authorities should set the level of charge for vehicles entering a zone appropriate to their local circumstances. The level of charge must be within upper and lower bands. These bands will be set out in Annex B²⁴.
160. In setting the level of charge within these bands local authorities should consider the behaviour change needed to deliver the ambitions for the zone; the local economic and social factors of the zone and surrounding areas; and the operational costs of running a scheme. Local authorities should not set the level of charge as a revenue raising measure. The Transport Act 2000 requires any excess revenue that may arise from charges above the costs of operation to be re-invested to facilitate the achievement of local transport policies and these should aim to improve air quality and support the delivery of the ambitions of the zone, while ensuring this does not displace existing funding. Such charges may not be used as a form of taxation to raise revenue generally.
161. Local authorities will be able to impose penalty charges for the non-payment of Clean Air Zone charges. They will be able to provide discounts on these penalties for prompt payment and there will be a fair procedure for making an appeal. Local authorities should publicise the levels of entry charge and penalty as part of their communications activity related to the introduction of a zone. The signing of the Zone should be clear to ensure that drivers are not penalised for unintentionally entering a charging zone, and that it is clear how drivers can avoid entering the Zone.

²⁴ Annex B will be published separately later

Annex A - Clean Air Zone minimum classes and standards

162. Clean Air Zone proposals are not required to include a charging zone. If local authorities do propose one, they should set out the detail of where it will apply, and the vehicle types to which it would apply. They should also engage and consult with local people, fully assess the impact of such an approach and how it could be mitigated. In all cases, charging zones would apply only to older, higher-polluting models of the vehicle types, so as to have a targeted impact on pollution.
163. This Annex sets out the minimum classes and standards for Clean Air Zones. It will be updated in line with any revisions in standards as set out in section 3.5 above.
164. Local authorities implementing a charging Clean Air Zone should ensure they are using the most recent version.
165. Buses operating on scheduled service routes would be expected to meet Clean Air Zone requirements through licensing, franchising or partnership approaches with local authorities as appropriate rather than pay a daily charge.
166. Motorcycles and mopeds are not routinely included under any category. Local authorities may choose to include them under class D.

Class A - Buses, coaches, taxis and private hire vehicles (PHVs)

Vehicle type	Euro Category ²⁵	Euro standard ^{26 27}
Bus	M3 (GVW over 5000 kg and more than 8 seats in addition to the driver)	Euro VI
Coach		
Taxi and private hire	Minibus - M2 (GVW not exceeding 5000 kg, and more than 8 seats in addition to the driver) Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a Clean Air Zone		

²⁵ There are overlaps in the application of Euro VI and Euro 6 permitting manufacturers in limited cases to choose whether to approve to Euro VI or Euro 6 or both.

²⁶ GVW – Gross Vehicle Weight

²⁷ Ref. mass is defined in the Euro standards as mass in running order plus 25 kg. This broadly equates to the unladen mass of the vehicle with a driver and an additional 25 kg mass. It will be specified by the vehicle manufacturer.

Class B - Buses, coaches, taxis, PHVs and heavy goods vehicles (HGVs)

Vehicle type	Euro Category	Euro standard
Bus	M3 (GVW over 5000 kg and more than 8 seats in addition to the driver)	Euro VI
Coach		
HGV	N2 (GVW over 3500 kg) N3 (GVW over 5000kg)	Euro VI
taxi and private hire	Minibus - M2 (GVW not exceeding 5000 kg, and more than 8 seats in addition to the driver) Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a Clean Air Zone		

Class C - Buses, coaches, taxis, PHVs, HGVs and light goods vehicles (LGVs)

Vehicle type	Euro Category	Euro standard
Bus	M3 (GVW over 5000 kg and more than 8 seats in addition to the driver)	Euro VI
Coach		
HGV	N2 (GVW over 3500 kg) N3 (GVW over 5000kg)	Euro VI
Van	N1 (GVW not exceeding 3500 kg)	Euro 6 (diesel) Euro 4 (petrol)
Minibus	M2 (GVW not exceeding 5000 kg, and more than 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
taxi and private hire	Minibus - M2 (GVW not exceeding 5000 kg, and more than 8 seats in addition to the driver) Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a Clean Air Zone		

Class D - Buses, coaches, taxis, PHVs, HGVs LGVs and cars

Vehicle type	Euro Category	Euro standard
Bus	M3 (GVW over 5000 kg and more than 8 seats in addition to the driver)	Euro VI
Coach		
HGV	N2 (GVW over 3500 kg) N3 (GVW over 5000kg)	Euro VI
Van	N1 (GVW not exceeding 3500 kg))	Euro 6 (diesel) Euro 4 (petrol)
Minibus	M2 (GVW not exceeding 5000 kg, and more than 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
Cars, taxis and private hire	Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Motorcycles and mopeds (optional)		Euro 3
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a Clean Air Zone		

Annex B: Charge levels

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This annex will be published separately with charge levels at a later date.

Annex C: Signs for Clean Air Zones

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This annex will be published separately with advice and recommended signs at a later date.