

Healthy Air Cymru

Clean Air Zone Framework Response

June 2018



Introduction

1. Everyone should have the right to breathe clean air. The public want to see quicker and bolder action at national and local level to make this a reality.
2. Progress to date has not been sufficient, and existing mechanisms have shown little sign that air quality levels are improving at the required rate as a result of these measures alone. We therefore encourage Welsh Government to compel Local Authorities to introduce CAZs in areas of persistent elevated levels of air pollution.
3. We welcome the steps being taken to ensure that Local Authorities have the necessary levers to take renewed action to tackle localised air quality challenges. However, we remain concerned that the Clean Air Zone Framework is a plan for another plan and that Wales will not succeed in reducing air pollution levels in the quickest time possible, as required by the ruling in the ClientEarth Court Case in January 2018.
4. Whilst we broadly agree with the proposed measures more emphasis needs to be placed on creating modal shift by enabling alternatives to car travel such as cycling and walking. In addition, more emphasis should be made on the use of a Clean Air Zone Framework to achieve improvements in public health.
5. We welcome the creation of the Clean Air Fund, and would encourage Welsh Government to provide more funding in future years, targeted at those areas most in need, in order to establish effective Clean Air Zones and invest in high-quality and attractive public transport and active travel routes. We would not support competitive funding processes.
6. Welsh Government should mandate Newport, Swansea and Chepstow to conduct a feasibility study into whether a charging Clean Air Zone would enable these areas to achieve compliance in the shortest time possible.

Summary of actions recommended by Healthy Air Cymru

7. Local air quality management Policy Guidance PG(W) (17) should be revised to take an exposure-based approach that prioritises public health in determining the location and placement of air quality monitoring.
8. Investment should be made in air quality monitoring along Active Travel routes.
9. Consideration should be made of part-financing or utilising the Mutual Investment Model (MIF) so Local Authorities can invest in Low Emission Buses.
10. As part of plans for a future Clean Air Plan and in guidance on Clean Air Zones Government should set out bold options for improving air quality and achieving behaviour change.
11. Government should review ways in which local authorities can better enforce Fixed Penalty notices for stationary idling vehicles, particularly outside sensitive receptors.

12. Welsh Government should set out a timeline for how soon Real Driving Emissions tests will be used to identify which vehicles are permitted to enter CAZs.
13. Welsh Government should consider the use of the Equa Index for an improved and more accurate reflection of the real emissions from vehicles.
14. Further guidance should be produced setting out a national charging framework that provides clarity to local authorities and drivers, wherever a CAZ is introduced in Wales.
15. In setting out a national charging framework, Welsh Government should also provide guidance to local authorities on how revenue from a CAZ should be invested in active travel and public transport through a dedicated, ringfenced fund.
16. A national awareness raising campaign, with input from Public Health Wales and third sector organisations should be launched as soon as possible.
17. Measuring the effectiveness of a CAZ should also take into account public health improvements, the number of vehicles entering a CAZ, changes in mode of transport for commute to school and to work, and the number of organisations reporting a decline in car usage. Metrics and targets should be developed by the local authority.
18. Further funding should be identified to improve the level of air quality monitoring across the proposed CAZ area to measure the effectiveness of the CAZ and whether more stringent rules are required.
19. Personal air quality messaging systems should be introduced to inform the public, especially people vulnerable to air pollution, of air quality forecasts so people can protect themselves from peaks in air pollution.
20. Further consideration should be given to improving regional collaboration on transport, such as through Local Transport Plans. Consideration should be given to how City Deals can benefit from the revenue raised by a CAZ to invest in regional transport.
21. All new Band B 21st Century schools and housing developments should be fitted with air quality monitors.
22. The current pattern of air quality monitoring should be reviewed with new guidance issued requiring local authorities to measure the human experience of exposure to air quality.
23. If Government chooses to give local authorities greater flexibility over elements of a CAZ, there should be greater oversight by Welsh Government for the approval of CAZ proposals by local authorities.

Current landscape

24. NO₂ levels illegally exceeded EU limits in 5 towns and cities in Wales (Port Talbot, Chepstow, Cardiff, Newport, and Swansea) in 2015.

25. Government modelling shows EU emissions targets will only be met in 40 of 43 UK zones in 2030.ⁱ EU PM limits are laxer than WHO ‘safe’ levels – the EU’s annual mean PM₁₀ limit is twice the WHO’s.ⁱⁱⁱⁱⁱ In most cases, EU legislated limits are not ‘safe’ but instead represent those not posing a ‘significant’ health risk.^{iv}
26. An analysis of the 40 declared Air Quality Management Areas (AQMAs) across Wales shows that 65 per cent of declared AQMAs have been in place since before 2010. This suggest that current approaches to improving air quality will not achieve the Government’s aspirations set out in its national strategy Prosperity for All or the well-being goals of the Well-being of Future Generations Act.
27. The majority of current air quality data does not reflect the quality of air that the most vulnerable people are breathing in. Monitoring does not currently reflect human experience. The purpose of monitoring air quality should include monitoring people’s exposure to harmful levels of air pollution, not simply for transport planning purposes.

Health impacts of air pollution

28. People in towns and cities across Wales are breathing in levels of pollution that are illegal and harmful for their health.
29. This could be increasing people’s risk of getting cancer, cutting people’s lives short and making existing lung and heart or circulatory conditions worse. Latest estimates suggest that the equivalent of 2,000 lives are cut short each year in Wales from air pollution.
30. Air pollution hits hardest people with lung conditions, heart and circulatory diseases, children and older people. For many of the people with a respiratory or circulatory disease air pollution poses a daily risk to their lives – it can worsen their symptoms and in the worst cases force them into hospital. Children’s lungs are also very vulnerable as they are still growing – polluted air can stunt the growth of their lungs and increase the likelihood of asthma. For pregnant women breathing in polluted air can stunt the development of their unborn child. Children with smaller lungs are more likely to face health problems later on in their lives.^{v vi}
31. Air pollution is also associated with cardiovascular disease: short-term exposure can increase the risk of a heart attack,^{vii} with long-term exposure linked to coronary events.^{viii} Emerging evidence also linked air pollution to a decline in cognitive function in older adults,^{ix} and to type 2 diabetes.^x
32. Research shows a link between PM₁₀ and PM_{2.5} exposure and mortality and morbidity.^{xi} Defra estimates PM_{2.5} and NO₂ pollution results in 50,000 annual deaths (2,000 in Wales), with annual societal costs of up to £27.5 billion.^{xii} Diesel and PM_{2.5} are WHO classified carcinogens,^{xiii} linked with higher lung cancer incidence.^{xiv}
33. Burning wood and coal in a stove or on an open fire releases Particulate Matter, which has shown a range of adverse health impacts, including decreased lung development and function, exacerbation of asthma, allergy, COPD, pulmonary fibrosis, and increased risk of lung cancer.^{xv xvi} It is also linked with increased

morbidity and mortality.^{xvii} Studies in Vancouver linked wood burning and exposure to PM released by burning wood or coal to an increase in emergency hospital visits.^{xviii}



34. We must be aware of the polluting effects of ULEVs and EVs. Brake pad and tyre wear makes up over 50% of London's PM₁₀ emissions, for example, increasing proportionately as exhaust emissions decrease.^{xix} In Wales, PM_{2.5} pollution contributes to more than 13,500 associated life-years lost. We welcome the recognition of the harm PM pollution causes in paragraph 5.3 of the Framework.

Clean Air Zones

35. Clean Air Zones can be the most effective way of improving air quality and driving behaviour change. A CAZ introduced in Berlin in 2008 and expanded in 2010 (inclusive of cars) led to PM and NO₂ emissions 50% and 20% lower than the predicted trend.^{xx} The low emission zone which operated in Rome from 2001-2005, achieved a 4% reduction in total number of cars. NO₂ emissions decreased from 22.9 to 17.4 µg/m³ and PM₁₀ emissions decreased from 7.8 to 6.2 µg/m³. As a result of the LEZ, 264,522 residents who lived alongside busy roads gained an average 3.4 days of life per person.^{xxi}
36. Polling from Ipsos Mori shows that using road pricing revenues to fund public transport is clearly popular with residents. They recorded a baseline level of support for 'road pricing' (congestion charging, and clean air zones are examples) at around 40%. But, when it was guaranteed that revenues will be invested in public transport, the balance swung to 60% in favour.^{xxii}
37. CAZs should always include controlling the movement of private vehicles within a target geographical area. This could be defined as where only vehicles meeting a certain standard for air pollution emissions are allowed to enter. This can either be through setting charges for those that don't comply or through banning non-compliant vehicles where they are fined if they enter the CAZ.
38. It is disappointing that in paragraph 7.1 of the Framework reference is made to the negatives of a CAZ outweighing the positives. This suggests that the Framework fails to recognise the enormous health, societal and economic negative impact of air pollution.

Principles of CAZs

39. Although there is no sole universal model,^{xxiii} we believe that CAZs must generally:
- Meet local needs, identifying the biggest local polluters, and discourage their use via financial charges. Private vehicles must form part of a CAZ, due to their contribution to air pollution.
 - Support a long-term reduction in private vehicle use, promoting behavioural change for people to switch to public transport and active travel.
 - Only include clean, zero emission public transport, with buses used prior to the introduction of CAZs to be retrofitted or scrapped.
 - Where possible, access should be determined by measuring real-world emissions using cameras or sensors, limiting reliance on manufacturer tests where real-world tests are not available.

- e. Include traffic flow schemes and enforce anti-idling schemes in pollution hotspots, including making 20mph zones the default.
 - f. Cover a large enough area to produce measurably lower emissions, and include public services (hospitals, schools, care homes) used by people most vulnerable to the health impacts of air pollution.
 - g. Be evidence-based, with measurable targets to improve health outcomes.
 - h. Either exempt blue badge holders and people who are exempt from vehicle tax for mobility reasons, or extend the time for these groups to replace their vehicle before charging.
40. The principles outlined above should be clearly articulated in the Framework in paragraph 1.8.
- 41. The CAZF should therefore provide greater clarity, through technical advice, setting out a model for local authorities to apply to their local circumstances that charge the most polluting vehicles to enter a CAZ.**
42. A legally compliant CAZ, meeting the tests set out in the ClientEarth court case in 2017, will only count those measures where the impact can be quantified. A so-called non-charging CAZ, bringing existing and new measures together under a new framework, would not be compliant. There is little, if any evidence, so far, to show that these measures can be quantified.
43. It is important to note that the UK Government has never been able to provide any evidence on the impact that non-charging CAZs would have, and therefore has not mandated them in their plans. Evidence from the UK government so far has shown that to be effective, CAZs need to charge, to discourage drivers of non-compliant vehicles.
44. Therefore, in identifying where a CAZ may be introduced, Welsh Government should consider persistent exceedances or reporting of persistent elevated levels of air pollution. Welsh Government should be able to require local authorities to introduce a Clean Air Zone.
45. Failure to direct local authorities to introduce charging clean air zones leaves open the likelihood that other solutions may be taken, for example based on a feasibility test, that will not make sufficiently quick progress towards tackling air pollution. Furthermore, requiring local authorities to use the revenues to fund walking, cycling and public transport supports modeshift and ensures that a charging clean air zone does not disproportionately disadvantage communities who need to travel but cannot afford a charge.
46. It should be noted that those measures outlined in Section 5 are simply a summary of all the actions that local authorities are already required and encouraged to take under the LAQM regulations, which have had very little impact over the past 15 years.

Operation of CAZs

47. It is important that, in determining vehicle access to CAZs, Welsh Government prioritises the individual's exposure to air pollution and considers public health implications as the primary driver for determining which categories of vehicle should

be able to access a CAZ. The design and restrictions applied to CAZs should also be shaped as to achieve modal shift and make walking and cycling the default option for daily journeys.

- 48. Welsh Government should therefore revise its Local air quality management Policy Guidance [PG(W) (17)] with regards to siting monitors (4.16). Given that the Government recognises that there are no safe levels of pollution, it would be pertinent to take an exposure-based approach that prioritises health impacts in determining the location and placement of air quality monitoring, rather than traffic monitoring.**
49. It is our view that local authorities should not have flexibility to determine which categories of vehicle should be restricted from CAZs. All CAZs in Wales, wherever they are introduced, should be inclusive of private cars and vans, as the most effective way to reduce air pollution. This will also ensure that there is uniformity and clarity across CAZs in Wales and that CAZs are successful in reducing air pollution to the lowest possible levels, beyond the required legal threshold.
50. Dependent on the outcome of an equality impact assessment, the operating hours for CAZs should be consistent across all local authorities, and ideally operate 24 hours a day, as is the case with the ULEZ in London. A range of different operating times within and across local authorities could very easily lead to confusion, and frustration for drivers, as well as unintentional non-compliance, which could limit the effectiveness of the CAZ in improving air quality.
51. Furthermore, the experience of London's congestion charge has shown that traffic spikes in the hour immediately before and after the charging period, adding significantly to congestion and air pollution during these periods. These spikes were reduced following extensions to the size of the congestion charging zone and to the hours of operation, showing longer charging periods are beneficial for traffic management.^{xxiv}

Charging

52. As stated earlier in our response charging has been shown to be the most effective way of tackling air pollution and encouraging the uptake of walking and cycling.
53. A so-called 'non-charging' CAZ is simply a summary of all the actions that local authorities are already required and encouraged to take under the LAQM regulations. As noted earlier, it is largely agreed that LAQM regulations have had very little impact over the past 15 years.
54. A legally compliant CAZ, meeting the tests set out in the High Court case will only count those measures where the impact can be quantified. A non-charging CAZ, bringing existing and new measures together under a new framework, would not be compliant. There is little, if any evidence, so far to show that the measures can be quantified.
55. It is important to note that the UK Government has never been able to provide any evidence on the impact that non-charging CAZs would have, and therefore has not mandated them in their plans. Evidence from the UK government so far has shown

that to be effective CAZs need to charge to discourage drivers of non-compliant vehicles.

56. Proposals to charge across part of a CAZ fail to recognise the health, social and economic impacts of air pollution. The health implications of displacing traffic into those areas more likely to be heavily residential is also contradictory to the aims of a CAZ. Furthermore, this will not meet the tests set down by the High Court case by simply displacing the most polluting vehicles from entering the centre of a CAZ.
57. Permitting the most polluting vehicles to enter the outer reaches of a CAZ without a charge will permit those who can afford to pollute to continue doing so, acting against the principles of CAZs.
58. It is important that drivers have clarity on the charging levels and operation of a CAZ, wherever a CAZ is introduced in Wales. A uniform charging structure, set out by Government, would provide local authorities with clarity on meaningful charges for entry to a CAZ. This will support modal shift and behavioural change.
- 59. If the Framework permits non-charging CAZs, Local Authorities should be required to demonstrate that a non-charging CAZ would achieve compliance within the same timeframe as a charging CAZ.**
- 60. It is therefore important that Welsh Government produce further guidance setting out a national charging framework that provides clarity to local authorities and drivers, wherever a CAZ is introduced in Wales.**
- 61. A successful CAZ will, by its very nature, deter people from entering a CAZ by private vehicle and therefore financial returns from a charging CAZ will therefore be limited in the long term. We would therefore recommend that Welsh Government consider what financial support will be made available up front, before a CAZ comes into operation, to invest in active travel and public transport.**
- 62. This investment should be directed towards those areas where there are persistent exceedances of air quality standards or where there are persistent elevated levels of air pollution. We would not support a competitive bidding process for such funding, which would benefit those local authorities best placed to bid for additional funding but which may not be those areas in most need.**
- 63. In setting out a national charging framework, Welsh Government should require local authorities to ringfence revenue generated through a CAZ to be invested in promoting and enabling modeshift to active travel and public transport.**

National exemption framework

64. There is a risk that CAZs could exacerbate existing health inequalities. People living with disabilities and long-term conditions are more likely to come from a low-income background and have less money to upgrade their vehicle. Around a third of all disabled adults aged 25 to retirement are living in low-income households. This is

twice the rate of that for non-disabled adults, as it has been throughout the last decade.^{xxv}

65. Many people with long-term and advanced respiratory conditions have reduced mobility and are likely to be over 65. Most COPD patients are not diagnosed until they are in their fifties, with the average age of death being 76.^{xxvi} People with advanced COPD often struggle to walk, rely on an oxygen cylinder to breathe and rely on cars to get to health appointments, to work or to socialise.
66. Patients often tell us it is difficult for them to use public transport, because they're not able to walk long distances, use stairs or access stations. They may not always identify as disabled and are often described as having an "invisible illness." Many of these people are likely to be in receipt of attendance allowance and/or have a blue badge, however we are also aware that many patients we support do not realise they are eligible for these benefits.
67. We therefore welcome the inclusion of a national exemption policy that ensures people with blue badges are exempt from charging zones. This framework should be a strict national exemption framework that cannot be adjusted at local level. We would also welcome an exemption for disabled tax class vehicles.
68. We recognise the need to exempt some vehicles from CAZ restrictions, however a number of the vehicle categories outlined in Annex 3 should be reconsidered. Refuse vehicles, and community transport vehicles should not be exempt indefinitely. It is important that local authorities are supported by Welsh Government to upgrade the entirety of their vehicle fleet, including refuse vehicles. Support should also be made available for community transport vehicles.
69. ULEVs should not be exempt from CAZ restrictions, as they still release harmful fine particulate matter, and the evidence is unequivocal that encouraging modeshift to walking and cycling everyday journeys is the best way to reduce the health costs of air pollution. In the UK, swapping just one urban car journey in four to walking and cycling could save more than £1.1bn in health costs due to pollution, compared to £360mn by swapping journeys to electric vehicles.^{xxvii} Furthermore, historic and specialist vehicles that cannot be upgraded should not be exempt, as these are frequently the most polluting vehicles.
70. We would question how social care workers would be made exempt. In addition, we would question whether all vehicles outlined in Annex 3 - other than local authority vehicles (short term), blue badge holders, ULEVs and retrofitted vehicles - should be exempted from charges. This contradicts the polluter pays principle and permits, in some cases, the most polluting vehicles to continue to pollute.
71. We would welcome greater clarity on the sunset period proposed for residents. Residents are those most likely to be able to access other modes of transport other than private vehicle, and consideration should be given to not exempting residents.
72. Access to clear information about the operation, restrictions and alternative modes of transport is vital for achieving modal shift and ensuring compliance with a CAZ. This is why we would recommend a national framework for the operation and charging structure for CAZs to provide clarity to road users across Wales.

Achieving modal shift

73. CAZs must be designed and coordinated with other policy developments in a way that achieves behaviour change among citizens. CAZs should therefore focus encouraging people to shift from private transport to active travel and public transport.
74. Whilst improving traffic flow and road safety is welcome, this should primarily focus on making active travel and public transport more attractive to people. Increased active travel can boost physical fitness,^{xxviii} but requires infrastructure such as cycle and foot paths. Modal shift from motorised transport to cycling and walking can have a positive effect on air quality as well as reducing congestion and improving public health through increased physical activity.
75. Research by the Royal College of Physicians notes that continued focus on controlling urban air pollution through technical measures to abate vehicle exhaust provides less benefit for public health than focusing on measures that increase sustainable transport - active travel and public transport (where active travel is often part of the journey).^{xxix}
76. It is however important to realise that unless roadspace freed up by the shift to active travel is removed from use by the motor car it is likely to fill again due to release of suppressed demand for relocation.
77. CAZ revenue should be re-invested into evidence based air quality projects, particularly for vulnerable communities, through a dedicated, ringfenced fund.
78. Other possibilities include encouraging Local Authorities to make installing bike racks on licenced taxis a component of taxi licensing to encourage active travel and integrated travel networks.

Active Travel

79. During 2013, 6% of people aged over 16 made at least one so-called active travel trip by bicycle - to get to a destination as a means of transport - at least once a week. The figure for 2016-17 - the most recent figures - showed it stood at 5%. Figures also show fewer children are going to school on foot or by bike.^{xxx} Research by Sustrans shows that investing in protected cycle paths would go a long way to getting women and their children cycling more in our Urban areas. 79% of Women in Cardiff would like to see protected cycle paths even if it meant less space for other road traffic.
80. In some cases, a person on a bike's exposure to air pollution is higher due to cycling along a busier road and having a higher respiratory rate than someone in a car or walking. However, the wider health benefits of increased physical activity from riding a bike compared to a sedentary form of transport always outweighs any potential cost of increased exposure to air pollution in all cases in the UK.
81. We strongly disagree with the suggestion of removing speed bumps, even where it is judged to be safe, and the reference to removing these should be removed. The evidence that removing speed bumps will reduce air pollution is very weak. In fact, guidelines from NICE – the National Institute For Health and Clinical Excellence – released in June last year says the evidence does not back up removing speed

bumps to lower air pollution. There is no evidence to suggest this would reduce air pollution on the most polluting roads and such interventions would discourage walking and modal shift as safety would be reduced on the roads most suited to shorter walking journeys.

82. We welcome the reference to prioritising walking and cycling routes with lower pollution levels, and would recommend that investment be made into the air quality monitoring along these routes, so appropriate measures can be taken.

83. In line with the Active Travel (Wales) Act 2013, we would expect the Welsh government to require, as opposed to simply recommend, that surplus revenue is directed towards walking, cycling and public transport. This requirement will help ensure that the CAZs implemented are the most effective possible, by maximising modeshift, and as noted guaranteeing this use of revenues boosts public support for road pricing. Polling from Ipsos Mori shows that using road pricing revenues to fund public transport is clearly popular with residents. They recorded a baseline level of support for 'road pricing' (congestion charging, and clean air zones are examples) at around 40%. But, when it was guaranteed that revenues will be invested in public transport, the balance swung to 60% in favour.^{xxxi}

84. Furthermore, any incentives encouraging ULEV uptake should never come at the expense of people walking:

- a. Charging infrastructure should never be placed on the footway, as this restricts clearance and is dangerous particularly for wheelchair users or families with pushchairs, who may be forced into the road.
- b. Restricted parking and loading bays should be provided using space from the road, not the footway, to preserve pedestrian comfort space.
- c. Restricted traffic lanes for ULEVs should not take space from the footway or from bus lanes, as this will reduce bus reliability, which in turn could affect bus ridership and revenues for the council. Furthermore, adding traffic to lanes directly next to the footway will make the walking environment less safe and more hostile, increasing chances of a collision and discouraging walking.
- d. We strongly oppose any suggestion of opening up pedestrianised roads to ULEVs. This would send the message that walking is not a priority in Wales, and is fundamentally against the spirit of the Active Travel (Wales) Act 2013. Furthermore, as ULEVs become more widespread, these streets will become more congested and hostile for people walking and cycling, as well as cause more fine particulate pollution, released by wear and tear of brakes and tyres.
- e. There must be a default ban on all vehicles parking on the footway, as this deters people walking and is a safety hazard for wheelchair users, blind people and families with pushchairs in particular. Minimum recommended footway clearance is 2m, according to Pedestrian Comfort Guidance, but note this is a minimum and in high foot traffic areas the clearance will need to be higher in order to avoid pavement overcrowding.

Public Transport

85. Investment in public transport is key to achieving behaviour change and reducing traffic flow through CAZs. We would not support the approach as taken by Local Authorities such as Leeds and Glasgow to restrict or charge buses entering CAZs. Welsh Government should investigate part-financing or making the Mutual

Investment Model (MIF) applicable to investments in Low Emission Buses so that only the cleanest vehicles enter CAZs.

86. We believe that those measures outlined in section 5 relating to Public Transport lack the innovation necessary to deliver high-quality public transport network that makes public transport more attractive to the public than private vehicles.
87. For example, Glasgow City Council has invested, as part of introducing a Low Emission Zone (LEZ), in onboard tracking equipment that will be able to use GPS technology to interface with Glasgow's existing traffic management signalling control system which will enable around 120 sets of signals to give late running buses priority at junctions. In addition, a total budget of £10.8m has been allocated by the Scottish Government to LEZ delivery. An additional £1.6m has also been allocated in 2017/2018 to deliver the Bus Emission Abatement Retrofit Programme Phase 1.^[66]
88. Greater efforts should be made to encouraging alternative modes of transport for parents on the school run, including reducing idling at school gates, and utilising a cleaner transport fleet for the school run.
- 89. We would encourage Welsh Government to consider, as part of plans for a future Clean Air Plan and in guidance for Local Authorities on Clean Air Zones, setting out bold options for improving air quality near sensitive receptors. This could include active travel routes and facilities, idling bans, and road closures to minimise the exposure of vulnerable individuals to air pollution.**
- 90. We would also encourage a review of ways in which local authorities can better enforce Fixed Penalty notices for stationary idling vehicles outside sensitive receptors, as defined by Local air quality management Policy Guidance [(Policy guidance PG(W) (17)], including increasing the financial penalty through amending The Road Traffic (Vehicle Emissions) (Fixed Penalty) (Wales) Regulations 2003.**

Emission standards

91. The framework must acknowledge that the Euro Standards will still allow for Euro 6 diesel cars to pollute more than otherwise allowed in lab tests. Whilst these vehicles are cleaner than other Emission Standards, they still pollute.
92. We must be aware of the polluting effects of ULEVs and EVs. Brake pad and tyre wear makes up over 50% of London's PM₁₀ emissions, for example, increasing proportionately as exhaust emissions decrease.^{xxxii} In Wales, PM_{2.5} pollution contributes to more than 13,500 associated life-years lost. We welcome the recognition of the harm PM pollution causes in paragraph 5.3 of the Framework.
- 93. Welsh Government should set out a timeline for how soon Real Driving Emissions tests will be used to identify which vehicles should be permitted to enter a CAZ.**
- 94. Welsh Government should also consider the use of the Equa Index for an improved and more accurate reflection of the real emissions from vehicles.**

Measuring effectiveness

95. Tackling air pollution will help achieve goals across health policy such as improving population health, increasing physical activity, reducing obesity and addressing health inequalities. Deprived communities are more likely to be exposed to toxic pollution levels^{xxxiii}, yet have less access to public transport, cycle paths, walking routes and green space.^{xxxiv} Evidence shows that five times more carcinogenic emissions are emitted in the 10% most deprived than the 10% least deprived areas of Wales.
96. In addition, people in the most deprived areas of the UK are twice as likely to have COPD and lung cancer compared to people living in the least deprived areas.^{xxxv} Reducing air pollution and promoting active travel will help create greener, safer and healthier communities.
- 97. Measuring the effectiveness of a CAZ should take into account public health improvements, the number of vehicles entering a CAZ, changes in mode of transport for the commute to work and school, and the number of organisations reporting a decline in car usage.**
98. Air quality monitoring will be the primary measure of effectiveness; however, we would question whether the current level and quality of monitoring across Wales is adequate enough to determine whether sufficient progress has been made. Investment should be made in the level of air quality monitoring across a proposed CAZ area in order to have a better and more detailed understanding of the problem, particularly near sensitive receptors. **Welsh Government should provide funding to improve the level of air quality monitoring across the proposed CAZ area. In areas near sensitive receptors automatic real-time monitors should be prioritised.**
- 99. We would strongly encourage the Framework to require local authorities to set measurable targets on a range of data sources against which to monitor the effectiveness of their CAZ. We would also expect the Welsh government to set its own targets for pollution reduction and increases in active travel. These targets will help to galvanise action towards a clear and specific goal, as well as encourage local authorities to consider the wider impacts of a CAZ on active travel and congestion, as well as pollution.**

Awareness raising

- 100.** Achieving modal shift and communicating the need for meaningful action to tackle air pollution will require Welsh Government and local authorities to engage and communicate with the public and communities most effected by air pollution.
- 101.** We would recommend a national awareness raising campaign, with input from Public Health Wales and third sector organisations, to design an off the shelf campaign for local authorities to communicate the health, social and economic impacts of air pollution and the action being taken by National and Local Government.

102. There should be sufficient use of social media, print media, use of public billboards and bus advertising that clearly outline the impact of air pollution and the action being taken, including the introduction of a CAZ. These messages should be tailored to local communities and audience groups in order to achieve maximum impact. The most vulnerable should also receive health information and alerts on how to protect themselves during elevated levels of air pollution.
103. Local authorities need a full programme of community engagement, holding tailored engagement events with different communities to build capacity and work with them in collaborative design so that communities are invested in the end result.
104. Welsh Government and the third sector should share and promote the evidence of the benefits of cycling and walking solutions to air quality with local communities in addition to local authorities, promoting the benefits of active travel and reducing the perceptions that it is too dangerous to walk and cycle on streets in order to help increase uptake.
105. We also recommend a national uniform charging and access policy in order to provide clarity to road users wherever a CAZ is introduced in Wales. Furthermore, signage and charging structures should be clearly placed on the boundary of a CAZ, with public information available about travel alternatives to accessing a CAZ.

Other sources of pollution

106. There remains specific significant sources of pollution from power and industry installations in Wales, including Aberthaw coal-fired power station, a recent increase in applications for biomass stations which would increase PMs, and ongoing opencast coal sites which causes localised air and noise pollution for residents. We would urge the Welsh Government to give clear direction to reducing pollution from these non-road sources in the forthcoming Clean Air Plan, as well as through planning and energy policies
107. The use of wood with a higher moisture content in residential burning accounts for 20,000 tonnes of the UK's PM_{2.5} emissions, and produces 21.1 g/h of smoke emissions for every 2.0 kg of wood burnt, compared to 4.6 g/h of every 2.5 kg of dry wood burnt. The residential burning of coal accounts for 11,250 tonnes of the UK's PM_{2.5} emissions. Studies in Vancouver linked wood burning and exposure to PM released by burning wood or coal to an increase in emergency hospital visits.^{xxxvi}
108. Welsh Government should consider introducing a nationwide Smoke Control Zone, preventing the burning of non-permitted fuels, including wood with a high moisture content and smoky coal, as introduced by Ireland in 2017. As a minimum, CAZs should all be designated Smoke Control Zones.

Other Comments

109. The primary focus and driver of the Framework should be the health implications of poor air quality. Whilst transport modelling and planning is a key component of designing a CAZ, transport planning should not be the primary driver.

110. **Consideration should be given for greater oversight by Welsh Government for the approval of CAZ proposals by local authorities, particularly if Government opts to give local authorities greater flexibility over the charging structure and permitted access for certain categories of vehicles.** This should not simply be oversight for the purpose of determining whether the proposal would achieve compliance within the shortest time frame possible, but also to ensure that adequate plans and investment are put in place to achieve modal shift, behaviour change, and sufficient public consultation.
111. The UK Government announced in its recent Air Quality Strategy that the Government will introduce a personal air quality messaging system to inform the public, especially people vulnerable to air pollution, and work with media outlets to improve public access to air quality forecast. **Welsh Government should consider how it can also do this effectively, in order for the public to protect themselves from elevated levels of air pollution. The Nowcaster system currently in operation in Swansea is a good model for this.**
112. We support the proposal to consider charging workplaces for parking provision to fund walking, cycling and public transport (a 'workplace parking levy or WPL'), and would recommend this proposal be given greater significance and weight in the Framework. The evidence is clear that workplace parking levies are a highly effective method of improving local air quality and encouraging more people to commute actively. Nottingham City Council has introduced a WPL which during the next period will mean employers will pay £402 per place per year if they have 11 or more employee parking space. The WPL generates around £9m per year from more than 24,800 registered parking spaces, with only 5% of that going towards the cost of running the scheme. The rest is ringfenced for investment in public transport, including the highly successful tram scheme, extending the bus and rail network, and investing in electric buses. This has been successful at reducing air pollution, encouraging mode-shift, and funding public transport improvements.^{xxxvii}
113. Evidence from the WWF says that 40% of journeys to work in Nottingham are now by public transport, far above the England average of 19% (National Travel Survey), and there has been a 33% fall in carbon since 2005, of which 13% can be attributed to the WPL.^{xxxviii}
114. We strongly support the recognition that promoting public transport take up is vital in improving air quality and increasing the number of active travel stages. We would encourage Welsh government to consider introducing a smart ticketing system across Wales or across urban areas to act as a trip generator by making public transport more convenient and attractive. Preserving and building dedicated bus lanes for buses and emergency vehicles only will be key factor in promoting public transport in Wales, both in areas with a CAZ and areas without.
115. We welcome references to close working with neighbouring authorities and would encourage Welsh Government to go further in this regard. Consideration should be given to how Local Transport Plans, Local Development Plans, Strategic Development Plans can be adapted to include consideration of CAZs. **We would also encourage Welsh Government to consider how City Deals can benefit from the revenue raised by a CAZ to invest in regional transport links where**

significant traffic has its source outside of the local authority area considering a CAZ.

116. Port Talbot, Chepstow, Cardiff, Newport, and Swansea have all been identified as areas which have illegal and unsafe levels of NO₂. Nearly 150,000 children attend secondary and primary schools in these three areas, yet only 12 schools have pollution monitors situated outside. In addition, Cardiff and Chepstow have both been identified by the WHO as having unsafe levels of pollution, yet not one school is being monitored in either area. **Consideration should be given to requiring all new Band B 21st Century schools and housing developments to be fitted with air quality monitors, including incorporating green infrastructure such as living walls.**
117. **Welsh Government should review the current pattern of air quality monitoring across Wales and issue new guidance which requires local authorities to measure the human experience of exposure to air quality. This should include requiring the monitoring of air quality on all school buildings.**
118. Public bike hire scheme and access to information about walking routes should be an essential requirement for all new transport, housing, and large developments, ensuring that active travel facilities are integrated into all developments.
119. Consideration should be given to how green infrastructure can be used to mitigate against the canyon effect in built up areas, and near sensitive receptors and along active travel routes. As required by Planning Policy Wales Edition 10, planning authorities must take account for current and future sources of air pollution and how developments may exacerbate air quality challenges. Requiring large office, housing or retail developments to incorporate green infrastructure, specifically for the purpose of tackling air pollution, should be included in this Framework.
120. Greater clarity must be provided in how the Clean Air Zone Framework interfaces with other legislation.

Healthy Air Cymru

What we stand for

Healthy Air Cymru is a group of organisations working together to improve the quality of the air we all breathe. Air pollution in Wales harms our health and causes thousands of premature deaths every year. We are calling on the Welsh Government to take bold action on air pollution.

Healthy Air Cymru is British Lung Foundation, Living Streets, Sustrans Cymru, British Heart Foundation, Friends of the Earth Cymru, and the Royal College of Physicians.

Healthy Air Cymru Policy Asks of the Welsh Government

1. A comprehensive cross-governmental air quality strategy that includes:
 - a. Provision for an Independent Monitoring & Assessment Network;
 - b. A National Advisory Board on Air Quality, chaired by the Minister for the Environment which comprises of experts, academia and representatives from NGOs, local authorities and high polluting sectors (like transport and energy);

- c. A charging Clean Air Zone for Cardiff, with Swansea and Newport councils mandated to undertake feasibility studies on introducing a charging CAZ in their areas;
 - d. A review of reporting processes so that every local authority (in conjunction with the LHB/PSB) is required to prepare a Clean Air Plan, based on data from the Independent Monitoring & Assessment Network, with adequate control measures identified and acted upon;
 - e. A commitment is given that Strategic Development Plans, Public Service Board Well-Being plans and regional transport authorities will consider air quality;
 - f. A requirement that every local authority develops a Walking and Cycling strategy with targets to decrease the percentage of journeys by private car.
2. A Clean Air Fund that provides targeted funding for those Local Authorities with consistent exceedances or elevated levels of air pollution. Welsh Government should investigate options to part-finance this Fund via measures like traffic charging and Mutual Investment Models.
 3. Funding be given to councils to boost pollution monitoring outside schools and health centres/hospitals so the public have the information needed to protect their health.
 4. Improve pollution monitoring, awareness campaigns and public health alerts so that people living in every part of Wales are aware of local pollution levels and how to minimise the impact on their health.
 5. A Welsh Clean Air Act that would:
 - a. Enshrine in law WHO air quality guidelines;
 - b. Mandate Welsh Government to produce a statutory air quality strategy every 5 years;
 - c. Provide a statutory duty on local authorities to appropriately monitor and assess air pollution, and take action against it;
 - d. Introduce a 'right to breathe' whereby local authorities are obliged to inform vulnerable groups when certain levels are breached.

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