Department of Agriculture, Environment and Rural Affairs
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CLEAN AIR STRATEGY FOR NORTHERN IRELAND - A PUBLIC DISCUSSION DOCUMENT

SYNOPSIS OF CONSULTEE RESPONSES

June 2022

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This document summarises the responses received and should not be construed as representing the views of DAERA.

INTRODUCTION

The Department of Agriculture, Environment and Rural Affairs (DAERA) launched a Discussion Document in advance of developing the first Clean Air Strategy for Northern Ireland. The consultation opened for a twelve week public consultation on 23rd November 2020 and closed on 15th February 2021.

The consultation was launched by Minister Poots along with Fergal McKinney, Head of the British Heart Foundation Northern Ireland. The consultation was promoted via press release, the Department's website, social media (including Facebook and Twitter) and in email correspondence issued to a wide range of Departmental stakeholders. In addition, DAERA's Communication Team regularly posted messages on social media platforms throughout the consultation period, to advertise that the consultation was open. This was to ensure the consultation reached as wide an audience as possible, to encourage people to respond with their views.

The Discussion Document remains available to view at:
http://www.daera-ni.gov.uk/clean_air_strategy_discussion_document
It presents evidence and research on a range of ambient air pollutants. It also outlines the current policy and legislation and the measures currently in place to control air pollution. Questions are put forward in the Discussion Document around pollutant source activities, with the aim of promoting discussion and the exchange of ideas. The Department sought the views of all interested stakeholders.

An abridged easy read version was also published on our website alongside the main Discussion Document. The purpose was to encourage thought and ideas from as wide a section of our community as possible. Responses were invited via our telephone number, text relay number, email, Facebook, and by post.

Other formats of the documents were made available/offered including paper copy, large print, braille, audio CD/MP3, and other languages. Two requests were received for paper copies. No other format was requested.

Presentation of consultation findings

This paper provides a summary of the consultation responses. It should be noted that it is not intended to be a comprehensive report of every view expressed but rather a broad summary of the key points raised by respondents. This document is intended to help illustrate whether responses supported or opposed the questions DAERA put forward for discussion. In addition, it presents recurring and novel recommendations. The full detail of all responses will continue to inform the drafting of policy options and the Clean Air Strategy itself. Furthermore, consultee responses will feed into the impact assessment process.

Style of responses received

The free text approach of the questions posed in the Discussion Document, was designed to capture as wide a range of views as possible. The responses generated a wealth of recommendations often backed up by academic or published references and best practice guidance. Detailed views were received from a wide and varied perspective. Some stakeholders provided submissions with multiple, detailed documents, while others did not respond to individual questions but provided a general response. All comments have been considered and captured under the most relevant question, if this had not been specified, to allow for assessment of responses by DAERA officials.

Responses and wider public opinion

DAERA are mindful that public consultations are not necessarily representative of the whole population and the views expressed represent a sub-sample of wider public opinion. Less popular responses made very valued contributions often highlighting unique points. These points could appear to lack wider support, when in fact, the suggestion offers useful insight into important areas of concern others may simply not be aware of. The aim of this assessment of responses has been to understand the range of key issues raised by respondents, the reasons for holding their particular views and how concerns can be addressed in Northern Ireland's first Clean Air Strategy.

Approach to assessment

Quantitative assessments of the responses has been carried out where possible. Due to the wide range of views captured, qualitative assessment has also taken place as appropriate. All comments, whether widely supported by many or submitted by one individual, will inform the final strategy. This is to ensure the process is as inclusive as possible.

In presenting the results, DAERA has aimed to provide a broad picture of all views and comments. Interpretation of the balance of opinion must be taken in the context of the question asked, as not every respondent answered all the questions. In this respect, qualitative terms are only indicative of relative opinions to questions on the basis of who responded. Therefore, they cannot be assumed to relate numerically back to the total number of people and organisations.

Processing the responses

All responses received were logged and saved. An automated acknowledgement email was issued to each response received. All responses were read and comments separated out and grouped into individual questions. Any confidential responses were identified and marked as such. Responses were categorised based on the comments received, and the number of responses to each category counted. Charts and tables were then generated to detail percentages or views expressed.

Responses to questions that generated a yes/no style answer were formulated into charts to show the number of responses received and percentage breakdowns. For questions that generated a wide range of views or suggestions, tables were used to illustrate the data. The number of responses received in support of a suggestion were tallied. Examples of less popular, but equally important suggestions, are also presented to show a balance of views.

DAERA's Air and Environmental Quality team would like to thank all participants who took the time to respond to this important consultation. The comments shared have greatly informed the strategy development process and will contribute to improved air quality in Northern Ireland for many years to come.

KEY FINDINGS

A total of 82 responses were received to the consultation from a diverse range of stakeholders. Of these, 71 were substantive responses to the consultation and 11 were requests for an extension to the deadline. Of the 71 responses, 48 were substantive responses to one or more questions, while the remaining 23 were substantive responses answering all 29 questions.

48 organisations submitted responses and include local councils, political parties, charities, representative bodies and industry. 23 individuals submitted responses.

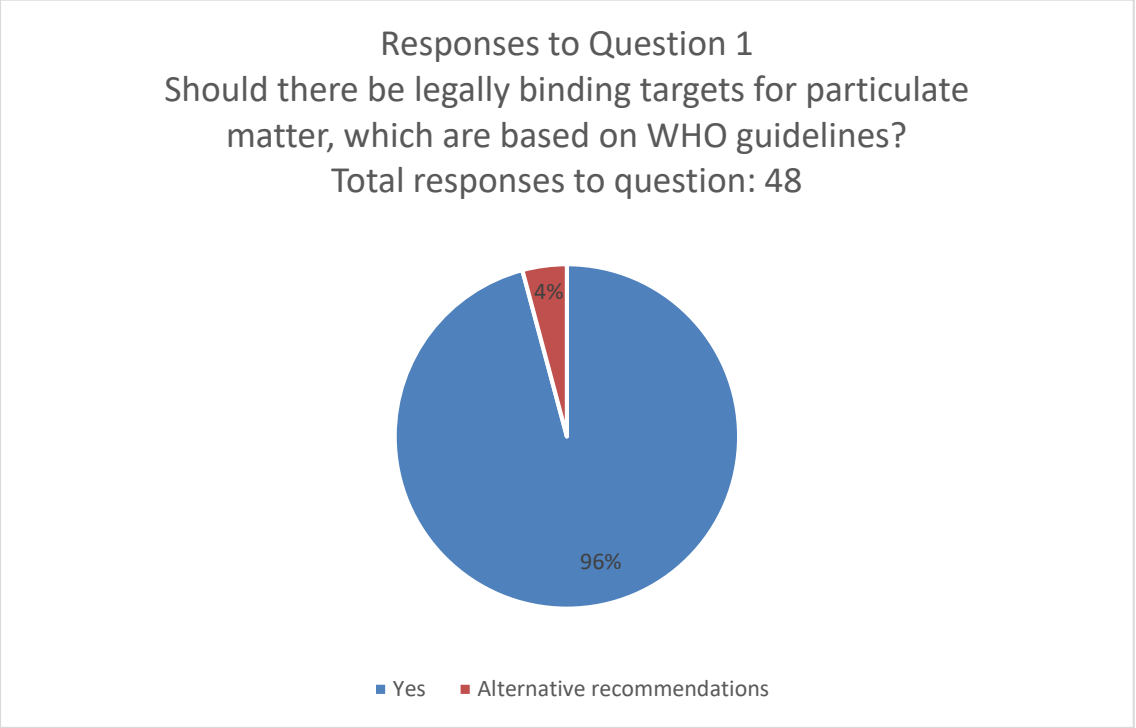
In total 1212 responses were received to individual questions, many of which were very detailed in their nature.

A list of the organisations that responded to the Discussion Document, save for those responses marked confidential, is listed in Annex A.

SUMMARY OF CONSULTATION FEEDBACK TO EACH QUESTION

CHAPTER 1 - SOURCES AND EFFECTS OF AIR POLLUTION

1. Should there be legally binding targets for particulate matter, which are based on World Health Organisation (WHO) guidelines?

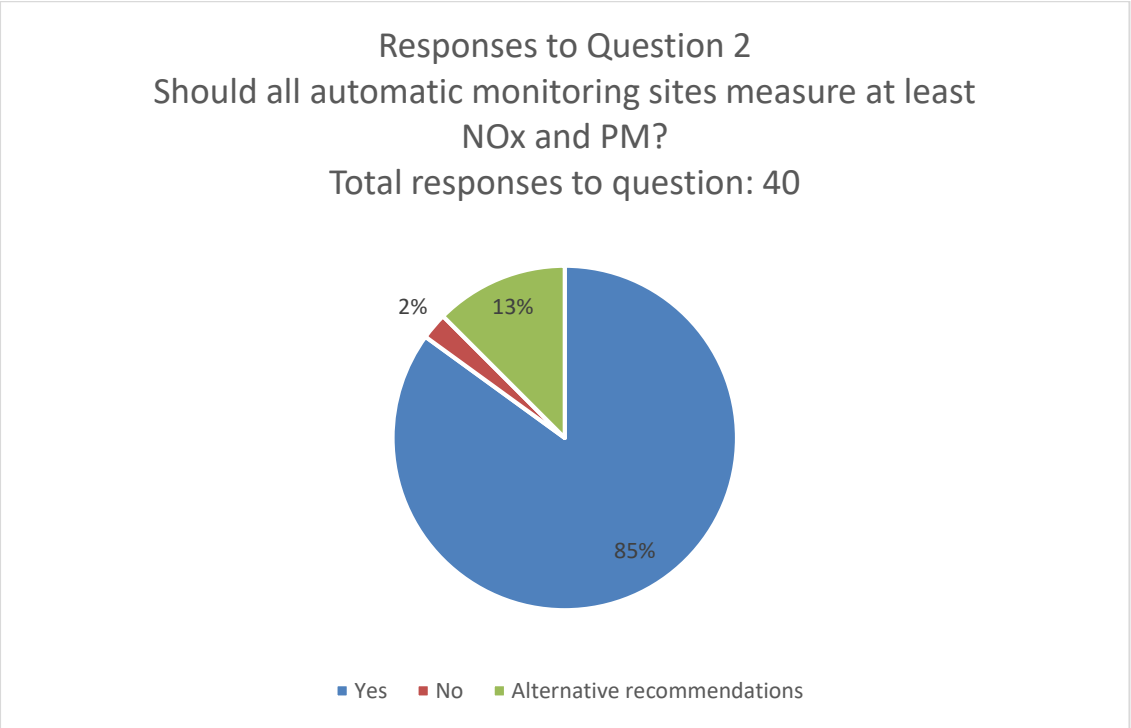


A total of 48 responses were received in response to this question.

96% of the comments received, broadly supported legally binding targets which are based on WHO guidelines. The remaining 4% offered alternative recommendations or suggestions. Detail within the responses expressed variation of the combination of pollutants respondents would like monitored. 81% supported legally binding targets for particulate matter, while 15% were supportive of WHO guidelines for a combination of pollutants or all pollutants detailed in the WHO guidelines.

Some comments called for a Northern Ireland Clean Air Act that would enshrine in law WHO air quality guidelines, while others were only in favour of implementing targets for particulate matter, based on WHO Guidelines, provided that there are clear policy measures identified in the Clean Air Strategy defining actions to ensure targets are met. The need for the WHO guidelines and limits for particulate matter to be legally binding and enforceable was a popular response.

2. Should all automatic monitoring sites measure at least NOx and PM?



A total of 40 responses were received in response to this question.

Responses to this question were varied, often with different combinations of pollutants suggested to be monitored. 85% agreed that all automatic monitoring sites should measure at least nitrogen oxide (NOx) and particulate matter (PM). Of the alternative recommendations, 2.5% wanted ammonia to be monitored along with NOx and PM, a further 2.5% wanted to see all pollutants that had been discussed in the consultation document monitored, while an additional 2.5% said yes to PM alone. 5% offered recommendations such as the air quality monitoring network should be expanded to both urban and rural areas so that it is possible to obtain a full, representative picture of air quality throughout Northern Ireland.

Only 2.5% of responses disagreed with question 2.

A range of important points were highlighted in responses. For example, the importance of being able to determine the source of PM, which can be estimated though analysis of PM, and the suggestion that this is tested on a regular basis to determine the key sources. Many suggested that more pollutants should be measured to give as full a picture as possible of the pollution levels across Northern Ireland.

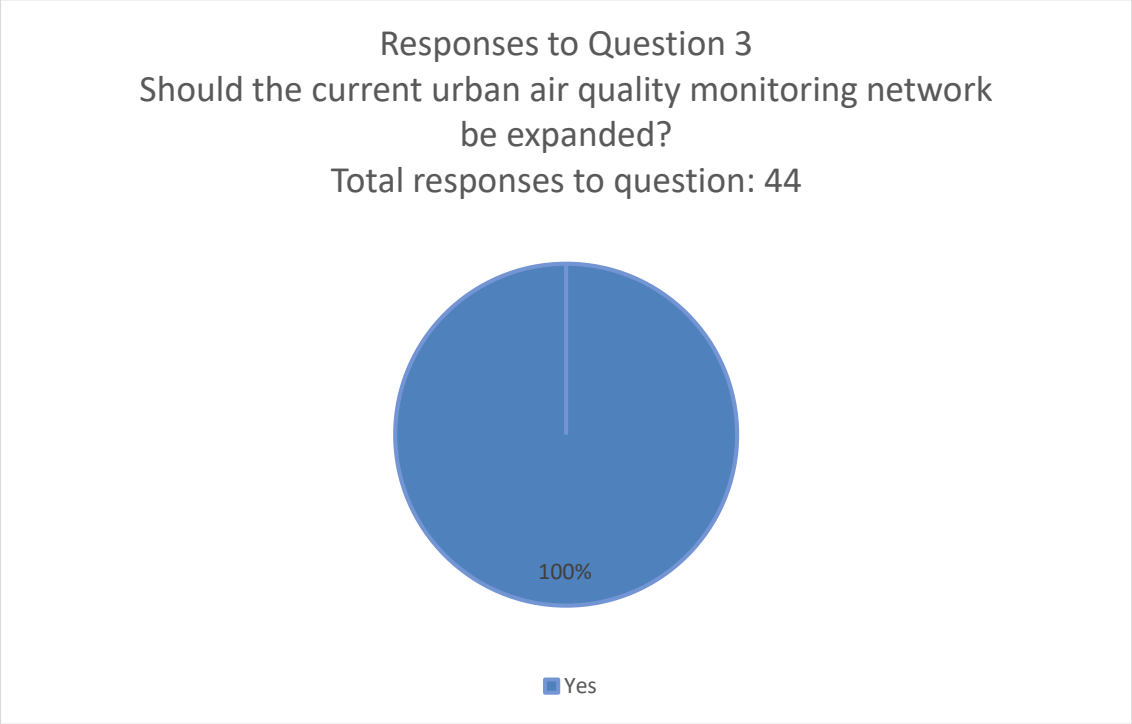
The availability of a greater number of air quality monitoring sites measuring a greater range of pollutants was also a popular response. It was recognised that this comes at a cost and monitoring should continue to be provided with sufficient funding from central government.

Additional monitoring for nitrogen dioxide across Northern Ireland was recommend as a way to assist government in better assessing progress with the Programme for Government, Air

Quality Indicator, where the lead measure is nitrogen dioxide concentrations, measured at both urban background and urban roadside monitoring sites. It was recommended that this PfG indicator should be more widely supported across government, down to a regional level and that competent authorities could better contribute towards its achievement. Suggestions included management and monitoring of the road infrastructure network, by measuring the air quality impacts of actions relating to traffic management and encouraging modal shift towards more sustainable forms of transport at regional, local and neighbourhood levels.

Comments concerned about the approach posed in this question, advised that the main source of PM is domestic/industrial whereas NOx is road traffic. Therefore, having a single monitoring location for both pollutants would not always be appropriate, particularly where the site is in a residential area. Where any additional monitors are to be considered, then these require full funding.

3. Should the current urban air quality monitoring network be expanded?



A total of 44 responses were received in response to this question.
100% of the responses received supported the expansion of the air quality monitoring network to some extent. The breakdown of responses shows varied opinion in how the network should be expanded.

39% agreed that the current urban air quality monitoring network should be expanded. A further 25% agreed with the proposed expansion but suggested recommendations, stating there was a need for funding or financial support to allow this expansion. An additional 20% agreed with the expansion of the network but recommended that rural considerations must be taken into account and that the network should be expanded to include rural areas. The

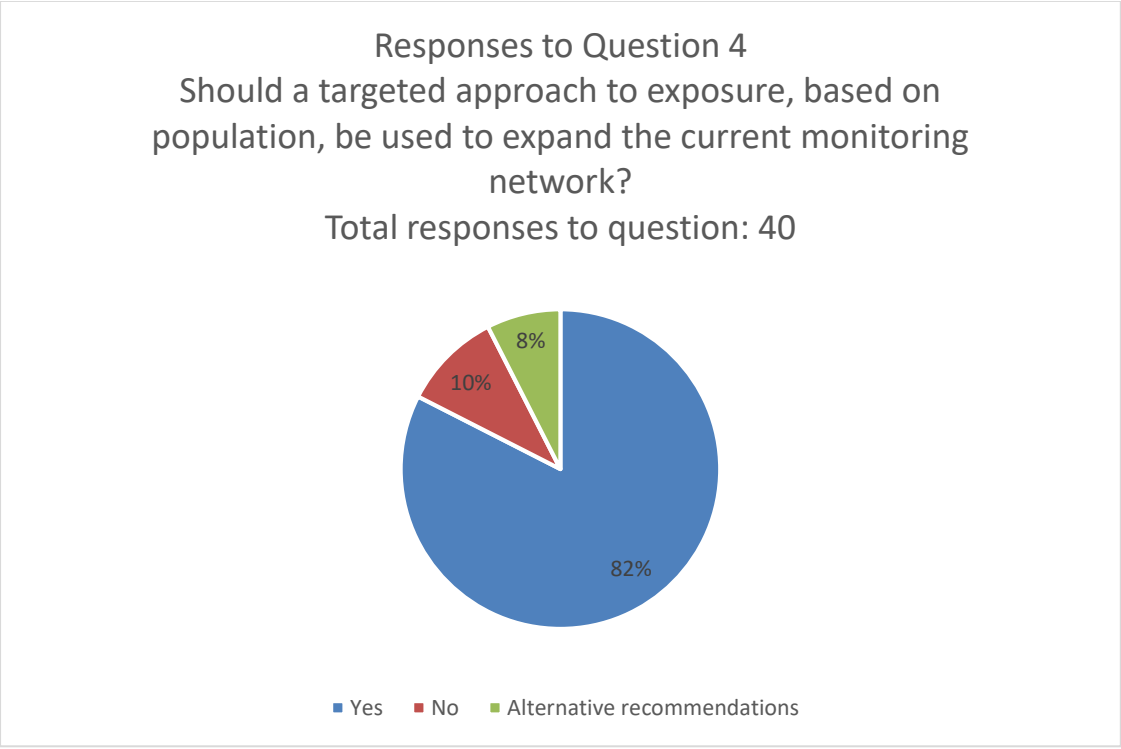
remaining 16% of responses agreed to the expansion and made alternative recommendations along with their response.

Comments included observations that an irregular network of monitoring sites can produce misinformed and inaccurate monitoring of pollutants. Also, the Strategy should support local authorities to conduct detailed assessments across their council areas to provide a full inventory of emissions. The need for an air quality monitoring network across a greater geographical area was encouraged.

The need for expansion of the air quality monitoring network in both urban and country areas was supported. Furthermore, there should be a focus given to locations of air polluting industries such as mines, quarries, pig and poultry factory farms etc.

A popular response advised that district councils review their air quality monitoring network annually through the current Review and Assessment Process and extend or reduce the monitoring sites accordingly. Expansion of the current monitoring network would be encouraged but must be supported financially. The Department should continue to review and where necessary, augment the ambient air quality monitoring network for Northern Ireland.

4. Should a targeted approach to exposure, based on population, be used to expand the current monitoring network?



A total of 40 responses were received in response to this question.

Overall, 82% of responses agreed that a targeted approach to exposure, based on population, should be used to expand the current air monitoring network. 10% disagreed with this approach. The remaining 8% made alternative comments or recommendations, for example, factors such as land use in the area should also be included.

Many District Council responses said a targeted approach based on human exposure could set a population threshold, for example 10,000 people, and require that air quality monitoring is carried out in any settlement with a population greater than this. If this approach were adopted, then the following towns and villages would become part of Northern Ireland's air quality monitoring network:

Cookstown, Dungannon, Limavady, Enniskillen, Banbridge, Larne, Omagh, Antrim, Coleraine, Carrickfergus and Newtownards.

If at least one station was sited in each of the above towns, this would bring the number of monitoring stations in Northern Ireland to 31. This would provide much greater knowledge about air quality within these populated areas. It was recommended that flexibility should be built into this approach to ensure that potentially polluting industries, often located outside our main towns, are also monitored where appropriate.

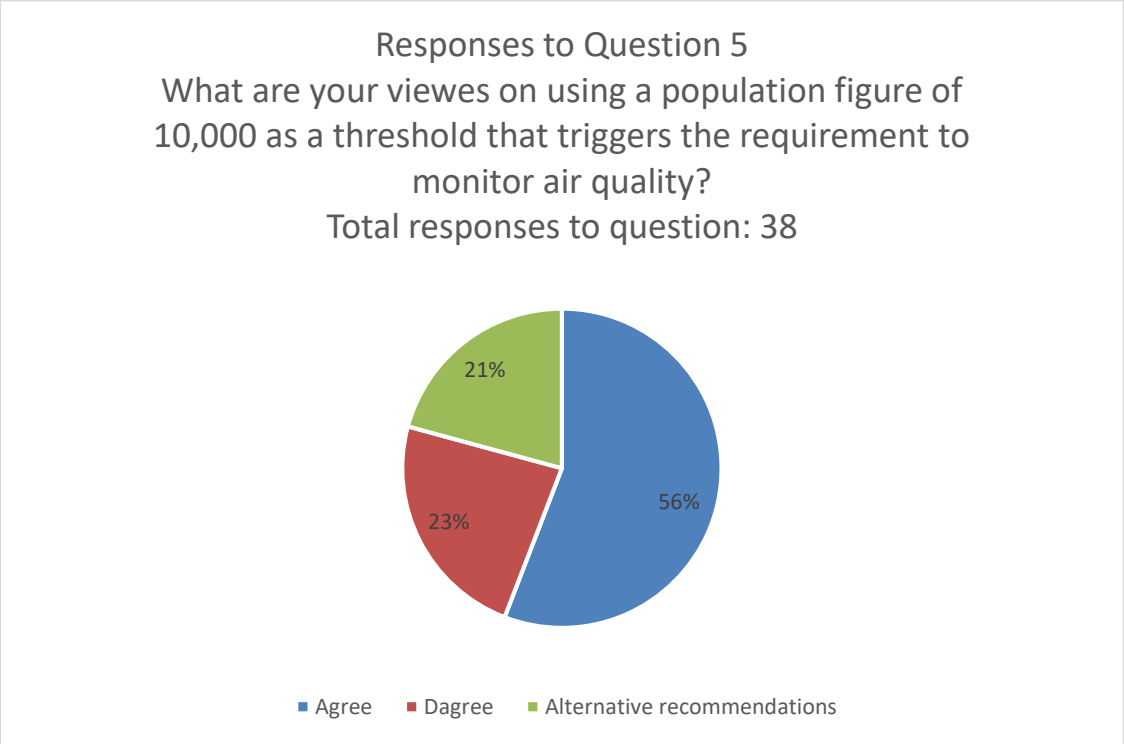
Some responses highlighted that monitoring may need to be undertaken in locations outside of the proposed 10,000 population threshold areas, in order to characterise ambient concentrations and the adverse impact caused by ammonia emissions.

Responses also advised that people are not only exposed to air pollution where they live, but also where they work and travel. Focusing only on where people live may not give an accurate representation of the level of pollution they are exposed to. The transboundary nature of air pollution also presents challenges in having a threshold for the requirement to monitor air quality.

Comments that did not agree with the question, explained that having a targeted approach based on population only, will overlook small areas where there is a discreet problem already identified through Local Air Quality Monitoring (LAQM) review and assessment work to date. Also, air pollution has an impact on biodiversity and we must ensure that we address this through any Strategy. Reassurance has been sought that potential risks in rural areas are not being ignored.

Furthermore, it was highlighted that monitoring must cover all council areas. Comments were made by a number of respondents that there is a lack of monitoring in one particular council area. It was stated that citizens living in rural areas have a right to equal protection and clean air.

5. What are your views on using a population figure of 10,000 as a threshold that triggers the requirement to monitor air quality?



A total of 38 responses were received to this question.

56% of responses supported using a population figure of 10,000 as a threshold that triggers the requirement to monitor air quality. 23% did not agree with this approach and the remaining 21% made alternative recommendations or suggestions.

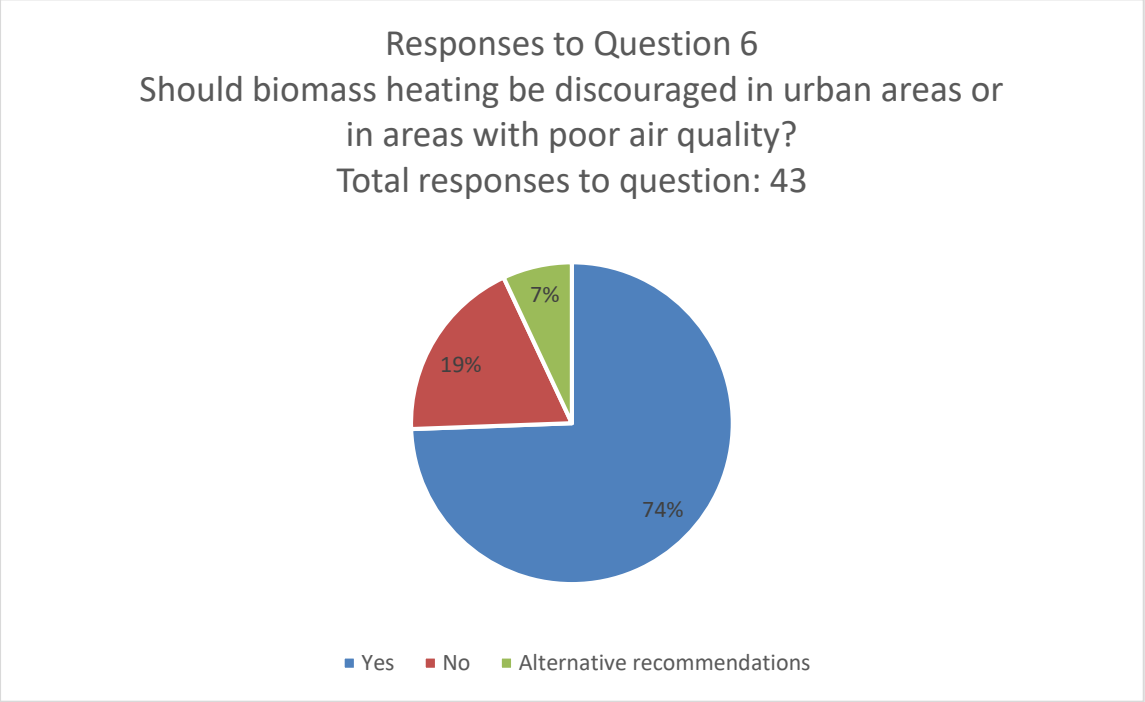
Many District Councils agreed in principle to expanding an appropriately funded air quality monitoring network, this should provide a wider picture of air quality across the centres of population whilst not precluding the need for monitoring in smaller, discrete areas where it is known that air pollution is a problem due to traffic flow or topographical effects. They agreed that a population figure of 10,000 seems appropriate in the context of Northern Ireland. Such expansion of monitoring would potentially assist in raising public awareness and engagement in the issue.

Other Councils did not agree with the population threshold proposed, as the use of a population threshold to trigger monitoring will not identify air quality 'hot spots', such as a congested commuter road through a small rural town. Conversely, monitoring may be required at a larger town if based on the population threshold, even though it may have a ring road with traffic flowing freely through the town, no relevant locations and lower air quality impacts. Expanding an appropriately funded air quality monitoring network, should be undertaken using evidence and informed judgement as opposed to the crude approach of population scale.

Concern was expressed that the suggested threshold would exclude rural areas, which often suffer from poor air quality due to agricultural emissions or high traffic levels. Air quality is about more than human health. Emissions can have a negative impact on wildlife and habits, so it important to monitor air quality in areas with low populations as well as higher populated areas.

Other responses said a figure of 10,000 is inappropriate as this effectively rules the majority of rural Northern Ireland out of air quality monitoring. This would disproportionately negatively affect rural communities, who suffer the effects of air pollution from agriculture. The respondent continued, given the contribution of agricultural pollution to NI's total air pollution levels, and how ammonia emissions from agriculture are considered to be the reason that PM levels have remained static despite reductions in other sectors, it would not be appropriate to only measure air pollution in densely populated areas.

6. Should biomass heating be discouraged in urban areas or in areas with poor air quality?



A total of 43 responses were received in response to this question.

74% of responses agreed that biomass heating should be discouraged in urban areas or in areas with poor air quality. 19% did not agree with this approach. The remaining 7% made recommendations or suggestions.

Concern was expressed that the generic term biomass covers many different fuels and moisture contents, nor does it consider the appliance being used to produce the heat. A traditional open fire or stove burning wet wood pellets will produce much higher emissions than a modern wood pellet stove designed to the latest standards. It was recommended that the generic term biomass should be broken down into different types of fuels and moisture

types, e.g. animal waste, agricultural waste, crops, trees and plants, virgin wood products like wood pellets, and waste wood etc.

Many District Councils said that biomass heating is associated with elevated levels of Particulate Matter emissions. The recent addition of large scale biomass heating in schools and leisure centres within urban areas contributes the elevated levels of PM_{10} and $PM_{2.5}$. In those areas where existing air quality is poor as a consequence of PM_{10} and $PM_{2.5}$ (whether urban or otherwise) it is recommended that biomass heating be discouraged.

More clarity was sought on the definition of the terms 'discouraged' or 'poor air quality'.

It was emphasised that within existing smoke control areas, biomass or wood fuels can be burned in exempted appliances.

The importance of biomass was discussed in some responses. For example, it helps the population move away from imported fossil fuels and assists in decarbonising their heating requirements. The need to support this move was endorsed to ensure biomass fuel is correctly used in a suitably designed appliance with certified emission levels.

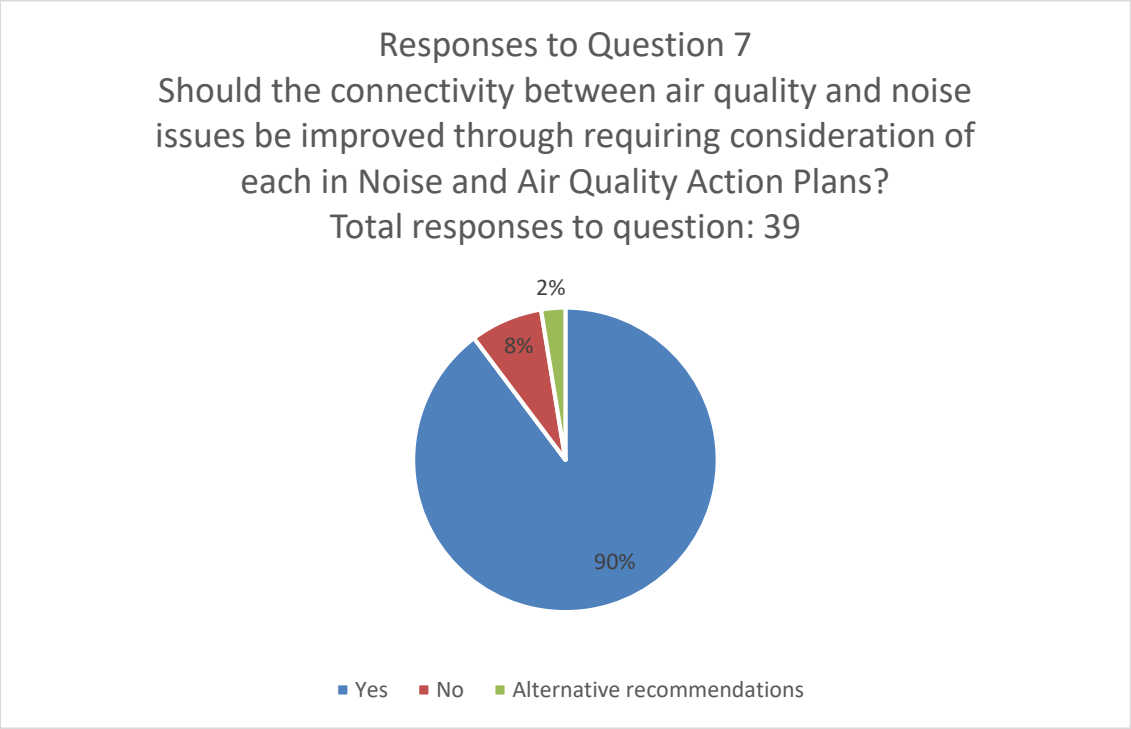
There was support for clean, renewable, heating systems being encouraged and promoted. This principle should include investment and development of geothermal resources, as well as the electrification of heat based on the utilisation of an expanded network of wind turbines and other renewable resources. A range of policy instruments are required to discourage biomass.

The matter of rural communities was raised and how they should also form a central part of Northern Ireland's decarbonisation agenda and their unique needs should be addressed and recognised as part of Northern Ireland's Clean Air Strategy development. A mixed technology switch allows a flexible approach to meeting decarbonisation targets reflecting the needs of the consumer.

Other comments highlighted that it is important that a cross-Departmental approach is taken to this. It was recommended that Northern Ireland's Energy Strategy should consider the impact of biomass heating on air quality and a balanced approach developed taking into account the economic, social, and environmental factors.

Comments were also received in relation to the recent announcement of a ban of wood in England and Wales, advising that the department should reflect on learning from that policy decision.

7. Should the connectivity between air quality and noise issues be improved through requiring consideration of each in Noise and Air Quality Action Plans?



A total of 39 responses were received to this question.

Overall, 90% of responses supported improved connectivity between air quality and noise issues through requiring consideration of each in Noise and Air Quality Action Plans. 8% disagreed with this approach, and the remaining 2% provided alternative recommendations.

Responses that supported the proposal explained that, the WHO has ranked air and noise pollution as the two leading causes of the environmental burden of disease in the European Region. The study was based on data from six countries, including the UK. Air and noise pollution share many of the same sources such as industry, aircraft, railways and road vehicles. Improving the quality of air can have a subsequent impact on improving the quality of noise, but only where mitigation measures are complementary.

There was endorsement for a holistic approach, as there is the potential that some projects to improve air quality, can have a detrimental impact on noise levels. For example, by adding an extra lane to reduce levels of stagnant traffic, the road may be brought closer to residents. A holistic approach can be achieved through better connectivity between the local Noise and Air Quality Action Plans.

Many District Councils felt that it must be recognised that, although councils are responsible for Local Air Quality Management Areas (AQMA) and associated Action Plans, there is a limit as to what councils can actually achieve, as the key actions that will improve air quality are outside the control of councils. The responsibility lies with central government departments and agencies. Noise Action Plans are completed primarily by the Department for Infrastructure, Translink and the Northern Ireland Environment Agency (NIEA) under the

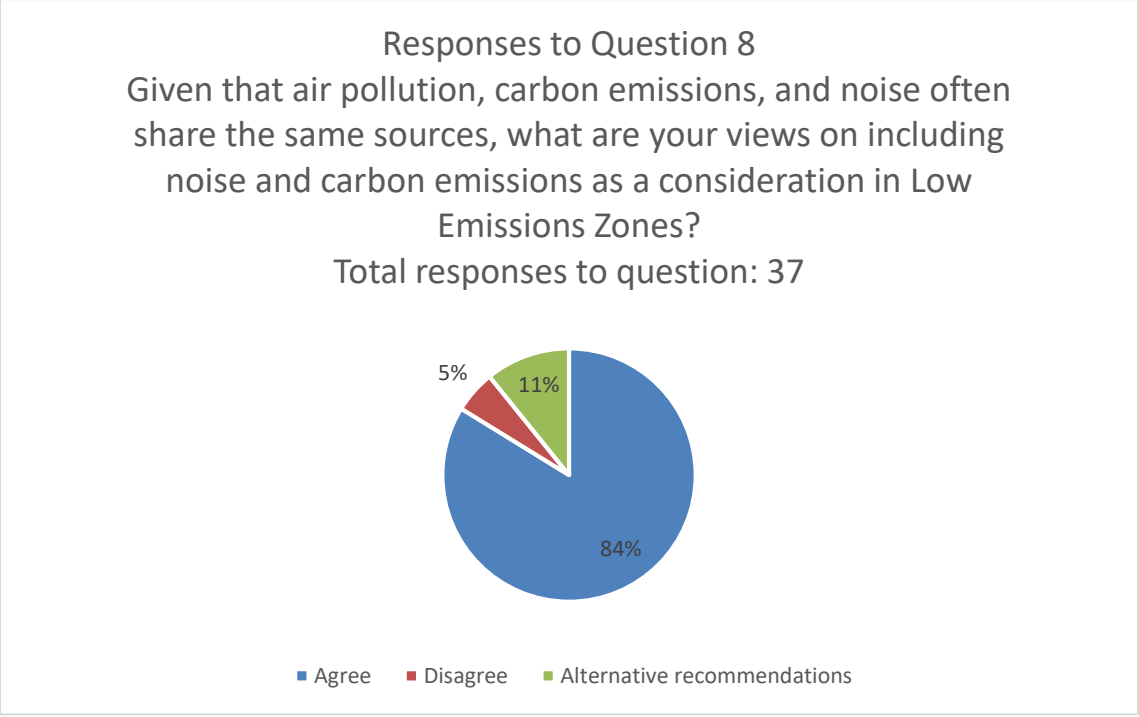
Environmental Noise Regulations (NI) 2006, which outline specific stages to manage and improve environmental noise. Whereas Air Quality Action Plans, are completed by District Councils. In relation to Noise Action Plans, councils have very little control over strategic and local road networks and as is the case with Air Quality, may have difficulty achieving same.

DAERA and the Northern Ireland Executive were urged to adopt a holistic approach to tackle environmental and health challenges when it comes to addressing pollutants such as CO_2 and particulate matter. The future Clean Air Strategy must clearly demonstrate that the environment and health are mutually reinforcing rather than opposing areas.

One response advised that no local authorities have declared any Air Quality Management Areas associated with industry, airports or railways and this may be due to the limited historic scope of monitoring. Another response stated, the connectivity between air quality and noise issues should be considered in Noise and Air Quality Action Plans.

Views were expressed that while the negative impact of air pollution and noise pollution on human health both need to be addressed. The respondent felt that the argument that they can be tied together on a logistical basis, was not convincing. While increased traffic volume will increase noise and air pollution in general, there are other sources of noise in both urban and rural areas that can impact health via sleep deprivation and government needs to address this, as well as traffic noise.

8: Given that air pollution, carbon emissions, and noise often share the same sources, what are your views on including noise and carbon emissions as a consideration in Low Emissions Zones?



A total of 37 responses were received to this question.

84% of responses supported including noise and carbon emissions as a consideration in Low Emissions Zones. A further 11% made alternative recommendations or suggestions while the remaining 5% disagreed with this approach.

Views were expressed which suggested strong support for this approach as well as endorsing a holistic systems way of thinking. These important societal issues are inter-connected and a joined-up approach to tackling them is vital.

There was also strong support from the District Councils that Low Emissions Zones (LEZs) are best suited to addressing transport related NO_2 exceedances in city centre streets. Therefore, LEZs should be primarily focused on transport, but could be widened to also include industrial and household emissions. Climate change issues are intrinsically linked with the air pollution and noise pollution issues in urban areas, particularly transport emissions. It was felt that there is a significant opportunity to use LEZs to tackle all of these issues and to gain a much higher level of public engagement and support, than if they were tackled discretely.

Comments were made relating to public transport systems and that these should work as much for rural areas as they do for urban areas. This would be a key factor in encouraging the establishments of LEZs in our rural towns as well as for air and noise pollution in general.
A Clean Air Strategy must not only focus on urban centres and cities - we all want to play our part and we all deserve to have access to sustainable and clean public transport.

Other responses believed that it is naturally complementary to address these issues collaboratively. There will need to be a significant increase in resources provided to local authorities to monitor and take strategic action to address air pollution, carbon emissions and noise pollution should this approach be adopted.

Other views advised that all emissions produced by an activity must be considered and trade-off situations, which could cause considerable unforeseen consequences, should be avoided.

Finally, support was noted for noise and carbon emissions to be included in monitoring for the entire region, not just in LEZs.

CHAPTER 2 - TRANSPORT EMISSIONS

9: Are there any potential measures not included here that you believe could help encourage a shift away from private car use to walking, cycling, and public transport?

A total of 46 responses were received to this question expressing a wide range of views on how to encourage a shift away from private car use to walking, cycling, and public transport. The following table presents the most frequently made suggestions.

Question 9. Table showing the most popular potential measures that could help encourage a shift away from private car use to walking, cycling, and public transport.

Suggestion	No in support
Enhanced working from home policies	13
Fare subsistence	9
Design of our public spaces and urban centres - emphasis on the pedestrian and cyclist rather than the private car	8
Public sector hubs as an alternative to traditional decentralisation	8
Public transport needs to made accessible throughout the rural areas	6
Reduced transport fares	5
Requirement that every local authority develops a Walking and Cycling strategy	5
All emissions based transport systems should be decommissioned or upgraded	4
All public transport must be zero emissions	4
Extending railway network throughout the North must be given priority.	4
No pollution zones within city centres and high density urban areas	4

Examples of less popular but equally important suggestions include:

An Active Travel Bill	Active travel investment	Changing Gear Bicycle Strategy - three pillar approach
Dis-incentivise driving/car based travel	Cleaner modes of travel and energy	50/50 split between roads and public transport investment
Better bus stops/lighting in rural areas rural area	Car parking charges at all shopping centres, including out-of-town, and at work car-parks	Electric bike charging alongside electric car charging
Improved broadband in rural areas	Improved infrastructure and services	Investment in rail
Investment in rapid urban transit	Legislation to stop people driving as much	More greenways and protected paths
Park and stride	Pavement parking ban	Public hire bike schemes

Reduction in electric vehicle costs	Traffic restraint measures	Women are more put off cycling by safety concerns

10: What would encourage you to consider buying an electric vehicle as your next car?

A total of 41 responses were received to this question expressing a wide range of views on what would encourage individuals to consider buying an electric vehicle as their next car. Three responses stated that they already owned electric vehicles. The remaining responses expressed their views and suggestions relating to electric vehicles. The following table presents the most frequently made suggestions.

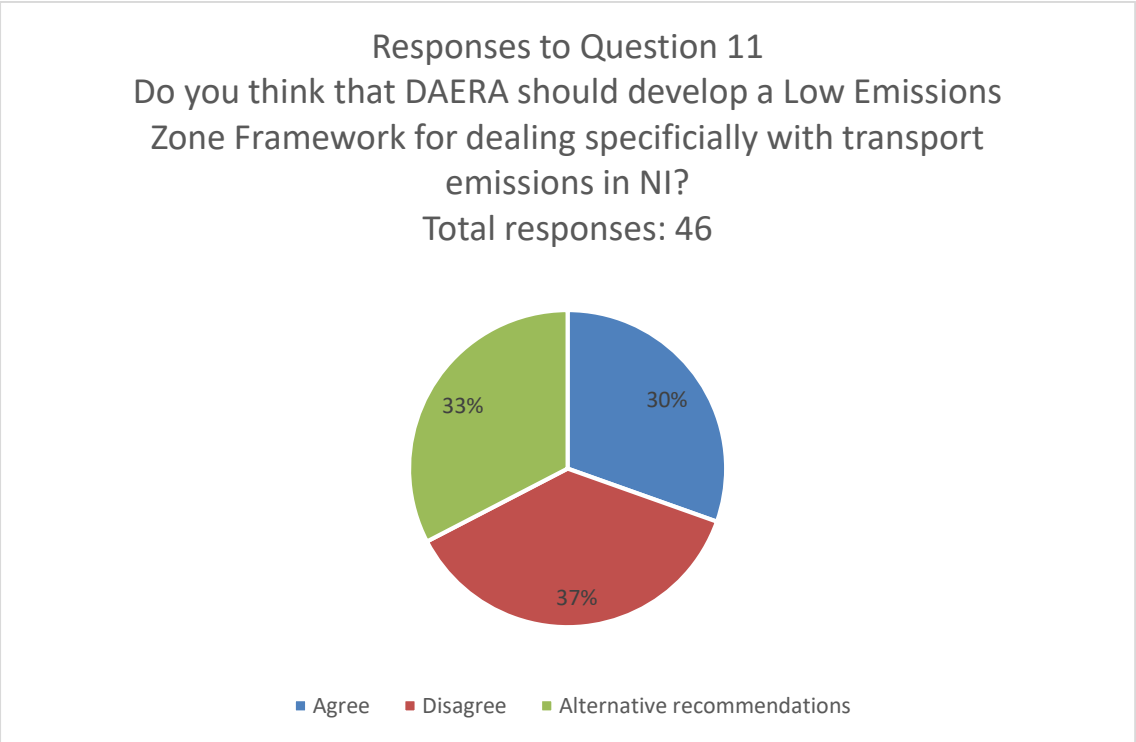
Question 10. Table showing the most popular responses as to what would encourage people to consider buying an electric vehicle as their next car.	
Suggestion	**No in support**
Improving the existing charging infrastructure	16
Improvements in vehicle range	13
Interest free loans	11
Cost of ownership of an electric car needs to fall below that of conventional propulsion	9
Lower cost	8
Travel subsistence policies in the public sector could be amended to incentivise the use of electric vehicles	8
The risks associated with batteries are an increasing deterrent	5
Financial support/subsidy	4
Lack of charging points	4
Network upgrading must improve to encourage those who have no VAT applied to new zero emission vehicles	4

Examples of less popular but equally important suggestions include:

Easily available charging points that work	Diesel and petrol cars should be dis-incentivised and phased from use	Limited current vehicle choices
Issues around the recycling of vehicles and their components	Electric 4x4 vehicle needed in rural areas for practical reasons e.g. wintery weather, pulling trailers or driving on rough terrain	New infrastructure needed for Fuel Cell Electric Vehicle (FCEV) fleet powered by Hydrogen
Higher efficiency vehicle - rural need	Electric cars initially exempt from a CAZ	New mileage charge for EVs

The length of time to charge can be long and inconvenient	Electric vehicles are not the panacea and braking mechanism still emit pollutants. The departmental focus should be on affecting 'modal shift'	Actual legislation to enable more people to get electric vehicles
A dense network of reliable and fast public chargers must be available	Electric vehicles are significantly more expensive, this may compound existing inequalities	Public sector investment is needed to deliver a smart, flexible energy system
A favourable scrappage scheme should be put in place to compensate drivers of diesel cars	Fewer vehicles not just cleaner vehicles	Replacement batteries need to be more competitively priced
Access to charging stations - there would need to be sufficient charging ports for the number of cars in the carpark	Financial support through scrappage schemes	Grid capacity

11: Do you think that DAERA should develop a Low Emissions Zone Framework for dealing specifically with transport emissions in Northern Ireland?
Or
Would you be in favour of Low Emissions Zones for urban areas also covering other sources of pollution, for example those from household heating?



A total of 46 responses were received in response to this question.

37% of responses expressed a preference in favour of Low Emissions Zones for urban areas also covering other sources of pollution, for example those from household heating. 30% of responses supported the development of a Low Emissions Zone Framework for dealing specifically with transport emissions in Northern Ireland. 33% of responses made other comments or recommendations such as suggesting a Northern Ireland region wide LEZ covering all sources of pollution e.g. transport, household heating, agriculture, mining and industry.

Some notable concerns raised include the comment that DAERA should develop a Low Emissions Zone Framework, but concern was expressed about any proposal to charge vehicles to enter defined zones. DAERA must learn from the experiences gained in England. It was recommended that policymakers provide regulatory certainty to avoid future "stranded assets". It was also recommended that well-designed standards generated to govern the development of new technology and infrastructure, is phased in sustainably as market supply allows.

One council noted that the Department has clarified that LEZs / CAZs are more suited to addressing nitrogen dioxide exceedances in city centre streets and therefore may not be an obvious solution to exceedances along major trunk roads. The need for an introduction of LEZs, should be determined through collaborative research and partner working between the Department for Infrastructure and the council. It should also be based upon ambient air quality monitoring data, road traffic management requirements and any necessary transition from highly emitting vehicles towards newer and more sustainable modes of transport.

Some councils supported a Low Emissions Zone Framework developed specifically dealing with transport emissions only, and household emissions can continue to be addressed through AQMAs and Smoke Control Areas. Furthermore, if it is preferred that Low Emissions Zones will incorporate all sources of pollution within a designated zone, it was requested that there should be publication of a discussion paper on the Low Emissions Zone Framework and further detail on the likely outworking and outcomes.

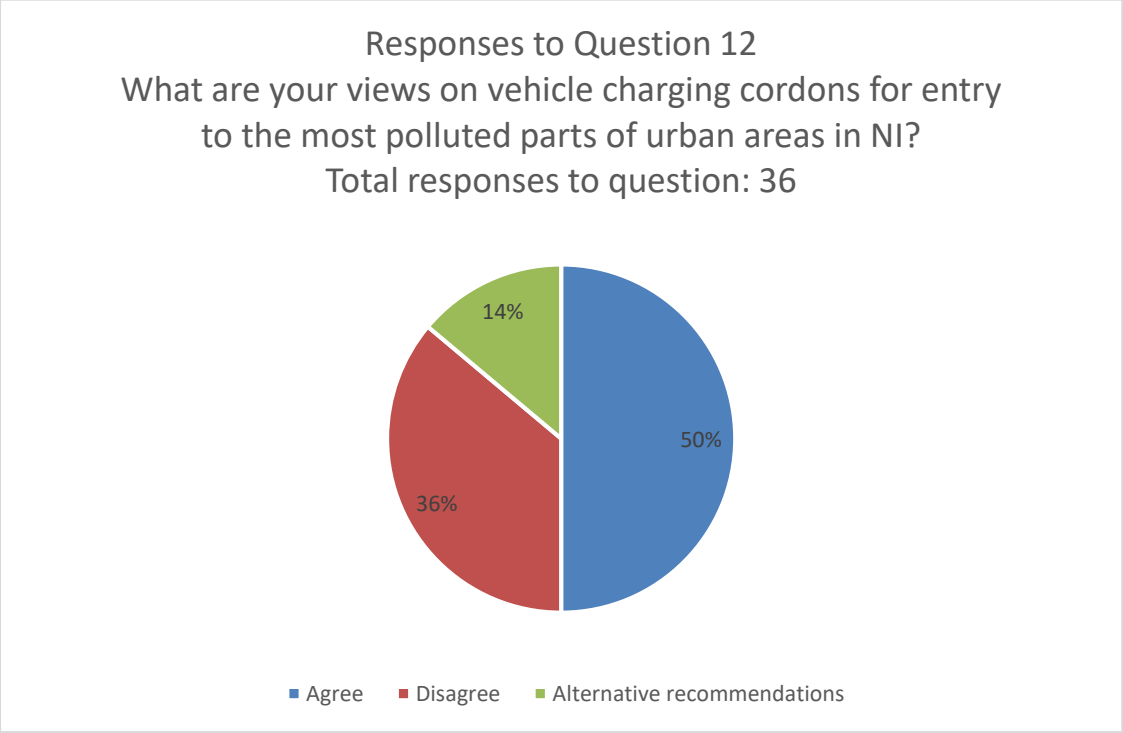
One response also highlighted that household emissions can continue to be addressed through Air Quality Management Areas (AQMAs) and Smoke Control Areas (SCAs). However, any businesses contributing to poor air quality in an area, such as restaurants and kitchens using charcoal grills as a means of cooking food, should also be included in the SCAs legislation or as part of AQMAs.

Rural considerations were raised in some responses, for example, DAERA should develop a separate Low Emissions Zone Framework for dealing specifically with transport emissions in Northern Ireland for urban and rural areas separately. Rural areas are more isolated and further away from services so rely more heavily on private cars.

An individual response felt that if CAZ's/LEZ's are to be introduced in Northern Ireland, any vehicles which are in the Historic vehicle road tax category should be exempt from any

possible restrictions on where motor vehicles can be used and also be exempt from any monetary charges that may be imposed.

12: What are your views on vehicle charging cordons for entry to the most polluted parts of urban areas in Northern Ireland?



A total of 36 responses were received in response to this question.

50% of responses supported vehicle charging cordons. 36% disagreed with their introduction and the remaining 14% suggested recommendations or comments. A small number of responses misinterpreted this question and discussed electric vehicle charging infrastructure. These responses were not counted in the percentages.

A number of councils and organisation felt that vehicle charging cordons introduced in England have been successful in improving air quality in urban centres such as London, Manchester and Birmingham. The introduction resulted in a modal shift to public transport, with the public still wishing to enter the cities. However, alternatives to the car in Northern Ireland are less attractive due to public transport outside of Belfast providing a limited service. Until such times as viable alternatives to the car are available, vehicle charging cordons are unlikely to provide the necessary reductions in emissions and may result in increasing traffic at other locations/junctions and could potentially result in AQMA or LEZ implementation at these locations.

It was highlighted that the need for and introduction of vehicle charging cordons should be a matter for the Department for Infrastructure Roads and the Council and should be

determined through collaborative research and partner working by both organisations. Vehicle charging cordons should be based upon ambient air quality monitoring data, road traffic management requirements and any necessary transition from highly emitting vehicles towards newer and more sustainable modes of transport.

There was concern that the proposal could result in emissions being relocated to more rural areas. There may also be a greater impact on those who live and commute from rural areas who, due to poor public transport links, have no option but to use private cars to enter urban areas. The cost of parking in urban areas, park and ride facilities, public transport and promoting the switch to electric cars should be encouraged in the first instance with a charging cordon only considered as a last option.

Other comments explained, if overall traffic levels are to be reduced, viable alternatives to the car need to be made available, in order to give people an alternative means of getting into city centres. Better home working policies from all employers can also have a large effect on the number of people needing to travel in and out of city centre locations. An overall reduction in the number of journeys should be one of the key goals of any charging scheme.

Concern was expressed about any proposal to charge vehicles to enter defined zones. Citing the Clean Air Zone (CAZ) policy in England, whilst well-intended, it was considered to be poorly designed and ill-evidenced which has caused damaging “stranded assets” – assets that suffer a premature / forced devaluation due to a public policy measure. It was stressed DAERA must learn from the experiences gained in England. The suggested solution was to invest in vehicle standards and infrastructure, supported by clear national and international standards to drive change.

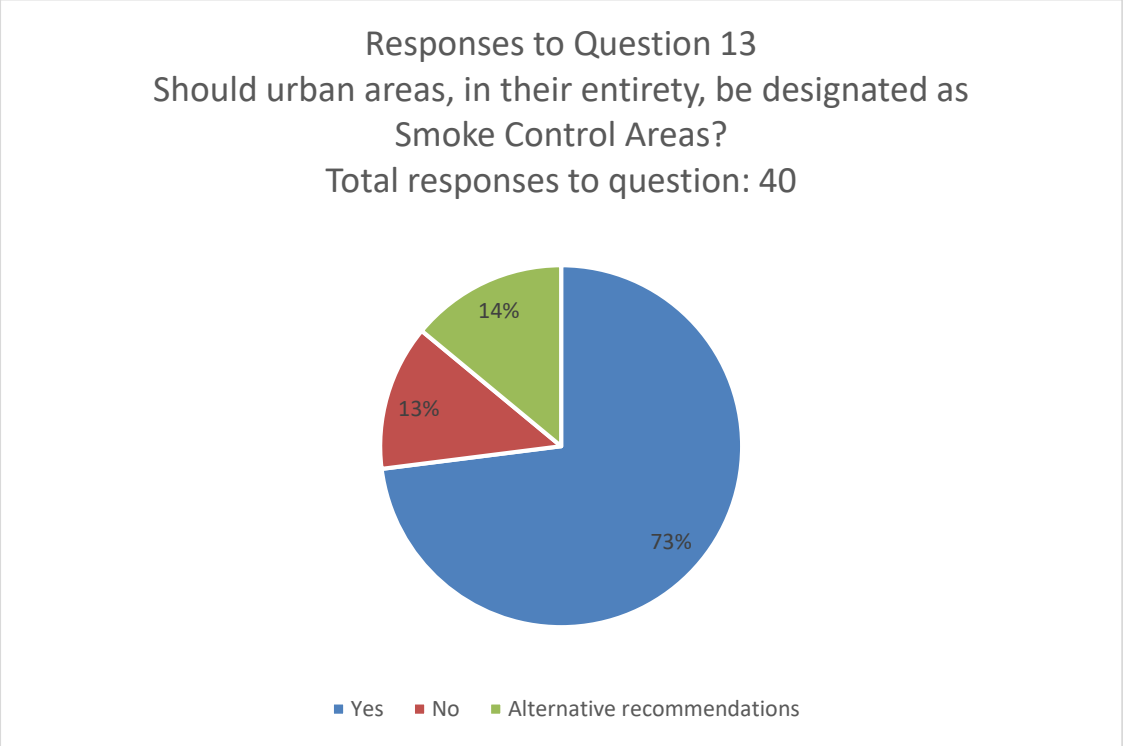
There was support to ring fence income for reinvestment into the provision of low or zero carbon travel options.

There was recognition that some particulates are generated by brake and tyre wear from electric vehicles. Despite this acknowledgment, there was support for only green public transport being allowed in urban areas after 2030.

The need for further action to tackle vehicular air pollution was expressed as was disappointment that the draft strategy did not recommend a chargeable Clean Air Zone in Belfast. Reduction in speed limits for the most polluted parts of urban areas was called for along with promote cycling for all within 3 miles.

CHAPTER 3 - HOUSEHOLD EMISSIONS

13: Should urban areas, in their entirety, be designated as Smoke Control Areas?



A total of 40 responses were received in response to this question.

73% of responses expressed support for urban areas, in their entirety, being designated as Smoke Control Area. 13% were not in favour of this approach and the remaining 14% provided recommendations or comments.

There was strong support from the councils that designating urban areas in their entirety will allow for easier enforcement by combining the existing patchwork of Smoke Control Areas into a single area. The benefit will be a reduction in the habitual burning of 'smoky' fuels, with the associated improvements to air quality albeit involving only a relatively small number of dwellings.

A full review of enforcement powers for council officers will be necessary should government wish to ensure a high level of compliance.

Ongoing concern was highlighted that some fuels labelled as smokeless do not perform as such after the lighting up period. The offences as currently drafted only relate to smoke caused by the burning of a fuel that is not smokeless.

It was highlighted that smoke control grant support was previously provided to councils by the former Department of the Environment for Northern Ireland and that similar grant support would be necessary from DAERA at a regional level if urban areas were, in their

entirety, to be designated as Smoke Control Areas. Any conversion works, carried out as part of smoke control works, should support residents to move away from 'polluting fuels' without exacerbating levels of fuel poverty.

Other views expressed suggested, urban areas that are shown to exceed air quality limits should be designated smoke control areas in their entirety, as opposed to specific areas of the urban area. This, however, would have resource implications.

Some responses supporting the question said, by simplifying the current control areas to one whole area may reduce confusion and assist with enforcement.

Others felt that the entire country should be a Smoke Control Area or one whole Low Emission Zone for Northern Ireland.

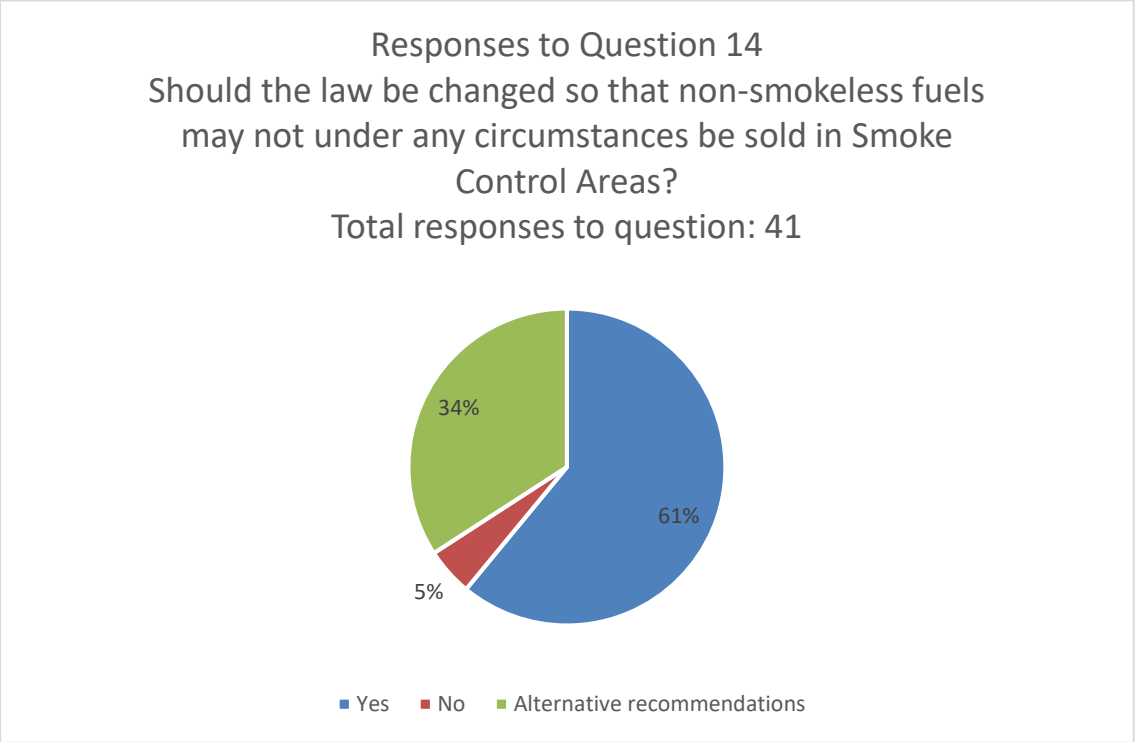
Some suggestions as to how this could be achieved include, the introduction of a ban on the sale, distribution and burning of smoky fuels as partial bans are almost impossible to enforce. The approach in the Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 was highlighted.

The need for adequate standards for exempt appliances and penalties, which are practical and easy to enforce was called for.

Some responses felt the focus should be on controlling fuel quality, control of sales, combustion efficiency and emission standards. Analysis also needs to be conducted into the source of particulate pollution.

Other responses did not agree with urban areas, in their entirety, be designated as Smoke Control Areas. Alternatively householders should be incentivised to move to electric based heating and high levels of energy efficiency, regardless of type or location of their home.

14: Should the law should be changed so that non-smokeless fuels may not under any circumstances be sold in Smoke Control Areas?



A total of 41 responses were to this question.

61% of responses supported the law being changed so that non-smokeless fuels may not under any circumstances be sold in Smoke Control Areas. 5% said no to this proposal and 34% put forward alternative suggestions or recommendations.

Responses advised, legislation states that unauthorised fuels are only allowed to be sold in Smoke Control Areas where the use is not intended within the Smoke Control Area. In practice, this is difficult to monitor and enforce. A further restriction whereby non-smokeless fuel may not be sold in a SCA will make it more difficult to obtain smoky fuel but not prohibitive; those wishing to flout the law, could still purchase 'smoky' fuels outside of the Smoke Control Area.

Many councils expressed concern that some fuels labelled as smokeless do not perform as such after the lighting up period. The offences as currently drafted only relate to smoke caused by the burning of a fuel that is not smokeless. A ban on the sale of non-smokeless fuels within the smoke control areas would further assist in their operation and with compliance matters. In addition, the Department would have to consider the matter of the provision of unauthorised fuels for use in exempted appliances.

Other comments supported the law being changed as long as it is clear that low moisture wood fuels such as wood pellets are included in smokeless fuel. There was support for

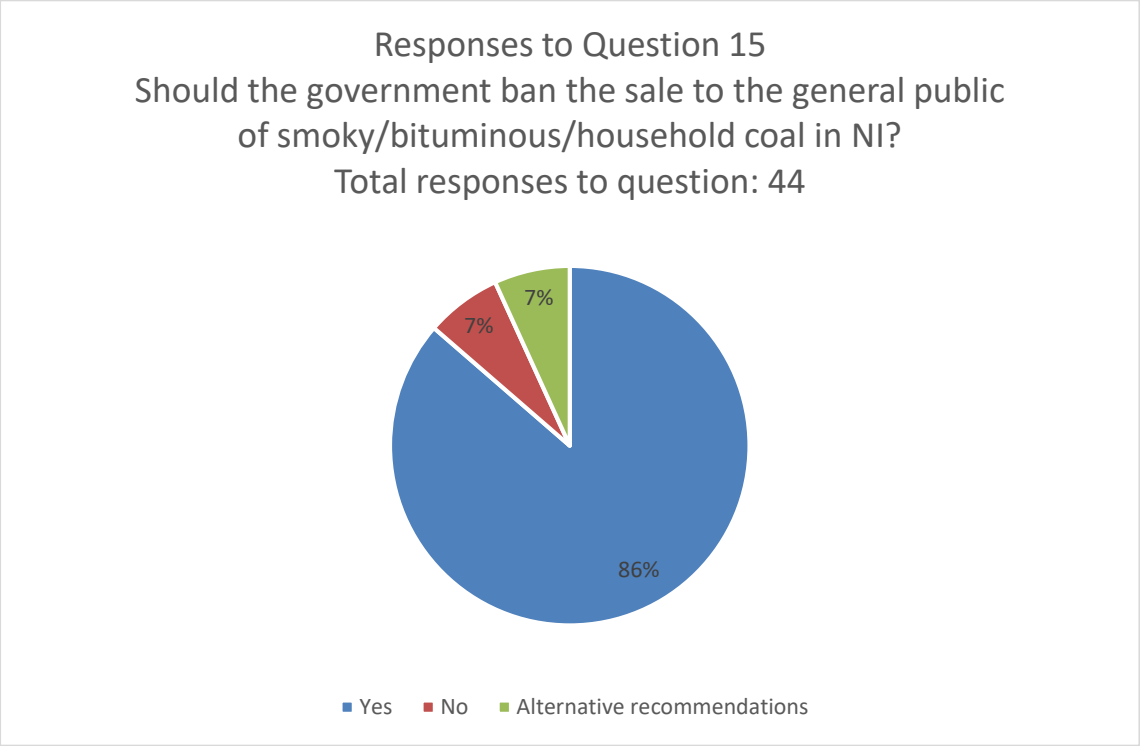
properly dried wood fuels continuing to be available for use in smoke control areas. Wet wood fuels should be banned outright for sale regardless of area.

Other responses which agreed with the question added, the law should go further and ban all fossil fuels by 2030 as a form of household heat source.

Some support for the change also advised that such a change will need to be accompanied by appropriate education and information as to why the law is being changed.

Finally, one response stated the government shouldn't be banning anything and instead should be providing the alternatives in an encouraging and positive way.

15: Should government ban the sale to the general public of smoky/bituminous/household coal in Northern Ireland?



A total of 44 responses were received in response to this question.

86% agreed with this proposal, 7% did not agree and the remaining 7% made alternative recommendations or comments.

There was a very clear cut response in favour of banning the sale to the general public of smoky/bituminous/household coal in Northern Ireland, but valid concerns were raised in opposition.

Many responses stated a ban of smoky coal in Northern Ireland would significantly improve air quality in local residential settings. It would also have the benefit of reducing regulatory burden by reducing the opportunities for burning the most polluting solid fuels. However, in order to effect such a ban, the importation of bituminous coal into Northern Ireland is the only real effective and efficient way to achieve the same. This would need to be supported with adequate regulatory provisions to deal with any movement of bituminous coal from Republic of Ireland to ensure any ban would be effective. In addition to significantly improving air quality in local residential settings, such a move would also have the benefit of reducing regulatory burden.

Some responses highlighted that the Republic of Ireland recently banned the sale of 'smoky' coal in towns over 10,000 population and have already noted improvements to air quality. There was support for Northern Ireland and the Republic of Ireland collaborating on joint measures to ban coal. The need for collaboration is necessary to prevent exploitation of policy differences in the two jurisdictions on the island. The introduction of carbon tax on "low smoke" coal products was encouraged.

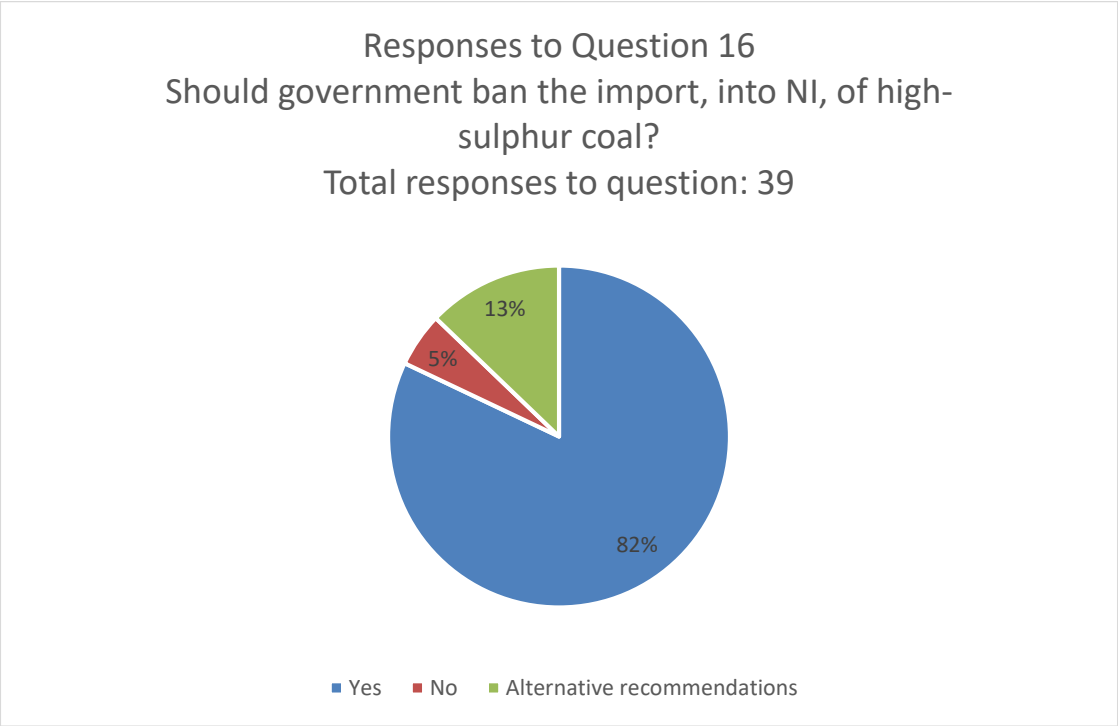
Other support for a ban suggested that it should go beyond the general public, there should be a complete ban on the sale, importation and use (combustion) of coal in Northern Ireland, so that coal is completely phased out as a fuel source as soon as possible.

Fuel poverty concerns were expressed and safeguards to reduce the potential disproportionate impact on those on lowest incomes was recommended. The need for appropriate financial support to be provided was raised to enable households to move to alternative cleaner fuels. Furthermore, concern was raised that smokeless fuel is more expensive than non-smokeless and there needs to be a financial incentive to switch to smokeless coal.

It was also suggested that it may not be necessary to ban non-smokeless coals in rural areas with no smoke control areas.

There also was strong opposition to any policy proposing to ban the sale of smoky/bituminous/household coal in Northern Ireland. It was stated that removing and reducing different types of fuel from the market, presents the opportunity for a monopoly and costs to increase. Conversion to renewable and greener fuels should be encouraged and incentivised rather than banning coal which 2% of the population rely on as their primary source of fuel. Responses advised that coal is more heavily relied on in rural areas and a move to ban this would have a greater impact on rural areas. Alternatives to coal such as natural gas, has increased through significant expansion of the network in recent years and is cheaper and cleaner than coal but is not available in most rural areas of Northern Ireland. Households that rely on coal as the primary heat source are more likely to be in fuel poverty. Therefore, alternatives such as electricity, which is more expensive than coal is not a feasible replacement fuel.

16: Should government ban the import, into Northern Ireland, of high-sulphur coal?



A total of 39 responses were received to this question.

82% of responses supported the government banning the import, into Northern Ireland, of high-sulphur coal. 5% of responses did not agree with this approach and the remaining 13% provided comments or recommendations.

There was a very clear cut response in favour of banning the import, into Northern Ireland, of high-sulphur coal, but valid concerns were raised in opposition.

It was recommended that DAERA should ban the use of high-sulphur petroleum coke in the manufacturing of solid fuels. Both hospital admissions for cardiac disease and mortality are increased on days with higher sulphur dioxide (SO_2) levels (World Health Organisation reference).

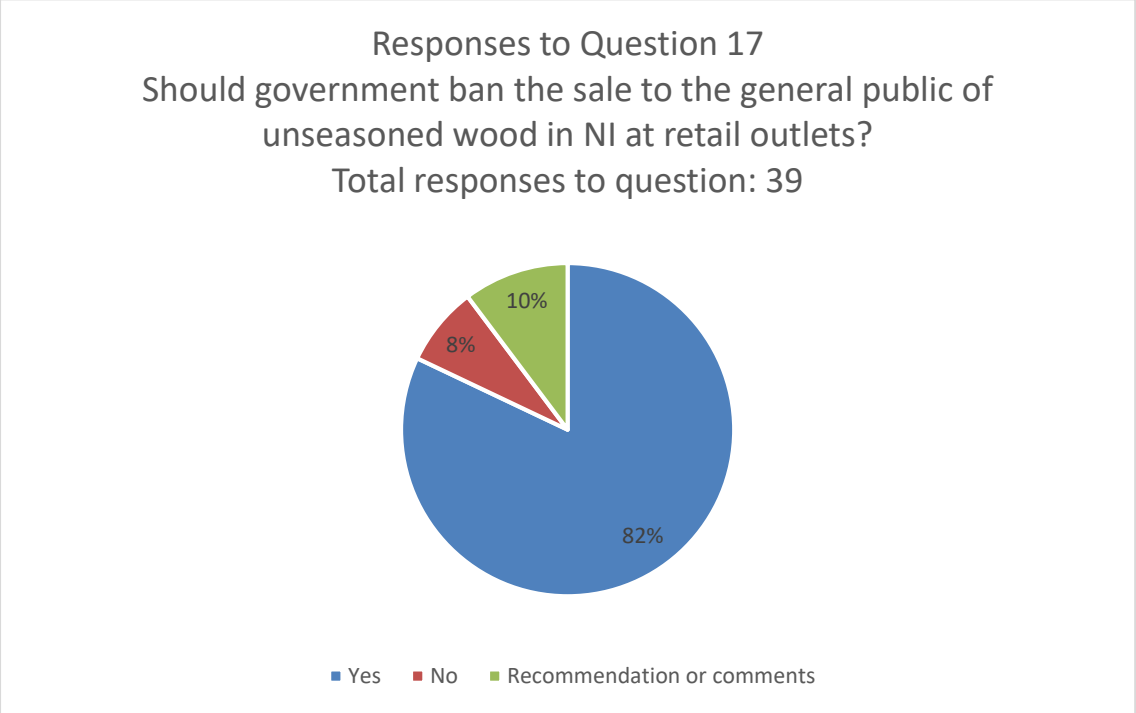
A number of council responses raised concerns relating to smokeless fuels and household coal can have levels in excess of the permitted limit. Councils in Northern Ireland have recently communicated with local coal suppliers to remind them of the need to ensure compliance with the 2% sulphur content limit. A failure of compliance in this regard would result in higher sulphur dioxide and particulate matter in urban areas reliant upon solid fuel burning. The 2% limit is set in 1998 regulations and it is strongly recommended that these be reviewed to reflect modern analytical methods to enable councils to effectively enforce these requirements.

Concern was raised that restricting the import will drive up the cost and price this form of fuel out of the market. Managing the distribution of coal merchants, educating householders and incentives for the merchants were suggested to improve poor air quality.

Some support for this question said the law should go further and ban all fossil fuels as a form of household heat source by 2030. However, another response from the public felt that government shouldn't be banning anything but should be providing the alternatives in an encouraging and positive way.

Finally, it was advised that the impact on the economy and jobs must be considered when taking such permanent action. The proposal would have a significant impact on the fuel industry and consideration needs to be given to the employment of those whose jobs would be lost. More of these jobs are likely to be located in rural areas. If high-sulphur coal was banned, an affordable alternative would need to be available and support to convert to a different fuel type.

17: Should government ban the sale to the general public of unseasoned wood in Northern Ireland at retail outlets?



A total of 39 responses were received in response to this question.

82% of responses supported the government banning the sale to the general public of unseasoned wood in Northern Ireland at retail outlets. 8% of responses did not agree with this approach and the remaining 10% put forward recommendations and comments.

There was a very clear cut response in favour of banning the sale to the general public of unseasoned wood in Northern Ireland at retail outlets, but valid concerns were raised in opposition.

Concerns were raised as the burning of wet wood results in considerably higher fine particulate matter ($PM_{2.5}$) emissions than dry wood. This is significant as the association between air pollution and cardiovascular disease is strongest for exposure to $PM_{2.5}$ and ultrafine particles, hence a reduction in $PM_{2.5}$ emissions from domestic wood burning is a positive step towards protecting cardiovascular health in Northern Ireland.

There was strong support among the councils in favour of banning the sale of unseasoned wood in Northern Ireland as this will assist with reducing emissions and would therefore be welcomed. Another council supporting this approach, noted the Defra 'Ready to Burn' scheme already establishes a benchmark for logs and other wood fuels, to help consumers identify wood that has been carefully chosen and is 'Ready to Burn' to the benefit of their appliance and the environment.

Other responses highlighted that not all unseasoned wood burned in Northern Ireland is purchased by retail sale. Often wood is sourced from fallen trees, waste etc. and this is rarely seasoned adequately.

Support was expressed for the introduction of a recognised designated certification mark for suitable wood fuel.

It was also suggested that there should be an exemption within any proposed ban that allows small scale local suppliers, particularly those in rural communities with no smoke control areas to continue to supply to the local retail trade.

A number of responses advised that efforts should be made to raise awareness of the pollution impact from using unseasoned wood amongst the general public. An education piece on burning waste wood is required to prevent individuals burning wood which has been treated with chemicals and is not intended as a fuel.

Some responses highlighted that in addition to supporting the DEFRA policy position, there is the opportunity for Northern Ireland to implement a proposal similar to the Republic of Ireland with the common objective of reducing air quality impacts of wet wood.

Finally, a number of comments opposed a ban. It was highlighted that unseasoned wood has uses beyond fuel and that it seems an over-stretch to ban it entirely. It was felt that the government shouldn't be banning anything but providing alternatives, and concerns were expressed that this ban would have great impact on fuel poverty and restrict the fuel choices for the most vulnerable.

18: Are there any further things you think that central and local government could be doing to address air pollution from burning solid fuels?

A total of 53 responses were received expressing views on further things stakeholders think that central and local government could be doing to address air pollution from burning solid fuels. The following table presents the most frequently made suggestions.

Question 18. Table showing the most popular measures suggested that central and local government could be doing to address air pollution from burning solid fuels.	
Suggestion	**No in support**
Raise awareness across NI of the need to use less polluting solid fuel	17
The use of fixed penalty notices for breaches of smoke control legislation	11
A small levy on solid fuels, income raised could be ring-fenced to support conversions to less-polluting heating systems for those in need of financial support.	10
A full review of [Smoke Control Areas] offences and enforcement powers should be undertaken	9
Amendments to the [Smoke Control Areas] legislation to make evidence-gathering more effective, would assist with swift and targeted enforcement	9
Changes to behaviour - those affected [need to be] informed about why the changes are happening and the benefits to human health and the environment	9
Government needs to distinguish between wood fuels and fossil fuels such as coal, low smoke coal products and peat	6
Retrofitting homes to be more energy efficient	5
A NI Clean Air Act that would introduce stricter regulations on the types of fuel that can be burned residentially	5
Promote the move to Eco-design stoves	5
Incentivising new builds to be 'passive' homes	4

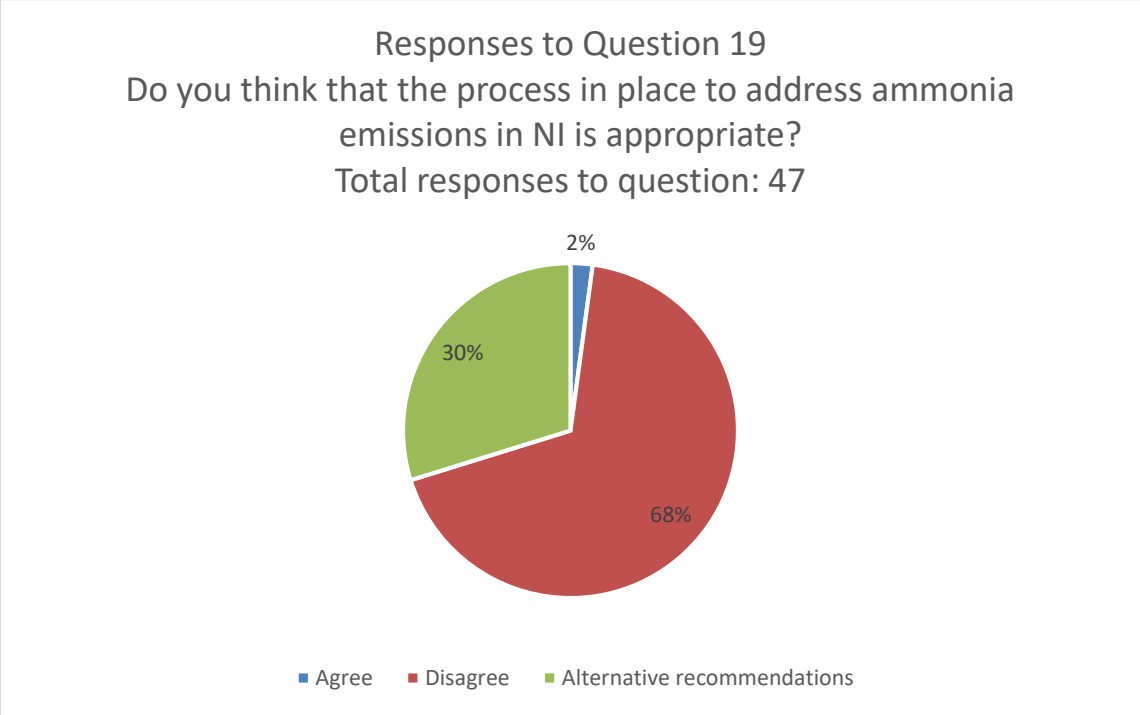
Examples of less popular but equally important suggestions include:

Ban all fossil fuels by 2030 as a form of household heat source	Ensure existing native woodland and trees are protected	Policy decisions based on evidence relating to emissions levels, not just on renewable targets
Education on proper utilisation of wood fuels	Fashion of wood-burning stoves - need for public engagement e.g. ill health and environmental effects of their use	Regulations - all new private homes and commercial developments to have electricity-based heating systems
Proper maintenance of appliances and flues (chimney sweeping)	Government support schemes to incentivise households to switch to cleaner fuels would be welcomed	Restrictions should be placed on the extraction and sale of peat
Sustainability of biomass fuels must be ensured to	Holistic action to reduce particulate matter from all sources	Set ambitious energy efficiency targets

protect the natural environment		
Ban should extend to domestic burning of waste in gardens	Mixed technology approach to heat decarbonisation	Take action to ensure stoves meet the necessary standards
Ban fossil fuel	New technology such as filters for chimneys could also be developed to tackle emissions	New Clean Air Act to include rural as well as urban areas
Better educational measures to promote the use of cleaner solid fuels more generally	Landlords should be required to monitor air quality in their homes	Turn every roof top and to solar farms where the roof is appropriate

CHAPTER 4 - AGRICULTURAL EMISSIONS

19: Do you think that the process in place to address ammonia emissions in Northern Ireland is appropriate?



A total of 47 responses were received in response to this question.

68% did not agree that the process in place to address ammonia emissions in Northern Ireland is appropriate. 30% offered recommendations and suggestions while 2% responded that the process in place was appropriate.

Some of the key policy themes for these responses are summarised below:

Support for licencing of cattle farms	Pollution Prevention Control Permit holders should pay for the continuous air quality monitoring sites associated with their activities	Support for a reduced amount of livestock farming in Northern Ireland
Emphasising the human health benefits of reduced ammonia emissions	Waste regulations should apply to Anaerobic Digesters	Tree planting should be used to mitigate existing ammonia emissions
Concern that intensive pig and poultry farms are having a significant impact on ammonia emissions, particularly due to increased numbers of pigs and poultry in recent years	Support for tighter controls on manure spreading	Need for clarity on planning protocols relating to ammonia
An urgent need for a specific policy on ammonia reduction	Support for an agro ecological farming model in NI	Support for permitting of all ammonia emitting farms, including a fertiliser plan

CHAPTER 5 - INDUSTRIAL EMISSIONS

20: Are there any industrial sectors or air pollutants that require new or further investigation?

A total of 38 responses were received to this question expressing views on industrial sectors or air pollutants that require new or further investigation. The following table presents the most frequently made suggestions.

Question 20. Table showing the most frequently suggested industrial sectors or air pollutants that require new or further investigation	
Suggestion	**No in Support**
Incineration of waste should have additional taxation similar in form to landfill tax	9
Increased use of renewable combustion-free power sources (like solar, wind, hydropower or geothermal) pursued through the national Energy Strategy	9
Focus on recent trend in diesel car and HGV modification to remove the diesel particulate filter to improvement efficiency, performance or bypass an error code that would fail an MOT/PSV	8
Mining of precious metals and minerals produce heavy metals and radioactive contaminants	4
Clear guidance and direction is needed for industrial use of biomass fuels	3
Maintenance of industrial biomass boilers within required technical specifications should be an integral part of any support scheme or mandated to all industries	3

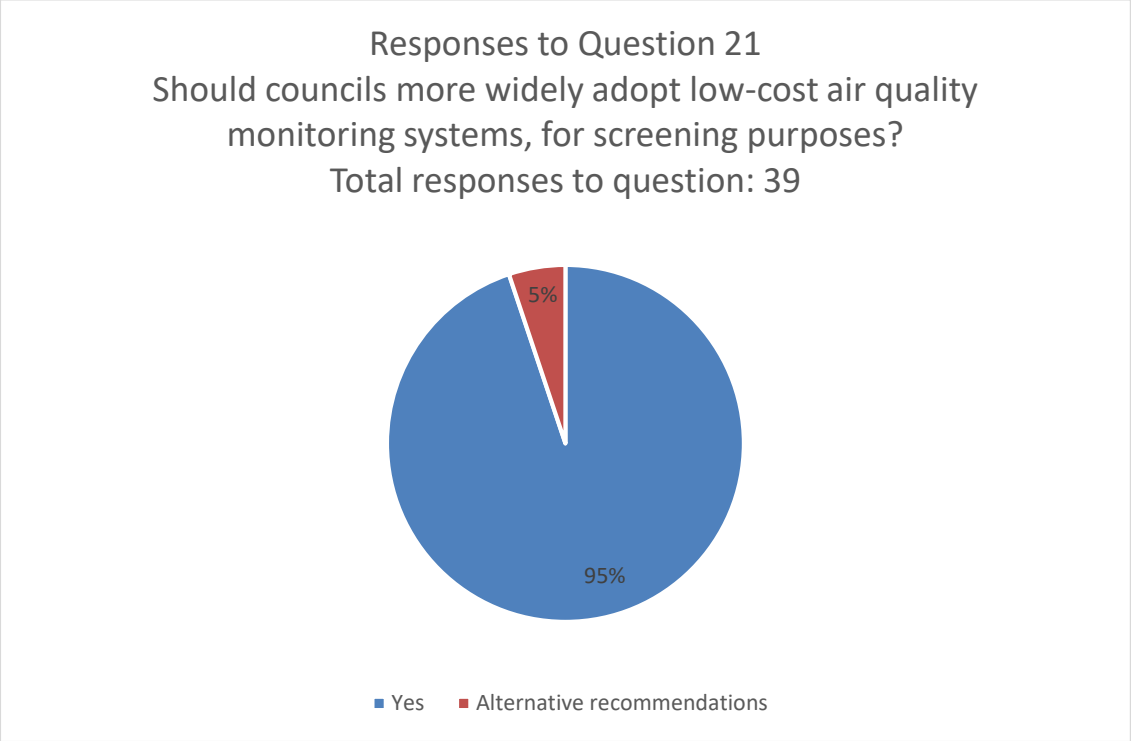
Examples of less popular but equally important suggestions include:

Asbestos and radon - more needs to be done to assess the impact of indoor levels of air quality in NI	Fracking, given the know health and environmental issues associated with this toxic industry, it is one that would require investigation	Distributed energy generation (e.g. mini-grids and rooftop solar power generation) pursued through the national Energy Strategy
Belfast port - research is needed. The geography of the harbour and city has potential to trap the pollution in the area under some weather conditions	Further research on air pollution associated with energy from waste schemes	Marine diesel fuel
Departments should consider the harm of indoor air pollution and as part of this strategy develop a range of initiatives that reduce the risks associated with indoor air pollution	Industries that show an increase in emissions	NI airports and associated harmful gases such as oxides of nitrogen, carbon monoxide, VOCs (volatile organic compounds), ozone and small particulates
Emissions associated with unloading of dusty cargoes from shipping that are not presently controlled under the regime	Internal air pollution in the workforce, especially in manufacturing areas emits high levels of pollution, especially $PM_{2.5}$	Wood burners, candles and cooking small particles, gases and VOCs e.g. products we use for cleaning and cosmetics
Airports monitoring regime to meet regulatory standards. A useful guide is available from Airport Watch	Investigation in to how those sectors that use coal and other fossil fuels, especially the industrial and commercial sectors, will move to low and ultimately zero carbon energy sources	Petrol station forecourts
Building design: buildings are becoming more airtight - must still allow for adequate ventilation to prevent pollutants from building up	Large power stations	The Department should give full, open, and transparent consideration for any new technologies, or programmes to promote existing technologies (RHI example and anaerobic digestion)
Electricity generation from fossil fuels	Nitrous oxide when slurry is applied to land, further research is recommended in the light of the policy shift	The impact of ultrafine particles ($PM_{0.1}$) on human health

	towards trailing shoe application to minimise ammonia emission	

CHAPTER 6 - LOCAL AIR QUALITY MANAGEMENT

21: Should councils more widely adopt low-cost air quality monitoring systems, for screening purposes?



A total of 39 responses were received in response to this question.

Overall, 95% of responses supported councils more widely adopt low-cost air quality monitoring systems, for screening purposes. The remaining 5% made recommendations or suggestions. There were no responses opposing this suggestion.

There was clear support for the councils to more widely adopt low-cost air quality monitoring systems for air quality screening purposes, while recognising the limitations of the low cost monitoring systems as outlined in the Discussion Document.

Responses advised that some district councils currently use this equipment to supplement diffusion tube monitoring and that this approach should be encouraged. Co-location tests have been demonstrating good correlation of results with certified equipment.

Many of the councils commented that with the emergence of low-cost monitoring technologies, there is now scope for increased monitoring of pollutants such as particulate matter and nitrogen oxides. It was acknowledged that the accuracy of these instruments

cannot be validated in the same way as certified automatic monitoring systems in place at permanent monitoring stations. However, there is a place for these monitors in the Local Air Quality Management (LAQM) system, for screening purposes. Under the LAQM grant scheme, councils could consider purchasing and installing low-cost monitors, which would enable them to undertake screening assessments for air quality. These screening assessments could help councils decide whether or not more detailed assessments of air quality are needed and whether certified automatic monitoring equipment should be installed. Furthermore, the screening methodology to be employed should be appropriate and cost effective to the pollutant and averaging period of the air quality objective under consideration.

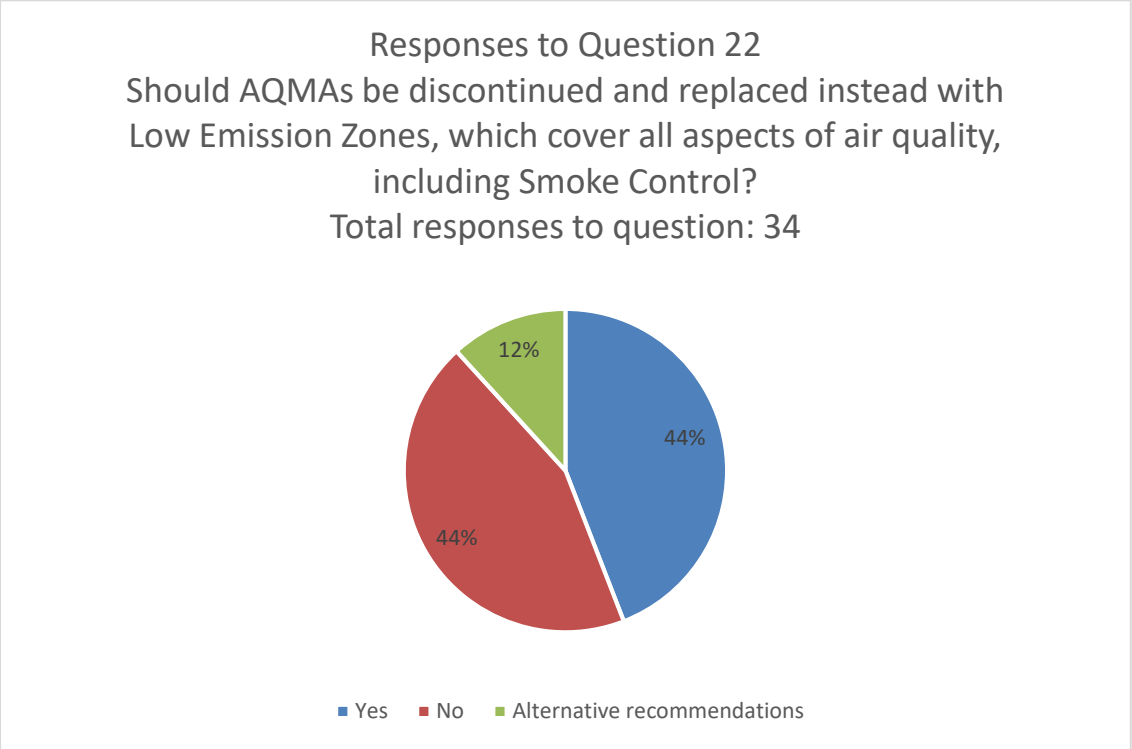
There was strong support for the proposal from outside the councils, which highlighted that screening assessments that used low cost monitors, could help councils decide whether or not more detailed assessments of air quality are needed and whether certified automatic monitoring equipment should be installed.

Other support for cheaper alternative monitoring apparatus suggested the initial location could be at schools, playgrounds, sports areas and town centres. Every effort should be made to record and monitor areas where people congress, especially in areas such as our sports grounds for children. This support concluded that we should continue and encourage further monitoring of sites across Northern Ireland.

Caution was expressed in several responses. It was advised that the screening methodology to be employed should be appropriate and cost effective to the pollutant and averaging period of the air quality objective under consideration. Other comments advised that rigorous enforcement must be in place. Further responses that offered their support, did so providing the systems are effective. They went on to explain, saving money is important, but it may be counter-productive if the equipment isn't effective. Another response expressing caution said that this approach should only be taken if the monitoring equipment is of a high standard.

One organisation which supported the move, had practical experience of low-cost air quality monitoring systems and offered their experience with a range of different monitors.

22: Should AQMAs should be discontinued and replaced instead with Low Emissions Zones, which cover all aspects of air quality, including Smoke Control?



A total of 34 responses were received in response to this question.

44% agreed that Air Quality Management Areas (AQMA) should be discontinued and replaced instead with Low Emissions Zones, which cover all aspects of air quality, including Smoke Control. Equally, 44% disagreed with this proposal. The remaining 12% made recommendations and suggestions.

Responses from the councils typically expressed a preference that Low Emissions Zones should be developed specifically for dealing with transport emissions and other aspects of air quality including smoke control should be dealt with separately through AQMAs and Smoke Control Areas. Councils and others, highlighted that they would welcome a discussion paper on a Low Emissions Zone Framework and further detail on the likely outworking and outcomes prior to determining a preference of the existing AQMA approach.

One council stated that the Department should undertake further research and development of this recommendation and provide additional information to councils, competent authorities and other bodies involved in local air quality management for their consideration. This research should include the anticipated administrative, human health and environmental advantages of the Department's proposed approach that would see AQMAs discontinued and replaced with Low Emissions Zones covering all aspects of air quality. Again, a discussion paper would be welcomed.

Other responses felt that declaring a low emission zone alongside a traffic system will simplify the understanding of the efforts undertaken to reduce air pollution and understand the

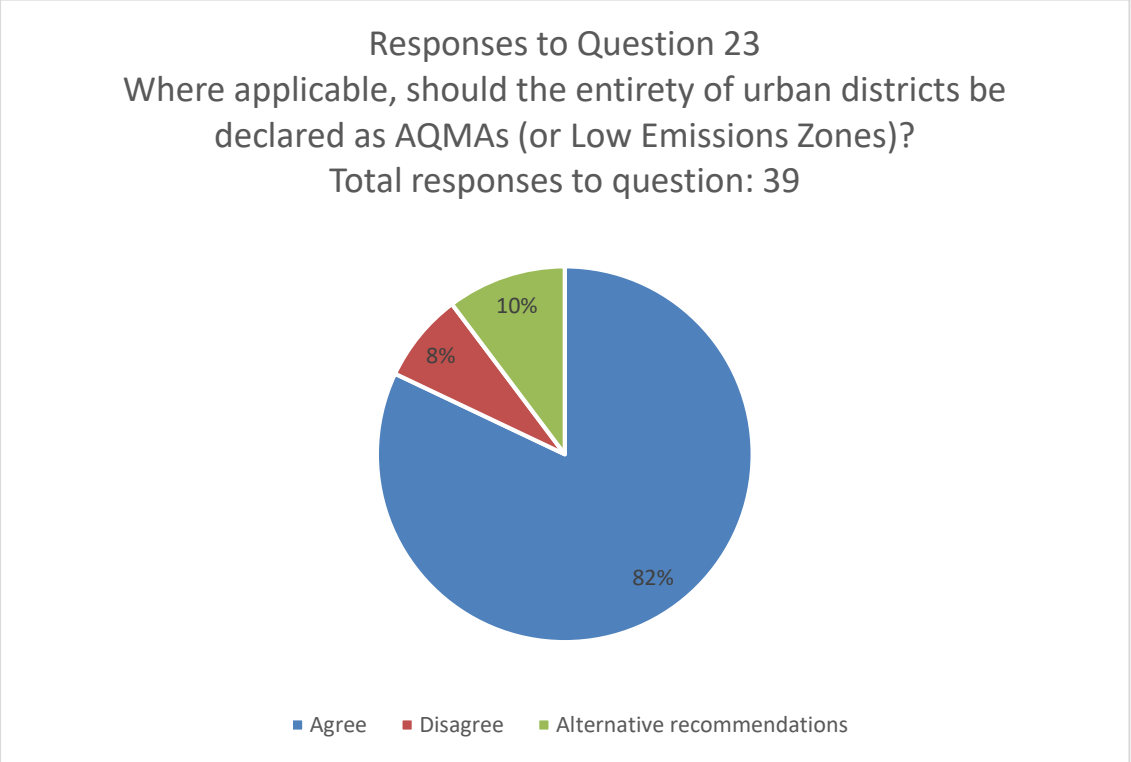
current landscape and 'hot spots'. With such a reform it is hoped to see new legislation passed that would combine, update and adapt the current regulations into a simplified process with clear duties and regulations to assist Local Authorities to implement strategies in their clean air plans to tackle and improve air quality.

Some responses said they would like to see more detail on the support that will be given to local authorities to carry out this increased responsibility, including how they will be funded. Local authority action, supported by the Executive, must be bold, decisive and sustainable, going beyond compliance with legal limits to meet ambitious, health-driven targets.

Several responses did not agree with the question and felt that the fundamental problem is the failure of Councils to review the quality of air within their district as per The Environment (NI) Order 2002.

Some responses offered support for this proposal, only if AQMA are rigorously enforced.

23: Where applicable, should the entirety of urban districts be declared as AQMAs (or Low Emissions Zones)?



A total of 39 responses were received in response to this question.

82% supported the entirety of urban districts being declared as Air Quality Management Areas (AQMA) or Low Emissions Zones (LEZ). 8% did not agree with this approach and the remaining 10% made other comments or recommendations.

Several councils agreed that, where applicable, the wider use of AQMA / LEZ in improving air quality in urban settings would be welcomed. Another council suggested the proposal may be beneficial in ensuring that more general climate change measures and air quality measures can be implemented throughout the district as a whole instead of targeted to a very narrow specific area as in the existing AQMA's.

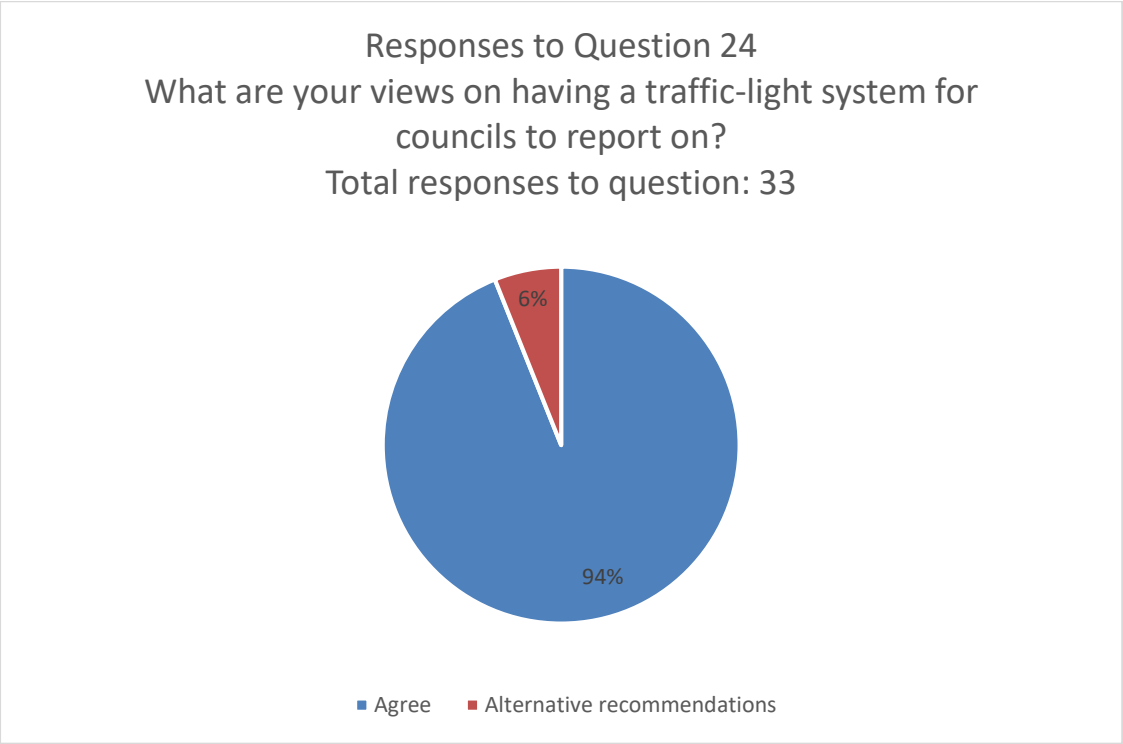
An additional council advised that DAERA and other government Departments / relevant authorities should, where necessary, be part of this decision making process as in many instances, it will fall to them to introduce the required strategies and actions, together with funding support, to create the necessary regional and local improvements in ambient air quality. The council recommended that the Department should give consideration, from an ambient air quality perspective, as to how road transport and road transport emissions can be more coherently and effectively managed across an entire urban area.

Several responses were in favour of a city-wide Low Emission Zone, targeting the worst polluting vehicles of all classes, whilst smaller localised LEZs should be considered for specific hotspots in other communities.

A number of responses did not agree with the proposal as air pollution is not exclusive to urban areas. These responses recommended that Low Emissions Zones should be established where dangerous levels of air pollution are found to exist. This will involve significant monitoring of air quality throughout Northern Ireland. Declaration of a LEZ or AQMA should be dictated by necessity driven by scientific data.

An alternative suggestion proposed was that Northern Ireland in it's entirely should be declared a Low Emissions Zone. Another response highlighted that the Discussion Document does not discuss how the impact of any such change would be dealt with, for example, people with homes that rely on open fires for heating. Other comments thought the key factor to consider is achieving the desired outcomes.

24: What are your views on having a traffic-light system for councils to report on?



A total of 33 responses were received in response to this question.

94% expressed positive views on having a traffic-light system for councils to report on, however, most of these views were also accompanied with cautionary comments. 6% of responses made other comments or recommendations.

Many responses supported the approach of a traffic light system of reporting on air pollution as it seems like a clear and simple option which should be readily understood.

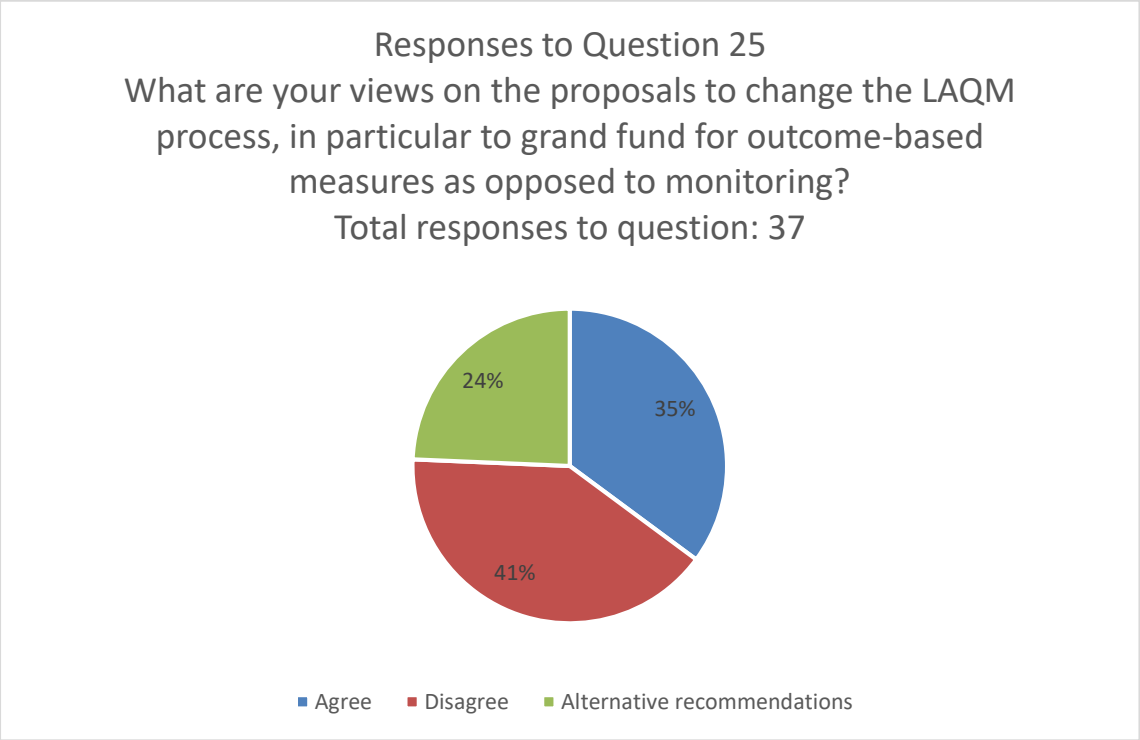
Others felt that this could be helpful in achieving the overall aim of the strategy but the detail would need to be agreed with the councils responsible for the reporting.

Several responses were supportive of the approach as long as it is rigorously enforced.

One council recommended that the Department should give consideration to aligning and streamlining central and local government, local air quality management obligations and associated reporting requirements, in order to create a more coherent and optimum ambient air quality outcome from both processes. The council was of the view that relevant authorities should also be required to monitor and report on their performance against government guidance and in that way, effectively contribute to the various Air Quality Action Plans and to the achievement of the air quality objectives / limit values. In relation to the proposed traffic light system, the council suggested that further engagement is required between DAERA, Northern Ireland Departments and local councils concerning the proposed traffic light system and various descriptors for Northern Ireland local air quality management reporting, where they are to apply to low emission zones.

Several councils said a traffic-light system would aid understanding by the general public with respect to air quality in their area, which in turn could help obtain support to address air quality issues and provide accountability to relevant authorities. Furthermore, responses highlighted that the divergence between LAQM reporting and central Government reporting (pre-EU Exit) Directive compliance creates significant confusion. The vast majority of AQMAs are not reported upon by central Government which leads to the perception that outside of the Belfast urban area there are no air pollution issues. Furthermore, the measures required to address transport emissions for Directive compliance (electric vehicle infrastructure, public transport investment etc.) are exactly the same as those necessary to address AQMAs (albeit involving smaller numbers of exposed persons). Responses stated they strongly believe that the systems of central and local Government reporting must be aligned such that they complement each other. Measures that are being carried out centrally by Government Departments must be reflected in Local Air Quality Action Plans as to omit them leaves the Action Plan only populated by 'lighter', educational and promotional measures within the remit of Local Councils. Similar comments were made by other councils.

25: What are your views on the proposals to change the LAQM process, in particular to grant funding for outcome-based measures as opposed to monitoring?



A total of 37 responses were received in response to this question.

35% of responses expressed positive views on the proposals to change the Local Air Quality Management (LAQM) process, in particular to grant funding for outcome-based measures as opposed to monitoring. 41% were not in favour of this. The remaining 24% highlighted alternative suggestions or recommendations.

Many responses disagreed with the approach to grant funding for outcome-based measures as opposed to monitoring, stating there is a need to provide grant funding for both monitoring and outcome-based measures. Without continued monitoring, it will be difficult to determine the success of outcome-based measures. These views were shared by individuals, councils and a variety of other organisations alike.

One council added, while grant funding based on outcome based measures may be a useful addition it should not automatically replace the existing regime. It is difficult to envisage how an outcome-based outcome would be measured unless there is ongoing monitoring of pollutant levels. The council would contend that grant funding should be direct funding on these issues.

Another council's response indicated that LAQM grant funding should focus more on projects that deliver tangible improvements in ambient air quality, as opposed to just monitoring. However, existing or additional monitoring may be necessary as a component of a specific project in order to ensure that it is delivering the anticipated ambient air quality benefits and in that regard, the monitoring should be supported through the LAQM grant process.

Several responses all asked for a Clean Air Fund that provides targeted funding for those Local Authorities with consistent exceedances or elevated levels of air pollution. Funding is requested to 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. A Northern Ireland Clean Air Act that would provide a statutory duty on local authorities to appropriately monitor and assess air pollution, and take action against it was also called for.

Disappointment was expressed that LAQM Action Plans have been shown to have had little impact in improving the air quality within these areas. This needs addressed urgently to protect the heart health of everyone in Northern Ireland. A more integrated air quality management approach was welcomed, particularly with regards to giving local authorities more power to ensure cleaner air. However, more detail was sought on the support that will be given to local authorities to carry out this increased responsibility, including how they will be funded.

Some responses commented that incentives to improve air quality can be effective, but it should be ensured that Local Authorities aren't penalised for poor air quality that could be beyond their authority to deal with.

Finally, an individual response added that any process that will reduce air pollution will be welcomed.

26: Are there any further measures you would suggest to help achieve a significant reduction or revocation of all AQMAs by 2021?

A total of 30 responses were received to this question expressing views on further measures suggested to help achieve a significant reduction or revocation of all AQMAs by 2021. The following table presents the most frequently made suggestions.

Question 26. Table showing the most frequently suggested further measures to help achieve a significant reduction or revocation of all AQMAs by 2021	
Suggestions	**No in support**
Random air quality monitoring near schools, hospitals and public places	8
Rigorous enforcement and pursuit of air polluters	8
Council's AQMA(s) detailed - there are currently no further measures to assist with the revocation of this AQMAs by 2021	6
A city-wide Low Emission Zone for Belfast, targeting the worst polluting vehicles of all classes, whilst smaller localised LEZs should be considered for specific hotspots in other communities	5
Fermanagh & Omagh District Council have no AQMAs	5
Further green spaces/planting more trees	5
The Council [Fermanagh & Omagh District] has no automatic air quality monitoring sites in the District so how do they assess air quality?	5

Examples of less popular but equally important suggestions include:

A fresh look at the Smoke Control regime for NI	Development of a better charging infrastructure and further incentives for the uptake of electric vehicles	A more integrated air quality management approach, particularly with regards to giving local authorities more power to ensure cleaner air
An Annual Air Quality Report based on real data and with a clear action plan is required for each Council District	2019 and parts of 2020 data cannot be used as the premise for revoking all AQMAs - particularly in relation to nitrogen dioxide levels	Our towns and cities should be redesigned to include much more vegetation and green spaces
Certain types of trees not only act as excellent carbon traps but they can help disperse the heavy metals and larger particulate matter that can build up in urban areas	Local authority action, supported by the Executive, must be bold, decisive and sustainable, going beyond compliance with legal limits to meet ambitious, health-driven targets	More detail needed on the support that will be given to local authorities to carry out this increased responsibility, including how they will be funded
Development of smart technology that is cheap. Ties in with citizen science collection of data	Revocation of AQMAs should be done based on date monitored when the most impactful restrictions	If nitrogen dioxide annual mean concentrations across various automatic monitoring sites and AQMAs were to remain at 2020

	related to the COVID pandemic are lifted	levels, all of our AQMAs might be able to be revoked
Educating the public - incentives and advert campaign	During the current pandemic increased home working etc. has led to reduced traffic and eased the morning and evening rush-hours with a notable improvement in air quality	It is disappointing that LAQM Action Plans have been shown to have had little impact in improving the air quality within these areas. This needs addressed urgently to protect the heart health of everyone in Northern Ireland.

CHAPTER 7 – COMMUNICATION

27: Do you have any suggestions for the membership of the Air Quality Forum?

A total of 40 responses were received to this question suggesting members to be included in the Air Quality Forum. The most frequently made suggestions are shown in the following table.

Question 27. Table showing suggested membership of the Air Quality Forum	
Suggestion	**No in support**
Translink	15
Northern Ireland Housing Executive	12
Bodies that influence outcomes e.g. industry	10
Central government including Department for Infrastructure	10
It is imperative that local government is suitably represented at the AQ Forum	10
Central government including DFC e.g. Land Use Planning Regime	8
Council environmental health	8
Education Authority	8
Friends of Earth	8
NI Chest, Heart and Stroke	6
Public Health Agency	5
Polluting industries and factory farms must not be included	4
The biomass sector	4

Examples of less popular but equally important suggestions include:

Industry representatives from the fossil fuel industry	This forum should be independent of the department	Health experts and professionals
Academic organisations	Those with a human rights focus	Law sector
Asthma UK	Those with a justice focus	People from communities affected by poor air quality
Housing Associations	ADRC-NI Environmental Health Research Group at QUB	Port operators
Freight and road haulage associations	British Lung Foundation	Regulation sector
Planners	Chartered Institute Environmental Health NI	Experts in building materials emissions
The British Heart Foundation	Experts in indoor air quality	The independence of this forum and of its members is fundamental

28: Is increasing awareness of air quality impacts at a local level the best way of promoting behaviour change by individuals to reduce air pollution?

A total of 49 responses were received to this question expressing views on whether increasing awareness of air quality impacts at a local level is the best way of promoting behaviour change by individuals to reduce air pollution. The following table presents the most frequently made suggestions.

Question 28. Table showing views on increasing awareness of air quality impacts at a local level for promoting behaviour change by individuals to reduce air pollution	
Suggestion	**No in Support**
Initiatives highlighting linkages with other strategies e.g. climate change and sustainability may help to promote behavioural change	14
Local public awareness has a role alongside the use of penalties and incentives where appropriate	11
Regional initiatives such as Clean Air Day	11
Heating of homes and transport emissions are necessities of daily working and living, it is not simply a matter of informing the public regarding emissions and hoping that their conscience will bring about a behaviour change	9
Support for those adversely affected by any such change	9
Use of appropriate regulation to phase out the most polluting activities combined with support for those adversely affected by any such change	9
Alternatives [to awareness] must be presented to the public and driven by government investment e.g. support for technological developments such as electric vehicles	8

Examples of less popular but equally important suggestions include:

Awareness campaigns	Behaviour change requires long-term investment	If communications about air pollution are to successfully change behaviour, information must be incorporated into daily life so that it reaches those who are not actively looking for it
Improve pollution monitoring	Central government have a role in promoting behaviour change	Invest in vehicle standards and infrastructure, with clear national and international standards
Proper maintenance and operation of appliances should be a public awareness priority	Further measures can be using social media to highlight air quality issues	Market-driven solutions, guided by corporate social responsibility policies framed by a public awareness and demand for investment in green technology
Targeted local campaigns such as Clean Air Days or world car-free days	Increased fashion of wood-burning stoves - public engagement needed around the trend	More often than not, non-environmentally friendly choices are made because of a lack of choice and / or financial incentive
Yes, but this is dependent on the behaviour the awareness raising is attempting to change	Protect the environment through a focus on the local, also the well-used environmental slogan “Think Global, Act Local”	Raising awareness of poor air quality can help inform people to make better choices
Education to encourage individuals to change their behaviour and reduce their contribution to air pollution	Recommend working with Public Health to distribute information through settings such as GP surgeries, pharmacies, and leisure centres to promote healthy and informed choices	Highly localise the impact to the individual and note the difference an individual action makes, not only to their health, but also to the general health of others around them
Advice on the health impacts of pollution, as well as analysis of the costs of failing to tackle the problem	Polluting activities should be penalised	There is a real requirement for more education on renewables, sustainability and biofuels in general

29: Do you have any further comments or suggestions on how the impacts of policy interventions can be tracked in Northern Ireland?

A total of 32 responses were received to this question, expressing further comments or suggestions on how the impacts of policy interventions can be tracked in Northern Ireland. The following table presents the most frequently made suggestions.

Question 29. Table showing the most frequently made further comments or suggestions on how the impacts of policy interventions can be tracked in Northern Ireland	
Suggestion	**No in Support**
The continuation of air quality monitoring is key to tracking progress	9
The use of health statistics, counts of cycling, walking or vehicle activity	8
Access to government laboratories to provide monitoring results and analysis	4
Reported through one central body to include monitoring and targeting via Air Quality Forum	4
Results of all air quality monitoring should be made publicly available	4
Extending monitoring sites and ensuring equipment used can correctly differentiate and apportion sources	3
Regular funding of local community groups to spot-check and raise awareness locally through monitoring programs and reporting	3

Examples of less popular but equally important suggestions include:

A much larger network of air monitoring devices, possibly utilising local volunteers, would be an important step forward	Development of smart technology that is cheap	Tie-in with citizen science collection of data
Annual air pollution levels reviews could be correlated with public health and enable policymakers to measure the direct positive (or negative) impact of the results	It is essential for policies on IAQ and for research on emissions levels to be carried out	Protected area monitoring could be used to track the impacts of reductions in certain pollutants that impact on biodiversity
Annual reporting against targets and actions are key to accountability and transparency	The annual Health Survey published by the Public Health Information and Research Branch in the Department of Health should be utilised to gain insight from the public as to	The use of indicator species may be helpful, especially in the wider countryside

	their awareness of the health impacts of air pollution	
Increased working between organisations may help monitor specific data that may give useful statistics e.g. traffic data etc.	The Department should make better use of the various monitoring data, information and reports contained within the Northern Ireland Air website	Other sources of information include the use of health statistics, counts of cycling, walking or vehicle activity
Mortality and morbidity rates linked to air quality could be considered alongside direct air quality metrics	The impacts of policy interventions can only realistically be tracked by continued monitored as is routinely carried out at present. It may also be beneficial to link with NISRA statistics	Government strategies will only be effective if underpinned by statutory targets (duty to act), and regulated and overseen by adequately resources and independent enforcement mechanisms (OEP and Independent EPA)

Other Comments

40 other comments were captured as part of the consultation process, which were not in response to a specific question. These comments were wide ranging in their nature and include further references or areas that consultees felt needed further consideration. These comments will be revisited during the development of the Clean Air Strategy.

ANNEX A

List of organisation that responded to the Clean Air Strategy Discussion Document consultation.

Organisations
ADRC-NI Environmental Health Research Group at QUB
Antrim and Newtownabbey Borough Council
Ards and North Down Borough Council
Armagh City, Banbridge and Craigavon Borough Council
Asthma UK and British Lung Foundation
Balcas Ltd
Belfast City Council
Climate Action 100+
British Heart Foundation Northern Ireland
CALOR
Chartered Institute Environmental Health NI
Chartered Institution of Wastes Management
Clean Air for All
Council for Nature Conservation and the Countryside
CPL Industries
Department for Infrastructure
Department of Health
Derg Valley Community Angling Club
Derry City and Strabane District Council
Fermanagh and Omagh District Council
Friends of the Earth
Green Party NI
Housing Executive
Irish Bioenergy Association
The Renewable Heat Association of Northern Ireland
Liquid Gas UK
Lisburn & Castlereagh City Council
Mid and East Antrim Borough Council
Mid Ulster District Council
National Trust
Newry, Mourne and Down District Council
Northern Ireland Environment Link
No-ARC21
Northern Ireland Local Government Association
Road Haulage Association Ltd
RSPB
Save our Sperrins
SDLP
Sinn Féin

Stroke Association
Sustainable Northern Ireland
Sustrans NI
The Irish BioEnergy Association and the Renewable Heat
The Woodland Trust NI
Translink
Ulster Farmers Union (UFU)