



Clean Air Strategy Consultation

Synthesis review of submissions

Winter 2017

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Disclaimer

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Reference

EnvEcon, (2017), Clean Air Strategy Consultation – Summary Brief, 2017, Dublin: EnvEcon

Acknowledgements

This piece has been compiled by the authors following review of each of the Clean Air Strategy consultation submissions of 2017. The piece offers a collation of the points raised in the submissions along with the authors own interpretation. This document is not intended as a replacement for the individual submissions.

Executive Summary

A new National Clean Air Strategy (CAS) was broadly welcomed amongst the consultation responses. It was seen as an important opportunity to formally define a broad integrated framework to guide national policy in this context. It was indicated in the submissions that stakeholders hoped the CAS would also support new legislative and regulatory change that could address outdated and problematic regulations, as well as consolidating and closing identified gaps in current legislation.

The consultation also received a substantial number of comments in relation to enhanced communication strategies in the context of the CAS and sectoral change, as well as a high volume of requests for additional research to build the national evidence base and support the development of appropriate, effective and broadly integrated policies and measures within Ireland.

The consultation responses also provided a broad range of useful suggestions for specific sectors. Major topics included:

Residential

- Shifting away from fossil fuels (and solid fuels specifically) for home heating.
- Designing and enforcing standards for fuel qualities and stove installations and operations.
- The introduction of residential low smoke zones.

Transport

- Reducing the number of diesel vehicles throughout the fleet.
- Supporting cleaner fuels and technologies across private, public and commercial fleets generally.
- Significant investments in non-motorised mode infrastructure (cycling/walking) and public transport services

Agriculture

- Increased penetration of low emission spreading technology.
- Restrictions on gorse burning.
- Supports for anaerobic digestion facility development.

Industry and Power

- There were challenges to all forms of incineration and calls for tight regulation of the Renewable Heat Incentive.
- Calls for a shift away from coal and peat for power generation and support of cleaner fuels.

The measures suggested ranged from behavioural change, through to fiscal incentives and legislative controls. There was often a variation in viewpoints on the appropriate type of intervention, the timeline for action and the significance of a given source. In this regard the research element was a recurring theme for many submissions. Ultimately there was broad acceptance of the importance of clean air, its relevance to health and the need to design integrated policies and measures that can deliver progress on the CAS ambitions, but with due consideration for the availability and viability of alternatives for those affected by actions.

Report Structure

This document represents an assessment of submissions and does not seek to catalogue each and every point raised in each individual submission. The submissions themselves contain that level of detail. Instead this piece seeks to synthesise recurring points into aggregated categories and to offer a summary perspective on the consultation responses. The summary draws on our own expertise and experience in order to develop and deliver a coherent and concise review. With regard to some of the more detailed technical submissions (e.g. from industry groups) it is recommended that these be considered where more information on the submission is required. To recreate some of the extended technical submissions in this document would change the nature of this report.

In the associated submissions matrix the authors have attempted to log the frequency with which discrete points were made under specific headings. The specific headings themselves evolved with the piece to reflect comments arising in the submissions. In some cases, there may have been multiple individual points in a submission that were then counted as 'additional' under a given heading. Ultimately there must be interpretative calls by the authors in this regard and so the submission matrix should be viewed as a guide to frequency. A definitive count is not feasible with a large scale open consultation format. Similarly, in cases where a petition has been signed these have been recognised as a point raised by an association as opposed to several thousand individual submissions.

Clean Air Strategy Communication

There was strong recognition of the need to develop support from multiple groups and stakeholders in order to build momentum for CAS actions. Whilst the consultation forms part of this process, there were recurring calls for a clear and powerful communication strategy to be paired with all CAS initiatives from their point of introduction and throughout their implementation. For example, accessible localised evidence on air pollution impacts from residential burning, and guidance on stove use and fuel quality should be presented when seeking to influence those activities in a given context. It was noted in a submission that communications must be paired with plausible remedial actions, not just impacts and problems. And furthermore, that information must be in a format that encourages engagement.

Schools campaigns – under the auspices of the Green Schools program, were noted by many as being extremely important, and the development of appropriate material and the delivery of a new programme were recommended. Highlighting the benefits of changes to both individuals and schools themselves were also deemed important. Extended approaches could also be taken with regard to the Green Campus programme for 3rd level.

In regard to communication, it is clear that evidence based communication, and targeted communication strategies will themselves require evidence and targeted policy research. As such the research agenda must be developed to offer the evidence base on which to act, and to communicate the motivations and merits of new technology, behaviour or policies. The points on research are highlighted within a subsequent section of this report.

Sectoral Communication – Residential/Commercial

In the residential sector there were a number of calls for communication strategies to increase energy efficiency, facilitate energy savings and encourage cleaner fuel choices. It was deemed important that energy users understand the issues with air pollution, and that they can identify and interpret the benefits to them of change. Various specific programs were highlighted as tools that could support in this regard, including linking air quality to the tidy towns evaluation criteria, and linking air quality with initiatives to support healthy and active lifestyles. A recurring theme in the residential context was to be careful of impacts on the vulnerable in terms of fuel poverty, and again it was deemed important that any affected by new policies and measures be aware of alternative options and related supports.

Sectoral Communication - Transport

In the transport sector, again there were a number of calls for the encouragement of shifts towards non-motorised modes and public transport. However, it was also argued that in many cases the issue is due to the absence of alternative transport options and lower levels of service on existing options. Nonetheless, it was recognised that where alternatives are enhanced and extended, there should be a sustained effort to communicate the need to change in the transport sector, be it travel choices, vehicle purchase choices and so on.

One particular topic that arose in a number of submissions was to support campaigns and initiatives to stop idling vehicle engines, particularly in higher risk areas (e.g. school collection areas, shopping areas). Whilst technology should ultimately deliver solutions (e.g. stop/go systems, electric vehicles), interim measures to reduce this behaviour by educating drivers were recommended. An initial focus on school collections and delivery vans was suggested. Subsequent enforcement of breaches would prove challenging but could be assessed as a further option. A different application of this measure could be to bus fleets and indeed rail e.g. Intercity trains idling in covered railway stations.

Sectoral Communication - Industry and Power

Whilst industry and power have internal motivations to achieve greater efficiency, there were calls for increased support for the likes of the Large Industry Energy Network (LIEN) of SEAI to drive change in those sectors in terms of increased energy efficiency, and also cleaner fuel choices.

Sectoral Communication - Agriculture

In terms of agriculture there was recognition of the programs under the rural development program (RDP) which offer knowledge transfer and training around topics such as spreading timing, animal husbandry, feed choices and so forth. These were deemed important, but uptake and corresponding action were noted as something to be measured.

Sectoral Communication - Waste

In relation to the potential combustion of waste, it was recommended that Ireland seek to encourage all citizens and commercial operations to use less, and use things for longer so as to reduce waste in production and end-of-life processing. There was also a specific suggestion that Ireland should revisit the approach of firms just paying fees to REPAK and instead explore a system of extended producer responsibility for generated products and activities.

Research

There were a high number of submissions calling for additional research in the context of the CAS. These ranged from researchers identifying gaps in national data gathering, research capacities and knowledge, through to stakeholders seeking clarifications and confirmations of issues, impacts and options. Overall there was agreement that air research has been comparatively poorly funded in Ireland and that a number of research areas should be developed.

Specific individual categories of research raised in the submissions are discussed below, however, there were also a number of broader points around resources and coordination of air research in Ireland. In this regard it was noted that 3rd level and other research specialists were vital to national capacity development and retention. Calls were made for greater collaboration between Government, Agencies and Research groups, potentially considering a national centre for air research, similar to SFI models, or at least a formal national research network. Continued coordination of an annual clean air event (such as that arranged by the EPA in 2015) was recommended.

In terms of research scale and ambition, it was suggested that funding agencies scale up projects to allow collaboration of major research team networks in Ireland e.g. atmospheric science, modelling, monitoring, policy, economics, public health, engineering. At present the smaller scale projects prevent such collaborations as the individual project budgets are too small to engage multiple partners in a major research project. It was also suggested that the EPA allow more 'open' calls to encourage new research topics to be explored.

Monitoring, Modelling and Policy

Submissions noted that enhancements and extensions to the monitoring network are required, alongside greater investments in associated scientific, policy and modelling research to manage the area into the future. Air research is a complex field and requires specialists as opposed to generalists. There is therefore a need for sustained capacity to ensure it is appropriately managed and that policy decisions are suitably informed.

In terms of monitoring there was general consensus that the current air quality monitoring network is inadequate. A developed monitoring network is essential for identifying problem areas, assessing impacts and tailoring targeted policy responses. The EPA's plan to expand the monitoring network was therefore broadly welcomed and numerous points were made in this context, as listed below:

- A wider range of pollutants should be monitored with gradual inclusion of ultrafine particles, pollen, etc.
- Monitoring must be sustained and regular. Not simply occasional monitoring for compliance purposes.
- Temporal and spatial variation in emissions and concentrations were requested.
- The network should link to international systems.
- Interoperability of monitors, data standards, and data protection issues must be addressed.
- A forward plan to sustain and expand the network into the future must be established.
- Low cost sensors should be engaged to complement available national monitoring network data.
- Source apportionment studies for air pollution across Ireland were deemed necessary.
- More research on health impacts and links to pollution sources were requested.
- There should be more real-time data, and improved data access and sharing mechanisms. Researchers and public bodies must work together to ensure data is made available to inform research and policy.
- Where resources for expansion are limited, likely problem areas should be targeted initially.
- Increase levels of mobile monitoring and road side monitoring, as well as monitoring in ‘activity’ places.
- There should be neutral, independent and accessible monitoring of key industrial sources.

There was also strong emphasis placed on the importance of collaborating with universities and research groups in order to conduct in-depth analysis of monitored air data. Ultimately, a strong evidence base from the monitoring network would enable policy and modelling research to design and target policies and measures to specific locations thereby enhancing the efficiency of the resources invested. The capacity and expertise of those teams was noted as being of particular value to national research, yet submissions noted that capacity was unstable in terms of resourcing. Submissions also noted that it was important to gather other spatial data on sources (e.g. transport, animal herd) and exposure (e.g. population) to pair with the monitoring data. Spatial information on health such as doctor appointments, hospital admissions, prescriptions and so forth could all be of significant value to developing integrated research and policies, though data protection concerns were recognised as a challenge to be explored and addressed.

New Technology and Measures

Research identifying the potential of new technologies (e.g. heat pumps, electric vehicles) and measures (e.g. agricultural options, behavioural change strategies) in an Irish context were called up in a number of submissions. It was deemed important to have detailed data and analysis available to help prioritise policy choices and to communicate policy motivations and merits. Some examples of associated research included:

- Evaluations of new technologies (e.g. solar, heat pumps).
- Assessments of barriers to new technology uptake.

- Development of new technologies and demonstration on a small scale in Ireland.
- Analysis of the national grid and management of energy supply and demand under varied scenarios (e.g. varied levels of renewables/electric vehicle penetration).
- Storage and distribution networks for energy and gas.
- Spatially referenced and targeted policies (e.g. fuel switch initiatives, targeted grants).
- Non-technical policy options (e.g. behavioural change, working from home, stop idling campaigns).

Integrated Research and Impact Research

Overlapping somewhat with points raised above, there was clear and repeated recognition that the clean air strategy (and broader national policy) must acknowledge wide-ranging issues in terms of policy design. In effect, the call from a number of submissions was that CAS associated policies must not take a ‘narrow’ view when tackling air pollution, but rather should consider thematic synergies with health, climate, waste and water management for example, as well as wider issues such as accessibility (e.g. where transport is restricted), distributional impacts (e.g. where a particular fuel use is restricted), employment (e.g. where an industry is affected) and so forth. These are simple yet important points, and confirm the need for broader integrated research more generally such that CAS policy interventions are well balanced and can achieve broader support and better outcomes.

It was also noted that in terms of health research it is important that clear and robust evidence is generated with appropriate recognition of the counterfactual to measures introduced. It was also repeated that the origins of air pollution research lay in issues around acidification and eutrophication, and that those impacts and other aspects such as biodiversity impacts should not be forgotten in light of the substantial economic value attributed to health impacts.

Pollutant Research

Whilst scientific research around specific pollutants is ongoing internationally, there were calls for increased pollutant specific research in an Irish context for example examining VOCs and splitting out elements (e.g. Benzene), evaluating particulates in detail and assessing NO₂ emissions and interactions. Research to enhance understanding and options to address POPs, dioxins, furans, Hg, PAHs and ultrafine particles was also recommended in the submissions.

In regards to fuels, it was recognised that some products that may be encouraged in the market (e.g. low smoke fuel) should be the subject of further research to assess potentially higher levels of PAHs, and to support product innovation to tackle potentially higher levels of SO₂ emissions.

CO₂ health impacts were also flagged as an emerging area of potential research. It was noted that where natural ventilation in buildings is reduced, perhaps this may become a more significant problem. Transboundary pollution was also noted for consideration.

Indoor Air Pollution

It was recognised by a number of submissions that levels of indoor air pollution are potentially relevant to the national CAS. It was recommended that some research and policy attention be devoted to this topic. Associated with this, we would imagine that increased penetration of indoor air quality monitors and air purifiers in homes, businesses and potentially the public sector, may generate a useful source of data for this research area into the future. This potential research could also be useful in the consideration of future funding support to establish a baseline of national indoor air pollution data for Ireland from which to launch more detailed work in this context.

Standards, Legislation and Penalties

On a broad level it was recommended that key performance indicators and timelines be set for what the CAS hopes to achieve and that progress be measured against these KPIs. It was also regularly commented that legislation must be enforced and penalties applied where breaches occur. In this regard updates to legislation and demarcation of roles were deemed essential to progress.

Clarify and Communicate Responsibilities

It was seen as important that all stakeholders, including the EPA, local authorities and businesses understand their roles and requirements in the context of the CAS. This would extend from understanding the ambitions of the CAS, through to the legislation, requirements for monitoring and reporting, means of enforcement and so forth.

Standards and Legislation

In terms of standards and legislation it was recommended to review standards, planning and legislation to examine conflicts with air policy. For example, reviewing the granting or extension of any licenses that may adversely affect air quality into the future. Calls were made for stricter legislation, enforcement of legislation and increased penalties for breaches were suggested. Industry groups suggested an initial exploration of voluntary approaches in relation to solid fuel use and appliance standards in the residential and commercial sectors. Concerns were raised by others over adopting such voluntary approaches.

The current clean air act was generally considered to be in need of updating. It was recognised that all legislation must evolve to remain relevant and effective and the act was now somewhat dated. A number of submissions went further and suggested that an entirely new act would represent the most sensible approach.

With specific regard to the smoky coal ban there was some uncertainty with regard to who was responsible for ensuring fuel suppliers were registered with the EPA and some formal guidance and documentation was requested to clearly

demarcate the obligations of all stakeholders (e.g. suppliers, importers, distributors, retailers) in regard to the low smoke zones – nationwide or otherwise.

Enforcement and Penalties

There was regular mention of issues with enforcement and penalties. Broadly the request was for greater enforcement of laws, standards and regulation, and some calls for increased penalties for non-compliance. Though it was suggested the fines may be adequate if they were/could be enforced. Examples in this context included; illegal burning; failures to adhere to stove installation standards; DPF removal in vehicles and so forth. It was also noted that a lack of publicity around enforcement and fines may serve to diminish their role as a deterrent.

It was also recognised in submissions that enforcement can be costly and challenging and therefore it will be important to support innovative means of enhancing enforcement. For example, ensuring that issues reported by the public with regard to illegal burning or malfunctioning stoves can be quickly responded to by the relevant authorities, who would then have appropriate powers to address the issues. Specific issues such as the requirement under S14 (2) of providing 24 hours' notice of entry to a private dwelling was noted as a particular issue with regard to investigations under Air pollution act.

Tools and means for dealing with nuisance issues such as smoke and odours were therefore seen as necessary to ensure action can be taken where issues are raised. A number of bodies believe the current act is ambiguous in terms of definitions and requirements. It was deemed highly important that the public see that there is a response to breaches of the Act.

Similarly, the means of enforcing legislation on illegal waste burning may require revision, as it is challenging to identify the individual who initiated the burning. It was argued by some that it would be far easier to have an alternative option to target the land owner and their responsibility to ensure no illegal burning takes place on their land.

In terms of responsibilities, there were mixed views on taking a regional approach to enforcement – some issues (e.g. solid fuels) merit regional approaches, but the importance of local knowledge was also flagged as being important in the context of enforcement of certain aspects of the air pollution act. However, it was claimed by the relevant authorities and agencies alike that resources for air quality enforcement are limited, and training and expertise could be significantly enhanced. This was also recognised in the context of the broader Network for Ireland's Environmental Compliance and Enforcement (NIECE). Increased resourcing in this context was encouraged.

WHO Standard

With regard to health, the point was raised a number of times that the national ambition for clean air should move towards World Health Organisation guidelines as opposed to those prescribed in a European context. It was believed

that adopting the WHO standards may free the level of ambition from the political pressures that can apply to EU standards. However, whilst the ambition was considered important, some cautioned against strong gestures that may not be attainable in practice. Interim goals were suggested as one way forward.

DPF Removal

There was notable support for innovative methods to be considered to tackle issues such as the removal of diesel particulate filters (DPF) in vehicles, for example by extending the remit of the National Car Test (NCT) and allowing spot checks. The associated costs of such actions were suggested for review in advance of action.

Residential/Commercial

There were many submissions in favour of incentives for cleaner residential heating systems, often recommending shifts away from oil-fired or solid fuel heating. There was also repeated recognition of the need to account for energy poverty concerns in respect of fuel transition strategies. There were however challenges in terms of the impact of measures on fuel choice, employment and local economy (e.g. turf and peat cutting, coal distribution).

In general, the measures suggested included evidence to highlight the merits of a given technology, fiscal incentives for change, grants for technology adoption and so forth. Existing schemes were noted (e.g. warmth and wellbeing) for their positive role in this context, but more action was deemed necessary. Agency issues were also flagged, and so schemes that can target landlords, tenants and owners appropriately were recommended.

Increased Electrification for Heating

There were recommendations to consider advanced small electrical thermal storage (SETS) units, as devices that could be installed in homes relying more heavily on solid fuels for central heating. Retrofitting heat pumps to dwellings operating oil-fired central heating was recommended as a further option, in particular for rural dwellings.

Increased Renewables\Combined Heat and Power (CHP)

There were a number of recommendations for residential solar and the continuing support and development of a 'roof top revolution'. There were also calls for support for gas-fired CHP for residential and to ensure these investments are incentivised along the lines of other SEAI grant programs. The importance of a grid connection for micro-payments from residential renewables was highlighted as a significant missing 'incentive' to enable small scale

renewables to develop. Many of these suggestions were accompanied with notes of caution over a push towards biomass. Further research around residential and large scale renewables was recommended.

Increased Fabric/Insulation Upgrades

There was broad recognition of the merits of fabric upgrade for the built environment generally, however specific points highlighted the need for more targeted approaches and deeper retrofits. The importance of the public sector showing leadership on building retrofits was noted. In the context of the residential sector, it is apparent that the state will be unable to fund all of the deep retrofits desired in the timelines necessary. As such, means of attracting private investment to the retrofit market should be supported and explored.

Reduce Levels of Solid Fuel Combustion for Heating

There was general recognition that reducing solid fuel combustion for home heating would yield positive returns for air quality outcomes. The principal caveats associated were that a cost effective and viable alternative must be available for people to adequately heat their homes. In that regard, particular attention to fuel poverty and impacts on vulnerable groups was called for in relation to fuel policy interventions in a number of submissions. Clear evidence and messaging to show how open fires were more polluting and thermally inefficient was also suggested.

In so far as natural gas is concerned, the stakeholders generally agreed that it is a cleaner burning alternative to solid fuels. Although the primary issue for Ireland, it was argued, was that many households in rural areas, the midlands and the North-West are not connected to the gas grid. As such it was suggested that they require solid fuels for heating as they do not have alternatives or substitutes to choose from. There are however alternatives outside of gas. LPG was highlighted as being an option with a distribution network in place that would not require new infrastructure. Higher cost options such as retrofit of air source heat pumps with fabric upgrades also offer potential and could be supported via existing schemes.

Reduce Levels of Oil for Heating

There was support for reducing levels of oil for heating, generally in favour of an increased penetration of gas fired central heating over oil-fired heating, in particular in urban areas. Many of these submissions were raised in a joint manner regarding climate emissions. Incentives through various grant and encouragement schemes were suggested.

Enhance and Apply Building Standards

Building regulations and standards were noted as a valuable tool for guiding behaviour. A variety of recommendations were made in the submissions, including:

- HEPA filtration requirements for incoming air ventilation on homes.
- Discouragement of fossil fuel burning and issues related to stoves (covered separately).
- Updating generation efficiency values as part of building standards to support advanced electrical systems.
- Ensure building regulations (2014) allow flexibility for installers to meet the recommendations of manufacturers.
- Limit the number of solid fuel burning devices in a home to 1.
- Support industry in the development of Near Zero Energy Buildings.
- Support eco-design appliances.

Spatial Planning Adjustments

There were a number of submissions for long-term strategy to use spatial planning to increase density to support reduced travel demand. In a similar vein there were suggestions to use spatial planning to reduce exposure to pollutants (e.g. reducing proximity between schools and roads, development of ring roads, park and ride systems to urban centres). It was also suggested that natural physical barriers could be built in some areas to mitigate exposure, though there remain questions over the overall effectiveness of such interventions.

Stove Standards

There was some support to accelerate the uptake of the 2022 stove standard. Some submissions felt that there was little gain in delaying the introduction of this standard given the technology availability. Concerns were raised however that there has been engagement with the EU in this context and early adoption of standards may place undue burden on Irish manufacturers. Instead some submissions called for early engagement to ensure manufacturers comply with the regulations and the offering of innovation supports. Counter points argued that a delay may lead to a proliferation of wood burning stoves without mandatory standards and thereby lock-in a more polluting technology. Measures to influence change such as scrappage schemes for more polluting stoves and grants or VAT breaks on eco-design stoves were recommended. It was also suggested that eco-design standards should still apply even where a stove with biomass is chosen as a renewable energy source for building regulation requirements.

There was broad support for ensuring that stove standards are adhered to in terms of both installation and operation. Poor installations can be a major issue for adjoining and nearby properties and enforcement of standards for stoves and combustion installations featured in many submissions. Revisions to standards were suggested in terms of

minimum heights for chimneys/flues, scrubbers on exhausts, requirements for chimney lining and increased monitoring. There was also support for ensuring that installers are accredited in a manner similar to gas installers, and that inspection schemes be scheduled in regard to requisite maintenance and cleaning. There were concerns raised that stoves are used as 'personal incinerators' to burn household waste and other unsuitable material.

Low Smoke Zones

As part of the national clean air strategy there were a number of submissions from stakeholders in relation to the proposal for a nationwide Low Smoke Zone in Ireland. Some were responding to the questions posed in the consultation whereas others were reporting their own observed issues with poor air quality linked to residential fuel combustion. There was a mixture of views amongst stakeholders. Some recommended that action by policymakers should be wide in scope to target multiple fuels used in a variety of sectors, for example peat and wood. It was deemed important that there not be a shift from coal to an equally or more polluting fuel. As part of this, some stakeholders suggested that complementary information campaigns are generally encouraged as an effective strategy to promote good practices and should be conducted in order to educate the public about the harmful effects of air pollution and ways the public can help to reduce emissions through their choices.

Many submissions highlighted the risk of forcing fuel change, and called for supports (e.g. tax reliefs, grants, smart fuel cards) to reduce the cost of low smoke fuels such that vulnerable groups are not pushed into fuel poverty as a result of policy.

In relation to the existing and proposed regulations to promote air quality improvements, it was noted by several respondents, particularly local authorities, responsible for implementation of the legislation, that a nationwide Low Smoke Zone would greatly facilitate enforcement by providing for the same regulatory regimes in all geographical areas. Calls for regulation to address marketing, sale, distribution and burning were made. Specifically, in the case of the solid fuel regulations, some stakeholders supported an expansion of the existing regulation towards a nationwide Low Smoke Zone while others highlighted concerns. Some welcomed the LSZ as a progressive step towards achieving better air quality in Ireland. Whilst others believed that the LSZ would adversely affect consumers, could result in undesired consumer behaviour and lead to increased activity in the grey and black solid fuel markets. There were several key challenges raised within the consultation process including issues around cross-border trade, concerns over negative impacts on fuel poverty, and the uncertainties of Brexit.

Cleaner Fuel Standards and Quality Control

Establishment of standards for wood fuels (e.g. for moisture content) which can exacerbate smoke levels and damage appliances were recommended. Submissions recommended the introduction of a mandatory scheme (e.g. Wood Fuel Quality Assurance) to underpin fuel standards and quality control in the Irish market. It was recommended that there

be adequate communication and engagement with stakeholders in advance of any such changes. Though other comments suggested that stakeholders are aware of the planned transition for quite some time. Public procurement was advised as a means of showing leadership on higher quality fuels. Some submissions also questioned the general compatibility of any solid fuel combustion with a national clean air strategy, counterpoints suggested that some solid fuel products support local industry (e.g. biomass, peat).

In the context of low smoke coal and incentivising this in order to reduce particulate emissions, there were concerns raised as to whether the production of the low smoke coal involved phenol and ester additives and whether this would in turn have implications for increased toxicity and emissions of a different kind (e.g. PAHs) above and beyond that in regular coal. This topic was recommended for further research and could indeed be tied in with research and further innovation around reducing emissions that may be higher with the 'low smoke' fuels such as SO₂ and PAHs.

Some submissions were in favour of higher standards for a smoke emission rate of 10g/hour to be revised and applied to all fuels. There was a suggestion that the fuel type is irrelevant and common standards should be set for all fuels. As such care should be taken in regard to not just coal and peat burning, but also wood burning. Challenges to a new emission rate were made by industry arguing that it was not appropriate to lower this rate.

There was also recognition of work on renewable gas certification schemes to enable assessment of its potential. However, other submissions questioned the potential and validity of the option. It was argued in some submissions that caution should be taken before 'locking-in' options (e.g. gas) as it could deter other options such as air source heat pumps, geothermal and district heating.

Transport

Transport received a large share of comments amongst the submissions. In general, the submissions centred around changes to the private fleet structure (e.g. less diesels, more hybrids), public and commercial fleets (e.g. taxis) and investments in infrastructure and levels of service (e.g. public transport). Interventions included investment, fiscal incentives, legislative change and behavioural strategies. As with the residential sector, concerns were also raised regarding vulnerable groups, and citizens generally, and how any changes may impact them in terms of cost, access to areas, quality of life and so on. However, counter points suggested that certain groups (e.g. school children) needed to be protected from air pollution exposure via vehicle restrictions. As a result, it was noted in many cases that policies and interventions must be tailored to specific locations with balanced consideration of localised impacts and outcomes. Many of the suggested actions in a transport context would involve substantial capital investments or foregone revenue.

Cycle and Walking Infrastructure

Perhaps the greatest level of support in terms of transport measures came in regard to the development of cycling and walking infrastructure. Comments recognised the double value of walking and cycling in terms of emissions avoided and increasingly healthy and active lifestyles. It was argued that a much larger share of the transport budget should be dedicated towards the development of high quality walking and cycling infrastructure and the provision of associated incentives to behaviour change (e.g. bike to work, city bike programmes, Healthy Ireland programs).

Amongst the suggestions were plans for integrated continuous walkways and cycleways with recognised signage. This level of development was deemed necessary to address safety concerns and to encourage more key groups (e.g. schoolchildren) to cycle. Close engagement between citizens and local authorities were recommended, and template plans could facilitate such engagements.

Public Transport Infrastructure and Levels of Service

There was also strong support for increased public transport infrastructure and levels of service. Though suggestions for which services should be supported did vary somewhat, with some seeking greater recognition of the needs of those outside of Dublin and other large urban areas.

Free or heavily subsidised public transport was advocated amongst submissions, particularly where targeted at key groups such as schoolchildren. It was argued that this could reduce associated traffic generally, and specifically at school locations where there are high numbers of children present. Less costly options included occasional or variable free days.

Cleaner Public Transport and Fleets

There was broad support for having a cleaner, more efficient and extended public transport fleet. There were also requests from public transport stakeholders for trials and funding to progress these plans, and to schedule a feasible phase-out of conventional diesel buses. Shifts away from diesel buses were favoured generally towards electric or hybrid, and suggestions were made for light rail and urban electric modes to 'cross' city areas. Autonomous public electric vehicles were also identified as a future option to offer 'last mile' options within city areas.

Beyond the bus fleets, there was support for cleaner fleets generally. Specifically, incentives to change all public fleets to cleaner fuels and incentives to transition licensed fleets (e.g. taxis) to cleaner fuels. Linking licensing to air and climate performance was suggested as a way to influence change. The motor industry was also ready to support such fleet transitions which would obviously represent a good market opportunity for their businesses. It was suggested that fleet changes could also be supported by scrappage schemes, grants and other fiscal incentives.

In terms of the public and civil service there were suggestions of using revised motor travel rates in civil and public service guidelines for expenses to encourage more environmentally friendly modes (e.g. train) and methods (e.g. car share) of travel. Similarly restricting free parking access for civil and public servants was noted. The submissions broadly recommended that there should be no incentive to have a larger engine and to drive over alternative modes.

Increased Electrification of Private Fleet

There was generally broad support for electric vehicles as a significant opportunity to reduce GHGs, air pollutants and associated health impacts. However, some caution was suggested in relation to over-subscribing to EVs as the solution. Whilst such concerns may be relevant for the long-term, at current penetration rates and given that the technology is likely to further evolve in the next decade, there is likely limited risk of going ‘too far’ with EV penetration rates in the interim. However, it was noted that hybrids may be the key bridging technology, and as such, a bigger push on hybrid in the interim to allow the EV technology to mature could be a sensible move. An extension or increase in the hybrid grant for petrol-electric vehicles out to 2020 and beyond was called for by industry.

An interesting additional point was to consider supports and encouragement for electric scooters and bicycles which can offer reduced emissions and road space usage. They can also in some cases allow for home charging of the battery without special infrastructure (e.g. apartment blocks). It was argued that electric cars, scooters and bicycles could complement internal combustion engine car ownership, with one for urban travel and one for other needs. Some concerns were raised over the potential implications for tax and revenue of electric vehicle support and increased penetration.

Disincentives for Diesel

As distinct from the incentive for increased electrification and other measures on taxes, it was recognised in a large number of submissions that there should be disincentives for diesel vehicle ownership, purchase and use (e.g. higher fuel cost, higher insurance cost). In some cases the submissions followed the lead of the City Mayors (e.g. Paris, Madrid) who have pledged to ban diesel cars from their cities by 2025. Suggestions were also made that the cost of diesel should appropriately recognise its contribution to air pollutants and GHG emissions. There were calls for scrappage support schemes where such disincentives were to be introduced.

Fuel VAT rebates for commercial diesel vehicles were also identified as an issue that further encourages all commercial vehicles, even light vehicles to be diesel. Consideration was suggested for rebates for all fuel types in commercial vehicles, and general equal treatment for petrol and diesel.

Industry groups raised concerns about potential tax change for diesel and impacts on business and competitiveness.

Increased Vehicle Use Costs

Support for congestion charging amongst citizens was limited, though public transport operators recognised the potential improvements in public transport efficiency. Concerns were raised that obviously a congestion charge targets all road users for congestion purposes as opposed to tackling emissions. However, exceptions could be made to refocus such a measure. Nonetheless there was recognition that vehicle use costs (e.g. fuel taxes, road charging) would influence vehicle use. The concerns raised were that there are inadequate alternatives available, and increased transport costs would hurt businesses, citizens and the economy. Ultimately, any new tax proposals should be thoroughly assessed before introduction.

Vehicle Ownership Costs

There was a good deal of recognition of the potential for vehicle registration tax and motor tax to incentivise change in the fleet. Often the submissions noted the outcome of earlier changes in these taxes which have contributed to a higher share of diesels in the private fleet. Recommendations were made to revisit and revise these tools to exert a positive influence for the CAS. It was noted that taxes will change with application of the new World Light Vehicle Harmonised Test Procedure (WLTP) which will displace the New European Driving Cycle (NEDC) and will be expected to result in higher assessed emissions from vehicles.

There were also cases made for reducing the cost of vehicle ownership. Of note was a substantial petition submitted complaining about the motor tax costs for pre-2008 car owners. Where the objective is to revise vehicle purchase decisions, there may be an option to revisit the rates for pre-2008 owners.

In some cases, it was also suggested that vehicle ownership costs should be significantly reduced, whilst in turn increasing the cost of vehicle use.

Parking Policy

Parking policy was noted in a number of submissions as an important tool for influencing the transport sector. Research and greater use of this tool was recommended in terms of influencing fleet structure (e.g. favourable parking for cleaner vehicles) and vehicle use (e.g. parking restrictions). Suggested measures included levies on off-street commuter parking, changes to public and civil service parking access, and the linking of parking policy to low emission zone plans.

Freight Transport Options

There was recognition of the potential role of alternative fuels (e.g. compressed natural gas) for freight and heavy vehicles, though there was a need to ensure adequate fuelling infrastructure and supply were in place to enable this transition. Other suggestions in relation to freight transport included:

- Variable tolls as a means of influencing freight travel, emissions and exposure.
- Eco-driving training was also recognised as an option to reduce emissions, though sustaining the impact would require monitoring (e.g. tachometer) and retraining for drivers over time.
- Encouraging the consideration of rail for heavy items, with cleaner vehicles for the final delivery stage.

Low Emission Zones

There was some support from public operators for such zones, but in parallel there were calls for modernization (e.g. those below Euro 4) and clear traffic management plans to improve average speed and emission performance. Shifts away from diesel buses towards electric and hybrid buses would gradually address the latter issue.

Amongst other submissions, the LEZ was argued to be of limited value without adequate alternative choices in place. If such zones were to be introduced, a formal study should be undertaken for any proposal, with a clear plan and powers for enforcement be set in place as a requirement for the relevant authorities. The research and plan should identify appropriate areas, define which vehicles could enter, how it would be monitored and enforced and so forth. It was suggested that such a zone should also link with parking management plans (e.g. park and ride, parking restrictions) and be used to incentivise cleaner vehicle penetration into the fleet (e.g. electric delivery vehicles). Ultimately, it was recommended that any such scheme should allow for an adequate lead in period and be trialled in small areas at the outset.

Shipping and Ports

Higher standards for vessel engines and fuels and the use of solar and port-side electrification were favoured in a number of contributions. However, some caution was advised as not all ports may be capable of offering the requisite port-side power at the appropriate voltage and frequency. Furthermore, it was recommended that the associated infrastructure and investment costs should be considered, and grants and supports were requested where any change may be required. Some additional concerns were raised in relation to cruise-ships and the potential impact of port-side power requirements on the associated tourism industry.

An emission control area under MARPOL for the Irish Sea was also supported by some, though industry cautioned against any unilateral moves. It was generally commented by Industry groups that detailed research should measure the impact and confirm the merit of any such proposed actions in advance of action.

Two further suggestions in this context were the provision of feed in tariffs to incentivise electrification of diesel powered cargo hauling equipment in Ports. It was suggested that this could be considered as the cargo equipment can regenerate electricity on lowering and a feed in tariff may incentivise the technology changeover.

A further suggestion was to consider an oil pipeline network for distribution from Dublin port to reduce associated heavy goods vehicle transport.

Aviation

Various measures were suggested linked with incentivising cleaner modal choices to and from the airports. In terms of the actual aviation sector, there were calls for additional research on ultrafine particle emissions from aeroplanes, as well as research to identify the levels of use of fixed electrical ground power in airports and to seek the means of increasing those levels.

Transport: Other

Staggering work and school hours and enabling partial working from home were identified as additional initiatives that could reduce transport activity, reduce emissions and enhance quality of life.

Industry and Power

Industry and power were not the subject of as many submissions as the other sectors (e.g. transport, residential). Nonetheless, there were a number of points raised in relation to the transition of these sectors away from more polluting fuels, as well as calls for tight standards, regular monitoring and strict enforcement of standards and legislation. Amongst citizens there were some identified trust issues with industry, represented by calls for more independent monitoring and assessment of their activities, greater access to reliable real-time data on emissions and stricter binding limits on emissions. Incineration activities are dealt with under a later section as these received a comparatively high number of submissions in the context of waste management and waste to energy activities. Other points raised in relation to industry and power are set out below.

Renewable Heat Incentive

There were concerns raised with respect to the Renewable Heat Incentive (RHI). Some suggested that the RHI should be withdrawn and either redrafted or discarded on the grounds of it being unsustainable and contrary to the goals of the clean air strategy. Connected to later points on incineration, concerns were also raised in relation to any

incineration technology (e.g. gasification, pyrolysis, oxidisers) that may use waste as opposed to approved biomass. Recommendations were made to ensure that there was no incentive provided for such combustion over other environmentally preferred options.

Other viewpoints were more accepting of the RHI but cautioned that such combustion technologies should not be considered in areas where local air pollution is at elevated levels (e.g. urban areas). It was further suggested that all facilities must adhere to clearly defined standards and certification through monitoring, reporting and regular inspections. Online access to data to show how industrial emissions are performing was also requested.

On a legislative level, a regulation gap between the eco-design standard (up to 500kW_{th}) and the Medium Combustion Plant Directive (1MW_{th} to 50MW_{th}) was noted as an issue. It was suggested to review the possibility of using the MCP directive for the interim range. Better guidance for smaller scale biomass plants should also be provided.

District Heating

District heating was identified in a number of submissions as being a crucial part of industry and power efficiency strategies. It was suggested by some that there should be less of a push towards biomass, and greater investment in the development of district heating networks to capture heat from sources such as data centres and waste-to-energy in an efficient manner. In order to do so there was a need for investment, but also a need to address issues surrounding the authority to obtain a license for installation of infrastructure for a district heating project.

There were also calls for support of gas-fired CHP for residential and to ensure these investments are incentivised along the lines of other SEAI grant programs. The availability of incentives in the form of micro-payments for contributions to the grid were also requested.

Interconnection

Interconnection was recognised as a potentially important aspect of our future energy policy. However, Brexit was noted as an issue of particular concern in that regard.

Shift from Solid Fuel Power Generation

On a broader note there were calls to reduce national reliance on coal and peat powered stations. Research to assess biochar (for carbon sequestration) from biomass combustion as an alternative to current solid fuel combustion practice was suggested, though this does not address the air pollutant aspects. Others suggested that solid fuel and biomass combustion generally are simply unsuitable and should not form any part of future energy plans.

Whilst gas was recognised as one of the cleanest fuel options available for power generation, some raised concerns about technology lock-in (at both residential and plant level) and the lack of fuel diversity. Nuclear - despite being restricted under statute – was identified as being worthy of consideration for the future. An updated appraisal of a small modular reactor (SMR) was recommended in submissions, and to at least prepare for it as an option in Ireland.

Alternative Fuels

As with the residential sector there were comments suggesting that cleaner fuels could be encouraged in industry through various incentives or grant schemes. Alternative fuels noted included LPG or natural gas in place of oil use.

Agriculture

Attention was drawn to the fact that Irish agriculture is recognised as an efficient grassland based system, and that in the context of ammonia, the high share of ammonia emissions attributed to agriculture is largely due to the absence of any other significant sources nationally. The importance of agriculture to the rural economy was also highlighted, and the growing global demand for produce. Nonetheless the industry growth plans will result in growth in absolute emissions and submissions from outside of the sector argued that more actions are required. There were calls for fiscal incentives to drive changes that would support the ambition of the clean air strategy (e.g. use of CAP to restrict payment for non-compliance).

Teagasc submitted a document outlining their quantified estimates of ammonia abatement potential, as well as the technical analysis utilised to underpin negotiations with the Commission in 2015 for the National Emissions Ceiling Directive. They also included estimates of potential cost for the realisation of this potential. The associated assumptions within their analysis are available in the submission. Ultimately the measures identified beyond timing of spreading, were use of trailing hose for bovine slurries, use of urease inhibitors, reducing poultry pH with alum amendment and the reduction of crude protein in pig diets. Certain measures have been ruled out on the basis of cost (e.g. certain housing adaptation options).

It was also acknowledged that under the RDP the agriculture sector already has a number of actions to improve efficiency, deploy new technology and encourage favourable behaviour change. There was also a suggestion that the RDP schemes such as GLAS and TAMS will see greater uptake and impact where ‘red-tape’ issues are addressed. Further details and specific measures are discussed under individual headings below.

Gorse Burning – Illegal Burning

A large number of submissions were made from citizens challenging the practice of gorse burning, with others seeking for illegal burning (more generally) to be addressed. In the case of gorse burning there were calls for banning and at the very least no extensions (e.g. allowing burning in March) to the practice from a number of citizens. Some very strong positions against the practice were made suggesting that it endangers health, property and wildlife. It was also suggested that it can even be counterproductive in so far as the heat and fires may assist in popping and spreading seeds. A number of photos of burning practices and significant plumes of smoke, wildlife damage and so forth were submitted to accompany these submissions. It was also claimed that such practices adversely affect tourism.

Whilst there were calls for an end to the practice, some more moderate views suggested that there should be an investigation and formal study to evaluate alternatives to current agricultural burning practices. These could include sustainable management of hillsides with a better blend of controlled burning and grazing (e.g. ponies) to ensure the fuel quantities do not build up too much. It was also suggested that a review of incentives (e.g. single farm payments) that may influence burning activity and land categorisation (i.e. eligible grazing land) should also be undertaken.

Unmanned drones were noted as potentially having a role in monitoring and regulating the burning both of gorse and indeed smaller scale illegal burning.

Splash Plates Ban and Low Emission Spreading Technology

Whilst there was some support for a splash plate ban amongst the submissions, there was caution called for with regard to any abrupt change in legislation. Some submissions suggested that defining an end date was considered problematic and small farmers were deemed to be at greatest risk. If such a ban were to be introduced it was argued that appropriate alternatives must be available and affordable, and an adequate lead time must be provided for change.

It was noted that support schemes under the RDP such as GLAS and TAMS exist, and these support low emission spreading technologies (e.g. trailing shoe). However, it was questioned as to whether there was adequate knowledge of such financial incentives for low emission spreading technology, and all of the associated environmental and financial benefits. It was suggested by some that additional resources be allocated to promoting the benefits of low emission spreading technology; ensuring farmers were aware of the available supports for this transition; increasing the grant and reducing ‘red tape’. It was suggested also that the cost of the new technology may go beyond the technology itself to requiring new tanker machinery to deal with the additional weight, in particular for smaller farms and beef herds.

It was also recognised that the exclusion of land-based contractors from the grants may reduce the application of such low emission spreading technology given that contractors provide a substantial amount of slurry spreading services on Irish farms. However, there were also concerns that the ban would push farmers into having to use alternatives, with heavier machinery and therefore *having* to rely on contractors. It was argued that this could in turn result in

cross-contamination of bio-hazards across farms, and a limited opportunity to get slurry spread at the appropriate time (due to constraints on contractor time).

One interim measure suggested was that at least spreading for waste disposal should only be allowed using low emission spreading technology.

It was also suggested that action on splash plates should not be considered until other measures are rigorously enforced (e.g. immediate ploughing in of sludge spread on land, transport of product only in sealed containers). However, whilst the latter points may be issues to be addressed with enhanced enforcement, they are not necessarily a hindrance to encouraging changes in the use of splash plates.

On a point of evidence, some queries were raised as to the enhanced performance of trailing shoe or alternative systems in Ireland. It was suggested that with careful use there would be no great difference, and there was also a call for recognition of further innovation in splash plate technology (i.e. lower pressure, larger nozzle devices) and a request for new Teagasc research to evaluate their performance relative to trailing shoe/trailing hose options prior to any action on splash plate technology in Ireland. Issues raised included the differences in Irish tillage (soil, topography, field size) relative to international cases, and weather variations which could affect the use of certain low emission spreading technology due to impacts on traffic.

A further point however, is that Ireland has a strong agricultural machinery industry and there could be positive impacts for that industry in terms of activity and innovation as part of the transition towards low emission spreading technology in Ireland.

Fertiliser Use

The relevance of fertiliser use to ammonia emissions was noted in some submissions. Actions to enhance efficiency in this regard were recommended (as noted earlier under ‘Communications’). It was stressed by some that the contribution of artificial fertiliser use also be considered. There were specific links made to anaerobic digestion and the potential benefits of spreading digestate.

Shift Away from Animal Farming

There were also some challenges more generally to the agricultural industry plans to grow the sector (i.e. Food Wise 2025). Submissions suggested that the industry ambitions were simply not compatible with climate and air ambitions, and Ireland should seek to shift away from animal farming towards less emission intensive activities. However, counter arguments suggested there was a need for clearly defined alternatives for the rural economy if the industry was to be constrained. One submission noted that if agricultural is to grow, and Government ultimately endorses this plan, then it should simply be formally acknowledged and then the shortfall addressed in other sectoral plans.

Anaerobic Digestion

Anaerobic digestion was principally identified as having a role in the management of manure from intensive activities such as pig and poultry production. However, it was suggested that the financial incentives in Ireland are inadequate to stimulate investments in the requisite capital infrastructure, and grid access has been reported by some as being a major barrier to establishing an AD facility. In this regard a streamlined process for licensing and obtaining consents for AD development was noted by industry as being an intervention that would help. It was also suggested that Government must be the one to put in place better structures for grid connection, and to ensure that biogas incentives are included in the RHI if AD is to develop in Ireland.

Overall AD was a topic which was also linked with a number of other actions across the sectors. The potential for a link with district heating strategies, with biogas supply for CNG in freight and buses, as well as links between AD and organic fertiliser were all identified. In regard to the latter, submissions stated that AD could support lower emissions through the spreading of digestate which was claimed to be a better form of biofertilizer. It was also suggested that it was better for reducing associated odour issues. One concern raised for smaller farms was that AD was potentially only viable for them at centralised locations where small farmers would share one system. Research was deemed necessary to assess appropriate sites and their viability. Broader research was also submitted through associations supporting AD and Composting to indicate their potential. A broad strategic approach to developing AD in Ireland was recommended on the basis of its interaction with other actions across the sectors, along with a thorough examination of the merits, and an identification of the needs of all elements in the chain.

Odours, Waste and By-Product

There were a number of submissions in relation to management of residential, industrial and agricultural waste. In a number of cases the focus of the submissions was more on associated carbon and methane emissions, than air pollutants, however, it is of course important that policy consider climate and air considerations in tandem. From an industry perspective there were cases made that the industry is regulated and offers value in terms of waste management and energy generation, with some acknowledgment that the latter is not the primary goal of such facilities.

Restrict and Control forms of Incineration and Waste Burning

There were a number of submissions against forms of incineration be they municipal waste, specialist (e.g. pharmaceutical) waste, or also pyrolysis/gasification operations. Concerns centred on a perceived absence of quality research and data about the operations, and calls for greater research and greater transparency were made, including longer-term studies of potential health impacts. It was also suggested that no incentives or supports should be made

available to such technologies where environmentally preferred options exist. Submissions often referenced specific cases (e.g. Cork Harbour) and these can be reviewed individually.

Connected to the above, there were issues raised with waste-to-energy generally from citizens who feel the derived energy is minimal in contrast to the pollution and toxicity. Examples of incineration activities, such as the co-firing of tyres in cement kilns, were offered as examples of activities that were perceived as utterly contrary to a national clean air strategy. Some submissions suggested that no new waste to energy should be allowed as we have already reached the limit under national waste policy (between constructed and approved facilities). There were also complaints that the time to respond to planning applications was too short, and there was an absence of quality data and research to underpin applications. It was further suggested that any such facilities that are to be constructed should be required to have more detailed plans on heat and energy use to ensure it is efficient and of substantive value.

Industry submissions countered that they are regulated, compliant and provide valuable service with established technologies. They expressed concern over excessive regulatory and monitoring burdens beyond existing requirements (e.g. under IED licensing).

Odours

Odours were recognised as an issue by both citizens and local authorities in respect of air pollution concerns. Whilst generally short-lived issues, it was suggested that enforcement was rarely used under the air pollution act. Where the odours relate to slurry spreading, there may be a case to link action to encouragement of early spreading in the growing season where odour should dissipate more rapidly. It was also suggested that low trajectory application of slurry, as well as spreading of digestate (link to anaerobic digestion) can reduce odours substantially. In response, an agricultural perspective noted that odours are simply part of the process and are in fact broadly accepted in rural Ireland.

Outside of agriculture, an issue noted with regard to ‘nuisance odours’ is the inherent subjectivity for definition of a nuisance odour, and similarly challenges with attributing the definitive source. Calls for consideration of how to better identify and manage nuisance odours were made.

Composting

Composting of organic food waste was recognised by some as a valuable means of managing waste flows from the residential sector in a productive manner. However, concerns were raised in regard to potentially harmful bioaerosols that may be generated.

Other Topics

A selection of other topics raised in the consultation submissions are briefly outlined below. These are topics which fell outside of the topic categories that were developed on the basis of comment frequency.

- Request that quarries and dust levels from same be considered as part of the future CAS, with monitoring and inspection of activities. Suggestions of measures included covering material in transport and ensuring clean public roadways and pathways.
- Speed bumps were challenged as an issue which can exacerbate air pollution due to the impact on driving style.
- There was concern raised about the timing and level of use of pesticides and the potential impact on biodiversity.
- There was comment that Radon has been inadequately covered in the consultation and that the current national strategy is in need of revision.

Positions Against

In the above sections we have endeavoured to also outline cases where there were objections or positions against a given action or measure. However, in addition, some of the more pronounced positions against actions or suggestions in the consultation document are highlighted below for reference.

Splash plate ban

There were a number of submissions advocating against the introduction of a splash plate ban from farming groups and associated others. Their points have been recognised in the main document but it is noted again here that this was a comparatively contentious issue.

Independent vehicle standards and testing

There was little support for the idea of a unilateral move for additional vehicle standards development and testing, and more support generally for working with existing EU type approval and driving cycle research. Sampling was suggested as a possibly valuable contribution, but there were a number of responses challenging the value of an independent national investment in such standards and testing.

Congestion charging and/or Low Emission Transport Zones

There was support in some quarters for congestion charging, however, there were also a number of positions against congestion charging on the basis that it targets congestion and not pollution (albeit that this could be somewhat addressed in the design , for example vehicle exceptions, and there would be synergies for air pollution).

Caution was also advised against measures that could restrict mobility and access to areas for citizens generally, and vulnerable groups (e.g. those with mobility difficulties) specifically. Commercial concerns were also raised with regard to limiting access to shops and services.



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