



Friends of the Earth Scotland Low Emission Strategy Consultation Response

April 2015

Summary

Friends of the Earth Scotland welcomes the opportunity to respond to this consultation.

This Strategy has the potential to achieve real progress in reducing toxic air pollution and in ensuring compliance with Scotland's obligations under European law and Scottish regulatory standards on air quality. We welcome the fact that it commits to achieving compliance with Air Quality Standards and legal limits by 2020. The Strategy has the potential to:

- **Save lives & protect health.** 2000 people in Scotland every year die early from exposure to fine particle air pollution. It is believed that a similar number die from exposure to Nitrogen Dioxide pollution as well.
- **Fight climate change.** Over a quarter of Scotland's CO₂ emissions are from the transport sector.
- **Save money and stimulate the economy.** Air pollution from fine particles alone costs the Scottish economy in the region of £1.1 billion every year.

However, in order to achieve the above, the Strategy needs to:

- (1) **Deliver a finalised Low Emission Zone Framework by the end of the year which specifies what the LEZ requirements for cities will be, how they will be enforced, and how local authorities will be enabled to deliver them**
 - (a) The Framework needs to specify what dates LEZs should be introduced in key cities in Scotland, which Euro standards will apply, and to which vehicles. Friends of the Earth Scotland recommends LEZs in the major cities (Glasgow, Edinburgh, Dundee and Aberdeen) with Euro 6 standards applied to buses and HGVs by 2018, and with Euro 6 standards applied to cars and vans by 2020. CO₂ emissions requirements should also be considered as part of LEZ schemes.
 - (b) The Framework should specify that camera-based systems be used to enforce LEZs because they are more flexible and efficient than paper-based enforcement systems, because key

cities, in particular Edinburgh and Glasgow have existing camera infrastructure which could be adapted to use for LEZ enforcement, and because this would ensure compatibility with London.

- (c) The Framework needs to use a combination of stick and carrot to get local authorities to actually implement LEZs by 2018: there should be a legally-based opt-out mechanism which requires that the major city local authorities must introduce LEZs unless they can prove their action plans will achieve compliance with Scottish standards before 2020, and the Government needs to provide funding for to local authorities to set up LEZs.
- (2) **Specify a fully costed range of measures to reduce traffic levels enough so that ambient air quality concentrations comply with Scottish air quality Standards by 2020, given that it is highly likely that LEZs will not be enough to achieve compliance in and of themselves.** The Strategy should consider measures to boost active travel, public transport usage, and to deter car use, (including 20mph zones, parking controls and charges, and congestion charging).

In the following sections we address the specific questions asked in the consultation document. In Q6, we expand more on our ideas for a Low Emission Zone Framework.

Q1 Do you think the Mission, Vision and Objectives for the Low Emission Strategy are appropriate? If not, what changes would you suggest?

Mission & vision

Recommendation: The mission & vision need to make an express commitment to air quality across Scotland which meets both Scottish air quality standards and European legal limits by a specified date, which should be 2020 at the very latest.

European legal obligations

Scotland is under a legally binding obligation to comply with the Ambient Air Quality Directive. This is an unconditional and absolute obligation which exists irrespective of costs.

In *ClientEarth v UK Government*, the Supreme Court confirmed that with respect to Nitrogen Dioxide (NO₂), the obligation on Member States to comply with limit values in Article 13 was an “absolute” obligation, to be contrasted, for example, with Article 16 which requires “all necessary measures not entailing disproportionate costs” to achieve the “target value” set for concentrations of PM_{2.5}. This means that the issue of high costs of measures

to tackle air pollution cannot be raised to justify non-compliance with the obligation for NO₂.¹

The European Court of Justice gave a preliminary ruling on the case *ClientEarth v UK* on 19 November 2014. It found that the 2010 deadline for NO₂ could only be postponed by a maximum of 5 years. The European Court therefore confirmed the UK is in breach of the Ambient Air Quality Directive. In the case of Scotland, this finding implicates Glasgow Urban Area, Edinburgh Urban Area, Central Scotland and North East Scotland, where compliance with the NO₂ limit value was not achieved by 1 January 2015.

The Supreme Court will revisit the case and give its final judgment on 16 April 2015. It is likely to require that the UK Government implement adequate policy to meet the requirements of EU law. It would therefore make sense for the Scottish Government to adapt this Low Emission Strategy accordingly so that it delivers the requirements of EU law, in accordance with the criteria for an Action Plan as contained in Annex XV of the Ambient Air Quality Directive, to absolve Scotland from culpability under EU law. This needs to be reflected in the mission and vision.

Scottish air quality regulation

Scottish air quality standards provide a regulatory framework by which standards for PM₁₀, NO₂ and other pollutants were supposed to be achieved a number of years ago – 2005 for NO₂ and 2010 for PM₁₀. These deadlines have been missed.

Under the system, local authorities are tasked with declaring air quality management areas and coming up with action plans to try to tackle problem areas where pollution levels are too high, but local authorities are not actually obliged to meet the standards.

This accountability gap explains why action plans have in the vast majority of cases failed to deliver.

But equally, local authorities receive almost no support from the Scottish Government to do anything substantive on tackling air quality; most of the money which does flow to local authorities goes into procedural requirements such as supporting monitoring, reporting on air quality, or feasibility studies for LEZs, but not towards the actual implementation of LEZs or other measures.

The Scottish Government needs to fill the accountability gap by committing itself to achieving the Scottish standards. It needs to support local authorities in achieving Scottish air quality standards rather than simply let the burden fall on them.

We think that additionally, it would be fair for the Scottish Government to require that Local Authorities devise and adopt air quality action plans which

¹ R (on the application of ClientEarth) (Appellant) v The Secretary of State for the Environment, Food and Rural Affairs (Respondent) [2013] UKSC 25 paragraph 11, https://www.supremecourt.uk/decided-cases/docs/UKSC_2012_0179_Judgment.pdf

are capable of achieving real reductions in air pollution which are sufficient to achieve compliance with Scottish air quality standards. The obligation should not go so far as requiring that local authorities deliver all the aspects of their action plans if funding is not available, but a fair balance would be to require that local authorities have ambitious enough action plans to achieve the requisite reductions in air pollution.

Comments on objectives:

- Communication: We agree and support the objective.
- Transport: **Recommendation: This objective should also include “through the use of Low Emission Zones” after “through supporting the update of low emission fuels and technologies”.** The Strategy needs to have the Low Emission Zone Framework at its heart if it is going to add anything new to existing policy.
- Climate Change: **Recommendation: this objective needs to specifically aim for a Scotland that *meets its targets under the Climate Change Act* whilst delivering co-benefits for air quality. The objective needs to refer to Scotland’s objective for a decarbonised transport sector by 2050.**
- Health: **Recommendation: this objective needs to commit to a Scotland which has air quality which complies with WHO guidelines, Scottish standards, and EU legal limits, and which provides citizens with the clean air and healthy environment to which they are entitled as a human right.** In its current drafting, this objective is too weak: it takes a curative rather than preventative approach and places the burden on an already pressured NHS Scotland to deal with the fallout of people requiring treatment from illness exacerbated by poor air quality.
- Development: **Recommendation: the objective should read that the implications for air quality form part of decision making on new development and that new developments should not be allowed where they will worsen air quality.** In its current drafting, this objective is too weak: the implications on air quality of new developments being “part of decision making” does not actually mean anything substantial. Article 12 of the Ambient Air Quality Directive to which Scotland is bound, requires that good air quality be preserved, *even in areas which are in compliance with the legal limits:*

“In zones and agglomerations where the levels of sulphur dioxide, nitrogen dioxide, PM₁₀, PM_{2.5}, lead, benzene and carbon monoxide in ambient air are below the respective limit values specified in Annexes XI and XIV, *Member States shall maintain the levels of those pollutants below the limit values and shall endeavour to preserve the best ambient air quality, compatible with sustainable development.*”²

- Energy: We agree and support this objective.

² Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:152:0001:0044:EN:PDF>

Q2 Do you think the proposed actions will deliver the Mission, Vision and Objectives? If not, what changes to the actions would you suggest? Are additional actions required? If so, please suggest what these might be.

Recommendation: The Strategy should include all of the information specified by Annex XV of the Ambient Air Quality Directive.

Annex XV details what information needs to be included in the local regional or national air quality plans for improvement in ambient air quality for the purposes of compliance with Article 23.

It would make sense for the LES to follow the Article XV Guidelines, particularly because the Supreme Court on April 16th is likely to rule that the Air Quality Plans which the UK submitted to the European Commission in 2011, and into which the Scottish Government fed, did not go far enough.

Collaboration

1 Provide peer reviewed and consistent evidence on air quality issues

1a – We support this action

1b – **Recommendation: We support this action, but we propose an additional action for the Scottish Government to adopt a protocol whereby it issues a national general press release when daily or hourly limit values are being exceeded in at least two local authority areas.** We consider it unacceptable that the Scottish Government issued no national warning about the air pollution episode of 17 – 19 March. This would help the Scottish Government to deliver on its communication and health objectives.

2 Develop fuller public, private, business, and academic engagement on air quality management

2a – We support this action. **Recommendation: once finalised, the Local Air Quality Management system should impose an obligation for local authorities to adopt air quality action plans which they can demonstrate will improve air quality to within the statutory guidelines and legal limits.** We think that this level of obligation would be a fair balance because it would not go so far as imposing that local authorities actually have to deliver on every aspect of their plans, but at the same recognizes that local authorities are best placed to understand what needs to be done locally to tackle air pollution.

In a Glasgow City Council report dated 18 March 2015, Land and Environmental Services quantified the impact of the measures being taken on air quality and concluded that of the 17 measures being taken to tackle air pollution, 11 measures would have a “low” impact on improving air quality, 5

would have a “low to medium” impact and only 1 would have a medium impact:³

Table 1

Action	Air Quality Benefit Low/Medium/High For PM ₁₀ & NO ₂ (either combined or individually) ≤ 0.5µgm ⁻³ (low) 0.5 – 1.0 µgm ⁻³ (med) > 1.0 µgm ⁻³ (high)	Socio/Environmental Impacts	Source of Funding
Electric Charge Points (Public + Workplace)	Low	Positive	Council
Planning Guidance – (Supplementary in 2015)	Low to Medium	Positive	Council
Leading by Example (incl Electric Vehicles)	Low (Medium if encourages others)	Positive	Council
Air Quality Information	Low	Neutral	Council
Car Clubs	Low	Positive	Council
Low Emission Zones	Low - Medium (depending on standard)	Neutral	(i) Council + Scottish Government (ii) Council, + Scottish Government (Note: cost to bus operators, haulage companies may be high)
Electric Buses (Service 100)	Low (Medium if leads to others uptake)	Positive	Council + Strathclyde F&R
Green Walls Tree Planting	Low	Positive	Council (possible grants available)
Cycling Improvements Infrastructure	Low	Positive	Scot Gov / Council
Bus Fleet Improvement (QBP + Traffic Commissioner)	Medium	Neutral	Council (Note: cost to bus operators may be high)
Mass Auto Cycle Hire	Low	Positive	Council / Scot Gov
ECOSTARS Fleet Management	Low – Medium (Medium if leads to national system)	Positive	Scot Gov
Idling Vehicles	Low	Positive	Council shared with Scottish Government
Emission Testing	Low	Positive	Council shared with Scottish Government
Cleaner Taxis – (max age)	Low	Neutral	Council (Note: initial cost to taxi operators to be recouped from hire levy)
Council Travel Plan	Low	Positive	Council
Quality Bus Corridors (Set emission standard)	Low	Positive	Council

³ Report by Executive Director of Land & Environmental Services “Local Air Quality Management: Action Plan Outcomes”, 18 March 2015, <https://www.glasgow.gov.uk/councillorsandcommittees/submissiondocuments.asp?submissionid=73925>

This shows that under the current LAQM approach there is no chance for Glasgow City Council to achieve compliance with Scottish regulatory standards on air quality and as a result the Scottish Government will continue to be implicated under EU law in respect of Glasgow Urban Area.

It therefore comes as no surprise that Glasgow recently scored an F in a pan-European study of European cities' actions and achievements in tackling air pollution. The project, called "Soot Free Cities" has been coordinated by Friends of the Earth Germany (BUND), and supported by members of the European Environmental Bureau (EEB), and published its new ranking of air quality in 23 European cities on 31 March. The ranking assessed policies and air pollution levels with a focus on the period between 2010 and 2020 and is the largest, most comprehensive pan-European study of how cities are performing on tackling air pollution. Glasgow has fallen in the rankings from 6th to 18th.

Conversely, the Soot Free Cities clearly proves that transport action does have an impact on air quality. Copenhagen, a city with a similar population to Glasgow, introduced a LEZ in 2008, it has cycle superhighways which grant priority to bikes on congested roads, and a range of other progressive transport policies including public vehicles being electric or hydrogen powered. It has achieved compliance with European air quality limits almost everywhere, and cycle rates are at 38%.

Recommendation: We would suggest incorporating into the final LAQM system a type of obligation on local authorities which is akin to that of Part 4 of the Climate Change Act. The duties on the face of the Act (section 44) require that a public body must, in exercising its functions, act:

- in the way best calculated to contribute to delivery of the Act's emissions reduction targets;
- in the way best calculated to deliver any statutory adaptation programme; and
- in a way that it considers most sustainable.

Recommendation: The revised LAQM system should require that major city local authorities (Glasgow, Edinburgh, Aberdeen, and Dundee) with declared AQMAs, implement Low Emission Zones from 2018, with an "opt-out" option being available to them if they can demonstrate that the sum of the other measures they have within their air quality action plans will lead to compliance with Scottish regulatory standards on air quality by 2020. So, in other words, the burden of proof lies on the major city local authorities with declared AQMAs to demonstrate they have sufficient plans which will achieve compliance with the standard. This obligation necessarily needs to be coupled with funding for local authorities to be able to implement LEZs.

2b – We think that the WHO Guideline on PM_{2.5} should be introduced as a Scottish standard.

2c – We support this action.

2d – We strongly support this action.

3 Establish a national Low Emission Zone Framework.

3a – We strongly support this action and the time frame for it.

3b – We strongly support this action.

3c – We strongly support this action. We have detailed comments about the LEZ Framework in Q6 and think the Framework needs to be finalised before the end of the year.

4 Air quality and noise

4a – No comment.

Health

5 Compliance with air quality legislation

5a & 5b & 5c – We strongly support these actions but believe that there is insufficient evidence as to how compliance will be achieved, including through projections of how LEZs as well as demand management measures on transport which the Strategy is going to introduce will impact on concentrations of key air pollutants. We think that a stronger obligation on local authorities coupled with more funding and guidance to deliver LEZs as outlined above is necessary; as well as stronger support for transport measures which will reduce traffic volumes need to be considered, including congestion charging, demand management and additional funding for active travel (discussed in more detail in our comments on Transport Tomorrow below).

6 Provide consistent national air quality health messages

6a – We do not think this action is necessary. Efforts can be refocused on properly communicating existing health messages on air pollution from the following authoritative bodies: WHO, COMEAP, PHE & HPS (see our comments under Health Today and Health Tomorrow below).

6b – We support this action; we are concerned that the Health Today and Health Tomorrow sections of the LES draft do not contain the most up to date and authoritative research and this needs to be rectified (see comments below).

6c – We support this action; there is a greater role which Health Boards could be playing in feeding into air quality action planning and on protecting the public, in particular the more at risk groups (e.g. asthmatics and people with cardiovascular conditions).

7 Provide further evidence of the impact of air quality on health

7a – We support the idea but do not understand how this action will be implemented.

Transport

There are two aspects to improving air quality: reducing traffic volumes, and improving emissions standards.

The Strategy needs to recognize that LEZs in and of themselves will not be sufficient to ensure long-term compliance with European air quality limits and Scottish standards and therefore it needs to include measures which are targeted to reducing traffic levels sufficiently to ensure compliance.

The actions on transport need to be based on an assessment of the scale of measures required to deliver air quality which meets Scottish standards by 2020.

Recommendation: There are insufficient proposals on transport to deliver clean air by 2020. We propose to also include the following set of actions:

- **Actions to discourage car use.** The Government needs to consider parking controls and charges, 20mph zones, and congestion charging. According to the UK's Committee on Climate Change recent progress report on Scotland⁴, congestion charging in Scotland needs to be considered if Scotland is to achieve compliance with its Climate Change targets; equally, it will help reduce air pollution.
- **A set of actions to tackle barriers to Electric Vehicle uptake**, including through free or preferential access to parking, and more public procurement of EVs.
- An action which requires that all local authorities' and **Regional Transport Partnerships' Transport Strategies include objectives to achieve Scottish and European air quality standards and limits.**

8 Measurement and modelling of roadside transport emissions

8a – We support this action but we warn that Low Emission Zones need to be rolled out in Scotland by 2018 so their progress must not be delayed by any delays in urban traffic modeling.

9 Intelligent traffic system management

9a – This is not the right approach to achieving compliance with air quality standards. The action for local authorities to review traffic management procedures and ensure that flow is optimised is based on the incorrect

⁴ Committee on Climate Change, "Reducing emissions in Scotland – 2015 progress report", <http://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2015-progress-report/>

assumption that traffic volumes in Scotland are not rising (see more in our comments on Transport Tomorrow).

9b – We do not think that this action is adequate to ensure the update of low emission vehicles – this action needs to be targeted at implementing Low Emission Zones in major cities (Glasgow, Edinburgh, Dundee & Aberdeen) with Air Quality Management Areas.

10 Active travel

10a & 10b We support these actions but the Strategy could go further and model what the impact of 10% of trips by bike will be on traffic congestion and air pollution.

10c – Recommendation: We support this action, but it should also specify that Local Transport Strategies, and Regional Transport Strategies, should aim for 10% cycle journeys by 2020 in line with the Government’s target.

11 Public Transport

11a - We agree that the Green Bus Fund should be reviewed and improved, but the poor uptake in, for instance, Glasgow, demonstrates that a stick is needed as well as a carrot.

11b – We support this action.

11c - Low Emission Zones may supersede the need for Statutory quality partnerships which have so far not been used to great effect, but SQPs should continue to be used, and to greater effect, where LEZs are not adopted.

12 Low Emission Vehicles

12 a & b - The proposed actions on Low Emission Vehicles completely ignore the Low Emission Zone Framework which we believe should be the centrepiece of this Strategy and which should be given prominence in the Transport section.

13 Freight

13 – There needs to be an additional action with regards to significantly upgrading Scotland’s railway infrastructure so that more freight can be shifted to rail in line with the Government’s policy.

Development

14 Contribution of development and plans to air quality improvements

Recommendation: These actions need to require that developments do not go ahead if they are shown to deteriorate air quality. They should also include a provision that new housing or other developments provide proper sustainable transport networks so as to ensure that any new developments do not impose additional strain on existing road networks.

Climate Change

15 a - We support this action

Recommendation: There needs to be an action here to introduce LEZ requirements for CO₂ through Ultra Low Emission Zones, and to reduce traffic levels so as to reduce the contribution of the transport sector to Scotland's climate change emissions

Environment

16 a – We support the action

Energy

17a – We support the action

Q3 Does the Setting the Scene section accurately summarise the current policy situation? Please suggest changes if not.

5.1 “Air Quality Today”

Recommendation: This section needs to identify that air pollution can be tackled by reducing traffic volumes and improving vehicle emission standards.

The phrasing of this sentence lacks ambition and urgency:

“There are no easy solutions but there is an increasing recognition that whilst existing efforts are making a vital and important contribution to improved air quality, more can be done.”

Firstly, solutions are clear: the Scottish Government needs to adopt measures to improve vehicle emission standards and to reduce the volume of traffic on Scottish roads by enough that air quality standards will be met. The implementation of these solutions are challenging but surely that is what this Strategy should set out.

Secondly, “more can be done” is vague. This should specify that enough must be done to achieve compliance with Scotland's air quality Standards and European legal limits on ambient air quality. The Strategy should model what the impact of various proposed measures will be on air pollution emissions

and concentration levels and propose the most effective measures to bring Scotland into compliance

Legislative and policy framework:

Recommendation: This section needs to make direct reference to EU Directive 2008/50/EC (Ambient Air Quality Directive) to make the case for a fully funded Low Emission Strategy.

This key piece of legislation is binding, has been implemented into Scots law, Scotland is currently in breach of its provisions and with the UK is subject to two legal actions as a result. It has been confirmed that Article 13 is an absolute obligation, which means that high costs of measures to tackle air pollution cannot be used as an excuse for non-compliance. So citing EU law gives the Strategy the strongest possible legal mandate for a strong, fully funded LES.

In TfL's current consultation on an Ultra Low Emission Zone⁵, European law is referred to as a driver of policy.

This section needs to make it clear that:

- Scotland is bound to fulfil European law, which consists of both statute and case law. The strategies and policies set by the Scottish Government must take these into consideration and implement the requirements of the Directive;
- Case law is intended to iron out any ambiguities within statutory law;
- The EU Ambient Air Quality Directive (2008/50/EC) and Directive 2004/107/EC set legal limit values for concentrations of pollutants in outdoor air, which have been transposed into Scots law by the Air Quality Standards (Scotland) Regulations 2010;
- In relation to NO₂, these deadlines are absolute, and the absolute nature of the requirement has been twice confirmed by the courts, once the UK Supreme Court and the European Court of Justice;
- Scotland has failed to achieve compliance with the requirements of the Ambient Air Quality Directive in relation to NO₂ in four out of a total six agglomerations/zones, namely: Glasgow Urban Area, Edinburgh Urban Area, North-East Scotland, and Central Scotland;⁶
- Scotland is therefore currently in breach of European law.

The Strategy should include a table restating what the Air Quality Limit Values and Deadlines are for the key pollutants, and where Scotland is not in compliance.

⁵ "Ultra Low Emission Zone consultation, Supplementary information" October 2014: https://consultations.tfl.gov.uk/environment/ultra-low-emission-zone/user_uploads/ulez-supplementary-information---final-291014.pdf-1

⁶ For a map of all zones/agglomerations, see page 6 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/82273/draft-overview-doc.pdf

The legislative and policy framework, especially Directive 2008/50/EC on ambient air quality is crucial to driving forward policy improvements on tackling air quality in Scotland so needs to be outlined in section 5.1 and not tucked away in Annex E.

5.2 Health Today

Recommendation: The Low Emission Strategy needs to outline that the WHO, the EEA, COMEAP, PHE and HPS are the authoritative bodies undertaking ongoing research into the health impacts of air pollution which should inform policy. It must include their most current research.

By doing this, it will remove the need for a DPSEEA analysis into air quality and health which we see as a waste of time and resources and as doubling up on the health research that is continually being published by WHO, COMEAP and PHE but which this Strategy has not properly referenced.

The health impacts need to be put into this section rather than tucked away into Annex D. From the lack of up-to-date and Scotland-specific statistics in this section we can only conclude that the Scottish Government wishes to conceal the true scale of the impact of air pollution on health.

Recommendation: The Low Emission Strategy needs to acknowledge and cite PHE's Research called "Estimating Local Mortality Burdens Associated with Particulate Air Pollution" (April 2014) so as to clearly communicate the health impacts of fine particulate pollution on Scotland specifically. ⁷This research gives the necessary mandate for Low Emission Zones in Scotland.

TfL cites the death toll of air pollution on Londoners from the same research in its opening paragraph of its Ultra Low Emission Zone consultation.

It is incredible that this section omits evidence from Public Health England that the mortality burden from exposure to fine particles in Scotland is equivalent to 2094 deaths annually. This is the most detailed, current, and Scotland specific health research available from an advisory body, and PHE explicitly stated that its findings were intended to inform government and policy making. ⁸

⁷ Public Health England, "Estimating Local Mortality Burdens Associated with Particulate Air Pollution"

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_C RCE_010.pdf

⁸ "This report is intended to inform public health professionals and air quality specialists, particularly those within local authorities, who will find the figures in the report helpful in raising awareness of the mortality burden of air pollution within their local area. By raising awareness of the effect of air pollution on public health, the figures should also encourage advocacy of the need for local – and also regional, national and international – actions to reduce air pollution."

This consultation should also cite mortality statistics specific to Glasgow and Edinburgh as these would probably be the first cities to introduce Low Emission Zones.

Recommendation: The LES needs to cite the most up to date global health statistics on air pollution from the WHO.

The statistics of 3.5 million for air pollution's contribution to worldwide deaths needs to be corrected; in 2013 the WHO estimated the global death toll of air pollution to be circa 7 million. The WHO states "This finding more than doubles previous estimates and confirms that air pollution is now the world's largest single environmental health risk."⁹

Recommendation: The LES needs to summarise and cite WHO and COMEAP's ongoing research on the detrimental health impacts from Nitrogen Dioxide. By doing this, the LES will better make the case for controlling NOx emissions through Low Emission Zones.

The World Health Organisation has warned that NO₂ in and of itself has a detrimental impact on health in both the short and long terms, *at levels lower than the current WHO guidelines* (which correspond to Scottish and European standards and limits), and that there is support for updating the NO₂ guidelines which, according to the WHO "could result in lower guidelines"¹⁰.

The Committee on the Medical Effects of Air Pollutants (COMEAP) last month published a statement which confirmed that NO₂ is harmful in its own right.¹¹ Later this year, it is expected to publish a statement on the mortality burden across the UK from exposure to NO₂. This is vital because initial reports suggest that once this mortality burden has been quantified, this will *double* the number of deaths attributable to air pollution in Scotland.¹²

⁹ <http://www.who.int/mediacentre/news/releases/2014/air-pollution/en/>

¹⁰ World Health Organisation, "Review of evidence on health aspects of air pollution – REVIHAAP" (2013), http://www.euro.who.int/_data/assets/pdf_file/0020/182432/e96762-final.pdf, pp 14-15

¹¹ Committee On The Medical Effects Of Air Pollutants, "Statement On The Evidence For The Effects Of Nitrogen Dioxide On Health" (March 2015), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/411756/COMEAP_The_evidence_for_the_effects_of_nitrogen_dioxide.pdf. Its conclusions were: " i. Evidence of associations of ambient concentrations of NO₂ with a range of effects on health has strengthened in recent years. These associations have been shown to be robust to adjustment for other pollutants including some particle metrics. ii. Although it is possible that, to some extent, NO₂ acts as a marker of the effects of other traffic-related pollutants, the epidemiological and mechanistic evidence now suggests that it would be sensible to regard NO₂ as causing some of the health impact found to be associated with it in epidemiological studies."

¹² The Sunday Times newspaper reported on Sunday 30 November that the Committee on the Medical Effects of Air Pollutants, an official advisory body, will publish a report next year showing that the premature death toll caused by road traffic pollution is around twice as high as originally thought, i.e. causing up to 60000 premature deaths across the UK. See Sunday Times New Article, "Dirty diesel death toll hits 60,000" at http://www.thesundaytimes.co.uk/sto/news/uk_news/National/article1489882.ece

Recommendation: This section should quantify the cost of air pollution to the Scottish economy at over £1.1 billion per year. By doing this, it will better make the case for the need for the Strategy and its measures to be funded. In 2013 Defra quantified the cost to the UK economy from the burden of PM_{2.5} specifically to be £16 billion per year.¹³ This is based on the number of deaths across the UK at 29,000. Therefore, the Scottish equivalent (based on Public Health England’s assessment that there are 2000 deaths annually from PM_{2.5} in Scotland) is £1.1 billion.

Finally, this section generally needs to caveat its statistics on PM_{2.5} by clearly stating that PM_{2.5} is not the only pollutant which has a detrimental impact on health.

5.3 Transport Today

Recommendation: This section needs to update its statistics to the most recent findings which were published on 26 February 2014.¹⁴

Recommendation: This section needs to refer to the findings of the Committee on Climate Change’s report of 24 March 2015, “Reducing emissions in Scotland: 2015 progress report.”

Recommendation: This section needs to refer to other relevant Transport policy, especially to Switched on Scotland’s ambition for a decarbonised transport sector by 2050 and the Cycling Action Plan for Scotland’s ambition for 10% of all every day journeys in Scotland to be made by bike.¹⁵ Low Emission Zones in Scotland could include provisions for requiring that certain classes of vehicles be zero-emissions-capable on top of the expected Euro requirements. (London’s current ULEZ proposal will require that all new taxis presented for licensing be zero-emissions-capable from 2018.)

We recommend that LEZs be used to regulate CO₂ emissions from vehicles as well as NO_x and PM pollution, because Scotland is currently not on track for achieving its greenhouse gas targets set out in Switched on Scotland. However, Switched on Scotland envisages LEZs for Scotland by before 2015, and Ultra Low Emission Zones from just after 2020. The LES should pull these different policy frameworks together and make the case for the co-benefit of LEZs in tackling climate change as well as air pollution.

¹³ Defra, “Protecting and enhancing our urban and natural environment to improve public health and wellbeing” (2013), <https://www.gov.uk/government/policies/protecting-and-enhancing-our-urban-and-natural-environment-to-improve-public-health-and-wellbeing>

¹⁴ Scottish Transport Statistics No 33, <http://www.transportscotland.gov.uk/statistics/scottish-transport-statistics-no-33-datasets-6495>

¹⁵ Transport Scotland, “Switched On Scotland: A Roadmap to Widespread Adoption of Plug-in Vehicles” (September 2013) http://www.transportscotland.gov.uk/sites/default/files/documents/rrd_reports/uploaded_report_s/j272736/j272736.pdf

By linking LEZs with zero-emissions transport, the Low Emission Strategy could help make the ambition for Switched on Scotland achievable.

Recommendation: The section needs to require that RPTs make a commitment to Scotland's air quality standards and EU air quality limits.

The section is correct to state that RTPs have an important role to play in tackling air quality, but many of them lack any stated ambition to play their part. For example, the Strathclyde Partnership for Transport Regional Transport Strategy Delivery Plan 2014-2017 does not mention Low Emission Zones, Scottish Air Quality Standards or European legal limits on air quality.

Recommendation: The section needs to state that SQPs can be used by local authorities to regulate bus emissions but that these are currently not being used to good effect. This gives a stronger mandate for LEZs in Scotland. For example, in the Glasgow SQP, the emissions standards are weak: from 01 April 2014 100% of each operator's key routes within Glasgow City boundary need to meet Euro 3 standards. As of 1st June 2014 each operator providing local services within the Glasgow City Centre Air Quality Management Area (AQMA) is required to operate 20% of their total scheduled journeys within, passing through, terminating or originating from this area by vehicles fitted with full Euro 4 emission or higher standard engines. As far as we are aware, a report about compliance with the SQP is overdue.

Recommendation: The section needs to make reference to the Scottish Government's second Report on Proposals and Policies' section on transport which includes provision on air quality.

Recommendation: This section needs to highlight that the Bus Industry has been steadily contracting over the last five years.

Recommendation: This section needs to acknowledge that more needs to be done to meet the cycling target of 10% journeys by bike by 2020. The Committee on Climate Change noted in its recent report, "in 2013, 1% of journeys were by bike, well below the 2020 ambition of 10%. This figure has remained at around 1% since 2003."

Recommendation: This section needs to acknowledge that as a proportion of overall CO₂ emissions in Scotland, the transport sector's contribution is growing. This gives a mandate for the need to reduce traffic levels overall. In 1990, transport accounted for 18% of Scotland's CO₂ emissions. In 2012, it accounted for 24%.¹⁶ We know, however, that cars are becoming increasingly CO₂ efficient – this points to the fact that overall, CO₂ emissions from the transport sector are not really falling much, due to the volume of traffic continuing to grow.

Recommendation: This section needs to acknowledge that cars account for more than half of our road transportation emissions and therefore, they need to be at the very heart of the focus on action to tackle CO₂-

¹⁶ Scottish Transport Statistics No 33, Table 13.2

related transport emissions (Table 13.2 Scottish Transport Statistics) as well as NOx and PM pollution. Cars account for 55% of CO₂ emissions from the road transport sector.

5.4 Development today

Scottish Planning Policy says planning decisions must “consider the implications of development for air quality”. This is too weak as it is unlikely to lead to proposals being refused on air quality grounds.

This section should acknowledge this shortcoming and recommend that planning policy needs to include a far more specific requirement to reject new developments that increase air pollution, particularly to air quality management areas but to all areas.

5.5 Climate Change today

Figure 8 needs to include Low Emission Zones (not just Low Emission Vehicles) as a mechanism which can be good for both tackling air pollution and climate change.

Q4 Does the Way Forward section give a reasonable outline of what further action is needed to deliver an effective Low Emission Strategy? Please suggest changes if not.

6.1 Air Quality Tomorrow

This section needs to better make the case for the need to reduce traffic volumes overall and to improve vehicle emission standards through a network of Low Emission Zones across Scotland by 2020.

We do not agree that there is a perception that better air quality has limited economic benefit and cannot think of any organisation or stakeholder which has advocated that clean air is bad for the economy. In fact, polluted air costs the economy around £1.1 billion per year, and this section needs to explicitly say this (see our comments on pages 14 -15).

6.2 Health tomorrow

Recommendation: The DPSEEA analysis of air quality and health is unnecessary. Efforts can be refocused on properly communicating existing health messages on air pollution. The health effects of air pollution from PM_{2.5} are well-evidenced, and COMEAP is expected to elaborate on the health effects of NO₂ exposure this year. The Scottish Government should instead communicate the findings and research of the WHO, COMEAP, PHE and HPS on air quality as and when they arise and to keep this research up to date rather than undertake its own analysis, for which no justification is offered.

We support the action for the development of a communications strategy around the health impacts of air pollution and believe that this should be undertaken through close consultation with and/or reference to up to date materials and research from COMEAP, PHE and HPS. Again, this needs to be time-bound; we would recommend a clear strategy to be developed by the end of 2015.

We support the action for Health Board areas with AQMAs to link air quality into Join Health Protection Plans.

We do not feel that there is a huge amount of merit in readjusting the PM₁₀ and PM_{2.5} Scottish objectives away from what they are as they are already closely aligned with the WHO objectives, but the PM_{2.5} objective needs to be included in the Scottish regulations and it needs to be more extensively monitored and controlled.

As mentioned above, this Strategy needs to assess how Low Emission Zones will be rolled out, what reductions in PM and NO_x they will achieve, what the resultant concentration reductions will be and what other measures will be introduced to achieve compliance with air quality standards.

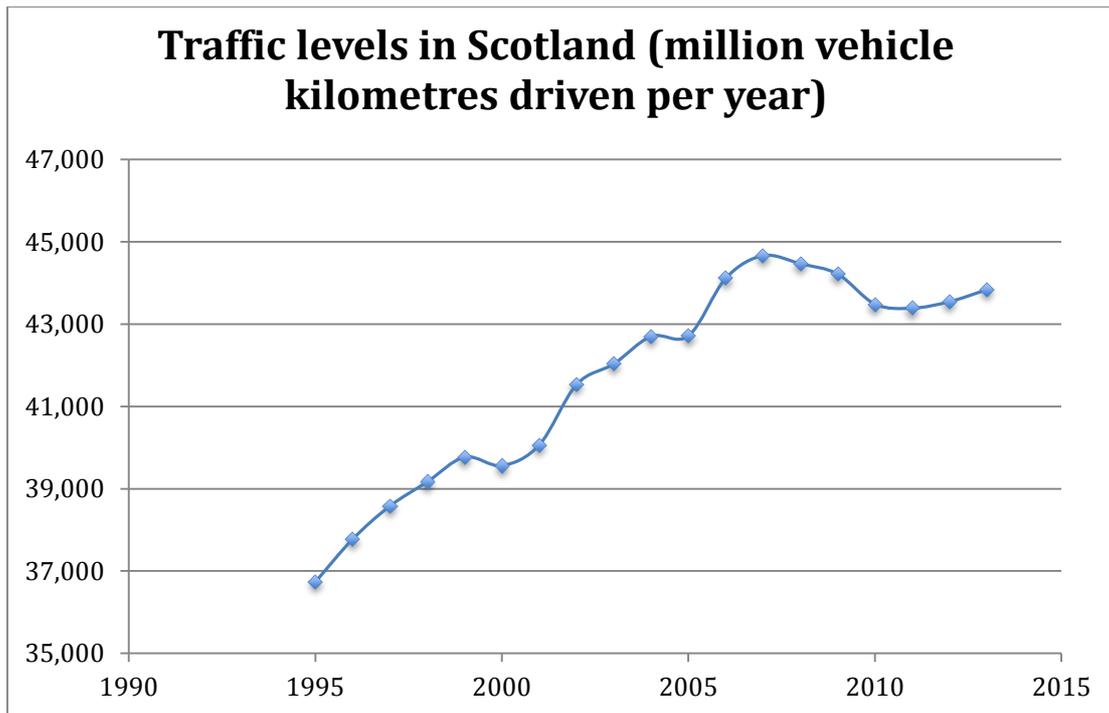
6.3 Transport Tomorrow

There are lots of measures proposed in this section but no assessment of what their cumulative impact will be on air quality. This Section needs more measures to reduce car usage, and closer alignment with the LEZ Framework.

Recommendation: This section needs to quantify what the cumulative impact of its measures will be on PM and NO_x emissions and how much closer they will bring Scotland towards achieving compliance with its air quality obligations and on reducing Scotland's CO₂ emissions from the transport sector.

Recommendation: This section needs to acknowledge that traffic volumes are higher than in 2003. This justifies the need for reducing traffic levels through demand management techniques rather than a primary focus on managing and optimising traffic flows. It is alarming that this section states "traffic volumes year-to-year in Scotland since 2003 have been relatively consistent" when this simply is not the case. This misleading statement is used to justify an approach to transport which focuses on managing and optimising traffic flow on our existing road network; this is not the right approach.

Transport Scotland's Transport Statistics show that vehicle kilometres driven per year have increased by 1.8 billion kilometres since 2003, even in spite of the impact of the recession. Since 1995, traffic volumes per year have increased by almost 7 billion per year, as demonstrated by the table below which has been drawn up using Scottish Transport Statistics.



We can see that there was an upward trend from 1995 – 2007. The dip from 2007 – 2011 can be explained by the economic recession, because during that same time, trips on buses and trips by active travel did not increase to make up the difference.

In addition to the rising trend in traffic volumes, we know that road traffic is the largest single source of NO₂ emissions and a major source of Particulate Matter.

We also know that the transport sector produces an increasing proportion of Scotland’s greenhouse gas emissions year on year, rising from 18% of Scotland’s GHG emissions in 1990 to 24% in 2012.

This trend gives a strong mandate for a Low Emission Strategy which focusses on reducing overall traffic volumes on Scotland’s roads. This can be done by promoting avoiding travel, active travel, and public transport as suggested by the Strategy, but an essential piece of the puzzle which is currently missing is a clear set of measures which are directly targeted at discouraging car usage.

The Scottish Government's First Report on Proposals and Policies (RPP1) stated that there would be benefits in ‘locking in reductions in motor traffic on local roads through speed controls and demand management measures’.

Recommendation: The Strategy needs to consider a set of measures which are specifically designed to discourage car use, including congestion charging, parking controls and 20mph zones.

It is clear in parts of Scotland, particularly in urban areas, often roads are stretched beyond capacity.

An example is St John's Road in Edinburgh, where NO₂ concentrations regularly exceed the annual legal limit. On that road, despite smart traffic management sequencing, there are daily congestion problems due to the network being over capacity. In correspondence to Friends of the Earth Scotland, traffic officers in the Council have confirmed that smartening the traffic sequencing will not fix the problem.¹⁷ Reducing traffic volumes is an essential part of tackling air pollution.

Congestion charging schemes: Several congestion charging schemes in Europe have been successful in cutting traffic volumes, reducing air pollution, and raising revenue to be reinvested into active travel and public transport.

According to a report cited in the recent Committee on Climate Change report, London's congestion charge has proven to be highly successful and has yielded the following results:

- Traffic levels inside the charging zone have been cut by 20%, equating to 75,000 vehicles;
- The scheme has reduced congestion in the zone by around 30% during charging hours; Furthermore, the level of congestion on roads bounding the zone is also down;
- The main response by car drivers is a switch to public transport - around 40,000 daily movements. There has also been a large increase in pedal cycle trips – an 83% increase across London – which the congestion charge has helped stimulate;
- The scheme has resulted in net reductions of between 40-70 road traffic casualties per annum;
- The retail sector in central London is now outperforming the rest of the UK and is returning to a long-standing pattern of year-on-year growth;
- The charge has had no identifiable effect on commercial property values in the original zone;
- The combined effect of charging and improved vehicle technology has resulted is that NO_x emissions have fallen by 13% and total PM₁₀ emissions have fallen by 15%.
- The charge raises £122 M annually which is then spent on improving transport, including providing more buses, improving road safety and implementing energy efficiency in transport.¹⁸

Stockholm's Congestion Charge has also been a success. Traffic affected by the charge reduced by 29% across the Stockholm cordon when the congestion charge was introduced in 2005. That level of reduction has been sustained even though prices have not increased. There is now popular

¹⁷ See letter from Edinburgh City Council addressed to Friends of the Earth Scotland from 13 February 2015, available at <https://dl.dropboxusercontent.com/u/68796710/SR821926OUT-13feb15.pdf>

¹⁸ C40 Cities Climate Leadership Group, "London's Congestion Charge Cuts CO₂ Emissions by 16%", http://www.c40.org/case_studies/londons-congestion-charge-cuts-co2-emissions-by-16, cited in Committee on Climate Change "Reducing emissions in Scotland 2015 progress report", March 2015

support for the Charge and it has had a long-term effect on changing driving patterns into central Stockholm.

A congestion charge in Gothenburg was introduced in 2013, based on the Stockholm model. It is expected to raise around £66 million per year which can be reinvested into active travel infrastructure and public transport improvements.

In Milan, the Ecopass scheme was introduced in 2008, whereby vehicles entering the 8.2km “Ecopass” Zone had to pay a congestion charge but were exempt if their vehicles reached a certain emission standard.

The results reported were astonishing: after the first month of operation, there was a 24.5% drop in traffic entering the Cerchia dei Bastioni area, a 12.5% in total traffic in the city, a 27% drop in vehicles entering the city centre between 7 and 7.30 am, a 30% reduction in PM₁₀ in the Ecopass area and an extra 23,500 passengers on the metro.¹⁹

Parking controls and charges: A range of parking controls and charges could be introduced to discourage people from bringing their cars into city centres: mechanisms to encourage local authorities to reduce the amount of parking available in city centres, through to Workplace and out-of-town shopping Parking Levies.

20mph zones: 20mph zones have been shown to increase active travel rates because they increase safety on the roads and thus reduce a main barrier to walking and cycling (perception of lack of safety). The City of Edinburgh Council recently approved the introduction of 20mph zones across around 80% of the city’s roads, which we believe will have a positive impact on air pollution as well as on road safety. For our full views on how 20mph zones will benefit air quality, see our consultation response.²⁰

Recommendation: The strategy should include a requirement that all local authorities’ and Regional Transport Partnerships’ Transport Strategies include stated objectives to achieve Scottish and European air quality standards and limits.

Finally, we have noted that Regional Transport Strategies and Local Transport Strategies currently often do not refer to Scottish air quality standards and European legal limits on air quality. The City of Edinburgh Council’s Transport Strategy is a good example of linking with air quality – it has a stated objective “To reduce pollutant emissions in order that the city meets statutory Scottish air quality standards.”

¹⁹ "Milano promuove l'Ecopass ecco il bilancio dopo un mese". La Repubblica. 2008-02-10 <http://www.repubblica.it/2008/02/motori/motori-febbraio-2008/motori-ecopass-ok/motori-ecopass-ok.html>.

²⁰ <http://www.foe-scotland.org.uk/sites/www.foe-scotland.org.uk/files/FoES%2020mph%20Consultation%20response.pdf>

6.4 Development tomorrow

This section needs to acknowledge that the shortcomings of SPP on planning and air quality need to be overcome.

It specifically needs to provide policy which will ensure that any new development is properly connected to city centres/local amenities with sustainable, low carbon and low pollution transport networks.

Recommendation: This section needs to require that Scottish planning policy be reformed so as to include a far more specific requirement to reject new developments that increase air pollution, particularly to air quality management areas but to all areas.

6.5 Climate Change tomorrow

Recommendation: This section should make a commitment to CO₂ emissions requirements being introduced as part of the Low Emission Zone Framework.

Low Emission Zones should be implemented which set strong standards for NO_x and PM pollution *and* CO₂ emissions, for example, through an initial requirement for Euro standards and a subsequent requirement for vehicles to be zero emissions capable over time. This is what is intended for taxis operating in London's ULEZ.

This would also help make the case for LEZs because a big problem which is often mentioned is that whilst diesel cars tend to produce lower emissions of CO₂, they produce higher NO_x emissions. LEZs are especially attractive because they are a way to ensure the highest possible standards for both CO₂ *and* NO_x. In this way, they will help Scotland to deliver its target to decarbonise of the transport sector by 2050.

6.8 Behaviour and Communications tomorrow

We note that there needs to be a much more widespread communication of the impacts of air pollution and of live air pollution episodes.

The air pollution episode of 17 – 19 March was not adequately communicated to the general public. The levels of pollution during that episode were breaking legal daily limits for PM₁₀ pollution and the health advice that corresponds with the levels of air pollution are that asthmatics and people with cardiovascular conditions should reduce physical activity, particularly outdoors, if they experience symptoms. However, the only way for people to have known about this was if they were subscribed to the Know and Respond system. The problems with this are twofold: firstly, the Know and Respond alerts were not issued far enough in advance for people to adequately prepare themselves. During the episode, we were contacted by asthma sufferers received text alerts about the pollution episode after symptoms of breathlessness and ill health had started.

The second issue is that only a limited number of people are subscribed to that service and it should not be people's individual responsibilities to subscribe. The Scottish Government should have issued a national press release which would have enabled the pollution episode to have formed part of daily news and weather bulletins on 16th, 17th, 18th, and 19th March.

Recommendation: The Strategy needs an action point for the Scottish Government to develop a written protocol to issue national warnings about air pollution episodes where levels of air pollution are forecasted or seen to be breaking short-term limits across at least two local authority areas for at least a day.

Q5 What are your views on the proposals for the National Modelling Framework?

We support the idea of a National Modelling Framework.

Q6 What are your views on the proposals for the National Low Emission Zone Framework?

The National Low Emission Zone Framework is the most useful part of the Low Emission Strategy with the largest potential and deserves a much more prominent place in the Strategy. However the LEZ Framework needs a lot more development.

Recommendation: The Scottish Government must deliver a finalised Low Emission Zone Framework by the end of the year which specifies (a) what the LEZ requirements for cities will be, (b) how they will be enforced, and (c) how local authorities will be enabled to deliver them.

(a) What the LEZ requirements will be

The Framework needs to specify what dates LEZs should be introduced in key cities in Scotland, which Euro standards will apply, and to which vehicles.

Recommendation: Friends of the Earth Scotland recommends LEZs in the major cities (Glasgow, Edinburgh, Dundee and Aberdeen) with Euro 6 standards applied to buses and HGVs by 2018, and with Euro 6 standards applied to cars and vans by 2020. CO₂ emissions requirements should also be considered as part of LEZ schemes. The following table describes our recommendations for LEZs in Glasgow, Edinburgh, Aberdeen and Dundee:

	2018	2020	2025	2030
Taxis	Euro 6	Euro 6 Zero-emissions capable	Euro 6 Zero-emissions compliant	Euro 6 Zero-emissions compliant
Buses	Euro 6	Euro 6 Hybrid/plug in electric requirement	Euro 6 Hybrid/plug in electric requirement	Euro 6 Hybrid/plug in electric requirement
Cars	Grace period	Euro 6	Euro 6 Zero emissions capable	Euro 6 Zero emissions capable
LGVs	Grace period	Euro 6	Euro 6 Hybrid/plug in electric requirement	Euro 6 Hybrid/plug in electric requirement
HGVs	Grace period	Euro 6	Euro 6 Hybrid/plug in electric requirement	Euro 6 Hybrid/plug in electric requirement

(b) How LEZs will be enforced

The framework needs to specify how LEZs will be enforced, and what levels of fines will be imposed on vehicles.

Recommendation: The Framework should specify that camera-based systems be used to enforce LEZs because they are more flexible and efficient than paper-based enforcement systems, because key cities, in particular Edinburgh and Glasgow have existing camera infrastructure which could be adapted to use for LEZ enforcement, and because this would ensure compatibility with London.

The concerns around LEZs needing to be uniform across Glasgow and Edinburgh are valid. But equally, it would make sense to consider harmonising a Scottish LEZ with the London one, particularly if Defra eventually introduces a UK-wide LEZ Framework.

In terms of setting the correct level of fine, the level should be set such that it acts as enough of a threat for people to comply with the zone requirements, and also be set high enough to maximize recovering the costs of implementing LEZ schemes.

(c) How to ensure that LEZs will actually be adopted by local authorities as soon as possible.

The Framework needs to use a combination of stick and carrot to get local authorities to actually implement LEZs by 2018: there should be a legally-

based opt-out mechanism which requires that the major city local authorities (Dundee, Edinburgh, Glasgow and Aberdeen) must introduce LEZs unless they can prove their action plans will achieve compliance with Scottish standards before 2020, and the Government needs to provide funding for to local authorities to set up LEZs.

In other words, the burden of proof is put on local authorities to show that they have adequate alternative measures in place to achieve compliance with Scottish air quality standards if they wish to opt out.

This opt-out requirement will need to go hand in hand with the Government making financial provision for local authorities to roll out the zones.

We recognise that this model puts quite a lot of pressure on local authorities; so we recommend that local authorities are required to show that they have an adequate plan to achieve compliance with air quality standards, but that the requirement does not go as far as requiring local authorities to deliver their plans if they lack the funding.

Recommendation: The National Low Emission Zone Framework should be finalised and completed before the end of the year

There is a need for greater clarity over what the Low Emission Zone Framework is.

It is unclear whether Chapter 8 is the actual Framework for Low Emission Zone, or just a Framework for the development of another Framework. Chapter 8 is called the “Low Emission Zone Framework” and more Guidance is found in Annex B, yet there is an action point for a National Framework to be developed, which is confusing. The National Framework must be completed by the end of this year given the urgency for LEZs to be introduced in Scotland.

Recommendation: The findings of Glasgow and Edinburgh’s feasibility studies need to be incorporated into the Low Emissions Framework better

Both Glasgow and Edinburgh City Councils have both conducted Low Emission Zone feasibility studies, the outcomes of which should be used to inform the national framework.

Q7 What are your views on the proposed Key Performance Indicators? Are any different or additional Indicators required?

Recommendation: We support all of the KPIs, but central government should also be made to report against them on a country-wide basis. It should not be able to pass the buck on to local authorities.

Recommendation: We would suggest in addition to also include the following criteria which were the bases of Friends of the Earth Germany and the European Environment Bureau's assessment for the pan-European city comparisons (Soot Free Cities project):

- (1) Whether Low Emission Zones or other mechanism to Ban High Emitters (e.g. SQPs) have been adopted
- (2) In terms of public procurement, whether the cleanest cars are being bought
- (3) What policies exist on non-Road Mobile Emission Sources
- (4) How Economic Incentives to discourage car usage have been adopted (e.g. congestion charging and parking charges)
- (5) How well public transport has been promoted & share of public transport in modal split
- (6) How well walking & cycling are promoted, & share of their use in modal split
- (7) Uptake of other traffic management schemes e.g. 20mph zones.