Environment, Climate Change and Land Reform Committee

Inquiry into air quality in Scotland

Written submission from British Lung Foundation Scotland

Around one million people live with a lung disease in Scotland. Air pollution can make it harder for these people to breathe and it increases their chances of being admitted to hospital. There is well-established evidence that air pollution can affect everyone’s health; it can increase everyone’s chance of getting lung cancer, stunt children’s lung growth and worsen existing lung conditions.

Scotland has some of the highest rates of lung disease in the UK. Our urban areas, particularly around Glasgow, have the highest lung disease mortality rates in Britain, and also have some of the highest rates of air pollution, particularly PM\textsuperscript{2.5}.

We support 15 Breathe Easy support groups across Scotland. Many patients who attend these groups tell us that pollution changes what they are able to do in their everyday lives. We run a UK helpline that offers health advice and support to people who have questions about their lung health. Every year, our nurses answer over 17,000 calls. Every month, we receive numerous calls and emails from people who are concerned about air pollution - particularly from parents, schools and patients.

Does Scotland have the right polices (Clean Air for Scotland Strategy), support and incentives in place to adequately tackle air pollution? Are the policies sufficiently ambitious?

We think the Cleaner Air for Scotland (CAFS) strategy is a step in the right direction but we need action that goes further and faster to meet the scale of this public health crisis. Scotland now has 38 Air Quality Management Areas (AQMAs) which are failing to meet air quality standards. This is particularly true of some of our biggest cities - Glasgow, Edinburgh, Dundee, Aberdeen and Perth all have ongoing air pollution problems, with breaches of air quality standards across 10 sites in 2016.\textsuperscript{i}

We urgently need a comprehensive package of measures to bring air quality to safe and legal levels. This should include a national network of Clean Air Zones (CAZs) that are supported by national schemes to incentivise active travel and cleaner vehicles, and a nationwide public health campaign.

What we would like to see in Scotland:

- Carefully-designed CAZs that use cleaner public transport, active travel and other measures to improve air quality.
- Independent real-world emissions testing for all vehicles, to inform public pollution-reduction strategies and private vehicle purchases;
Improved pollution monitoring, awareness campaigns and public health alerts, so that people living in every part of Scotland – particularly the most vulnerable - are aware of local pollution levels and how to minimise the impact on their health;

Inclusion of public health outcomes, and specifically lung disease outcomes, as a measure of success in reducing air pollution.

How does the Scottish policy fit with the UK and EU policy on air quality?

Defra holds legal responsibility for the UK’s compliance with EU limits, and coordinates assessment and air quality plans for the UK as a whole, though responsibility for meeting UK air quality limits is devolved to the Scottish, Welsh and Northern Ireland governments. The most recent whole-UK strategy was published in 2007. The Scottish Government’s CAFS strategy was arguably more ambitious than the existing UK strategy when it was introduced in 2015, by setting active travel targets and complying with World Health Organisation (WHO) limit for PM and PM as recommended objectives.

Whilst air quality is an increasing policy priority locally and nationally, progress across Scotland and the rest of the UK is slow and action so far has been weak: the Supreme Court ruled in 2016 that Defra’s plans to make cities compliant with EU air quality law by 2020 (London by 2025) were illegally slow and “inadequate”.

Despite this, Defra’s new air quality plan focuses only on NO and provides no further details on how compliance will be achieved in Scotland, Wales, and Northern Ireland. The plan just outlines that further plans need to be written in these nations. It does not establish clear timelines or a consistent approach to this. A comprehensive UK-wide plan needs to be written that sets clear timelines, objectives and resources for every nation. This will require Defra to work closely with devolved governments. However, regardless of Defra’s plans, the Scottish Government has the opportunity to lead by example, as it did by recommending adoption of the WHO targets for particulate matter.

Are the powers and resources of Local Authorities and SEPA to address air pollution adequate? How should the improvement of air quality be prioritised in areas where there have been persistent breaches of NO limit values?

We are aware of the current strain on local authority and national budgets in Scotland. Audit Scotland produced a report in March 2017 on local government finances. The report highlighted the “major challenges” facing local authorities in light of continued reductions in Scottish Government funding, and greater demands on services from an ageing population. The report also identified a 7.3% increase in emergency hospital admissions for people age 65 and over.
Among adults with pre-existing lung conditions, including chronic obstructive pulmonary disease (COPD) and asthma, exposure to high air pollution has been linked with worsening symptoms and exacerbations. Research has shown that air pollution contributes to increased risk of hospital admissions and premature mortality for these patients.

A report published by the BLF this year found that lung disease costs the UK as a whole £11 billion each year. In this context, the immediate costs of implementing effective air quality measures should surely be seen as an investment in Scotland’s long-term health and economic prosperity.

**Target the most polluted areas where the most vulnerable people are exposed**

Funding should be targeted to towns and cities where pollution levels are the most acute. Areas with high rates of lung disease should also be prioritised, such as Glasgow and the Ayrshire region, where lung disease mortality rates are very high and health outcomes are consistently below average. Funding should be allocated to achieve both environmental and health outcomes. It should be allocated across council departments to facilitate cross-departmental working between health, transport and environmental health teams. Evidence shows that the impact of air pollution is felt the most by those whose lungs are already vulnerable – the elderly, children and people with a lung condition. Therefore, funding should be prioritised for schemes that seek to engage and protect vulnerable groups. We think this should include projects that provide data and health information to schools, care homes and hospitals.

**Support with data collection that reflects air quality exposure**

Funding and guidance should be provided to local authorities to improve the collection of data on air quality exposure. The majority of current air quality data does not reflect the quality of air that the most vulnerable people are breathing in. For example, a freedom of information request by the BLF to local authorities found that three quarters of Scottish councils do not have air quality monitors outside their local schools. Edinburgh, Falkirk and Rutherglen have all been identified as areas which have illegal and unsafe levels of NO₂. Over 100,000 children attend secondary and primary schools in these three areas, yet only 3 schools here have pollution monitors outside of them. East Lothian and Glasgow have been identified by the WHO as having unsafe levels of particle pollution PM2.5, yet only one school is being monitored.

This inconsistent approach to monitoring has resulted in a patchwork approach to data collection across Scotland, and means parents and schools don’t have the data they need to protect children’s health. LAQM guidance in Scotland should be amended to require local authorities to introduce air quality monitors within 1km² of each school, hospital and care home in polluted areas. Monitoring must be regular.
with reporting suitable for all audiences. Improved air quality monitoring will allow measurement against pollution reduction targets, allow services to protect the health of their vulnerable users, highlight which routes are safest for travelling to them, inform public advice and warnings and provide a more detailed picture of pollution exposure.

**Lack of guidance for local authorities**

We agree that local authorities are often best placed to make decisions for their local area and to identify local challenges. However, they require sufficient resources and expertise to make these decisions. This should include funding to carry out feasibility studies and employ air quality specialists, as well as guidance and support to develop LEZ plans (further explained below).

**Greater support for SEPA in delivering communications**

We understand the difficulties in trying to appropriately and effectively communicate the impact of air quality on public health, and the complex yet necessary set of policies and actions that will need to be introduced to tackle the problem of air pollution. This is why we want to see a greater level of support and resource given to SEPA and those in Scottish Government who have been tasked with leading on CAFS communications.

We note the several commendable one-off communications projects that have taken place since 2015, including those involving children and young people. We also note the work being done on the online Spotfire air quality visualisation tools, which are still in development. However, we feel this has taken a piecemeal approach and has failed to reach the breadth of audience it needs to. We want to see the Scottish Government deliver on its CAFS commitment for a national air quality public awareness campaign, which we argue should be a public health campaign. The Scottish Government has led some very successful public health campaigns in the past, such as “Detect Cancer Early” and “Take it right outside”, which led to tangible, positive health outcomes across Scotland. Now the government has the opportunity to do the same with air quality, if properly supported. BLF Scotland would be keen to support the Scottish Government in delivering this, as we have done with previous public health campaigns.

**Are the policies and delivery mechanisms (support and incentives) being effectively implemented and successful in addressing the issues? Are there conflicts in policies or barriers to successful delivery of the air quality objectives?**

We believe that a network of LEZs/CAZs should be complemented by the following, and should be actively pursued by the Scottish Government.
Greater investment in active travel

The most effective way of reducing air pollution is by getting cars off the roads, and encouraging other means of travel. The CAFS Strategy reaffirms the Scottish Government’s commitment to boost cycle use up to 10% of all journeys by 2020, as stated in the Cycling Action Plan for Scotland and the Programme for Government. However, that aim will be undeliverable without a major increase in spending. Transport Scotland published statistics in September 2016 which showed that in 2015, 1.2% of all journeys were cycled, a decrease from 2014 and well below the 2020 ambition of 10%. The figure has remained around 1% since 2003. According to Transport Scotland, many of the barriers to cycling are to do with concerns about traffic, safety, and infrastructure. Investment in good quality infrastructure, which provides people with safe and convenient routes to work, can overcome these barriers. This is why BLF Scotland co-signed an open letter in September 2016 to the Cabinet Secretary for Finance and the Constitution asking for an increase in the active travel budget.

A targeted diesel scrappage scheme

Many drivers purchased their diesel cars in good faith. In a 2015 BLF survey of lung patients, 49% of respondents said they bought a diesel car because it was better for the environment and 48% bought it as it was cheaper to run. The government should invest in schemes that help people make cleaner decisions and that send a clear message to drivers on the best vehicles to drive. We strongly support the introduction of a national targeted diesel scrappage scheme. This scheme should enable people to trade their cars in for a discount on a cleaner vehicle – an electric or hybrid. Vehicles that are available through this scheme should be drawn up from a prescribed list of real-world emission tested vehicles. This scheme should be targeted at the most polluted urban areas and to low-income communities and people with long-term health conditions.

Holistic planning with public health

Tackling air pollution will also help achieve goals across health policy such as improving lung health, increasing physical activity, reducing obesity and addressing health inequalities. Deprived communities are more likely to be exposed to toxic pollution levels, yet have less access to public transport, cycle paths, walking routes and green space. People in the poorest areas of the UK are twice as likely to have COPD and lung cancer compared to people living in the richest areas. Reducing air pollution and promoting active travel will help create greener, safer and healthier communities in Scotland. In order to ensure that health outcomes are achieved, we want to see action that goes beyond including reference to air quality in Joint Health Protection Plans. We think an improvement in respiratory health should be measured as part of the CAFS strategy. For instance, outcomes could include: a reduction in
premature mortality from air pollution or reduced emergency admissions for lung patients.

**Is Scotland on target to have a pilot low emission zone (LEZ) in place by 2018 and should there be more than one LEZ pilot?**

We strongly support the introduction of LEZs in Scotland and welcome the Scottish Government’s continued commitment to having Scotland’s first LEZ in place by 2018. It is our understanding that elected officials in both Glasgow City Council and the City of Edinburgh Council are keen to introduce the first LEZ pilot in their respective cities, and that work is ongoing to make this a reality. However, we need more than one LEZ in Scotland if we are to properly tackle air pollution, and the progress in developing the necessary policy frameworks to realise this has been worryingly slow and behind schedule. The National Low Emission Framework (NLEF), which should provide guidance for local authorities in developing future LEZs, has yet to be consulted on, which puts it well behind of the timeline stated in CAFS. A separate consultation on LEZs, to be carried out by Transport Scotland, has also not yet been published. Detailed modelling on Dundee and Aberdeen cities is also unfinished.

We are concerned that, due to acute time pressures and the aforementioned lack of guidance, Scotland’s pilot LEZ could fall short of being as ambitious as it needs to be and we could be waiting several more years before any further LEZs are introduced.

**We need a national network of charging low emission zones across Scotland**

There is substantial evidence to show that a charging LEZ or CAZ can have a notable positive impact on air quality. The Technical Report published by Defra this year as part of the Draft UK Air Quality Plan for tackling nitrogen dioxide shows that a network of charging CAZs is the most effective way to deliver legal compliance with air quality targets in the shortest time possible.

The findings in the technical report are supported by successful experiences of implementing CAZs in other cities across the world. A zone introduced in Berlin in 2008 (which included cars) and expanded in 2010 led to PM and NO\textsubscript{2} emissions 50% and 20% lower than the predicted trend. Even small reductions in vehicle numbers can lead to significant health benefits. The low emission zone which operated in Rome from 2001-2005, achieved a 4% reduction in total number of cars. NO\textsubscript{2} emissions decreased from 22.9 to 17.4 μg/m\textsuperscript{3} and PM\textsubscript{10} emissions decreased from 7.8 to 6.2 μg/m\textsuperscript{3}. As a result of the policy, 264,522 residents who lived alongside busy roads gained an average 3.4 days of life per person.
Ineffectively designed CAZs, such as London’s existing low emission zone (LEZ), have failed to deliver compliance with legal levels or positively impact on children’s health.\textsuperscript{xxv} London’s LEZ only regulated large vehicles such as buses, lorries and light goods vehicles, rather than private cars. Additionally, the emission factors used to model the zone did not factor in real world emissions so were therefore inaccurate.

Although there is no sole universal model,\textsuperscript{xxvi} we believe that CAZs must generally:

- Meet local needs, identifying the biggest local polluters, and discourage their use via financial charges. Private vehicles must form part of a CAZ, due to their contribution to air pollution.
- Support a long-term reduction in private vehicle use, promoting behavioural change for people to switch to public transport and active travel.
- Only include clean, zero emission public transport. Buses used prior to the introduction of CAZs, unless already clean models, should be retrofitted or scrapped.
- Where possible, measure real-world emissions using cameras or sensors. The effectiveness of CAZs will be limited if licence plate and manufacturer emission data is relied upon for monitoring purposes.
- Cover a large enough area to produce measurably lower emissions, and include public service buildings (hospitals, schools, care homes) used by people most vulnerable to air pollution’s health effects.
- Be evidence-based, with measurable targets to improve health outcomes.
- Either charge-exempt blue badge holders and people who are exempt from vehicle tax for mobility reasons, or extend the time for these groups to replace their vehicle before charging.

BLF Scotland believes that improving air quality would have widespread positive impacts on the nation’s lung health, particularly those most at risk. Making changes now could help future-proof the respiratory health of Scotland for generations to come.

\textsuperscript{1} http://informatics.scottishairquality.co.uk/data-visualisation/saqd/public.html
\textsuperscript{2} Defra (2015) Improving air quality in the UK: Tackling nitrogen dioxide in our towns and cities
\textsuperscript{5} ClientEarth (No.2) v Secretary of State for Environment, Food and Rural Affairs [2016] EWHC 2740
\textsuperscript{6} Audit Scotland (2017), Local government in Scotland: Performance and challenges 2017, p.4
\textsuperscript{7} Ibid. p.24
\textsuperscript{8} Peacock, J. L. et al, Outdoor air pollution and respiratory health in patients with COPD. Thorax, 2011.
\textsuperscript{10} British Lung Foundation (2017) Estimating the economic burden of respiratory illness in the UK


Public Health England (2016) Working Together to Promote Active Travel: a briefing for local authorities


Ibid. p.85


German Partnership for Sustainable Mobility (2014) Clean Air - Made in Germany, p.26

