

Air pollution in Scotland

Tackling a public health crisis

Summary of recommendations

The Scottish Government should:

- Support and fund local authorities to create Low Emission Zones in every city
- Invest in 10% of its transport budget in walking and cycling infrastructure
- Introduce a Bus Act to give local authorities greater powers over bus services
- Make 20mph the default speed limit in cities

Scotland's air pollution crisis

Traffic-related air pollution is causing a public health crisis in Scotland. Scottish statutory standards and binding European legal limits continue to be broken across the country. Air pollution causes thousands of early deaths each year in Scotland and reduces the quality of life for many more, especially children, older people and people made vulnerable by chronic health conditions. It also has a damaging effect on ecosystems and wildlife.

Over the years, air pollution has changed from the visible industrial smogs of the 1950s to often invisible traffic-related pollution. The solutions to today's air pollution therefore depend on a shift in the balance of transport policy and investment away from the car towards public transport, cycling and walking.

The Scottish Government has made a commitment to introducing one Low Emission Zone (LEZ) by the end of 2018. While this is a welcome first step, the Government must guarantee funding for the zone, and must spell out how other Zones will be created across Scotland as soon as possible. It must also ensure a range of further action on transport, as LEZs in and of themselves will not be sufficient to ensure the maximum possible reduction in toxic air on our streets.

Taking action on air pollution can deliver health and wellbeing benefits, generate economic savings, and help Scotland achieve its Climate Change targets.

Health impacts of air pollution

Air pollution from fine particles alone (PM_{2.5}) is responsible for 2000 early deaths in Scotland each year according to 2014 research published by Public Health England¹. Exposure to NO₂ also causes early death, and we estimate that taking into account both PM_{2.5} and NO₂, air pollution causes 2,500 early deaths in Scotland each year² - more than ten times the number of people dying in road accidents.

In 2013 the World Health Organization's specialized cancer agency, the International Agency for Research in Cancer, classified the cocktail of outdoor air pollution as carcinogenic to humans and named it as a leading cause of cancer deaths, with these conclusions applying to all regions of the world³.

Long-term exposure to particulate matter at levels present on many Scottish streets has been shown to increase the risk of coronary events including heart attacks and strokes⁴.

Ambient air pollution, at levels seen on our streets in Scotland, has been linked with restricted foetal growth and premature birth⁵.

It is estimated that air pollution costs the Scottish economy over £1.1 billion each year in days lost at work and costs to the NHS⁶.

Everyone's health is affected by air pollution, but children are affected worse than others because their lungs are smaller and are still developing. People with breathing and heart conditions are affected more than others, as well as the elderly, and people living in poverty. It is not fair that the people who are least responsible for air pollution are the worst affected and some of the most vulnerable in our society.

Ongoing breaches of Scottish and European laws

Scottish standards: The most polluted areas in Scotland are in Glasgow, Dundee, Edinburgh and Aberdeen, but in total there are 38 Local Air Quality Management Areas (AQMAS) – up from 35 in 2015 – across 14 local authorities⁷, where local authorities have had to declare that levels of pollution are either at risk of or are regularly breaking Scottish Regulatory Standards. These standards were due to be met in 2005 for Nitrogen Dioxide (NO₂) and 2010 for coarse particles (PM₁₀)⁸. Some AQMAS, such as those in Dundee and Perth cover the entire city.

European law and current air quality consultation: Scotland is also breaking the European Ambient Air Quality Directive, which required a legal limit for NO₂ to be met by 2010, with a possible 5-year extension. For the purposes of EU law reporting Scotland is divided into six areas, and today it is breaking the limit in four out of six of those areas⁹.

As a result of a legal action brought by ClientEarth against the UK Government, in April 2015 the UK Supreme Court required the UK Government to produce new Air Quality Plans to prove how it would reduce exposure to air pollution as well as delivering on its European legal obligations in as short a time as possible.

Following fresh legal action, the High Court deemed those plans inadequate in October 2016, and new plans were ordered again. A consultation on the revised plans was launched in May 2017 and closes on June 15th. The plans in respect of Scotland are deeply inadequate: they are only aiming for compliance with European law by 2020 which is not the same as reducing all exposure as soon as possible. They also aim to consult on a National Low Emissions Framework later this year. That Framework was originally due to have been finalised by 2016. We need action in Scotland now rather than plans for plans.

Scottish Government's action to clean our air

Air quality is devolved so the Scottish Government is legally bound to ensure that EU law, as interpreted by the High Court, is complied with in Scotland.

In November 2015, the Scottish Government launched "Cleaner Air for Scotland" which aims for compliance with European law by 2020. The main commitment it has made since then is to work with a local authority to introduce Scotland's first Low Emission Zone by 2018.

Further benefits of action on transport and air quality

As well as saving hundreds of lives, which is the urgent priority, improving transport can also:

Tackle climate change: at the moment, the transport sector makes up a quarter of Scotland's total greenhouse gas emissions, and that proportion is gradually rising, not falling. Scotland is not meeting its Climate Change targets so tackling transport will help it.

Help the economy and the NHS: The cost of air pollution to the Scottish economy, in terms of days lost at work and costs to the NHS, could be as much as £2billion every year. Spending more money on tackling air pollution would therefore pay for itself.

Boost active lifestyles: Physical inactivity costs the NHS in Scotland £94 million annually¹⁰. If people are able to build walking and cycling into their daily lives by having safe options to commute to work and school by active travel, this will be an easy way to get the nation active.

Recommendations

The Scottish Government must build on its promise to introduce a Low Emission Zone by 2018. Much more is needed to make our air safe to breathe everywhere in Scotland. The Scottish Government must:

1. Support and fund local authorities to create Low Emission Zones in every city

The Scottish Government must help fund Scotland's first Low Emission Zone in 2018 and support the rapid roll out of Low Emission Zones in at least Glasgow, Edinburgh, Dundee, Perth and Aberdeen. Using Automatic Number Plate Recognition technology for enforcement, these Zones would initially apply Euro VI emissions standards to buses, lorries, and vans, with the dirtiest taxis and cars included in a later phase. As well as contributing to cleaner air, Low Emission Zones would have a beneficial impact on local economies, and would speed up the transition to electric vehicles on our roads.

2. Invest 10% of its transport budget in walking and cycling infrastructure

For the last decade, cycle rates have been stalled at about 1% of all trips, despite the Scottish Government's stated ambition for cycle rates to reach 10% of all trips by 2020. Transport Scotland statistics reveal that a key barrier to cycling is lack of safe infrastructure and people fearing cars. The Scottish Government must invest 10% of the transport budget in safe, dedicated active travel infrastructure in order to tackle this barrier. In Seville, a widespread roll-out of cycling infrastructure, coupled with other demand management measures, has contributed to the city slashing its nitrogen dioxide levels in half.

3. Introduce a Bus Act that gives local authorities greater powers over bus services

With the exception of Lothian Buses in Edinburgh, the bus sector in Scotland is in rapid decline, at the expense of people who do not have access to a car or viable walking and cycling options. The number of bus journeys has dropped by 5% in the last 5 years, declining almost 2% over the last year.

The Scottish Government must re-regulate the buses to give local authorities more control over bus services so that they operate in the public interest rather than at the whim of different private operators. Local councils should be enabled to regulate fares, plan routes, introduce integrated ticketing systems, and operate entire networks rather than attempting to join up piecemeal services in an incredibly challenging financial climate.

4. Make 20mph the default speed limit in cities

20mph zones have been proven to make streets safer and reduce traffic, thereby improving air quality and encouraging people to walk and cycle. The Scottish Government should legislate to reduce the default speed limit in urban areas from 30mph to 20mph to support clean air, safe streets and help social cohesion.

¹ Public Health England, “Estimating Local Mortality Burdens associated with Particulate Air Pollution” (April 2014)

² Based on a conservative estimate from the Royal College of Physicians that across the UK, air pollution from NO₂ and PM_{2.5} causes over 40,000 early deaths annually. See Royal College of Physicians, “Every breath we take: the lifelong impact of air pollution” (February 2016)

³ IARC Press Release, 17 October 2013, “Outdoor air pollution a leading environmental cause of cancer deaths”

⁴ Research published in the British Medical Journal, “Long term exposure to ambient air pollution and incidence of acute coronary events: prospective cohort study and meta-analysis in 11 European cohorts from the ESCAPE Project” (Jan 2014) BMJ 2014;348:f7412

⁵ “Ambient air pollution and low birthweight: a European cohort study (ESCAPE)” The Lancet Respiratory Medicine, Volume 1, Issue 9, Pages 695 - 704, (Nov 2013)

⁶ Extrapolated from a Defra assessment that air pollution costs the UK economy as a whole £16bn per year, based on 29,000 UK- wide deaths from air pollution: Defra, “Impact pathway guidance for valuing changes in air quality” (May 2013)

⁷ An indicative list of air quality management areas can be found at <http://www.scottishairquality.co.uk/laqm/aqma>.

⁸ The Scottish Standards are set out in the Air Quality (Scotland) Regulations 2000 and the Air Quality (Scotland) Amendment Regulations 2002. A standard for PM_{2.5} was introduced in 2016 via the Air Quality (Scotland) Amendment Regulations 2016.

⁹ The six “zones” are: Highlands, Borders, Central Scotland, Northeast Scotland, Edinburgh Urban Area, and Glasgow Urban Area. EU law is being broken in all zones except for the Highlands and the Borders.

¹⁰ Sustrans, "Physical activity and health - facts and figures": <http://www.sustrans.org.uk/policy-evidence/the-impact-of-our-work/related-academic-research-and-statistics/physical-activity>.

