



To the Members of the Scottish Parliament,

I am writing to you today to emphasise the critical importance of indoor air quality (IAQ) in educational settings across Scotland, encompassing early years, primary, and secondary schools.

Poor indoor air quality in our education settings is a public health and human rights issue under the [UNCRC](#) (including Articles 2, 6, 23, 24, 28 and 29) & the [ECHR](#) (including Articles 2, 14, and A1P2).

We are writing to call on the Scottish Government to change school inspections and include indoor air quality as a mandatory and standalone area of assessment. This change should be reflected in updated policy and regulations, supported by guidance and education to the workforce.

Public Health Issue

During the COVID-19 pandemic, the [Scottish Futures Trust](#) conducted significant research and distributed millions of pounds of public money to enable the instillation of indoor air quality sensors in various educational settings. This initiative, supported by the Scottish Government, represented a [substantial investment](#) of £10m - 20m aimed at safeguarding public health during an unprecedented crisis. However, despite the initial 'success' and the considerable financial outlay, in our opinion, the effort has not translated into a legacy. There remain significant issues with IAQ in our schools that require urgent attention.

It is widely accepted and understood that safe levels of Co2 are between 350-600ppm. Guidance document [BB101](#) provides clarity on safe levels of indoor air quality states that the **average CO2 levels** should not exceed **1000 ppm** and **1500ppm for more than 20min**. Based on our own data set from 6500 sensors which are in education settings across four local authorities and 100 schools, many schools exceed this guidance and The World Health Organisations Indoor Air Quality Guidelines. Our data shows that:

- 28% of 5400 Classrooms exceed 2000 ppm for more than 20 mins.
- 46% of 5400 Classrooms exceed 1500 ppm average per day.
- There is a distinct lack of Indoor Air Quality Strategies in education settings across

These elevated CO₂ levels are likely having a significant negative impact on children's ability to learn and particularly affect those with health conditions such as Asthma and respiratory issues. In one Scottish school in November 2024 the CO₂ reading was 7500 ppm for more than 4.5 hours, which is chronic.

Health Implications

In simple terms, sitting in rooms with elevated levels of carbon dioxide (CO₂) can significantly impact children's learning and cognitive abilities. High CO₂ concentrations, often resulting from poor ventilation, can lead to symptoms like drowsiness, headaches, difficulty concentrating and adversely affect existing health conditions. Studies have shown that elevated CO₂ levels can reduce cognitive performance, affecting attention, focus, and decision-making skills. This can hinder children's ability to retain information, perform well academically and directly affects their right to an education under the UNCRC.

Zet Zero & Carbon Emissions

The other issue that we are aware of is overheating and cooling of education buildings. In practice some schools set their temperature to 22° the whole year round, even during the summer and holiday periods, producing unnecessary levels of carbon emissions and costing thousands of pounds per year for each building. Considerable carbon reductions and costs savings can be made, should alternative ways of building management be introduced.

Who We Are

[Zircon Smart Buildings](#) are ventilation experts. Our expertise in HVAC (Heating, Ventilation, and Air Conditioning) systems and smart building technologies enables us to create environments that are not only energy-efficient but also conducive to health and well-being. We work closely with the voluntary, public and private sectors to deliver tailored solutions that meet industry standards and are part of the [Zircon AC Group](#). Beyond our professional roles, we are Mums, Dads, Grandparents and people who are passionate about the health and well-being of children and their learning.

Our Partners

Over the last year we have been working with partners on a voluntary basis and are in the process of establishing a UK wide steering group of experts that bring children, rights, human rights and ventilation expertise together. This is being supported by [former Children and Young People' Commissioner](#) Bruce Adamson. Recently we signed and supported the [petition](#) calling on the Scottish Parliament to urge the Scottish Government to amend the Air Quality Standards (Scotland) Regulations 2010 by setting new limit values for nitrogen dioxide and fine particulate matter which align with the World Health Organisation air quality guidelines published in 2021.

The recent discussions in the Scottish Parliament around indoor air quality underscore the growing recognition of this issue. We believe that the unique blend of children's rights, ventilation and indoor air quality expertise places us in a strong position to be part of this discussions.

Links with UK agenda

Our colleagues at [Farmwood Ltd](#) specialise in delivering advanced HVAC and IAQ solutions across various sectors. From 2019 to 2024, the Managing Director was the Chair of the [Building Engineering Services Association's \(BESA\) Health & Wellbeing in Buildings Group](#), developing best practice guides and addressing challenges like the COVID-19 pandemic. Further experience includes; being Chair of the World Ventilation Day initiative, serving as a main committee member of the Global Air Quality Standard (GO AQS), working on the [Clean Air Toolbox for Schools](#) initiative with London Mayor Sadiq Khan and assing with the Schools' Air Quality Monitoring for Health and Education (SAMHE) project. We want to share this learning with Scotland and the IAQ journey that the Scottish Parliament are embarking on.

In conclusion, we would welcome the opportunity to meet with relevant Ministers, Committees and MSPs to add our voice and experience on this important human rights and equalities issue.

More importantly we want to add the 'voice' of the children and young people who do not know that this is an issue as they cannot see the poor air that they are breathing.

Thank you for your attention to this important matter.

Kevin Browne- MacLeod

Contact Details

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