

# The need for a national clean air strategy for schools

While a range of solutions to reducing air pollution in and around schools exist, there is little guidance to help schools implement them. That's why leading experts from the 'Tackling Air Pollution At School' (TAPAS) network are calling for a clean air strategy for schools. Dr Katherine Roberts explains further

Polluted air, in the classroom, in the playground, or to and from school on the school run, is a serious threat to children's health and their ability to learn. School buildings and the sites they are located on are not always fit for purpose and identifying ways to reduce air pollution inside and out pose various challenges.

The scale of the problem of air pollution in the UK is reported in the latest '[Annual Report: Air Pollution](#)', published by England's Chief Medical Officer (CMO) Professor Chris Witty. This report draws on the experience and research of a large community of air pollution experts, many of whom are involved with the TAPAS (Tackling Air Pollution At School) network.

[TAPAS](#) is a network of experts working together to understand air quality in and around schools. Funded as part of the [Strategic Priorities Fund Clean Air Programme](#), the

network brings together stakeholders across academia, education, public policy, civil society and business and is working towards engaging better with schools to improve public understanding of the effects of air pollution.

## Raising awareness of the harmful effects

The COVID-19 pandemic highlighted many gaps in public knowledge when considering indoor environmental conditions, particularly the important role clean air can play in reducing the spread of disease. Informing teachers and

teaching children about air pollution and how their behaviour can influence positive change, for example switching the school run from the car to walking or cycling or improving ventilation and flushing out pollutants by opening a window, is an important step in raising awareness. But as highlighted in the CMO report, more must be done to also address our gaps in scientific knowledge. The CMO report states that "the current awareness of ventilation and actions such as providing CO2 monitors to schools provides opportunities to bring education on healthy

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◀ environments into the national curriculum alongside other health and environmental measures including energy, sustainability, healthy eating and physical activity”.

Dr Henry Burrige, senior lecturer at Imperial College London and contributing author to the CMO report said: “Professor Witty’s report emphasises the importance of indoor air quality, and schools are somewhere that our young people spend a large portion of their time – their exposure to air pollution in and around schools, and the understanding that they gain about air pollution from their learning at school, are important for determining the impacts of air pollution on our next generation.”

### A range of interventions

The CMO report showcases several studies in the UK that are being implemented to help reduce air pollution and improve children’s health. These programmes support measures, such as the installation of green screens and air filtration systems, the implementation of ‘school streets’ to restrict car access outside the school gates, building equipment upgrades and behaviour change campaigns, which have all helped reduce emissions from schools and children’s exposure to air pollution.

While all these contributions are a significant defence in our fight against air pollution, they could be viewed as a band aid approach to a global problem that should be being dealt with through government legislation. Professor Prashant Kumar, founding director of the Global Centre for Clean Air Research (GCARE) and contributing TAPAS researcher says: “The best way to limit the exposure to children is to control the air pollutant emissions at the source.”

Professor Kumar goes on to say that “once pollutants are released into the environment, different types of interventions such as those described in the CMO report become important.” The GCARE team have tested many of these interventions in real-world situations. Prof Kumar suggests that “a mix of interventions could be a way to maximise their benefits”.

### The need for collaboration

To reduce air pollution in and around schools, many different organisations will need to come together to work collaboratively and take responsibility for providing clean air. Larissa Lockwood, TAPAS co-investigator and director of Clean Air at Global Action Plan, is leading the call for a national clean air strategy for schools. She said: “Air pollution can damage children’s health and ability to

learn. What is clear from the CMO’s Annual Report and the work of the TAPAS Network is that solutions to reducing air pollution in and around schools do exist. Unfortunately, no one is taking responsibility to help schools implement these solutions. It is therefore crucial that a national clean air strategy sets out a focused route to improve the air our children breathe when at school.”

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By bringing together air pollution experts, healthcare professionals, engineers, campaigners, policy makers, teachers, parents and most importantly children, we can pave the way for a healthier, cleaner future and inspire the next generation of young minds. ■

### About the author

*Dr Katherine Roberts is the network manager for the ‘Tackling Air Pollution at Schools’ (TAPAS) Network based at the University of Cambridge. She also works part time as a Research Associate at Imperial College London for the SAMHE project (Schools’ Air Quality Monitoring for Health and Education) and the ‘Future Urban Ventilation Network’.*

*Dr Roberts is a chartered building services engineer with over eight years’ experience working as part of an environmental physics team for a global engineering consultancy firm.*



### FURTHER INFORMATION

[www.tapasnetwork.co.uk](http://www.tapasnetwork.co.uk)

## What is the SAMHE project?

The Schools’ Air quality Monitoring for Health and Education (SAMHE) project is being launched this week, with organisers inviting UK schools to register to take part.

SAMHE (pronounced ‘Sammy’) is an exciting new citizen science project which brings together scientists, pupils and teachers across the UK. Poor air quality impacts pupils’ health and attention levels, so it is important it is monitored and understood.

Schools taking part will receive a free air quality monitor linked to an interactive Web App.

The SAMHE monitor measures carbon dioxide (CO<sub>2</sub>), total volatile organic compounds (TVOCs), particulate matter (PM), temperature and relative humidity. Through the SAMHE web app, teachers and pupils can view the data in a range of interactive charts and graphical formats, and see how air quality changes over the course of hours, days or weeks and months. The app also offers a range of curriculum-linked activities and experiments using the data, creating opportunities for pupils to be scientists and do hands-on experiments with their monitor.

SAMHE has been designed together with schools to ensure it meets schools’ needs and is fun and engaging for pupils. Teachers involved in its development found it “powerful to see the live feed of the data” and were pleased that the “range of options allows us to use this system across the STEM subjects”.

SAMHE enables pupils to interact with real world data about their immediate environment, gives them agency to take informed action and offers an opportunity to collaborate with scientists and contribute to important research.

A representative from Elangeni School, a SAMHE Pioneer School, said: “The SAMHE monitor and app have provided our Y4/5 science group with a wealth of data to interrogate and analyse. There is tangible excitement at being able to access the data in real time at home!”

Find out more and register your school for the project on the [SAMHE](#) website.