

Website: www.ukcleanair.org**Latest research, news and events****Project of the month feature****UK schools to help monitor classroom air quality in massive citizen science project**

Schools across the country are being asked to take part in a huge citizen science project to help monitor and evaluate the quality of the air in our classrooms. It is hoped more than 1,500 schools will sign up to [SAMHE](#) (Schools' Air Quality Monitoring for Health and Education) and help provide important data to scientists studying the quality of classroom air. SAMHE schools will get a free high-spec air quality monitor that measures carbon dioxide (CO₂), 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 chart and graph 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 with and for schools. 20 'Co-Design Schools' worked with the team to design the project and 120 'Pioneer Schools' helped test and refine a beta version of the Web App. As well as being available to the school, air quality data from the monitor is collated in a national database and made available to scientists. The project is being led by the Stockholm Environment Institute at the University of York, Imperial College London, and the University of Cambridge. [Six research organisations](#) are collaborating to deliver the project, with funding from the Engineering and Physical Sciences Research Council and support from the Department for Education.

**Clean Air Day—date confirmed for Thursday 15th June 2023**

This year, Clean Air Day will be focussing on the impact of air pollution on our minds and brain health and improving air quality to reduce conditions affecting the brain and mental health ([Clean Air Day 2023 globalactionplan.org.uk](#)).

**OSCA—ULEZ surpasses expectation, but heating homes remains a barrier**

Air pollution measurements taken from the top of the BT Tower, London have shown promising results from the introduction of the Ultra Low Emission Zone (ULEZ). Predicting the future to include electrified vehicles and less fuel use, suggests that using ULEZ-type schemes along with traffic reduction measures would be beneficial for both public health and the environment. However, unless an alternative fuel is found to heat homes, home heating could surpass traffic generated pollution as the main source for nitrogen dioxide. Read the full article in the Guardian [here](#).

Breathable Cities - by Growth Studio

The Breathable Cities accelerator is looking for 8—10 start-ups dedicated to reducing air pollution in cities. Successful applicants will benefit from a 12 week accelerator programme, with personalised support tailored to your business goals and £10k grant towards expenses. Visit [Growth Studio](#) for more information and to apply.

Portal

Help us create a vibrant Clean Air Community by registering for our website Portal and get access to our research, programme activities and much more! [Click here](#)



Gary Fuller

Stephen Holgate

Suzanne Bartington

Update from the Champions

Royal College of Physicians Report: Every Breath We Take

The RCP along with the RCPCH and other Medical Royal Colleges will be updating its 2016 Report 'Every Breath we Take': [RCP](#), originally chaired by Sir Professor Stephen Holgate. The RCP are now seeking expert volunteers to contribute to specific areas where the evidence base has greatly advanced, including:

- the chronic effects of low-level particulate (PM2.5) exposure.
- non-exhaust sources, such as brakes and tyres, agriculture and microplastics.
- the effects on the developing fetus and on children and young people.
- multisystem effects of particulates such as dementia and loss of cognition, osteoporosis.
- causal mechanisms of non-smoking lung cancer.
- inequalities and the importance of indoor air exposures.

If you are interested, contact: publicaffairs@rcplondon.ac.uk



Knowledge Exchange Group - expert challenge to push programme impact

The newly formed Clean Air Programme Knowledge Exchange Group (KEG) met for the first time on the 7th March. This group of experts from across academia, government agencies, consultancies and the third sector convened to act as a sounding board for SPF projects to contextualise deliverables and impact pathways and to serve as a conduit for impact in their respective communities.

This first meeting explored the key outputs, outcomes, progress and plans for creating impact from the recently completed Wave 1 projects and their presentations. Feedback and discussion from the KEG highlighted areas for development and some key considerations for the Clean Air Champions in terms of how they support researchers to create impact both from individual projects and from across the programme. This atmosphere of constructive challenge provides a great starting point for exploring routes to creating real impact from the research emerging from the Clean Air Programme and reflected a really positive first meeting of this exciting new group.

UK and Ireland Occupational and Environmental Epidemiology Conference, 9th June 2023

Professor Sir Stephen Holgate will be speaking at this 16th conference on the topic of "Air pollution: one of the greatest health challenges of our time".

Dr Neil Rowland, Clean Air Champion for Northern Ireland will be part of the organising team, visit [here](#) for more information on this event.



Birmingham Clean Air Networks Conference 05-06 July 2023

Click [here](#) to register



BAVERSTOCK BURSARY

Travel and subsistence costs for Early Career Researchers (up to £300) apply [here](#).



Update from the Regional Champions



Heather Price

Neil Rowland

Paul Lewis

Anil Namdeo

Doug Booker



Northern Air Quality Conference

Douglas Booker and Anil Namdeo joined a host of academics, charities, policy makers and air quality professionals to attend the Northern Air Quality Conference organised by Air Quality News in Manchester on the 23rd March 2023. Opened by Associate Professor and Councillor Beverly Nielson (Birmingham City University). The conference highlighted the health impacts caused by air pollution, in particular in vulnerable ethnic communities referring to the tragic cases of Ella Kissi-Debrah and Awaab Ishak.

Presentations included, the Leeds Air Quality Strategy by Andy Hickford (Leeds City Council), the Born in Bradford research programme, tracking 40,000 children from birth to adolescence by Prof. Rosie McEachan, EV infrastructure by Jacob Roberts (Cenex), global imbalance in communities suffering from air pollution the most, and 'air pollution sacrifice zones' by Nannette Yousef (Runnymede Trust). An engaging talk was also given by Jenny Jones, The Baroness of Moulscroomb and as the person responsible for introducing the Clean Air (Human Rights) Bill.

A panel discussion group made up of Douglas Booker, Nick Ruxton-Boyle (Vortex), Dr Sanja Potgieter (Manchester Metropolitan University) and Jason Torrance (UK100) took some diverse questions from the floor, including the contribution to air pollution from crematoria.

Douglas commented on the session: *"The breadth and depth of work being done to tackle air pollution is inspiring: much remains to be done, but it is clear that great progress is being made."*

At the event the premium content of the Air Quality News magazine was launched, focussing on air quality near schools. This feature was contributed by Anil and his colleagues. The full article is available to read [here](#) (see pages 10-18).

Professor Ally Lewis (University of York) closed the conference by emphasising that despite only half of the PM2.5 air pollutants being controllable that reducing these pollutants is still very much a worthwhile effort. Read the full report [here](#).

Welcome back to our Regional Champion for Scotland

The Clean Air Team are delighted to welcome back Heather Price from Maternity leave, to continue as the Regional Clean Air Champion for Scotland.

A Senior Lecturer in Environmental Geography at the University of Stirling, mum has been kept busy with her two boys, Torren (aged 1) and big brother Alfie (aged 3). Heather is now looking forward to getting back into her role, reconnecting with the various academic and wider stakeholders in Scotland and supporting the uptake of research coming out of the UKRI Clean Air Programme into policy and practice.

In addition to her Champion's role, Heather is also getting back to her own research, where she uses inter and trans-disciplinary approaches to find new and creative ways to improve air quality and its health impacts. Heather uses a variety of methods and approaches to engage people in the research process including co-creation, citizen science, participatory and creative methods as well as methods from the environmental sciences.

If you'd like to connect with Heather, please [send her an email](#), she would be keen to hear about what you're working on.



Newcastle School Streets Scheme promotes healthier journeys for schools

Dr Anil Namdeo has been invited to join the NIHR Public Health Intervention Responsive Studies Team (PHIRST – Light) to evaluate a school streets project focussing on promoting sustainable journeys to school. The project will focus on the six school streets zones currently at different stages of planning and implementation, to include closing these streets during school drop off and pick up times, encouraging children and their parents to walk to school and park further away ([neighbourhoods/school-streets](#)).

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“Air Pollution and Mortality on the island of Ireland” report reveals the scale of the air quality problem and the challenges facing the island of Ireland

Air quality is an issue of substantial importance on both sides of the Irish border. In October 2022, the Irish government extended [solid fuel regulations](#) restricting the sale of the worst polluting fuels used to heat homes, such as ‘smoky coal’ and ‘wet wood’. Previously, these regulations only applied in Dublin and other designated cities, but now the ban is nationwide. North of the border, a [consultation](#) on Northern Ireland’s (NI) first ever Clean Air Strategy was launched in 2020, setting out a range of potential policies which might improve air quality in the region. However, progress has since stalled in the absence of a Northern Ireland Executive.

These policy developments, or lack thereof in the case of NI, came after the WHO revised its [air quality guidelines](#) since 2005, to reflect the emerging evidence from later scientific studies showing that air pollution is much more damaging for human health than previously thought. Crucially, this implies that existing estimates of the mortality burden are too low, calling for new estimates and a heightened awareness of the scale of the challenge.

The 31st March 2023 saw the official launch of a [report](#) which estimated the mortality burden of air pollution across the island of Ireland in 2019. This report, commissioned by the Irish Heart Foundation (IHF) in collaboration with British Heart Foundation Northern Ireland (BHF-NI) and produced by researchers at Technological University Dublin and Queen’s University Belfast (including Dr Neil Rowland, [Regional Clean Air Champion for Northern Ireland](#)), provides country- and local-level estimates of the number of all-cause and circulatory-related premature deaths associated with ambient fine particulate matter (PM_{2.5}). It also estimated how many premature deaths might have been avoided had the World Health Organisation’s (WHO) air quality guidelines been met in this year, and highlighted a range of policies which could help both countries meet these guidelines in future.

The report highlights the scale of the problem, with all parts of the island recording a population-weighted annual mean

concentration above the WHO’s guideline level of 5 micrograms per cubic metre. The highest concentrations were observed in major urban locations, with Limerick City in the ROI (11.1 micrograms per cubic metre) and Belfast in NI (10.1 micrograms per cubic metre) faring the worst.

Overall, this translates to a significant mortality burden: approximately 2,600 premature deaths across the whole of the island (1,700 in ROI and 900 in NI) was attributable to airborne fine particulate matter, in this year alone. Of these premature deaths, 680 in ROI and 300 in NI were associated with cardiovascular-related disease. Had each country met the WHO guidelines in this year, then 1,000 all-cause deaths on the island could have been avoided.

Reaching the WHO level is possible but nevertheless challenging. At current rates of change, the report predicts that it won’t be until 2035 that ROI reaches this level and even later before NI does so (2040). Policies to get us there faster are urgently required. Since air pollution can cross land borders, a key challenge will be implementing effective policies on an island with two separate policy regimes. For example, airborne particulates travelling from Derry/Londonderry as a result of coal burning will undermine solid fuel restrictions which curtail emissions across the border in Donegal, as will the transport of coal south of the border. As the report points out, policy measures in each country are likely to have the biggest impact if they are implemented collaboratively.

The report shows that health impacts from air pollution are significant. This ought to provide the impetus required to push for further improvements in air quality, such as reducing levels of nitrogen dioxide pollution from road transport and minimising agricultural emissions which contribute to particulate pollution. The nationwide extension of ROI’s solid fuel regulations, along with the recent expansion of the Irish air quality monitoring network are two policy measures that NI might wish to emulate as part of a Clean Air Strategy. Such measures, along with the steps that each of us can take to reduce our own emissions – such as heating our homes with cleaner fuels and reducing our reliance on the car—will go a long way to reducing the 2,600 premature deaths associated with air pollution on the island of Ireland.