Community for Clean Air – a new forum to unify existing knowledge and stakeholders

Introduction

Improvements in air quality are urgently needed and will only be driven by greater collaboration between researchers and practitioners, as well as wider stakeholders in public health, NGOs, building design, construction industry, manufacturing and innovators.

The aim of this initiative is to create a forum for knowledge exchange between these stakeholders to provide a clear route for research to be translated into practice, for practitioners to inform and collaborate on research projects from the outset, and for all stakeholders to be well informed of the latest research.

This is needed to support the development of robust, impactful evidence for improving air quality, public health and the natural environment, leading to the development of evidence-informed policy that supports clean air for all.

Networks already exist but are focused on specific areas, both leaving gaps and overlaps/duplication, which impacts on the knowledge exchange between different sectors.

The Community for Clean Air will capitalise on the strengths of existing networks and will seek to build upon, not duplicate, the work of these networks.

Why is clean air important?

Research clearly shows the UK burden from air pollution, with an estimated 29,000 to 43,000 early deaths each year[1], notwithstanding the additional impact on the economy through absence and loss of productivity due to exposure to air pollution. This is the leading environmental risk to public health in the UK. Despite commitments in UK legislation to improve air quality, outdoor air pollution frequently exceeds legal levels and World Health Organization (WHO) guidelines in UK towns and cities as well as impacting rural communities. This issue is recognised as of importance by the UK public, with almost 70% of those surveyed supporting stricter regulation to tackle air pollution[2].

In 2020, 9-year old Ella Adoo-Kissi-Debrah was the first person in the world to have air pollution listed as a cause of death on her death certificate, shining a spotlight on the issues related to outdoor air quality in the UK.

Research has shown that if the UK aligned their air quality targets with the 2005 WHO guidelines, 17,000 deaths caused by air pollution could be prevented each year and the

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[1] Mitsakou, C., Gowers, A., Exley, K., Milczewska, K., Evangelopoulos, D., Walton, H., 2022. Updated mortality burden estimates attributable to air pollution. Chemical Hazards and Poisons Report. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1083447/CHaPR_AQ_Special_Edition_2206116.pdf: UK Health Security Agency; 2022

[2] Clean Air Fund. 2020. Breathing Space: Why and how we must build back better to achieve clean air for all. https://www.cleanairfund.org/resource/breathing-space-why-and-how-we-must-build-back-better-to-achieve-clean-air-for-all/

economy would benefit from an annual boost of £1.6bn[3]. The benefits would be even greater if the 2021 WHO guidelines were achieved.

In 2020 a two-year old, Awaab Ishak died due to chronic exposure to mould in his flat in Rochdale. This event highlighted the potential impact of indoor air quality on human health and the gaps in our understanding regarding our total exposure to atmospheric pollutants, whether they be indoor or outdoor. There is a critical need for more research and guidance in this area, given that 80-90% of people's time is spent in indoors. Both ambient and indoor air quality (including in transport) should be key considerations when supporting the delivery of clean air.

Air pollution and climate change are also deeply interconnected, as many sources of outdoor air pollution are also sources of carbon dioxide (CO_2) or other greenhouse emissions such as black carbon, methane and ozone. Ensuring that we do not inadvertently increase our exposure to air quality will be an important consideration in the transition to a net zero future. For effective climate action, both air quality and climate change must be considered together.

The legislative landscape

There is a mix of different legislation relevant to air quality in the UK, which provide important contextual information for those working, researching and interacting with the air quality sector. The Community will seek to leverage the collective expertise to support evidence-informed decision-making, provide a unified voice across stakeholders and drive forward policy and practice aligned with clean air for all.

Both national and international legislation exists to support clean air. Air quality limit values management in the UK is devolved to the administrations in England, Wales, Scotland and Northern Ireland. In order to meet the national emissions ceilings, the UK Government and devolved nations published the Revised UK National Air Pollution Control Programme (NAPCP) in February 2023.

Key legislation includes:

- National Emissions Ceilings Regulations 2018
- EU Air Quality Directive
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

At an international level, the World Health Organization (WHO) has published Global Air Quality Guidelines which provides guidance on recommended thresholds and limit values for key pollutants, such as Carbon Monoxide, Particulate Matter, Ozone, Sulphur Dioxide and Nitrogen Dioxide[4]. These are non-binding.

How can we support the delivery of clean air?

To support improved health and well-being, it is vital that air quality policy and practice is built on robust science and evidence. To support this, there needs to be an independent convening

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[3] CBI Economics. 2020. Breathing life into the UK economy – CBI Economics Report Series.
https://www.cleanairfund.org/resource/breathing-life-into-the-uk-economy-cbi-economics-2020/
[4] WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide

space for air quality scientists, practitioners and key stakeholders to network, exchange knowledge and collaborate.

To do this we need to build an integrated air quality community of those working and interested in the field of ambient and indoor air quality. Spanning research, professional practice and policy, the Community could leverage the collective knowledge and ambition of members through collaboration and will champion a science-based approach to delivering clean air.

Objectives of the Community

The Community should be focussed on the following three objectives and related actions:

1. Fostering an interdisciplinary community dedicated to improving clean air by:
    a. Tackling air pollution through supporting interdisciplinary research, to better understand the impact of air quality on health and wellbeing across the life course and mechanisms for improving it through practice, policy and behavioural change.
    b. Translating research into practice by creating a forum for knowledge exchange between researchers, business innovators, start-up and entrepreneurial innovators, practitioners, policy makers and all other relevant stakeholders.
    c. Encouraging stakeholders and researchers to share ongoing and planned research ideas, early findings, concepts and challenges.
2. Creating an air quality profession that is connected, collaborative and competent by:
    a. Developing and sharing best practice guidance in the professional air quality community to support improvement in ambient and indoor air.
    b. Championing professional competence and supporting continuing professional development of those in the air quality community.
3. Supporting the delivery of science-based policy and practice by acting as a unified voice on issues related to air quality by:
    a. Championing the development of:
        i. health based air quality targets.
        ii. ecological based air quality targets.
        iii. robust evidence of the socio-economic and community benefits of improving air quality in all environments.
    b. Supporting:
        i. the integration of air quality and net zero policy to support both improved air and climate action.
        ii. the communication on the importance of behavioural change.

Next steps

We are currently at the engage stage shown with a red outline below.
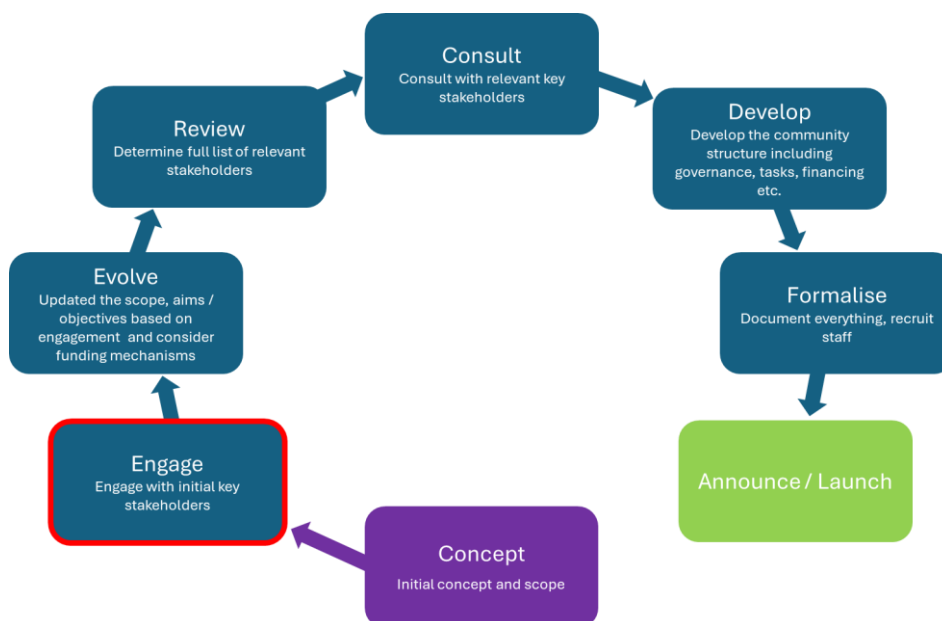
Background information

This paper has been developed through a working group composed of members from those who are part of the IAQM and Clean Air Programme, with the aim to build on existing strengths of both groups and in recognition of the need for greater communication and collaboration across air quality researchers, practitioners and wider stakeholders.

Clean Air Programme

The SPF Clean Air Programme seeks to bring together researchers from across a wide range of specialisms, spanning the physical, social and life sciences to the atmospheric sciences, arts and humanities to work collectively to better enable the UK to address its current and future air quality related challenges. Funding for the programme is provided through the UKRI Strategic Priorities Fund (SPF), which has been set up to build upon the vision of a 'common research fund' as set out in Sir Paul Nurse's independent review of the research councils.

The vison of the programme is to coordinate a landscape of research and innovation co-designed with users to develop robust solutions that reduce emissions and our exposure to atmospheric pollution.

Institute of Air Quality Management

The Institute for Air Quality Management (IAQM) is the professional body for air quality professionals. The IAQM act as the voice of air quality in the UK by producing useful and timely guidance on matters affecting air quality professionals and by responding to Government consultations. The IAQM membership represented over 680 professionals, spanning consultancy, industry, public/civil bodies, academia and NGOs. The IAQM is part of the IES family which creates interactions with related environmental disciplines, such as land contamination, enabling interdisciplinary solutions that bring benefits for air quality whilst considering or enhancing other aspects of the environment and public health.