IAPSC Investigation of Air Pollution Standing Conference

Wednesday 1st December 2021

Half Day – 13:00-16:45 – ONLINE

Session 1	**Insights on the progress made following the implementation of the Birmingham CAZ**

Poor air quality is the single biggest environmental risk to public health and in 2021 Birmingham City Council introduced a Clean Air Zone as part of its ambition to address this challenge and to create a clean air city.

The zone has been in operation since the beginning of June 2021 and in this presentation Councillor Waseem Zaffar MBE (Cabinet Member, Transport and Environment) will share some of the insights gained from its first few months of operation. He will also talk about how the scheme and the expected changes in travel behaviours will help enable a number of other initiatives that are designed to make Birmingham a more sustainable environment for the people who live and work there.

By Councillor Waseem Zaffar MBE, Cabinet Member - Transport & Environment, Birmingham City Council

Born and brought up in the Lozells neighbourhood in Birmingham, which is the area that he now represents, Councillor Waseem Zaffar was, for many years, a local magistrate, as well as the CEO of a local not-for-profit organisation, and has had his community work recognised by a number of awards, including an MBE for services to the voluntary sector.

In May 2018, Councillor Zaffar was appointed as Cabinet Member for Transport and Environment at Birmingham City Council. This brings together the responsibilities for sustainable transport policy and strategy to improve connectivity and safety across all modes of travel, while working with partners to develop liveability and environmental improvement for Birmingham. He is a member of the Regional Board of the Canal & River Trust. He is also a Non-Executive Director at the Sandwell & West Birmingham NHS Trust, which includes City Hospital, where he was born. At the Trust, he chairs the Charity Funds Committee.

He still lives in Lozells with his family; is a Governor of the primary school that he attended; is a member of Unite the Union; and is a lifelong (yet still optimistic) Aston Villa fan and enjoys spending summer weekends playing cricket.

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Session 2	**The air quality challenges faced by Berlin, and the approaches adopted to tackle these**

More details to follow

By Martin Lutz, Head of Sector Air Quality Management, City of Berlin

Martin Lutz has a university degree in meteorology and air chemistry. About 30 years ago, he started in Berlin's Environment Department managing winter smog alarm with traffic bans for polluting vehicles. After research on the sources of photochemical pollution in the nineties, he was working almost four years for the European Commission, developing an ozone abatement strategy for Europe and drafting a Directive on tropospheric ozone. Back in Berlin, he led investigations in the sources of PM10 and PM2.5 pollution. As Head of Air Quality Management, he has been developing and implementing Berlin's air quality strategy, including a low emission zone scheme with access restrictions for polluting vehicles. He represents Berlin in international city networks like EuroCities, POLIS and C40. He was involved in many international development projects as an advisor on air quality management in Eastern Europe, Mexico, China and Asia. In Martin's second life, he is a passionate cycling lobbyist, promoting the bike as the healthiest means of transport in urban areas – for both the cyclists and all other urbanites.

Session 3	**Contribution of domestic and transboundary sources to fine particulate matter ($PM_{2.5}$) in UK cities**

The majority (74%) of the UK exceeds the updated World Health Organization $PM_{2.5}$ guideline of 5 mg m^{-3}. To improve the quality of air we breathe and save lives, effective policies are needed to address $PM_{2.5}$ pollution. In our modelling study, we use the regional comprehensive 3D chemical transport model GEOS-Chem with reference and low-cost sensor measurements to determine the contribution of local, national, and regional sources to $PM_{2.5}$ in Leicester and other cities in the UK. Our results indicate that controls on local sources only marginally improve air quality, whereas the greatest gains can be achieved with policies that target agriculture and international agreements.

By Professor Eloise Marais, Associate Professor in Physical Geography, University College London

Dr Eloise Marais is an Associate Professor at UCL where she leads a research group (https://maraisresearchgroup.co.uk/) that investigates the influence of anthropogenic activity on atmospheric chemistry, air quality, human health and climate using atmospheric chemistry transport models and observations from instruments in labs, in the field, onboard aircraft, and in outer space. She contributed to the recently published high-profile paper on global premature deaths from exposure to air pollution from fossil fuels (https://www.theguardian.com/environment/2021/feb/09/fossil-fuels-pollution-deaths-research) and is working with the Leicester City Council to identify dominant contributors to fine particles ($PM_{2.5}$) in the city to aid measures that address air pollution.

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Session 4 **Non-Exhaust Emissions from Road Traffic**

Non-exhaust emissions of particles arise from wear of the brakes, tyres and road surface, and from the resuspension of road dusts. According to the National Atmospheric Emissions Inventory, non-exhaust emissions now exceed exhaust emissions from the UK road vehicle fleet. This talk will briefly review knowledge of the sources of non-exhaust particles, and discuss the implications of a transition to a battery electric car fleet. Emissions of VOC will also be considered

By Professor Roy Harrison OBE FRS, Queen Elizabeth II Birmingham Centenary Professor of Environmental Health, University of Birmingham

Roy Harrison is Queen Elizabeth II Birmingham Centenary Professor of Environmental Health at the University of Birmingham, UK, and also Distinguished Adjunct Professor at King Abdulaziz University, Saudi Arabia. His research interests are in air pollution, especially airborne particulate matter. He has also been heavily engaged at the science/policy interface as a member of several government technical advisory groups for the Department of Health and the Department for Environment, Food and Rural Affairs (Defra) in the U.K. including past membership of Defra's Science Advisory Council. He was a contributor to the World Health Organization Global Air Quality Guidelines and the Guidelines for Quality of Indoor Air. He was appointed an Officer of the Order of the British Empire (OBE) in the 2004 New Year Honours List and elected a Fellow of the Royal Society in 2017. He is author of almost 600 papers in the peer-reviewed literature, and is listed by Web of Science as a Highly Cited Researcher.

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Session 5 Implications of the WHO's new air quality guidelines for the UK

In September 2021, the World Health Organization published its updated Global Air Quality Guidelines. This update reflected the increase in evidence of the damage air pollution inflicts on human health, at even lower concentrations than previously understood. As such the Guidelines recommend stricter air quality levels for 6 pollutants, in particular pushing much further on recommendations for 'safe' concentrations of PM2.5 and NO2. This presentation will review the latest update, and cover an initial exploration of what the new guidance levels could mean for UK air quality policy, the health of UK communities and the feasibility of achieving these Guidelines in the UK context.

By David Birchby, Principal Economist, Ricardo Energy & Environment

David is a Principal Economist with over 11 years' experience of developing analysis and insight to support policy development, implementation and evaluation. One of David's core areas of expertise is the application of economics to the development and appraisal of air quality policy, in particular the assessment and valuation of benefits. David has supported Defra over many years to refine their air pollution damage costs, and leads Ricardo's economic and health impact assessment work around Clean Air Zones, supporting a number of UK cities. David has also applied best practice techniques to assess health impacts of proposals at a national and international level - David supported the assessment targeted pollution reduction measures in selected cities in China under contract to ADB and is currently project manager of an impact assessment study supporting DG ENV's revision of the AAQDs.

Session 6 An assessment of how LAQM has been impacted by the Covid-19 pandemic

COVID-19 and everything that came with it had an unprecedented impact on air quality. Whilst the impacts of lockdown restrictions on emissions and ambient concentrations of NO_2 and PM have been explored, there were also less intuitive knock-on effects on the established LAQM assessment process, which underpins much of our understanding of air quality in the UK at a local level. This session explores some of these impacts and outlines what's been done to ensure we can continue to have confidence in the regime.

By Max Nancarrow, Principal Air Quality Consultant, AECOM

Max is a Principal Air Quality Consultant, having joined AECOM in 2017 after nearly 5 years at Bureau Veritas, where he worked shortly after finishing a degree in Geography at the University of Southampton. Professionally, Max works mainly in the field of local air quality management and compliance assessment. As a result, over the course of his career he has gained extensive experience developing, interpreting and applying technical guidance. His interests outside of work are related to all things active, from marathon running to hacking his way round a golf course.