

## EIC Member feedback following workshop regarding Procurement of air quality-related products and services – issues raised by EIC with Highways England/National Highways.

The Environmental Industries Commission (EIC) is the main UK trade association for the environmental services and technology sector. We have a long record of working to promote high standards and progressive policy in relation to tackling the scourge of air pollution. Members of our Air Quality Working Group cover a range of sub sectors including consultancy, modelling, monitoring and the provision of air pollution control technology.

This briefing note sets out areas where EIC believes the procurement of air quality-related technology and services could be improved by National Highways which in turn would encourage the development of an effective, and innovative UK air quality sector. The note is based in part on a discussion between the EIC air quality working group and Highways England officials in Spring 2021.

### **Procuring for outcomes**

A common concern of EIC members is National Highways' tendency to over specify very particular technologies as opposed specifying the outcomes the technologies are expected to deliver. This approach is contrary to the principles set out in government documents such as the Construction Playbook. Two examples of this in practice would be:

- **Diffusion tubes:** Diffusion tube monitors are the default technology used by NH for monitoring the network. However, diffusion tube devices are notorious for their significant measurement uncertainties and as they provide only a monthly average concentration, they provide no temporal information on how traffic flow, weather and other factors influence the concentrations to which the population are exposed on a short term basis (while we recognise that HE also operates a network of continuous monitors, we have seen little data generated by that network to date).
- **Roadside barriers:** The focus on a 9.3m vertical barrier design risks overlooking the contribution that could be made by other types of barrier design.

### **Early market engagement**

A core requirement of the Construction Playbook (Chapter 3) is engaging early with the market to understand market perceptions of opportunities, technology developments and innovation. For example, EIC members have expertise in the new small sensor technology, which has been shown to be very effective in monitoring changes due to intervention measures in London ([www.breathelondonpilot.org](http://www.breathelondonpilot.org)). These devices could be especially effective in measuring concentration gradients around barriers, green walls and for studying the vertical and horizontal dissipation of pollutants as they move away from the highway.

Such market engagement could also cover discussion about the way in which modelling and monitoring activities can be fused to provide valuable additional information about emissions from road traffic by assimilating monitoring data into the model and the inclusion of ambient CO2 monitoring, allowing localised emissions indices to be derived. This technique has been used during the COVID lockdown periods and has led to a much clearer understanding of how traffic emissions have changed as a result of the restrictions.

We are concerned that the apparent dismissal to date of alternative barrier types by NH may be a missed opportunity.

It appears to us that the proposed 9.3m high barrier types discussed in the NH presentation to members, have not been tested on the network as yet. Furthermore it seems the decision to promote the use of these types is based on CFD modelling and upon the trials in the Netherlands which demonstrated very limited improvements in NO2 concentrations (in the region of a few micrograms per cubic meter). As a result, these represent a rather poor cost benefit ratio when compared to other lower profile designs which have been demonstrated to be more effective elsewhere.

Whilst we do not doubt NH's ambition to reduce emissions from roadways, we believe that information provided by our membership shows that credible alternatives are available and the methods of determining their true effectiveness have been developed and are now readily available. We would encourage NH to engage with our members in that regard to ensure that the most appropriate technology is considered for these important abatement actions.

### **Open standards**

We see best practice as the development of openly agreed industry data and software standards, to enable competition and to avoid exclusive suppliers, locked in contracts (as has happened recently in the procurement of noise modelling). As a de-facto standard setter for the transport industry, NH is in a strong position to lead the industry in developing agreed and open approaches to standards. This would be very much in line with the increasing interest in the concept of 'national digital systems' in the environmental sphere, and could be linked with BSI standards work.

### **Testing opportunities**

The operation of any air pollution control technology can be affected by the 'live' environment in which it sits (weather conditions, mix and interaction of pollutants; local topography/built environment; traffic type/flows etc). This means that theoretical or laboratory performance may not be sufficient to provide assurance of effectiveness. To encourage innovation in the market, firms with innovative products need to be able to access appropriate testing sites and to be able to work constructively with NH assess real world performance.

### **Access to the market for SMEs**

The ability of SMEs to access NH air quality work is not always satisfactory. This can be a particular issue for environmental work, as these are typically not tendered as direct open contracts - the large multinational framework suppliers have in-house environmental teams.

While it is recognised that access will often be as part of the supply chain to the Tier 1 contractors, and also that NH encourage these Tier 1's to award work to SMEs, there is a concern that cost

(rather than value) considerations and familiarity often work against the ability of innovative SMEs to access such work.

### **Next steps**

EIC wishes to work with NH to make progress on these issues. In terms of specific steps, we would like to discuss the following:

- running more research work packages which SMEs are encouraged to apply to directly (eg similar to the HE-run [air quality innovation competition](#) in 2019)
- NH developing a KPI linked to feedback from supply chain (as recommended in the Construction Playbook, p.16)
- NH to publish data on:
  - a. What % of spend went to SMEs during RIS1
  - b. What is the split between direct and indirect SME spend, and
  - c. how many direct route contracts and what areas of work?
- How Tier 1 contractors can be encouraged to work with innovative SMEs (EIC has started to set up meetings between Tier 1 engineering consultancies and SMEs)
- More structured early market engagement with environmental SMEs (akin to the market engagement events EIC and its sister organisation ACE have previously run with Heathrow and with the NHS England New Hospital Programme commercial team)

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