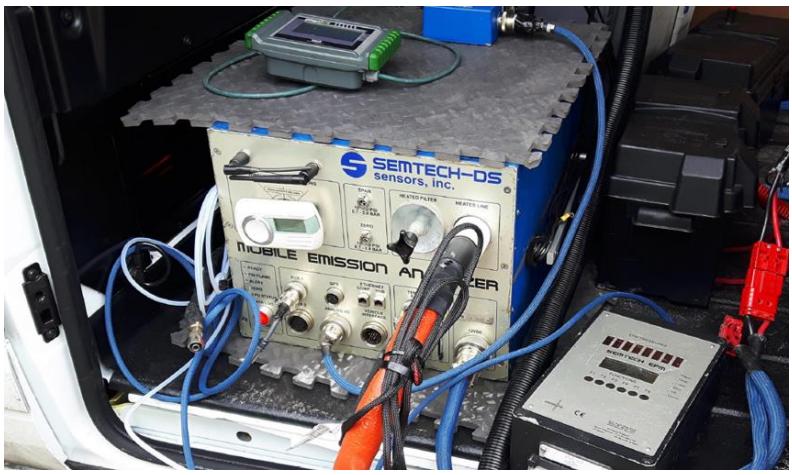
CASE STUDY: ***Mace - Improving Air Quality***

In order to understand how Mace can improve air quality, significant effort is being undertaken to understand more about the impact the construction industry has.

Currently emission estimates from non-road mobile machinery (NRMM) are derived from the fuel use and employment across the construction sector rather than 'real world' emissions, activity and personal exposure measurements. Working with Kings College London, through both the Driver Diesel Exposure Mitigation Study (DEMiSt) project and the London Low Emission Construction Partnership (LLECP), Mace are undertaking two studies at Battersea Power Station where they are acting as construction manager for the completion of work to the Grade II* listed iconic London landmark.

The first study seeks to quantify the personal exposure of professional drivers to diesel emissions, allowing for the formulation of cost-effective risk reduction strategies for operators. Through engagement with our supply chain, cabins of vehicles or non-road mobile machinery are being fitted with small air pollution monitors with inbuilt tracker, which continuously monitors air quality during the drivers shift.

The second study aims to characterise NRMM emissions through portable emissions measurement system (PEMS) testing provided by the LLECP and Emissions Analytics. It is estimated that NRMM contributes to approximately 7% of NOx and 8% PM10 emissions in London, however, as mentioned previously, this has not been clearly defined in real world settings and the findings from this trial will help with development of future emission inventories. This will also lead to testing of innovative emissions abatement solutions in order to improve air quality on construction sites. The Driver Diesel Exposure Mitigation Study (DEMiSt) project is funded through Institution of Occupational Safety and Health (IOSH). The London Low Emission Construction Partnership works with the local authorities and is supported by the Mayor of London and TfL.



One of the ways Mace aims to improve air quality is to reduce diesel use on-site. Mace was the first construction contractor to sign up as a member to RE100 commitment. Mace will achieve this through the use of electric plant. Mace already use electric MEWPs and power tools as standard and are looking into the next generation of electric excavators and first generation of piling rigs. Mace strives to ensure all sites gain access to the mains electricity grid (where Mace procure energy from Ecotricity, a renewable energy supplier) to reduce our reliance on generators. If we do have to use generators we investigate the use of duel fuel hybrid or battery systems.

RE 100

One example of improvement measures adopted on a Mace site can be seen at the London School of Economics development, which fitted the first Mace Living Wall to temporary accommodation. This has 60m^2 of native species and is larger than any other UK temporary green wall. The plants help filter and clean the air, and also improve the appearance of the accommodation. The project team have also managed to incorporate the native plants into the finished landscape design. The LSE Head of Sustainability commented “We’re delighted with the Mace Green wall. It supports local biodiversity (including LSE’s own bees), helps improve air quality, and it looks great. It also reflects the strong strategic commitment to sustainability and innovation at the heart of LSE’s partnership with Mace.”