



## CASE STUDY: *Canary Wharf Contractors Limited*

Canary Wharf Contractors Limited (CWCL) are the development arm of Canary Wharf Group, transforming the Canary Wharf docklands into a global hub for commerce and more recently revitalising iconic locations within central London. Although much of the heavy industrial activities synonymous with the docklands region have long closed, due its London situation, air quality continues to be high on the agenda. As such, the Group incorporates air quality measures throughout the building lifecycle through design, construction and operations.

During the design of our buildings we consider air quality in a variety of contexts, whether that's where we place the air intake/extracts relative to local pollution sources such as main roads, through to ensuring that we specify healthy building materials that minimise Volatile Organic Compounds (VOCs). These design measures primarily focus on the end user of the building by ensuring that we create a healthy environment for them.

Throughout the construction phase, we have and continue to employ a wide variety of initiatives to minimise our air quality impacts and ensure that our staff, those working on our sites and our immediate neighbours are not negatively impacted by our construction works:

- **Engine idling:** On our New District project we promoted the Greater London Authority's [Clean Air Campaign](#). The scheme, which encourages drivers to turn off their engines when not in use (i.e. avoid idling), is typically targeted at cars during the school run. It was deployed on our construction site in partnership with the London Borough of Tower Hamlets in what is believed to be a first for the campaign. The project team set up a stand in the lorry holding area on site and handed out promotional material whilst educating drivers on both the environmental and health impacts of engine emissions. The drivers were encouraged to place a sticker on their window demonstrating their commitment to the cause and to make a pledge to stop engine idling. 100% of drivers either placed a sticker on their window or took information away for colleagues and all pledged to support the no idling policy.

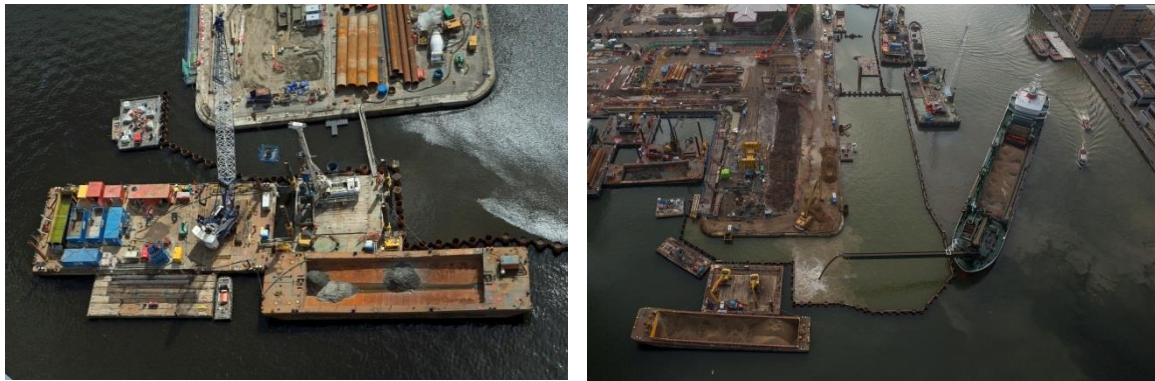


- **Non-Road Mobile Machinery:** Canary Wharf Contractor's Heron Quays Pavilion project is our first to participate in London's Non-Road Mobile Machinery (NRMM) emissions scheme, first piloted on Crossrail. Located within the Canary Wharf Estate, the project mandates the use of EU Emissions Stage IIIB plant for machinery between 37 to 560kW (unless by way of dispensation). The project also submits data on NRMM to the [www.nrmm.london](http://www.nrmm.london) website, to allow for a more accurate London Atmospheric Emission Inventory (LAEI) to be developed which will help to inform air quality policy for London in the future.
- **Delivery logistics:** Across all CWCL projects we employ a delivery booking system as part of the wider logistics strategy to ensure that site deliveries are planned well in advance and to reduce the amount of construction related traffic both on and off site. Not only does this provide logistical advantages, it also helps identify opportunities such as the consolidation of deliveries and subsequent air quality benefits. The site logistics plan also outlines other aspects such as mandated routes to site and site speed limits which also promote the efficient movement of vehicles.
- **Dust:** The generation of dust is often one of the most visible impacts construction sites have in relation to air quality. As is best practice, CWCL operate a variety of dust suppression methodologies from at-source suppression during demolition, minimising material stockpiles and the use of water bowsers / road sweepers on haul roads during enabling and construction works. All of these activities are captured within a project-specific air quality management plan which is regularly reviewed by the project team.
- **Alternative fuels:** As well as regulation having played a role in improving construction site air quality through the phasing out of fuels with high sulphur content which were previously commonplace on sites, we have also sought to trial the latest technologies such as [hybrid concrete lorries](#) at our Newfoundland project.



- **Occupational health:** Canary Wharf Contractors employ full-time occupational nurses. As well as a reactive medical provision, they also carry out site visits to review onsite practices and provide guidance on where improvements could be made that would ensure the works are undertaken in a manner that is not detrimental to the health of the operative. Typically this may include witnessing someone cutting without the necessary dust protection (e.g. dust mask and extraction attachments for power tools), an activity that poses significant risk to the respiratory system. In this example the nurse would talk to the individual about the potential health risks and the simple measures that should be taken to mitigate those risks. This is aided by regular health campaigns within site welfare facilities to promote the issue of localised air quality.

- **Transport emissions:** We regularly undertake engineering initiatives that lead to a significant reduction in transport (either raw material or waste away) based emissions. This in turn reduces the volume of construction based traffic on local roads. An example of this is from our New District project, where instead of following the traditional approach of removing all silt once the cofferdam was in place and dewatering was complete, we placed a large geotextile over the silt and placed ship-imported ballast to consolidate the silt to a useable platform on top of which piling operations could be undertaken. Where completely removing the need for disposing of excavated material has not been possible, the historic dock waters surrounding Canary Wharf have been utilised with barges playing a significant role in the development of the Canary Wharf Estate over the last 3 decades.



In addition to the initiatives implemented to reduce our air quality impact, we also look to measure air quality to provide a quantifiable record of our impact:

- **Monitoring stations:** We have deployed several air quality monitoring stations across the Canary Wharf Estate to provide real-time information on local air quality, typically this measures PM10 (particulate matter of diameter less than or equal to 10 microns). On our Southbank Place project we have employed the services of GETEC to provide the measurement of even more finite particles, down to PM1 & PM2.5, as it is these smaller particulates that pose the greatest potential of harm to health. This is due to their ability to more readily access the respiratory system and pass through tissue.
- **Fuel usage:** We also measure onsite fuel usage, the combustion of which is another significant source of emissions on our projects. We measure our supplier's fuel use using the online BRE SmartWaste platform which records Gas Oil (Red Diesel) / Petrol / LPG.

We have also utilised our unique position as a whole lifecycle property developer by broadening the scope of our air quality initiatives beyond the construction phase to the operational arm of the Group, Canary Wharf Management Limited (CWML), by:

- Launching a Management-specific idling policy amongst the fleet of vehicles owned and operated by CWML within the Canary Wharf Estate.
- Reducing the Estate's global air quality impact by procuring 100% renewable electricity.
- Incorporating air quality benefits into an Estate Biodiversity Action Plan.