



City of London Corporation - Walbrook Wharf

EMSOL Enabled City of London to Reduce NO₂, PM₁₀ and PM_{2.5} by over 50%

The City of London Corporation has consistently delivered innovative initiatives to improve air quality and Walbrook Wharf was one such key project. Walbrook Wharf is a large waste transfer site right on the Thames, just east of Southwark Bridge. While the site was developed to reduce the dependency on moving waste by road, the large number of bin lorries transiting the facility resulted in poor air quality inside the site.

The site is situated in an area of high pollution due to the very busy A3211 which runs along the north side of the facility. Additionally, there is high HGV movement inside the multi-story waste transfer facility across multiple waste fleets in which some vehicles were older and less efficient. To make matters worse, the facility was initially developed with poor ventilation. All of this resulted in a buildup of pollutants such as NO₂, SO₂, and PM_{2.5}. The City of London Corporation was concerned about the health and safety of the insite workers, but they had no ability to get targeted evidence to identify specific polluting vehicles and start to fix the problem.

Emission reductions achieved:

NO ₂	PM ₁₀	PM _{2.5}
-53%	-62%	-79%

The City of London Corporation deployed multiple indoor and outdoor monitoring solutions to gather data and develop a plan. These systems included installation of Air Quality diffusion tubes, they agreed to be a London Air Quality Network (LAQN) monitoring site, they mounted an AQ Mesh unit at the entrance to the facility and the even attached individual dose meters to the site personnel. The problem was that all of these systems were not real time, and so there was no high resolution information about when breaches were occurring. There was also no information about which specific vehicles were responsible. Even after all of these investments and collaborations, they were unable to identify specific, polluting vehicles and unable to reduce pollution.

The City of London Corporation selected the EMSOL Platform for a few reasons:

- Set local pollution thresholds so they could utilise DEFRA thresholds and their own
- Tie threshold breach data to individual vehicles in real time
- Receive targeted, actionable breach evidence which identifies the specific polluting vehicle so they can work with their fleet sub-contractors to fix the problem
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The EMSOL Solution

The EMSOL solution accomplishes this by acquiring real-time air monitor data and real-time vehicle location data, analysing the combined data and identifying the vehicles that caused the breaches.

What was achieved exceeded expectations - the EMSOL investment delivered two important results. The information delivered through the EMSOL dashboard enabled a clear understanding of team exposure throughout the day and targeted evidence of threshold breach caused by specific contractor's vehicle. This enabled the site operator to work with the fleet operators to fix the problem and take steps every day to improve air quality.

Based on the recommendations provided by EMSOL, the Corporation of London changed their fleet to Euro VI vehicles in April 2019, which led to a significant reduction of monthly average NO₂ (53%), PM₁₀ (62%) and PM 2.5 (79%) at the Walbrook Wharf site. EMSOL continues to monitor the air quality at the site and has enabled an additional reduction of 2117 µg/m³ of NO₂ and 595 µg/m³ of PM₁₀ over nine months by attributing pollution breaches to vehicles so that immediate action could be taken to reduce pollution. EMSOL also enabled a reduction of

986190 µg/m³ of Carbon dioxide equivalent over nine months based on the Indirect Global Warming Potential of Carbon monoxide over 20 years. This feeds back into the City of London's ambitions to mitigate climate change and reduce pollution exposure for its workers on site, and those other sub-contractors. It also enables City of London to more rapidly achieve their air quality targets with current fleets in operation.

Equally important, the EMSOL investment provided a business case and optimal configuration information for a new ventilation system that would further reduce the exposure of the workforce to harmful pollution.

Finally, with EMSOL delivering specific, actionable evidence tying threshold breaches to specific vehicles, the compliance team are able to be much more effective partnering with the fleet operator to fix the emission problem. EMSOL enables site and fleet operators to go beyond legislative requirements. In doing so, EMSOL has proven that even Euro VI vehicles are causing breaches, thereby recommending vehicle inspection that can benefit both fleet operators and air quality.

“The EMSOL platform has enabled us to track the vehicles causing breaches and which parts of the facility we need to manage more closely.”

- Compliance Manager, Walbrook Wharf



Do you want to learn more?

Our air quality experts are ready to help you achieve your emissions targets!

Check out our website at www.emsol.io or email us at sales@emsol.io