# Volvo CE’s London trial shows electric machines cut urban construction emissions equal to 100,000 diesel cars



During London Climate Action Week 2025, key stakeholders gathered at the Swedish Embassy in London to tackle the pressing issue of emissions from construction equipment. Hosted by Volvo Construction Equipment (Volvo CE), alongside the Swedish Embassy and the Swedish Chamber of Commerce, the event brought together industry leaders, policymakers, and air quality advocates to drive forward the transition to zero-emission construction machinery. This meeting underscored the critical public health threat posed by air pollution, particularly in urban areas, and highlighted the urgent need for collaborative solutions to accelerate change.

Diesel-powered compact construction machines, commonly used in cities, were identified as substantial contributors to urban air pollution, often escaping regulations such as low-emission zones that target other vehicle types. London's construction sector, for example, has recently surpassed road traffic as the dominant source of black carbon emissions. At the roundtable, Mete Coban MBE, Deputy Mayor for Environment and Energy, emphasized that clean air is a social justice issue. He highlighted recent local government action, including the introduction of the Non-Road Mobile Machinery Low Emission Zone and commitments requiring all construction equipment in London to be zero-emission by 2040. This regulatory momentum aims to safeguard public health by reducing harmful pollutants like nitrogen oxides (NOx) and particulate matter (PM), which diesel compact machines release at disproportionately high levels. Rosamund Adoo-Kissi-Debrah CBE, founder of the Ella Roberta Foundation, reinforced the gravity of the issue, calling air pollution a public health emergency that demands meeting World Health Organization (WHO) standards and the establishment of enforceable rights to clean air.

Supporting these concerns, recent data reveal that around 5,000 diesel compact excavators in London emit amounts of NOx and PM pollutants equivalent to over 100,000 diesel cars, yet remain outside Ultra Low Emission Zone (ULEZ) restrictions. Globally, only 17 percent of cities meet WHO air quality guidelines, while pollution contributes to approximately 8.1 million premature deaths annually. Transitioning to electric-powered construction equipment offers a clear path to dramatically reducing these emissions. These electric machines generate zero tailpipe emissions, minimize noise and vibrations, and improve overall urban livability—a vital improvement for dense populations. However, the switch to electric machinery calls for expanded infrastructure for charging, increased renewable energy supply, stronger policy frameworks, and cross-sector collaboration.

One of the key successes highlighted during the roundtable was the nearly 12-week trial conducted earlier in 2025 by Volvo CE in partnership with Transport for London (TfL) and contractor FM Conway. This trial involved replacing diesel machines with three zero-emission electric equivalents. The project demonstrated tangible environmental benefits, removing nearly 8 kilograms of NOx and non-methane hydrocarbons from urban streets, equivalent to the emissions from a diesel car driving almost 39,000 miles. Notably, diesel compact machines lack the particulate filters required on larger vehicles, explaining their outsized pollution contribution despite their smaller numbers. Given that they constitute only about a third of construction equipment in Europe but account for over half of the sector's NOx emissions, the trial’s success underlines significant opportunities for urban air quality improvements if zero-emission adoption is scaled up.

This pioneering approach to urban construction also featured innovative solutions for operational challenges. For example, a separate six-week TfL-led trial tested mobile charging vans supplied by the British startup Charge Fairy. These vans allowed electric construction vehicles to recharge on-site, avoiding downtime caused by trips back to fixed charging stations—boosting efficiency and demonstrating an important step toward practical, continuous electric machinery use in busy city environments. The trial focused on Redcliffe Gardens and was part of London’s wider commitment to become net-zero carbon by 2030, with enhanced pedestrian safety as a key benefit.

Volvo CE’s early innovations in electric construction machinery date back even further. In 2017, they unveiled the EX2 prototype, a fully electric compact excavator praised for zero emissions, greatly reduced noise, increased efficiency, and lower total cost of ownership compared to traditional diesel models. Since then, electrification efforts have steadily grown, including notable deployments such as the introduction of Volvo FE Electric skiploaders by London waste and recycling firm Powerday in 2024, which are forecasted to save over 30 tonnes of CO₂ annually.

The London Climate Action Week discussions concluded with a clear call for global cities to adopt similar strategies. Emphasizing the overlooked impact of diesel compact machines, the consensus was that integrating construction equipment into emission zone policies and public procurement standards can drive systemic change. Coordinated action across governments, manufacturers, contractors, and urban planners is crucial to unlock the full potential of zero-emission construction equipment, paving the way to healthier, greener urban environments worldwide.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment), [[4]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment)
* Paragraph 2 – [[1]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment), [[4]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment)
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* Paragraph 4 – [[1]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment), [[4]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment)
* Paragraph 5 – [[1]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment), [[2]](https://www.volvoce.com/global/en/news-and-events/news-and-stories/2025/pioneering-a-uk-first-mobile-charging-trial-with-transport-for-london/), [[5]](https://www.tfl.gov.uk/info-for/media/press-releases/2025/february/tfl-trials-mobile-charging-with-electric-construction-vehicles-for-the-first-time-to-cut-emissions)
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* Paragraph 7 – [[6]](https://www.volvogroup.com/en/news-and-media/news/2017/may/volvo-ce-unveils-100-electric-compact-excavator-prototype.html), [[7]](https://www.volvotrucks.co.uk/en-gb/news/press-releases/2024/capital-gains-powerday-puts-two-volvo-fe-electric-skiploaders-to-work-in-london.html)
* Paragraph 8 – [[1]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment), [[4]](https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment)

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## Bibliography

1. <https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment> - Please view link - unable to able to access data
2. <https://www.volvoce.com/global/en/news-and-events/news-and-stories/2025/pioneering-a-uk-first-mobile-charging-trial-with-transport-for-london/> - In early 2025, Volvo Construction Equipment (Volvo CE) collaborated with Transport for London (TfL) and contractor FM Conway to conduct a six-week trial of zero-emission construction vehicles in London. The trial aimed to improve urban air quality by replacing diesel-powered machines with electric alternatives. A key feature was the use of mobile charging vans, provided by the British startup Charge Fairy, which delivered on-site charging to the electric vehicles, enabling them to operate continuously without returning to a fixed charging station. This initiative marked a significant step towards reducing emissions from construction equipment in urban environments.
3. <https://www.bbc.co.uk/news/articles/cgl0kz898g4o> - In February 2025, Transport for London (TfL) initiated a six-week trial involving zero-emission construction vehicles, marking a UK-first method of mobile recharging. The trial, conducted in collaboration with FM Conway, Volvo Construction Equipment (Volvo CE), and the British startup Charge Fairy, aimed to assess the effectiveness of mobile charging solutions for electric construction machinery. The project focused on improving pedestrian safety at Redcliffe Gardens by replacing traditional diesel equipment with electric excavators and wheel loaders, contributing to London's goal of achieving net-zero carbon emissions by 2030.
4. <https://www.recyclingproductnews.com/article/43451/volvo-ce-attends-talks-focused-on-reducing-emissions-from-construction-equipment> - During London Climate Action Week 2025, Volvo Construction Equipment (Volvo CE), the Swedish Embassy, and the Swedish Chamber of Commerce convened industry leaders, policymakers, and air quality advocates to discuss accelerating the transition to zero-emission construction equipment. The event highlighted the significant contribution of diesel compact machines to urban air pollution and emphasized the need for collaboration to integrate zero-emission alternatives into low-emission zones. The discussions underscored the urgency of addressing construction-related emissions to improve urban air quality and public health.
5. <https://www.tfl.gov.uk/info-for/media/press-releases/2025/february/tfl-trials-mobile-charging-with-electric-construction-vehicles-for-the-first-time-to-cut-emissions> - In February 2025, Transport for London (TfL) partnered with FM Conway, Volvo Construction Equipment (Volvo CE), and the British startup Charge Fairy to trial zero-emission construction vehicles using mobile recharging technology. The six-week trial aimed to assess the feasibility of on-site charging solutions for electric construction machinery, with the goal of reducing emissions and improving air quality in London. The project focused on enhancing pedestrian safety at Redcliffe Gardens by replacing diesel-powered equipment with electric alternatives, contributing to London's commitment to achieving net-zero carbon emissions by 2030.
6. <https://www.volvogroup.com/en/news-and-media/news/2017/may/volvo-ce-unveils-100-electric-compact-excavator-prototype.html> - In May 2017, Volvo Construction Equipment (Volvo CE) unveiled the EX2, a fully electric compact excavator prototype, at the Volvo Group Innovation Summit in London. The EX2 demonstrated zero emissions, ten times higher efficiency, ten times lower noise levels, and reduced total cost of ownership compared to conventional models. This innovation marked a significant advancement in Volvo CE's commitment to sustainable construction equipment, showcasing the potential of electric machinery to transform the industry by offering cleaner and more efficient alternatives to traditional diesel-powered equipment.
7. <https://www.volvotrucks.co.uk/en-gb/news/press-releases/2024/capital-gains-powerday-puts-two-volvo-fe-electric-skiploaders-to-work-in-london.html> - In January 2024, Powerday, a recycling and waste management company, introduced two Volvo FE Electric skiploaders into its fleet in London. These zero-tailpipe emission vehicles were deployed following a successful trial and are expected to save over 30 tonnes of CO₂ emissions annually. The adoption of these electric skiploaders aligns with Powerday's commitment to reducing its carbon footprint and contributing to cleaner air and a healthier environment in London, highlighting the growing trend of integrating electric vehicles into urban waste management operations.