

Biffa and Lunaz to up-cycle and electrify bin lorry fleet for sustainable and emissions-free collections

2 years ago



Leading [sustainable waste management company Biffa](#), and the UK's fastest growing [vehicle electrification and upcycling business Lunaz](#), have taken a landmark step towards cleaning up one of Britain's largest fleet of bin lorries. The two British companies are combining expertise to give Biffa trucks a new lease of life by replacing diesel engines with electric. This ensures older vehicles are upcycled instead of scrapped as Biffa transitions its fleet to zero-emissions powertrains.

In signing a fleet electrification and upcycling agreement, Lunaz commits to supporting the transition of Biffa's existing diesel refuse trucks over the next decade to clean-air electric powertrains through its proprietary upcycling and electrification process and technology. The British companies are working together to create an innovative solution for the transition of large vehicles to EV to reduce emissions and tackle global climate change.

This multi-year production programme is expected to see growing numbers of vehicles delivered to Biffa over the mid-term. With an initial order of up to ten 26-tonne Upcycled Electric Vehicle (UEV) refuse trucks saving up to 210 tonnes in embedded carbon.

Lunaz' home in Silvertstone, England has a capacity to up-cycle more than 1,110 industrial vehicles every year. The company has already committed to expanding its UK up-cycling and electrification footprint to meet surging demand for electrified vehicles in the run-up to the 2030 ban on the sale of fossil fuelled vehicles.

Following the successful completion of technical trials and due diligence, first deliveries will take place for

operations on UK refuse collection routes in 2023. Biffa's UEV refuse trucks will operate on both commercial and municipal waste collection routes.

The company's chose a fitting place, the company's first depot at its home in High Wycombe when it was established in 1912, to sign an agreement that forms a key part of Biffa's long term sustainability strategy.

BETTER FOR THE PLANET. BETTER FOR THE TAXPAYER:

For UK councils, the procurement of these vehicles represents a significant saving for the taxpayer, with more than £1 million in public money saved for every 20 vehicles upcycled and electrified versus buying new EV equivalents.

The British economy further benefits as Biffa and Lunaz are pioneering growth in circular practices at a critical time by supporting more than 300 jobs and a new, green capability.

THE JOURNEY TO WASTE NET ZERO:

This agreement represents a key milestone for Biffa, signalling clear progress regarding its 2030 [sustainability commitments](#) in line with the UN's sustainable development goals. This includes:

- Reducing emissions by 50% by 2030, building on a 70% reduction in emissions since 2002.
- The cessation of buying fossil fuelled trucks as soon as practicable.
- A commitment to building a circular economy.

By upcycling and electrifying its existing diesel vehicle fleet in partnership with Lunaz, Biffa moves significantly closer to fulfilling these commitments on the very front line of the UK's leading waste management operation.

Every up-cycled electric vehicle produced by Lunaz saves 82% of the embedded carbon within that vehicle. For context, at full capacity, Lunaz' factory in Silverstone, UK, will save the equivalent weight of the Eiffel Tower every year in embedded carbon by upcycling rather than scrapping existing fleet vehicles.

Furthermore, Lunaz stands alone in subtracting a polluting vehicle from the global car park with every vehicle it electrifies. This is through its '1 for 1' policy that ensures the decommissioning of every fossil fuel engine before recycling its components. This practice ensures existing polluting engines are completely eradicated and replaced with clean-air equivalents.

The Waste Management industry is at the frontline of a critical requirement to reduce carbon emissions from road logistics. According to a report by the World Economic Forum, 'for the industry to limit temperature increases to no more than 1.5 degrees centigrade, two-thirds of trucks sold this decade must be zero-emissions.'

However, this must not come at the cost of scrapping millions of perfectly serviceable vehicles, in doing so increasing the carbon burden in waste and the manufacturing process. The Lunaz approach, in line with the principles of the circular economy, answers this and also creates major economic benefits.

A Lunaz UEV represents a significant Total Cost of Ownership (TCO) saving versus either existing diesel equivalents or new EVs. This accelerates the adoption of clean air vehicles by creating a more economically viable route to fleet transition.

Maxine Mayhew, COO Collection & Specialist Services, said of the partnership:

“I am thrilled to announce Biffa and Lunaz’ fleet electrification and upcycling partnership. As the UK’s leading sustainable waste management company we are committed to enabling the circular economy while reducing emissions and carbon expenditure in every aspect of our business. By working with Lunaz to meet our goal of buying no more fossil fuelled vehicles by 2030 while breaking the replace-with-new cycle, we pioneer an approach in this industry that saves millions of tonnes in embedded carbon. I am proud that every electric vehicle upcycled by Lunaz for Biffa’s fleet will mean one less tailpipe emission emitting vehicle for our planet. This long-term partnership with Lunaz is a major pillar in our collective effort to achieve our 2030 commitments. We are proud to work with an innovative UK company to realise the transformational power of upcycling to save thousands of tonnes of embedded carbon in our transition to clean-air refuse truck fleets.”

David Lorenz, Founder & CEO of Lunaz, added:

“Biffa has led from the front in pioneering more sustainable waste management practices here in the UK. At Lunaz, we are proud to assist in delivering Biffa’s sustained commitment to leading the waste management industry’s transition to net zero. By embracing the power of upcycling as a dramatically more sustainable course to the transition to a clean air fleet, Biffa delivers economic value to its stakeholders while delivering a great ecological dividend to the planet. By finding new life for diesel-emitting vehicles, we are delighted to stand together with a leading UK company in creating the potential to reduce global emissions at scale.”

David Beckham, Lunaz investor:

“This deal is a strong endorsement of Lunaz’ innovative approach to finding sustainable solutions and I’m delighted to be an investor in this fast growing and exciting British company”.

DESIGNED FROM THE GROUND-UP FOR WASTE MANAGEMENT:

David Lorenz, Founder & CEO Lunaz Group, said: “We have built Lunaz to answer the critical requirement to transition global industrial vehicle fleets to clean-air powertrains while reversing the ecologically damaging cycle of replacing-with-new. In taking a leadership position, Biffa presents commercial and municipal clients with a solution that is better for the planet, for stakeholders and the taxpayer. This solution represents sustainability without functional and financial penalty and the ultimate win-win for operators and local authorities.”

Each UEV by Lunaz has been designed based on primary research in the field, dramatically improving the carbon impact of these vehicles and contributing to quieter and cleaner communities in which they operate.

The upcycling process also creates significant functional and operational advantages. In collaboration with Biffa’s technical team, Lunaz’ 150 specialist engineers are developing key modifications exactly tailored to Biffa, its clients and its drivers’ operational requirements.

This includes the ability to tailor the size of the powertrain to a specific route profile, enabled by the Lunaz modular proprietary powertrain. This means for shorter, more urban routes, Biffa is not burdened with the extra cost and weight of an overspecified battery-pack.

Critical enhancements to the cabin augment significant safety improvements. This includes the use of 360 cameras with person and cyclist detection and the re-location of the handbrake to ensure drivers never need to take their hands off the wheel.

The camera monitoring system also dramatically improves driver awareness. Two assemblies containing three cameras are mounted on the top corners of the UEV, feeding digitised rear-view mirrors.

The screens also feature object detection, highlighting cyclists, pedestrians and potential hazards to the driver. Unlike standard mirrors, these operate under all conditions, including rain, snow and total darkness, dramatically increasing safety.

Lunaz UEV refuse trucks have been developed following live operator feedback with Lunaz engineers frequently taking part in refuse truck rounds to ensure an intimate understanding of front-line requirements. Critical enhancement to driver comfort and operation have been included, ensuring Biffa's operational crew feel the benefit of the latest technology and innovations.

Every UEV by Lunaz undergoes an exhaustive process of remanufacturing, re-engineering and electrification. This takes place at the company's state-of-the art upcycling and electrification campus on the Silverstone Technology Park. This will support more than 300 highly skilled jobs by 2025.

Image credit: Biffa