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Eco-Cycle Unveils Nation’s First Electric-Powered Compost Collection Truck

BOULDER, CO (Feb. 10, 2022) — Eco-Cycle announced its latest “first” for the recycling, composting, and waste industry: the nation’s first commercial-scale electric-powered collection truck for compostable discards. A model of the truck was unveiled today at an event at UCAR in Boulder, CO, with Colorado Governor Jared Polis and other state and local officials, as well as representatives from UCAR, Colorado Department of Transportation, Bruckner’s Truck & Equipment, Mack Trucks, and Eco-Cycle.

The new vehicle is Eco-Cycle's first battery-electric vehicle. It combines the missions of Zero Waste with Zero Emissions and helps realize all the climate benefits of collecting and composting organic discards without generating transportation emissions. The new purchase is made in support of the goals set forth in Governor Polis’s Colorado EV Plan 2020, with the intention of leading a transition toward electric-powered fleets for haulers, particularly in the waste, recycling, and composting industry.

“Eco-Cycle is proud to be pioneering the first commercial-scale electric-powered collection truck for compostables to help lead the transition of commercial fleet electrification, merging our mission of Zero Waste with Zero Emissions for a more climate-resilient future,” said Suzanne Jones, Eco-Cycle Executive Director. “This effort is in keeping with Eco-Cycle’s long history of pioneering ‘firsts’ for the recycling, composting, and waste industry.”

Transportation is the largest source of greenhouse gas emissions in Colorado, with commercial trucks being a major contributor, and hence an important part of any climate solutions. According to the Regional Air Quality Council, each refuse truck displaced by an electric vehicle would roughly yield the following tailpipe emissions benefits: VOC: 31 lb/year, NOx: 1,895 lb/year, CO: 132 lb/year, and GHG-100: 110,101 lb/year.

Those Zero Emissions climate benefits are now added to the Zero Waste climate benefits of collecting organic discards and turning them into compost. When landfilled, organic discards generate methane, a greenhouse gas, which traps 84 times more heat in our atmosphere than carbon dioxide in the short term. By contrast, composting breaks down biodegradable materials with oxygen and water, just as happens in nature, and does not produce potent methane emissions. When turned into compost and applied to soil, compost can even help reverse climate change impacts by drawing down carbon out of the atmosphere and storing it safely long-term in healthier soils.

Landfills are the third-largest source of methane emissions in the US and emit nearly 390 MMTCO₂ every year when measured over the short term—the equivalent greenhouse gas emissions of 124 coal-fired power plants. “Reducing methane emissions from landfills by collecting organic discards from commercial generators using an electric-powered vehicle represents a huge opportunity to fight climate change,” said Jones.

The truck is a [Mack® LR Electric](#), purchased from the Denver branch of Bruckner’s Truck & Equipment of Amarillo, Texas, and the company’s first direct sale of this cutting-edge vehicle by a private company. Featuring twin electric motors offering 448 continuous horsepower and 4,051 lb-ft of peak output torque from zero RPM, the Mack LR Electric is offered with a two-speed Mack Powershift transmission, [mRIDE™ suspension](#), and Mack’s proprietary S462R 46,000-pound [rear axles](#).

Four NMC (Nickle Manganese Cobalt Oxide) lithium-ion batteries, charged through a 150kW, SAE J1772-compliant charging system, provide vehicle propulsion and power for all onboard accessories, driven through 12V, 24V, and 600V circuits. The two-stage regenerative braking system accounts for the refuse truck’s increasing load throughout the day and helps recapture energy from the hundreds of stops the vehicle makes each day.

“Mack congratulates Eco-Cycle as they become the first in the composting industry to add a battery-electric vehicle to its fleet,” said Jonathan Randall, Mack senior vice president of sales and operations. “Mack looks forward to helping Eco-Cycle achieve its sustainability goals through their purchase of the Mack LR Electric refuse vehicle.”

“Eco-Cycle is excited to partner with Mack and their global leadership in our transition to EV collection vehicles,” said Suzanne Jones, Eco-Cycle Executive Director. “Mack has developed not only a cutting-edge EV truck, but their depth of understanding of the challenges of innovation make them an exceptional collaborator. From the extensive testing of the LR Electric, to the collaboration with Bruckner’s, the local dealer, Mack has built a platform that we are certain will enable our collective success.”

The truck will serve as Eco-Cycle’s new frontline vehicle to collect compostables generated by our many commercial and institutional clients. The electric-powered compost collection truck, which will travel an estimated 15,000 miles each year, will help reduce greenhouse gas emissions by 2,500 tons over the vehicle’s lifetime.

“Electric vehicles are the future for commercial trucks as our industry pushes toward zero tailpipe emissions,” said Brian Bruckner, president of Bruckner’s. “Congratulations to Eco-Cycle for leading us forward to a new future of recycling and a new future of green transportation solutions. The future in heavy-duty trucks is now with Bruckner’s and Mack Trucks.”

Thanks to a grant from the ALT Fuels Colorado program, Eco-Cycle has obtained foundational funding to purchase the EV truck. Eco-Cycle’s vision is to secure additional funding to support an onsite solar array for truly Zero Emission collections.

“We thank Governor Polis and the Colorado Department of Transportation for their vision and leadership in pursuing a clean electricity transportation future for Colorado and are proud to be a part of implementing it,” added Jones.

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Eco-Cycle is one of the nation's oldest and largest nonprofit recyclers, and as such, has pioneered many "firsts" in the industry, including one of the first curbside collection services for household recyclables and the first commercial compost collections in our region. Eco-Cycle works to identify, explore, and demonstrate the emerging frontiers of sustainable resource management through the concepts and practices of Zero Waste. For more information, visit: www.ecocycle.org