

Unique Electric Solutions of NYS Participates in Greenhouse Gas Impact Evaluation



Unique Electric Solutions

Located at the Clean Energy Business Incubator Program at Stony Brook University, New York, Unique Electric Solutions of NYS LLC. (UES) produces and upgrades environmentally friendly electrical propulsion and power systems for commercial trucks. With roots in buses, trucks and non-road vehicles, UES team has been in the forefront of electrification of vehicular propulsion and subsystems for over 25 years.

Challenge

UES has partnered with the United Parcel Service (UPS) to begin converting their fleet of 1,500 diesel fueled trucks to electric systems. They are focused on fleet operations in New York City (NYC) while eyeing expansion to other large urban areas. As they continue to expand, UES wants to determine the potential greenhouse gas (GHG) impact when using their uniqueEV™ technology to better position themselves in the market.

Solution

UES requested assistance from the New York State Pollution Prevention Institute (NYSP2I) to estimate the potential reductions in fossil fuel use, impact of electricity use, and reduction in GHG emissions associated with their technology in New York State. NYSP2I conducted a high-level comparative analysis of the potential energy use and GHG impact for UES' uniqueEV™ technology vs. a baseline technology. Operational data over a seven (7) month test period from a medium duty pilot truck in NYC was used to complete the analysis. The impacts of the baseline were calculated with respect to a diesel fueled powertrain while the impacts of UES' uniqueEV™ technology were calculated for both lead-acid and lithium-ion battery systems.

Challenge

- Unique Electric Solutions (UES) wants to determine the potential greenhouse gas (GHG) impact when using their uniqueEV™ technology to better position themselves in the market.

Solution

- NYSP2I conducted a high-level comparative analysis of the potential energy use and GHG impact for UES' uniqueEV™ technology vs. a baseline technology of a truck operating with a diesel fueled powertrain.

Results

- High level comparative analysis suggests that UES uniqueEV™ technology has the potential to reduce GHG emissions from medium duty trucks operating in NYC by an estimated 22% and 44% utilizing lead-acid and lithium-ion batteries, respectively, vs. the baseline diesel powered vehicles.

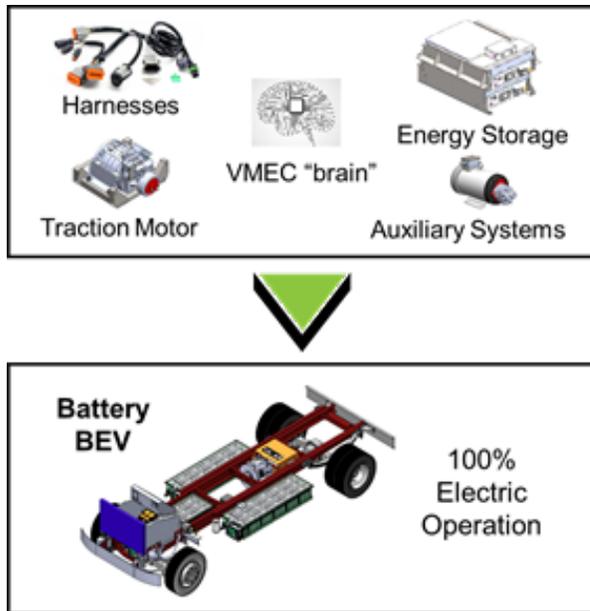
Results

The high level comparative analysis suggests:

- For a lead-acid battery system, the potential to reduce GHG emissions by 22% vs. the baseline diesel powered truck exists.
- For a lithium-ion battery system, the potential to reduce GHG emissions by 44% vs. the baseline diesel powered truck exists.

Moving forward, UES will continue to improve on the uniqueEV™ technology with goals to begin manufacturing kits for outside installation.

Details and Configurations for the uniqueEV™ System



“Working with NYSP2I is a wonderful experience, the skill and care they take on all projects is unparalleled. In addition, they keep things moving and are always available.”

Joseph M. Ambrosio
CEO
Unique Electric Solutions



Unique Electric Solutions

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Note: The estimated energy and GHG emission impact calculated by NYSP2I at RIT are based on information and claims provided to NYSP2I by UES relative to their uniqueEV™ system. It should be noted that this analysis considered solely the use phase of a product life cycle. The material extraction, manufacturing and end-of-life phases were not considered as part of this analysis.