Member Advisory

Electric Trucking

What has changed?

In November 2017, Tesla announced the creation of an all-electric battery powered commercial truck. Delivery is scheduled for 2019. In June 2018, Daimler owned Freightliner announced delivery of the first wave of their all electric trucks for late 2018. This announcement should bring electric trucking closer to reality.

What is the impact on cooperatives?

Electric trucking has the potential to have significant impact for electric cooperatives. Co-ops cover 56 percent of the land area of the U.S., and many important freight routes pass through co-op service territories. Many co-ops have expressed a high degree of interest in working with existing truck stops to provide electric vehicle (EV) charging of long-haul commercial vehicles.

Tesla's announcement included a description of a "megacharger" that would be solar powered, recharge the truck's battery to 80 percent in 30 minutes, and have output of over 1 MW.

Daimler's announcement builds upon earlier announcements of trucks that are in small scale production. The latest announcement includes two trucks:

- According to Daimler's website, the Freightliner eCascadia is a heavy-duty class 8 electric truck for long-distance operations with a range of 250 miles and 730 hp. The battery pack is 550 kWh and can be recharged in 90 minutes to 80 percent capacity (220 mile range).

- The Freightliner eM2 106 is a medium duty delivery truck designed for last mile delivery services. The range is 230 miles and can be recharged in 60 minutes to 80 percent capacity. The battery pack provides 325 kWh[1]. Trucks such as this could see significant adoption near major cities.

[1] https://www.daimler.com/products/trucks/freightliner/e-mobility-group.html

Daimler's Mercedes division also produces the eActros,[2] in addition to the Fuso eCanter[3]. The Fuso brand is popular in Asia, Africa, and Middle East. The eActros is primarily being tested in Germany and Switzerland.

Daimler has announced that the new Freightliner trucks will be tested in the United States. Trucks will be tested by Penske and NFI in the Pacific Northwest, and for short range deliveries between the ports of Los Angeles and Long Beach and inland California warehouses.[4]

What do cooperatives need to know about it?

Suburban cooperatives that currently have warehouse and distribution facilities could be the first ones to see electric trucks. Electric delivery trucks are ideal solutions for deliveries within congested urban environments, due to their quiet operation and no emissions.

As the technology evolves and range improves, electric trucking could capture a greater market share. Co-ops serving existing truck stops could expect to see charging stations in those areas. While this is not expected anytime soon, co-ops along busy truck routes should begin exploring options on how to serve this increased load. Working in partnership with travel center operators and exploring creative options that include energy storage and solar will help to lessen the distribution upgrades needed to serve the high capacity charging infrastructure required.

Potential Impacts to the Co-op

NRECA's Business and Technology Strategies Department has proposed a project to the U.S. Department of Energy to create a modeling tool to help cooperatives, travel center operators, and manufacturers understand options to design and build the infrastructure necessary to support electric commercial trucks. NRECA has consulted with travel center operator Love's and truck manufacturer Daimler on the project.

It is recognized that the commercial EVs are still under demonstration stage and not ready for full widespread deployment. However, it is important for co-ops, manufacturers, and travel center operators to understand the technical and business issues associated with this application to enable successful and sustainable future deployments.

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[2] http://media.daimler.com/marsMediaSite/en/instance/ko/All-electric-Mercedes-Benz-trucks-for-the-heavy-duty-distribution-sector-Sustainable-fully-electric-and-quiet-Mercedes-Benz-eActros-to-roll-out-to-customers-in-2018.xhtml?oid=33451264

[3] https://www.daimler.com/products/trucks/fuso/ecanter.html

[4] https://electrek.co/2018/06/28/daimler-deliver-ecascadia-electric-trucks-leasing-partner/amp/

Additional Resources

- DOE/EPRI Electricity Storage Handbook in Collaboration with NRECA
- Electrical Energy Storage: A Lexicon
- Will Electric Vehicles Take Charge in Co-op Nation?
- Residential Electric Vehicle Service Equipment (EVSE) Program Design for Co-ops
- Sign-up for our newsletter, TechUpdate

Contact for Questions

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