

Pro-Active Grid Investment Assessment/Medium-and Heavy-Duty Vehicle Transportation Electrification: Environmental Defense Fund Report



Walter Wright, Jr.
wwright@mwlaw.com
(501) 688.8839

11/07/2024

The Environmental Defense Fund released a November 6th report titled:

Pro-Active Grid Investment Assessment - Medium-and Heavy-Duty Vehicle Transportation Electrification ("Report").

Contributors to the Report included:

- Environmental Defense Fund.
- Black & Veatch.
- Energeia.

The Report argues that there are benefits to rate payers when utilities prepare for new electricity demand from electric trucks and busses. It states:

...While the landscape and adoption curve of electric trucks will vary by state or region, our report suggests that investing in the grid proactively tends to cost less, even where future charging demands are uncertain.

Findings in the Report include:

- Load growth due to vehicle electrification, including M/HDV trucks, can be a significant driver of grid infrastructure needs and should be considered in grid planning processes.
- Grid forecasting, planning and the consideration of grid solutions should be evaluated in the long-term (greater than 20 years) to better characterize the long-term need and quantify the costs and benefits for a given grid solution.
- Proactive planning for M/HDV electric load can result in capital expenditure (CAPEX) savings in the long run due to reduced need to upgrade the same station to accommodate load growth into the future, when compared to sequential planning approaches.
- The cost and benefit related to adopting a proactive planning approach over a sequential one is largely dependent upon the level of oversizing employed with a proactive approach and the associated cost, which varies by planning specifications and jurisdiction.
- The lowest cost planning approach identified through the study involves employing a mix of proactive and sequential planning methods, determined on a case-by-case basis for each substation.

- While vehicle electrification load is a driver in load growth, changes to overall load growth is critical when determining whether proactive investments are more cost-effective than sequential approaches.
- Managed charging initiatives can also deliver significant cost savings in the long run, though the impact is dependent on the effectiveness of the initiatives at modifying charging behavior.
- The cost of identified substation upgrades through the study period is relatively minor when evaluated against the anticipated load realized onto the system.
- Fleet owners and operators can benefit from proactive utility investments through decreased and more predictable interconnection timelines, potentially lower interconnection costs, and reduced need for mitigation strategies to commission sites when utilities cannot energize sites in the desired time frame.

A copy of the Report can be found [here](#).