



## California Hybrid, Efficient and Advanced Truck Research Center

CalHEAT is funded by the California Energy Commission and administered by CALSTART

### About CalHEAT

The California Hybrid, Efficient and Advanced Truck (CalHEAT) Research Center is a California-based resource center for research, development, demonstration and commercialization of advanced, efficient truck technologies and systems. CalHEAT is funded by the California Energy Commission (CEC) and administered by CALSTART, North America's largest advanced, clean technologies and fuels consortium. The Center works as a partnership of diverse stakeholder groups developing and implementing an overall research and a market transformation plan to inform manufacturers and suppliers on clean truck technology status, gaps, and needs for commercialization as well as guide state investment and funding for hybrid, efficient and advanced truck technologies.

### Background

Medium- and heavy-duty vehicles are critical to the economy, yet remain a real and growing energy and carbon challenge as yet insufficiently addressed. This segment accounts for a significant portion of petroleum use state and nationwide, and particularly on a per platform basis, due to high per-vehicle fuel use.

Medium- and heavy-duty on-road truck traffic serving urban and goods movement needs combined with heavy-duty off-road vehicle use at distribution centers and ports, contribute significantly to fuel use, poor regional air quality, and are a sizable source of greenhouse gas emissions.

### Purpose

The purpose of CalHEAT is to develop a guide for research and development of hybrid and efficient advanced truck technologies and systems to better understand the status, existing gaps, and their in-use performance as well as implement a market transformation plan to better understand the market barriers to widespread commercialization.

Until now, there has not been extensive research conducted to develop a comprehensive study of the many hybrid and efficient advanced clean truck technologies and systems that are in the market or are close to commercialization and an understanding of the gaps which require further research. Nor has anybody conducted a practical market study showing what is needed to commercialize these truck technologies and systems and where the market needs exist for them. This has made it difficult for manufacturers and suppliers to focus limited time and resources on research, development and commercialization of promising technologies and systems. It also makes it difficult for states like California to make intelligent choices and provide sufficient funding of these technologies as states attempt to reduce petroleum use and emissions from vehicles using cleaner technologies and systems.

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## Goals

The CalHEAT Research Center is pursuing the following activities:

- Develop a roadmap for research and market transformation for activities through 2020. This effort will support California's goals of reducing petroleum, emissions and carbon in medium and heavy duty trucks. The roadmap will consist of actionable steps involving a variety of technologies such as more efficient drive trains and hybrids, engine downsizing, more efficient auxiliary systems and other technologies that lead to commercialization.
- Demonstrate the use of high efficiency advanced technology and systems in two key vehicle applications - Class 8 truck in operation as either regional delivery or port drayage. CalHEAT will also demonstrate an electric plug-in parcel delivery truck, analyze its performance and infrastructure requirements, as well as evaluate long- and short-term grid requirements.
- CalHEAT will perform a Market Barrier Analysis on the combination of alternative fuels and high efficiency hybrid technologies.

For more information, visit:

CalHEAT

[www.calheat.org](http://www.calheat.org)

California Energy Commission

[www.energy.ca.gov](http://www.energy.ca.gov)

CALSTART

[www.calstart.org](http://www.calstart.org)

