

# The California Hybrid, Efficient and Advanced Truck (CalHEAT) Research Center

October 2012

## Fact Sheet

### The Issue

California's medium- and heavy-duty vehicle fleets consume more than 18 percent of the total fuel used in state, about 3.7 billion gallons annually, and contribute a commensurate share of greenhouse gas emissions. The State of California made commitments to reduce petroleum use from light-duty vehicles, but a more focused effort is needed for reduction of petroleum and carbon from medium- and heavy-duty vehicles. These vehicles emit more toxic air pollutants on a per-gallon fuel consumed basis than light-duty vehicles. The challenge is particularly visible in Southern California, which is the state's and nation's biggest transportation hub. These emissions issues are brought into focus in the Ports of Los Angeles and Long Beach, where more than 40 percent of all containerized trade in the nation flows.

### Project Description

This research will develop a market transformation roadmap for commercializing advanced technologies for medium- and heavy-duty vehicles. The strategies and pathways outlined in the roadmap will deliver clear actionable steps to meet or exceed the 2020 goals for California in petroleum reduction, carbon reduction, and air quality standards. In addition, the roadmap will set up a framework, timeline, and longer-term goals for carbon reduction. This project will also manage and fund core demonstration and validation efforts in partnership with industry for areas targeted in the roadmap. During the agreement term the



Photo Credit: Peterbilt

research center will accomplish the following three goals:

1. Develop a research roadmap to advance science and technology for medium- and heavy-duty truck efficiency.
2. Perform research on advanced Class 8 trucks and alternative fuel, high-efficiency hybrid trucks.
3. Conduct technology transfer activities geared to end users, manufacturers, suppliers, and organizations suited to combining technical and commercial capabilities.

### PIER Program Objectives and Anticipated Benefits for California

The project goal is to guide, lead, conduct, and oversee a research, development, and market transformation process for commercialization of advanced, efficient truck technologies and systems. CalHEAT will serve as a center for projects and expertise focused on improving medium- and heavy-duty vehicle efficiency and fuel economy in

California. This project addresses the goals of the Alternative and Renewable Fuel and Vehicle Technology Program and the *State Alternative Fuels Plan* (Assembly Bill 1007), and will help foster the development of clean and efficient vehicle technologies.

The objectives of this agreement are to:

- Demonstrate high efficiency, heavy-duty drayage and long-haul vehicles targeting 20 percent and greater fuel efficiency gains
- Conduct initial research and demonstration projects and activities following the center’s strategic goals.
- Identify and assess best applications for combining high-efficiency truck technology and low-carbon alternative fuels targeting a 60 percent and greater carbon and petroleum reductions in commercial vehicles.
- Develop a long-term research roadmap that will include a gaps analysis identifying research collaborations and will leverage partnerships opportunities. The roadmap will also identify barriers to market penetration, the research agenda necessary to overcome those barriers, and pathways forward that are necessary for successful commercialization of high-efficiency trucks.

## Project Specifics

Contract Number: 500-09-019

Contractor: CALSTART

City/County: Pasadena

Application: Statewide

Contract Amount: \$3 million

Contract Term: January 2010 to August 2013

For more information, please contact:

Reynaldo Gonzalez

California Energy Commission

PIER Program, Transportation Research Office

Phone: 916-327-1334

E-mail: [reynaldo.gonzalez@energy.ca.gov](mailto:reynaldo.gonzalez@energy.ca.gov)

Fred Silver

CalHEAT

Phone: 626-744-5687

E-mail: [fsilver@calstart.org](mailto:fsilver@calstart.org)

### Disclaimer

Although funded by the Energy Commission, the recipient is responsible for the research. The Commission, its employees, and the State of California make no warranty, expressed or implied, and assume no legal liability for this information or the research results.



Edmund G. Brown Jr., Governor  
California Energy Commission  
Chair Robert B. Weisenmiller, Ph.D  
Executive Director: Robert P. Oglesby

California Energy Commission  
Public Interest Energy Research  
1516 Ninth Street  
Sacramento, CA 95814-5512

CEC-500-2012-FS-037