



DATE December 11, 2012

TO: California Energy Commission Commissioners and Staff

FROM: Jamie Hall, Policy Director

RE: Docket No. 12-ALT-2, 2013-2014 Investment Plan

**Clean Transportation
Technologies and Solutions**

www.calstart.org

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CALSTART appreciates the opportunity to provide input on the California Energy Commission's (CEC) FY 2013-2014 AB 118 Investment Plan. As a follow up to our oral comments at the December 4, 2012 Advisory Committee meeting, we wanted to provide feedback on two specific areas of the plan: (1) Medium- and Heavy-Duty Advanced Technology Vehicles, and (2) Regional Alternative Fuel Readiness.

Medium and Heavy-Duty Advanced Technology Vehicles

CALSTART has extensive experience with medium and heavy duty vehicle technologies. With funding from the Energy Commission, we have worked with industry leaders, regulators, and other stakeholders to develop a roadmap for advanced truck technology needs in California through the California Hybrid, Efficient, and Advanced Truck (CalHEAT) Research Center. The CalHEAT Roadmap outlines technology and investment pathways that are needed in order for California to meet greenhouse gas reduction goals for the truck sector. These advances are also needed to meet air quality targets as laid out in the Vision for Clean Air, as well as energy security and petroleum reduction goals adopted in the AB 2076 and AB 1007 plans.

CalHEAT examined three major pathways and 19 technology strategies for improving efficiency and reducing emissions from trucks. The Roadmap calls out both technical needs and market introduction steps for each technology strategy. This is a deep-dive effort to lay out a detailed plan to guide policy, investment, and technology decisions. The plan calls for roughly \$35 million per year over the next seven years for research, development, demonstration, and deployment support.

We recognize that there are many competing priorities for the use of the Energy Commission's AB 118 funds. At a minimum, we strongly support the \$15 million allocated in the FY2013-2014 plan for medium- and heavy-duty advanced technology vehicles. As noted in the staff plan, while we have robust programs and plans for light duty vehicles – including a Zero Emission Vehicle mandate and a clear vision for a path to 2050 – we have no comparable programs or plans for the medium- and heavy-duty sector. Public investments are therefore very important for ensuring ongoing innovation and improvement in the environmental performance of California's truck fleets. Additionally, truck manufacturers do not have the robust research and development budgets that allow car manufacturers to push the envelope and invest in transformational technologies.

Furthermore, as noted by staff in the draft plan, trucks have many specialized applications, necessitating a larger number of technology configurations, demonstrations, and deployment programs. For example, the solutions needed for long haul "big rig" trucks are very different than the solutions needed for urban delivery. There are synergies and opportunities for technology to migrate from one application to another. Some technologies that are proven and improved in lighter weight, urban applications can eventually be scaled up to long haul trucking. Still, however, there



investment needs for multiple applications, and there is a need to fund multiple projects in an area in order to drive competition and improve the technology.

We therefore support CEC's decision to allocate a greater percentage of AB 118 funds to advanced truck demonstrations in the FY2013-2014 plan. We also recommend that staff leverage the CalHEAT findings and recommendations when making decisions about how best to target investments. A careful and coordinated investment strategy is needed to maximize bang for the buck. The Energy Commission should look to demonstrate multiple technologies in a single project, and should focus in part on "enabling technologies." For example, waste heat recovery and electrified accessories can enable downsized engines, further increasing efficiency for hybrid trucks while driving down costs for electric drive over time. Given the scope, scale, and complexity of the investment needs in this sector, there would be real benefit in continuing the CalHEAT Research Center to provide ongoing input and support to staff.

Regional Alternative Fuel Readiness

We support staff's recommendation to allocate funding for alternative fuel readiness and planning. Developing infrastructure and vehicle deployment plans, sharing best practices, and conducting outreach and education can help facilitate the transition to cleaner technologies. CALSTART supports staff's plans, as outlined in the staff presentation, to allow for state-wide planning and readiness efforts. We believe a statewide workplace charging effort can yield substantial benefits for plug-in vehicle deployment.

CALSTART also supports the expansion of this category beyond electric vehicle chargers, as outlined in the draft. We prefer approaches that support a suite of technologies and do not believe there is any reason to limit readiness and outreach work to electric vehicles. We do believe, however, that the \$1 million set aside in the FY2013-2014 plan will be insufficient to meet demand, particularly in light of the fact that staff is recommending a broader, more technology-neutral program.

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Thank you for the opportunity to provide a second round of input into the CEC's AB 118 investment plan process for FY 2013-2014. We look forward to working with you to ensure that the program continues to drive positive change and job growth in California's transportation sector.