

The **National Zero-Emission Truck (ZET) Coalition (“ZET Coalition”)** is a CALSTART-organized and diverse group of stakeholders across the clean commercial vehicle supply chain advocating for federal investments that 1) help deploy zero-emission trucks in the near-term, with the goal of tens of thousands of ZETs deployed in U.S. fleets in five years; and 2) help deploy charging infrastructure and technological innovations to ensure U.S. ZET fleet and supply chain long-term competitiveness. The ZET Coalition will build a federal presence around these issues and seek new programs to meet our full recommendations, in this or future Congresses. We will be nimble and seek to find near-term opportunities to make progress.

**RECOMMENDATION: Create a new federal \$2 billion+/five-year point-of-sale incentive for ZETs.** A direct point-of-sale incentive for zero-emission medium- and heavy-duty vehicles (MHDV) has the potential to provide immediate job and economic stimulus to an important and growing segment of the U.S. commercial vehicle industry, its supply chain, and its manufacturing workforce. Upfront costs of ZETs<sup>i</sup> are consistently identified by industry as one of the biggest barriers to further deployment. A point-of-sale incentive would enable early commercial ZETs to get on the roads as quickly as possible, supporting both manufacturers and users. Voucher incentive programs<sup>ii</sup> that incentivize clean truck purchases have proven effective in large regional markets because of their streamlined point-of-sale discount approach.<sup>iii</sup>

In order to achieve the penetration of tens of thousands of ZETs across U.S. fleets in the near-term, an incentive program of at least \$2 billion over five years would be necessary to cover the higher incremental cost of these cleaner vehicles compared to their conventional counterparts. That level of investment could transform the ZET industry, building a stronger domestic supply chain that provides high quality manufacturing jobs, and dramatically improving air quality in cities and along congested freight corridors. Such an investment could put the United States on a trajectory to replace tens of thousands of diesel-fueled trucks with ZETs by 2025 to quickly get commercial truck manufacturers producing again and fleets purchasing again. Longer-term, this investment should be scaled to put the U.S. on a pathway to produce hundreds of thousands of ZETs within 10 years.

**RECOMMENDATION: Incentivize ZET infrastructure through a combination of financial and tax incentives.** As fleets grow to meet global demand for cleaner truck options, the upfront cost of charging and refueling infrastructure<sup>iv</sup> will remain a critical and persistent issue. Direct incentives for ZETs must be coupled with infrastructure and related equipment, and these investments must support fleets’ plans and actions to move beyond demonstration scale.

Direct incentives like rebates, or competitive grants to support this infrastructure, would help support a range of needed infrastructure investments. These investments should address regional needs and infrastructure requirements unique to MHDVs in a variety of applications, focusing on depots and facilities but including along our highway corridors, in congested and underserved areas most impacted by truck emissions, and at our ports. Expanding the §30C investment tax credit for charging and refueling infrastructure to include MHDV equipment could provide an incentive for buildout of needed equipment.

**RECOMMENDATION: Support RD&D for ZETs by an additional \$250 million per year over five years.** A concerted, stable federal innovation program for clean commercial vehicles is necessary to drive down the cost of enabling technologies for MHDVs, to demonstrate these vehicles’ value to fleet operators, and to support high-quality U.S. production of ZETs and components in a global \$1 trillion truck and bus market. Long-term federal funding is required to support the research, development, and demonstration (RD&D) and commercialization of advanced technologies to make high-efficiency, zero-emissions, and longer-range technologies more affordable and viable. These investments should include and expand Department of Energy and other federal agencies’ investment in MHDV RD&D, including Super Truck (which could increasingly focus on ZET) as well as other component, infrastructure, and design for manufacturing RD&D programs addressing commercial deployment technical barriers. The ZET Coalition has an opportunity to be a thought leader in helping shape this federal investment moving forward.



<sup>i</sup> ZETs are zero emission vehicles, powered by electric drive provided primarily by battery or hydrogen fuel cell electricity, and capable of full or significant zero emissions operations (significant meaning >60 miles of driving and/or 6 hours of engine off operation of equipment and accessories, such as, for example, pumps, compressors, generators, and TRUs).

<sup>ii</sup> A Voucher Incentive Program (VIP) is a streamlined process that applies the vehicle incentive at the point of purchase under which a manufacturer pre-qualifies its vehicles with the entity managing the program, and vendors are approved to submit voucher requests on behalf of purchasers. A voucher is redeemed to the vendor once all paperwork is submitted and the vehicle is delivered to the purchaser. These programs function best when industry input is included.

<sup>iii</sup> A CALSTART analysis of point-of-sale incentives across the U.S. has shown that voucher programs are among the most effective policies for incentivizing clean MHDVs because of their ease of use and administration. See: Welch, Dan, and Benjamin Mandel, "Voucher Incentive Programs: A Tool for Clean Commercial Vehicle Deployment," CALSTART, July 2019, pp. 17-24, <https://calstart.org/voucher-incentive-programs-a-tool-for-clean-commercial-vehicle-deployment/>.

<sup>iv</sup> In this context infrastructure is defined as refueling equipment, installation, siting, fuel supply capacity expansion, and related equipment, and includes infrastructure hosted at depots, facilities, and other return-to-base fleet sites.