

**Submission for the Record**  
Representative Julia Brownley  
Select Committee on the Climate Crisis  
July 16, 2019

## **CALSTART**

### **National Clean Truck and Corridor Initiative**

#### **FEDERAL INVESTMENT TO DRIVE CLEAN TRUCKS AND CORRIDORS – THE TIME IS NOW**

While essential to the nation’s goods movement industry, trucks are also one of the nation’s largest single sources of air pollution, greenhouse-gas emissions, and users of diesel fuel. Given the scope of the trucking industry, the resulting impacts are felt in every region and impact every resident. Fortunately, technology can provide solutions that address these issues, while making the trucking sector even stronger. A new national effort focused on expanding clean truck highway corridors and incentivizing the deployment of clean trucks will not only contribute to compliance with clean air standards, it would also expand domestic vehicle and component manufacturing and highway corridor construction jobs while providing U.S. based vehicle manufacturers a competitive global advantage. Transforming the trucking industry will require a three-pronged approach including vehicle acquisition incentives, Research, Development and Demonstration (RD&D) and new (alternative fueling/charging) highway infrastructure. CALSTART and its 200 plus member companies are calling for a national **Clean Truck and Corridor Initiative** that would promote U.S. energy independence, climate security, domestic advanced manufacturing, job creation and healthier lives.

The timing is right for a National **Clean Truck and Corridor** (infrastructure) **Initiative**. Over the past decade the costs of electric propulsion systems, including batteries, have come down dramatically. The performance of fuel cell technologies has improved significantly and engines using low carbon fuels have now achieved ultra-low NOx emission levels. Under the Trump administration, the U.S. Environmental Protection Agency (EPA) has announced plans to further strengthen pollution standards for trucks and buses. Concurrently, global companies are making major investments and are beginning to deploy zero emission commercial vehicles around the world. China currently has the lead with more than 300,000 electric trucks and buses operating in major cities today. This industry is still nascent, and the United States, its manufacturers and suppliers, can be leaders, producing thousands of jobs while enabling the entire country to meet the federal air quality standards established in the late 1970’s.

For the United States to lead in this sector, the **Clean Truck and Corridor Initiative** could provide investments in three critical areas. First, there is a need to bring existing zero, and near-zero emission products to the market which can be accomplished through purchase incentives, using a model proven to be successful in several states. Second, there is a need to assist U.S. manufacturers and suppliers in developing the next generation of technology so that zero and near-zero emission trucks and buses can be available in a larger number of segments and applications. Third, there is a need to expand corridors with zero emission refueling and recharging stations. Together, these three program elements would transform trucking and position U.S. companies to grow and compete globally. Further detail on these three categories is provide below.

#### **HELPING FLEETS TRANSITION TODAY – PROVIDING A NATIONAL PURCHASE INCENTIVE**

The zero- and near-zero emission truck market is rapidly growing, offering several technology options for fleets. While having a higher upfront purchase price, zero to near-zero emission trucks are proving to have a lower total cost of ownership over the life of the vehicle. Similar to the zero-emission passenger car market, incentives are needed to jump-start the zero- to near-zero emission truck market to encourage fleets to purchase these advanced and cleaner vehicles. A federal incentive program could transform this industry in the next 5-10 years, build a stronger domestic industry that provides high quality manufacturing jobs, while dramatically improving air quality along congested freight corridors. An investment of \$20 billion over six years could replace **more than 400,000** diesel fueled trucks with near-and-zero emission trucks **by 2025**.

A voucher incentive program (VIP)<sup>1</sup> to incentivize clean truck purchases has proven effective in large regional markets because of its streamlined ‘point of sale’ discount approach. In Illinois, New York, and California voucher incentives have led to the purchase of more than 6,000 battery-electric, fuel cell, hybrid, and ultra-low NOx natural gas vehicles.

Zero- to near-zero emission trucks that are currently available or are soon to become commercially available include:

- Hybrid-Electric cargo vans, delivery trucks, and utility “bucket” trucks;
- Low NOx Natural Gas refuse, drayage, and long-haul trucks;
- Battery-Electric delivery, regional and yard trucks;
- Class 7-8 Battery Electric Drayage trucks; and
- Hydrogen fuel cell long haul tractor-trailers.

Federal incentives in these targeted areas – where early market success is most likely – would help build volumes and lower costs over the next 5-7 years. Once greater economies of scale are achieved, federal incentives would not be needed and could be scaled back and eventually eliminated.

**Recommendation: Create a grant program within the CMAQ program to establish a Voucher Incentive Program. Require States to administer the grant program using current programs as models.**

## **RESEARCH, DEVELOPMENT & DEMONSTRATION – MAKING TOMORROW’S TRUCKS BETTER**

To transform the goods movement industry in the next 10 years, federal funding is required to support the research, development and demonstration (RD&D) of advanced technologies to make high-efficiency, zero-emissions, and longer-range technologies more affordable and viable. RD&D investments would help U.S. companies develop a diversity of high-quality products and be in a better position to compete in the global truck and bus market which exceeds \$1 trillion in annual revenue. Based on analysis done for state agencies, CALSTART projects a need for federal RD&D investment of about \$250 million/year from 2020 to 2025. Approximately 30-40% of the funds should be allocated to technology development and

---

<sup>1</sup> A Voucher Incentive Program (VIP) is a streamlined process that applies the vehicle incentive at the point of purchase. Under a VIP program, the 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 paper work is submitted and the vehicle is delivered to the purchaser. Fleets greatly prefer this process over the costly and lengthy process that includes 9-12 months of proposal development and review, award selection, and contract negotiations. Fleets also prefer the VIP process over tax credits as their true monetary value usually gets lost in corporate accounting and does not impact the budgets of most fleet directors.

demonstrations, and the remaining 60-70% would be allocated to major pilot deployment projects where both fleets, suppliers, and manufacturers can test and improve the product. Most of the funds should be focused on the larger trucks that consume the bulk of the fuel in the market.

While we recommend that these RD&D funds be predominately spent on RD&D to advance the truck industry, Congress should include language so that some of the funds could be used for two related purposes. Zero emission transit buses are rapidly gaining market share in the United States. Additional RD&D investments in zero emission buses would help address key issues such as performance in cold weather and infrastructure resilience. In addition, the technology development of the Maritime Administration should be boosted to \$10 million year to leverage the technology being deployed in near- and zero emission buses and apply it to the nearshore marine vessel sector.

**Recommendation: Provide \$250 million in additional annual funding for FHWA, FTA and MARAD research, development and demonstration programs to support technology development for clean trucks, buses and nearshore marine vessels.**

### **EXPANDING CLEAN CORRIDORS — ALTERNATIVE FUEL INFRASTRUCTURE TO ENABLE CLEAN TRUCKING**

Expanding our national alternative fuel corridors is critical to enabling clean vehicle adoption. Through the Federal Highway Administration’s Alternative Fuel Corridor Designation Program, 46 states including the District of Columbia have submitted nominations for corridors for 100 interstates, 76 US highways and state roads, of 135,000 miles across all fuels (electric, hydrogen, natural gas and propane as selected by the local jurisdiction). While this designation allows for highway signage, significant gaps in charging and refueling infrastructure exist. Less than one percent of the truck stops in the country have zero-emission fueling stations.

Trucks stop operators, utilities, and third-party providers are eager to build the truck power infrastructure of the future, and federal investment would play a vital and catalytic role. Federal funding would significantly leverage and encourage additional investments from the utility and private sectors. A key outcome of this investment would be a new or revamped network of truck stops providing 100 percent domestic clean fuels and energy for our nation’s trucks. Unlike today, the truckers taking part in this program would no longer need to rely on imported fuel, thereby lowering the nation’s trade deficit and supporting domestic jobs.

Based on initial estimates, we anticipate the total investment needed to convert the nation’s trucking infrastructure to zero or near-zero emission fuels to be between \$50-100 billion over the next decade. Federal investment of \$20 billion over that time period would leverage non-federal investment on a 4:1 basis.

**Recommendation: Expand the current FHWA Alternative Fuel Corridor program to not only designate corridors but to establish a grant program for the installation of alternative fuel infrastructure. Authorize the grants in lieu of tax credit of the Treasury Department Section 1603 program.**

### **SUMMARY – TARGETED OUTCOMES**

If the U.S. Congress were to move forward with the proposed **National Clean Truck & Corridor Initiative**, there would be major benefits in the near- and long-term future for the country. Below are some of the expected outcomes from such a program:

- Nationally, NOx emissions, the primary source of air pollution in urban areas, would be reduced by 150,000 tons and due to cleaner truck product availability, the nation would be in a strong position to be in full compliance, for the first time, with the federal air quality standards that were established in the late 1970's;
- Diesel fuel consumption would be reduced by 19 billion gallons by 2025, and the U.S. would be on a trajectory to eliminate imported diesel by the end of the decade, thus reducing the trade deficit and contributing to a declining geopolitical significance of oil producing nations that don't share our values;
- Total greenhouse gas emissions from the trucking sector would decline by 72 metric tons by 2025, placing the U.S. in a leadership position and supporting the commitments made under the global climate accord established in 2016;
- Fleets would save approximately \$20 billion in fuel costs by 2025, with savings projected to expand exponentially from 2026-2035 as the market for zero- and near-zero emission trucks grow; and
- U.S. truck makers and suppliers would be increasing their market share and in a strong position to compete globally.

For further information on this concept, please contact CALSTART's Alycia Gilde, Director, Fuels and Infrastructure at [agilde@calstart.org](mailto:agilde@calstart.org).