United States House of Representatives
Select Committee on the Climate Crisis

Hearing on July 16, 2019
"Solving the Climate Crisis: Cleaning Up Heavy Duty Vehicles, Protecting Communities"

Questions for the Record

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The Honorable Kathy Castor

1. In your testimony, you referenced the SuperTruck program administered by the U.S. Department of Energy. How could this program be expanded or modified to accelerate development and deployment of zero-emission heavy-duty truck technology?

The SuperTruck program administered by the U.S. Department of Energy could be expanded and modified to accelerate the development and deployment of zero-emission heavy-duty truck technology by setting more aggressive emissions goals and expanding the resources available to meet those targets. For example, the current running SuperTruck II program sets a target of 55% improvement of Brake Thermal Efficiency (BTE) over the 2009 baseline class 8 truck. The next iteration of the program could supplement a BTE goal, which measures the efficiency of an internal combustion engine, for an emissions goal. Awarding competitive grants for truck and engine manufacturers to create teams to meet aggressive class 8 targets can help spur development and remove barriers like cost and infrastructure that exist for commercial customers. Use of the national labs, universities and commercial fleet partners can ensure access to resources and an understanding of how a customer wants to use a vehicle. By setting an emissions goal and not a technology mandate teams can try different approaches to meet these aggressive targets, like high efficiency diesel, natural gas, fuel cell and battery-electric power.

2. In your testimony, you referenced opportunities to capture landfill gas or biogas for processing into fuels for vehicles. What should Congress do to expand deployment of these technologies?

Congress can and should continue to invest in a variety of emerging technologies to help reduce the impacts of climate change. The Department of Energy and National Labs should continue to conduct research on net-zero carbon sustainable fuel choices including landfill gas or biogas as fuel. Creating consistency in the tax code around these technologies can also help industry

develop long-term strategy. By supporting American innovation on a number of promising technologies, Congress can ensure US leadership on whichever option markets and customers choose to do their job.

The Honorable Garret Graves

1. What are some of the challenges of electrification for long-haul agriculture and food supply vehicles? Do you see potential concerns for farmers, the food supply chain, and to food safety, animal welfare?

The challenges for vehicle electrification for long-haul agriculture and food supply vehicles are the same faced in many heavy-duty applications: cost, weight and infrastructure. Currently, the cost of an electrified powertrain for a commercial vehicle is significantly more than a comparable diesel or natural gas truck. In fact, for dollar per unit of NOx reduced, just transitioning a food supply fleet to the latest diesel technology will be far more effective in reducing NOx in the air. With existing technology, battery weight on such a truck will also negatively impact the amount of freight carried, so more trucks will be needed to carry the same amount of product. Finally, there is not currently consistent and reliable charging infrastructure on long-haul routes for many customers to switch to battery electric power.

The food supply chain has additional challenges of refrigeration during transportation, currently supplied by diesel reefer units. The same challenges facing heavy-duty applications: cost weight and infrastructure, will also impact mobile refrigeration in an electrified scenario. Currently, there are no commercially -available electrified mobile refrigeration units. Heavy duty vehicles can recover some energy from braking, but refrigeration units do not have this option, making the range or time of operation of the electrified reefer a concern.

These are some of the barriers that may concern agriculture customers. We are, however, encouraged by government efforts to address the problems of cost, weight and infrastructure, and of additional low and no-emissions technology options for these markets like natural gas and fuel cell to power long-haul vehicles.