April 7, 2017

Mr. Mark Williams, Mailstop 3E
Air Resources Board
P.O. Box 2815
Sacramento, California 95812

Re: Volkswagen's ZEV Investment Plan Cycle 1

Dear Mark:

In December, 2016 we provided comments supporting priority recommendations for charging infrastructure for commercial as well as consumer usage. We are disappointed that the VW ZEV Investment Plan has not included commercial applications beyond aspects related to delivery trucks. As we stated previously, the funding for charging stations and additional electrical infrastructure in support of heavy-duty ZEV trucks would directly support California Air Resources Board's key guiding principles:

- Serve disadvantaged communities
- Expand ZEV technology across more transportation sectors
- Build interest in ZEV attributes and expand public awareness efforts
- Make early, visible progress
- Be complementary and additional to current investments

The VW ZEV Investment Plan for the first 30 months has missed on some opportunities to advance the adoption of ZEV technology in their Infrastructure and Green City investment types. Some of the greatest impact to benefit air quality could be accelerated by strategic investment in charging and infrastructure in ports, rail intermodal facilities, major distribution centers, manufacturing plants, and other container-handling facilities. These facilities are frequently located in disadvantaged communities and yet would provide numerous opportunities for infrastructure investment in the five targeted California cities.

While the commitment to ZEV for medium-duty delivery trucks is addressed in the Green City initiative, we believe overlooking the opportunity to accelerate improvements also supporting heavy-duty trucks in conjunction with a Sacramento Green City initiative is short-sighted. Charging stations and infrastructure located in industrial worksites, are neither safe nor feasible to allow the general public "behind the gate" access, but these projects still have significant public benefit, both for workers on-site and the community at large. Using terminal trucks as a case-study example (though similar benefits are realized for other heavy-duty truck applications):

- **Positively impact disadvantaged communities**: Terminal trucks operate predominantly in industrial areas with poorer air quality. Emissions reductions (and associated health benefits) are immediate and dramatic, with an estimated per vehicle annual reduction of 1.7 tons NOx,

1.6 tons CO, 81.5 kg PM, and 166 tons CO2 when upgrading to an Orange EV all-electric terminal truck compared to a Tier 3 diesel engine operated 6,000 hours at 2.5 gallons/hour.

- **Increase ZEV applications and exposure**: Terminal trucks operate across multiple sectors including railroad inter-modal, LTL freight, manufacturing, retail distribution, waste management, warehouse, and other container and trailer handling operations. Successfully deploying heavy-duty electrics in new sectors expands reach and encourages adoption of alternative fuel technologies.
- **Generate interest and awareness**: It's a hurdle to get people into EVs. Positive workplace experiences serve to break the ice, increase comfort with new technology, and gain first-hand knowledge of EV capabilities like torque-on-demand and regenerative braking. Glowing testimonials show that drivers and operators love driving Orange EV all-electric trucks that are smoother, cooler, quieter and cleaner than their diesel counterparts. They share these positive experiences with co-workers, family and friends, organically building interest. Environmental justice organizations further spread awareness, committed to highlighting improvements in disadvantaged communities.
- **Speed deployment, increasing early, visible progress**: Heavy use sites typically require fast-charging systems and investment in electrical infrastructure upgrades. All too often, electric capacity in older, less well-served areas can be limited, increasing costs. Add the cost to purchase the vehicles themselves, and few fleets have the capital to meet these steep up-front expenditures. Providing funding for charging and infrastructure removes barriers and speeds adoption and deployment. This deployment has an immediate cascade effect, reducing emissions, improving health benefits, getting more people into EVs, and increasing positive buzz for EV technology.
- **Ease of deployment:** By focusing investment in established industrial areas some of the barriers that delay charging infrastructure, site identification, acquisition, permitting, and construction are minimized due to existing infrastructure and use. ZEV charging capability and infrastructure could be operational much earlier in the process than expected for the highway and community-based networks.

We appreciate the opportunity to partner with your organization in maximizing benefits that ZEV investment can achieve for our communities throughout California. If you need additional information please contact me.

Sincerely,

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