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LACI comments to the Draft Investment Plan

Additional submitted attachment is included below.



March 30, 2020

Docket: 19-ALT-01
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Comments on the 2020-2023 Investment Plan Update for the Clean Transportation Program

Dear Commissioner Monahan and staff:

On behalf of the Los Angeles Cleantech Incubator (LACI), thank you for the opportunity to provide comments on the proposed 2020-2023 Investment Plan Update for the Clean Transportation Program.

LACI strongly supports the California Energy Commission's aim "to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies...including a near-term focus on zero-emission vehicles and infrastructure."¹ This is a critical moment in the development of the zero emission transportation industry and the CEC's investments promise to have a powerful impact on how quickly California's zero emission transition progresses. LACI applauds the CEC for pursuing its first multi-year Investment Plan to send clear signals to the market.

LACI and the Transportation Electrification Partnership

LACI is a nonprofit organization that is creating an inclusive green economy by unlocking innovation through working with startups to accelerate the commercialization of clean technologies; transforming markets through partnerships with policymakers, innovators and market leaders; and enhancing communities through workforce development, pilots and other programs.

In Spring 2018, LACI convened the Transportation Electrification Partnership,² an unprecedented multi-year partnership among local governments, state regulators, utilities, leading industry players, labor unions and startups to accelerate transportation electrification and zero emissions goods movement in the greater Los Angeles region. Together, we have set an aggressive goal to achieve an additional 25 percent reduction in greenhouse gas and air pollution emissions—beyond existing commitments—in Los Angeles County through transportation electrification by the time the world arrives for the 2028 Olympic and Paralympic Games.

¹ Draft Staff Report 2020-2023 Investment Plan Update for the Clean Transportation Program, California Energy Commission, March 2020, p iii.

² This letter and the comments regarding the 2020-2023 Investment Plan Update on the Clean Transportation Program are from LACI alone and do not represent the comments of any other members of the Transportation Electrification Partnership.

In the Partnership's recently published *Zero Emissions 2028 Roadmap 2.0*,³ we detail specific targets for the electrification of light, medium and heavy-duty vehicles—as well as the deployment of charging infrastructure—needed to create the zero emissions transportation future we want and need for the greater LA region and, ultimately, all of California. Specifically, we are working towards achieving the following targets in LA County by 2028:

- 30% of all light-duty private vehicles on the road electric, with 80 percent of sales electric;
- 100% of shared cars electric;
- 84,000 public and workplace chargers available to support these vehicles;
- 100% of buses in the Los Angeles County Metropolitan Transportation Authority and Los Angeles Department of Transportation fleets electric;
- 60% of medium-duty delivery trucks electric;
- 40% of short haul and drayage trucks zero emissions;
- 5% of long haul trucks zero emissions;
- Up to 95,000 chargers for goods movement.

Achieving these bold goals—and advancing the State's overarching climate and air quality goals—will take the integrated work of all the Partnership members and many others, and will require strong and consistent support from the State, including the Clean Transportation Program.

With these goals in mind, LACI respectfully offers these topline comments and recommendations on sections of the Draft Plan, with more detailed information following below:

- **Commitment to Inclusion, Diversity, Equity, and Access:**
LACI strongly supports the CEC's commitment to inclusion, diversity, equity, and access, and considers the Clean Transportation Program investments as essential to ensuring the rapid transformation to a zero emissions transportation sector and expanding access to zero emissions transportation for disadvantaged communities.
- **Light-Duty Electric Vehicle Charging Infrastructure**
LACI supports the CEC's proposed approach to frontload investments in light-duty electric vehicle charging infrastructure given the sizable gap between the projected number of charging connectors needed to meet the state's 2025 goal and the number of charging connectors expected to be available by that time.
- **Charging for Medium- and Heavy-Duty Vehicles**
LACI strongly recommends that the CEC increase the overall funding proposed for medium- and heavy-duty infrastructure, including funding to be allocated in FY 2020-2021. While the proposed allocations are an important start, a significant increase in funding is needed to deploy the infrastructure to support the medium- and heavy-duty vehicles called for by regional and state regulations and policies. For reference, LACI estimates the cost to install needed charging infrastructure, labor costs, and utility upgrades to electrify the I-710 and the San Pedro Bay Ports will total \$2.5 to \$3 billion alone. While funding will need to come from a variety of public and private sources, this estimate provides a stark glimpse into the investments needed in this sector across the state.
- **Hydrogen Refueling Infrastructure**
While LACI sees a role for fuel cell vehicles in goods movement, we suggest decreasing funding fuel cell refueling infrastructure specifically for light-duty vehicles once the legislatively

³ [Zero Emissions 2028 Roadmap 2.0](#), Los Angeles Cleantech Incubator, November 2019.

mandated 100 retail hydrogen fueling stations have been funded, and redirect this proposed funding for manufacturing.

- **Manufacturing**

LACI supports the proposed allocation for manufacturing as a starting point, but recommends increasing this amount—and providing continuity across the years—to support the steady expansion of existing zero emission transportation manufacturing facilities in California and continue to attract and develop additional manufacturing in the state.

- **Workforce Development and Training**

LACI strongly supports the CEC’s prioritization of workforce training and development investments for disadvantaged communities, low-income communities, priority populations, and economically disadvantaged high schools to ensure equitable participation in the clean transportation economy. Further, LACI recommends that the CEC increase and distribute workforce development and training funds evenly across the years of the Draft Plan to ensure program continuity.

- **School Bus Replacement Program**

LACI strongly supports the proposed allocation of \$14 million in Clean Transportation Program funding to provide charging infrastructure for battery-electric school buses purchased via Proposition 39 funds.

Commitment to Inclusion, Diversity, Equity, and Access

One of the guiding principles of our Zero Emissions 2028 Roadmap is enhancing equity through improved air quality, good jobs and access to mobility. Working hand-in-hand with community leaders, the Partnership is committed to reducing air pollution’s disproportionate impact on low-income communities and addressing the lack of adequate mobility solutions, including pursuing incentives that help all communities access EVs, charging infrastructure, first and last mile solutions, and zero emissions transportation solutions; prioritizing equitable mobility access in each policy and pilot we advance, and adopting innovative policies and programs to empower residents in severely impacted communities to fully participate in mobility innovations.

The Clean Transportation Program investments are essential to ensuring the rapid transformation to a zero emissions transportation sector and expanding access to zero emissions transportation for disadvantaged communities. **LACI strongly supports the CEC’s commitment to inclusion, diversity, equity, and access.**

Light-Duty Electric Vehicle Charging Infrastructure

LACI thanks the CEC for assessing the number of charging connectors needed to meet the state’s 2025 goal and the number of charging connectors expected to be available by that time. Given the sizable gap between these two numbers and the aggressive goal of achieving 84,000 public and workplace charging that the Transportation Electrification Partnership has set for LA County by 2028, **LACI supports the CEC’s proposed approach to frontload investments in light-duty electric vehicle charging infrastructure.**

Charging for Medium- and Heavy-Duty Vehicles

The Los Angeles region is a gateway for goods entering California and the nation as a whole, with forty percent of all the goods that enter the U.S. traveling through the Ports of Los Angeles and Long Beach.

Today, goods movement represents the region's largest source of air pollution.

Accelerating the deployment of zero emissions goods movement vehicles will be essential to achieving the region's environmental, public health and economic goals. As such, in the Zero Emissions 2028 Roadmap 2.0, the Transportation Electrification Partnership has committed to work individually and collectively to ensure that by 2028 all public investments into goods movement, freight vehicles and related infrastructure to support goods movement will advance zero emissions solutions, and ensure that the I-710 is the first zero emissions goods movement corridor in the nation.

The Transportation Electrification Partnership's goal for 40% of drayage and short-haul trucks to be zero emission by 2028 is consistent with the pace needed to achieve the joint goal held by the Ports of Los Angeles and Long Beach for all on-road drayage trucks serving the Ports to be zero emissions by 2035.⁴ As shown by recent research by UCLA's Luskin Center for Innovation, waiting until the early 2030s to implement zero emissions trucks and the supporting infrastructure would lead to significantly more stranded assets and notably worse air quality and public health outcomes.⁵

Zero emissions technology is developing rapidly

In Fall 2018, LACI partnered with the CEC, California Air Resources Board, and the Ports of Los Angeles and Long Beach to issue a Request for Information (RFI) on Zero Emissions Trucks, Infrastructure and Pilot Concepts for Goods Movement.⁶

With 39 respondents across startups and incumbents, vehicle manufacturers and infrastructure providers, the RFI demonstrated significant product development in the zero emissions medium- and heavy-duty vehicle segments. In particular, respondents reported that they had achieved/planned the following short-term technology milestones:

Medium-Duty

- 22 battery electric truck models on the road or currently in development; 7 additional planned for 2020-2021
- 6 fuel cell vehicle models on the road or currently in development; 4 additional planned for 2020-2021

Heavy-Duty

- 9 battery electric truck models on the road or currently in development; 11 additional planned for 2020-2021
- 7 fuel cell truck models on the road or currently in development; 6 additional planned for 2020-2021

In the year since, we have seen a number of strong indicators that this development is on track, including a recent announcement from Penske Logistics that it had logged more than 10,000 over-the-

⁴ [Mayor Garcetti and Long Beach Mayor Robert Garcia Announce Zero Emissions Goal for San Pedro Bay Ports](#), June 12, 2017.

⁵ J. Di Filippo et al., [Zero Emission Drayage Trucks: Challenges and Opportunities for the San Pedro Bay Ports](#), UCLA Luskin Center for Innovation, October 2019.

⁶ M. Kinman et al., [Tackling Trucking: How to Get Zero Emissions Trucks at Ports and on Freeways in Los Angeles](#), ACT News, August 12, 2019.

road miles with two Freightliner Innovation Fleet Cascadia heavy-duty trucks in Southern California.⁷ Moreover, state and regional regulations are directing the transition to zero emission buses and trucks, including CARB's Innovative Clean Transit Regulation and the upcoming Advanced Clean Trucks Regulation and Zero Emission Fleet Rule. In the LA region, the San Pedro Bay Ports recently approved a Clean Truck Fund rate to be applied to trucks coming out of the two ports, but exempting zero emission trucks to facilitate the goal of 100% zero emission drayage trucks serving the ports by 2035.⁸

With all of this technology and policy momentum, it is critically important that infrastructure be deployed now to support medium- and heavy-duty vehicles. LACI estimates the cost to install needed charging infrastructure, labor costs, and utility upgrades to electrify the I-710 and the San Pedro Bay Ports will total \$2.5 to \$3 billion alone. While funding will undoubtedly come from a variety of public and private sources, this estimate provides a stark glimpse into the investments needed in this sector. This estimate does not include other ports and goods movement corridors; nor does it include charging infrastructure for bus fleets.

With all of this in mind, LACI strongly recommends that the CEC increase the overall funding proposed for medium and heavy-duty infrastructure, including funding to be allocated in FY 2020-2021.

Hydrogen Refueling Infrastructure

As noted in the draft Plan, "Most California ZEVS in the near term are expected to be PEVs, as CARB manufacturer surveys forecast 48,000 FCEVs on California roads in 2025.⁹ That 48,000 is a small percentage of the total of 1.5 million to 2.4 million zero emission vehicles that the CEC estimates will be on the road in California by 2025.¹⁰ Meanwhile leading OEM Volkswagen announced that the company will cut resources devoted to fuel cell cars to focus on more competitive battery electric vehicles.¹¹

As noted above in the results from the RFI that we conducted on Zero Emission Trucks, Infrastructure and Pilot Concepts for Goods Movement, LACI sees a role for fuel cell vehicles in goods movement, particularly for long-haul trucks. However, **we suggest decreasing funding specifically for light-duty refueling stations and redirecting these funds to manufacturing and workforce development.**

Manufacturing

Our Transportation Electrification Partnership is committed to growing the Greater LA regional economy through transportation electrification. Given the LA region is home to the western hemisphere's busiest shipping ports, international airports and major OEMs, transportation electrification will provide far-reaching benefits to our economy. Already, at least two dozen electric mobility companies have established a significant presence in LA County—founding their companies, establishing North American headquarters, and/or locating manufacturing and assembly operations here. These companies include those focusing on a range of technologies, including electric car manufacturing, electric bus

⁷ J. Cannon, [Penske Logistics hits mileage milestone testing electric Cascadia](#), Commercial Carrier Journal, December 3, 2019.

⁸ T. Fisher, [Clean Truck Fund rate approved by California ports](#), Land Line Magazine, March 10, 2020.

⁹ Draft Staff Report 2020-2023 Investment Plan Update for the Clean Transportation Program, California Energy Commission, March 2020, p 35.

¹⁰ Ibid, p 34.

¹¹ E. Taylor, [VW CEO says carmaker faces same fate as Nokia without urgent reforms](#), Reuters, January 16, 2020.

manufacturing, electric vehicle supply equipment manufacturing and software, electric scooter companies, electric cargo bike companies, and electric medium- and heavy-duty truck manufacturing.

The Partnership is committed to building on regional economic investment in transportation electrification; and working with traditional industry leaders, emerging players, and academia to explore other important sectors within the transportation electrification ecosystem, such as electric ground equipment and aviation, electric railcar manufacturing and lithium ion battery development opportunities in the greater Southern California region. **As such, LACI supports the proposed allocation for manufacturing as a starting point, but recommends increasing this amount—and providing continuity across the years—to support the steady expansion of existing zero emission transportation manufacturing facilities in California and continue to attract and develop additional manufacturing in the state.**

Workforce Development and Training

LACI is committed to building an inclusive green economy, and workforce development and training is essential to achieving this goal. With generous support from the California Workforce Development Board, the California Governor's Office of Business and Economic Development, corporate partners and private foundations, LACI successfully launched the Advanced Prototyping Center (APC) Fellowship in 2019 to empower underrepresented groups to participate in the green job market. This semi-annual, three-month program provides 30 participants per cohort with technical training and direct connections with job opportunities at LACI's startup companies and partner organizations. Participants are trained in the state-of-the-art prototyping facilities on the City of Los Angeles-owned La Kretz Innovation Campus, as well as in the field, and earn credentials for skills that are directly related to pilot projects being deployed by LACI companies.

Our Cohort 2 trainees, 30% of whom are formerly incarcerated individuals, recently received training and certification in troubleshooting, repair and commissioning of electric vehicle charging infrastructure and are ready to help advance the state's zero emission vehicle goals. Furthermore, they are new ambassadors to their communities on the importance of zero emission transportation.

LACI's APC Fellowship Program is an example of a successful workforce development program made possible through state funding, but more needs to be done to fully train the workforce needed to advance California's zero emission transportation goals. **LACI strongly supports the CEC's prioritization of workforce training and development investments for disadvantaged communities, low-income communities, priority populations, and economically disadvantaged high schools to ensure equitable participation in the clean transportation economy.**

In preparation for LACI's forthcoming Green Jobs Study, we engaged a number of local stakeholders in conversation to understand the challenges faced by community colleges. A common theme that emerged was that inconsistent funding streams have made the institutionalization of green job programs quite challenging. By distributing workforce development funding evenly on an annual basis, program providers can have the assurance needed to hire staff beyond a one-off cycle, which is essential for talent retention. Relatedly, designating additional funding for upfront capital investments for training tools and establishing partnerships with private partners could also be very beneficial to further institutionalizing zero emission transportation programs. **As such, LACI recommends that the CEC increase and distribute workforce development and training funds evenly across the years of the Draft Plan.**

School Bus Replacement Program

Given the harmful health impacts to children from diesel exhaust, the rapid transition to electric school buses is critical for improving public health and reducing greenhouse gas emissions. Furthermore, electric school bus fleets have the potential to serve as an important component of the state's resiliency efforts, serving as mobile energy storage solutions, potentially providing emergency backup power during emergency situations. **LACI strongly supports the proposed allocation of \$14 million in Clean Transportation Program funding to provide charging infrastructure for battery-electric school buses purchased via Proposition 39 funds.**

Thank you for the opportunity to provide comments to the draft Investment Plan. LACI would welcome the opportunity to work with the CEC to explore possibilities for increasing the overall Clean Transportation Program budget and further develop programmatic opportunities. We look forward to working further with the CEC to achieve a zero emissions transportation future for California.

Sincerely,

A handwritten signature in black ink that reads "Michelle Kinman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michelle Kinman
Director of Transportation