THE GREENLINING INSTITUTE

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California Energy Commission
715 P Street
Sacramento, CA 95814

Submitted electronically

Re: Docket 20-ALT-01 (Clean Transportation Program – ZEV Workforce Training and Development Strategy)

Introduction and Summary of Recommendations

The Greenlining Institute ("Greenlining"), works toward a future where communities of color can build wealth, live in healthy places filled with economic opportunity, and are ready to meet the challenges posed by climate change. We greatly appreciate the opportunity to submit comments to the California Energy Commission (CEC) to guide the development of the ZEV workforce training and development strategy.

Workforce is a critical component in the just transition to a zero-emissions future, and we laud CEC for recognizing and supporting this. In the past, environmental and labor issues have too often been pitted against each other, when the reality is that we can and we must address both by reaching our climate goals through high quality, accessible[1] green jobs and lasting career pathways, prioritizing investments in disadvantaged and low income communities.

We make the following recommendations:

1. Prioritize investments in disadvantaged communities facing workforce gaps by utilizing EVITP geographic data and SB 535/AB 1550 metrics to identify target regions.

2. Track workforce and job quality data for solicitations and prioritize projects that incorporate labor standards to ensure that the clean energy economy we are building consists of high quality jobs.

3. Better inform training program development and investments by expressing estimates of workforce needs as the number of workers needed.

4. Expand eligible workforce training initiatives to explicitly include transitioning workers from highway expansion projects, in recognition of these projects' pollution- and

[1] Drawing from the High-Road Framework described by Carol Zabin, "Putting California on the High Road: A Jobs and Climate Action Plan for 2030", UC Berkeley Labor Center (June 2020)

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emissions-increasing impacts that disproportionately hurt low income communities of color.

5. Improve equitable charging access for drivers of older EVs by addressing interoperability issues.

6. Minimize hydrogen workforce investments and adopt environmental and equity guardrails for hydrogen.

7. Collaborate with community-based organizations, state agencies, and labor groups to streamline workforce development efforts.

Utilize EVITP Geographic Data and SB 535/AB 1550 Community Metrics to Target Investments

CEC's objective to increase EVITP-certified electricians includes a requirement to invest 50% of funds towards employers located in disadvantaged and low income communities or rural and nonurban areas (Sec. 3.1.3.1). We suggest this requirement be modified to state that *at least* 50% of funds should be invested in these communities and areas, such that 50% is the floor rather than the ceiling. By targeting and increasing workforce investments, the state can chip away at the longstanding inequitable conditions and kickstart a proactive cycle of economic growth in the places that need it the most.

In order to further identify gaps in workforce development and training initiatives, CEC can utilize the geographic data for EVITP-employing contractors. The EVITP website[2] tracks affiliated contractors who employ EVITP-certified electricians. The map reveals a glaring lack of EVITP-approved contractors in certain areas across the state, including the Central Valley, which is a major region containing disadvantaged communities under SB 535 and AB 1550 metrics. CEC should consider overlaying the EVITP-approved contractors map with the SB 535/AB 1550 maps[3] to simultaneously identify workforce gaps and prioritize target communities for investments.

Additionally, as the geographic distribution and availability of EVITP-certified electricians themselves is not tracked, it is unclear how accurate the EVITP-certified contractor location data is as a proxy. If workers are traveling significant distances to their employers and job sites, contractor location data would not be an accurate proxy, and there might be untracked gaps in the workforce geographically. We suggest working with EVITP to begin collecting geographic distribution and availability of EVITP-certified electricians to ensure that there is an accurate picture of electrician distribution and workforce needs statewide.

Track Workforce and Job Quality Data and Prioritize High Quality Jobs

We were pleased to see the objective Workforce Requirements for Solicitations (Sec. 4.2.1)

[2] "California", EVITP
[3] "SB 535 Disadvantaged Communities", OEHHA

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intending to collect data on the number of preapprentices, apprentices, general contractors, C-10 electricians, and EVITP-certified electricians working on CTP-funded projects. This objective is compatible with our prior recommendations[4] that CEC requires CTP grant applicants to report the number of new jobs created, as well as the sector/industry/trade, training and certification requirements, apprenticeship inclusion, and union representation, if applicable. This information is critical in order to be able to track statewide progress on transitioning the workforce to meet climate goals, by comparing state workforce investments in the clean energy sector versus fossil fuel and other emissions-increasing sectors. Furthermore, projects that incorporate labor standards should be prioritized for funding to ensure that the green economy we are building towards consists of good quality jobs.

Synthesize Workforce Measurement Units to Improve Estimates of Workforce Needs

In the draft, one of CEC's high priority objectives will train 3,000 EVITP-certified electricians (Sec. 3.1.3.1). CEC also estimates that up to 71,500 job-years will be needed for charging installation in order to meet the state's infrastructure needs by 2035 (Sec. 2.1). While footnote 2 describes that "job-years cannot always be directly translated into several jobs created but instead help describe the demand for work," it would be helpful to attempt to synthesize these units of measurement to be able to understand how training 3,000 more EVITP-certified electricians will contribute to the labor capacity needed to meet state goals. Translating job-years into a number of electricians needed, even as an estimate, would help calculate how many new electricians need to be trained in the next decade, on top of the existing workforce of 29,724 general C-10 electricians, 7,551 registered apprentices, and 4,074 EVITP-certified electricians (pg.10, 12), to meet the demand of 71,500 job-years for charger installation by 2035. By being able to calculate the number of electricians needed, we can set more concrete, measurable goals for training programs, which will help inform program investments.

Furthermore, once the Charging Infrastructure Workforce Assessment (Sec. 3.1.2.1) is completed, it will be important to incorporate workforce needs beyond charging installation (including manufacturing, service and maintenance, and end of life charger roles) into the number of workers and job-years needed by 2035. This should also take into consideration attrition from retirement and other factors, as well as differing training timelines across various paths such as pre-apprenticeships and apprenticeships, which affect the overall number of electricians available for work.

Include Transitioning Workers from Highway Expansion Projects as an Eligible Workforce Training Initiative

Under the Clean Transportation Program (CTP) description in the draft, CEC states that workforce training initiatives eligible for CTP funding include "training programs to transition dislocated workers affected by the state's greenhouse gas emission policies, including those from fossil fuel sectors" (pg. 5). We recommend that CEC explicitly also includes workers from highway expansion projects under the category of workers affected by greenhouse gas

[4] Marissa Wu, "Comments on 24-25 CTP Draft", The Greenlining Institute (June 2024)

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emission policies eligible for working training funds. According to Caltrans, highway expansions create induced demand, which in turn negatively impacts communities, the environment, and congestion.[5] Currently, highway expansion increases fossil fuel use and pollution as induced demand includes increased VMT from gas vehicles; even as we see more ZEVs on the road, recent research shows that overall pollution may still increase in certain geographical regions due to ZEVs generating more brake and tire particulate matter pollution despite decreased greenhouse gas emissions[6]. Throughout the state's history of redlining, highway expansions have additionally played a harmful role in segregating low income communities of color and creating disproportionately severe pollution and consequently worse health outcomes in these communities. In order to reach state climate goals and address the existing inequity shouldered by disadvantaged communities, highway expansion should be understood and regulated as a pollution-increasing activity similar to how fossil fuel sectors are named in this draft. To that end, transitioning the workforce away from pollution-increasing and emissions-increasing projects includes transitioning workers away from highway expansion projects, and such initiatives should be eligible for CTP funding.

Address Interoperability for Drivers of Older EVs

We support CEC's recognition of the need to address charging issues faced through aging first-generation technology (Sec. 3.1.2.1 Objective — Charging Infrastructure Workforce Assessment; Sec. 3.1.4.1 Objective — Electric Vehicle Charging Infrastructure Reliability Reporting and Performance Standards). As previously submitted[7], interoperability continues to be an equity issue for drivers of older EVs, who face reliability challenges as charging technology advances. This creates a more negative perception of EVs and discourages EV uptake in low income and disadvantaged communities. When first-generation charging infrastructure is repaired or replaced, it is important to consider how this will impact older EVs and build in compatibility where possible in order to ensure equitable access to charging. Furthermore, it is valuable to consider public communications, particularly in low income and disadvantaged communities, to inform drivers if their charging options have changed. These considerations should be included in assessing the workforce needs for addressing interoperability. For example, repairing and replacing first-generation charging infrastructure may require different labor capacity and expertise than installing a new charger where there wasn't anything before, both in terms of electrical and construction work as well as public community outreach work.

Minimize Hydrogen Workforce Investments and Address Hydrogen Concerns

We suggest CEC minimize funding to hydrogen and hydrogen workforce development according

[5]" VMT Reduction Branch," Caltrans
[6] Seyedali Mousavinezhad, Yunsoo Choi, Nima Khorshidian, Masoud Ghahremanloo, Mahmoudreza Momeni, "Air quality and health co-benefits of vehicle electrification and emission controls in the most populated United States urban hubs: Insights from New York, Los Angeles, Chicago, and Houston", Science of The Total Environment Vol. 912 (February 2024).
[7] Marissa Wu, "Greenlining Comments on EV Charging Reliability Second Draft", The Greenlining Institute (April 2024)

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to the Equity Principles[8] developed by environmental justice organizations, and instead prioritize supporting workforce development for battery electric vehicles. For the hydrogen workforce funding that does go out the door, we uplift the previous recommendations in this letter to prioritize high quality jobs and ensure that investments are targeted to benefit disadvantaged and low income communities, and in particular encourage recruiting and training workers from traditionally underrepresented groups in the clean energy industry, including Black, Latinx, and women workers[9].

As previously submitted[10], Greenlining has strong concerns about investments into hydrogen charging without strict environmental and equity guardrails. As it stands today, hydrogen is more expensive[11], less efficient[12], and less environmentally-friendly[13] than battery power when used in electric vehicles, especially light-duty vehicles. According to the CEC itself, more than 95% of hydrogen is currently produced from fossil fuels[14] which runs counter to state climate goals and the Clean Transportation Plan's purpose. We understand the need to follow AB 126's directive to invest at least 15% of annual funds into hydrogen charging and appreciate that it does contain guidelines prioritizing applicants with lower carbon-intensive proposed hydrogen fuel. However, our position, and the position of many environmental justice organizations[15], is that the state's hydrogen investments should be conservatively focused on hard-to-electrify sectors and exclude light duty vehicle charging.

Furthermore, we highly recommend that CEC adopt a strong standard that only clean hydrogen, as defined[16], be utilized in the Clean Transportation Plan in alignment with the current federal definition for clean hydrogen under the 45V tax credit guidelines. Setting hydrogen goals for California without the appropriate guardrails on hydrogen production and end use could exacerbate pollution, affordability concerns, and water access issues in priority communities.

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[8] "Equity Principles for Hydrogen: Environmental Justice Position on Green Hydrogen in California", Asian Pacific Environmental Network (APEN), California Environmental Justice Alliance (CEJA), Center for Community Action and Environmental Justice (CCAEJ), Center on Race, Poverty & The Environment (CPRE), Communities for a Better Environment, Environmental Health Coalition, Leadership Counsel for Justice and Accountability, Pacoima Beautiful, Physicians for Social Responsibility Los Angeles (PSR-LA) (October 2023)

[9] "Help Wanted - Diversity in Clean Energy", E2, Alliance to Save Energy, American Association of Blacks in Energy, Energy Efficiency for All, Black Owners of Solar Services, BW Research Partnership (2021)

[10] See note 4.

[11] Hemant Kumar, "Hydrogen Powered Cars and Trucks: Is there a role for them in the electrified U.S. future?", Massachusetts Institute of Technology (September 2021)

[12] Jasper Jolly, "Will hydrogen overtake batteries in the race for zero-emission cars?", The Guardian (February 2024)

[13] Sam Wilson, "Hydrogen-Powered Heavy-Duty Trucks", Union of Concerned Scientists (September 2023)

[14] "Hydrogen Fact Sheet", California Energy Commission (June 2021)

[15] See note 10.

[16] "EJ/Environmental Organizations Joint Letter on Clean Hydrogen Definition", The Greenlining Institute, Sierra Club CA, APEN, The Climate Center, Local Clean Energy Alliance, CPRE, Pacific Environment, Natural Resources Defense Council (NRDC), CCAEJ, Mothers Out Front, PSR-LA, Just Solutions Collective (December 2023)

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Collaborate with Community-Based Organizations, State Agencies, and Labor Groups on Workforce Development

In alignment with previous Greenlining comments[17], we recommend that the CEC develops an equitable process to seek intentional and fairly compensated input from community based, labor, and workforce development organizations in developing the Workforce Training and Development Strategy. As I also previously submitted[18], we support CEC collaborating with other state agencies and labor groups in order to streamline workforce development efforts and maximize limited resources. Where possible, this could look like utilizing existing union apprenticeship and career pathway resources to recruit, skill, and connect workers to high road zero-emissions careers. In addition to supporting unions, CEC should also make technical assistance available to small businesses and minority, women, and disadvantaged business enterprises (MWDBEs), to ensure that these groups can accessibly participate and meet any reporting and implementation requirements that they would otherwise not have capacity and/or expertise to complete[19].

Conclusion

We appreciate the opportunity to comment on the CEC's ZEV Workforce Development and Training Strategy and look forward to continuing to track progress on this effort. Please do not hesitate to reach out to me (marissa.wu@greenlining.org) with any questions or to schedule time to discuss our recommendations further.

Best regards,

Marissa Wu

Transportation Equity Program Manager

[17] Sneha Ayyagari and Fatima Abdul-Khabir, "The Greenlining Institute Comments - on the CEC RFI on IRA Contractor Training Program", The Greenlining Institute (August 2023)
[18] See note 4.
[19] See note 4.