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Ensuring Equitable and Comprehensive Zero-Emission Transportation Solutions Addressing the Unique Needs of Rural Communities, H

Additional submitted attachment is included below.

TUOLUMNE COUNTY TRANSPORTATION COUNCIL

Richard S. York
Chair

Darin Grossi
Executive Director

October 21, 2024

California Energy Commission
Docket#: 24-ALT-01
RE: Public Comment on 2024 – 2025 Investment Plan Update for the Clean Transportation Program

The 2024–2025 Investment Plan Update for the Clean Transportation Program represents a critical step in California's efforts to reduce greenhouse gas emissions and achieve equitable transportation solutions for all communities. While we commend the California Energy Commission (CEC) for its ambitious goals and commitment to a cleaner future, we believe that in order to fully realize these objectives, the plan must incorporate more targeted approaches that address the specific needs of rural, low-income, and underserved areas. The unique challenges faced by these communities, such as limited infrastructure, higher costs for deployment, and technical limitations; require flexible, region-specific strategies.

Rural areas face a significant threat from wildfires, which contribute to massive emissions and environmental degradation. Biomass cleanup of overgrown forests to mitigate wildfire risk presents a unique opportunity for hydrogen production from forest and agricultural waste. This dual benefit, reducing wildfire threats and generating clean energy, can play a crucial role in California's broader climate and transportation goals. Expanding the scope of the plan to include both hydrogen and electric fuel technologies, alongside targeted forest management initiatives, will ensure a more comprehensive, resilient, and equitable transition to zero-emission transportation across the state. Our comments aim to highlight these opportunities and advocate for a plan that delivers sustainable benefits for all Californians, particularly those in regions that have been historically underrepresented in clean energy investments.

1. Rural Infrastructure Equity and Tailored Solutions

While the 2024–2025 Investment Plan allocates significant resources to electric vehicle (EV) infrastructure, particularly in urban areas and major corridors, it is critical to address the unique challenges faced by rural areas such as Tuolumne County. These regions experience barriers like geographic dispersion, lower population density, and higher costs for extending the electric grid. To ensure the transition to zero-emission vehicles (ZEVs) is equitable and benefits all Californians, it is essential that future investments include specific rural allocations. This would ensure that low-income and underserved areas also gain from the clean energy transition, as rural

communities require tailored solutions that take into account their distinct infrastructure challenges.

2. Grid Resilience and Upgrades in Rural Areas

The plan rightly emphasizes grid integration, but a focus on grid resilience in rural areas, such as Tuolumne County, is equally important. Many rural regions may not have the capacity to support the rapid deployment of charging infrastructure or handle the additional energy demands from zero-emission vehicles. Upgrading the grid in these areas is critical to expanding EV and hydrogen fueling infrastructure. Future funding solicitations should prioritize projects that enhance grid capacity in rural regions, which will be key to supporting the deployment of ZEVs without overwhelming the existing electrical infrastructure.

3. Hydrogen Fueling Infrastructure for Rural and Medium/Heavy-Duty Vehicles

Hydrogen fueling infrastructure presents a significant opportunity for rural areas, particularly for medium- and heavy-duty vehicles. Tuolumne County, for example, is working on innovative local biomass-to-hydrogen production projects in partnership with Yosemite Clean Energy. This provides a unique opportunity to support agricultural, transportation, and tourism-related heavy-duty fleets. By further prioritizing hydrogen infrastructure in rural regions, the CEC can encourage the development of locally produced hydrogen, offering a sustainable and practical solution for rural transportation needs.

4. Challenges with Electric Buses in Urban and Rural Areas

Electric buses are a key component of California's strategy to reduce emissions from public transportation. However, they face challenges in both urban and rural settings:

- **Range Limitations:** Electric buses typically have shorter ranges compared to diesel buses, making them less effective on longer routes in rural and large urban areas. Rural routes often cover greater distances with fewer opportunities for charging, exacerbating this issue.
- **Charging Infrastructure:** Even in resource-rich urban areas, maintaining enough charging stations to support a full electric bus fleet is challenging. This issue is compounded in rural regions, where distances between stops are longer and the cost of infrastructure installation is higher.
- **Downtime for Charging:** Electric buses require significant downtime for charging, reducing operational flexibility. This is particularly problematic in rural regions with fewer buses available and in high-demand urban settings.

Recommendation: Expanding funding allocations to include both electric and hydrogen-fueled buses can provide a more flexible, reliable solution for public transit systems across the state.

5. Benefits of Expanding Funding to Include Both Hydrogen and Electric

Expanding the Clean Transportation Program to include both hydrogen and electric as eligible fuel types offers a balanced approach to achieving California's transportation goals:

- **Range and Efficiency:** Hydrogen fuel cell electric vehicles (FCEVs) offer significantly longer ranges than battery electric vehicles (BEVs), which is advantageous for rural areas with fewer refueling options and for long-distance routes in both rural and urban settings.
- **Fast Refueling:** Hydrogen-powered vehicles refuel in minutes, offering operational advantages over electric vehicles, particularly in long-haul trucking and public transit, where minimizing downtime is critical.
- **Biomass and Wildfire Mitigation:** Hydrogen produced from biomass (such as forest thinning and agricultural waste) offers dual benefits. It addresses the state's wildfire risks and contributes to a sustainable hydrogen economy. Supporting hydrogen production from biomass is crucial for rural areas rich in forest and agricultural resources.
- **Grid Limitations:** Rural areas with weaker electrical grids may struggle to support large-scale EV charging infrastructure. By integrating hydrogen into the transportation strategy, rural regions can adopt zero-emission technologies without overwhelming the local grid.

6. Hydrogen as a Pathway to Achieving Broader Equity Goals

Hydrogen infrastructure development can play a vital role in achieving equity goals, particularly in rural and low-income areas:

- **Economic Development in Rural and Low-Income Areas:** Hydrogen production from local biomass resources can become a major economic driver, creating jobs and stimulating investment in rural regions. This is a significant opportunity to spur economic growth in areas with limited access to traditional economic development initiatives.
- **Energy Resilience:** Hydrogen provides energy resilience, particularly in rural and wildfire-prone areas. Beyond its use as vehicle fuel, hydrogen can serve as a backup power source for critical infrastructure, improving stability in regions where grid reliability is a concern.

7. Increased SB-1 Allocations for Declining Rural Transportation Infrastructure

As transportation infrastructure in rural counties like Tuolumne continues to decline, we urge the CEC to advocate for a greater share of SB-1 funding for rural areas. Higher costs for maintenance and construction due to geography make it difficult to maintain roads, which are critical for expanding zero-emission vehicle infrastructure. Allocating a greater proportion of SB-1 resources to rural roads will ensure that the infrastructure can support the new charging and fueling stations required for electric and hydrogen vehicles.

8. Support for Emerging ZEV Infrastructure in Underserved Areas

We support the focus on emerging ZEV infrastructure but urge the CEC to expand outreach and provide technical assistance to smaller counties and rural communities, which often lack the resources to apply for competitive grants. This would ensure a more equitable distribution of funds, particularly for areas most in need of transportation electrification but least equipped to access current funding opportunities.

9. Long-Term Planning for Vehicle-Grid Integration in Rural Areas

We applaud the CEC's emphasis on vehicle-grid integration as part of the zero-emission vehicle deployment strategy. However, long-term planning must consider rural areas where grid constraints and distances pose unique challenges. Incentives for decentralized energy storage solutions, microgrids, and smart grid technologies in rural areas should be prioritized to ensure effective vehicle-grid integration outside urban regions.

10. Prioritize Workforce Development and Local Economic Benefits in Rural Areas

We appreciate the Investment Plan's emphasis on workforce development. However, specific initiatives targeting rural areas are needed. The lack of skilled labor and training programs is a significant barrier to ZEV infrastructure deployment in rural regions. Partnerships with local community colleges or training centers to develop tailored workforce programs would help build local capacity, ensuring that rural areas can support and maintain ZEV infrastructure while also benefiting from local economic growth.