BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification	Rulemaking 18-12-006 (Filed December 13, 2018)

ADVANCED ENERGY ECONOMY'S COMMENTS ON ADMINISTRATIVE LAW JUDGE'S RULING ADDING STAFF PROPOSAL FOR A DRAFT TRANSPORTATION ELECTRIFICATION FRAMEWORK TO THE RECORD AND INVITING PARTY COMMENTS

Coley Girouard
Principal
Advanced Energy Economy
1000 Vermont Ave NW, 3rd Floor
Washington, DC 20005
Tel: 202.380.1950
E-mail cgirouard@aee.net

On Behalf of Advanced Energy Economy

March 6, 2020

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification	Rulemaking 18-12-006 (Filed December 13, 2018)

ADVANCED ENERGY ECONOMY'S COMMENTS ON ADMINISTRATIVE LAW JUDGE'S RULING ADDING STAFF PROPOSAL FOR A DRAFT TRANSPORTATION ELECTRIFICATION FRAMEWORK TO THE RECORD AND INVITING PARTY COMMENTS

Advanced Energy Economy (AEE) respectfully submits these comments in response to the Administrative Law Judge's February 3, 2020 ruling adding the staff proposal for a draft transportation electrification framework (TEF) to the record and inviting party comments. Pursuant to Rule 11.6 in the Commission's Rule of Practice & Procedure, Administrative Law Judge (ALJ) Doherty issued an email ruling dated February 14, 2020 granting an extension of time to and including March 6, 2020 to file and serve opening comments. We appreciate the opportunity to participate in this effort.

I. Introduction

AEE believes that if well-designed policies and a focused strategy are put in place, the electrification of the transportation sector can significantly contribute to decarbonization efforts, increase electricity system asset utilization, put downward pressure on rates[1], and provide grid support functions that will reduce customer costs and yield a range of societal benefits. With the transportation sector continuing to be the largest emitter of GHG emissions (41%), according to

[1] https://www.synapse-energy.com/sites/default/files/EVs-Driving-Rates-Down-8-122.pdf

CARB[2], it is of utmost importance that the CPUC continue to prioritize transportation electrification (TE). With that backdrop, it is concerning to see the proposed timeline in the Staff proposal for a draft TEF. As such we urge the Commission to reconsider the proposed process and the ramifications that the proposed timing would have on near term TE investments.

The timely adoption of a streamlined process for investor-owned utility (IOU) investments in TE is critical given the current shortage of charging infrastructure in California that is needed to meet the state's zero-emission vehicle (ZEV) and greenhouse gas (GHG) reduction goals. Based on analysis conducted by the California Energy Commission (CEC) of the charging infrastructure required through 2025 to support 1.5 million plug-in EVs (PEVs), the state will need over 504,000 AC and 94,000 DC non-residential chargers to support 5 million vehicles in 2030.[3] By comparison, the state is currently on pace to deliver less than 317,000 AC and 14,000 DC non-residential chargers by 2030, a 37% shortfall for AC chargers and 86% shortfall for DC chargers.[4] While all projections are imperfect, it is clear that California needs to significantly increase the pace of charging infrastructure deployment. With the realization that each proceeding/application around TE has to date required significant time for evaluation, it is concerning to see the proposed delay in applications that approval of the draft TEF would realize.

Similarly, the TEF requires the utilities to streamline interconnection for EV charging installations, as well as standardize processes that would help expedite charging deployments. As written, these process improvements would not be initiated by utilities for several years, as the TEPs will not be drafted until end of 2021 and will take further time to implement.

Given the importance of both increasing investments and implementing near-term process improvements, we stress the importance of this investigation and thank the Commission for

[2] https://www.arb.ca.gov/cc/inventory/data/data.htm

[3] The data is a simple extrapolation of CEC's conclusion that 1.5 million vehicles will require 133,270 AC and 24,967 DC chargers in CEC Staff Report – California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025, March 2018, report CEC-600-2018-001.

[4] The estimates are derived by establishing California's current levels of AC charging (15,166 via CEC March 2018 Staff Report) and DC charging (650 based on PG&E's testimony in the case) and extrapolating out based on the current size of the PEV fleet in California and the Governor's target for 2030 assuming that the ratio of PEVs to charging stations remains constant over time.

soliciting stakeholder feedback. Furthermore, we urge the Commission to move expeditiously in this rulemaking to ensure that the rulemaking process itself does not delay the acceleration of TE markets.

II. About Advanced Energy Economy

AEE is a national association of businesses dedicated to transforming public policy to enable a prosperous world that runs on clean, secure, affordable energy. We are comprised of over 100 companies both large and small across the technology spectrum, including electric vehicles (EVs), energy efficiency, solar, wind, storage, fuel cells, biofuels, demand response (DR), advanced metering, and enabling software. As an organization with stakeholders that provide a range of technologies and services, we balance a wide variety of interests and address issues with a technology-neutral perspective. As it relates to TE, AEE's membership includes manufacturers of electric and hydrogen vehicles from small, low-speed to large, heavy-duty vehicles, fleet owners, charging infrastructure providers, grid integration solution firms, and companies providing supporting technologies and software services. In these comments, AEE will be referenced collectively as "AEE," "we," and "our."

AEE has substantial experience participating in regulatory proceedings across the country dealing with a variety of issues, including TE. AEE's participation should be given strong consideration, as we are the business voice for the broadest spectrum of advanced energy stakeholders in the state. The issues and questions raised in this proceeding have direct implications and impact for our members and their businesses in California. As a beachhead state, the outcome of this proceeding impacts not only the future of the EV market in California, but has ramifications for the entire U.S. market as other states are looking to California for guidance as they develop their own transportation electrification strategies.

In these comments, we have organized our responses by the questions and recommendations in Sections 2, 3.1, 3.2, 3.3, 4, and 5 that appear in the TEF.

III. Comments

2. Transportation Electrification Plan Overview

1. *Identify any additional topics that should be addressed in the Transportation Electrification Framework (TEF), and why the TEF is the appropriate venue to address these topic(s).*

AEE does not believe that additional topics should be addressed in the TEF at this time. The topics and scope of the proposed TEF are already vast and expanding the scope even more will only prolong adoption of the initial TEF.

2. *Recommend whether a full California Public Utilities Commission vote is necessary to approve each TEF update, or whether Energy Division staff guidance is appropriate for each five-year update going forward.*

AEE does not believe that a full Commission vote should be required for each 5-year TEF update. Instead, the Commission should be directing resources towards the timely approval of the utilities' transportation electrification plans (TEPs) and any associated TE program applications.

2.1 Scope of the Transportation Electrification Framework

AEE has no comment at this time.

2.2 Policies Outside the Scope of the Transportation Electrification Framework's Policy Guidance

AEE has no comment at this time.

2.3 Transportation Electrification Framework Updates

If the TEF process is approved, we agree with the proposed recommendation to "provide regular five-year TEF updates, starting in February 2025, to ensure the document aligns with rapidly changing TE technologies, ongoing market evolution, and incorporates lessons learned from IOU-funded pilots and programs."[5]

3. Strategic Transportation Electrification Plans

3.1 Transportation Electrification Plans' Goals and Process

[5] P. 15 Staff Proposal for Draft TEF

1. *Should the same requirements be adopted for the Transportation Electrification Plans (TEPs) of large and small investor-owned utilities (IOU)? If not, please provide proposed differences in detail.*

AEE has no comment at this time.

2. *What additional guidance is needed to inform how existing planning processes for IOUs and regulatory development efforts at other State agencies should be leveraged to develop TEPs?*

AEE strongly agrees with the Staff Proposal that regulatory alignment is critical for meeting the state goals and that the outputs from CARB and CEC planning and research efforts should inform the development of the TEF and TEPs.

3. *What additional resources could be used if the outputs of the planning efforts described in the Transportation Electrification Framework are not available or useful for TEP development?*

AEE has no comment at this time.

4. *What resources should the IOUs draw from to develop budgets for their TEPs?*

The IOUs should draw from lessons learned from past TE investments and programs as well as industry research and best practices to develop budgets for their TEPs. As a first step, the IOUs should utilize the infrastructure assessment currently under development at the CEC[6] (in coordination with the CPUC), as required by AB 2127, in order to prioritize the gaps in the market that will need to be addressed in order for the state to reach its light-, medium- and heavy-duty TE and GHG reduction goals.[7,8] Additionally, the CEC has already started to publish important cost data that could be used to develop budgets and develop benchmarks. The 2019 IEPR, for example,

[6] We recognize that the timeline for the development of the infrastructure assessment may not sync up with the timeline to develop the initial TEF. As such, the CPUC should not wait, but should instead move forward with initial investment strategies for all site types and use cases now. As the CEC infrastructure assessment becomes available, the CPUC should iterate this process and utilize the infrastructure assessment to update strategies and prioritize gaps in the market.

[7] Adopted in Dec. 2018, The Innovative Clean Transit (ICT) regulation requires all public transit agencies to transition to a 100% zero-emission bus (ZEB) fleet, with 100% of new purchases by transit agencies beginning in 2029 being ZEBs, and the fleet being 100% ZEB by 2040.

[8] Adopted in Jan. 2018, Executive Order B-48-18 set a goal of 5 million ZEVs on California roads by 2030, and 250,000 public charging stations operating by 2025, including 10,000 direct current fast charging stations.

shows the cost of a Level 2 EVSE to be between $5,000 - $8700.[9] Costs of comparable programs, in addition to real world experience from various stakeholders participating in the deployment of charging infrastructure, should be taken into account in developing budgets. Once the challenges have been identified, the next step is to determine the most impactful, cost-efficient[10] strategies to solve them, and thus most effectively accelerate and animate the market. This includes, but is not limited to: TE infrastructure deployment needs, transmission and distribution (T&D) upgrades necessary to accommodate projected EV load (including what portion can be addressed through secondary distribution infrastructure allowances and a more standardized make-ready budget approval process as discussed more at length below), and marketing, education and outreach efforts to promote awareness.

5. *Should TEP budgets be established as a cap on an IOU's investments or a forecast of the programmatic costs?*

If the TEP simply lays out the strategy and vision for the IOUs investments, and IOUs are required to file subsequent program applications for implementation – as laid out in the Staff Proposal for a Draft TEF – budgets should act as a forecast of the programmatic costs.

6. *Please identify any market, regulatory, or operational considerations that would justify defining a pilot program differently than it was previously defined in the 2016 Assigned Commissioner's Ruling, namely as one-to-two years in duration and with a budget less than $4 million.*

Given the current state of the market, we strongly recommend that pre-TEP applications not be limited to pilot programs. There is no doubt that California has a lot to accomplish in five years to meet the goals of 1.5 million ZEVs on the road and 250,000 public charging stations operating by 2025, including 10,000 direct current fast charging (DCFC) stations (not to mention its 5 million ZEVs by 2030 goal). For reference, the state has about 30,000 public/workplace charging *ports* today.[11] As such, achieving scale should be a priority so that California is positioned to meet its

[9] See California Energy Commission, Final 2019 Integrated Energy Policy Report. January 31, 2020

[10] Throughout this document we use the term "cost-efficient", which sets a standard that requires the benefits to exceed the costs of achieving the stated policy objectives. This would include a broad set of costs and benefits, including those that are not easily quantified. We are not proposing a particular cost-benefit test.

[11] Private analysis by Guidehouse, February 2020.

ZEV growth and GHG reduction targets[12] and the Commission should be encouraging at-scale programs vs. scaling them down as was seen in some of the applications that have been filed pursuant to SB 350. Over the past few years, significant investments have been made by the IOUs, and the CPUC should build on the lessons learned from these investments to push the market forward. One way to do this is by evaluating the opportunity to roll existing pilots into long-term programs.

7. *Should an application template for TE program proposals be adopted in addition to the template for pilot projects filed by advice letter? If yes, identify the process for developing this template.*

Yes, there should be a TE program application template to streamline the process for program applications. While the CPUC's jurisdiction may ultimately be limited to the applications before it as proposed by utilities, there are opportunities for the CPUC's regulatory guidance to streamline the application process and focus utility-proposed plans on a consistent vision, to more efficiently address market gaps. The CPUC should take steps to ensure that any adopted checklist is not burdensome or restrictive and maintains utility flexibility in designing programs. This will also help both the IOUs and Commission Staff ensure the completeness of any application and reduce any subsequent revisions or requests for information that could slow down the application process. AEE believes that the template should be similar to the proposed template for pilot projects. An initial list of elements to incorporate could include:

- An overview of the program(s), including a purpose and vision statement and a discussion of the filing's alignment with and support of the utility's long-term TE vision;
- A specific statement of the gap, or problem that the program(s) seeks to address and the current state of the market and how that relates to California's TE, GHG emissions reduction and air quality goals;
- Specific goals, objectives and end points for the project;
- How the program(s) will achieve its goals and support market transformation[13];

[12] GHG reduction target of 40% below the 1990 level of emissions by 2030 and 80% below 1990 levels by 2050
[13] This includes identifying how the program will scale as the market grows.

- A clear budget and timeframe to implement the program and obtain results within that designated timeframe;
- A specific strategy for who will deploy, own, and operate the infrastructure, including an explanation of why the specific strategy was chosen, and a breakdown of the benefits and costs;
- A specific strategy for utilizing open technology standards and, for public charging sites, open payment standards;
- Identification and analysis of risks involved in implementing the program(s) and a strategy to mitigate those identified risks;
- Information on relevant baseline metrics or a plan to develop baseline information against which the project outcomes can be measured;
- Proposed targets against program performance metrics (the Commission should develop three to five measurable and most impactful metrics);
- A proposed data gathering and evaluation plan to measure program success against identified metrics;
- A marketing, education, and outreach plan; and
- A concrete strategy to identify and disseminate best practices and lessons learned from programs to all California IOUs.

Lastly, while much attention has been paid to utility investments in EV charging, the utility role in accelerating infrastructure deployments through more streamlined development processes should not be understated. AEE is concerned that these process improvements, which would substantially drive down charging installation costs, would not need to be undertaken by utilities until the TEPs are drafted. The CPUC should encourage utilities to submit suggestions and convene stakeholder discussions for how they can improve internal processes to ensure that EV charging is deployed in a timely matter to help scale EV infrastructure at the pace necessary to meet California's ambitious clean transportation goals.

3.2 Application Process and Procedures
3.3 Transportation Electrification Plan Timing and Updates

The proposed process presumes, "that CPUC adoption of the initial TEF would occur by Q4 2020, the IOUs' would file TEPs 2021, and the IOUs TEPs would be adopted by the CPUC in 2022. If that schedule holds, the first round of full IOU TE program applications could be filed in Q1 2023."[14] Such a schedule would mean that any new large-scale programs would not be approved until 2024, at the earliest. This means that the implementation of any new programs would not begin for another five years, and further delay is likely given the litigious history with regard to applications. In the meantime, the TEF will only allow applications on near term, "no regrets" investments to serve as a bridge from existing programs to the more holistic TEPs. These investments would be limited to $4 million per program over a two-year period, with a $20 million cap per IOU. Moving forward from that, utilities would only be able to file new applications every two years to coincide with their two-year updates to their 10-year plans. As the business voice of the advanced energy industry, we strongly urge the Commission to reconsider this proposed process. As stated in the Introduction to our comments, time is of the essence. When the state needs to go from about 30,000 public charging ports today[15] to 250,000 by 2025, utility TE investments cannot be limited to pilot projects for the next five years. The adoption of the process as proposed would significantly undercut California's progress to meet its ZEV and GHG reduction targets.

Specifically, in order to meet the state's ambitious goals and to facilitate the electrification of the transportation sector, the CPUC should significantly accelerate the proposed process and streamline the rigid requirements for any new proposed TE applications moving forward. We propose:

- IOUs file 10-year strategic TE plans (TEP), within six months of an alternative approved process and every four years thereafter, with approval or modified approval of the first plans within 6 months of TEP applications. This would accelerate the timeline for new programs by 3-4 years.

[14] P. 26 Staff Proposal for Draft TEF
[15] Private analysis by Guidehouse, February 2020.

- Additional elements of each 10-year strategic plan should include:
    - projected infrastructure needs in the IOU service territories that utilize the infrastructure assessment currently under development at the CEC (in coordination with the CPUC), as required by AB 2127, in order to prioritize gaps in the market,
    - investment strategies and specific targets based on priority market segments,
    - estimated budgets to support expected IOU TE programs,
    - descriptions of programs the IOUs may propose to achieve their stated targets
    - staffing needed to accelerate charging infrastructure for third party EVSPs, regardless of whether the EVSPs are participating in utility TE programs. Staffing may include utility design work, engineering, and other fields.
- Each long-term plan would also include, 5-year investment plans with multi-year budgets for make-ready infrastructure across all market segments that remain consistent with their long-term vision, as well as a description of their investment strategy for each segment on top of that, with the opportunity to propose targeted TE programs subject to criteria we have outlined in response to Section 3.1 Question 7 above. The multi-year make-ready budget, and those for programs on top of this in specific market segments, should reflect anticipated revenues from widespread TE that is aligned with state goals. By approving make-ready infrastructure budgets as part of the 10-year planning process it will allow utilities to lay the foundation for future EV investments upon which third party companies, utilities, or other state programs could facilitate the build-out of EV charging infrastructure – providing critical, multi-year predictability and eliminating gaps promoting informed long-term decision making to all stake-holders. Approving make-ready infrastructure upfront would also reduce the investment needed for future programs that build on this foundation.
- Consistent with the goal of streamlining the application process, IOUs should be encouraged to submit subsequent TE program applications in the interim period between long-term plans, consistent with the criteria identified in Section 3.1 Question 7 above, via a streamlined Tier 2 Advice Letter process.
- Establish allowances within 90 days of an alternative approved process to defray the costs of secondary distribution infrastructure (i.e., secondary transformer to the meter) that better align with the useful life of EV charging infrastructure. This would also remove a

significant and non-controversial issue from individual utility applications that is currently litigated repeatedly. Establishing new rules that calculate larger allowances based on a longer time frame, would make additional exemptions to the rules unnecessary in the majority of cases[16] (e.g., common treatment for excess ZEV charging costs pursuant to Electric Rules 15 and 16), as the allowances would be large enough to cover most of the costs of any secondary distribution equipment. This would increase the allowances for all customers, including non-residential, as well as level the playing field between participants in utility infrastructure programs who currently are not responsible for any costs associated with secondary distribution equipment, and site-hosts operating outside of utility programs who are responsible for all costs in excess of current allowances.

- Consistent with SB 350, IOUs should retain the ultimate responsibility to design programs, prioritize segments, and develop budgets appropriate to the particulars of their service areas. The CPUC should not be overly prescriptive in program design but should provide opportunity for innovation and utility-specific flexibility. As per SB 350, the onus is on the utilities to develop programs, not the CPUC.
- In parallel, we support Staff's recommendation directing IOUs to "engage in ongoing State energy forecasting efforts and resource planning proceedings and use the most recent TE adoption projections from the California Air Resources Board's regulatory timelines, the California Energy Commission's infrastructure needs assessment, and the IOUs' Integrated Capacity Analysis (ICA) maps to develop the infrastructure targets and proposed budgets in the TEPs."[17]

AEE strongly believes that the adoption of our proposed process, would accelerate the adoption of TE investments in the near term (i.e., the interim period from now until 2024, at the earliest, when the Staff has proposed the approval of initial TE program applications). At the same time, we recognize the importance of many additional elements in the proposed TEF. Therefore, we believe that our proposed process would enable the Commission to continue to work with stakeholders in parallel to achieve policy cohesiveness on key issues (i.e., interconnection processes, rate design,

[16] P. 92 Staff Proposal for Draft TEF, "A workshop on IOU distribution and service line extensions for commercial customers will be necessary to develop a CPUC record on whether a similar exemption or modification to Rules 15/16 is necessary to support larger-scale EV adoption by non-residential customers."
[17] P. 27 Staff Proposal for Draft TEF

consumer education, and vehicle-grid integration (VGI) policy) and tackle emerging issues, while not holding up the filing of additional applications in the interim.

4. Investor-Owned Utility Roles to Accelerate Transportation Electrification Infrastructure Deployment

1. *Do you agree that the investor-owned utilities' (IOU) Transportation Electrification Plans (TEP) should evaluate opportunities to address each of the barriers identified in Table 3?*
    a. *If not, what barriers should be excluded, or are missing, and why?*
    b. *Do you agree with the types of IOU roles that are appropriate to address each market barrier during the market and technology development lifecycle?*
2. *Will the California Energy Commission's Infrastructure Deployment Strategy analysis and Assembly Bill AB 2127 (Ting, 2018) implementation process, the California Air Resources Board's Mobile Source Strategy, and the IOUs' existing planning processes provide a complete foundation for defining IOU infrastructure roles to be included in TEPs (What, When, How, How Much and Where)?*
    a. *If not, what are the gaps and how should they be filled?*
3. *Market Maturity Assessment*
    a. *Will the proposed metrics for determining the level of market competition provide the appropriate information to evaluate market maturity across various TE industries and business models?*
    b. *What resources can be used to provide data for these market maturity metrics, and what is the best way to collect this data?*
    c. *Should the Market Maturity Assessment be developed by a third-party consultant or workshopped and finalized by Energy Division staff for CPUC consideration in the final Transportation Electrification Framework?*

The Commission and the IOUs should keep market conditions in mind when proposing and reviewing specific programs. That said at the current state of the TE market, AEE believes that it is premature to be prescribing a specific market maturity assessment. We recognize that when it comes to the role of the utility in TE investments, IOUs have different roles to play in different scenarios, but in order to accelerate the market, there needs to be flexibility. As it relates to IOU program proposals, IOUs should be encouraged to take a portfolio approach[18], and provide customers with multiple options for EV charging products and services. A portfolio approach that targets different customer types, vehicle types, and use cases will give customers the greatest choice and will provide optionality as technology evolves. In addition, the avoidance of adopting

[18] Instead of a utility offering one program for EV charging services, they should be encouraged to provide customers with multiple options that range customer types, charging services, and program designs.

one specific program design or structure will allow customers to choose the products and services most suitable for their purposes, will allow the Commission to better evaluate the success of different programs, and will ultimately lead to a more sustainable and animated market.

After results from the IOUs Standard Review Projects, as well as initial results from the implementation of utilities' first TEP become available, further evaluation and/or Commission guidance on the role of IOUs may make sense. In the meantime, IOUs should be required to include elements as part of any program application (as we have identified in Section 3.1 Question 7 above):

- A specific statement of the gap, or problem that the program(s) seeks to address and the current state of the market and how that relates to California's TE, GHG emissions reduction and air quality goals;
- How the program(s) will achieve its goals and support market transformation;
- A specific strategy for who will deploy, own, and operate the infrastructure, including an explanation of why the specific strategy was chosen, and a breakdown of the benefits and costs;
- A proposed data gathering and evaluation plan to measure program success against identified metrics;
- A concrete strategy to identify and disseminate best practices and lessons learned from programs to all California IOUs.

The implementation of these programs and the subsequent data gathering as well as maturation of the market will help inform any future determinations of market roles by the CPUC. In the interim, the CPUC should ensure that it monitors development of lagging charging infrastructure markets based on technology and business model evolution to guide IOU programs to ensure efficiencies.

5. Near-Term Investor-Owned Utility Transportation Electrification Investment Priorities

1. *Should the investor-owned utilities' pre-Transportation Electrification Plan (TEP) program proposals be limited to these identified priority areas? Why or why not?*
2. *If not, identify any other program priorities that should be considered appropriate for pre-TEP programs and provide detailed information about why the investment would be "no regrets".*
3. *Is $20 million per IOU an appropriate budgetary cap for pre-TEP programs? Why or why not?*

See response to Section 3.1, Question 6. AEE strongly believes that pre-TEP program proposals should not be limited to the identified priority areas. We strongly encourage the Commission to consider an alternative process timeline as laid out in response to Section 3.3 above.

5.2 Electric Vehicles and System Resiliency

1. *Should the investor-owned utilities (IOU) prioritize projects that will test and validate resiliency strategies that utilize electric vehicles (EV) as grid resources and ensure EV drivers have adequate access to charging options during power outages?*
    a. *If yes, how should the IOUs design their pilot(s)? What sector(s) should the pilot(s) target? What use cases should the IOUs prioritize in their pilot(s)?*

Yes, given the current state of extreme weather events, we believe it is prudent for the IOUs to prioritize projects, as part of their wider portfolio, that will test and validate resiliency strategies that utilize EVs as grid resources and ensure EV drivers have adequate access to charging options during power outages. Resiliency strategies may include, but are not limited to: utilizing electric school buses and distributed rooftop solar on schools to support community resilience[19], and prioritizing public charging along evacuation routes in the case of emergency. In addition to the grid benefits, the proactive electrification of transportation would save customers money by significantly reducing the estimated impact that climate change and wildfires will have on rates.[20]

2. *Which local agencies and community organizations should the IOUs work with to identify resiliency challenges as more vehicles are electrified across their service territories?*

AEE has no comment at this time.

5.3 Customers Without Access to Home Charging

1. *Given the lack of California Public Utilities Commission regulation of end-use public charging pricing, how can we ensure equity in the cost of fueling between customers with access to home charging and customers without?*
    a. *Are there solutions that do not compromise the cost causation principle of ratemaking?*
    b. *Are there solutions that do not involve infrastructure investment?*

AEE has no comment at this time.

[19] https://microgridnews.com/santa-barbara-schools-look-to-microgrids-for-community-resilience-and-ev-charging/
[20] https://www.nrdc.org/experts/mohit-chhabra/electrifying-buildings-and-cars-can-rein-electric-rates

5.4 Medium-and Heavy-Duty Vehicle Infrastructure

1. *What gaps, if any, within existing investor-owned utility programs targeting medium-and heavy-duty vehicle electrification would be appropriate barriers to address within pre-Transportation Electrification Plan program applications?*

AEE has no comment at this time.

2. *Should the CPUC direct one IOU to coordinate state-wide medium-and heavy-duty issues or direct the IOUs to propose an IOU coordinator?*

AEE has no comment at this time.

5.5 New Building Construction

1. *What, if any, coordination with existing energy efficiency new construction programs for the residential and commercial sectors would make a TE infrastructure program for new construction more effective?*
2. *Given the fact that the CPUC has not yet approved an IOU TE program that focuses on new construction specifically, what program design elements would be reasonable to require up-front to maximize ratepayer benefit?*
3. *Can fixed dollar per port incentives, with some case-by-case adders, be set at a level that motivates EVSE installation while also encouraging builder cost-sharing? If so, what data should be used to set these levels? If not, should IOU programs cap rebates at a fixed percentage of costs to builders? Could IOUs verify builder self-reported cost estimates, and if so how?*
4. *How could new construction programs prioritize ESJ communities including affordable housing developments?*

AEE has no comment at this time.

IV. Conclusion

With the considerations presented, the development of a streamlined application process stands to be a valuable and timely effort for California as it grapples with the challenges and opportunity presented by electrifying the transport sector. We appreciate the Commission's initiative in proposing a draft TEF. We believe that there is a significant need to achieve policy cohesiveness on many of the proposed elements. As is often the case, other states are already watching closely to see how California addresses these challenges and opportunities. Actions must be careful and deliberate, with adequate deference to the precautionary principle given the risk of negatively

altering the needed trajectory of infrastructure deployment to meet state goals, which would be out of step with California's tradition of leadership in clean and advanced mobility. Critically, we urge the Commission to reconsider the proposed timing and process while keeping in mind the ramifications of continuing along the proposed path.

We appreciate the opportunity to provide the Commission with these comments and we look forward to our continued involvement in this process.

Respectfully Submitted,

/s/ Coley Girouard
Coley Girouard
Principal
Advanced Energy Economy
1000 Vermont Ave NW, 3rd Floor
Washington, DC 20005
Tel: 202.380.1950
E-mail cgirouard@aee.net

On Behalf of Advanced Energy Economy

March 6, 2020