

FIP Webinar: 05/22/23 - Notes

Item*	Time
1) Introduction & Housekeeping	2:00 – 2:15pm
2) Overview of Transportation Electrification Planning	2:15 – 2:45pm
a) Need for Proactive Infrastructure Planning	
b) Challenges Under Current Forecasting/Planning Processes	
3) Draft Staff Proposal: Zero-emission Freight Infrastructure Planning (FIP) Framework	2:45 – 4:00pm
a) FIP Overview	
b) FIP Framework Proposal	
c) Process Reform to Support MDHD Electrification	
4) FIP Implementation Assessment	4:00 – 4:45pm
a) Case Studies	
b) Development of Common TE Inputs and Assumptions	
5) Stakeholder Engagement – Schedule, Instructions, and Questions	4:45 – 5:00pm

Participants: ~235 participants + panelists

Overview of Transportation Electrification Planning

- 1. Question: *If today's presentation is for long-term planning, then what is the venue or process to explain the near-term needs to launch the Advanced Clean Fleets (ACF) regulation next year?*** (Sean Edgar, Clean Fleets.net)
 - Response: We don't have a timeline yet but will engage this audience when appropriate. (Paula Gruending, CPUC)
- 2. Question: *How will EPA's GHG phase III proposed rule impact the long-term planning for California?*** (Diego Quevedo, Daimler Truck North America)
 - Response: This is not something we have considered at this early stage, but it is certainly something we will look into. If you have suggestions for how the EPA's GHG phase III proposed rule should be considered in long-term planning, please add that to your comments. Thank you for raising this. (Karolina Maslanka, CPUC)
- 3. Question: *Why are not major medium-duty vehicle (MDV)/ heavy-duty vehicle (HDV) agencies such as ports and transit agencies not included [on Slide 17]?*** (Howard Golub, BB&K Law)
 - Response: Thank you for the question. As we are just initiating this process, to date we have been coordinating with the CTC, which to a degree serves as a liaison to other agencies. Slide [17] focuses on the electric side of planning, what we know. However, as Simon noted, we need cross sectoral engagement because there is a lot we do not know. We hope to see comments from these agencies and ports so that we can coordinate more closely before developing a final staff proposal. (Karolina Maslanka, CPUC)
 - The CTC's model, which is one source informing the effort, takes into account feedback from SB 671 workgroup members, which includes ports and transit agencies. (Hannah Walter, CATC)

Follow-Up Question: Shouldn't ports, transit agencies and similar agencies have a major say in the basic process as much as the agencies listed on slide 17? That relegates the front-line agencies to a very subsidiary role. The Port of Long Beach (POLB), which I represent, is the 2nd largest port in North America and the largest port served by a utility subject to the jurisdiction of the Commission. The Port should have a seat at the table together with the agencies listed on Slide 17.

- Response: We recognize that POLB and other frontline agencies are critical voices and parties to this process. This webinar is step 1 in an ongoing engagement and development process, which will certainly include this outreach and coordination. Today is about introducing the concept for the FIP, the comments and further engagement following this webinar will further shape this proposal. We definitely want to make sure POLB and others have that seat at the table. (Audrey Neuman, CPUC)

Follow-Up Question: Thank you. We appreciate that recognition. What concrete measure do you propose to ensure that the Port has a meaningful voice at the table?

- Response: In response to the question from Howard on the Port of Long Beach and making sure that other front-line agencies have a voice and seat at the table, one thing I would like to emphasize is that today is step one for this presentation and the FIP framework. We have been working internally on this proposal to bring forward to you all, but this is certainly not a final proposal. We will be seeking additional feedback, through the comments that will be described at the end of this webinar and through other informal engagements. It's also important to note that this is not yet within a formal proceeding. There will be additional opportunities to hear from those front-line agencies and this work will be shaped by these conversations as we go forward. (Verbal response provided by Audrey Neuman, CPUC)
- Additionally, I'll highlight that one of the key reasons we are holding this webinar now is to help us refine the scope for the final framework proposal and we expect the feedback we receive will help refine the scope including vehicle types should be included, agencies we should be collaborating with, and what process gaps we're not capturing. (Verbal response provided by Karolina Maslanka, CPUC)

Draft Staff Proposal

4. ***Question: CARB's Advanced Clean Fleets (ACF) will also require public utilities to make investments and recover costs. How does this process inform the needs of public utilities (POUs)?*** (Sean Edgar- Clean Fleets.net)

- Response: Although the information, forecasting and planning needs of publicly owned utilities (POU) is parallel to that described in the FIP proposal, the regulatory structure providing oversight to POU's is completely different than that for IOUs. Thus this specific proposal will need considerable adjustment to suite the POU oversight that exists. (Mike Jaske, CEC)

- Response: Question 8 at the end of the deck [Slide 53] asks what sort of coordination would be necessary between load serving entities (LSEs), including the POUs. (Paula Gruendling, CPUC)
5. **Question: *Advanced Clean Trucks (ACT) that was passed a couple years ago and is intended to set the tone for zero-emission (ZE) truck sales in the state. Without charging infrastructure, customers are having a hard time taking on deliveries of the ZE trucks. How does FIP intend to address this issue so that we can successfully meet the state's goals and regulations?*** (Aravind Kailas, Volvo Group North America)
- Response: As I explained in the opening, issues that are related to loads that are undergoing the energization process now or are known loads that have initiated discussion with utilities, are out of scope for the FIP, in terms of the time horizon. The FIP is a long-term framework, and with this long- term view on planning, we can start getting ahead of needed upgrades to the infrastructure so that when developers and customers are ready to start building charging infrastructure, most of the upgrades will be completed. The issues related to the known projects are work that we are investigating but we are not addressing these issues during this particular webinar. (Verbal response provided by Paula Gruendling, CPUC)
 - I'd like to emphasize that FIP will be addressing long- lead time infrastructure, which would include distribution substation and higher. The goal is to be able to get to a point where we are identifying needs and impacts at the substation and higher levels so that we can get ahead of the current problems that we are seeing in the near-term. (Verbal response provided by Paul Douglas, CPUC)
6. **Question: *Is there a certain size of the "zones" Paul just mentioned for forecasting? Is the size based on geography, number of vehicles, peak charging load or something else?*** (Cole Jermyn, Environmental Defense Fund).
- Response: We have not yet defined a size for these zones, but we recognize that this will be a very important step. We have a question to stakeholders dedicated to this matter and we hope to receive feedback on this. (Karolina Maslanka, CPUC)
7. **Question: *How do your timeframes for iteration and all the steps align with CARB's timelines for infrastructure exemptions under ACF?*** (Christine Casey - Assembly Transportation)
- Response: Absent information from each fleet operator and mapping of those fleet charging locations to the distribution system, it is unclear whether the collective loads across affected fleet operators can be handled with limited distribution upgrades or if they will require longer-term, more substantive upgrades to either distribution substations or even transmission system elements. This means individual fleet operators are not in a good position to know whether or they need to submit an exemption or delay request. (Mike Jaske, CEC)
 - The FIP is focused on longer term planning than the near-term implementation of ACF and the anticipated need for infrastructure exemptions due to delayed electrical service connections. And in instances where a fleet needs an exemption due to electrical service delays, the exemption process includes working directly with the utility to determine the site and project specific timeline. (Analisa Bevan, CARB)

8. **Question: In the context that freight does not stop at the borders of California and ACT/ACF regulation applies to vehicles coming into California: How will this FIP effort coordinate with surrounding states and federal government from a planning perspective?** (Nico Bouwkamp, GTI Energy)
 - Response: Thanks, this is very good point. We have started thinking through this issue and will touch on it a bit later in the webinar. As this is a challenge, we are open to suggestions on how to deal with these issues. (Paula Gruending, CPUC)
9. **Question: To what extent will the FIP evaluate the impact of automated load management (ALM) to help mitigate the cost of distribution system upgrades?** (Heidi Sickler, Bp pulse fleet)
 - Response: This is not within scope of today's webinar. While VGI and the use of DERs and ALM for deferrals is an important discussion, today's webinar and the FIP are focused on adjustments to our long-term proactive planning processes. Thus, this will be addressed outside of the FIP. (Audrey Neuman, CPUC)
10. **Question: Can you confirm that you are using "freight" and "medium- and heavy- duty (MDHD)" interchangeably? Do they have the same scope?** (Richard Khoe, Cal Advocates)
 - Response: MDHD and freight are not necessarily interchangeable; you may have identified a terminology issue in the deck. At the moment, we are focused on freight, as a subset of MDHD. With time, we may expand to other use cases, but when you're hearing MDHD in this presentation, we're primarily addressing freight movements. (Verbal response provided by Paula Gruending, CPUC)
 - Response: This relates to the fact that we are in very early stages here and are trying to refine exactly what the scope of the framework will be when it is first implemented as opposed to how we can expand in the future. This is an important piece we are asking stakeholders to provide comments on. (Verbal response provided by Karolina Maslanka, CPUC)
11. **Question: Want to ensure I'm understanding correctly - is the proposal here that fleets would move their existing depots to these newly identified "optimized zones"?** (Jessie Lund, CALSTART)
 - Response: No, that would violate what Paul Douglas (CPUC) mentioned in the beginning of his presentation, which is to not disrupt the business plans of freight operators. (Mike Jaske, CEC)
 - The optimized zones are an early concept that require additional development. We've outlined initial ideas, such as on Slide 29: these could include locations that we term "ready to electrify zones" which would be zones that don't require any major infrastructure investments. We would highlight these locations to get the charging stations online as soon as possible. They could also include, for example, the optimal zones for both the business needs, electric sector requirements, and policy goals. This is what Paul Douglas spoke to earlier: business needs are key; we don't see business relocation as feasible. This may not even fit the definition of optimal. We understand that businesses operations have refined business models by establishing efficient routes and choosing ideal depot locations. For this reason, much of this work will start with identifying existing facilities and thinking about how we can address business considerations while meeting other requirements. We likely won't be able to find locations that meet each factor, but we have to find solutions that best fit these

different constraints. This is an area where we certainly would appreciate hearing suggestions from stakeholders. (Verbal response provided by Karolina Maslanka, CPUC)

- On Slide 33, the main proposal, Steps 3 and 4 highlight that there is a process to establish consultation between the utilities and their understanding of the electrical system and the freight industry's business needs. We would iterate between Steps 3 and 4 to find out where there is at least regret solution. Step 7 on the bottom right shows that if we are doing this planning and sending an investment signal to the freight industry, we are identifying locations where from a cost and timing perspective, it's great to interconnect, not so great, or challenging to interconnect. We need to find a way using this grid readiness assessment to send an investment signal to the market, maybe through behind the meter infrastructure charging funding. At the end of the day, if there are locations that do not fit market needs, they should be identified in Steps 3 and 4. If we are only identifying locations that don't fit market needs, the process doesn't work. This is why it's important to establish a good stakeholder process that captures freight needs, and future port needs to identify what is optimal for industry and for the electric sector. If there are gaps that can't be resolved through this process, then part of the proposal here is to elevate these to the principals for the transportation sector and the electric sector. That's the vision behind this proposal. (Verbal response provided by Paul Douglas, CPUC)
12. **Question: You mention the FIP is for substations and above. How about upgrading distribution feeders?** (Dean Taylor, Plug In America)
- Response: We will coordinate with DPP staff to consider this question. Please submit comments if you have any recommendations on how to incorporate distribution feeder upgrades into the FIP proposal. (Karolina Maslanka, CPUC)
13. **Question: Charging Infrastructure Deployment Timelines are 18 - 24 months & more. The transportation business requires a time horizon of <= 6 months. How can we develop a process which allows the timeline from a charging grid request being identified to energizing it in <= 6 months? It seems we must have a 10-year distribution level forecast which builds infrastructure now, to allow future load needs to be added with less planning and shorter lead times.** (Matt Wetta, Paccar)
- Response: FIP is dealing with long term infrastructure planning processes so we can proactively plan for those needs, not short-term energization needs. (Paula Gruendling, CPUC)
14. **Question: Utilities are not allowing HD ZEV customers to plan for the future when building infrastructure and will only provide electricity for immediate EV truck deployments. This forces customer charging infrastructure build out to be un-necessarily slow & expensive, akin to building a home 1 room at a time each year rather than all at once in one project. How can we make utility processes & regulations in which EVSEs to have grid access for both current & future planning needs?** (Matt Wetta, Paccar)
- Response: This is the issue the FIP is trying to address - how to move beyond just-in-time planning and identify grid upgrade needs proactively. We need a process to allow for this type of planning. (Paula Gruendling, CPUC)
15. **Question: Today (2023) CCS scale automotive chargers are 180 - 360 kW aligned with 1-4 HD EV vehicles. Tomorrow (2030) MCS scale HD EV chargers will be 1-1.5 MW or more with 6-12**

ports. It is likely to have 3 - 10 of these scale chargers on a customer site (3-10 MW of new load). How can we keep projects of this scale to a 1 to 2-year timeline? Rather than 3-6 years as is common today? (Matt Wetta, Paccar)

- Response: The question of project timing is one of the issues we are working to address via the FIP and adjustments to our long-term planning. By addressing long-term planning improvements and modifying planning assumptions to improve our grid infrastructure readiness we are hoping to address some of these concerns. (Audrey Neuman, CPUC)

16. **Question: All recognize the importance of vehicle to grid (V2G) for grid stability while maintaining low \$/kW energy costs with increased ZEV vehicle adoption and increased intermittent generation (solar/wind), but current tariffs provide benefit to encourage it only in behind the meter scenarios. Can V2G tariff availability be required by law?** (Matt Wetta, Paccar)

- Response: This is out of scope of today's webinar. This is an important topic that will be addressed outside of the FIP. (Audrey Neuman, CPUC)
- Response: It seems that the FIP subset of end-use customers may have unique costs and benefits from participating in V2G tariff, so this request is probably out of scope, at least for immediate assessment. (Mike Jaske, CEC)

17. **Question: How does the planning chart on Slide 35 include a consideration of delays in implementation and resulting impact on planned infrastructure rollout (whether utility, implementation company, or other causes)?** (Nico Bouwkamp, GTI Energy)

- Response: We believe that proactive planning will reduce the amount of delays in the future because grid infrastructure will be online before the load arrives. As for existing and near-term delays, that is out of scope for this project. (Karolina Maslanka, CPUC)

18. **Comment: Would recommend seeking industry input into case study scenarios. For instance, seasonal agriculture and construction are uniquely challenging use cases that must be analyzed as they are not exempt from ZE mandates. California Trucking Association (CTA) is happy to help get fleet participation. Thank you.** (Chris Shimoda, California Trucking Association)

- Response: Thank you Chris. (Paula Gruendling, CPUC)

19. **Question: How do you plan to incorporate the results of the Electrification Impact Study in the High DER proceeding?** (Chris King, Siemens)

- Response: This still needs to be determined. Please include any suggestions you have when you respond to the stakeholder questions at the end of the webinar deck. Cheers. (Paul Douglas, CPUC)

20. **Question: The location of charging facilities will adjust fleet route decision making, which will modify the input data used to identify the optimal charging locations. Has this feedback loop been considered in the assessment?** (Tom Howell, AVL)

- Response: This is one of the objectives of the FIP - to bring together grid planning and transportation needs as part of the framework. We welcome thoughts on how the proposal can be improved to achieve this objective. (Paula Gruendling, CPUC)
- Response: The feedback loop is the iteration process between Step #3 and Step #4 on Slide 33. (Paul Douglas, CPUC)

- 21. Question: I believe SCE is asking for the ability to do proactive upgrades/investments to support TE in their next GRC. How will this process intersect with that request?** (Adam Browning, Forum Mobility)
- Response: This is still being assessed. Please add your thoughts on the issue if you file comments on the proposal. (Paul Douglas, CPUC)
- 22. Question: Ocean going vessels (OGV) and commercial harbor craft are part of freight movement and will require electrification (e.g., shore power). Is there a process to integrate shore electrification requirements into infrastructure planning?** (Michelle Giron, Port of San Diego)
- Response: OGV are an important use case that we have not considered yet but will need consideration. If you have any feedback, please feel free to add in the written comments and we will take into consideration for FIP expansion. (Paula Gruending, CPUC)
- 23. Comment: I support Michelle's comment. This study needs to address cargo handling equipment, drayage trucks, ocean-going vessels, harbor craft, and locomotives. CARB also recently passed the In-Use Locomotive Regulation that will require zero emission rail. This would be a missed opportunity if any of the five major source categories is excluded.** (Morgan Caswell, Port of Long Beach)
- Response: We are open to ideas for ocean-going vessels, harbor craft, and locomotives, but we are starting with trucks because there is more information available. Our study does include drayage, because we are including Class 7&8 vehicles. Feel free to reach out to me with questions. Hannah.Walter@catc.ca.gov (Hannah Walter, CATC)
- 24. Question: Would CPUC/IOUs consider using results from the CEC's HEVI-LOAD model to support the case studies? It appears that several parts of the case study process are already covered by HEVI-LOAD (number of sites, charger locations, load profile, etc).** - (Jeffrey Lu, CEC)
- Response: Please direct your question to Mike Jaske and Quentin Gee after the webinar. (Paul Douglas, CPUC)
 - Response: The CEC HEVI-LOAD model may be incorporated in case studies and continued work and appears to be an ideal candidate. More internal CEC coordination across divisions is necessary before opting for such a route. (Quentin Gee, CEC)
- 25. Comment: What consideration is being given in FIP to MDHD infrastructure regarding ESJ and DACs?** (Ted Howard, Small Business Utility Advocates)
- Response: One of our primary inputs (CTC's SB 671) took these important elements under consideration when identifying the six priority corridors. (Karolina Maslanka, CPUC)

FIP Implementation Assessment

- 26. Question: What is meant-precisely-by "managed charging?"** (Howard Golub, BB&K Law)
- Response: Excellent question. We are working with SCE to establish the specifics for that sensitivity. We will provide a clear definition as well as inputs used and assumptions made in the work product we share on the case studies in the future. (Karolina Maslanka, CPUC)
- 27. Question: Does this process take into consideration the large increase anticipated in VMT or ton-miles for freight over the next few decades?** (Jessie Lund, CALSTART)

- Response: As noted in one of the slides in the section that Christa Heavy presented, there is a huge range in various input assumptions. Yes, a large increase in aggregate VMT moving around and across the state is anticipated. Different studies have selected specific sources for the inputs they have used, which do not agree. (Mike Jaske, CEC)
 - Response: The CTC model uses CARB VMT estimates that CARB hired ERG to create to update EMFAC estimates. That paper is available online here: https://ww2.arb.ca.gov/sites/default/files/2021-03/erg_finalreport_hdv_accruals_20190614_ada.pdf. It is a flat number, we calculated it by vehicle class type (Class 4-8 and 7-8 tractor) and we averaged VMT for 10 years in terms of age of the vehicle. We are open to more feedback; these estimates resulted in a high VMT. (Hannah Walter, CATC)
28. **Comment: It's important that CPUC define (medium-and heavy-duty) MD/HD the same way that CARB did in the ACF. The ACF applies to vehicles down to class 2b, and the FIP should make sure that trucks down to class 2b are included in their work.** (Peter Okurowski, CEA Consulting)
- Response: Thank you for this input. If you submit comments, please include this. (Karolina Maslanka, CPUC)
 - Response: The CEC freight forecast anticipates an increase in freight goods movement demand based on the Freight Analysis Framework (FAF) and a corresponding increase in total freight trucks and thus total freight VMT. VMT per truck is a different question, but the CEC uses VMT per truck from the CARB EMFAC 2021 model. (Quentin Gee, CEC)

Stakeholder Engagement

29. **Question: I want to support the comment earlier by Sean Edgar. If today is for long-term planning, then what is the venue of process to explain the near-term needs to launch the ACF next year?** (Peter Okurowski, CEA Consulting)
- Response: We are working to address these issues. (Paula Gruending, CPUC)