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Prologis Comment on MDHD ZEV Public Charging RFI

Please see attached document for our RFI comments.

Additional submitted attachment is included below.

February 7, 2025

Elizabeth John
California Energy Commission
715 P Street
Sacramento, CA 95814

RE: Request for Information: Medium- and Heavy-Duty (MDHD) Zero-Emission Vehicle (ZEV) Public Charging

Prologis appreciates the opportunity to provide input on the California Energy Commission's Request for Information on MDHD ZEV Public Charging and to contribute to the ongoing development of the Clean Transportation Program (CTP). This transformational program, which provides $100 million annually, plays a critical role in funding innovative, ZEV infrastructure projects necessary to achieve California's climate change goals. We commend the CEC staff for recognizing the growing need to support both public and depot charging infrastructure to facilitate the ZEV transition for drayage trucks and other fleet vehicles, and for collaborating with industry and other stakeholders to ensure funding aligns with market needs and state priorities.

About Prologis

Headquartered in San Francisco, CA, Prologis is the global leader in logistics real estate, with a portfolio of over 1.2 billion square feet across four continents and approximately 2.8% of global GDP flowing through our properties each year. Prologis leases modern warehousing and distribution facilities to customers, which include manufacturers, retailers, transportation companies, third-party logistics providers, and other enterprises. Our large, flat rooftops have enabled us to build out commercial solar installations to serve onsite and offsite load with clean energy and battery storage, helping our customers reduce their emissions and placing us second in the U.S. for corporate on-site solar.

Prologis' Mobility business is helping transform the fleet and logistics industry and enabling our customers to transition to zero-emissions through industry-leading electric vehicle (EV) charging technology and solutions. With roughly 180 million square feet of industrial real estate across our California portfolio, the opportunity for us to help our customers with this transition is significant, and we are developing dedicated charging infrastructure at Prologis sites to support their medium- and heavy-duty (MHD) fleets across last mile, drayage, and other applications. In addition to providing charging solutions at our own properties, we offer electrification services at non-Prologis buildings and are developing multi-fleet charging hubs serving areas with dense concentrations of warehouses.

Overarching Recommendations

Prologis believes the electrification of logistics fleets is critical to the future of commerce and to achieving California's ambitious climate goals. Real estate owners like Prologis can serve as key enablers of the state's transportation electrification by facilitating coordinated, planned, and more rapid expansion of ZEV infrastructure needed to support the transition of MDHD vehicles. As the CEC reframes the vision and priorities for future Clean Transportation funding, we encourage staff to consider:

- Real estate owners and utilities will be key partners in accelerating MDHD ZEV adoption, and the CEC should engage them early in the process.

- Warehouses are optimal locations for shared ZEV infrastructure, serving multiple independent owner-operators (IOOs) in a many-to-many relationship.

- While public charging for MDHD vehicles is essential to meeting the state's goals, many of the challenges reflected by this RFI can be mitigated if fleets have ready access to warehouse charging (especially MD use cases), and if Megawatt Charging System (MCS) vehicle adoption is actively accelerated (especially HD use cases).

- Similarly to the case for MCS EV adoption due to fast energy dispensing rates, HD fuel cell electric vehicles utilizing hydrogen infrastructure would mitigate some of the core challenges this RFI looks to address. We encourage the CEC to continue supporting all ZEV solutions, including hydrogen stations and EV charging, through the Clean Transportaion Program.

- The freight sector encompasses diverse business models and operator needs, requiring a broad definition of public charging to support an effective transition to a ZEV market.

- A mix of reservation-based and first-come-first-served charging capacity is essential when MCS or FCEV HD vehicle adoption is not accelerated, but we believe the CEC should (1) encourage market participants to solve for the correct balance within their network through competition, (2) encourage capacity access at warehouses for IOOs, and (3) accelerate the adoption of vehicles with faster refueling rates such as MCS and FCEV.

Attached are specific responses to the questions listed in the RFI. While we applaud CEC's efforts to better understand the market and identify where support is needed most, we would caution against a prescriptive approach around requirements, particularly regarding privately funded MDHD chargers, as this could slow innovation at a crucial moment in the MDHD transition.

Thank you for providing this forum for feedback, and please feel free to contact us with any questions regarding Prologis, our perspective on the ZEV market, or our comments at amoch@prologis.com or 571-895-5763.

Respectfully submitted,

Alexis Moch
Vice President, Government Affairs
Prologis

Responses to MDHD ZEV Public Charging RFI

1. *What does the CEC need to consider when developing "public" / en route charging eligibility criteria for CEC funding opportunities?*

   As CEC works to define public charging infrastructure for funding, it is crucial to develop an inclusive framework that encompasses diverse charging needs across fleet operator models. The overarching definition should prioritize broad accessibility and operational flexibility to support the full spectrum of users, from large fleets to independent owner-operators and smaller trucking companies doing business in the state. As CEC develops the CTP strategy, staff should focus on supporting overall MDHD market development, rather than prescribing specific charging formats. This market-driven approach would include keeping the definition of public charging broad enough to support promising charging solutions such as shared multi-fleet hub models, reservation systems, and innovative business practices such as competitive capacity-sharing agreements. To ensure long-term viability of these assets, eligibility criteria should prioritize scalable infrastructure that can expand with increasing demand and adjust to emerging market and technology trends in the freight sector.

   To ensure alignment with federal initiatives and avoid potential conflicts, we recommend CEC adopt language similar to the U.S. Senate THUD Appropriations Committee's 2024 committee report on public EV charging stations:

   > "Shared, multi-fleet heavy-duty EV charging locations will play a major role in the adoption and deployment of electric heavy-duty trucks, including by independent operators and small businesses. For the charging and fueling infrastructure grant program, the Department should strive to adopt a uniform definition for publicly accessible infrastructure, which should allow for EV charging infrastructure that is open to the general public or to authorized commercial motor vehicle operators from more than one company. This includes EV charging infrastructure open to the general public or authorized commercial motor vehicle operators from more than one company."[1]

   Adopting this definition at minimum would promote consistency across state and federal programs, while ensuring inclusive access to charging infrastructure for a variety of commercial vehicle operators. Throughout the implementation and deployment, priority should be given to operators serving disadvantaged and low-income communities to advance both transportation equity and air quality goals. It is important to note the elegance of this definition in that it defines "publicly accessible infrastructure" rather than a public address. This is critical as it does not reject sites which may have public areas separate from private areas. Development cost share efficiencies between public and private operations will be mutually beneficial, and CEC should ensure flexible eligibility criteria such as prorating incentives to the costs demonstrated as allocable to the public charging area.

[1] https://www.congress.gov/congressional-report/118th-congress/senate-report/199/1?outputFormat=pdf

2. *How should the CEC plan for the state's future MDHD charging needs to both accommodate fleets that will need access to chargers while en route to a destination vs. fleets that need certainty that charging will be available and accessible when it comes time to charge?*

   The CEC should allow the market to compete to find the right balance between first-come-first-serve and reservable chargers at any specific "public" charging site. The CEC should also accelerate faster-charging vehicles adoption (e.g. Megawatt-Charging System (MCS) ready EVs) to mitigate the source of this temporary dilemma at "public" sites.

   Furthermore, engagement with the logistics real estate sector is key to thoughtfully integrating charging infrastructure at warehouses and distribution centers to maximize options for owner operators and distribute capacity across the system that would also minimize overall system upgrade costs. This multi-pronged approach will ensure California's charging infrastructure can support both current operational needs while scaling to meet the demands of a maturing MDHD sector.

3. *Is a reservation system for use of public chargers needed to meet the needs of the trucking industry?*

   Without accelerating MCS vehicle adoption, a reservation system is an essential component for public chargers serving the trucking industry, particularly for fleets that depend on operational predictability. Such a system delivers multiple critical benefits: it enables efficient time management for drivers and fleet operators, minimizes costly idling and waiting times at charging locations, and allows fleet operators to optimize their energy management strategies. It gives fleet managers a chance to plan around the limitations of non-MCS vehicles. A completely open, first-come-first-serve model would introduce significant unpredictability and unreliability for fleets involving such vehicles, undermining the goal of operational efficiency – a critical success factor for achieving TCO parity with Diesel trucking given the premium cost of an EV truck. Reservation systems permitted among public charging infrastructure competitors balances these issues and aligns with CARB's approach under the newly adopted Low Carbon Fuel Standard amendments, which support the use of extended reservation windows for individual stalls at shared heavy-duty fast charging infrastructure (HD-FCI) sites. A well-implemented reservation system ensures charging can be efficiently deployed and highly utilized, and that fleets have the tools they need to maintain consistent operations, reduce downtime, and meet their service schedules with greater reliability.

4. *What reservation systems exist that could allow use by more than one trucking company?*

   We encourage the CEC to consider allowing flexibility in how shared sites manage access, rather than mandating a single, standardized system. A uniform system would risk limiting market innovation and fail to address the diverse and evolving operational needs across the industry. There are multiple viable solutions that already exist, and more that will emerge as the MDHD market matures, which can effectively support seamless, shared access at MDHD charging sites from a variety of operators including our own network management software system:

i. Charging-as-a-Service (CaaS) Models: These solutions minimize upfront capital costs while simplifying operational challenges, making them accessible to a wider range of operators.
ii. Shared Platforms: Multi-operator platforms enable seamless access for multiple companies, ensuring efficient site utilization.
iii. Interoperable Solutions: Platforms featuring open APIs can integrate with fleet management systems, providing cross-company compatibility and enhancing operational flexibility.
iv. Multi-Fleet Depot Models: Systems that allow individual stall reservations while maintaining a shared-site structure promote efficient use and collaboration among fleets.

Supporting diverse, interoperable systems will foster innovation in the market and will ensure shared charging infrastructure meets the sector's evolving needs.

5. *Does a "Trucking-as-a-Service" (TaaS) model in which trucks are leased and guaranteed chargers by a site operator provide enough public opportunities for trucks that are not leased through the site operator? Should there be a certain percentage of chargers available to the public at all times? Should there be a certain percentage of chargers available for reservation at all times?*

The "Trucking-as-a-Service" (TaaS) model would not conflict with the objective as long as the domicile location for the service still meets the recommended definition of "public" infrastructure (See Question 1).

6. *Should there be a certain percentage of chargers available to the public at all times? Should there be a certain percentage of chargers available for reservation at all times?*

The CEC should allow the market to compete to find the right balance between first-come-first-serve and reservable chargers at any specific "public" charging site. The CEC should focus incentives on the roots of the issue by diversifying capacity access with warehouse electrification incentives (especially effective for MD use cases) and accelerating MCS and FCEV adoption (HD use cases).

7. *What is the ideal reservation system or process for MDHD truck charging?*

There is not one ideal reservation system for MDHD truck charging, as freight business models and operator needs vary widely. Holidays, weather, and any number of other factors may influence operations and lead to variable conditions. To inform the CEC's decision-making, we have outlined key characteristics that align with our business operations. These provisions should be considered by staff for CTP funding solicitations and should not be seen as recommendations for any future rulemaking around shared charging hubs. We strongly recommend against mandating a single standardized system across the broad logistics sector

To support equitable access and transparency for publicly funded projects, any potential system should seamlessly integrate with fleet management platforms, enable multi-operator compatibility, and provide clear information about terms & conditions, available charging times,

available power capacity, and associated pricing, thereby ensuring all users can make informed business decisions. As mentioned earlier, it is essential, and in line with CARB's LCFS FCI program, to allow extended reservation windows for individual stalls while maintaining the overall shared nature of sites. In high-demand logistics zones, the reservation system should prioritize fleets operating in these areas to enhance efficiency and support time-sensitive operations.

By promoting systems that are interoperable, adaptable, and responsive to market demands, the CEC can stimulate innovative solutions and competition to meet the state's objectives without imposing one-size-fits-all requirements.

8. *If a portion of chargers must remain first-come-first-served, what ratio for reservation vs. first-come-first-served chargers would you recommend?*

   The CEC should allow the market to compete to find the right balance between first-come-first-serve and reservable chargers at any specific "public" charging site. However, if the CEC decides that the CEC definition of a "public" site must diverge from the definitions of CARB LCFS FCI incentive program and that of the U.S. Senate THUD Appropriations Committee's 2024 committee report, then we would recommend that 10% of charging stalls (but at least one) be the minimum first-come-first-serve allocation

9. *Which configuration would be preferred:*
   a. *A site where all chargers can be reserved but can also be used on a first-come-first-served basis if a charger is not reserved or in use?*
   b. *A site where a portion of the chargers are reservation only and another portion first-come-first-served only? In this configuration, is there an optimal percentage of chargers that are always available (not available for reservation)?*

   Our preferred model is to choose this configurability on a site by site and market conditions basis to allow the site to respond to efficient balancing of demand and in competition with the policies of other sites. As long as the location of first-come-first-serve stalls are clearly marked on apps and on site, the CEC should stimulate product offering innovation and competition rather than constrain the market to specific product definitions.

10. *If a truck is charging at a first-come-first-served charger at a site that also allows reservations, and a scheduled reservation arrives while the charger is still in use, what is the protocol?*

    In this scenario, maintaining a seamless and reliable customer experience is critical. The ability to manage reservations effectively while accommodating first-come-first-served users is an important factor in differentiating service providers. Ensuring that reservation systems are designed to prevent double-booking conflicts will be essential for maintaining customer trust and operational efficiency. This example underscores the importance of allowing market competition to drive improvements in customer experience and app performance.

11. *How does a project with a reservation system benefit the state of California?*

    An infrastructure project with a reservation system offers significant benefits to California and its

residents by improving efficiency, sustainability, and accessibility. By reducing wait times and optimizing infrastructure usage, these reservation systems enhance operational efficiency while minimizing emissions from idling and searching for chargers, directly contributing to California's sustainable transportation goals. The streamlined and reliable access system would attract diverse operators and encourage widespread EV adoption in the MDHD sector, fostering economic growth throughout the state. This increased adoption and improved freight efficiency delivers meaningful benefits to local communities affected by logistics operations - reducing congestion and improving air quality for Californians. It also supports the charging business model, which in turn, supports additional private sector investment in MDHD charging in California. Specifically, it allows charging operators to have greater insight into demand, take steps to maximize utilization, and better plan their operations and business. While reservation systems can provide important benefits, they also highlight the broader need for expanded charging infrastructure at warehouses and the accelerated adoption of MCS and fuel cell EV technology for heavy-duty applications. To maximize long-term benefits for California, we recommend that CEC incentives prioritize addressing these foundational challenges while allowing public charging site operators to compete on customer experience and service offerings.

12. *Are there driver safety or equipment protection issues that the CEC must consider when determining whether a charger should be "public"? Could a charging site be open to the public without attendees on site?*

    There are certainly key safety, equipment protection, and site security controls for EV charging sites, but we would recommend deferring to relevant state and local codes and entitlement conditions to regulate these matters. Within these constraints, whether a site should be attended or not can then be a competitive customer experience design choice by a site operator.

13. *Are there standardization or communication protocol issues that the CEC needs to consider when developing "public" / en route charging eligibility criteria for CEC funding opportunities?*

    It is important that any standardization and protocols constraints placed by the CEC on funding recipients align with CARB standards to ensure cross-regulatory consistency. We would encourage OCPP as a communication protocol standard. We would also encourage agnosticism about CCS1 or NACS charging connectors due to the emergence of OEM approved inter-standard adapters. We would also encourage flexibility over MCS standard eligibility at this time as retrofit and adapter options are expected to emerge to ensure backward compatibility.

14. *Please describe your optimal public charging network that is a mix of first-come-first-served and reservation systems throughout CA.*

    Our optimal public charging network is configurable without ratio constraints and at a node level to best serve demand competitively at any time. A probable scenario is that as MCS EVs adoption accelerate the demand for reservation systems will go down. To remain competitive in such a scenario, a charging network operator must be able to adjust their policy at a node level in response to customer demand signals. A charging operator may choose to defer infrastructure build out if they sense they can be more competitive in an MCS future without CEC maximum limits on first-come-first-serve ratios.

15. *Please describe your optimal site configuration.*

    Our optimal site configuration will depend on market conditions around the specific node. Nonetheless, a safety net rule of 10% of charging stalls (but at least one) as the minimum first-come-first-serve allocation of a CEC funded "public" site can be considered compatible.

16. *If using a reservation system, please describe your optimal set of rules and parameters of how a reservation system would work.*

    Parameters are already set by new CARB LFCS FCI definitions for a shared HD site. Our answers to question 9, 10 and 11 are also relevant here in terms of fair access to information about making a reservation and clear terms and conditions to users of a reservation system.