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California Air Resources Board, Mailstop 5B
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RE: Comments on Discussion Document for Developing a Beneficiary Mitigation Plan for California's Allocation of the Volkswagen Environmental Mitigation Trust

Thank you for the opportunity to provide comments on the Discussion Document for Developing a Beneficiary Mitigation Plan for California's Allocation of the Volkswagen Environmental Mitigation Trust released on February 16, 2018. The $423M that California will receive represents a significant opportunity to make investments into zero emission vehicles and charging infrastructure, while mitigating the excess NOx emissions caused by Volkswagen's harmful actions.

ChargePoint is the leading electric vehicle (EV) charging network in the world, with charging solutions in every category EV drivers charge, at home, work, around town and on the road. With more than 47,000 independently owned public and semi-public charging spots and more than 8,000 customers (businesses, cities, agencies and service providers), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every use case. ChargePoint currently has nearly 27,000 charging spots in California, including 274 DC fast chargers. Leading EV hardware makers and other partners rely on the ChargePoint network to make charging station details available in mobile apps, online and in navigation systems for popular EVs. ChargePoint drivers have completed more than 33 million charging sessions, saving upwards of 33 million gallons of gasoline and driving more than 803 million gas-free miles.

Appendix D-2 of the VW Settlement Consent Decree details eligible mitigation projects that each beneficiary can invest in to reduce NOx emissions. Importantly, up to fifteen percent (15%) of a state's trust allocation costs can be put towards deploying new, light-duty electric vehicle supply equipment (EVSE).

ChargePoint encourages CARB to allocate the maximum 15% towards light-duty ZEV infrastructure, which would total roughly $63M. We believe that this investment in ZEV infrastructure will significantly support increased electric vehicle adoption throughout the State, and directly support Governor Brown's recent Executive Order B-48-18 to put 5 million ZEVs on California roads by 2030 and 250,000 EV chargers in the ground by 2025.

Based on the Discussion Document released by CARB, ChargePoint understands that the current recommended allocation to light-duty ZEV infrastructure is $10M, which is roughly 2% of the $423M that will be allocated to California under the Environmental Mitigation Trust. While ChargePoint understands CARB's concern regarding double-counting emission benefits associated with vehicles, and subsequent

decision to not quantify direct NOx reduction benefits from this project category, we would like to propose that this be reconsidered.

The California Energy Commission quantifies NOx reduction benefits from deploying EV charging stations through its Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) at 1.89 tons per year in their most recent 2018-2019 Investment Plan Update. CARB should maintain consistency with the Energy Commission, which has led deployment of EVSE over the last decade, totaling approximately 7,700 charging stations with nearly $80M of investments.

Additionally, both Minnesota and Colorado have quantified NOx reduction benefits from EV charging stations in their Beneficiary Mitigation Plan for the Volkswagen Environmental Mitigation Trust. Colorado estimated NOx reduction benefits at 15-20 tons/year for EVSE, while Minnesota estimated NOx reduction benefits at 1.1 tons/year for their EVSE plans. As many other states are looking to develop and finalize plans of their own, California should take a leadership position by demonstrating its commitment to ZEVs by committing to the full 15% for ZEV charging infrastructure and quantifying NOx emissions from this eligible mitigation action.

Since 85% or more of the funding allocated to California under the Volkswagen Environmental Mitigation Trust is to be spent on the replacement or repowering of medium, heavy-duty vehicles and refueling infrastructure, double-counting should not be a concern for quantifying NOx emission associated with deploying charging infrastructure to support light-duty ZEVs. Each charging station deployed will result in a quantifiable amount of gallons of gasoline avoided, and will be able to support the growing number of ZEVs on California's roads.

ChargePoint wholly supports ensuring that at least 35% of the funds from light-duty EVSE go towards projects that benefit disadvantaged or low-income communities.

ChargePoint recommends that light-duty EVSE programs be structured to provide rebates, vouchers, or a straightforward competitive grant solicitation, depending on the targeted use case. Rebate and voucher-based programs align best with Level 2 charging programs, which can quickly and effectively support the deployment of EVSE to meet a wide range of charging needs with minimal administrative costs. RFP-based grant programs are best aligned with deploying DC fast charging stations, which can facilitate the strategic deployment of corridors and other use cases for faster charging equipment and services.

We would like to specifically highlight the California Energy Commission's Block Grant for EV Charger Incentive Projects, and their first incentive project, the Fresno County Incentive Project, as an example of a voucher program that we would support. Both the Energy Commission and the program administrator Center for Sustainable Energy (CSE) have done an excellent job creating a program that is able to quickly and efficiently get chargers in the ground with an easy and streamlined application process.

The Fresno County Incentive Project also requires that all Level 2 stations be ENERGY STAR certified in order to receive incentives. Requiring ENERGY STAR certification is not just about energy efficiency and minimizing standby energy consumption, but also about electrical personnel protection systems required for safety. Recognized third party certifications start everyone on a level playing field for energy savings and safety, and ChargePoint encourages that CARB adopt ENERGY STAR certification requirements for any Level 2 charging station that is funded.

For DC fast charging, ChargePoint recommends the following be the foundation for any RFP or solicitation:

1. **Equipment Scope**
    a. Sites should require at least 2 DCFC stations for redundancy (best user experience)
    b. Sites should require at least one Level 2 station since not all vehicles can DC fast charge
    c. Sites should require CCS and CHAdeMO connector standards
    d. Promote shared or distributed power solutions to serve the vehicles of today and tomorrow
    e. Power requirement should be at the kW and voltage level
        i. 50kW min
        ii. 400V – no passenger cars on the road today can charge above 400V and most planned models are not expected to exceed 400V
    f. Future proofing
        i. Promote solutions that do not waste initial capital investment and stations needing to be ripped out and replaced
        ii. Utility transformer upsizing to account for future demand
        iii. Make ready (stubbed out wire and conduit) to account for future demand

2. **Site Selection**
    a. Site selection should align with the FHWA Alternative Fuel Corridors
        i. Max 120mi spacing between sites – should be reduced to 75 or 50 in dense metro areas
        ii. sites should located within 2mi of the highway on/off ramp
    b. Sites should have amenities for drivers, be well lit, and safe

3. **Funding**
    a. We recommend that CARB pay for 80% of project costs and awarded vendor is responsible for ongoing operational costs
    b. We recommend pilot programs with demand charge relief
    c. Stations should be operational and maintained for at least 5 years
    d. Funding should cover a warranty/maintenance plan that covers malfunctions, accidents, and vandalism
    e. 95% annual uptime guarantee and 2 business day response time to failures

ChargePoint also supports CARB's focus on zero-emission technologies for transit, school, and shuttle bus, class 8 freight and port drayage trucks, forklifts and port cargo handling equipment, and airport ground support equipment. Investments in zero-emission vehicles will lead to long-term transportation emissions reductions. All vehicles that receive funding should be required to have the ability to charge on standard EV charging stations, such as J1772-CCS. Investing in vehicles that use these standards and associated infrastructure will allow publicly accessible charging stations to be leveraged for charging other vehicles, and will not lock vehicle owners and fleet operators into a single vehicle OEM.

Thank you for your consideration. If you have any questions, please contact me at anthony.harrison@chargepoint.com or (408) 656-4292.

Sincerely,

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