SMART EV CHARGING GROUP

April 23, 2018

Clerk of the Board
California Air Resources Board
101 I Street
Sacramento, CA 95814

Re: *Smart EV Charging Group Comments on the 2018 Proposed Amendments to the Low-Carbon Fuel Standard Regulation*

Sonoma Clean Power Authority, Clean Power Alliance of Southern California, East Bay Community Energy, Lancaster Choice Energy, MCE Clean Energy, Monterey Bay Community Power, Peninsula Clean Energy, San Jose Clean Energy, Silicon Valley Clean Energy, the Regional Climate Protection Authority, the Center for Climate Protection, eMotorWerks, ChargePoint, EVBox,Volta, and CBL Markets, collectively known as the Smart EV Charging Group, provide the following comments on the 2018 Proposed Amendments to the Low Carbon Fuel Standard (LCFS) Regulation (Proposed Amendments). As discussed below, the Smart EV Charging Group supports the California Air Resources Board (ARB) staff's initiative and foresight in developing proposed LCFS amendment language that would encourage the expanded use of low carbon resources in electrifying the state's transportation networks. The Proposed Amendments would create a holistic approach to recognizing and incorporating community choice aggregators (CCAs) into the LCFS market and will mark an important step forward for LCFS policy development and integration of California policy initiatives.

SUMMARY OF COMMENTS

The Smart EV Charging Group supports the general direction of the proposed amendments, but offers numerous changes that would better effectuate the ARB's intent to encourage a robust and diverse EV transportation network. Further expanding the opportunity for entities, particularly beyond the electric distribution utilities (EDUs) for residential EV charging, to generate and administer LCFS credits for transportation electrification has enormous potential to reduce emissions associated with the transportation sector. The proposed approach of enabling the generation of LCFS credits reflecting the incremental impact of lower carbon intensity (CI) electricity supply and time of use is reasonable and a good foundation for creating an LCFS that more accurately reflects the differential between the statewide grid average and electricity actually supplied. The Smart EV Charging Group's recommendations include the following modifications to the Proposed Amendments, which are discussed below and detailed in regulatory text changes in Attachment 2. The Smart EV Charging Group encourages the ARB to:

I. Adopt the proposed approach of allowing the generation of "incremental credits" reflecting improvements (over the California Average Grid Electricity Pathway) in carbon intensity of electricity. We support the inclusion of multiple methods for accounting for renewable electricity charging in this rulemaking cycle. We commend

the ARB for broadening opportunities for credit generation within residential EV charging. The Proposed Amendments should explicitly clarify that the ARB can rely on actual LSE carbon intensity documentation in addition to REC retirement. In the case of REC retirement, the final Regulation must be administratively feasible and efficient.

II. Revise the Base Credits provision to identify the LSE serving generation to residential load (which may be an EDU or a CCA), rather than solely the EDU, as the base credit generator.

III. The ARB should establish a simple customer-choice based hierarchy for awarding incremental credits for Low-CI supplied electricity. Under this hierarchy proposal, the EDU would be eligible as the default incremental credit generator for residential EV charging load not claimed by any other party for a calendar quarter. We We recommend the ARB undertake a thoughtful examination of instituting a hierarchy, including consideration of the role load-serving entities and metered charging, relative to automobile telematics. Automobile telematics may contribute to EV adoption, but will likely have less effect on procurement of low CI fuel. ARB must ensure orderly administration and operation of the LCFS market as it initiates incremental credits

IV. Non-Residential LCFS Credits should be granted based on customer choice of the FSE.

V. Streamline credit trading so smaller entities that hold relatively modest credit volumes can more easily monetize credit volumes at market prices.

DISCUSSION

I. Comments and recommendations regarding LCFS Incremental Credits

A. The Smart EV Charging Group supports establishing a method for reflecting incremental improvements in CI for EV charging, in addition to REC retirements.

The per-vehicle LCFS credits have been historically granted exclusively to the EDUs supplying electricity for residential EV charging. The credits represented the emissions reductions associated with replacing a gasoline vehicle with an EV and were based on the assumption that the EV was charged at the statewide average rate of emissions for the electric sector. This framework reflected assumptions that: 1) all electric supply portfolios had uniform emissions; 2) EDUs were the sole drivers of marginal EV adoption in their service territories; 3) the EDUs were solely responsible for procuring electricity to supply the EVs; and 4) the EDU's ability to provide rebates would spur new EV deployment. These assumptions may have been appropriate at the outset of the LCFS program, but they do not accurately reflect California's current EV and electricity landscape. In particular, the after the fact rebates provided by the IOUs through their

LCFS revenue do little to spur new EV deployment when compared to programs like Sonoma Clean Power's Drive Evergreen program. It is timely and appropriate to amend the LCFS regulations to recognize the emergence of non-EDU load serving entities (LSEs).

The Proposed Amendments should be refined to better acknowledge the ability of CCAs and EVSPs to quickly enact EV and transit programs. The Proposed Amendments should also better reflect the fact that the CI of electricity used for EV charging is directly affected by its source and by time of use.

As noted in the Smart EV Charging Group's December 4, 2017 comments the Smart EV Charging Group agrees with the fundamental logic of allowing the generation of incremental credits that reflect the delta between: 1) credits reflecting the statewide CI of electricity used for residential charging, and, 2) the lower CI of electricity supplied by an LSE (specifically new and emerging CCAs), onsite renewables, or reflecting time of use. To implement this, the Proposed Amendments would create a Tier-2 process where incremental low-CI EV credits would go to any party that can substantiate charging by a CARB approved green tariff program, or other contractual low-CI electricity supply relationship, so long as the RPS or other environmental attributes are not retired or counted towards other compliance requirements.[1] As GHG emissions are directly reflected by carbon intensity we continue to support GHG-based accounting and verification. While both EDUs and CCAs currently have RPS compliance obligations, the regulations should account for the fact that in the future, utilities will likely be measured by the carbon intensity of their portfolios, not just RPS compliance. This is the intent of AB 32, SB 32, SB 350, AB 1110 and the IRP processes.

While we do not dispute the use of the renewable attributes, or "RECs", such as used for RPS compliance, for measuring LCFS credits as one pathway to establishing incremental low-CI credits, we believe that the ARB should be clearer that other carbon-based accounting metrics can be used to generate incremental credits. We propose that the Regulatory Language be amended to reflect that, in a future GHG-based compliance framework, incremental credits for clean charging are applied to CI reductions below the state-wide average. That is, if 300 lbs/MWh is the state-wide average, an LSE with a supply of 200 lbs/MWh would be able to apply the difference – 100 lbs/MWh – to generate LCFS credits.

The Smart EV Charging Group understands the staff's proposed amendments are intended to create a flexible process that would allow for this type of carbon-based accounting in a Tier-2 application. Assuming this understanding is correct, the Proposed Amendments to sections 95483(c), 95483.1, 95486.1(c), and 95488.8 generally present a reasonable approach but should be revised to make clear that other CI accounting metrics can be used in place of the REC retirement process. Please see Attachment 2, Section I.

[1] See section 95488.8(h)-(i).

B. The Smart EV Charging Group recommends revisions and clarifications for use of REC retirements to support Incremental Credit generation.

Eligible renewable attributes for purposes of the Low Carbon Fuel Standard program should be consistent with the rules of California's Renewable Portfolio Standard (RPS) and utilize Western Renewable Energy Generation Information System (WREGIS) for registration, tracking, trading and retirement. Renewable attributes could be retired with the stated purpose of "LCFS", which could be established with WREGIS formally. The vintage of the generation producing the renewable attribute would be associated with the retirement transaction. ARB should allow for non-Fuel Reporting Entities to initiate the retirement transaction at WREGIS on behalf of a Fuel Reporting Entity, similar to convention in the voluntary renewable attribute procurement market.

The Smart EV Charging Group recommends that the data required to support retirement transactions be reasonable and not overly burdensome. Reports from WREGIS showing proof of renewable attributes retirement should be sufficient.

ARB has proposed that renewable attributes must be generated within the last two calendar quarters in order to apply for Incremental Credits resulting from EV charging. Given the processes at WREGIS, there is typically a one quarter lag between renewable generation and when the renewable attribute is available at WREGIS for transactions. As a result, there may only be one quarter of generation available for matching with EV charging volumes. ARB should examine whether additional latitude can be granted to Fuel Reporting Entities to provide an actual four quarters' range of data. In addition, the Fuel Reporting Entity should have until 90 days after the calendar quarter to provide evidence of retirements, even if Fuel Transactions have already been submitted to the ARB.

Finally, in order to avoid unnecessarily burdensome administration by Fuel Reporting Entities and ARB Staff, the Tier 2 Pathway application process should be waived for Entities utilizing WREGIS retirement transactions to generate Incremental Credits. Fuel Reporting Entities should be able to utilize an "Offsite Renewable Energy Generation" option from the drop-down menu or spreadsheet template for the Fuel Transactions reporting process. As long as the Fuel Reporting Entity provides confirmation of the equivalent renewable attribute retirements at WREGIS with the stated purpose of LCFS, then these Incremental Credits should remain deposited in the Entity's balance account. If such confirmation is not provided, then the Incremental Credits could be nullified by ARB. ARB should define a simple way to provide this confirmation within the current reporting system and processes, if possible, and avoid a requirement that a Tier 2 Pathway application would be filed for every Fuel Station Equipment Facility location seeking to utilize an "Offsite Renewable Energy Generation" carbon intensity value.

II. The LCFS regulations should reflect the fact that EDUs are no longer the sole driver of additional EV adoption and transportation electrification.

While the Proposed Amendment language enabling other entities to generate incremental residential credits mark an improvement to the LCFS regulations, the Proposed Amendments

continue to identify the EDU as the exclusive credit generator of base credits for residential metered and non-metered loads. This approach reflects anachronistic assumptions and should be reexamined.

As the LCFS is intended to lower the GHG intensity of transportation fuels, it is reasonable that the "fuel" provider – in this case, the electricity provider – should garner the base credit for displacing diesel and gasoline. According to a recent CPUC white paper, some estimate that up to 85 percent of retail load historically served by IOUs will be served by CCAs (or other non-IOU sources) by the mid-2020s.[2] In light of this trend, it is inequitable and inaccurate to continue to assume that the EDUs will be the de facto providers of generation service to residential load, and the de facto administrators of programs aimed at expanding EV adoption. Instead, residential base credits should be allocated to the entity serving the load.

The shift to CCAs is a positive development for the complementary goals of increased EV adoption and charging from the cleanest sources possible. CCA LSEs are taking increasingly active roles in stimulating first-time EV purchases. As not-for-profit institutions with focused territories and leadership elected by the communities they serve, CCAs have a uniquely strong understanding of and communication with their customers. Moreover, many CCAs were established with the specific charter of reducing community-wide GHG emissions, not just by reducing emissions intensity in the electricity supplied, but also by encouraging fuel switching from fossil fuels to clean electricity on a broad scale. Given the connection to local government, many transit agencies are prepared to work with CCAs in furthering large-scale electrification networks (e.g. EV buses).

CCAs are best suited to administer the funds generated from the LCFS in furtherance of EV charging in the local communities. As non-profit agencies, CCAs have both tools and motivation to tailor EV-related programs to the specific needs and barriers to adoption that occur in their communities. The current EV rebates provided through the CPUC's program are relatively small, and not well-publicized. Additionally, as Board Member Sperling pointed out in his April 19, 2018 interview on Capitol Public Radio with Beth Ruyack, the large IOUs provide EV rebates after the point of purchase, which has little effect on the customer's decision to switch from a gasoline vehicle to an EV. The parties to these comments do not believe the current rebate system meaningfully facilitates EV growth. Better programs can and should be designed to facilitate new EV growth and transportation electrification.

For example, Sonoma Clean Power (SCP) was a pioneer in demonstrating how CCAs can support and encourage transportation electrification. SCP established its EV program, which was funded solely by SCP customers (i.e., no state contribution), in the Summer of 2016. The program has already exceeded its original objectives for expanding EV adoption and smart EV charging. For example, 773 additional EVs were sold in 2016 and 2017, putting SCP well ahead

[2] CPUC Staff White Paper, "Consumer and Retail Choice, the Role of the Utility, and an Evolving Regulatory Framework". Issued May, 2017. Available online at: http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/News_and_Updates/Retail%20Choice%20White%20Paper%205%208%2017.pdf

of its goal of 1,000 EVs by 2020. Particiapnts received an average discount of over $11,000 (before State and Federal tax incentives) and learned of the program through direct mailers from SCP, word of mouth, and newspaper advertisements.[3] In addition, over 1,700 charging stations have been installed on customer sites through a complementary program. In Southern California, the Antelope Valley Transit Authority (AVTA) set a goal of becoming the nation's first fully electric fleet by the end of 2018, and plans to convert all of the agency's aging diesel buses to a 100% battery electric bus fleet with up to 85 new all-electric buses.On September 1st, 2017, AVTA made history by becoming the world's first transit agency to operate a 60' all-electric articulated bus in revenue service Charging infrastructure is another component of the project, which will use high-power wireless inductive chargers to help power the new zero-emission buses. These chargers will allow the electric buses to charge wirelessly simply by driving the vehicles over charging pads embedded into the ground. Several other CCAs and transit agencies are developing similar programs, and their collective influence on EV adoption will only increase as communities across the state continue to bring new CCAs online. Enabling CCAs to access LCFS credits associated with their residential customers' full load (i.e., the base credit in addition to incremental low-CI credits) will enhance the CCAs' ability to develop, market, and support EVs, EV charging programs, and EV public transit programs in their respective territories.

The Smart EV Charging Group recommends providing the entire residential base credit to CCAs. The existing process wherein EDU applications and EV VIN numbers are used to verify and grant residential LCFS credits can be adapted to allocate residential base credits between CCAs and EDUs. CCAs serve the vast majority (typically over 90%) of residential customers in their service territory, so a reasonably simple approach would be to assume every EV registered in that city or county takes residential generation service from the CCA. Alternatively, a very similar framework to what is used today could be used to verify which provider a specific customer takes service from. Today, EDUs regularly submit a spreadsheet (called a "4013") to CCAs and their billing departments. This spreadsheet lists every customer in the service territory by name and address, with an indication of whether they take generation service from the EDU or CCA. This snapshot could be coupled with CARB's existing database showing addresses of EV owners to verify which entity provides generation service to a specific residential customer. This, in turn, would determine which entity (the EDU or CCA) earns and administers the corresponding credit for that residential EV charging load.

III. The regulations need to establish a customer choice-based hierarchy for claiming incremental credits in order to provide clarity and order in the incremental credit evaluations.

The ARB should enable non-EDUs ability to generate LCFS "incremental credits" from EV charging and create a hierarchy for generation of such credits.. The 45-day Proposed

[3]Orose, Jamie; Pallonetti, Nicholas; and Jones, Michelle (2018), "Drive EverGreen 2.0 Incentive Program: Final Evaluation Report," Center for Sustainable Energy, San Diego CA, April 2018. Available online at:
https://sonomacleanpower.org/wpcontent/uploads/2016/03/DEG2.0_EvalReport_FINAL.pdf

Amendments do not establish any priority or hierarchy for entities seeking to generate incremental credits associated with metered or unmetered residential EV charging. Instead, the Proposed Amendments simply say that "any entity, including any EDU" may generate incremental credits by registering the fuel supply equipment (FSE) and identifying an existing or new fuel reporting pathway. The Proposed Amendments further provide that no incremental credits will be issued in the event that two or more entities report for the same FSE.

This lack of hierarchy and recognition of customer choice, including changes over time, is problematic. It will lead to confusion and uncertainty where the customer may have a relationship with multiple entities eligible to generate LCFS credits. For example, a residential customer may be a customer of CCA, install an manufacturer's EVSE subsidized by an EDU or CCA program, to charge an electric vehicle, and utilize the services of an electric vehicle service provider ("EVSP). The existing protections (i.e., that double reporting of an FSE will nullify the credit) is not an effective solution here. The goal of the program is to optimize the generation of incremental LCFS credits and provide an incentive for the expanded use of clean energy for residential charging load.

Establishing a simple hierarchy based on customer service provider and customer choice makes sense. The Smart EV Charging Group specifically recommends that:

- EDUs should only be eligible to claim incremental credits for any calendar quarter based on the estimation methodology for incremental low CI service provided to residential customers served by the EDU and whose FSE has not been registered by and reported by another Fuel Reporting Entity.
- Incremental credits may be claimed by non-EDU Fuel Reporting Entities for metered or unmetered residential EV charging through FSE registration authorized by the customer, or subsequent to original FSE registration as authorized by the customer.

This hierarchy will minimize the potential for unclaimed incremental credits by delineating between base and incremental credits for all residential EV charging volumes receiving incremental low-CI service. It will minimize conflicting reporting by non-EDU Fuel Reporting Entities by providing that the eligible reporting entity will be determined by evidence of explicit customer choice.

IV. Non-Residential LCFS Credits should be granted based on customer choice of the FSE.

For the same reasons discussed above, the Smart EV Charging Group is opposed to the open-ended provision that "any entity" may generate credits for non-residential charging as long as it meets program requirements and "no other entity is generating credits for the electricity dispensed through the same FSE." This is likely to create confusion and uncertainty among customers and program participants, and could result in credits being forfeited by multiple parties reporting the same load. The solution here is simple. Any entity should be allowed to claim credits for non-residential charging as long as the entity can establish that it has been selected by the owner of the FSE to do so. Evidence of customer choice should not be based

solely on registration of the FSE, as multiple parties may have access to the FSE identifying information and/or the FSE may change hands over time. Evidence of customer choice should be a written authorization by the customer to the entity reporting the credits.

For consistency, the Smart EV Charging Group would support a similar approach for Electric Forklifts and Other Mobile Freight Equipment and Electric Transport Refrigeration Units.

In order to ensure that all non-residential EV charging is accounted for, the regulations should authorize the LSE (EDU or CCA) providing generation service to generate credits for loads not registered and reported by the customer or its designee.

Finally, the Proposed Amendments creating a green tariff/low-CI approach are only available to electric vehicles and electricity used to generate hydrogen for vehicle usage. This excludes program eligibility to an entire class of vehicles, "fixed guideway systems" such as BART, San Francisco MUNI, and potentially the Sonoma and Marin counties' SMART rail service. The exclusion may also discourage EV charging in new EV program that public transit agencies may wish to deploy for buses. Eligibility should be extended to this class of transportation vehicles. Additionally, the green tariff is only open to the use of solar and wind resources. This excludes other RPS-eligible resources, such as biomass, geothermal, and in some cases, hydroelectric resources. These RPS-eligible resources should be included in the green tariff definition.

V. Encourage trading of small volumes of LCFS credits by enabling more trading opportunities for LCFS credits.

The ARB should allow for both spot and futures exchanges to provide clearing services for LCFS transactions. As set forth in Attachment 2, Section V, the ARB should amend the regulation to create opt-in exchange/clearing account eligibility requirements, which would create an opportunity for brokers to aggregate volumes of LCFS credits in both spot and futures transactions.

A physical spot market and futures market would be a great benefit to state and municipal agencies with charging infrastructure and load. In contrast to larger covered entities who already have the staff and systems in place for trading on futures exchanges, a physically cleared spot exchange would offer many of the benefits of exchange trading - anonymity, transparency, compliance flexibility, price discovery - without having to accept less than fair market value for their LCFS credits. When entities transact small volumes of credits and do not have enough LCFS credits to meet the minimum lot size of the futures contract they are often price "takers" in a futures market.

Futures and derivative markets are inherently more complicated and risky with embedded barriers to entry, including establishing cash margin accounts and satisfying counterparty risk assessments. Exchange traded spot markets require minimal daily operational management from participants (there are no requirements to manage futures positions, rolling or margin calls) and as such, costs are low and transparent, making prices accessible to all market participants.

An exchange traded spot market would ensure equal access to fair market value for all participants by enabling smaller entities, such as renewable energy and fuel producers, and Community Choice Aggregators, municipal utilities and local agencies to access the market at a reduced cost without prohibitive barriers to entry.

An exchange traded spot market will provide participants in the LCFS Market (including covered & non-covered entities, credit originators and brokers):

- Fair, orderly and transparent marketplace;
- Real time price discovery;
- Confidence of a secure clearing and settlement arrangement;
- Reduced long-term capital requirements associated with derivatives products;
- Market data and analytics

The inclusion of spot and futures clearing services will provide greater market access and efficiency to all sizes of covered entities, and confidence in the market-based components of the LCFS program will increase. In turn, this will stimulate investment in alternative fuel development, enabling least cost compliance with the LCFS program.

- Increased access to exchange trading will lead to increased liquidity in futures and over the counter broker market;
- Covered entities will have access to multiple venues for exchange cleared transactions, increasing liquidity and lowering costs
- The development of a clear CI price signal for the fuels market; and
- Lower transaction costs and greater efficiency in the market will enable covered entities to meet their obligations more efficiently with less cost to the end-consumer.

CONCLUSION

The Smart EV Charging Group generally supports the proposed amendments to the LCFS regulation because they would take an important step forward in enabling new incentive mechanisms for EV charging in California. As discussed herein, the ARB should release an additional "15-day language package" that would either make the base credit available to the load serving entity of residential EV charging load, and create an incremental credit prioritization and residual credit generation that reflects customer choice. In addition, the ARB should extend program eligibility to "fixed guideway systems" such as electric transit and light-rail vehicles. The Smart EV Charging Group appreciates the opportunity to provide these comments and looks forward to working with the ARB staff in facilitating EV growth across the state.

Respectfully submitted,

/s/

Neal Reardon
Director, Regulatory Affairs
Sonoma Clean Power Authority
On behalf of the Smart EV Charging Coalition

ATTACHMENT 1

About Sonoma Clean Power Authority

Launched in 2014, Sonoma Clean Power Authority is a CCA serving approximately 600,000 customers in Sonoma and Mendocino counties. SCP is a not-for-profit public agency established under the California Public Utilities Code, independently run by the participating cities of Cloverdale, Cotati, Fort Bragg, Petaluma, Point Arena, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, Willits, Windsor, and the two participating counties. SCP's goal is to lower community-wide greenhouse gas emissions while providing customers with stable and competitive electric rates and supporting local economic development. SCP has ambitious plans for supporting transportation electrification in its service area and has implemented policies and programs specifically aimed at supporting investment in electric vehicles and smart EV charging stations.

About Clean Power Alliance of Southern California

Clean Power Alliance of Southern California (formerly Los Angeles Community Choice Energy) has been serving LA County municipal accounts since February 2018. In June 2018 the Alliance will begin offering service to non-residential customers in its three original member territories, and throughout the first half of 2019 will enroll all customers in its remaining 28 member jurisdictions. Participating cities and territories include: Agoura Hills, Alhambra, Arcadia, Beverly Hills, Calabasas, Camarillo, Claremont, Culver City, Downey, Hawaiian Gardens, Hawthorne, Los Angeles County, Malibu, Manhattan Beach, Moorpark, Ojai, Oxnard, Paramount, Redondo Beach, Rolling Hills Estates, Santa Monica, Sierra Madre, Simi Valley, South Pasadena, Temple City, Thousand Oaks, Ventura, Ventura County, West Hollywood, and Whittier.

About East Bay Community Energy

East Bay Community Energy will serve 11 cities across Alameda County including Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Oakland, Piedmont, San Leandro, and Union City. Service Launching June 2018: EBCE will begin Phase 1 enrollments in June 2018 for most municipal and commercial accounts. Residential enrollment will occur in late fall 2018.

About Lancaster Choice Energy

Launched in 2015, LCE services ~55,000 customers in Lancaster, located in north Los Angeles County. LCE offers ClearChoice 35% renewable and SmartChoice 100% renewable energy service, with approximately half of its customers eligible for low-income energy programs. Lancaster is aiming to be the nation's first zero net energy city.

About MCE Clean Energy

MCE is the first CCA program in California. MCE currently serves over 250,000 customer accounts in the counties of Marin and Napa, the cities of Richmond, San Pablo, El Cerrito, Benicia, Walnut Creek, and Lafayette. In 2018, MCE will expand its service to unincorporated County of Contra Costa, the cities of Concord, Martinez, Oakley, Pinole, Pittsburg, San Ramon,

Danville, and Moraga. The expansion will approximately double the customer accounts served by MCE. MCE's mission is to reduce GHG emissions through renewable energy resources and energy efficiency programs. MCE's default electricity product is 55% renewable, and MCE also offers two additional 100% renewable electricity products. Since 2013, MCE has been administering CPUC-approved Energy Efficiency programs, particularly focusing on low-income and multi-family housing, and is exploring other customer programs, including electric vehicles.

About Monterey Bay Clean Power
Following a multi-year region-wide formation effort in Santa Cruz, Monterey, and San Benito Counties, Monterey Bay Clean Power began serving commercial customers March 1, 2018 and will begin residential service on July 1, 2018. Monterey Bay Clean Power will offer three 100% carbon-free energy service options for customers.

About Peninsula Clean Energy
Peninsula Clean Energy (PCE) is the fifth CCA program formed in the State of California. PCE serves the County of San Mateo and each of the twenty incorporated cities therein. PCE commenced service in October 2016 and, as of April 2017, PCE supplies electricity to all of its approximately 300,000 customers. PCE is committed to serving all of its customers clean affordable electricity with the goal of our energy supply being 100% GHG-free by 2021 and sourced from 100% RPS-eligible resources by 2025. While PCE is still exploring program options to drive climate mitigation strategies in partnership with state programs, PCE is keenly interested in vehicle electrification and developing programs similar to those at Sonoma Clean Power which drive electric vehicle adoption and provide other benefits to our communities.

About San José Clean Energy
On Tuesday, May 16, the San José City Council voted unanimously to establish San José Clean Energy (SJCE), the City of San José's Community Choice Energy program. San José is now the largest single jurisdiction in California to operate a CCE. San Jose Clean Energy is expected to launch in September of 2018.

About Silicon Valley Clean Energy
Launched in April 2017, SVCE serves ~242,000 customers in Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Saratoga, Sunnyvale, and the unincorporated parts of Santa Clara County.

About the Regional Climate Protection Authority
The Sonoma County Regional Climate Protection Authority (RCPA) is governed by a twelve member Board of Directors comprised of representatives from the Sonoma County Board of Supervisors and Council Members from each of the nine cities – Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma and Windsor. The RCPA coordinates climate protection activities countywide and performs a variety of important related functions including advocacy, project management, planning, finance, grant administration, and research.

About the Center for Climate Protection
The Center for Climate Protection is a registered a 501(c)3, with a mission to inspire, align, and mobilize action in response to the climate crisis. The Center works with business, government, youth and the broader community to advance practical, science-based solutions for significant greenhouse gas emission reductions.

About ChargePoint
ChargePoint is the largest electric vehicle (EV) charging network in the world, with charging solutions for every charging need and all the places EV drivers go: at home, work, around town and on the road. With more than 43,000 independently owned charging spots and more than 7,000 customers (including workplaces, cities, retailers, apartments, hospitals and fleets), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every category. Leading EV hardware makers, automakers 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 30 million charging sessions, saving upwards of 29 million gallons of gasoline and driving more than 716 million gas-free miles.

About eMotorWerks
eMotorWerks, an Enel Group Company, developed and operates JuiceNet®, the leading electric vehicle (EV) cloud-based smart charging platform, and the company is the manufacturer of best-selling and bestrated residential EV charging station, the JuiceBox Pro, through Amazon.com and its own web store, with over 25,000 charging stations sold worldwide to date. eMotorWerks embeds the JuiceNet platform in its own residential and commercial EV charging stations, as well as third-party electric vehicle supply equipment (EVSE), including models from AeroVironment, Clipper Creek, Volta, Nayax, and a growing list of other manufacturers. JuiceNet is also being integrated into automobile models for direct smart control of EV charging via vehicle telematics. eMotorWerks is an “Opt-in Party” to the Regulation for EV charging.

About EVBox
EVBox is the leading global manufacturer of electric vehicle charging stations and charging software. With an installed base of over 50,000 charging points across more than 30 countries worldwide, EVBox drives sustainable mobility, by bringing durable electric vehicle charging solutions to the forefront. EVBox's electrical charging solutions are universal and can be operated by any electric vehicle model.

About Volta Charging
Founded in 2010, San Francisco-based Volta has developed, proven and fine-tuned an innovative approach to EV charging. Partnering with national brands that sponsor the public amenity, Volta deploys and operates networked chargers at prominent and convenient community venues such as shopping centers and civic entertainment districts. Charging is offered free to drivers, while site hosts benefit from hardware, installation and lifetime maintenance at no cost. The strategic destinations and careful siting of Volta community charging drive both high utilization and high visibility, establishing Volta as an incredibly effective catalyst for EV adoption. More than two

thirds of non-EV drivers who see Volta's charging amenities say they will consider a plug-in electric vehicle for their next car purchase.

About CBL Markets

Founded in 2010, as Carbon Trade Exchange (CTX) and rebranded as CBL Markets in 2016, CBL operates a spot exchange trading platform for the physical trading of multiple environmental commodities products globally. These include voluntary carbon offsets (Climate Action Reserve, American Carbon Registry, Verified Carbon Standard and Gold Standard), carbon allowances eligible for compliance in the Western Climate Initiative (WCI) and Regional Greenhouse Gas Initiative (RGGI), renewable energy certificates in Australia and the United States, and water allocations and entitlements in the Australia Water Market. CBL Markets' mission is to bring efficiency, transparency and liquidity to environmental markets, CBL connects buyers and sellers to facilitate secure and seamless trading in global environmental markets. Currently the CBL platform clears spot trades for more than 200 environmental products, serving more than 300 customers in Australia, North America and Europe.

ATTACHMENT 2

THE CLEAN CHARGE COMMUNITY RECOMMENDED REGULATORY AMENDMENTS TO 45 DAY LCFS REGULATORY TEXT

I. Adopt the proposed approach of allowing the calculation of incremental credits reflecting improvements (over the California Average Grid Electricity Pathway) in carbon intensity of electricity by amending Section 95488.8(h) and (i) as follows:

(h) Renewable or Low-CI Process Energy. Except as ~~Unless~~ expressly provided Subsection 95488.8(i) ~~elsewhere in this subarticle,~~ indirect accounting mechanisms for renewable or low-CI process energy, such as the use of renewable energy certificates, cannot be used to reduce CI. In order to qualify as a low-CI process energy source, energy from that source must be ~~directly consumed in the production process~~ directly supplied to serve end use load as described in (1) and (2) below

. . .

(i) Indirect Accounting for Renewable Electricity and Biomethane.

(1). Book-and-Claim Accounting for Renewable or Low-CI Electricity Supplied as a Transportation Fuel or Used to Produce Hydrogen. Reporting entities may use indirect accounting mechanisms for renewable electricity to reduce the CI of electricity supplied as a transportation fuel or for hydrogen production through electrolysis, provided the conditions set forth below are met:

(A). Reporting entities may report electricity dispensed to electric vehicles or as an input to hydrogen production (including for purposes of the Renewable Hydrogen Refinery Credit) as renewable electricity without regard to physical traceability if it meets all requirements of this subdivision. The renewable electricity must be supplied to the grid within a California Balancing Authority (or local balancing authority for hydrogen produced outside of California). Such book-and-claim accounting for renewable electricity may span only ~~two~~ four quarters. If a renewable or low-CI electricity quantity (and all associated environmental attributes, including a beneficial CI) is supplied to the grid in one calendar quarter, the quantity claimed for LCFS reporting must be matched to grid electricity dispensed to electric vehicles or for hydrogen production no later than the end of the following three calendar quarters. After that period is over, any unmatched renewable or low-CI electricity quantities expire for the purpose of LCFS reporting.

(B). Low-CI electricity can be indirectly supplied through a green tariff program (including the Green Tariff Shared Renewables program described in California Public Utilities Code Section 2831-2833) or other contractual low carbon electricity supply relationship that meets the following requirements:

1. Electricity is generated using equipment owned by, or under contract to the pathway applicant for all environmental attributes of the project. In order to substantiate renewable electricity claims, the applicant must make contracts available to the Executive Officer, upon request, to demonstrate that the electricity meets the requirements of this subarticle. Generation invoices, contract and/or meter data are required to substantiate the quantity of renewable or low-CI electricity produced from the renewable assets. Monthly invoices must be unredacted copies of originals showing electricity sourced (in kWh) and contracted price;

2. All electricity procured by any LSE for the purpose of claiming a lower CI must be in addition to that required for compliance with the California Renewables Portfolio Standard or, for hydrogen produced outside of California, in addition to local renewable portfolio requirements;

3. Renewable electricity certificates or other environmental attributes associated with the energy, if any, are retired and not claimed under any other program with the exception of the federal RFS.

4. An LSE may supply other information through a Tier 2 application process to establish low-CI electricity based on the annual, historic carbon intensity of the LSE's portfolio compared to the statewide grid average.

II. Revise the Base Credits provision to identify the LSE serving residential load (which may be an EDU or a CCA), rather than the EDU, as the base credit generator, by amending Section 95483(c)(1) as follows:

(c) For Electricity Used as a Transportation Fuel.

(1) Residential EV Charging. For on-road transportation fuel supplied for electric vehicle (EV) charging in a single-or multi-family residence, there are multiple possible credit generators:

(A) Base Credits. For residential EV charging, the EDU is the credit generator for base credits for EV charging in its service territory unless a Community Choice Aggregator has opted into the program and hence will become the base credit

generator. The EDU or CCA as applicable, must meet the requirements set forth in paragraphs 1. through 5. in section 95491(d)(3)(A).

(B) Incremental Credits. Any entity, including an EDU, is eligible to generate incremental credits (in addition to the base credits) for improvements in carbon intensity of electricity used for residential EV charging. An EDU that generates incremental credits must meet the requirements set forth in paragraphs 2. through 5. in section 95491(d)(3)(A).

III. If the ARB does not change the EDUs' ability to generate base credits, then it should establish a simple customer-choice based hierarchy that retains the EDU as default credit generator for EV charging load not claimed by any other party by amending 95483(c)(1) as follows.

(c) *For Electricity Used as a Transportation Fuel.*

(1). *Residential EV Charging.* For on-road transportation fuel supplied for electric vehicle (EV) charging in a single- or multi-family residence, there are multiple possible credit generators:

(A). *Base Credits.* For residential EV charging, the EDU is the credit generator for base credits for EV charging in its service territory. The EDU must meet the requirements set forth in paragraphs 1. through 5. in section 95491(d)(3)(A).

(B). *Incremental Credits.* Any entity, including an EDU, is eligible to generate incremental credits (in addition to the base credits) for improvements in carbon intensity of electricity used for residential EV charging. An EDU that generates incremental credits must meet the requirements set forth in paragraphs 2. through 5. in section 95491(d)(3)(A). The EDU can generate incremental credits for residential EV charging during a quarter only if not claimed by any other entity under this subparagraph B.

In addition, the references to "fuel reporting entity" throughout should be clarified. For example, in Section 95483 – the "purpose of the section" is to identify the "first fuel reporting entities" and credit generators. But the subsection dealing with electricity doesn't mention fuel reporting entity for residential and non-residential charging, but then does in subsequent sections referring to guideway systems, forklifts, etc. Then, in Section 95483.1(a) the opt-in language seems to use the terms interchangeably – referring to "credit generator" in the first sentence, but "fuel reporting entity" in subsection (1)(A), which is the "opt in" section that would seem to apply to CCAs or EVSPs. Section 95482 refers to the entity "identified in section 95483" that is "responsible" for reporting a transportation fuel. As noted, customer choice should dictate the Fuel Reported Entity, when applicable, such as for incremental credits from residential EV charging and non-residential EV charging, rather than "first" claim.

The ARB should also clarify the meaning of "an entity" in 95483(c)(2). The proposed language provides that "For electricity supplied for EV charging for on-road applications through non-residential charging equipment, an entity may generate credits…" as long as it meets program requirements and "no other entity is generating credits for the electricity dispensed through the same FSE. Simply saying "an entity" would allow anyone to claim credits for any non-residential charging (as long as they could access and register the FSE), rather the Smart EV Charging Group would recommend replacing "an entity" with "an entity that owns or operates the non-residential EV charging equipment, or its designee."

Finally, the ARB should amend Sections 95483(c)(3), 95483(c)(4) and 95483(c)(5) to identify the LSE as the presumed back up credit generator for Fixed Guideway Systems in (c)(3), electric forklifts in (c)(4) and electric transportation refrigeration units in (c)(5). The ARB should replace the phrase "the EDU" with "the LSE supplying electricity to power the Fixed Guideway System".

IV. Extend program eligibility to "fixed guideway systems" such as electric transit and light-rail vehicles by amending Section 95491(d)(3)(D) as follows:

> (D) For Fixed Guideway Systems. The quantity of electricity used for transit propulsion (in kWh) must be reported per FSE with a certified FPC and with transaction type "Fixed Guideway Electricity Fueling". FSE ID is assigned by system during the registration as specified in section 95843.2(b)(8). <u>FPCs eligible to generate incremental credits pursuant to 95483(c) may also be eligible to generate incremental credit generation for fixed guideway systems.</u>

As noted in our comments in Section III of this Attachment above, the ARB should amend 95483(c)(3) to identify the LSE as the presumed back up credit generator for Fixed Guideway Systems in (c)(3). The ARB should replace the phrase "the EDU" with "the LSE supplying electricity to power the Fixed Guideway System".

V. Enable greater trading of LCFS Credits

Adopt the proposed approach of allowing exchange clearing service provider accounts in the LRT-CBTS, and thereby allowing temporary custodial ownership of LCFS credits for clearing/escrow purposes. Section 95483.1(a)(3)(A) should be amended to adopt Opt-In exchange/clearing account eligibility requirements that enable spot <u>and</u> futures exchanges and clearing services. Require an entity seeking to provide futures clearing to be a licensed Derivatives Clearing Organization (DCO) registered with the Commodities Futures Trading Commission (CFTC). However, for spot market clearing service providers, we encourage the ARB to not include this requirement as recommended in the Proposed Amendments. Such a requirement would prevent spot exchanges from offering spot clearing of LCFS credits, denying many small and medium-sized entities and fuel producers, many of whom are not able to trade futures/derivatives, the benefits of exchange trading.