



Re: Oregon CFP Discussion comments

October 12, 2020

Introduction

FlexCharging, Inc. ("Company") is an electric vehicle data analytics and managed charging provider that uses existing vehicle telematics; No hardware required. Customers download the FlexCharging app and we provide charging that improves battery life, lowers cost, and can choose charging schedules that reduces emissions. As I'm sure DEQ, is aware grid emissions changes throughout the day as renewables and load moves up and down.

We collect data from over 95% of the models of battery electric vehicles and will share anonymized charging data with governments and utilities.

Comments

We are providing comments to DEQ to support the changes and improvements to the CFP program. We wish to make the DEQ, the state, and stakeholders aware of the available technology that could be used to improve the accuracy and performance of the EV Charging credits, and promote CFP credits to be given as incentives to vehicle and fleet owners to choose EVs. Some of this commentary may not be directly relevant to the discussion paper, but all comments are meant to improve the program, promote the sale and use of more EVs, and more accurately calculate CFP credits for EV Charging.

1. Vehicle data can improve accuracy of CFP credit calculation for EV charging

Through the use of existing vehicle data and telematic systems each vehicle can more precisely calculate the Carbon Intensity (CI) of the power used to charge an EV battery. The utility CI, as calculated today, is an average and doesn't consider the actual grid emissions during charging. Through the use of existing vehicle data and communication, FlexCharging today can accurately track the CI for 95% of the EVs in the state of Oregon. We have incorporated Watttime CI calculations on a 15-minute basis and use this to calculate actual emissions of power during a charging session.

Because we use actual vehicle data, as opposed to DMV statistics, charge stations, or utility meters, we can more accurately calculate each vehicles CFP credits. This is especially valuable when over 80% of EV charging occurs at home on chargers that do not communicate.

The current method of calculating residential EV Charging is based on broad assumptions and is likely very inaccurate. The technology exists today to more accurately collect EV Charging data and calculate more accurate CFP credits based on the actual CI based on location and time of charge. As you know the higher the load on the system the higher the CI on the grid. Cars that charge at low CI locations and times will generate more CFP credits per kWh. FlexCharging would recommend using vehicle telematics technology to collect data and verify the EV credits are being calculated correctly.

2. CFP Credits should be given to EV owners

Because it's possible to calculate CFP credits vehicle by vehicle, location by location, DEQ should transition the CFP credits given to utilities to the vehicle owners. I imagine the current system was devised when rulemakers couldn't think of a better way to calculate CFP credits from EV Charging. Well now that there is a better way, I would expect lawmakers to want to directly incentivize the people and groups that are making EV ownership and charging decisions. Vehicle owner's behavior will change when they see their charging behavior translate into money. Allowing vehicle owners to directly receive the credits gives transportation consumers more reasons to:

- a. buy all renewable energy,
- b. charge during low CI hours, and
- c. buy, lease, and operate an EV.

The current system provides utilities with funds to invest in EV charging infrastructure, but does very little to incentivize consumer behavior or promote the purchase of EVs. More people would consider an EV if their car payments were covered by revenue from CFP credits.

For the outcomes Oregon is trying to create, it is more efficient to incentivize vehicle owners and let them decide the type of charging infrastructure and their charging behavior. We support the move of LCFS/CFP credits for EV fueling to be delivered to vehicle or fleet owners, rather than to utilities and charging stations. California is allowing vehicle and fleet owners to generate credits from charging electric vehicles.

Logistically Flexcharging acts as a CFP credit validation services for fleets of vehicle owners, and redistributes credit money to owners and fleet operators. We can do this for all EV charging in Oregon regardless of location, time, and type of charging (even Level 1 at home). In addition to the aggregation service, FlexCharging collects data on Charging behavior, locations, times, etc. This data can be used by governments, DOTs, and utilities for planning purposes.

3. Incremental credits

Because of FlexCharging's ability to calculate CFP credit based on location, amount, and time of charge, we can calculate the incremental credit that can improve upon a statewide or even utility specific CI.

4. Supported vehicles

FlexCharging supports the majority of light duty vehicles in the state, and select medium and heavy-duty vehicles. We are working to integrate API's for all Electric transportation.

Table 1: FlexCharging supported light duty EVs

| Vehicles supported | | Data and Analytics | Managed Charging | | | % of US EVs * (2019) |
|--|-------------------------------|--------------------|------------------|------|------|----------------------|
| | | | 2020 | 2021 | 2022 | |
| Tesla | All Models | x | x | x | x | 62.2% |
| Nissan Leaf | NissanConnect enabled (>2013) | x | x | x | x | 16.2% |
| Chevrolet | Bolt and Spark | x | x | x | x | 8.0% |
| BMW | All models w/ConnectedDrive | x | x | x | x | 5.4% |
| Volkswagen | CarNet enabled (>2015) | x | x | x | x | 2.1% |
| Jaguar | All models | x | x | x | x | 0.3% |
| Land Rover | All Models | x | x | x | x | 0.0% |
| GM | other models | x | | x | x | 0.0% |
| Ford | all EVs >= 2019, FordPass | x | | x | x | 1.0% |
| Hyundai | all EV | x | | x | x | 0.5% |
| Lexus | all EV | x | | x | x | 0.1% |
| Mercedes Benz | all EV | x | | x | x | 0.6% |
| Audi | w/ Audi Connect Care | x | | x | x | 0.6% |
| Porsche | all EV | x | x | x | x | 0.1% |
| Total | | | | | | 97.2% |
| OEMs not supported at this time | | | | | | |
| Kia | Niro and Soul EV | | | | | 1.20% |
| Smart ED | | | | | | 1.00% |
| Toyota | Rav4 | | | | | 0.2% |
| Honda | Clarity and Fit EV | | | | | 0.1% |
| Fiat | 500e | | | | | 0.1% |
| Mitsubishi | I EV | | | | | 0.2% |

* does not include PHEVs plug-in hybrids <https://afdc.energy.gov/data/10567>

I would be happy to provide a vehicle telematics and Flexcharging summary to DEQ or the Stakeholder group.

Sincerely,



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See Figures below for examples of our analysis and dashboards.

Figure 1: One of FlexCharging dashboards (via Tableau)

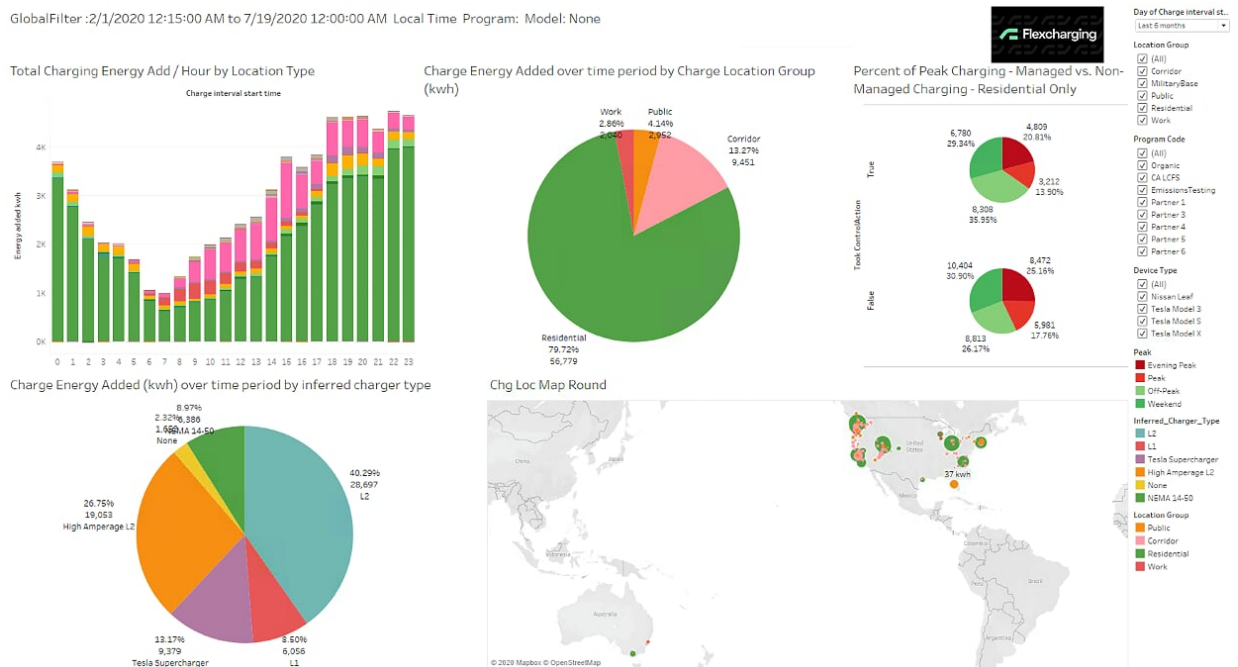
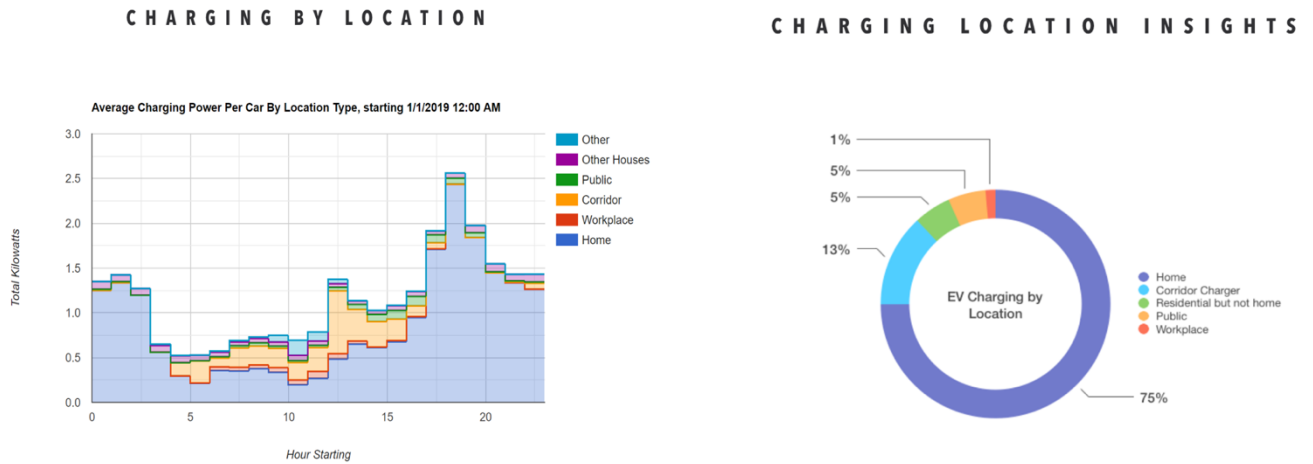
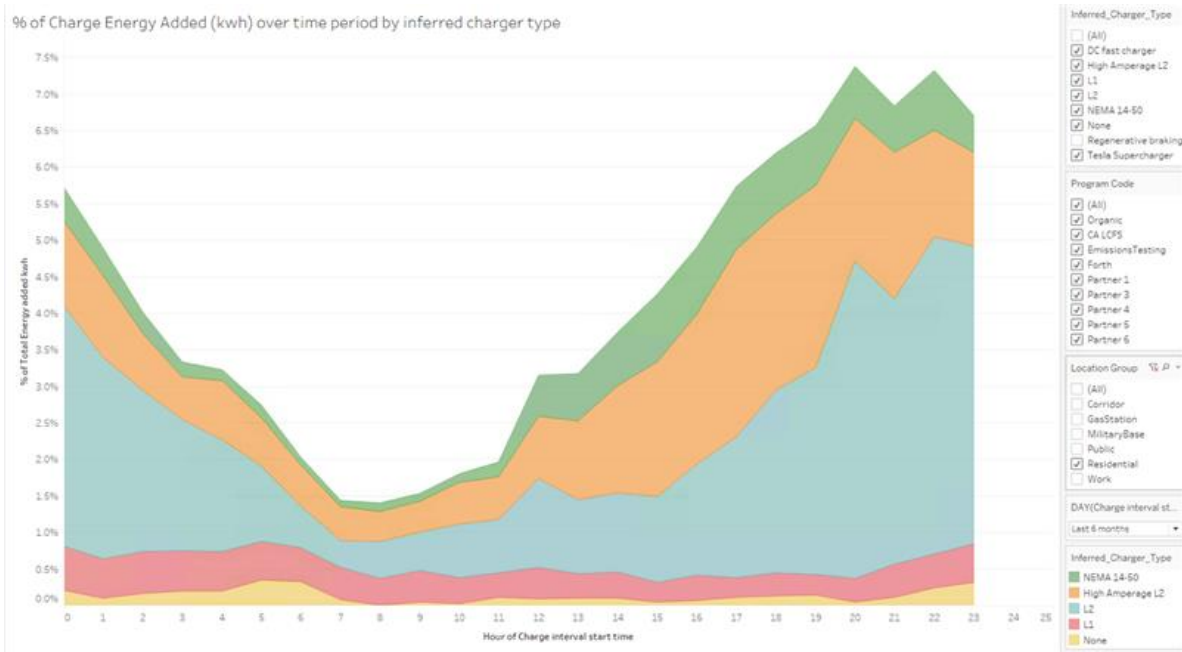


Figure 2: EV Charging load by location



Total Energy: 28.0 kWh

Figure 3: Percent of Charge Energy Over Time by Charger Type





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October 12, 2020

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Rulemaking Advisory Committee #2: Adopting New Energy Economy Ratio (EER) Values

ChargePoint would like to thank DEQ Staff for hosting this series of RAC meetings and providing helpful background materials and key questions for consideration.

ChargePoint is one the world's largest electric vehicle charging network with more than 115,000 Level 2 electric vehicle (EV) and direct current fast charging stations. ChargePoint's customers include major employers, municipalities, universities, utilities, real estate developers and parking garage facility owners and operators that provide EV charging and related services to EV drivers.

ChargePoint supports the addition of categorical EERs for the Electric Cargo Handling Equipment (eCHE) and Electric Ocean Going Vessel (eOGV) vehicle classes. Electrifying these vehicle classes offers climate and local community health benefits and as these EERs have already been vetted and approved by the California Air Resources Board (CARB) under the California Low Carbon Fuel Standard (LCFS) it makes sense to implement crediting in Oregon as well.

With regards to Staff's consideration of crediting electric scooters and electric bicycles under the Clean Fuels Program (CFP), ChargePoint opposes such crediting. While ChargePoint appreciates these modes of transportation and the opportunity they provide for users in Oregon, as it relates to the CFP, the displacement baseline for electric scooters and bicycles has not confidently been established. In fact, electric scooters and bicycles may often displace non-motorized scooters and bicycles and/or walking, which is even less carbon intense than electric micro-mobility. Crediting electric scooters and electric bicycles without unequivocally establishing the displacement baseline may also weaken the regulation and open the CFP up to criticism, which will ultimately hinder the adoption of clean fuels programs in other states and jurisdictions.

Finally, with respect to setting a threshold for revising categorical EERs, ChargePoint would only recommend that the threshold should be "materially" different from the existing EER in order to prevent the proliferation of EERs and save staff time. While we believe material efficiency gains and reduced emissions should be rewarded under the program, opening the program up to constant EER updates may result in some "gaming the system". Staff might consider, to the extent possible, tying the threshold to commercial viability of the vehicle. In other words, approving a revised EER when the increased credit generation that would result from the revised EER can be shown to help clear an identifiable hurdle, financial or otherwise, to the vehicle's commercial viability.

Thank you for considering our comments. If you have any questions, please contact me at evan.neyland@chargepoint.com.

Sincerely,

Evan Neyland
Manager, Clean Fuels Programs

October 14, 2020

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Submitted electronically via CFPE2021@deq.state.or.us

RE: 3Degrees' Comments on DEQ September 2020 Rulemaking Advisory Committee #1 Discussion Paper

Dear Ms. Cory Ann Wind,

3Degrees appreciates this opportunity to submit comments on the potential changes to the electricity provisions of the Clean Fuels Program ("CFP"). We may submit further comments following subsequent meetings and discussion papers. We have organized our comments in line with the September 2020 Rulemaking Advisory Committee #1 Discussion Paper:

1.2 Directing revenue from the sale of electricity credits

3Degrees is supportive of the proposal to require that entities that receive credits from electric vehicle ("EV") charging report on an annual basis on their credit revenues and how those revenues were spent. However, we urge DEQ to not be prescriptive in how this revenue is spent beyond requiring that it relate to transportation electrification. For non-residential charging in particular, there are many different types of organizations that are eligible to generate credits and many more creative and impactful ideas on how to spend the revenue. DEQ may choose to provide directional guidance on the types of activities on which it is appropriate to spend revenue and can assess on an annual basis if further refinement in guidance is needed based on the annual spending reports.

1.3 Incremental credits

3Degrees is supportive of the ability to generate credits for EV charging using non-contiguous renewable energy ("RE"), as substantiated through a book-and-claim accounting approach. For residential charging, we are supportive of allowing "incremental credits", which allows entities other than the utility to be eligible to generate credits for the additional value that comes from charging EVs with electricity with a CI lower than the grid average.

2.1 Adopting new EERs

3Degrees is supportive of including EERs for Electric Ocean-Going Vessels and Electric Cargo Handling Equipment into the rule.

3Degrees also recommends that DEQ revise **Section 340-253-1020 (2)** such that forklifts placed in service after 2012 are subject to the methodology in **Section 340-253-1020 (1)**. This will result in additional credits being generated by newer forklifts, reflecting the efficiency of

these forklifts. This will also ensure credit calculations are consistent among all off-rado applications.

California made a similar revision in its 2018 rulemaking, acknowledging that: “... *the equation for new fixed guideway systems or expansions post-2010 includes an EER adjustment. This provides more accurate incentives for fixed guideway systems that were brought on line after the implementation of LCFS rule. But the current credit calculation for forklifts does not account for an EER adjustment.*” (Staff Report: Initial Statement of Reasons, March 6, 2018).

The following language revision would implement this recommendation:

(2) For electricity used to power fixed guideway vehicles on track placed in service prior to 2012 and forklifts placed in service prior to 2012, credit and deficit generation must be calculated by...

3.1.2 Adjusting what constitute the statewide grid mix

3Degrees does not believe it is necessary from a GHG accounting perspective for DEQ to remove the utility-specific load from the statewide grid mix. In addition to it not being necessary from a GHG accounting perspective, removing the utility-specific mix from the statewide average could lead to unequal distribution of benefits of the CFP program across the state. As more utility-specific CIs are removed from the state-average mix, the state-average mix CI will increase, delivering less value to residential and non-residential customers located in the service territories relying on the state-average CI.

Removing the utility-specific CI mixes from the state-wide average CI *would* be necessary if (1) the CI represented a retail delivery claim to the end-user regarding the GHG emissions intensity of the electricity (for example, one that could be used in corporate GHG accounting), and (2) the GHG emissions claim was based on a market-based accounting methodology (i.e. where the emissions intensity is based on the attributes contractually delivered to customers and *not* on the emissions intensity of the utility’s overall mix). It is our understanding that the utility-specific mix and the state-wide mix do *not* represent a claim on delivered power.

If DEQ intends for the electricity CI to represent a claim on consumption of electricity attributes and for that consumption claim to be based on a market-based accounting framework, significant changes would be required related to how the CI of electricity is calculated. We do not recommend going down this path and have provided an overview of the requirements of such a program below.

If the state-wide CI and utility-specific CI represent *delivered* electricity using a market-based framework and therefore convey a retail claim on specific generation attributes that can be used outside of the context of the CFP (i.e. appropriate to be used for carbon footprint accounting and claims to specific resource mix), then a number of changes would be needed to calculate the CI of electricity sources to ensure no double-counting of GHG emissions occurs across any reported CIs. DEQ would need to (1) require that utility-specific CI is developed based on market-based accounting principles, which would require factoring in the purchase and sale of RECs as well as separating out the RECs that are sold to specific customers or groups of customers; (2) remove the utility-specific CI from the grid average, and (3) remove the RECs used to claim zero-CI electricity as a transportation fuel from both the utility and state-average

CI calculations. These measures, while ensuring accuracy in retail GHG claims, would create complications in program participation and administration. DEQ would also need to consider how TOU charging interacts with these claims.

However, it is our understanding that the state-average and utility-specific CI are not intended to represent a retail claim on the GHG emissions of delivered electricity. The state-average and utility-specific CI calculations are tools to calculate the benefit of switching to an EV and do *not* convey a retail electricity claim. We recommend that DEQ continue this treatment of these data sources and, rather than revise the state average CI, DEQ should clarify that these mixes (state-average and utility-specific) are merely used to estimate emissions reductions associated with using an EV vs gas-powered vehicle, and that they are not intended to represent the assignment of a specific fuel mix and associated generation attributes to customers (meaning they should not be used for retail claims).

3.2 Allowing non-contiguous RE

3Degrees is supportive of the proposal to allow non-contiguous RE resources to be matched with EV charging via a book-and-claim accounting methodology. Renewable energy credits (“RECs”) are recognized across the country and within other Oregon policies, including its renewable portfolio standard and its nationally recognized utility voluntary RE programs, as the mechanism used to track, transact, and consume RE on the shared North American grid.

We recommend the following eligibility of RECs for the CFP:

- No online date / “new date” requirement -- the goal of the CFP is to encourage low-CI resources to be used as a transportation fuel and reduce emissions from transportation, not necessarily to lead to new RE development. While we do expect the additional demand caused by the CFP to contribute to the development of new RE projects, this should not be an eligibility requirement for the RE.
- Eligible RE resources under the CFP should be matched to Oregon’s definition of RE under the RPS. All zero-CI electricity should be eligible without any additional application (i.e. incorporated into the look-up table, as is the case in CA) and low-CI electricity, such as biomass-derived electricity, should be required to submit a Tier 2 application to support the CI value.
- We support limiting geographic eligibility based on where the electricity is delivered, not simply based on where a facility is located. We recommend the following definition of geographic eligibility: *The facility is located in the BPA service area or the electricity from the facility is delivered to a balancing authority located within the BPA service area on a real-time basis without shaping, storage, or integration services.*
- Vintage restrictions should exist that ensure that RE was generated in close proximity to the quarter it is matched to EV charging. We are in the process of undertaking additional analysis to see if there is justification for a vintage period one quarter longer than the three quarter matching the CA LCFS program requires (i.e. allowing for RECs generated in the quarter of charging or the prior three quarters).

3Degrees also recommends that any entity with the appropriate data on residential EV charging be eligible to generate those credits.

Thank you for this opportunity to submit comments. We look forward to continued participation and discussion in upcoming workshops.

Sincerely,

/s/ Maya Kelty

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