DOCKETED	
Docket Number:	15-MISC-04
Project Title:	Fuels and Transportation Merit Review
TN #:	225021
Document Title:	FreeWire Technologies Pre-Solicitation Comments for Zero-Emission Vehicle Infrastructure
Description:	N/A
Filer:	System
Organization:	FreeWire Technologies/Ethan Sprague
Submitter Role:	Public
Submission Date:	10/17/2018 3:33:18 PM
Docketed Date:	10/17/2018

Comment Received From: Ethan Sprague
Submitted On: 10/17/2018
Docket Number: 15-MISC-04

FreeWire Technologies Pre-Solicitation Comments for Zero-Emission Vehicle Infrastructure

Additional submitted attachment is included below.

Ethan Sprague
FreeWire, VP of Sales
ethan@freewiretech.com
510-292-6362

October 17, 2018

FreeWire Technologies Pre-Solicitation Comments for Zero-Emission Vehicle Infrastructure Manufacturing (Docket Number 15-MISC-04)

FreeWire appreciates the opportunity to provide comments on the proposed funding solicitation. FreeWire improves on the current state-of-art by offering a battery backed charging system, complementary to, or a replacement for, fixed charging infrastructure which is reliant on expensive grid upgrades to provide high voltage power.

FreeWire builds two types of charges that can be used in either stationary or mobile applications: A L2 charger called the Mobi which comes in 80 and 40 kWh packs and is capable of dual charging at a combined 13kW, and a 160 kWh DC fast charger with a charge speed of either 120kW or up to 60kW for two simultaneous charges. The fast charger has been prototyped and piloted in London and the company is aiming to develop and scale commercial production of both its product lines starting in the 2019 timeframe.

Importantly FreeWire charge solutions are installed without material upgrades to the grid and can be fixed in place for public charging (self-served by customers) or mobile charging (delivered to the vehicle) to provide work place charging, airport/event charging, fleet charging and or emergency roadside charging to name a few applications.

FreeWire's charging products are a flexible solution with small space footprint. This innovative hardware solution allows faster deployment, lower installation costs, reduced grid impacts and generate operational savings from lower demand and energy charges. Customers can use FreeWire's software to order a charge via app, pin their car location on the map and the nearest FreeWire battery available will deliver the service in the user's parking spot.

FreeWire has delivered Mobile EV Charging solutions for nearly 4 years to customers, including LinkedIn, Microsoft, Walmart and Facebook. FreeWire's EV charging hardware can be coupled with software to help electrify industries formerly dependent on fossil fuels and enable companies to

tackle new applications and deploy new business models, all without the complexity, disruption and costs of traditional energy infrastructure.

Solicitation Specific Comments

Project Eligibility

FreeWire strongly recommends the inclusions of hardware solutions using integrated battery storage where batteries are used in combination with EVSE equipment to deliver charging. The opening page of the California Energy Storage Roadmap identifies that "maximizing energy storage in the marketplace will take a network of policies, incentives, and processes to support innovation and manage risk of the next several years." With EVs as a rapidly growing asset to manage the increase penetration of distributed energy generation, it is imperative that the Energy Commission look at a suite of solutions that can support EVs as an asset, including the integration of battery solutions as part of charging infrastructure. This very battery integration capacity is completely consistent with V2G/V2B/VGI capability integration. When the battery is pre-integrated into the charging system, it enhances that capabilities of EVs and EVSE to provide grid services and naturally reduces grid impacts.

Our solutions are currently ineligible for IOU standard incentives or CalEVIP, like most traditional charging hardware, and therefore we are at a competitive disadvantage when it comes to product price as compared to subsidized charging hardware. The CEC should prioritize innovative solutions, which have demonstrated product market fit (sales), and which are not currently receiving subsidy support. In this way the CEC can provide the broadest solution sets to the public and help offset the market imbalance by uneven eligibility for incentives and subsidies.

FreeWire does not believe upstream electrical infrastructure such as subpanels and transformers should be eligible for the solicitation as those services are not necessarily used for EV charging and are being rate based in California and thus receiving non-market-based benefits.

Eligible Activities

FreeWire is pleased to support the CEC proposal to cover labor costs in the solicitation. This is specifically called out with respect to setting up manufacturing, testing, certification costs and software development. FreeWire requests the CEC clarify that labor costs used to compile the product components also be eligible. Some products, like FreeWire's, is labor intensive to manufacture due to integrating independent product components. By making these labor costs eligible, the CEC is directly supporting manufacturing jobs in California. At lower volumes expected in early commercialization these manufacturing labor costs are high but decrease overtime. Supporting these costs until scale is built is critical to keeping manufacturing jobs in California, a primary goal of the solicitation. In FreeWire's case, sufficient scale is needed to reduce these ongoing labor costs and support for initial labor is critical. This is similar to software labor costs for OCPP and smart charging and other applications. These software costs are initially labor intensive but greatly increase the product value and drive sales of California products. By covering labor costs in the solicitation, the CEC is directly helping businesses manufacture or produce software

using California labor which is more expensive than most markets and key to keeping manufacturing in the state.

FreeWire presumes the eligibility of contractual arrangements that expand or modify existing contract manufacturing facilities in California. Leveraging contract manufacturing is an efficient way to lower costs and quickly get to market and also helps keep manufacturing in California and should be eligible. This strategy is referenced multiple times in the recent California Test Bed Initiative (GF-17-301).

Criteria

Several comments were made during the workshop questioning why providing 3 years of sales performance be included as a criterion. FreeWire supports inclusion of this criteria and believes the CEC should be seeking to identify products that have established a market for their technology and need investment to scale, lowering costs and making it possible to develop the product in California, for Californians. FreeWire is supportive of funding R &D, but that should be done in separate solicitations, with different criteria.

Match

FreeWire supports some minimum requirement of match funding but doesn't believe extra value should be given to higher match projects. The CEC should be seeking to invest in companies which need funding to manufacture in California. Match funding should include the activities of contract manufacturing related to developing the product. FreeWire does not support a predetermined split of funds between Project Eligibility categories. The scoring criteria should identify the best investments and the CEC should not be restricted in its funding decision to products and companies with lower viability.

Other

FreeWire opposes broadening the solicitation to fund onboard vehicle technologies such as features to increase or change vehicle charging attributes. There are, and have been, significant funds and incentives created for vehicles. The underlying cause of range anxiety is actually charge anxiety, and the CEC is right to focus on charge infrastructure as a way to accelerate vehicle adoption. By including vehicle onboard technology, it is opening up the solicitation to a potential vast number of applications to enhance existing products. Expanding the solicitation in this way is unlikely to 1) develop new manufacturing in California, and 2) would be hard to assess the commercial viability of the feature. Such an expansion looks more like R & D development and should not be eligible.

The CEC should clarify its support for software applications and products is limited to those that utilize data or applications from EVSE and HRSE equipment.

Certification costs can be expensive and FreeWire does not believe there should be a cap on costs associated with getting product certification. It is often hard to know in advance the level and cost of modifications needed to achieve certification. Similarly, the testing agency has to agree on the certification category which can also change project scope.

There is uncertainty regarding the application and approval timelines. For this reason, FreeWire supports enabling funded projects to recover pre-award costs that are incurred at risk prior to funding. It is difficult for companies to assess when and whether an agency will award their project and knowing that there is the potential to recover costs – if awarded – will incent companies to invest in California. Companies generally speaking will not be able to align all their activity with the CEC timelines and may do initial work such as incur non-recurring engineering costs needed to develop manufacturing facilities before the award is announced. It is appropriate that these investments be eligible.

Finally, the CEC should be more explicit about the scoring awarded for applicants headquartered in DAC communities. The benefit category is eligible for 20 points and is made up of 6 rather subjective categories, with the exception of location and definition of DAC. Not only is this benefit particularly meaningful, as costs of living in California are increasing, but it should be prioritized among the other benefit categories because it can be measured.

FreeWire appreciates the opportunity to comment and applauds the CEC for supporting innovation and commercialization in California's EV charging market.

Sincerely,

Ethan Sprague
FreeWire, Vice President of Sales and BD