<table>
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<th><strong>DOCKETED</strong></th>
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<tr>
<td><strong>Docket Number:</strong></td>
<td>19-TRAN-02</td>
</tr>
<tr>
<td><strong>Project Title:</strong></td>
<td>Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure</td>
</tr>
<tr>
<td><strong>TN #:</strong></td>
<td>232949</td>
</tr>
<tr>
<td><strong>Document Title:</strong></td>
<td>BESTFIT Innovative Charging Solutions Workshop Presentation</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Filer:</strong></td>
<td>Christina Cordero</td>
</tr>
<tr>
<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
</tr>
<tr>
<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
</tr>
<tr>
<td><strong>Submission Date:</strong></td>
<td>5/8/2020 11:28:01 AM</td>
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<tr>
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<td>5/8/2020</td>
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Workshop Agenda

- Welcome and Introductions

- BESTFIT Innovative Charging Solutions Overview
  - BESTFIT Solicitation Concept and Background
  - Proposed Funding
  - Proposed Eligibility
  - Proposed Project Requirements
  - Proposed Evaluation Criteria
  - Proposed Schedule

- Questions and Discussion
Housekeeping

• Chat and Q&A boxes are available for questions and comments throughout the presentation.

• Participants on the phone will have the chance to provide questions and comments at the end of the presentation.

• "Raise hand" feature to ask a question or provide comment at the end of the presentation.

• Diversity Survey:
  o More information will be provided in the "chat box" section and the next few slides.
  o Survey will be emailed to all participants after the workshop.
Commitment to Diversity

The CEC adopted a resolution on April 8, 2015 to firmly commit to:

• Increase participation of women, minority, disabled veteran and LGBT business enterprises in program funding opportunities.

• Increase outreach and participation by disadvantaged communities.

• Increase diversity in participation at CEC proceedings.

• Increase diversity in employment and promotional opportunities.
Commitment to Diversity (cont.)

• Fairness – Increase funding accessibility to all Californians.

• Inclusion – Small businesses make up a significant portion of the U.S. economy.

• Job Creation – Projects can create jobs for residents of the under-served communities.

• Diversity of Ideas – Great ideas occur in a variety of areas.

• Diversity in Communities’ Needs – Needs vary widely from one area to the next (air quality, socioeconomic, etc.).
Diversity Survey

• The CEC is committed to ensuring that the Clean Transportation Program reflects the rich and diverse characteristics of California and its people.

• Please tell us the following:
  • Your name
  • Your company
  • How you heard about this workshop
  • Whether your company is in Northern, Central, or Southern CA

• Please email this information to Matt.Alexander@energy.ca.gov.
Additionally, please let us know in your email if you are representing a business that is:

- A small business,
- A disabled veteran business,
- A woman-owned business,
- A Lesbian-, Gay-, Bisexual-, Transgender-owned business, or
- A minority-owned business.

Please list this workshop title in the subject or body of your email: 

*BESTFIT Innovative Charging Solutions*

The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.
Clean Transportation Program

• Formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program

• Established by Assembly Bill 118 (Nunez, 2007)

• Provides up to $100 million per year in funds

• Extended to January 1, 2024 by Assembly Bill 8 (Perea 2013)
Clean Transportation Program

“...to develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.”
- California Health and Safety Code 44272(a)

Complementary goals:

• Improve air quality
• Investments in low-income and disadvantaged communities
• Promote economic development
• Increase alternative fuel use
• Reduce petroleum dependence
BESTFIT Innovative Charging Solutions
Overview

• Built-Environment Electrification Solutions & Form Factors for Fitting Infrastructure to Transportation (BESTFIT)

• Innovative charging solutions and form factors that are the “best fit” for the local built environment, use case, and vehicle compared to traditional solutions

• Funding for projects in both light-duty and medium-duty/heavy-duty sectors

• $7.5 million total
Origination

• EV Ready Communities Challenge highlighted the need for innovative charging solutions influenced by the local built environment

• There is no “one size fits all” solution
Innovative Charging Solutions
Area of Focus 1: Increase Utilization

• This category addresses projects designed to increase or maximize efficient utilization of charging infrastructure

• The goal is to increase the throughput of electric miles serviced to EVs by each charger through the creation of new business models that leverage innovative placement and locations, user sharing, queuing, vehicle management technologies, and other strategies
Area of Focus 2: Minimize Cost for Purchase and Installation

• This category addresses efforts to maximize the benefits of charging installations by avoiding costly grid impacts.

• The goal for innovative charging solutions like smart charging and discharging or distributed energy resources (DERs) is to defer or outright avoid grid capacity upgrades and associated costs otherwise incurred with traditional approaches.
Area of Focus 3: Demonstrate Advancements in Charging or Customer Interface

• This category addresses technological advances to facilitate the adoption of EVs by making the charging experience seamless for drivers and users through standardized interfaces and streamlined customer services.

• The goal for these advanced interfaces is to simplify charging today, but also lay the foundation for emerging electric transportation applications including autonomous, shared, and connected vehicles.
## Proposed Funding

<table>
<thead>
<tr>
<th>Vehicle Sector</th>
<th>Area of Focus</th>
<th>Maximum Award Amount</th>
<th>Total Funding Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light-Duty</td>
<td>Increase Utilization</td>
<td>Up to $1 million per applicant</td>
<td>$3.5 million</td>
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<td>MD/HD</td>
<td>Minimize Cost for Purchase and Installation</td>
<td>Up to $2 million per applicant</td>
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<td></td>
<td>Demonstrate Advancements in Customer or Charging Interface</td>
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<td></td>
</tr>
</tbody>
</table>
Proposed Eligibility

• Open to all automotive original equipment manufacturers (OEMs), electric vehicle charging equipment manufacturers, and electric vehicle service providers (EVSPs) operating in California

• Applicants may submit multiple applications under BESTFIT
  o Maximum award amount applies to each applicant, not each proposed project
  o Applicants that submit applications in both the light-duty and MD/HD sectors are eligible for the maximum award amount in each category (a total of $3 million)
  o Each proposed project must be separate and distinct and adhere to all requirements contained in the solicitation
Proposed Project Requirements

• All demonstrations must be installed for public or private, real-world use and must demonstrate how the novel technology and/or business model could be deployed at scale in the future and become commercially viable

• Applicants must identify only one Area of Focus (see Slide 18) that their proposed project primarily addresses

• This Area of Focus designation will be used to categorize and rank applications for funding
Example Projects

**Intra-site storage** – Storage-based charging systems that can move about an individual site challenged by conditions that prevent the construction of stationary EVSE to provide on-demand services.

**Novel sharing business models** – Examples include private workplace chargers that become publicly available after work hours and software solutions to match charging demand to available chargers in real time.

**Robotic connection** – Automated charging using devices that articulate a conductive connection between the vehicle and electricity supply.

**Interoperability for MD/HD vehicles** – Standardized and interoperable charging interfaces for MD/HD vehicles.
Eligible Stages of Development for Projects and Technologies

• **Bench Testing and Validation**: Validation of concept in test setup under real operational conditions
• **Demonstration**: Demonstration and testing of complete system prototype under real operating conditions
• **Prototype**: Functionality proof and operation of complete system prototype under real operating conditions
• **Complete Operational System**: Functionality proof of complete system under real operating conditions
• **Commercial availability**: Qualification of system based on successful operation
Ineligible Projects

- The following project types are **not** eligible:
  - Market, literature, or technology surveys, or meta-analysis studies
  - Basic research and development
  - Projects which include DER for purposes other than supplying power to EV chargers
  - Tests for regulatory compliance
  - Marketing and promotional activities
  - Software development with no research or validation component
  - Lab-scale research and validation
  - Research and development that is not EV-related and has no clear market connection
  - Proof of functions
Data Collection

• Each project must collect a minimum of 12 months of data on deployed infrastructure and provide this electronically to the CEC on a regularly scheduled basis.

• Applicants shall describe in detail plans to ensure EVs will utilize their infrastructure and enable them to collect 12 months of data on charging events for deployed infrastructure, including but not limited to:
  o Charge and session duration
  o Energy delivered (kWh)
  o Power delivered (kW)
  o Cost of electricity for the session
  o Payment method
  o Type of vehicle that charged
  o Number of unique vehicles and frequency of “repeat vehicles”
  o Energy delivered back to grid or facility if a bidirectional charging use case (kWh)
Data Collection (cont.)

• In addition, applicants should identify and develop a plan for providing other relevant data and information to the CEC throughout the duration of the funding agreement, including but not limited to:
  o Lessons learned
  o Best practices (e.g. permitting and installation processes)
  o Potential job creation
  o Economic development
  o Increased state revenue
• Applications must include at least 25 percent of total project costs as match share

• Of this match share, at least 50 percent should be cash match
Eligible Project Costs

• Examples of eligible costs include but are not limited to:
  • EVSE
  • Transformer
  • Electric panels, conduit, wiring
  • Meters
  • Energy storage equipment
  • Photovoltaic solar panels separately metered for electric charging
  • Installation costs
  • Planning and engineering design costs
  • Stub-outs
  • Demand management equipment

• The following are not eligible for CEC’s reimbursement or as the applicant’s match share:
  • Vehicle Purchases
  • Processes to comply with otherwise applicable legal requirements (e.g. permits from the local authority having jurisdiction (AHJ) and compliance with the Americans with Disabilities Act (ADA))
  • Utility service upgrade costs covered by the utility
Proposed Evaluation Process

• Applicants must designate one Area of Focus that their proposed project primarily addresses

• Applications will be categorized and ranked based on this designation

• The evaluation process will consist of two stages:
  1) Pre-Application Abstract Screening and Technical Scoring
  2) Full Application Screening and Technical Scoring
Proposed Evaluation Process: Pre-Application Abstracts

- Limited to 5 pages

- Scored according to Pre-Application Abstract Evaluation Criteria

- Pre-Application abstracts must receive a score of 70% in each Evaluation Criteria category in order to pass this stage and be eligible to submit a Full application
# Proposed Evaluation Criteria

## BESTFIT Pre-Application Abstract Evaluation Criteria

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Summary</strong></td>
<td>25</td>
</tr>
<tr>
<td><em>NOTE: Pre-application abstracts must obtain a minimum passing score of 17.5 points within this evaluation criterion to be eligible to submit a full application.</em></td>
<td></td>
</tr>
<tr>
<td><strong>Project Readiness and Implementation</strong></td>
<td>15</td>
</tr>
<tr>
<td><em>NOTE: Pre-application abstracts must obtain a minimum passing score of 10.5 points within this evaluation criterion to be eligible to submit a full application.</em></td>
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<tr>
<td><strong>Funding Request and Cost Effectiveness</strong></td>
<td>10</td>
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<tr>
<td><em>NOTE: Pre-application abstracts must obtain a minimum passing score of 7 points within this evaluation criterion to be eligible to submit a full application.</em></td>
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</tr>
<tr>
<td><strong>TOTAL POSSIBLE POINTS:</strong></td>
<td>50</td>
</tr>
</tbody>
</table>
Proposed Evaluation Process: Full Applications

• Pre-application abstracts receiving a passing score will be eligible to submit a full application

• Full applications will be scored according to the Full Application Evaluation Criteria

• Minimum score of 70% required to be eligible for funding
## Proposed Evaluation Criteria

### BESTFIT Full Application Evaluation Criteria

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>45</td>
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<tr>
<td>Project Readiness and Implementation</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total Possible Points for Criteria (1) and (2)</strong> <em>(Minimum Passing Score is 45.50)</em></td>
<td>65</td>
</tr>
<tr>
<td>Economic, Social, and Environmental Benefits</td>
<td>15</td>
</tr>
<tr>
<td>Team Experience, Qualifications, and Resources</td>
<td>10</td>
</tr>
<tr>
<td>Budget</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL POSSIBLE POINTS:</strong></td>
<td>100</td>
</tr>
</tbody>
</table>
Project Selection and Award

• Only final application scores will determine project selection and award, not pre-application abstract scores

• Ties will be broken by the highest Innovation score

• If still tied, the proposal with the highest Project Readiness and Implementation score will be ranked higher
## Project Selection and Award (cont.)

<table>
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## Proposed Schedule

<table>
<thead>
<tr>
<th>Activity</th>
<th>Action Date (Tentative)</th>
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<tbody>
<tr>
<td>Scoping Workshop</td>
<td>May 12, 2020</td>
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<tr>
<td>Pre-Application Workshop</td>
<td>August 11, 2020</td>
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<tr>
<td>Solicitation Release</td>
<td>End of July 2020</td>
</tr>
<tr>
<td>Deadline to Submit Pre-Application Abstracts</td>
<td>Mid-September 2020</td>
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<tr>
<td>Anticipated Notice of Passing Pre-Application Abstracts</td>
<td>End of September 2020</td>
</tr>
<tr>
<td>Deadline to Submit Full Applications</td>
<td>Mid-November 2020</td>
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<tr>
<td>Anticipated Notice of Proposed Awards Posting</td>
<td>December 2020</td>
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<tr>
<td>Anticipated CEC Business Meeting Approval</td>
<td>February 2021</td>
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<tr>
<td>Agreement Execution</td>
<td>March 2021</td>
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</table>
Directed Questions
Funding

• Are the maximum award amounts sufficient?
  o Is $1 million for light-duty projects enough? Too much or too little?
  o Is $2 million for MD/HD projects enough? Too much or too little?

• Should the maximum award remain based on applicant, or based on project?
Project Selection

- Is the current evaluation and project selection process adequate?
  - If not, how would you change or restructure this?
• Are the definitions for eligible applicants sufficient, too broad, or too prescriptive?
Project Requirements

• Are the Areas of Focus representative of the needs in the market?
  o Do you propose changes to the Areas of Focus?
  o Are we overlooking any critical areas that should be addressed in this solicitation?
Evaluation Criteria

• Are there key market indicators that are used to demonstrate a market opportunity for charging solutions to be commercially successful?
Open Discussion
Q&A / Public Comments

• Phone lines first
• Raise hand feature second (for those online)
• Q&A / chat box questions

Email or call the Public Advisor’s Office @:
PublicAdvisor@energy.ca.gov
Or call (916) 654-4489
Toll free at (800) 822-6228.
Docket #:19-TRAN-02

• Submit comments via the CEC E-Commenting System: https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=19-TRAN-02

• Email Docket Unit: DOCKET@energy.ca.gov

Reference “BESTFIT Innovative Charging Solutions” in the subject line. If answering or providing comments to the specific questions included in this presentation, please reference the slide number or question.

All comments due by 5:00 p.m. on Tuesday, May 26, 2020.
List Serv Notifications

Subscribe to Transportation Energy List Servers to receive updates on the Clean Transportation Program and upcoming solicitations:

https://ww2.energy.ca.gov/listservers/index.cms.html
Staff Contact Information

Matt Alexander
Matt.Alexander@energy.ca.gov
(916) 654-4466
Thank you for participating remotely!