GFO-20-610 Pre-Application Workshop: Vehicle-Grid Innovation Lab (ViGIL)

Matt Alexander
Fuels and Transportation Division
June 1, 2021
Housekeeping

- Muting on Zoom
- Zoom recording
- Questions & Answers
- Updates on solicitation documents including this presentation will be posted at the [Grant Funding Opportunity’s webpage](https://www.energy.ca.gov/solicitations/2021-05/gfo-20-610-vehicle-grid-innovation-lab-vigil)
Agenda

Welcome and Introductions

Solicitation Overview:
- Clean Transportation Program
- Purpose of Solicitation
- Available Funding
- Eligibility Requirements
- Project Requirements
- Attachments
- Submission Process

Questions and Answers
Commitment to Diversity

The California Energy Commission (CEC) adopted a resolution strengthening its commitment to diversity in our funding programs. The CEC continues to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, CEC staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new Applicants about the CEC’s funding opportunities.
- Assist Applicants in understanding how to apply for funding from the CEC’s programs.
- Survey participants to measure progress in diversity outreach efforts.
We Want to Hear From You!

One Minute Survey
The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.

Please use this link to the survey:
https://forms.office.com/Pages/ResponsePage.aspx?id=RBl6rPQT9k6NG7qicUgZTr-yTq0EPzxCrHqjo8xgsAVUMFdQQkYwTUhQOU0zUFFDNdFTU02RUNTVy4u

Thanks!
Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from the CEC and other funding providers, curated resources and events, and connections to people and organizations.

FIND A PARTNER
Announce your interest in this funding opportunity and message other interested parties to find potential partners.

RESOURCES & TOOLS
Browse the collection of resources for clean tech innovators including Resource Libraries, Funding Sources, Tools, and Databases.

To connect with others for this GFO please go to this link:
https://www.empowerinnovation.net/en/custom/funding/view/23045

Please direct questions for the Empower Innovation platform to:
https://www.empowerinnovation.net/en/contact_us
Clean Transportation Program

- This solicitation will award projects funded by the Clean Transportation Program
  - Formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program
- Established by Assembly Bill 118 (Nunez, 2007)
- Has an annual budget of approximately $100 million
- Extended to January 1, 2024 by Assembly Bill 8 (Perea, 2013)
“...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.
• Invest in low-income and disadvantaged communities.
• Promote economic development.
• Increase alternative fuel use.
• Reduce petroleum dependence.
Vehicle-Grid Innovation Lab (ViGIL)
Purpose of Solicitation

- Increase capacity and throughput of electric vehicle supply equipment (EVSE) standards testing at a laboratory(ies)
- Support expansion of testing for both LD and MD/HD charging equipment
- Provide a timely and cost-effective avenue for stakeholders to validate and test products for conformance to established standards
- Testing at funded laboratory(ies) will be voluntary and will not be mandatory for entities to do business in California
Electric Vehicle Charging Equipment Goals

**Convenience**
Ensure that technologies employed in plug-in hybrid and electric vehicles work in a harmonious manner and across service territories.

**Cost Control**
EVs should assist in grid and renewables management, and reduce fuel costs for drivers who charge in a manner consistent with grid conditions.

**Customer Choice**
Standardized, open charging systems that ensure easy access by all in a competitive, and highly innovative market.

**Interoperability** “will provide standardized devices that are capable of functioning as intended with each other, without special effort by the user.”

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Public Utilities Code 740.2 (e)  
Public Utilities Code 740.12(g)  
U.S. DOE EERE Public Plug-In Electric Vehicle Charging Infrastructure Guiding Principles  
US DOE/EU JRC EV-Smart Grid Interoperability Center
Available Funding

• $2 million is available, and is also the maximum award amount

• The maximum award amount is $2 million, but more than one award may occur if funding remains available

• Applicants may only submit one application
Applicant Eligibility

• The Applicant must be a testing laboratory independent of the EV industry:
  • Does not commercially produce EVs, EV chargers, or EV testing equipment
  • Does not provide management software or network services for EV charging

• Applicant must commercially test products from a variety of entities and manufacturers, and must not be owned by a government or public entity
Applicant Eligibility Cont.

• Applicant must conduct this project at an existing facility located in California

• The existing facility **is not** required to have current EV charging equipment, electrical, or communications testing capabilities in order to apply
Project Requirements

Project must either:
1) Develop EVSE testing capacity at an existing facility in California
2) Expand EVSE testing capacity at an existing facility in California

EVSE testing capacity is defined through static metrics, including, but not limited to:
• Testing staff, including engineering staff
• Number of test devices
• Number and types of tests offered

Projects must also increase the throughput of tested products, which is defined through dynamic metrics, including, but not limited to:
• Number of products tested per quarter
• Number and types of form factors tested
• The recipient will be responsible for ensuring the proper functionality of all testing equipment.

• The project must operate and conduct testing for at least 5 years from the date the agreement term ends.
Project Requirements – Mandatory Standards (1)

• ISO 15118:
  • AC and DC Charging
  • Smart charging
  • Plug & Charge
  • Bidirectional Charging
  • Wireless charging

• Applicant must include a plan for how it will engage with industry on ISO 15118 and offer ISO 15118 testing once standardized testing programs and test tools are made available

• Applicant must also include a plan for how it will leverage existing and future Public Key Infrastructures (PKIs) (once finalized and adopted)
• Open Charge Point Protocol (OCPP) Version 1.6JSON with following functionalities:
  • Core
  • Firmware management
  • Smart charging
  • Reservation
  • Local authorization list management
  • Remote trigger
  • Security general
  • Security profile 1, 2, and 3
  • ISO 15118 Plug and Charge
  • Tariff and Costs

• Must offer the following certificate profiles:
  • Full Certificate OCPP 1.6
  • Subset Certificate OCPP 1.6
  • Security Certificate OCPP 1.6
• Open Charge Point Protocol (OCPP) Version 2.0.1 with following functionalities:
  • Security
  • Provisioning
  • Authorization
  • Local Authorization List Management
  • Transactions
  • Remote Control
  • Availability
  • Reservation
  • Tariff and Costs
  • Meter Values
  • Smart Charging
  • Firmware Management
  • ISO 15118 Certificate Management
  • Diagnostics
  • Display Message
  • Data Transfer

• Proposed projects must offer all available certificate profiles for Version 2.0.1 once they have been finalized by Open Charge Alliance
Project Requirements – Mandatory Standards (3)

- Section 3.40 of the NIST 2020 Handbook 44 (Electric Vehicle Fueling Systems)
  - S.2.4.3 - Selection of variable unit prices using equipment communicating with the EVSE system
  - S.3.1 - Protection of metrological components
  - S.4.2 - Directional controls to support the reversal of energy flow

- Implementation of this testing will serve as a complement to the California Department of Food and Agriculture’s DMS California Type Evaluation Program (CTEP).
• IEC 62746-10-1 (2019) (Open Automated Demand Response 2.0b)
  • Load control
  • Distributed energy resources control

• ENERGY STAR® for Electric Vehicle Supply Equipment
  • Version 1.0 for alternating current (AC) and Version 1.1 for both AC and DC charging
Project Requirements – Eligible Product Models

- **Level 2 Alternating Current**: Conductive and Wireless Charging
- **Direct Current**: Conductive Charging
- **High-Powered**: Conductive, Wireless, and Pantograph Charging
Proposed Project Requirements – Eligible Interfaces

- **SAE J1772** – Electric Vehicle and Plug-In Hybrid Electric Vehicle Conductive Charge Coupler
- **Combined Charging System (CCS/Combo 1)** – Combines AC and DC charging into one interface
- **CHAdeMO** – DC Charging Protocol
- **SAE J2954** – Wireless Power Transfer for Light-Duty Plug-In/Electric Vehicles
- **CharIN Megawatt Charging System** – Charging for class 6, 7, and 8 commercial vehicles, buses, aircraft and other battery electric vehicles
- **SAE J3105** – Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices
- **SAE J3072** – Interconnection Requirements for Onboard, Utility-Interactive Inverter Systems
Eligible Project Costs

• Facility design, engineering plans, and specifications

• Building and facilities installations and/or modifications

• Assets, materials and supplies, and equipment acquisition

• Staff training and associated labor costs
Match Funding Requirements

- Proposed projects must include at least 50% of the total allowable project costs as match share.
- Of the total match share, 50% must be cash match.

Example Calculation:
- Applicant requests $2M.
- They must contribute at least $2M in total match share, of which $1M (50%) must be cash match.

Total project costs = $2M + $2M = $4M
Match share contribution = $2M / $4M = 50%
Evaluation Process
<table>
<thead>
<tr>
<th>Each Applicant must complete and include the following:</th>
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<tbody>
<tr>
<td><strong>Application Form</strong> (Attachment 1)</td>
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<tr>
<td><strong>Project Narrative</strong></td>
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<tr>
<td><strong>Scope of Work</strong> (Attachment 2)</td>
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<td><strong>Schedule of Products and Due Dates</strong> (Attachment 4)</td>
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<td><strong>Budget Forms</strong> (Attachment 5)</td>
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<td><strong>Resumes</strong></td>
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<td><strong>Contact List</strong> (Attachment 6)</td>
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<td><strong>Letters of Support/Commitment</strong></td>
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<td><strong>CEQA Worksheet</strong> (Attachment 7)</td>
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<td><strong>Local Health Impacts Form</strong> (Attachment 8)</td>
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<td><strong>Past Performance Reference Form</strong> (Attachment 10)</td>
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</tbody>
</table>
• Applicants must include a completed Application Form which describes project eligibility and project proposal
The narrative (limited to 25 pages) must include a table of contents and provide:

- A detailed description of the proposed project and its innovation
- Operational goals and objectives
- The project approach and how tasks will be implemented through the proposed Scope of Work (Attachment 2)
- Applicants must address the scoring criteria described in Section IV.E
Scope of Work & Schedule of Products and Due Dates

Scope of Work (Attachment 2):

• Tell us exactly what you are proposing to do in your project
• Identify what will be delivered to the CEC
• Be sure to include in the technical tasks:
  – At least one product deliverable per task
  – Address requirements in Section II.B. under Project Requirements

Schedule of Products and Due Dates (Attachment 4):

– Product deliverables that correspond with the Scope of Work
– Realistic dates on when product deliverables can be completed
• Identify how CEC funds will be spent to complete the project
• All reimbursable costs must be incurred within the approved term of the funding agreement
• Applicants must include resumes for key personnel identified in the application
• Resumes are limited to a maximum of 2 pages each
• Applicants must include a completed Contact List (Attachment 6) by including the appropriate points of contact for the Applicant
• The CEC will complete the CEC points of contact during agreement development
Letters of Support/Commitment

- Follow guidelines provided for commitment and support letters
  - Commitment letters are required for entities or individuals that are committing match funding or testing/demonstration sites, including the Prime applicant
  - Support letters describe a project stakeholder’s interest or involvement in the project
- Any project partners that will make contributions to the project must submit a commitment letter
- Limit of two pages per letter
• Applicants must include a completed CEQA worksheet to determine CEQA compliance obligations
• Applicants must complete and submit a Local Health Impacts Information Form (Attachment 8)

• The CEC requires this information to assist in developing and publishing a localized health impacts report
Past Performance Reference Form (Attachment 10)

• Provide references for each CEC agreement (e.g., contract, grant, or loan) received by the Applicant in the last 10 years, and the 5 most recent agreements with other public agencies within the past 10 years

• References may be contacted by CEC staff

• Applicants should fill out a separate Past Performance Reference Form for each reference addressed in the Project Narrative
Administrative Screening Process

1. CEC staff screens applications per criteria in Section IV.A.2.
2. Criteria are evaluated on a pass/fail basis.
3. Applicants must pass ALL administrative & technical screening criteria, or the application shall be disqualified and eliminated from further evaluation.
Technical Screening Criteria

1. The Applicant is an eligible Applicant.
2. The project is an eligible project.
3. The project meets the minimum match share requirements.
4. The Applicant passes the past performance screening criterion.
Applicant Past Performance with the CEC (Pass/Fail)

1. CEC staff will screen full applications per criteria in Section VII.A.4.
2. Applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—must pass this screening criterion to be eligible to be scored under the evaluation criteria.
3. The Applicant may be disqualified due to severe performance issues characterized by significant negative outcomes under one or more prior or active CEC agreement(s) within the last 10 years.
4. It is not a requirement to have been awarded a prior CEC grant in order to apply.
How Will My Application Be Evaluated?

- Evaluation Committee applies the scoring scale to the evaluation criteria.
- Applications must obtain a minimum passing score of 70 points in order to be considered for funding.
- Review Section IV of the manual and ensure the application provides a clear and complete response to each evaluation criterion.

### Scoring Criteria

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Maximum Points</th>
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<tbody>
<tr>
<td>1. Capacity and Throughput</td>
<td>60</td>
</tr>
<tr>
<td>2. Implementation and Technical Readiness</td>
<td>50</td>
</tr>
<tr>
<td>3. Team Resources, Qualifications, and Experience</td>
<td>45</td>
</tr>
<tr>
<td>4. Budget</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total Points Possible</strong></td>
<td><strong>200</strong></td>
</tr>
<tr>
<td><strong>Minimum Points to Pass (70%)</strong></td>
<td><strong>140</strong></td>
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</tbody>
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• Method of delivery is the CEC’s Grant Solicitation System, available at: https://gss.energy.ca.gov/

• Files must be in Microsoft Office Word (.doc, .docx) and Excel (.xls, .xlsx) formats, unless originally provided in the solicitation in another format.

• Until further notice, any requirement in CEC contract, grant, and loan solicitations to provide a signature is waived (even if it is in the screening criteria). No signature, even electronic, is necessary.
  ▪ https://www.energy.ca.gov/funding-opportunities/solicitations

• First-time users must register as a new user to access system.
### Key Activities and Dates

<table>
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<tr>
<th>Activity</th>
<th>Action Date</th>
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<tr>
<td>Solicitation Release</td>
<td>May 21, 2021</td>
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<tr>
<td>Pre-Application Workshop</td>
<td>June 1, 2021</td>
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<tr>
<td><strong>Deadline for Written Questions by 5:00 PM</strong></td>
<td><strong>June 8, 2021</strong></td>
</tr>
<tr>
<td>Anticipated Distribution of Questions/Answers</td>
<td>June 25, 2021</td>
</tr>
<tr>
<td><strong>Deadline to Submit Applications by 5:00 PM</strong></td>
<td><strong>July 16, 2021</strong></td>
</tr>
<tr>
<td>Anticipated Notice of Proposed Awards Posting</td>
<td>August 20, 2021</td>
</tr>
<tr>
<td>Anticipated CEC Business Meeting</td>
<td>October 13, 2021</td>
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Three ways to ask questions:

1. Use the raise hand function in Zoom:
   - Zoom Phone Controls:
     - *6 - Toggle mute/unmute.
     - *9 - Raise hand.
   - Please introduce yourself by stating your name and affiliation.
   - Keep questions under 3 minutes to allow time for others.

2. Type questions in the Q&A Box in Zoom:
   - Please provide name and affiliation.

3. Submit written questions:
   - Send written questions to Marissa.Sutton@energy.ca.gov no later than June 8, 2021 5:00 PM PST.

Note that an official CEC response will be provided in writing and posted on the GFO webpage in approximately two weeks.
Please send all questions related to GFO-20-610 to:

Marissa Sutton
Commission Agreement Officer
1516 Ninth Street, MS-18
Sacramento, California 95814
(916) 896-1586
Marissa.Sutton@energy.ca.gov

Deadline to submit questions: Tuesday, June 8, 2021 5:00 PM
Deadline to submit Applications: Friday, July 16, 2021 5:00 PM