



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

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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):
<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.



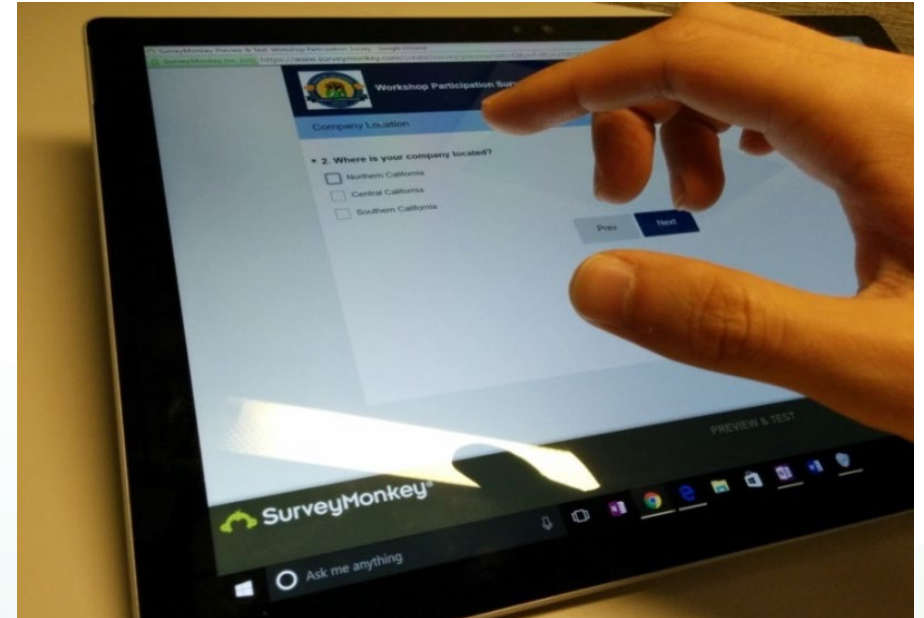
We Want to Hear From You!

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=RBI6rPQT9k6NG7qicUgZTr-yTq0EPzxCrHqjo8xgsAVUMFdQQkYwTUhQOU0zUFFDNDdFTU02RUNTVy4u):

<https://forms.office.com/Pages/ResponsePage.aspx?id=RBI6rPQT9k6NG7qicUgZTr-yTq0EPzxCrHqjo8xgsAVUMFdQQkYwTUhQOU0zUFFDNDdFTU02RUNTVy4u>



Thanks!



Find a Partner on EmpowerInnovation.net

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):
<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)



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.
- 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

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- 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

manual pg. 4

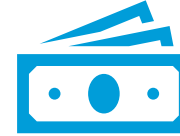
Convenience



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

Public Utilities Code 740.2 (e)

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.

Public Utilities Code 740.12(g)

Customer Choice



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

U.S. DOE EERE Public Plug-In Electric Vehicle Charging Infrastructure Guiding Principles

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

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

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- 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. *manual pg. 9*

- 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

manual pg. 10

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



Testing Operation and Maintenance

manual pg. 10

- 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)

manual pg. 11

- **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)



Project Requirements – Mandatory Standards (2)

manual pg. 12

- **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





Project Requirements – Mandatory Standards (2) Cont.

manual pg. 12

- **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)

manual pg. 13

- **Section 3.40 of the NIST 2020 Handbook 44 (Electric Vehicle Fueling Systems)**



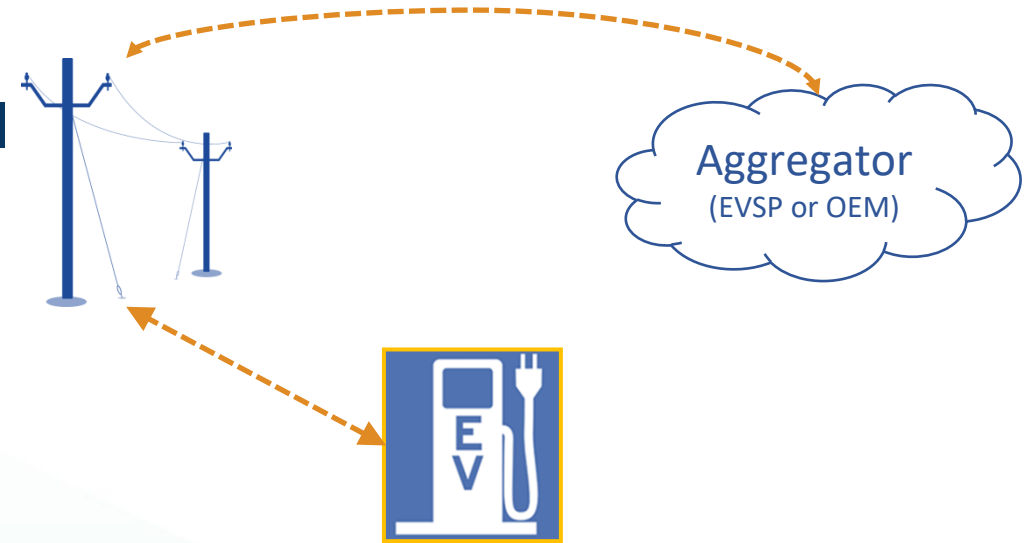
- S.2.4.3 - Selection of variable unit prices using equipment communicating with the EVSE system
 - S.3.1 - Protection of metrological components
 - S.4.2 - Directional controls to support the reversal of energy flow
-
- Implementation of this testing will serve as a complement to the California Department of Food and Agriculture's DMS California Type Evaluation Program (CTEP).



Project Requirements – Optional Standards (4) and (5)

manual pg. 14

- **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

manual pg. 14

- **Level 2 Alternating Current:** Conductive and Wireless Charging
- **Direct Current:** Conductive Charging
- **High-Powered:** Conductive, Wireless, and Pantograph Charging



Proposed Project Requirements – Eligible Interfaces

manual pg. 15

- **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

manual pg. 15

- 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

manual pg. 15

- 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



Application Requirements

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Each Applicant must complete and include the following:

Application Form (Attachment 1)	Project Narrative
Scope of Work (Attachment 2)	Schedule of Products and Due Dates (Attachment 4)
Budget Forms (Attachment 5)	Resumes
Contact List (Attachment 6)	Letters of Support/Commitment
CEQA Worksheet (Attachment 7)	Local Health Impacts Form (Attachment 8)
Past Performance Reference Form (Attachment 10)	



Application Form (Attachment 1)

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- Applicants must include a completed Application Form which describes project eligibility and project proposal



Project Narrative

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- 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

manual pg. 26

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



Budget (Attachment 5)

manual pg. 27

- 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



Resumes

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- Applicants must include resumes for key personnel identified in the application
- Resumes are limited to a maximum of 2 pages each



Contact List (Attachment 6)

manual pg. 29

- 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

manual pg. 29

- 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



CEQA Worksheet (Attachment 7)

manual pg. 29

- Applicants must include a completed CEQA worksheet to determine CEQA compliance obligations



Local Health Impacts Information Form (Attachment 8)

manual pg. 30

- 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)

manual pg. 30

- 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



How Will My Application Be Evaluated?

manual pg. 31

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.



How Will My Application Be Evaluated?

manual pg. 31

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.



How Will My Application Be Evaluated?

manual pg. 31

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?

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- 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	Maximum Points
1. Capacity and Throughput	60
2. Implementation and Technical Readiness	50
3. Team Resources, Qualifications, and Experience	45
4. Budget	45
Total Points Possible	200
Minimum Points to Pass (70%)	140



GFO Submission Requirements

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- Method of delivery is [the CEC's Grant Solicitation System](https://gss.energy.ca.gov/), 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

manual pg. 5

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



Questions and Answers

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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.



Additional Questions

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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