**GRANT FUNDING OPPORTUNITY**

**Innovative Hydrogen Refueling Solutions for Heavy Transport**

**Gas R&D Program and Clean Transportation Program**



**GFO-22-502 Addendum 02**

https://www.energy.ca.gov/funding-opportunities/solicitations

**State of California**

**California Energy Commission**

**[~~October 2022~~] February 2023**

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| **Attachments**

| Attachment Number | Title of Section |
| --- | --- |
| 1A | Pre-Application Abstract Form ***(requires signature)*** |
| 2A | Pre-Application Abstract Project Summary |
| 1 | Full Application Form ***(requires signature)*** |
| 2 | Executive Summary Form |
| 3 | Project Narrative Form |
| 4 | Project Team Form |
| 5 | Scope of Work Template **(choose based on Group)** |
| 6 | Project Schedule **(choose based on Group)** |
| 7 | Budget  |
| 8 | CEQA Compliance Form  |
| 9 | References and Work Product Form |
| 10 | Commitment and Support Letters ***(requires signature)*** |
| 11 | Project Performance Metrics |
| 12 | Applicant Declaration ***(requires signature)*** |
| 13 | California-Based Entity (CBE) Form **(Group 1 and 2 only)** |
| 14 | Localized Health Impacts Information Form **(Group 3 only)** |
| 15 | ZVI Terms and Conditions **(Group 3 only)** |
| 16 | Scope of Work Instructions for Group 3 **(Group 3 only)** |

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# I. Introduction

## Purpose of Solicitation

The purpose of this solicitation is to fund research, development, and demonstration projects that support the approved fiscal year (FY) 21-22 and pending FY 22-23 Gas R&D Program Plan’s transportation initiative titled “Advanced Hydrogen Refueling Infrastructure Solutions for Heavy Transport". In partnership with the California Energy Commission’s (CEC) Clean Transportation Program (CTP), the solicitation will also support the 2021-2023 Investment Plan Update for the CTP’s allocation for Medium- and Heavy-Duty (MDHD) Zero-Emission Vehicles and Infrastructure activities.

In order to accelerate actions to mitigate climate change, Governor Newsom signed Executive Order (EO) N-79-20 in September 2020 and set targets for 100 percent of MDHD vehicles to be zero-emission by 2045 and 100 percent of off-road vehicles to be zero-emission by 2035, for all operations where feasible.[[1]](#footnote-2) Hydrogen fuel cells are a complementary zero-emission vehicle (ZEV) technology, which may help decarbonize heavy off-road transport applications that can be challenging to electrify directly due to high energy requirements and continuous or multiple-shift operations that require fast refueling times. Referencing EO N-79-20, the California Air Resources Board’s 2022 Draft Scoping Plan identifies ZEV transportation-related actions needed to achieve carbon neutrality by 2045 under the Proposed Scenario.[[2]](#footnote-3) Hydrogen fuel cells can potentially provide a decarbonization pathway for end-use sectors including, but not limited to trucks, aviation, ocean-going vessels, port operations, freight and passenger rail, and construction equipment.

MDHD vehicles and off-road mobile sources together are responsible for more than 65 percent of oxides of nitrogen (NOx) emissions and more than 10 percent of greenhouse gas (GHG) emissions statewide.[[3]](#footnote-4) Diesel engines, which are widely used in off-road and MDHD vehicles, account for the vast majority of harmful diesel particulate matter emissions that are linked to numerous negative health outcomes.[[4]](#footnote-5) Under-resourced communities located near ports, railyards, distribution centers, and highly trafficked roadways are exposed to higher concentrations of diesel particulate matter. Transitioning MDHD on-road vehicles and off-road vehicles to hydrogen fuel cell technology can reduce emissions and build demand for low carbon hydrogen, spurring development of hydrogen production and distribution at scale. Growing economies of scale can drive cost reductions for hydrogen in transportation as well as end-uses in other sectors that are difficult to decarbonize (for example, fertilizer and cement production).

Refueling costs, reliability, renewable hydrogen supply, and station siting delays are key challenges faced in the existing network of light-duty hydrogen refueling stations that will also need to be addressed for emerging applications.[[5]](#footnote-6) However, unlike the established network of light-duty hydrogen refueling stations, standardized hydrogen refueling infrastructure solutions for MDHD vehicles and off-road applications are still emerging. Additional research is needed to address performance gaps of existing hydrogen refueling solutions to support fuel cell technologies in these emerging sectors. This solicitation seeks to develop and demonstrate innovative hydrogen refueling solutions to support the decarbonization of emerging MDHD on-road and off-road vehicle applications, reduce hydrogen delivery and refueling costs, improve reliability, enable higher fill rates, and minimize energy losses.

The 2021 Infrastructure Investment and Jobs Act (IIJA) allocated $8 billion dollars for the development of at least four regional clean hydrogen hubs as part of the Regional Clean Hydrogen Hubs Program.[[6]](#footnote-7) California has formally announced its intent to seek one of these hydrogen hubs.[[7]](#footnote-8) This solicitation supports California's application for the forthcoming federal hydrogen hubs opportunity and will accelerate the adoption of clean hydrogen technology in the state.

Projects must fall within the following project groups:

* **Group 1**: **Mobile Off-Road Equipment;**
* **Group 2**: **Emerging Off-Road Applications; and**
* **Group 3: MDHD On-Road Vehicles**

See Part II of this solicitation for project eligibility requirements. Applications will be evaluated as follows: Stage One proposal screening and Stage Two proposal scoring. Applicants may submit multiple applications, though each application must address only one of the project groups identified above. If an applicant submits multiple applications that address the same project group, each application must be for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work).

Prospective applicants looking for partnering opportunities for this funding opportunity should register on the CEC’s Empower Innovation website at www.empowerinnovation.net.

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| AHJ | Authorities having jurisdiction |
| Applicant | The entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. |
| ARB | California Air Resources Board |
| Authorized Representative | *Authorized Representative*, the person signing the application form who has authority to enter into an agreement with the CEC.  |
| CAM | *Commission Agreement Manager,* the person designated by the CEC to oversee the performance of an agreement resulting from this solicitation and to serve as the main point of contact for the Recipient. |
| CAO | Commission Agreement Officer |
| CBE | California-Based Entity |
| CBO | Community Based Organization. A public or private nonprofit organization of demonstrated effectiveness that: 1. Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve.
2. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community.
3. Has an official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
4. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.
 |
| CEC | State Energy Resources Conservation and Development Commission or, the California Energy Commission |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| CUPA | Certified Unified Program Agency |
| Days | *Days refers to calendar days* |
| Disadvantaged Community | These are communities in the top 25 percent scoring areas from CalEnviroScreen 4.0 along with other areas with high amounts of pollution and low populations.(https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40)  |
| GAAP | Generally Accepted Accounting Principles |
| Gas IOU | *Gas Investor-owned utility,* including Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Gas Co. |
| GHG | Greenhouse gas |
| HSP | Hydrogen Safety Panel |
| Low-Income Community | *Low-income Communities* are defined as communities within census tracts with median household incomes at or below 80 percent of the statewide median income or the applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development. (https://www.hcd.ca.gov/state-and-federal-income) |
| MDHD | Medium- and Heavy-Duty  |
| NOPA | *Notice of Proposed Award,* a public notice by the CEC that identifies award recipients. |
| NOx | Oxides of nitrogen |
| Pre-Commercial Technology | *Pre-commercial Technology* means a technology that has not reached commercial maturity or been deployed at scales sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable the appraisal of operational and performance characteristics, or of financial risks. |
| Pilot Test | *Pilot test* means small scale testing in the laboratory or testing on a small portion of the production line of the affected industry. Pilot tests help to verify the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations |
| Principal Investigator | The technical lead for the applicant’s project, who is responsible for overseeing the project; in some instances, the Principal Investigator and Project Manager may be the same person.  |
| Project Manager | The person designated by the applicant to oversee the project and to serve as the main point of contact for the CEC. |
| Project Partner | An entity or individual that contributes financially or otherwise to the project (e.g., match funding, provision of a test, demonstration or deployment site), and does not receive CEC funds.  |
| Recipient | An entity receiving an award under this solicitation. |
| Solicitation | This entire document, including all attachments, exhibits, any addendum and written notices, and questions and answers (“solicitation” may be used interchangeably with “Grant Funding Opportunity”).  |
| State | State of California |
| TRL | *Technology readiness levels*, are a method for estimating the maturity of technologies during the acquisition phase of a program.Source: U.S. Department of Energy, “Technology Readiness Assessment Guide”. <https://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf> |
| ZEV | Zero-emission vehicle |

## Project Focus

**Project Requirements**

All projects must develop and demonstrate innovative hydrogen refueling solutions that support the decarbonization of emerging MDHD on-road and off-road vehicle applications, reduce hydrogen delivery and refueling costs, improve reliability, enable higher fill rates, and minimize energy losses. Examples of innovative hydrogen refueling solutions include, but are not limited to the following:

* Flexible mobile hydrogen refueler technologies to enable fuel cell adoption for off-road applications that currently rely on diesel mobile refuelers and lack practical access to permanent stations.
* High flow rate gaseous or liquid systems for MDHD on-road or off-road vehicles that require large onboard hydrogen storage capacities and fast refueling times
* Advanced compressors, cryopumps, chillers, or other components with higher efficiency, improved reliability, and/or lower capital costs.
* Innovative station configurations to reduce footprint, accelerate time to deploy, increase utilization, and/or integrate on-site renewable hydrogen production.

Applicants must select a Project Group based on the vehicle type(s) that the project aims to support using their proposed innovative hydrogen refueling solution. The table below identifies the eligible vehicle types for each Group.

|  |  |
| --- | --- |
| **Project Group** | **Eligible Vehicle Types** |
| Group 1: Off-Road Mobile Equipment | * Mobile agricultural equipment,
* Construction equipment,
* Mining equipment,
* Airport ground support equipment,
* Cargo handling equipment
 |
| Group 2: Emerging Off-Road Applications | * Freight locomotives,
* Passenger locomotives or multiple units,
* Commercial harbor craft,
* Ocean-going vessels,
* Aircraft
 |
| Group 3: MDHD On-Road Vehicles | * Trucks,
* Buses,
* Multi-modal solutions that support both MDHD on-road vehicles and other end-uses with shared equipment
 |

Applicants must justify their choice of vehicle type based on potential market demand, duty cycle compatibility, and favorability of hydrogen fuel cell technology as a zero-emission pathway. Applicants must also describe the baseline use case, expected hydrogen fueling performance needed for industry acceptance, and any unique operational considerations when transitioning from conventional fuel to hydrogen for the target application.

Projects must also address the following requirements and describe how they plan to meet these requirements in the Project Narrative (Attachment 3):

* Address a gap in existing technology using the proposed innovative hydrogen refueling solution to better enable hydrogen as a decarbonization pathway for the chosen vehicle type and use case.
* Aim to achieve improvements in at least one of the following target metrics in the table below, along with any other proposed targets important for economic and operational viability of the innovative hydrogen refueling solution. Target metrics should be identified and explained in the Project Performance Metrics (Attachment 11).

|  |  |
| --- | --- |
| **Target Metric** | **Research Goal** |
| Flow rate (average) | >8 kg/min |
| Hydrogen delivery and refueling costs | $2 – 4/kg |
| Reliability (uptime) | >90% |
| Energy efficiency of hydrogen delivery (after production to vehicle tank) including losses from conditioning, distribution, and storage | >80% |

* Conduct laboratory testing and/or demonstrations to validate the proposed innovative hydrogen refueling solution for the target MDHD on-road or off-road application.
	+ **Group 1 and Group 2** projects, especially those requesting higher amounts of CEC funds, are highly encouraged but not required to propose demonstrations.
	+ **Group 3** projects must include demonstrations.
* Obtain the necessary permits, waivers, and approvals to conduct the laboratory testing and/or demonstration legally and safely.
* Demonstration projects must meet the following additional requirements:
	+ Vehicle(s) must be acquired to demonstrate real world performance using the innovative hydrogen refueling solution.
	+ Collect and provide the following data:
		- Number, type, date, and location of hydrogen refueling stations installed.
		- Nameplate capacity of the installed equipment, in kg/day of hydrogen.
		- Location type.
		- Total cost per refueling station, the subsidy from the CEC per refueling station, federal subsidy per refueling station, utility subsidy per refueling station, and privately funded share per refueling station.
	+ Demonstrate the innovative hydrogen refueling solution over a minimum period of 12 months to collect data including, but not limited to following:
		- Number of refueling sessions
		- Average refueling station downtime
		- Average refueling session duration
		- Average amount of hydrogen (kg) dispensed
		- Refueling rate (kg/min)
		- Delivery and refueling costs ($/kg)
		- Energy consumption per unit of hydrogen refueled (kWh/kg)
* Quantify the performance and economics associated with the improved hydrogen refueling solution and inform future development and commercialization efforts.
* Disseminate findings to a variety of stakeholders including but not limited to government agencies, national labs, industry groups, hydrogen safety experts, standards bodies, and commercial fleets.

**Hydrogen Safety Plan**

Each project is required to complete a Safety Plan after an agreement is executed and during the project term. A Safety Plan is not required for proposal submission. The CEC may consult with the Hydrogen Safety Panel (HSP) on the Safety Plans.

Applicants who receive funding under this solicitation will be required to adhere to the following requirements:

* **Develop a Safety Plan:** Consult with the HSP, if these services are available, to develop a Safety Plan that, at a minimum, shall include the following aspects:
	+ Scope of Work for the Safety Plan
	+ Organizational Safety Information
		- Organizational Policies and Procedures
		- Hydrogen and Fuel Cell Experience
	+ Project Safety
		- Identification of Safety Vulnerabilities
		- Risk Reduction Plan
		- Operating Procedures
		- Equipment and Mechanical Integrity
		- Management of Change Procedures
	+ Communications Plan
		- Training
		- Safety Reviews
		- Safety Events and Lessons Learned
		- Emergency Response
		- Self-Audits

The Safety Plan should be developed in accordance with the United States Department of Energy’s (U.S. DOE’s) Hydrogen Safety Panel’s most recent version of public guidelines titled Safety Planning for Hydrogen and Fuel Cell Projects, available at: https://h2tools.org/sites/default/files/Safety\_Planning\_for\_Hydrogen\_and\_Fuel\_Cell\_Projects.pdf

* **Hydrogen Safety Design Review:** After an award, the Recipient shall commit to participating with the HSP in early design reviews for their innovative hydrogen refueling projects, before submitting the design plans to the authorities having jurisdiction (AHJ). The Recipient shall work with the HSP to determine the timing and scope of their design review participation, including options for remote or in-person reviews.

Participating in HSP design reviews will be a mandatory technical task and shall be completed by the dates specified in the Schedule of Products and Due Dates. Should the Recipient cease participating in design reviews, without limitation to any other rights, the CEC reserves the right to cancel any agreement funded by this solicitation.

* **Release and Incident Report:** Recipients shall report unintended hydrogen releases or incidents pursuant to the California Health and Safety Code Section 25510(a) and the Safety Planning for Hydrogen and Fuel Cell Projects guidance document, available at http://cersapps.calepa.ca.gov/Public/Directory. A copy of any report submitted to the Certified Unified Program Agency (CUPA) shall be submitted to the CEC within 10 days in addition to any other required federal reporting available at http://h2tools.org/lessons.

## Funding

1. **Amount Available and Minimum/ Maximum Funding Amounts**

There is **up to $16,500,000** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below.

| Project Group | Available Funding | Minimum award amount | Maximum award amount | Minimum match funding(Percent of CEC Funds Requested) |
| --- | --- | --- | --- | --- |
| Group 1: Mobile Off-Road Equipment | $3,000,000 | $1,500,000 | $3,000,000 | 25 percent |
| Group 2: Emerging Off-Road Applications | $5,500,000 | $3,000,000 | $5,500,000  | 25 percent |
| Group 3: MDHD On-Road Vehicles | $8,000,000 | $2,000,000 | $4,000,000 | 25 percent |

1. **Match Funding Requirement**

Match funding is required in the amount of at least **25 percent** of the requested project funds.

For the definition of match funding see Section I.J.

1. **Change in Funding Amount**

Along with any other rights and remedies available to it, the CEC reserves the right to:

* Increase or decrease the available funding and the minimum/maximum award amounts described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* Reallocate funding between any of the groups.
* Reduce funding to an amount deemed appropriate if the budgeted funds do not provide full funding for agreements. In this event, the Recipient and Commission Agreement Manager will reach agreement on a reduced Scope of Work commensurate with available funding.
1. **Unallowable Costs**

For an item of cost to be allowable, it must be included in the approved agreement budget and allowable per the terms and conditions of the resulting agreement. The following are examples of unallowable costs under an agreement resulting from this solicitation. This list is not comprehensive and additional items of cost may be unallowable in accordance with the terms and conditions.

* **Forgone Profit** – For example, if a company usually charges 10 percent profit but only charges 4 percent to CEC. The unclaimed difference is not an allowable item of cost.
* **Forgone Rent** – For example, rents that are not paid is not an allowable item of reimbursable cost.
* **Discounted or Refunded Equipment Costs** – For example, a claim that equipment costs $10,000 but recipient only pays $6,000 due to some “special” discount. The difference of $4,000 is not an allowable match share expense. Another example is if the recipient actually pays $10,000 but the vendor refunds $4,000 – only the net $6,000 is an allowable item of cost.
* **Foregone Salary, Fringe, Indirect or Other Types of Costs** – For example, a person normally charges or is paid $100 per hour, but will only charge $50 per hour towards the CEC award. Only actual costs incurred and paid to the employee are allowable. Therefore, if an employee is actually paid $100 per hour and CEC only reimburses at $40 per hour, then the unreimbursed $60 per hour is an allowable match share cost because this is an actual payment as opposed to a foregone salary amount. Volunteer labor (i.e., labor from a person who does not receive any compensation for their labor) may be an allowable in-kind match share expense if the value of the labor is reasonable and justified.
* **Vehicle Acquisition Costs** – CEC funds cannot be used to purchase or lease vehicles for the proposed project. Applicants may use match funds to purchase or lease hydrogen fuel cell vehicles (see Section I.J for more information on Match Funds). To demonstrate real-world performance of proposed innovative hydrogen refueling solutions, applicants are encouraged to leverage other programs to purchase or lease vehicles such as the California Air Resources Board’s Advanced Technology Demonstrations and Pilots solicitation, Clean Off-Road Equipment Voucher Incentive Project (CORE), Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), or the Carl Moyer Program.
* **Hydrogen Fuel Costs** – CEC funds cannot be used to purchase hydrogen fuel for the proposed project. Applicants may use match funds to purchase hydrogen fuel (see Section I.J for more information on Match Funds). Applicants are encouraged to source hydrogen from low carbon pathways, such as electrolysis using renewable electricity, to maximize project benefits (see Section IV for more information on scoring criteria).

## Key Activities Schedule

Key activities, dates, and times for this solicitation and for agreements resulting from this solicitation are presented below. An addendum will be released if the dates change for activities that appear in **bold.**

| ACTIVITY | DATE | TIME[[8]](#footnote-9)  |
| --- | --- | --- |
| Solicitation Release | October 3, 2022 |  |
| **Pre-Application Workshop** | **October 14, 2022** | **10:00 a.m.** |
| **Deadline for Written Questions[[9]](#footnote-10)** | **October 21, 2022** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers  | November 7, 2022 |  |
| **Deadline to Submit Pre-Application Abstracts** | **November 18, 2022** | **11:59 p.m.** |
| Anticipated Notice of Pre-Application Abstracts Results Posting Date | January 11, 2023 |  |
| **Deadline to Submit Full Applications** | **[~~February 24, 2023~~] March 3, 2023** | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | April 21, 2023 |  |
| Anticipated Energy Commission Business Meeting Date | July 12, 2023 |  |
| Anticipated Agreement Start Date | July 31, 2023 |  |
| Anticipated Agreement End Date  | March 31, 2026 |  |

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss the solicitation with potential applicants. Participation is optional but encouraged. The Pre-Application Workshop will be held remotely. Applicants may attend the workshop via the internet (Zoom, see instructions below), or via conference call on the date and at the time and location listed below. Please refer to the CEC's website at https://www.energy.ca.gov/funding-opportunities/solicitations to confirm the date and time.

**Date and time:** October 14, 2022 at 10:00 a.m.

**Zoom Instructions:**

To join the Zoom meeting, go to https://zoom.us/join and enter the Meeting ID below and select “join from your browser”. Participants will then enter the meeting password listed below and their name. Participants will select the “Join” button.

**Meeting ID:** 978 2817 4504

**Meeting Password:** 519893

**Topic:** GFO-22-502 Innovative Hydrogen Refueling Solutions for Heavy Transport

**Telephone Access Only:**

Call **(888) 475-4499** (Toll Free) or **(877) 853-5257** (Toll Free). When prompted, enter the meeting number above. International callers may select a number from the Zoom International Dial-in Number List at: https://energy.zoom.us/u/adjzKUXvoy. To comment, dial \*9 to “raise your hand” and \*6 to mute/unmute your phone line.

**Access by Mobile Device:**

Download the application from the Zoom Download Center, https://energy.zoom.us/download.

**Technical Support:**

* For assistance with problems or questions about joining or attending the meeting,

please call Zoom Technical Support at **(888) 799-9666 ext. 2**. You may also contact the Public Advisor’s Office at publicadvisor@energy.ca.gov, or (800)- 822-6228.

* System Requirements: To determine whether your computer is compatible, visit:

 http://support.-zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows

* If you have a disability and require assistance to participate, please Erica Rodriguez by e-mail at Erica.Rodriguez@energy.ca.gov or (916) 764-5705 at least five days in advance.

## Questions

During the solicitation process, direct questions to the Commission Agreement Officer (CAO) listed below:

Brad Worster, Commission Agreement Officer

California Energy Commission

715 P Street, MS-18

Sacramento, California 95814

Telephone: (916) 897-1647

E-mail: brad.worster@energy.ca.gov

Applicants may ask questions at the Pre-Application Workshop, and may submit written questions via email. However, all **technical** questions must be received by the deadline listed in the “Key Activities Schedule” above. Questions received after the deadline may be answered at the CEC's discretion. **Non-technical** questions (e.g., questions concerning application format requirements or attachment instructions) may be submitted to the CAO at any time prior to 5:00 p.m. of the application deadline date.

The questions and answers will also be posted on the CEC’s website at: https://www.energy.ca.gov/funding-opportunities/solicitations.

If an applicant discovers a **conflict, discrepancy, omission, or other error** in the solicitation at any time prior to 5:00 p.m. of the application deadline date, the applicant may notify the CEC in writing and request modification or clarification of the solicitation. The CEC, at its discretion, will provide modifications or clarifications by either an addendum to the solicitation or by written notice to all entities that requested the clarification. At its discretion, the CEC may, in addition to any other actions, choose to re-open the question/answer period to provide all applicants the opportunity to seek any further clarification required.

**Any verbal communication with a CEC employee concerning this solicitation is not binding on the State and will in no way alter a specification, term, or condition of the solicitation. Therefore, all communication should be directed in writing to the assigned CAO.**

## Applicants’ Admonishment

This solicitation contains application requirements and instructions. Applicants are responsible for **carefully reading** the solicitation, asking appropriate questions in a timely manner, ensuring that all solicitation requirements are met, submitting all required responses in a complete manner by the required date and time, and **carefully rereading** the solicitation before submitting an application. In particular, please carefully read the **Screening/Scoring Criteria and** **Grounds for Rejection** in Part IV.

For **Group 1 and Group 2**, please carefully read the relevant Gas R&D Grant terms and conditions (formerly known as PIER Grant terms and conditions) located at: https://www.energy.ca.gov/funding-opportunities/funding-resources. (See expandable menu under “EPIC, FPIP, and PIER Contractors’ Information”.)

For **Group 3**, please carefully read the Zero-Emission Vehicle Infrastructure (ZVI) Terms and Conditions (Attachment 15).

Applicants are solely responsible for the cost of developing applications. This cost cannot be charged to the State. All submitted documents will become publicly available records upon the posting of the Notice of Proposed Award.

In addition to any other right reserved to it under this solicitation or that it otherwise has, if the CEC determines, in its sole and absolute discretion, that an agreement is not being successfully executed with an applicant in a timely manner, the CEC may cancel a proposed award and award funds to the next highest scoring applicant.

## Background

1. **Gas R&D Program[[10]](#footnote-11)**

This solicitation will award projects under the Gas R&D program (formerly PIER Natural Gas R&D program), which is funded by a ratepayer surcharge on gas consumed by ratepayers of Gas IOUs in California (see California Public Utilities Code section 890 and 895). The California Public Utilities Commission (CPUC) designated the CEC as administrator of the program in August 2004[[11]](#footnote-12). The purpose of the program is to benefit California gas ratepayers by funding public interest research and development activities, which the CPUC has defined as “developing science or technology, the benefits of which accrues to California citizens and are not adequately addressed by competitive or regulated entities.”[[12]](#footnote-13)

1. **Clean Transportation Program (CTP)**

This solicitation may include funding from the Clean Transportation Program. Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program. The statute authorizes the CEC to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorized the Clean Transportation Program through January 1, 2024.

The Clean Transportation Program has an annual budget of approximately $100 million and provides financial support for projects that:

* Reduce California’s use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
* Produce sustainable alternative and renewable low-carbon fuels in California. Expand alternative fueling infrastructure and fueling stations.
* Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
* Retrofit MDHD on-road and non-road vehicle fleets to alternative technologies or fuel use.
* Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
* Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.
1. **Zero-Emission Vehicle Infrastructure (ZVI) Funding**

This solicitation includes ZVI funding from the Budget Act of 2021 (AB 128, Ting, Chapter 21, Statutes of 2021, as amended by Senate Bill (SB) 129, Skinner, Chapter 69, Statutes of 2021 and SB 170, Skinner, Chapter 240, Statutes of 2021) which appropriated $785,000,000 from the General Fund to support infrastructure deployments and manufacturing projects for zero-emission light-duty and MDHD vehicles.

1. **Program Areas, Strategic Objectives, and Funding Initiatives**

Gas R&D projects must fall within one or more specific focus areas (**“research initiatives”**) identified in the Gas R&D Budget Plan. This solicitation targets the following research initiative(s) from the Gas R&D Budget Plan for Fiscal Year 2020/2021[[13]](#footnote-14) and 2021/2022[[14]](#footnote-15). This solicitation also targets the following funding activity from the 2021-2023 Investment Plan Update for the Clean Transportation Program[[15]](#footnote-16):

**Fiscal Year 2020-21 Gas R&D Budget Plan**

* **Research Area**: Transportation
	+ **Research Initiative:** Advanced Hydrogen Refueling Infrastructure Solutions for Heavy Transport

**Fiscal Year 2021-22 Gas R&D Budget Plan**

* **Research Area**: Transportation
	+ **Research Initiative:** Advanced Hydrogen Refueling Infrastructure Solutions for Heavy Transport

**2021-2023 Investment Plan Update for the Clean Transportation Program**

* **Funded Activity:** Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure
1. **Applicable Laws, Policies, and Background Documents**

This solicitation addresses the energy goals described in the following laws, policies, and background documents.

Laws/Regulations

* **Assembly Bill (AB) 32 - Global Warming Solutions Act of 2006**

AB 32created a comprehensive program to reduce GHG emissions in California. GHG reduction strategies include a reduction mandate of 1990 levels by 2020 and a cap-and-trade program. AB 32 also required the California Air Resources Board (CARB) to develop a Scoping Plan that describes the approach California will take to reduce GHGs. ARB must update the plan every five years.

Additional information: http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb\_0001-0050/sb\_32\_bill\_20160908\_chaptered.htm

Applicable Law: California Health and Safety Code §§ 38500 et. seq.

* **Senate Bill (SB) 32 - California Global Warming Solutions Act of 2006: emissions limit**

SB 32 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of GHG emissions. The state board is required to approve a statewide GHG emissions limit equivalent to the statewide GHG emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG emissions reductions. This requires the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030.

Additional information: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan

* **SB 1505 – Fuel: Hydrogen Alternative Fuel**

SB 1505 requires CARB to adopt regulations that will ensure that state funding for the production and use of hydrogen fuel contributes to the reduction of GHG, criteria pollutant, and toxic air contaminant emissions, and would require these regulations to meet minimum requirements.

Additional information: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\_id=200520060SB1505

Policies/Plans

* **Integrated Energy Policy Report (Biennial)**

California Public Resources Code Section 25302 requires the CEC to release a biennial report that provides an overview of major energy trends and issues facing the state. The IEPR assesses and forecasts all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and pricing. The CEC uses these assessments and forecasts to develop energy policies and provide recommendations for future research and analysis areas.

Additional information: http://www.energy.ca.gov/energypolicy

Applicable Law: California Public Resources Code § 25300 et seq.

* **Executive Order B-55-18**

Governor Brown’s Executive Order B-55-18 established a new statewide goal to achieve carbon neutrality no later than 2045. In addition, all policies and programs undertaken must seek to improve air quality and support the health and economic resiliency of urban and rural communities, particularly low-income and disadvantaged communities.

Additional information: https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf

* **Executive Order N-79-20**

Governor Newsom’s Executive Order N-79-20 ordered several actions to combat the climate crisis including the establishment of new statewide targets to reach 100 percent sales of new passenger vehicles being zero emission by 2030, transition to 100 percent zero-emission drayage trucks by 2035, and 100 percent zero-emission medium- and heavy-duty vehicles by 2045 where feasible. It also sets a goal for the State to transition 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

Additional information: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf

Reference Documents

Refer to the documents below for information about activities associated with the CEC’s Gas R&D Program and Clean Transportation Program:

* https://www.energy.ca.gov/programs-and-topics/topics/research-and-development
* https://www.energy.ca.gov/programs-and-topics/programs/natural-gas-program
* https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program
* https://www.empowerinnovation.net/

## Match Funding

* **“Match funds”** includes cash or in-kind (non-cash) contributions provided by the applicant, subcontractors, or other parties including pilot testing, demonstration, and/or deployment sites (e.g., test site staff services) that will be used in performance of the proposed project.

“Match funds” do not include: CEC awards, future/contingent awards from other entities (public or private), the cost or value of the project work site, or the cost or value of structures or other improvements affixed to the project work site permanently or for an indefinite period of time (e.g., photovoltaic systems).

Definitions of “match funding” categories are listed below:

* + - **“Cash”** **match** means funds that are in the Recipient’s possession or proposed by match partner and clearly identified in a support letter, and are reserved for the proposed project, meaning that they have not been committed for use or pledged as match for any other project. Cash match can include funding awards earned or received from other agencies for the proposed technologies or study (but not for the identical work). Proof that the funds exist as cash is required. Cash match will be considered more favorably than in-kind contributions during the scoring phase.
		- **“In-Kind”** **match** is typically in the form of the value of personnel, goods, and services, including direct and indirect costs. This can include equipment, facilities, and other property as long as the value of the contribution is based on documented market values or book values, prorated for its use in the project, and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP).
* Match fund expenditures are allowed to be incurred or spent at different points depending on the project’s Group and associated Program, as described below:
	+ **For Group 1 and Group 2 projects,** match funds allocable to Gas R&D Program funds must be spent only during the agreement term, either before or concurrently with CEC funds. Match funds also must be reported in invoices submitted to the CEC.
	+ **For Group 3 projects**, match fund expenditures allocable to Clean Transportation Program or ZVI funds are allowable under an agreement only if they are incurred after the CEC notifies the applicant that its project has been proposed for an award through the release of a Notice of Proposed Awards (NOPA). Match expenditures incurred prior to the approval and execution of an agreement are made at the applicant’s own risk. The CEC is not liable for the applicant’smatch fund costs if the grant is not approved, if approval is delayed, or if the match share expenditure is not allowable under the terms and conditions of the grant or this solicitation. Please note that non-match expenditures incurred prior to agreement execution are not reimbursable from CEC funds.
* All applicants providing match funds must submit commitment letters, **including prime and subcontractors**, that: (1) identify the source(s) of the funds; (2) justify the dollar value claimed; (3) provide an unqualified (i.e., without reservation or limitation) commitment that guarantees the availability of the funds for the project; and (4) provide a strategy for replacing the funds if they are significantly reduced or lost. Please see Attachment 10, Commitment and Support Letter Form. Commitment and support letters must be submitted with the application to be considered.
* Any match pledged in Attachment 1, Full Application Form, must be consistent with the amount or dollar value described in the commitment letter(s) (e.g., if $5,000 “cash in hand” funds are pledged in a commitment letter, Attachment 1 must match this amount). **Only the total amount pledged in the commitment letter(s) will be considered for match funding points.**
* Examples of preferred match share:
	+ - **“Travel”** refers to all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state, and travel to conferences. CEC funds are limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage). Use of match funds for out-of-state travel is encouraged, as the CEC discourages and may not approve the use of its funds for such travel. If an applicant plans to travel to conferences, including registration fees, they must use match funds. Applicants shall adhere to travel restrictions of using state funds to travel to certain other states pursuant to AB 1887 (2016) and codified at California Government Code Section 11139.8. All applicants are encouraged to consider the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Awarded Grants under this solicitation shall not contain travel paid for with CEC funds (applicants can instead use match funds) to the listed states unless the CEC approves in writing that the trip falls within one of the exceptions under the law.
		- **“Equipment”** isan item with a unit cost of at least $5,000 and a useful life of at least one year. **Purchasing equipment with match funding is encouraged** as there are no disposition requirements at the end of the agreement for such equipment. Typically, grant Recipients may continue to use equipment purchased with CEC funds if the use is consistent with the intent of the original agreement.
		- **“Materials”** under Materials and Miscellaneous are items under the agreement that do not meet the definition of Equipment (unit cost of at least $5,000 and a useful life of at least one year). **Using match funds for purchasing items such as laptops, notebooks and/or personal tablets is encouraged, as CEC funds for these purchases is not allowed.**
* **Match Share Restrictions**
* **Other Sources of CEC Funding** – Other sources of CEC funding may not be used as match share.
* **Property Not Owned by the Applicant** – Donated property may be claimed as match based on the fair market value of renting or leasing the property. Fair market value is based on rental costs of comparable property (if any), market conditions in the area, alternatives available and the type, life expectancy, condition, and value of the property.
* **Existing Property Owned by the Recipient** – Applicants may use the property’s depreciation expense as a method to allocate the value of the property to the project. Valuation will need to be documented to support the initial acquisition costs as well as the method of depreciation.
* **Valuation of Land** – Land cannot be depreciated. If the value of land is claimed as match, the applicant must provide documentation to support a fair market value for the use of the land (i.e., rent or lease cost) for the time period it is used. Appraised value of land cannot be used since this represents the full value of the land if it is sold which includes value beyond the term of the proposed project.
* **Property Owned by a Related Party** – Related parties are individuals or other entities that are able to control or substantially influence the actions of the applicant and includes spouses, board members, family members of principals or employees of the applicant as well as property owned by principals/employees of the applicant. Because agreements between related parties are “less than arms-length” transactions, applicants must disclose to CEC the relationship and be able to support the fair market value of property that is claimed as match.

If CEC funds are used to reimburse lease/rental payments for property owned by a related party, the applicant can only claim the lesser of fair market value or actual lease payments, regardless of lease agreement terms.

* **Prorated Value of Property** – The allowable claimed value of property must be prorated based on the percentage the property is used for the proposed project. For example, if only half of a building is being used for the proposed project, then only 50 percent of the monthly fair market value of the entire building can be claimed as match while the building is being used for the project.
* **Documentation** – If selected for an award under this solicitation, all claimed match share expenditures must be adequately documented to CEC during the agreement invoicing process which may include but is not limited to: the fair market value of existing property, methodology to allocate existing property on a prorated basis, lease agreements, and other appropriate documentation.

## Funds Spent in California and California-Based Entities

* Only CEC reimbursable funds count towards funds spent in California and funds spent on California-Based Entities (CBE) totals.
* “Spent in California” means that:
	+ Funds in the “Direct Labor category and all categories calculated based on direct labor (e.g., fringe benefits, indirect costs and profit) are paid to individuals that pay California state income taxes on wages received for work performed under the agreement. Payments made to out-of-state workers do not count as “funds spent in California.” However, funds spent by out-of-state workers in California (e.g., hotel and food) can count as “funds spent in California.”; AND
	+ (2) Business transactions (e.g., material and equipment purchases, leases, and rentals) are entered into with a business located in California.
	+ (3) Total should include any applicable subcontractors.
* Airline ticket purchases for out-of-state travel and payments made to out-of-state workers are not considered funds “spent in California.” However, funds spent by out-of-state workers in California (e.g., lodging) and airline travel originating and ending in California are considered funds “spent in California.” A business located in California means: 1) business is registered with the California Secretary of State AND 2) transaction is with a location in California that is directly related to the grant project (e.g., direct purchase of material and equipment to be used in the grant) and results in the support of California business and jobs.
	+ Example 1: Grant funds will be spent on temperature sensors. The temperature sensors are manufactured in Texas. The Recipient orders the temperature sensors directly from a California based supply house. The invoice shows that the transaction occurred with the California based supply house. This transaction is eligible and can be counted as funds spent in California.
	+ Example 2: Grant funds will be spent on temperature sensors. The temperature sensors are manufactured in Texas. The Recipient orders the temperature sensors directly from Texas. The manufacturer has training centers in California that instructs purchasers on how to use the sensors. The invoice shows that the transaction occurred in Texas. This transaction is not eligible and cannot be counted as funds spent in California.
* Pursuant to California Public Resources Code Section 25620.5(h), the CEC’s Gas R&D Program must give priority to “California-Based Entities” (CBEs) when making awards. California Public Resources Code Section 25620.5(i) defines “CBE” as a corporation or other business entity organized for the transaction of business that either:
	+ Has its headquarters in California AND manufactures in California the product that is the subject of the award; or
	+ Has an office for the transaction of business in California and substantially manufactures the product or substantially performs the research within California that is the subject of the award.
* **Group 1 and Group 2** applications must meet the following requirements in order to receive CBE preference points:
	+ The proposal must include a CBE as either the recipient or a subcontractor.
	+ The budget must show that the CBE(s) will receive more than 60.00 percent of the funds awarded.
* CBE preference points do not apply to **Group 3** projects.

# II. Applicant Eligibility Requirements

## Eligibility

This solicitation is open to all public and private entities. All projects under **Group 1 and Group 2** in this solicitation must benefit Gas IOU ratepayers. All demonstration/deployment sites must be located in California.

## Terms and Conditions

Each grant agreement resulting from this solicitation will include terms and conditions that set forth the recipient’s rights and responsibilities. By signing the Full Application Form (Attachment 1), each applicant agrees to enter into an agreement with the CEC to conduct the proposed project according to the terms and conditions that correspond to its organization and project group, without negotiation.

**For Group 1 and Group 2**, please refer to the applicable Gas R&D Grant terms and conditions (formerly known as PIER Grant terms and conditions) for (1) University of California and California State University terms and conditions; (2) U.S. Department of Energy terms and conditions; or (3) standard terms and conditions are located at https://www.energy.ca.gov/funding-opportunities/funding-resources. (See expandable menu under “EPIC, FPIP, and PIER Contractors’ Information”.)

**For Group 3**, the ZVI terms and conditions are located in Attachment 15.

Failure to agree to the terms and conditions by taking actions such as failing to sign the Application Form or indicating that acceptance is based on modification of the terms will result in **rejection** of the application. Applicants **must** **read** the terms and conditions carefully.The CEC reserves the right to modify the terms and conditionsprior to executing grant agreements.

## California Secretary of State Registration

All corporations, limited liability companies (LLCs), limited partnerships (LPs) and limited liability partnerships (LLPs) that conduct intrastate business in California are required to be registered and in good standing with the California Secretary of State prior to its project being recommended for approval at an CEC Business Meeting. If not currently registered with the California Secretary of State, applicants are encouraged to contact the Secretary of State’s Office as soon as possible to avoid potential delays in beginning the proposed project(s) (should the application be successful). For more information, contact the Secretary of State’s Office via its website at www.sos.ca.gov. Sole proprietors using a fictitious business name must be registered with the appropriate county and provide evidence of registration to the CEC prior to their project being recommended for approval at an CEC Business Meeting.

## D. Disadvantaged & Low-income Communities

In January of 2019, the California Public Utilities Commission (CPUC) Resolution G-3546 stated, “the Commission directs the CEC to enhance its engagement with disadvantaged communities.” In addition, the CPUC directed the CEC to incorporate an explicit long-term strategy for the role of the Gas R&D Program in the more aggressive statewide decarbonization goals set by Senate Bill 100 (De León, 2018) and Executive Order B-55-18.

The CEC is committed to ensuring all Californians have an opportunity to participate in and benefit from programs and services. While it is not required to complete the project within a disadvantaged community, demonstration projects located and benefiting disadvantaged and/or low-income communities will be considered under the scoring criteria for this GFO.

Low-income communities and households are defined as the census tracts and households, respectively, that are either at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development (HCD). Visit the California Department of Housing & Community Development site for the current HCD State Income Limits: http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml. Disadvantaged communities are defined as areas representing census tracts scoring in the top 25 percent in CalEnviroScreen 4.0. For more information on disadvantaged communities and to determine if your project is in a disadvantaged community, use the California Communities Environmental Health Screening tool (CalEnviroScreen): https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.

1.

# III. Application Organization and Submission Instructions

## Application Format, Page Limits, and Number of Copies

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

The following table summarizes the formatting and page limit recommendations for Pre-Application Abstracts:

|  |  |
| --- | --- |
| **Format** | * **Font:** 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters)
* **Margins:** No less than one inch on all sides (excluding headers and footers)
* **Spacing:** Single spaced, with a blank line between each paragraph
* **Signatures**: Wet signatures or certified electronic signatures
* **File Format:** MS Word version 2007 or later (.doc or .docx format), excluding Excel spreadsheets and commitment or support letters (PDF files are acceptable for the letters)
 |
| **Maximum Page Limit Recommendations** | * **Pre-Application Abstract Form** (Attachment 1A): no page limit
* **Pre-Application Abstract Project Summary Form** (Attachment 2A): **five** pages
* **Commitment and Support Letter Form** (Attachment 10): **two** pages, excluding the cover page
 |

The following table summarizes the formatting and page limit recommendations for Full Applications:

|  |  |
| --- | --- |
| **Format** | * **Font:** 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters)
* **Margins:** No less than one inch on all sides (excluding headers and footers)
* **Spacing:** Single spaced, with a blank line between each paragraph
* **Signatures**: Electronic or wet signatures
* **File Format:** MS Word version 2007 or later (.doc or .docx format), excluding Excel spreadsheets and commitment or support letters (PDF files are acceptable for the letters)
 |
| **Maximum Page Limit Recommendations** | * **Executive Summary** (Attachment 2): **two** pages
* **Project Narrative Form** (Attachment 3): **twenty** pages excluding documentation for CEQA
* **Project Team Form** (Attachment 4): **two** pages for each resume
* **Reference and Work Product Form** (Attachment 9): **one** page for each reference, **two** pages for each project description
* **Commitment and Support Letter Form** (Attachment 10): **two** pages, excluding the cover page
* **Scope of Work** (Attachment 5): **thirty** pages
* **Project Schedule** (Attachment 6): **four** pages
* There are no page limits for the following:
	+ **Application Form** (Attachment 1)
	+ **Budget Forms** (Attachment 7)
	+ **CEQA Compliance Form** (Attachment 8)
	+ **Project Performance Metrics** (Attachment 11)
 |

## Method For Delivery

The only method of submitting applications to this solicitation is the CEC’s Grant Solicitation System (GSS), available at: https://gss.energy.ca.gov/. This online tool allows applicants to submit their electronic documents to the CEC prior to the date and time specified in this solicitation. Electronic files must be in Microsoft Word XP (.doc format) or newer and Excel Office Suite formats unless originally provided in the solicitation in another format.  Attachments requiring signatures may be scanned and submitted in PDF format. Completed Budget Forms, (Attachment 7), must be in Excel format.

The deadline to submit grant applications through the CEC’s GSS is 11:59 p.m. The GSS system automatically closes at 11:59 p.m. If the full submittal process has not been completed before 11:59 p.m., your application will not be considered. NO EXCEPTIONS will be entertained.

The CEC strongly encourages applicants to upload and submit all applications by 5:00 p.m. because CEC staff will not be available after 5:00 p.m. or on weekends to assist with the upload process. And please note that while we endeavor to assist all would-be applicants, we can’t guarantee staff will be available for in-person consultation on the due date, so please plan accordingly.

Please give yourself ample time to complete all steps of the submission process: do not wait until right before the deadline to begin the process. Due to factors outside the CEC’s control and unrelated to the GSS system, upload times may be much longer than expected. For example, some past applicants experienced unexpected issues on their end, causing long delays that prevented timely submission. They spent significant time and resources on applications the CEC would not consider. Please plan accordingly. For instructions on how to apply using the GSS system, please see the How to Apply document available on the CEC website at: https://www.energy.ca.gov/media/1654.

First time users must register as a new user to access the system. Applicants will receive a confirmation email after all required documents have been successfully uploaded. A tutorial of the system will be provided at the Pre-Application Workshop, and you may contact the CAO identified in the Questions section of the solicitation for more assistance.

## Pre-Application Abstract Content

Below is a general description of each required section of the Pre-Application Abstract. Completeness in submitting all the information requested in each attachment will be factored into Pre-Application Abstract scoring.

* 1. **Pre-Application Abstract Form (Attachment 1A)**

This form requests basic information about the applicant and the project. Please reference each individual attachment for a detailed description of the information requested by that attachment. The application must include an original Pre-Application Abstract Form that includes all requested information. The Pre-Application Abstract Form must be signed by an authorized representative of the applicant’s organization or will be failed as indicated in Section IV.F.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

* 1. **Pre-Application Abstract Project Summary (Attachment 2A)**

The Pre-Application Abstract Project Summary will describe the proposed project and include the majority of the applicant’s responses to the Pre-Application Abstract Scoring Criteria in Section IV.G.

* 1. **Reference and Work Product Form (Attachment 9)**

See description for Attachment 9 in Section III.D.9.

* 1. **(Optional) Commitment and Support Letter Form (Attachment 10)**

See description for Attachment 10 in Section III.D.10. If the applicant has a site or match share commitment identified by this time and is able to prepare itself, or obtain, a commitment letter regarding the site or match share, the applicant is encouraged to include such a letter. Applicants not in these circumstances are not expected to have a commitment letter regarding a site or match share commitment.

Commitment letters are optional for the Pre-Application Abstract.

## Full Application Content

Below is a general description of each required section of the Full Application. Completeness in submitting all the information requested in each attachment will be factored into Full Application scoring.

1. Full Application Form (Attachment 1)

This form requests basic information about the applicant and the project. Please reference each individual attachment for a detailed description of the information requested by that attachment. The application must include an original Full Application Form that includes all requested information. The Full Application Form must be signed by an authorized representative of the applicant’s organization or will be failed as indicated in Section IV.E.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

1. Executive Summary Form (Attachment 2)

The Executive Summary includes: a project description; the project goals and objectives to be achieved; an explanation of how the goals and objectives will be achieved, quantified, and measured; and a description of the project tasks and overall management of the agreement.

1. Project Narrative Form (Attachment 3)

This form will include the majority of the applicant’s responses to the Scoring Criteria in Section IV, including the following which must be addressed for both Applied Research & Technology Demonstration projects:

* 1. **Group Specific Questions**
		+ Include required group specific information (see Section I.C.) in the specified sections.
	2. **Project Readiness**
		+ Include information about the permitting required for the project and whether or not the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction California Environmental Quality Act (CEQA) review and project approval is not complete, applications must include information documenting progress towards and a schedule for achieving compliance under CEQA. All supporting documentation must be included in Attachment 8.
1. Project Team Form (Attachment 4)

Identify by name all key personnel[[16]](#footnote-17) assigned to the project, including the project manager and principal investigator (if applicable), and individuals employed by any major subcontractor (a major subcontractor is a subcontractor receiving at least 25 percent of CEC funds or $100,000, whichever is less). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages, printed double-sided).

1. Scope of Work Template (Attachment 5)

Applicants must include a completed Scope of Work for each project, as instructed in the corresponding template for the project group. The Scope of Work identifies the tasks required to complete the project. See requirements in Section I.C.

**Note:** There is a separate Scope of Work Template for Group 3 projects, titled "Attachment 5 - Scope of Work Template (Group 3)." The Applicant should use the correct Scope of Work Template for the chosen Project Group.

Electronicfiles for the Scope of Work must be in **MS Word** file format**.**

1. Project Schedule (Attachment 6)

The Project Schedule includes a list of all products, meetings, and due dates. All work must be scheduled for completion by the “Key Dates” section of this solicitation manual.

Note: There is a separate Project Schedule for Group 3 projects, titled "Attachment 6 – Project Schedule (Group 3)." The Applicant should use the correct Project Schedule for the chosen Project Group.

Electronic files for the Project schedule must be in MS Excel file format.

1. Budget Forms (Attachment 7)

The budget forms are in MS Excel format. Detailed instructions for completing them are included at the beginning of Attachment 7. **Read the instructions before completing the worksheets**. Complete and submit information on **all** budget worksheets. The salaries, rates, and other costs entered on the worksheets will become a part of the final agreement.

1. All project expenditures (match share and reimbursable) must be made within the approved agreement term. Match share requirements are discussed in Part I of this solicitation. The entire term of the agreement and projected rate increases must be considered when preparing the budget.
2. The budget must reflect estimates for **actual** costs to be incurred during the agreement term. The CEC may only approve and reimburse for actual costs that are properly documented in accordance with the grant terms and conditions. Rates and personnel shown must reflect the rates and personnel the applicant would include if selected as a Recipient.
3. The proposed rates are considered capped and may not change during the agreement term. The Recipient will only be reimbursed for **actual** rates up to the rate caps.
4. The budget must NOT include any Recipient profit from the proposed project, either as a reimbursed item, match share, or as part of overhead or general and administrative expenses (subcontractor profit is allowable, though the maximum percentage allowed is 10 percent of the total subcontractor rates for labor, and other direct and indirect costs as indicated in the Category Budget form). Please review the terms and conditions and budget forms for additional restrictions and requirements.
5. The budget must allow for the expenses of all meetings and products described in the Scope of Work. Meetings may be conducted at the CEC or by conference call, as determined by the Commission Agreement Manager.
6. Applicants must budget for permits and insurance. Permitting costs may be accounted for in match share. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement with CEC funds, with the exception of costs incurred by University of California recipients.
7. The budget must NOT identify that CEC funds will be spent outside of the United States or for out-of-country travel. However, match funds may cover these costs if there are no legal restrictions.
8. All applicants should go to the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Grants awarded under this solicitation shall not contain travel paid for with CEC funds (applicants can instead use match funds) to the listed states unless the CEC approves in writing that the trip falls within one of the exceptions under the law.
9. **Prevailing wage requirement:** Projects that receive an award of public funds from the CEC often involve construction, alteration, demolition, installation, repair or maintenance work over $1,000. For this reason, projects that receive an award of public funds from the CEC are likely to be considered public works under the California Labor Code. See Chapter 1 of Part 7 of Division 2 of the California Labor Code, commencing with Section 1720 and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000.

Projects deemed to be public works require among other things the payment of prevailing wages, which can be significantly higher than non-prevailing wages.

By accepting this grant, Recipient as a material term of this agreement shall be fully responsible for complying with all California public works requirements including but not limited to payment of prevailing wage. Therefore, as a material term of this grant, Recipient must either:

1. Proceed on the assumption that the project is a public work and ensure that:
2. prevailing wages are paid; and
3. the project budget for labor reflects these prevailing wage requirements; and
4. the project complies with all other requirements of prevailing wage law including but not limited to keeping accurate payroll records, and complying with all working hour requirements and apprenticeship obligations;

or,

1. Timely obtain a legally binding determination from the Department of Industrial Relations or a court of competent jurisdiction before work begins on the project that the proposed project is not a public work.
2. California Environmental Quality Act (CEQA) Compliance Form (Attachment 8)

The CEC requires the information on this form to facilitate its evaluation of proposed activities under CEQA (California Public Resources Code Section 21000 et. seq.), a law that requires state and local agencies in California to assess the potential environmental impacts of their proposed actions. The form will also help applicants to determine CEQA compliance obligations by identifying which proposed activities may be exempt from CEQA and which activities may require additional environmental review. If proposed activities are exempt from CEQA (such as paper studies), the worksheet will help to identify and document this. This form must be completed regardless of whether the proposed activities are considered a “project” under CEQA.

Failure to complete the CEQA process in a timely manner after the CEC’s Notice of Proposed Award may result in the cancellation of a proposed award and allocation of funding elsewhere, such as to the next highest-scoring project.

1. Reference and Work Product Form (Attachment 9)
	* 1. Section 1: Provide applicant and subcontractor references as instructed. Provide references for CEC agreements (e.g., contracts, grants, or loans) received by the Applicant, if applicable. Applicants should indicate whether the projects were successfully completed in a timely manner.
		2. Section 2: Provide a list of past projects detailing technical and business experience of the applicant (or any member of the project team) that is related to the proposed work. Identify past projects that resulted in market-ready technology, advancement of codes and standards, and/or advancement of state energy policy. Include copies of up to three of the applicant or team member’s recent publications in scientific or technical journals related to the proposed project, as applicable.
2. Commitment and Support Letter Form (Attachment 10)

A commitment letter commits an entity or individual to providing the service or funding described in the letter. A support letter details an entity or individual’s support for the project. Commitment and Support Letters must be submitted with the application. Letters that are not submitted by the application deadline will not be reviewed and counted towards meeting the requirement specified in the solicitation.

1. Commitment Letters
* Applicants must submit a **match funding** commitment letter signedby eachrepresentative of the entity or individual that is committing to providing match funding. The letter should: (1) identify the source(s) of the funds; and (2) guarantee the availability of the funds for the project.
* If the project involves **pilot testing/ demonstration/ deployment** activities, the applicant must include a site commitment letter signed by an authorized representative of the proposed test/ demonstration/ deployment site. The letter must: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) which must be consistent with Attachments 1 and 8. and (2) commit to providing the site for the proposed activities.
* **Project partners** that are making contributions other than match funding or a test/ demonstration/ deployment site, and are not receiving CEC funds, must submit a commitment letter signed by an authorized representative that: (1) identifies how the partner will contribute to the project; and (2) commits to making the contribution.
1. Support Letters

All applicants must include at least one support letter from a project stakeholder (i.e., an entity or individual that will benefit from or be involved in the project) that: (1) describes the stakeholder’s interest or involvement in the project; (2) indicates the extent to which the project has the support of the relevant industry and/or organizations; and (3) describes any support it intends (but does not necessarily commit) to provide for the project, such as funding or the provision of a test/ demonstration/ deployment site.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

1. Project Performance Metrics (Attachment 11)

The purpose of this questionnaire is to identify and document 5-7 performance targets for the project. The performance targets should be a combination of scientific, engineering and techno-economic metrics that provide the most significant indicator of the research or technology’s potential success.

1. Applicant Declaration (Attachment 12)

This form requests the applicant declare that they: are not delinquent on taxes nor suspended by the California Franchise Tax Board; are not being sued by any public agency or entity; are in compliance with the terms of all settlement agreements, if any, entered into with the CEC or another public agency or entity; are in compliance with all judgments, if any, issued against the Applicant in any matter to which the CEC or another public agency or entity is a party; are complying with any demand letter made on the Applicant by the CEC or another public agency or entity; and are not in active litigation with the CEC regarding the Applicant’s actions under a current or past contract, grant, or loan with the CEC. The declaration must be signed under penalty of perjury by an authorized representative of the applicant’s organization.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

1. California-Based Entity (CBE) Form (Attachment 13) (Group 1 and Group 2 only)

Identify any CBEs as instructed in the form. CBEs are entitled to a scoring preference as described in Part IV of this solicitation.

1. Localized Health Impacts Information Form (Attachment 14) (Group 3 only)

Group 3 applicants must complete and submit a Localized Health Impacts Information Form (Attachment 14). The CEC requires this information in developing and publishing a localized health impact report.

1. ZVI Terms and Conditions (Attachment 15) (Group 3 only)

Group 3 applicants must carefully read the ZVI Terms and Conditions. Refer to Section II.A.2. for more information on terms and conditions for grant agreements resulting from this solicitation.

1. Scope of Work Instructions for Group 3 (Attachment 16) (Group 3 only)

Instructions for completing the Scope of Work Template (Group 3) and examples of different types of technical products are included in Attachment 16.

# IV. Evaluation and Award Process

## Application Evaluation

Applications will be evaluated and scored based on responses to the information requested in this solicitation and on any other information available, such as on past performance of CEC agreements. To evaluate applications, the CEC will organize an Evaluation Committee that consists primarily of CEC staff. The Evaluation Committee may use technical expert reviewers to provide an analysis of applications. Applications will be evaluated in the following stages:

1. **Pre-Application Abstract Screening**

The Contracts, Grants, and Loans Office and/or the Evaluation Committee will screen Pre-Application Abstracts for compliance with the Screening Criteria in **Section E** of this Part. **Pre-Application Abstracts that fail any of the screening criteria will be rejected.** The Evaluation Committee may conduct optional **Clarification Interviews** with applicants during the screening process to clarify and/or verify information submitted in the Pre-Application Abstract. However, these interviews may not be used to change or add to the content of the original Pre-Application Abstract. Applicants will not be reimbursed for time spent answering clarifying questions.

1. **Pre-Application Abstract Scoring**

Pre-Application Abstracts that pass the Pre-Application Abstract Screening will be submitted to the Evaluation Committee for review and scoring based on the Scoring Criteria in **Section F** of this Part.

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* Clarification Interviews: The Evaluation Committee may conduct optional telephone interviews with applicants during the evaluation process to clarify and/or verify information submitted in the Pre-Application Abstract. However, these interviews may not be used to change or add to the content of the original Pre-Application Abstract. Applicants will not be reimbursed for time spent answering clarifying questions.
* **A minimum score of** **70 percent** is required for **each** scoring criterion to be eligible to submit a Full Application.
1. **Full Application Screening**

The Contracts, Grants, and Loans Office and/or the Evaluation Committee will screen applications for compliance with the Screening Criteria in **Section G** of this Part. **Applications that fail any of the screening criteria will be rejected.**The Evaluation Committee may conduct optional **Clarification Interviews** with applicants during the screening process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.

1. **Full Application Scoring**

Full Applications that pass the Full Application Screening will be submitted to the Evaluation Committee for review and scoring based on the Scoring Criteria in **Section H** of this Part.

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* Clarification Interviews: The Evaluation Committee may conduct optional telephone interviews with applicants during the evaluation process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.
* **A minimum score of 70.0 points** is required for criteria 1-7 to be eligible for funding. In addition, the application must receive a minimum score of **52.50 points for criteria 1−4** to be eligible for funding.

## Notice of Proposed Pre-Application Abstract, Ranking, Notice of Proposed Award, and Agreement Development

1. **Notice of Proposed Pre-Application Abstract Results**

The results of the Pre-Application Abstract review will be provided to all Applicants in the Notice of Pre-Application Abstract Results **(NOPAR)**. The CEC will publish the NOPAR on the CEC’s website, and mail the NOPAR to all parties that submitted a Pre-Application Abstract.

Pre-Application Abstract submitted materials and results are publicly available after publication of the NOPA (discussed further below in Section IV.B.2), but otherwise the application evaluation process from receipt of applications to posting of the NOPA is confidential. All submitted Pre-Application Abstract documents will become publicly available records after the NOPA is posted or if the solicitation is cancelled.

After posting the NOPAR, Pre-Applications Abstracts failing the pre-application abstract screening or failing to achieve a passing score may request a debriefing from the Evaluation Committee. Pre-Application Abstract debriefings must be requested within 15 days after posting of the NOPAR.

1. **Ranking and Notice of Proposed Award**

Full applications that receive at least the minimum required score for all criteria will be ranked according to their score.

* CEC staff will post a Notice of Proposed Awards **(NOPA)** that includes: (1) the total proposed funding amount; (2) the rank order of applicants; and (3) the amount of each proposed award. The CEC will post the NOPA on its website, and will mail it to all entities that submitted an application. Proposed awards must be approved by the CEC at a business meeting.
* **Debriefings:** Unsuccessful applicants may request a debriefing after the release of the

NOPA by contacting the CAO listed in Part I. A request for debriefing must be received **no later than 30 calendar days** after the NOPA is released.

* In addition to any of its other rights, the CEC reserves the right to:
	+ Allocate any additional funds to passing applications, in rank order; and
	+ Negotiate with successful applicantstomodify the project scope, schedule, project team entity that will receive the award, location and/or level of funding.
1. **Agreements**

Applications recommended for funding will be developed into a proposed grant agreement to be considered at a CEC Business Meeting. Recipients may begin the project only after full execution of the grant agreement (i.e., approval at a CEC business meeting and signature by the Recipient and the CEC).

* **Agreement Development:** The Contracts, Grants, and Loans Office will send the Recipient a grant agreement for approval and signature. The agreement will include the applicable terms and conditions and will incorporate this solicitation and the application by reference. The CEC reserves the right to modify the award documents (including the terms and conditions) prior to executing any agreement.
* **Failure to Execute an Agreement:** If the CEC is unable to successfully execute an agreement with an applicant in a timely manner, it reserves the right to cancel the pending award and use the funds elsewhere, such as to fund the next highest-ranked, eligible application.

## Grounds to Reject an Application or Cancel an Award

Applications that do not pass the screening stage will be rejected. In addition, the CEC reserves the right to reject an application and/or to cancel an award for any reason, including any of the following:

* The application contains false or intentionally misleading statements or references that do not support an attribute or condition contended by the applicant.
* The application is intended to erroneously and fallaciously mislead the State in any way.
* The application does not comply or contains caveats that conflict with the solicitation, and the variation or deviation is material.
* The applicant has previously received funding through an EPIC or Gas R&D (formerly Public Interest Energy Research (PIER)) agreement, has received the royalty review letter (which the CEC annually sends out to remind past recipients of their obligations to pay royalties), and has not responded to the letter or is otherwise not in compliance with repaying royalties.
* The applicant has received unsatisfactory agreement evaluations from the CEC or another California state agency.
* The applicant is a business entity required to be registered with the California Secretary of State and is not in good standing.
* The applicant has not demonstrated that it has the financial capability to complete the project.
* The applicant fails to meet CEQA compliance within sufficient time for the CEC to meet its encumbrance deadline or any other deadlines, as the CEC in its sole and absolute discretion may determine.
* The applicant has included a statement or otherwise indicated that it will not accept the terms and conditions, or that acceptance is based on modifications to the terms and conditions.
* The application contains confidential information or identifies any portion of the application as confidential.

## Miscellaneous

1. **Solicitation Cancellation and Amendment**

It is the policy of the CEC not to solicit applications unless there is a bona fide intention to award an agreement. However, if it is in the State’s best interest, the CEC reserves the right, in addition to any other rights it has, to do any of the following:

* Cancel this solicitation;
* Revise the amount of funds available under this solicitation;
* Amend this solicitation as needed; and/or
* Reject any or all applications received in response to this solicitation.

If the solicitation is amended, the CEC will send an addendum to all entities that requested the solicitation, and will also post it on the CEC’s website at: www.energy.ca.gov/contracts. The CEC will not reimburse applicants for application development expenses under any circumstances, including cancellation of the solicitation.

1. **Modification or Withdrawal of Application**

Applicants may withdraw or modify a submitted application before the deadline to submit applications by sending a letter to the CAO listed in Part I. Applications cannot be changed after that date and time. An application cannot be “timed” to expire on a specific date. For example, a statement such as the following is non-responsive to the solicitation: “This application and the cost estimate are valid for 60 days.”

1. **Confidentiality**

Though the entire evaluation process from receipt of applications up to the posting of the NOPA is confidential, **all submitted documents will become publicly available records** after the CEC posts the NOPA or the solicitation is cancelled. **The CEC will not accept or retain applications that identify any portion as confidential.**

1. **Solicitation Errors**

If an applicant discovers any ambiguity, conflict, discrepancy, omission, or other error in the solicitation, the applicant should immediately notify the CEC of the error in writing and request modification or clarification of the solicitation. The CEC will provide modifications or clarifications by written notice to all entities that requested the solicitation. The CEC will not be responsible for failure to correct errors.

1. **Immaterial Defect**

The CEC may waive any immaterial defect or deviation contained in an application. The CEC’s waiver will not modify the application or excuse the successful applicant from full compliance with solicitation requirements.

1. **Disposition of Applicant’s Documents**

Upon the posting of the NOPA, all applications and related materials submitted in response to this solicitation will become property of the State and publicly available records. Unsuccessful applicants who seek the return of any materials must make this request to the CAO listed in Part I, and provide sufficient postage to fund the cost of returning the materials.

## Pre-Application Abstract Phase - Screening

Proposals must pass Pre-Application Abstract screening and evaluation based on the criteria outlined below to be eligible to submit a Full Application.

|  |  |
| --- | --- |
| **Pre-Application ABSTRACT Screening Criteria***The Pre-Application Abstract must pass ALL screening criteria to progress to Pre-Application Abstract scoring.* | **Pass/Fail** |
| 1. The Pre-Application Abstract is received by the CEC’s Contracts, Grants, and Loans Office by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation. | [ ]  Pass [ ]  Fail |
| 2. The Pre-Application Abstract Form (Attachment 1A) is signed where indicated. | [ ]  Pass [ ]  Fail |
| 3. The Pre-Application Abstract addresses only one of the eligible project groups, as indicated on the Pre-Application Abstract Form (Attachment 1A).  | [ ]  Pass [ ]  Fail |
| 4. The Applicant has only submitted one project per application. *Applicants may submit multiple proposals during the Pre-Application Abstract phase, however each proposal must be submitted as its own application.* | [ ]  Pass [ ]  Fail |

## Pre-Application Abstract Phase – Scoring

Proposals that pass the Pre-Application Abstract Phase - Screening, and are not rejected as described in Section IV.C. will be evaluated based on the Additional Screening Criteria for Past Performance, Scoring Criteria on the next page, and the Scoring Scale below. Each criterion has an assigned number of possible points, and is divided into multiple sub-criteria. The sub-criteria are not equally weighted. The Pre-Application Abstract Project Summary (Attachment 2A) must respond to each sub-criterion, unless otherwise indicated.

The total score for each Pre-Application Abstract will be the average of the combined score of all Evaluation Committee members. Only Pre-Application Abstracts with a score of 70 percent or higher in each Pre-Application Abstract Evaluation Criterion will be eligible to submit a full application.

**Scoring Scale**

|  |  |  |
| --- | --- | --- |
| **% of Possible Points** | **Interpretation** | **Explanation for Percentage Points**  |
| 0% | Not Responsive | Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 10-30% | Minimally Responsive | Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 40-60% | Inadequate | Response addresses the requirements being scored, but there are one or more omissions, flaws, or defects or the requirements are addressed in such a limited way that it results in a low degree of confidence in the proposed solution. |
| 70% | Adequate | Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 75% | Between Adequate and Good | Response better than adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 80% | Good | Response fully addresses the requirements being scored with a good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 85% | Between Good and Excellent | Response fully addresses the requirements being scored with a better than good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 90% | Excellent | Response fully addresses the requirements being scored with a high degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 95% | Between Excellent and Exceptional | Response fully addresses the requirements being scored with a better than excellent degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 100% | Exceptional | All requirements are addressed with the highest degree of confidence in the applicant’s response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution. |

**Additional Screening Criteria for Past Performance**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with CEC**The applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the CEC (e.g., contract, grant, or loan) and entered into an agreement(s) with the CEC and demonstrated **severe performance issues** characterized by significant negative outcomes including:* Significant deviation from agreement requirements;
* Termination with cause;
* Demonstrated poor communication, project management, and/or inability, due to circumstances within its control, from materially completing the project;
* Quality issues with deliverables including poorly written final report that prevents publishing
* Severe unresolved negative audit findings.
 |  |
| **Must pass to continue with Scoring Criteria** | **Pass/Fail** |

**Scoring CRITERIA**

**The Pre-Application Abstract Project Summary (Attachment 2A)** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation.

|  |  |
| --- | --- |
| **Pre-Application Abstract Evaluation Criteria** | **Maximum Points** |
| **1. Project Summary**Pre-Application Abstracts will be evaluated on the degree to which:1. The proposed project accelerates successful commercial deployment of innovative technologies and/or business models for the vehicle application principally designated by the Applicant.
2. The proposed project is innovative and provides competitive advantages over conventional hydrogen refueling solutions for an identified use case and vehicle type.
3. The proposed project will lead to a successful and economically viable hydrogen refueling solution that addresses a key market(s). Evidence and underlying assumptions are explained.

***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.*** | 25 |
| **2. Project Readiness and Implementation Schedule**Pre-Application Abstracts will be evaluated on the degree to which:1. The proposed project is technically feasible with a plan to address critical factors and risks to project success.
2. The qualifications, experience, capabilities, and credentials of the key team members are suitable to the tasks described in the Pre-Application Abstract Project Summary and will lead to the successful completion of the project.
3. The proposed project has an aggressive but achievable schedule for completing all tasks necessary.

***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.*** | 15 |
| **3. Project Benefits and Cost Effectiveness**Pre-Application Abstracts will be evaluated on the degree to which:1. Using documented and reasonable assumptions, the proposed project results in quantifiable improvements, including at least one of the target metrics described in Section I.C (flow rate, hydrogen delivery and refueling costs, reliability, and energy efficiency of hydrogen delivery including losses from conditioning, distribution, and storage).
2. The proposed project’s benefits (including, but not limited to: emission reductions, benefits to disadvantaged communities and/or low-income communities, job creation, and other co-benefits) are quantified and documented.
3. The proposed project results in a high benefit-cost score defined as the ratio of grams of CO2 equivalent reduction per dollar of CEC investment.
4. The proposed project’s match funding commitments, if included, are documented, verifiable, and will support the successful completion of the project.

***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.*** | 10 |
| **Total Possible Points** | **50** |

## Full Application Phase - Screening

| **Screening Criteria** *The Full Application must pass ALL criteria to progress to Full Application scoring.* | **Pass/Fail** |
| --- | --- |
| 1. The full application is received by the CEC’s Contracts, Grants, and Loans Office by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation and is received in the required manner (e.g., no emails or faxes).
 | [ ]  Pass [ ]  Fail |
| 1. The Full Application Form (Attachment 1) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The Applicant Declaration Form (Attachment 12) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The application addresses only one of the eligible project groups, as indicated on the Application Form.
 | [ ]  Pass [ ]  Fail |
| 1. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment 5).

*If the projects are not distinct and the applications were submitted at the same time, only the first application screened by the CEC will be eligible for funding. If the applications were submitted separately, only the first application received by the CEC will be eligible for funding.* | [ ]  Pass [ ]  Fail |
| 1. The Application includes Commitment Letters that total the minimum of 25 percent in match share of the total requested CEC funds.
 | [ ]  Pass [ ]  Fail |
| 1. *If the project involves technology demonstration/ deployment activities*
* The Application identifies one or more demonstration/ deployment site locations.
* All demonstration/deployment sites are located in California.
* The proposal includes a site commitment letter (Section III.D.10) for each demonstration/ deployment site.
 | [ ]  Pass [ ]  Fail |

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

## Full Application Phase - Scoring

Proposals that pass ALL Full Application Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria on the next page and the Scoring Scale below (with the exception of criteria 6−9, which will be evaluated as described in each criterion). Each criterion has an assigned number of possible points, and is divided into multiple sub-criteria. The sub-criteria are not equally weighted. The Project Narrative (Attachment 3) must respond to each sub-criterion, unless otherwise indicated.

**Scoring Scale**

|  |  |  |
| --- | --- | --- |
| **% of Possible Points** | **Interpretation** | **Explanation for Percentage Points**  |
| 0% | Not Responsive | Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 10-30% | Minimally Responsive | Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 40-60% | Inadequate | Response addresses the requirements being scored, but there are one or more omissions, flaws, or defects or the requirements are addressed in such a limited way that it results in a low degree of confidence in the proposed solution. |
| 70% | Adequate | Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 75% | Between Adequate and Good | Response better than adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 80% | Good | Response fully addresses the requirements being scored with a good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 85% | Between Good and Excellent | Response fully addresses the requirements being scored with a better than good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 90% | Excellent | Response fully addresses the requirements being scored with a high degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 95% | Between Excellent and Exceptional | Response fully addresses the requirements being scored with a better than excellent degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 100% | Exceptional | All requirements are addressed with the highest degree of confidence in the applicant’s response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution. |

 **Additional Screening Criteria for Past Performance**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with CEC**The applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the CEC (e.g., contract, grant, or loan) and entered into an agreement(s) with the CEC and demonstrated **severe performance issues** characterized by significant negative outcomes including:* Significant deviation from agreement requirements;
* Termination with cause;
* Demonstrated poor communication, project management, and/or inability, due to circumstances within its control, from materially completing the project;
* Quality issues with deliverables including poorly written final report that prevents publishing
* Severe unresolved negative audit findings.
 |  |
| **Must pass to continue with Scoring Criteria** | **Pass/Fail** |

**Scoring CRITERIA**

**The Project Narrative (Attachment 3)** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation.

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |
| 1. **Technical Merit**
2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals.
3. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost).
4. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project.
5. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project.
6. Describes at what scale the technology has been successfully demonstrated, including size or capacity, number of previous installations, location and duration, results, etc.
7. Describes how the proposed demonstration will lead to increased adoption of the technology in California.
8. Provides information described in Section I.C.
 | **15** |
| 1. **Technical Approach**
2. Proposal describes the technique, approach, and methods to be used in performing the work described in the Scope of Work.
3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative.
4. Proposal identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded.
5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g. loss of demonstration site, key subcontractor). Provides a plan to address them.
6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E.
7. Describes the technology transfer plan to assess and advance the commercial viability of the technology.
8. Provides a clear and plausible measurement and verification plan that describes how energy savings and other benefits specified in the application will be determined and measured.
9. Provides information documenting progress towards achieving compliance with the California Environmental Quality Act (CEQA) by addressing the areas in Section I.I and Section III.D.3., and Section III.D.8
10. Provides information described in Section I.C.
 | **25** |
| 1. **Impacts and Benefits for California**
2. Explains how the proposed project will benefit California and provides clear, plausible, and justifiable (quantitative preferred) potential benefits. Estimates the energy benefits including:
	* energy savings, infrastructure reliability, potential increased hydrogen fuel demand, hydrogen cost savings

**In addition, estimates the non-energy benefits including:** * GHG emission reductions, air emission reductions (e.g. NOx), capital cost reduction, and/or increased safety.
1. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
2. Explains the path-to-market strategy including near-term (i.e. initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions.
3. Identifies the expected financial performance (e.g. payback period, ROI) of the demonstration at scale.
4. Identifies the specific programs which the technology intends to leverage (e.g. vehicle incentives, low carbon fuel credits, infrastructure grants) and extent to which the technology meets program requirements.
 | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**

Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. This can include contacting references.1. Identifies credentials of prime and any subcontractor key personnel, including the project manager, principal investigator, and technology and knowledge transfer lead *(include this information in the Project Team Form).*
2. Demonstrates that the project team has appropriate qualifications, experience, financial stability, and capability to complete the project.
3. Explains the team structure and how various tasks will be managed and coordinated.
4. Describes the facilities, infrastructure, and resources available that directly support the project.
5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization.
 | **15** |
| **Total Possible Points for Criteria 1− 4****(Minimum Passing Score for Criteria 1− 4 is 70% or 52.50)** | **75** |
| 1. **Budget and Cost-Effectiveness**
2. Budget forms are complete for the applicant and all subcontractors, as described in the Budget instructions.
3. Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks.
4. Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subcontractors).
5. Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subcontractor profit, and other like costs).
 | **10** |
| 1. **CEC Funds Spent in California**

Projects that maximize the spending of CEC funds in California will receive points as indicated in the table below (see CEC Funds Spent in California and California-Based Entities section for more details).

|  |  |
| --- | --- |
| **Percentage of CEC funds spent in CA vs Total CEC funds requested**(derived from budget Attachment 7) | **Percentage of Possible Points** |
| >60%  | 20% |
| >65%  | 30% |
| >70% | 40% |
| >75%  | 50% |
| >80% | 60% |
| >85%  | 70% |
| >90% | 80% |
| >95%  | 90% |
| >98% | 100% |

 | **10** |
| 1. **Ratio of Direct Labor to Indirect Costs**

The score for this criterion will be calculated by the following formula:$$\frac{Total Direct Labor}{Total Direct Labor + Total Fringe + Total Indirect + Total Profit}$$This ratio will then be multiplied by the maximum possible points for this criterion and rounded to two decimal places.NOTE: For the purposes of this criterion, the CEC will include the facility charges (e.g., rent, utilities, etc.), burdens and other like costs that are budgeted as direct costs into the indirect costs in the formula. | **5** |
| **Total Possible Points****(Minimum Passing Score for Criteria 1 – 7 is 70% or 70.00)** | **100** |

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |

|  |
| --- |
| **Preference Points** Applications must meet both minimum passing scores (Scoring Criteria 1-4, and 1-7) to be eligible for the additional points. |
| 1. **California Based Entities (CBE) Preference Points (Group 1 and Group 2 only)**

Projects that maximize the spending of CEC funds on California-Based Entities will receive points as indicated in the table below (see Funds Spent in California and California-Based Entities section for more details). Projects that meet these requirements will receive preference points as indicated below:

|  |  |
| --- | --- |
| **Percentage of Gas R&D Funds Allocated to CBEs**(derived from budget attachment 7 “Category Budget”) | **Percentage of Possible Points** |
| > 60% | 20% |
| > 70%  | 40% |
| > 80%  | 60% |
| > 90%  | 80% |
| =100% | 100% |

 | **5** |
| 1. **Match Funds**
2. Cash match share is preferred; however, in-kind cost share is permitted and will be considered for solicitation match requirements. Points for this criterion will be evaluated based on the proposed cash match relative to the total match (cash + in-kind) contributions using the Cash Match Scoring Table:

**Cash Match Scoring Table**

| Percentage of Proposed Cash Match Funds | Score |
| --- | --- |
| 80 to 100% | 5 |
| 60 to <80% | 4 |
| 40 to <60% | 3 |
| 20 to <40% | 2 |
| 10 to <20% | 1 |

 | **5** |
| 1. Additional points will be awarded to applications that exceed the minimum match requirements based on the percentage amount above minimum using the Exceeds Minimum Match Scoring table:

**Exceeds Minimum Match Scoring Table**

| Percentage above Minimum Match (cash and in-kind) | Score |
| --- | --- |
| $\geq $ 80% | 5 |
| 60 to <80% | 4 |
| 40 to <60% | 3 |
| 20 to <40% | 2 |
| 10 to <20% | 1 |

  | **5** |
| 1. **Disadvantaged & Low-Income Communities**

In order to receive or qualify for additional points, the proposed project must demonstrate benefits to the disadvantaged and/or low-income community in order to receive additional points. 1. Proposal identifies how the target market(s) will benefit disadvantaged and/or low-income communities.
2. Identifies economic impact on low-income and disadvantaged communities including customer bill savings, job creation, partnering and contracting with micro- and small-businesses, and economic development.
3. Describes how the project will increase access to clean energy or sustainability technologies within disadvantaged and/or low-income communities and how the development will benefit the communities.
4. Applicants have letters of support from technology partners, community based organizations (CBOs), environmental justice organizations, or other partners that demonstrate their belief that the proposed project will lead to increased equity, and is both feasible, and commercially viable in the identified low-income and/or disadvantaged communities.
 | **5** |

1. Executive Order EO-N-79-20. https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf [↑](#footnote-ref-2)
2. California Air Resources Board. Draft 2022 Scoping Plan Update. May 2022. https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf [↑](#footnote-ref-3)
3. California Air Resources Board. 2020 Mobile Source Strategy. https://ww2.arb.ca.gov/sites/default/files/2021-12/2020\_Mobile\_Source\_Strategy.pdf [↑](#footnote-ref-4)
4. California Air Resources Board. Overview: Diesel Exhaust & Health. https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health [↑](#footnote-ref-5)
5. Baronas, Jean, Belinda Chen, et al. 2021. Joint Agency Staff Report on Assembly Bill 8: 2021 Annual Assessment of Time and Cost Needed to Attain 100 Hydrogen Refueling Stations in California. California Energy Commission and California Air Resources Board. Publication Number: CEC-600-2021-040. https://www.energy.ca.gov/sites/default/files/2021-12/CEC-600-2021-040.pdf [↑](#footnote-ref-6)
6. U.S. Department of Energy. Regional Hydrogen Hubs. https://www.energy.gov/bil/regional-clean-hydrogen-hubs [↑](#footnote-ref-7)
7. Governor’s Office of Business and Economic Development. May 2022. California Formally Announces Intention to Create a Renewable Hydrogen Hub. https://business.ca.gov/california-formally-announces-intention-to-create-a-renewable-hydrogen-hub/ [↑](#footnote-ref-8)
8. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-9)
9. This deadline does not apply to non-technical questions (e.g., questions concerning application format requirements or attachment instructions) or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the CAO listed in Section G at any time prior to the application deadline. Please see Section G for additional information. [↑](#footnote-ref-10)
10. See Public Resources Code section 25620 https://leginfo.legislature.ca.gov/faces/codes\_displayText.xhtml?lawCode=PRC&division=15.&title=&part=&chapter=7.1.&article= [↑](#footnote-ref-11)
11. See CPUC Decision 04-08-010, August 19, 2004, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/39314.PDF. [↑](#footnote-ref-12)
12. *Id.* at pp. 25 and 46. [↑](#footnote-ref-13)
13. Stout, David. 2021. Energy Research and Development Division. 2021. Natural Gas Research and Development Program Proposed Budget Plan for Fiscal Year 2021-21. California Energy Commission. Publication Number: CEC-500-2021-022. [↑](#footnote-ref-14)
14. Molin, Daphne. 2022. Energy Research and Development Division. 2022. Gas Research and Development Program Proposed Budget Plan for Fiscal Year 2022–23. California Energy Commission. Publication Number: CEC-500-2022-001. [↑](#footnote-ref-15)
15. Brecht, Patrick. 2021. *2021-2023 Investment Plan Update for the Clean Transportation Program*. California Energy Commission. Publication Number: CEC-600-2021-038-CMF. [↑](#footnote-ref-16)
16. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-17)