**GRANT FUNDING OPPORTUNITY**

**Large-Scale Centralized Clean Hydrogen Production (H2CENTRAL)**

**Clean Hydrogen Program**



**GFO-23-307**

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

**State of California**

**California Energy Commission**

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| **Attachments**   | Attachment Number | Title of Section | | --- | --- | | 1 | Application Form | | 2 | Executive Summary Form | | 3 | Project Narrative Form | | 4 | Project Team Form | | 5 | Scope of Work Template | | 6 | Project Schedule for Scope of Work Template | | 7 | Budget Forms | | 8 | CEQA Compliance Form | | 9 | Past Projects Information Form | | 10 | Commitment and Support Letters Form ***(requires signature)*** | | 11 | Project Performance Metrics | | 12 | Applicant Declarations ***(requires signature)*** | | 13 | References for Calculating Energy Use and GHG Emissions | | 14 | Community Engagement Plan, Benefits, and Impacts Reference | | 15 | Appendix G: Environmental Checklist Form from CEQA Handbook | | 16 | Special Terms and Conditions for Native American Tribes and California Tribal Organizations | |

# I. Introduction

NOTE: This solicitation is for the new Clean Hydrogen Program, and the solicitation documents are different and unique. Please do not use attachments from other Energy Commission grant solicitations (i.e., Electric Program Investment Charge and Gas Research and Development programs).

## Purpose of Solicitation

The purpose of this solicitation is to fund projects that advance the demonstration and deployment of clean hydrogen production, storage, delivery, and end use in California.

Hydrogen can serve as a zero-carbon energy carrier and act as a potential replacement for fossil fuels in hard-to-electrify applications, particularly for the transportation, industrial, and electricity generation sectors. For the purposes of this solicitation, clean hydrogen is defined as hydrogen produced from water using eligible renewable energy resources, as defined in Public Utilities Code 399.12, or produced from these eligible renewable energy resources.[[1]](#footnote-2)

To achieve sustainable wide-scale deployment, hydrogen must be produced cleanly at increased scale and reduced cost. This solicitation aims to reduce the cost burden of clean hydrogen production through large-scale, centralized production coupled with storage, delivery, and pre-determined offtakers to support a comprehensive hydrogen value chain. Expected outcomes include the development and deployment of low-carbon, cost-competitive hydrogen production from renewable energy sources and reduced greenhouse gas (GHG) emissions in hard-to-electrify sectors.

The 2022 California Air Resources Board (CARB) Scoping Plan estimates that by 2045, demand for low-carbon hydrogen increases nearly two-fold the current levels of fossil hydrogen – or a 1,700-fold increase in existing low-carbon hydrogen supply – especially to support emerging end uses such as heavy-duty vehicles, power generation, industrial process heat, and synthetic fuels for aviation.[[2]](#footnote-3) Hydrogen produced from water using renewable energy resources or produced directly from renewable energy resources can provide low-carbon energy and act as an alternative to fossil gas, helping meet California's GHG reduction goals of 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.[[3]](#footnote-4)

California is also planning to leverage federal hydrogen funding to deploy clean hydrogen at reduced costs. In May 2023, the California Energy Commission (CEC)’s Energy Research and Development Division released GFO-22-903 to provide cost-share funding for eligible projects to applicants that apply for and receive an award under an eligible federal Funding Opportunity Announcement.[[4]](#footnote-5) In addition, CEC supports California’s Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), which applied to and was selected to receive funding from U.S. Department of Energy’s (DOE) multi-billion-dollar Regional Hydrogen Hub Funding Initiative created by the Infrastructure Investment and Jobs Act.[[5]](#footnote-6) The ARCHES proposal includes impactful in-state projects that will help advance clean hydrogen production and decarbonize the regional economy. Other windows of opportunity may be leveraged to increase the adoption of clean hydrogen. For example, the DOE’s Hydrogen Shot seeks to reduce the cost of clean hydrogen by over 80 percent to $1 per 1 kilogram in 1 decade.[[6]](#footnote-7) To help achieve this goal, the U.S. Department of the Treasury and Internal Revenue Service administered Section 45V, a production tax credit aimed to incentivize zero- to low-carbon hydrogen production.[[7]](#footnote-8)

In light of these opportunities, California must consider the challenges associated with clean hydrogen production, processing, delivery, storage, and use and implement programs that are both well-informed and ambitious.

Though clean hydrogen produces low- or zero-carbon emissions and has the potential to substitute for fossil fuels in hard-to-electrify sectors, it’s not yet deployed at scale in California due to the prevalence of incumbent technology (fossil-based hydrogen) and high barriers to entry. Barriers to achieving clean hydrogen deployment and uptake include high production costs, inadequate demand for clean hydrogen, limited delivery and storage infrastructure, and competing demands for renewable energy resources. Cross-cutting solutions are required to address these challenges and achieve sustainable wide-scale deployment. These include investments in delivery and storage infrastructure, rapid scale-up of equipment and technologies, commercialization of domestic manufacturing capacity, and expansion of the hydrogen workforce.[[8]](#footnote-9)

The Clean Hydrogen Program thus aims to increase the scale and reduce the costs associated with clean hydrogen production and subsequent use. This solicitation will support large-scale (AN annualized average of at least 5 metric tons per day), centralized hydrogen production by co-locating renewable energy production, clean hydrogen production, delivery networks, and storage facilities. These requirements can help encourage economies of scale, knowledge transfer, and cost competitiveness for clean hydrogen deployment in California.

To ensure opportunity for stakeholder input regarding the scope and organization of this solicitation, CEC staff presented initial ideas and elicited input by way of the following:

* Staff Workshop on the Implementation of the Clean Hydrogen Program,[[9]](#footnote-10) to introduce the proposed scale, scope, and requirements of the Clean Hydrogen Program, held on December 1, 2022.
* Draft Solicitation Concept,[[10]](#footnote-11) to provide updates on specific technical requirements and target metrics, released on May 18, 2023.

Projects that emerge from this solicitation must meet the following objectives:

* Demonstrate or scale up clean hydrogen production, processing, delivery, and storage;
* Leverage existing technologies for large-scale production;
* Demonstrate cost-effectiveness of centralized hydrogen production, processing, delivery, and storage;
* Monitor and minimize hydrogen leakage; and
* Develop a hydrogen workforce.

Funded projects must demonstrate technologies for the purpose of:

* Hydrogen production, which must not have a carbon intensity greater than 0.45 kilograms carbon dioxide equivalent per kilogram of hydrogen produced using a well-to-gate boundary;
* Hydrogen storage, such as compressed gaseous tanks or cryogenic liquid dewars; and
* Hydrogen delivery, such as gaseous tube trailers or cryogenic liquified hydrogen trucks.

See Part II of this solicitation for project eligibility requirements. Applications will be evaluated as follows: Stage One Application Screening and Stage Two Application Scoring. Applicants may submit multiple applications, though 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](http://www.empowerinnovation.net).

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| Applicant | An entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. |
| ARCHES | Alliance for Renewable Clean Hydrogen Energy Systems |
| Authorized Representative | The person submitting the application who has authority to enter into an agreement with the CEC. |
| California Native American Tribe | A Native American Tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004 (Pub. Resources Code, § 21073). |
| California Tribal Organization | A corporation, association, or group controlled, sanctioned, or chartered by a California Native American tribe that is subject to its laws, the laws of the State of California, or the laws of the United States. |
| 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 grant recipient. |
| CAO | *Commission Agreement Officer*, the person designated by the CEC to oversee the internal administrative processes and to serves as the main point of contact for solicitation applicants. |
| Carbon Intensity | For the purposes of this solicitation, carbon intensity refers to the kilograms of carbon dioxide-equivalent emitted per kilogram of hydrogen produced. Projects funded under this solicitation will measure lifecycle greenhouse gas emissions of hydrogen production with a well-to-gate system boundary using the latest model of Argonne National Laboratory’s 45VH2-GREET available at <https://www.energy.gov/eere/greet>. |
| CBO | *Community Based Organization*, a public or private nonprofit organization of demonstrated effectiveness that:   1. Have 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 community; 3. Has an official mission and vision statements that expressly identifies serving communities; and 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. |
| CEC funds | *CEC funds* are Clean Hydrogen Program grant funds awarded under this solicitation. Also referred to as grant funds. |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| Clean Hydrogen | For the purposes of this solicitation, clean hydrogen is defined as hydrogen produced from water using eligible renewable energy resources, as defined in Section 399.12 of the Public Utilities Code, or produced from these renewable energy resources. For more information on eligible renewable energy resources, refer to Section II.B. Project Requirements**.** |
| Clean Hydrogen Program | The Hydrogen Program is established and administered by the CEC per Article 4 of AB 209 (2022) and provides financial incentives to eligible in-state projects that produce, process, deliver, store, or use clean hydrogen. |
| CO2e | Carbon dioxide-equivalent |
| Days | *Days refers to calendar days.* |
| Disadvantaged Community | Communities designated pursuant to Health and Safety Code Section 39711 as representing the top 25% scoring census tracts from CalEnviroScreen along with other areas with high amounts of pollution and low populations as identified by the California Environmental Protection Agency. (<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>) |
| DOE | Department of Energy |
| ECAMS | Energy Commission Agreement Management System  <https://ecams.energy.ca.gov> |
| Energy Equity | The fair distribution of benefits and burdens from energy production and consumption. |
| Geographic Diversity | For the purposes of this solicitation, geographic diversity refers to the individual benefits, such as resources, industry sectors, environmental benefits, and economic impacts in regional economies, which projects contribute to diverse areas of the state. |
| GFO | Grant Funding Opportunity |
| Hydrogen Safety Panel | The Hydrogen Safety Panel, developed by Pacific Northwest National Laboratory with support from the U.S. Department of Energy, provides services for safety planning for projects addressing production, storage, delivery, and use of hydrogen.[[11]](#footnote-12) |
| Low Income Community | 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/grants-and-funding/income-limits>) |
| Major Subrecipient | A subrecipient that is budgeted to receive $100,000 or more of CEC funds, not including any equipment or match funds that may be provided by the subrecipient. |
| Native American Tribe | California Native American tribes listed with the California Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004.9 |
| NOPA | *Notice of Proposed Award,* a public notice by CEC staff that identifies proposed grant recipients. |
| Offtaker | An offtaker is an entity that buys the hydrogen produced by the project. |
| Pilot Test | Small scale testing in a laboratory or testing on a small portion of the production line of the affected industry. Pilot tests help verify the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations |
| PPA | Power purchase agreement |
| Pre-Commercial Technology | 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. |
| 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 | A person or entity 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. |
| REC | Renewable Energy Credit |
| Recipient | A person or entity receiving a grant award under this solicitation. “Recipient” may be used interchangeably with “grant recipient”. |
| Section 45V | Hydrogen tax credit introduced by the Inflation Reduction Act.  (<https://www.law.cornell.edu/uscode/text/26/45V>) |
| Solicitation | This entire document, including all attachments, exhibits, addenda, written notices, and questions and answers (“solicitation” may be used interchangeably with “Grant Funding Opportunity” or “GFO”). |
| Subrecipient | A person or entity that receives grant funds directly from a grant Recipient and is entrusted to make decisions about how to conduct some of the grant’s activities. A subrecipient’s role involves discretion over grant activities and is not merely just selling goods or services. |
| Sub-Subrecipient | Has the same meaning as a subrecipient except that it receives grant funds from a subrecipient or any lower tier level of a sub-subrecipient. |
| State | State of California |
| Tribal Land | Tribal lands are defined as:   1. Land which is located within the boundaries of an Indian reservation, pueblo, or rancheria. 2. Land not located within the boundaries of an Indian reservation, pueblo or rancheria, the title to which is held:    1. in trust by the United States for the benefit of an Indian tribe or an individual Indian    2. by an Indian tribe or an individual Indian, subject to restriction against alienation under laws of the United States    3. by a dependent Indian community 3. Land held under a long-term land lease (as a minimum, for the useful life of the proposed project) by an Indian tribe. 4. Lands held in fee simple (purchased or owned) by an Indian tribe. |
| 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> |
| Vendor | A person or entity that sells goods or services to the grant Recipient, subrecipient, or any lower-tiered level of sub-subrecipient, in exchange for some of the grant funds, and does not make decisions about how to perform the grant’s activities. The Vendor’s role is ministerial and does not involve discretion over grant activities. |
| Well-to-gate | The well-to-gate system boundary refers to all upstream activities for fuel and feedstock procurement plus the processes used to produce hydrogen, as determined under the most recent Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (commonly referred to as the “GREET model”) developed by Argonne National Laboratory. Argonne National Laboratory, “GREET Model” 2022 <https://greet.es.anl.gov/>. |
| WREGIS | Western Renewable Energy Generation Information System |

## Project Focus

The overall goal of this solicitation is to support the adoption of commercially available hydrogen technologies and kickstart large-scale, centralized clean hydrogen production through demonstration and scale-up in California. The awards resulting from this competitive solicitation will address challenges and opportunities to deploy large-scale quantities of clean hydrogen at centralized locations by leveraging economies of scale and co-locating renewable energy resources to reduce overall system costs and distribute hydrogen to diverse end users. By deploying clean hydrogen production at a large scale, this endeavor can benefit communities, workforce, air quality, and natural environments should hydrogen be used to replace diesel, fossil gas, or other fossil fuels. Projects must avoid any benefit to facilities associated with fossil fuels, such as oil refineries. Additionally, offtakers must not be located on the same site as the production facility.[[12]](#footnote-13)

The following are two examples of possible projects, though not an inclusive list of all possible projects:

* Demonstration of 5 or more metric tons of hydrogen per day produced by proton exchange membrane electrolysis powered by onsite renewable energy. The hydrogen will be compressed and stored in Type I pressurized tanks, then subsequently delivered to designated offtakers using gaseous tube trailers.
* Demonstration of 5 or more metric tons of hydrogen per day produced by alkaline electrolysis powered by renewable energy sourced from a power purchase agreement. The hydrogen will be liquified via onsite cryogenic cooling and stored in insulated dewars. Cryogenic liquid hydrogen will be distributed to offtakers by insulated tanker trucks.

The proposed demonstrations must meet eligibility requirements as listed in Section II. Eligibility Requirements and Section IV.E. Stage One Application Screening. The Project Narrative (Attachment 3), Scope of Work (Attachment 5), and Project Schedule (Attachment 6) must include Grant Agreement Objectives (Section I.C.) and all requirements in the Stage One Application Screening (Section IV.E.), Stage Two Application Scoring (Section IV.F.), and Key Project Activities (Section I.F.). Projects exceeding the minimum technical requirements will score higher in accordance with the evaluation criteria. Budget Forms (Attachment 7) must be completed considering Key Project Activities (Stage I.F.) and are limited to the restrictions in Eligible Project Costs (Section I.C.) for both CEC reimbursable funds and applicant match share.

For more information on project eligibility, see Section II.B. Project Requirements.

1. Grant Agreement Objectives

Applicants must describe how they will achieve the following objectives during the project term in the Project Narrative (Attachment 3):

1. Demonstrate (at new facilities) or scale up (at existing hydrogen production facilities) clean hydrogen production, processing, storage, and delivery in California.
2. Produce a minimum annualized average of five metric tons of clean hydrogen per day while meeting the minimum technical requirements in the Project Narrative (Attachment 3).
3. Emit less than 0.45 kilograms carbon dioxide equivalent (CO2e) per kilogram of hydrogen produced, using a well-to-gate boundary for the lifecycle emissions assessment.13 Ensure criteria pollutants meet significance criteria established by the applicable air quality management district or air pollution control district.
4. Advance the system from, at minimum, Technology Readiness Level (TRL) 8 to TRL 9+.
5. Monitor, minimize, and reduce water consumption, where possible.
6. Use water not otherwise intended for human consumption (e.g., project uses purified reclaimed, recycled, or repurposed wastewater for water consumption).
7. Use 100 percent renewable energy resources onsite, a PPA with bundled RECs, grid power with bundled RECs, or a combination of these to source renewable energy in California.14 Projects with onsite renewable energy resources will score higher in accordance with the evaluation criteria. For the purposes of this solicitation,
   1. If the project involves on-site renewable energy generation, hydrogen production occurs at the same project site or property as the renewable energy generation.
8. On-site renewable energy generation must not be used to generate additional RECs.
   1. If renewable electricity is acquired through a PPA or the California electric grid, associated RECs must be purchased.
9. RECs must be retired in the Western Renewable Energy Generation Information System (WREGIS) for the production of hydrogen in the proposed system.15
   1. If renewable electricity is acquired through a PPA with bundled RECs, the production facility will procure a bundled product directly from the renewable energy resource.
   2. If renewable electricity is acquired through grid electricity with bundled RECs, the production facility enrolls into their utility’s green products, which also includes associated RECs. The project operates as flexible loads during times of potential curtailment and avoids grid electricity consumption during peak and net-peak electric demand and grid reliability events to minimize grid strain.
10. Help reduce sector-wide emissions (e.g., from a project’s designated hard-to-electrify end-use sector such as industrial facilities, heavy-duty transportation, or back-up electricity generation) and avoid any benefit to facilities associated with fossil fuels, such as oil refineries.
11. Demonstrate the system for a minimum of 10 cumulative months.16 The time starts accruing after the system has reached stable operation.
    1. Note: while projects are required to report findings for 10 cumulative months, hydrogen production is expected to extend beyond the term of the Agreement, until the system reaches the end of its operational life.
12. Demonstrate scalability potential within California. Identify plans to ensure the project remains operational over the system lifetime.
13. Develop and implement:
    1. A safety plan that incorporates, at a minimum, Hydrogen Safety Panel services, hydrogen leakage monitoring, and quantification plans; establishes emergency plans and procedures; and complies with federal, state, and local codes and standards for hazardous materials, material embrittlement, and setback distances.
    2. An operations and maintenance manual, including, but not limited to, key system operating parameters and limits, maintenance procedures and schedules, and necessary documentation methods.
    3. A system end-of-life plan, including, but not limited to, a decommissioning strategy, remediation plan, and waste management procedures.
    4. A technoeconomic assessment, including, but not limited to, cost analyses; break-even analysis; sensitivity analysis; return on investment; payback period; market trends; growth potential; competitive landscape; demand projections; replicability of the project and/or long-term scale-up plans; and contracts, plans, or agreements for deployment beyond the term of the proposed project.
    5. A lifecycle assessment that quantifies and describes the environmental impacts of the system, including, but not limited to, criteria air pollutants and greenhouse gases from feedstock and fuel procurement through the point of hydrogen production.
    6. A measurement and verification plan that describes how project benefits will be measured and quantified, such as:
14. production capacity (metric tons per day);
15. direct water consumption (kilograms of water consumed per kilogram hydrogen produced);
16. water consumption for plant operations (kilograms of water per day);
17. water source estimates;
18. hydrogen purity (percent);
19. well-to-gate greenhouse gas emissions (kilogram of carbon dioxide equivalent (CO2e) per kilogram of hydrogen), including the lifecycle assessment method to be used over the lifetime of the hydrogen production system;
20. hydrogen leakage (kilogram and percentage released to the atmosphere overall and separately during production, delivery, and storage);
21. electricity use (kilowatt hours);
22. electricity production if using on-site renewable energy generation (kilowatts);
23. land use requirements for system operations (acres);
24. hydrogen production costs (dollar per kilogram at point of production and cost of dispensed hydrogen);
25. feedstock procurement estimates (type and quantity);
26. process design assumptions and cost analysis methodology17; and
27. system performance under normal operating conditions, including downtime [percent], facility system availability such as the proportion of time that the system is usable, hydrogen production efficiency [kilowatt hours per kilogram of hydrogen].
    1. A community engagement plan that aims to:
28. Inform, educate, and involve local community members in the clean hydrogen project’s development and deployment.
29. Identify specific community benefits and impacts that are expected and resulted from the project. This includes workforce development, jobs created or retained, community investments, and local health impacts.
30. Ensure broad and diverse participation from the community and under-represented groups including minority-, women-, and LGBT-owned businesses.
31. Describe tangible benefits to local communities (i.e., workforce development, jobs created or retained, community investments, and local health impacts) in accordance with Community Engagement, Benefits, and Impacts Reference (Attachment 14). Applicants are also encouraged to consider and align with guidelines provided by ARCHES18 and DOE.19
32. Provide pre-installation, post-installation, and end-of-project community engagement reports that give CEC staff an overview of the community engagement and outreach efforts undertaken so far in the projects, summarize the results of engagement activities, and discuss the concerns, feedback, and suggestions from community members.
33. Consult with the Hydrogen Safety Panel during application development, prior to application submission. These preliminary discussions should involve detailed communication regarding the proposed project’s scope, objectives, and anticipated safety-related considerations. Applicants will describe preliminary discussions with the Hydrogen Safety Panel in accordance with Scoring Criterion 2 in the Project Narrative (Attachment 3). Applicants must also include a support letter from the Hydrogen Safety Panel verifying preliminary engagement with the Commitment and Support Letters Form (Attachment 10).
34. Share findings with a variety of stakeholders including, but not limited to, government agencies, national labs, industry groups, and hydrogen safety experts. Projects awarded by this solicitation are required to meet with other Clean Hydrogen Program awardees annually, as determined by the CAM, for information sharing purposes.
35. Obtain the necessary permits, waivers, and approvals to conduct the demonstration or scale-up legally and safely in a timely manner. See Section I.J. Additional Requirements Regarding Environmental Review.
36. Identify and explain target metrics, including those in Table 1, in the Project Performance Metrics (Attachment 11).

**Table 1. Solicitation Target Metrics**

|  |  |
| --- | --- |
| **Metric** | **Target** |
| Water Consumption | 9 - 13.5 kilogram water per kilogram of hydrogen produced |
| Hydrogen Purity | >99.00% (for all projects)  >99.99% (fuel cell end use) |
| Carbon Intensity | 0 kilogram CO2e per kilogram H2 well-to-gate lifecycle emissions |
| Hydrogen Production Costs | <$2 per kilogram of hydrogen by 2029 at point of production |
| Hydrogen Leakage | Less than or equal to 0.03% loss during production, 1% loss during compression and gaseous delivery, 2% loss during liquification and liquid delivery, 0.7% loss during pipeline delivery, and 2% loss during subsequent storage20 |

1. Eligible Project Costs

To be eligible for funding, Budget Forms (Attachment 7) must be completed in accordance with the restrictions below for both CEC reimbursable funds and applicant match share.

Eligible reimbursable costs include:

* Equipment, including installation and materials, specifically associated with hydrogen production, processing, storage, and delivery technologies;
* Site construction and preparation;
* Engineering and design, including a system end-of-life plan;
* Knowledge transfer activities;[[13]](#footnote-14) and
* Required products related to:
  + Safety plan, including Hydrogen Safety Panel services;[[14]](#footnote-15)
  + Operations and maintenance manual;
  + Measurement and verification plan;\*
  + System analyses, including lifecycle and technoeconomic assessments. Recipients must perform ongoing system analyses throughout the project term;
  + Community benefits and engagement plan;[[15]](#footnote-16) and
  + Administration (e.g., progress reporting, project meetings, and final report).

\*Measurement and verification will be reimbursed by the grant only when outside parties are used. Use of in-house staff is not reimbursable.

The Budget Form (Attachment 7) for the prime applicant must heed the following allocations for CEC reimbursable funds:

* Costs for the following products must, in total, not exceed 10 percent of total CEC reimbursable funds:
  + Safety plan, including Hydrogen Safety Panel services;[[16]](#footnote-17)
  + Operations and maintenance manual;
  + Measurement and verification plan;\*
  + System analyses, including lifecycle and technoeconomic assessments. Recipients must perform ongoing system analyses throughout the project term;
  + Community benefits and engagement plan;[[17]](#footnote-18) and
  + Administration (e.g., progress reporting, project meetings, and final report).
* Knowledge transfer activities must be allocated a minimum of 3 percent of total CEC reimbursable funds; and
* At least 62 percent of total CEC reimbursable funds must be allocated towards equipment, including installation, and materials.
* The remaining CEC reimbursable funds must be allocated to site construction and preparation and engineering and design.

Other project costs are NOT eligible reimbursable costs under agreements resulting from this solicitation. However, eligible match share for other project costs may include, but are not limited to:

* Power acquisition of onsite renewable energy resources and other costs for installing or operating eligible renewable energy resources, as defined in California Public Resources Code Section 25741[[18]](#footnote-19) and subject to the requirements of Public Utilities Code 399.12(e)(1)(A)-(D) and 399.12(e)(2));
* Existing onsite eligible electricity resource equipment (current value must be reflected with appropriate documentation);
* Permit costs and expenses associated with obtaining permits (with the exception of costs incurred by University of California recipients); and
* Feedstocks, such as water.

Additionally, 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.

1. **Hydrogen Safety**

Each project is required to complete a Hydrogen Safety Plan after an agreement is executed and during the Agreement term. A Safety Plan is not required for application submission.

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

* **Develop a Hydrogen Safety Plan:** Consult with the Hydrogen Safety Panel to develop a Safety Plan that, at a minimum, shall include the following aspects:
  + Scope of Work for the Safety Plan
  + Organizational safety information

1. Organizational policies and procedures; and

1. Staff hydrogen and fuel cell experience.
   * Project safety
     1. Identification of safety vulnerabilities;
     2. Risk reduction plan;
     3. Operating procedures;
     4. Equipment and mechanical integrity;
     5. Management of change procedures;
     6. Safety reviews; and
     7. Project safety documentation.
   * Communications plan
2. Training;
3. Safety events and lessons learned;
4. Emergency response; and
5. Self-audits.

The Safety Plan should be developed in accordance with the U.S. DOE’s Hydrogen Safety Panel’s *Safety Planning for Hydrogen and Fuel Cell Projects*, dated January 2020, available at:

<https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects.pdf>.

* **Hydrogen Safety Panel Services:** After an award, the Recipient must commit to working with the Hydrogen Safety Panel for a safety plan review, early design review, and safety evaluations. The Recipient must then submit the design plans to the authorities having jurisdiction. During the agreement term, the Recipient must also submit reports of Hydrogen Safety Panel comments and proposed actions to be taken by the Recipient to the CEC. The Recipient shall work with the Hydrogen Safety Panel to determine the timing and scope of their participation, including options for remote or in-person reviews.
  + **Safety Evaluations**: Recipients funded under this solicitation shall participate in safety evaluations with the Hydrogen Safety Panel five months after the hydrogen production facility becomes operational, as defined in this solicitation, and every five months thereafter until the end of the grant agreement. The evaluations will include the facility’s adherence to the initial Safety Plan and any related Safety Plan implementation issues. Site visits and safety evaluations via telephone may be conducted as part of the evaluations. Time required for Recipients’ participation in the safety evaluations are not eligible as CEC reimbursable expenses but may be eligible as a match share expenditure.
* Participating in Hydrogen Safety Panel design reviews and safety evaluations will be a mandatory technical task and must be included in the Scope of Work (Attachment 5) and completed by the dates specified in the Project Schedule. The cost of Hydrogen Safety Panel’s services must be included in the Budget Forms (Attachment 7) as CEC reimbursable funds or match funds. To request Hydrogen Safety Panel assistance for all forementioned services, please use the following form: <https://h2tools.org/form/request-for-hydrogen-safety-pane>. 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 shall be submitted to the CEC within 10 days in addition to any other required federal reporting available at <http://h2tools.org/lessons>. Recipients shall engage with the Hydrogen Safety Panel for expert support for incident fact-finding and investigations as appropriate or as directed by the CAM.

## Funding

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

There is **up to** **$45 million** available for grants awarded under this solicitation for the Clean Hydrogen Program. The minimum funding amount for each project is **$20 million**. The maximum funding amount is **$22.5 million**.

A minimum of $20 million of total funds available under this solicitation is set aside for ARCHES DOE Hub Projects. Entities with ARCHES DOE Hub status must be the primary applicant to be eligible for the set-aside award funding and include a support letter from ARCHES to reflect confirmation of DOE Hub status in the Commitment and Support Letter Form (Attachment 10). This set-aside funding is to be awarded to the highest-ranking ARCHES DOE Hub Project with a passing score, if any. The remaining funds, or all $20 million if no passing ARCHES DOE Hub applications are received, would then be allocated to the next overall highest scoring application regardless of entity type, in ranked order until all funds available under the solicitation are exhausted.

1. **Match Funding Requirement**

Match funding is required in the amount of at least **50%** of the requested CEC funds.

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

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 grant award amounts, and the ARCHES set-aside amount described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* Reduce funding to an appropriate amount if the budgeted funds do not provide full funding for agreements. In this event, the proposed grant Recipient and Commission Agreement Manager (CAM) will attempt to reach agreement on a reduced Scope of Work commensurate with available funding.

## 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[[19]](#footnote-20) |
| --- | --- | --- |
| Solicitation Release | March 8, 2024 |  |
| **Pre-Application Workshop** | **March 20, 2024** | **10:00 a.m.** |
| **Deadline for Written Questions[[20]](#footnote-21)** | **March 27, 2024** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers | April 26, 2024 |  |
| **Support for Application Submission in ECAMS** | **June 3, 2024** | **5:00 p.m.[[21]](#footnote-22)** |
| **Deadline to Submit Applications** | **June 3, 2024** | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | July 31, 2024 |  |
| Anticipated CEC Business Meeting Date | January 15, 2025 |  |
| Anticipated Agreement Start Date | February 24, 2025 |  |
| Anticipated Agreement End Date | January 28, 2028 |  |

## Key Project Activities

Time is of the essence, as Clean Hydrogen Program funds have an encumbrance deadline of June 30, 2025, and liquidation deadline of June 30, 2029. To incentivize and ensure timely project completion, in addition to meeting other agreement requirements, the Recipient must complete certain technical tasks, including Pre-Construction, Construction, and Post-Construction activities.

**The Scope of Work (Attachment 5) must include products related to the Key Project Activities listed below as technical tasks, with associated products and due dates in the Project Schedule (Attachment 6).** Recipients will be required to submit quarterly progress reports containing updates on Key Project Activities and project costs.

The CAM may, among other things, consider the Recipient’s progress on Key Project Activities during Critical Project Review (CPR) meetings. Without limitation to any other of the CEC’s rights or remedies, failure to submit accurate or timely quarterly progress reports or complete Key Project Activities may be grounds for Agreement termination.

1. **Pre-Construction Activities**

At minimum, the Recipient must:

* + 1. Establish offtake agreements and partnerships to supply California customers and secure a revenue stream for the hydrogen production plant.
       1. The Recipient must provide to the CEC proof of having met this Key Project Activity for offtake agreements by submitting documentation that may include, but is not limited to, memorandum(s) of understandings with customers and invoices and executed copies of offtake agreements.
    2. Provide proof of the completion of pre-installation community engagement, permitting, safety, zoning tasks, and engineering & design.
       1. The Recipient must provide to the CEC proof of completing this Key Project Activity by submitting documentation, including, but not limited to, the pre-installation community engagement and benefits report, a Permit Status Letter, proof of permit(s) approval from the Authority Having Jurisdiction, design plans, report of Hydrogen Safety Panel comments, updated Project Schedule, and notes from each Hydrogen Safety Panel meeting including date, time, location, names, and titles of meeting participants; a summary of topics discussed; action items; and next steps.
    3. Have control and possession of the site at which each proposed clean hydrogen project is to be constructed.

1. The applicant must provide to the CEC proof of having met this Key Project Activity for the proposed clean hydrogen production project by submitting adequate documentation of site control and possession. Documentation of site control and possession may include, but is not limited to, an executed lease for the land on which the project will be constructed.
2. **Construction Activities**

At minimum, the Recipient must:

* + 1. Complete mid-project community engagement.
       1. Provide to the CEC proof of having met this Key Project Activity by submitting meeting notes, not to exceed five pages per project site, including date, time, location, names and titles of meeting participants, a summary of the topics discussed, action items, and next steps.
    2. Establish an agreement with contractors, developers, and/or other relevant entities for renewable energy build-out onsite, a power purchase agreement (PPA), or grid power; on-site hydrogen storage; and off-site hydrogen delivery.

The Recipient must provide to the CEC proof of having met this Key Project Activity for renewable energy generation, hydrogen storage, and hydrogen delivery by submitting documentation indicating agreements with the aforementioned entities.

* + 1. Develop and construct the production facility, develop the operations and maintenance manual, update the risk mitigation plan, staff the facility, and acquire and install equipment and technology.

1. The Recipient must provide to the CEC proof of having met this Key Project Activity by submitting written notifications and/or photographs of completed construction and equipment installation, certificate of occupancy, an updated risk mitigation plan, an operations and maintenance manual, and meeting notes. The meeting notes will not exceed 5 pages per project site and must include date, time, location, number of participants, a summary of the topics discussed, action items, and next steps.
2. **Post-Construction Activities**

At minimum, the Recipient must:

* + - * 1. Conduct community engagement.

The Recipient must provide to the CEC proof of having met this Key Project Activity for community engagement by submitting meeting notes on community engagement events, not to exceed five pages per project site, including date, time, location, number of participants, a summary of the topics discussed, action items, and next steps.

* + - * 1. Participate in safety evaluations with the Hydrogen Safety Panel post-installation.

The Recipient must provide to the CEC proof of having met this Key Project Activity for post-installation safety evaluations by submitting reports of Hydrogen Safety Panel comments and proposed actions to be taken by the Recipient.

CEC staff will determine whether the documentation submitted by the Recipient is sufficient to show that each Key Project Activity has been completed.

**Note**: Some Key Project Activities, such as pre-construction activities, may be worked on concurrently with approval from the CAM.

**Amendment to Key Project Activity Due Dates:** The timelines to complete any Key Project Activity can be changed only by a written amendment to this Agreement via the Amendment provision in Exhibit C.

**Progress Determination of Key Project Activities:** The Agreement’s CAM will hold CPR meetings periodically to ensure the completion of Pre-Construction, Construction, and Post-Construction activities. After each meeting, the CAM will issue a Progress Determination, similar to a go/no-go decision, to the Recipient, where a negative Progress Determination, or a “no-go” decision, may lead to project termination.

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss this 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 www.energy.ca.gov/contracts/index.html to confirm the date and time. Please be aware that the meeting will be recorded.

**Date and time:** March 20, 2024, at 10:00 AM

**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:** 880 0541 4123

**Meeting Password:** h2central

**Topic:** H2CENTRAL Pre-Application Workshop

**Telephone Access Only:**

Call **1-888 475 4499** (Toll Free) or **1-877 853 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 Pre-Application Workshop:**

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

please call Zoom Technical Support at **1-888-799-9666 ext. 2.** You may also contact the CEC’s Public Advisor’s Office at publicadvisor@energy.ca.gov, or (916) 957-7910.

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

<https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macOS-and-Linux>.

* If you need a reasonable accommodation 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, for questions only related to submission of application in the new ECAMS system, please contact [ECAMS.SalesforceSupport@energy.ca.gov](mailto:ECAMS.SalesforceSupport@energy.ca.gov). Through that email address applicants will be able to access a team of technical assistants who can answer questions about application submission. Please also see Section III.B for additional information about the ECAMS system.

For all other questions, including all technical and administrative questions that are not related to submission of applications in the ECAMS system, please contact the Commission Agreement Officer listed below:

Pierre Washington, Commission Agreement Officer

California Energy Commission

715 P, MS-1

Sacramento, California, 95814

Telephone: (916)-931-8974

E-mail: Pierre.Washington@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., administrative 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. Similarly, questions related to submission of applications in the ECAMS system may be submitted to ECAMS.SalesforceSupport@energy.ca.gov 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 5:00 p.m. of the application deadline date, the applicant may notify the CAO 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 solicitation. At its discretion, the CEC may, in addition to any other actions it may choose, 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 or anyone else 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 entire 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 and Scoring Criteria and** **Grounds to Reject an Application or Cancel an Award** in Part IV, and the relevant Clean Hydrogen Program Grant terms and conditions located at: <https://www.energy.ca.gov/funding-opportunities/funding-resources>.

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** and property of the State after the CEC posts the Notice of Proposed Award or the solicitation is cancelled. Only submit information you want made public. **Marking any portion of your application as confidential may result in disqualification**. **No portion of your application will be considered confidential.**

## Additional Requirements Regarding Environmental Review

* Time is of the essence. CEC funds available under this solicitation have liquidation deadlines as early as June 30, 2029.  This means that the CEC must approve proposed awards at a business meeting (usually held monthly) prior to June 30, 2025, to avoid expiration of the funds.
* Environmental Review. Prior to approval and encumbrance, the CEC must comply with the California Environmental Quality Act (CEQA) and other requirements. To comply with CEQA, the CEC must have CEQA-related information from applicants and sometimes other entities, such as local governments, in a timely manner. For this reason, the CEC encourages the completion of permitting prior to the application. Applicants should include documentation of the local permitting jurisdiction’s CEQA determination in the CEQA Compliance Form (Attachment 8). Unfortunately, even with this information, the CEC may not be able to complete its CEQA review prior to the encumbrance deadline for every project. For example, if a project requires an Environmental Impact Report, the process to complete it can take many months. If another agency has already made a CEQA determination as the lead agency, that may expedite the CEC’s review. It is critical that applicants organize applications in a manner that minimizes the time required for the CEC to comply with CEQA and provide all CEQA-related information to the CEC in a timely manner such that the CEC is able to complete its review in time for it to meet its encumbrance deadline.
* Reservation of right to cancel 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 the CEQA review associated with a proposed project would not likely be completed prior to the encumbrance deadline referenced above, and that the CEC’s ability to meet its encumbrance deadline may thereby be jeopardized, the CEC may cancel a proposed award and award funds to the next highest scoring applicant, regardless of the originally proposed applicant’s diligence in submitting information and materials for CEQA review. Examples of situations that may arise related to CEQA review include but are not limited to:
* Example 1: If another state agency or local jurisdiction, such as a city or county, has taken the role of lead agency under CEQA, the CEC’s review may be delayed while waiting for a determination from the lead agency.
* Example 2: If the proposed work is part of a larger project for which a detailed environmental analysis has been or will be prepared by another state agency or local jurisdiction, the CEC’s review may be delayed as a result of waiting for a supplemental or initial analysis, respectively, from the other agency.
* Example 3: If the nature of the proposed work is such that a project is not categorically or otherwise exempt from the requirements of CEQA, and an Initial Study or other detailed environmental analysis appears to be necessary, the CEC’s review, or the lead agency’s review, may take longer than the time available to encumber the funds. If an Initial Study, Negative Declaration, Mitigated Negative Declaration, Environmental Impact Report, or similar document[[22]](#footnote-23) has already been completed by another state agency or a local jurisdiction, serving as the lead agency, the applicant must ensure that such an analysis covers the work in the proposed project, or must obtain a revised analysis and determination from the lead agency reviewing the proposed project.
* Example 4: If the proposed project clearly falls under a statutory or categorical exemption, or is a project for which another state agency or local jurisdiction has already completed its environmental review and adopted CEQA findings that the project will cause no significant effect on the environment, the project will likely have greater success in attaining rapid completion of CEQA requirements.

The above examples are not exhaustive of instances in which the CEC may or may not be able to comply with CEQA within the encumbrance deadline and are only provided as further clarification for potential applicants. Applicants are encouraged to contact potential lead and responsible agencies under CEQA as early as possible. Please plan applications accordingly.

## Background

1. **Clean Hydrogen Program**

Assembly Bill (AB) 209 (Committee on Budget, Chapter 251, Article 4), created the Clean Hydrogen Program.[[23]](#footnote-24) Among other provisions, the bill requires the CEC to establish and administer the Hydrogen Program to provide financial incentives to eligible in-state hydrogen projects for the demonstration or scale-up of the production, processing, delivery, storage, or use of hydrogen consistent with Section 25664.1. Per AB 209, the CEC shall:

* Include in guidelines or as project requirements that the financial incentives received under the Hydrogen Program do not supplant or result in duplicative offset credits, renewable energy credits (RECs), or other forms of compliance credits;
* Only provide financial incentives to eligible projects that help reduce sector-wide emissions, as determined by the CEC;
* Prioritize eligible projects that benefit geographically diverse areas of the state; and
* Prioritize eligible projects that maximize air quality, equity, health, and workforce benefits.

**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) 209 – The Energy and Climate Change budget bill,** Chapter 251, enacted in September 2022[[24]](#footnote-25)

AB 209 created the Clean Hydrogen Program. Among other provisions, the bill requires the CEC to establish and administer several clean energy programs. For the purposes of this solicitation, the Clean Hydrogen Program is described in Section I.K.

Additional Information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB209>

Applicable Law: California Public Resources Code §§ 25664.1

* **SB 1075 – Hydrogen: Green Hydrogen: Emissions of Greenhouse Gases**

Senate Bill 1075 requires the California Air Resources Board (CARB) to ensure that statewide greenhouse gas emissions are reduced to at least 40% below 1990 levels by 2030. In consultation with the CEC and CPUC, CARB is required to prepare an evaluation that includes specified information relative to the deployment, development, and use of hydrogen. This bill requires the CEC, as part of the 2023 and 2025 editions of the integrated energy policy report, to study and model potential growth for hydrogen and its role in decarbonizing, as defined, the electrical and transportation sectors of the economy, and in helping to achieve specified goals.

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1075>

Applicable Law: California Health and Safety Code §§ 38561.8

* **SB 1020 – Clean Energy, Jobs, and Affordability Act of 2022**

SB 1020 revises state policy to provide that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as specified.

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1020>

Applicable Law: California Health and Safety Code §§ 38561 et. Seq.

* **Assembly Bill (AB) 32[[25]](#footnote-26) - Global Warming Solutions Act of 2006**

AB 32created a comprehensive program to reduce greenhouse gas (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 designates the California Air Resources Board (CARB) as the state agency charged with monitoring and regulating sources of greenhouse gas (GHG) emissions and requires CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. CARB must update the plan at least once every five years.

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32>

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

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 expands on AB 32 by requiring that CARB ensure statewide GHG emissions are reduced to 40% below the 1990 level by no later than December 31, 2030. SB 32 further requires that these emission reductions are achieved in a manner that benefits the state’s most disadvantaged communities and is transparent and accountable to the public and the Legislature.

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32>

Applicable Law: California Health and Safety Code § 38566.

Applicable Law: California Public Resources Code § 25943, California Public Utilities Code §§ 381.2 and 385.2

* **SB 350[[26]](#footnote-27) - Clean Energy and Pollution Reduction Act of 2015**

SB 350, among other directives, expanded on AB 758 by directing CEC to establish annual targets to achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. This resulted in the Senate Bill 350 Doubling of Energy Efficiency by 2030(Doubling Report), which expanded the focus of the Existing Buildings Energy Efficiency Action Plan from existing buildings to include agriculture, industry, newly constructed buildings, conservation voltage reduction, and fuel substitution. CEC subsequently consolidated the Existing Buildings Energy Efficiency Action Plan, Doubling Report, and energy efficiency equity efforts to form a comprehensive roadmap to achieving the state’s energy efficiency and building decarbonization goals in the 2019 California Energy Efficiency Action Plan.

SB 350 also requires retail sellers of electricity and local publicly owned electricity increase their procurement of eligible renewable energy resources and provided for the transformation of the Independent System Operator into a regional organization.

Additional information: <https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB350>

* **Senate Bill (SB) 100 - The 100 Percent Clean Energy Act of 2018**

SB 100 requires that 100 % of retail sales of electricity to California end-use customers and 100 % of electricity procured to serve all state agencies come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The bill requires the CPUC and the CEC, in consultation with CARB to ensure that California’s transition to a zero-carbon electric system does not cause or contribute to greenhouse gas emissions (GHG) increases elsewhere in the western grid.

Additional information: <https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100>

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: <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report>

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

Reference Documents

Refer to the documents/webpages below for information about activities associated with CEC’s R&D and Clean Hydrogen Program.

* CEC’s R&D Programs:

<https://www.energy.ca.gov/programs-and-topics/topics/research-and-development>

* CEC’s Clean Hydrogen Program:

<https://www.energy.ca.gov/programs-and-topics/programs/clean-hydrogen-program>

* Empower Innovation:

<https://www.empowerinnovation.net/>

Refer to the documents/webpages below for information about activities associated with hydrogen research and demonstration.

* California Air Resources Board 2022 Scoping Plan for Achieving Carbon Neutrality: <https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp.pdf>.
* U.S. Department of Energy 2023 National Clean Hydrogen Strategy and Roadmap: <https://www.hydrogen.energy.gov/clean-hydrogen-strategy-roadmap.html>
* U.S. Department of Energy Inflation Reduction Act and 45V Production Tax Credit: <https://www.congress.gov/bill/117th-congress/house-bill/5376/text>
* U.S. Department of Energy Regional Clean Hydrogen Hubs Program: <https://www.energy.gov/oced/regional-clean-hydrogen-hubs>
* Hydrogen Safety Panel Hydrogen Safety Checklist: <https://h2tools.org/sites/default/files/HydrogenSafetyChecklist_0.pdf>
* Hydrogen Safety Panel Safety Planning for Hydrogen and Fuel Cell Projects: <https://h2tools.org/sites/default/files/Safety_Planning_for_H2_and_FC_Projects-Jan2020.pdf>
* Request for Hydrogen Safety Panel Support:

<https://h2tools.org/>

* Argonne National Laboratory’s 45VH2 Greenhouse gases, Regulated Emissions, and Energy use in Technologies (45VH2-GREET) Model:

<https://www.energy.gov/eere/greet>

* National Renewable Energy Laboratory (NREL) H2A Hydrogen Analysis Production Model:

<https://www.nrel.gov/hydrogen/h2a-production-models.html>

* Environmental Protection Agency (EPA) Moter Vehicle Emission Simulator (MOVES):

<https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves>

## Match Funding

* **“Match funds”** includes cash or in-kind (non-cash) contributions provided by the applicant, subrecipients, 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 including but not limited to Clean Hydrogen Program funds received from other sources, 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 grant recipient’s possession or proposed by a 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** can be in the form of goods or services that are not reimbursed with CEC funds such as labor (if reasonable and justified), donated space, existing equipment, existing supplies, services provided by a third-party or subrecipient, and other expendable property in support of the project. The value of in-kind match is based on the fair market value of the goods and services provided at the time it is claimed as match. The value of existing equipment must be prorated for its use in the project and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP). Labor rates for hours donated by non-employees who are not paid for their time must be consistent with those paid for similar work. Cost allocations must be reasonable and allocable to the proposed project. In-kind match share must be included in the agreement budget.

The grant recipient is expected to maintain appropriate documentation to support the fair market value of all in-kind match including match donated by third parties or major subrecipients.

* Match funds must be spent only during the Agreement term, either before or concurrently with CEC funds or in accordance with an approved Match Fund Spending Plan. Match funds also must be reported in invoices submitted to the CEC.
* All applications that include match funds must submit commitment letters, **including applicant, subrecipients**, sub-subrecipients, and vendors 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 Commitment and Support Letters Form Attachment. Commitment and support letters must be submitted with the application to be considered.
* Any match pledged in an application must be consistent. For example, in the ECAMS system and in the Budget Attachment applicants will be asked to enter the project’s total match funding. The amounts listed in those places should 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, the match amounts entered in the ECAMS system and in the Budget must match this amount). If the amounts listed in an application are inconsistent, 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. 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.
    - **“Equipment” is** an 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 Energy CEC funds for these purchases is not allowed.**

## Funds Spent in California

* All projects must spend 50 percent of CEC funds in California. Only CEC funds may count towards total funds spent in California.
* "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
  + Business transactions (e.g., material and equipment purchases, leases, and rentals) are entered into with a business located in California.
  + Total should include any applicable, subrecipients, sub-subrecipients, and vendors.
* 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) businesses registered with 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: CEC funds will be spent on temperature sensors.  The temperature sensors are manufactured in Washington. The grant recipient orders the temperature sensors directly from a CA based supply house.  The invoice shows that the transaction occurred with the CA based supply house. This transaction is eligible and can be counted as funds spent in CA.
  + Example 2: CEC funds will be spent on temperature sensors. The temperature sensors are manufactured in Washington. The grant recipient orders the temperature sensors directly from Washington.  The manufacturer has training centers in CA that instructs purchasers on how to use the sensors. The invoice shows that the transaction occurred in Washington. This transaction is not eligible and cannot be counted as funds spent in CA.

# II. Eligibility Requirements

## Applicant Requirements

1. **Eligibility**

This solicitation is open to all public and private entities, California Native American Tribes, and California Tribal Organizations.

1. **Terms and Conditions**

Each grant agreement resulting from this solicitation will include terms and conditions that set forth the grant recipient’s rights and responsibilities. By submitting an application in the ECAMS system, 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, without negotiation: (1) University of California and California State University terms and conditions; (2) U.S. Department of Energy terms and conditions; (3) standard terms and conditions; (4) Special Terms and Conditions for California Native American Tribes and California Tribal Organizations in addition to the standard terms and conditions; and (5) any other special terms and conditions required by the CEC. The standard terms and conditions are located at <https://www.energy.ca.gov/funding-opportunities/funding-resources>.

Failure to agree to the terms and conditions by taking actions such as failing to provide the required authorizations and certifications or indicating that acceptance is based on modification of the terms may 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.

a. If a California Native American Tribe (Tribe) or California Tribal Organization with sovereign immunity is listed as a proposed awardee in the Notice of Proposed Award, CEC staff must receive the following before bringing the proposed award to a CEC Business Meeting:

1. A resolution or other authorizing document by the governing body of the Tribe or Tribal Organization which:

i. Authorizes the Tribe or Tribal Organization to enter into the proposed agreement, including accepting the Special Terms and Conditions for California Native American Tribes and Tribal Organizations, including the Limited Waiver of Sovereign Immunity and Consent to Jurisdiction (see Attachment 16); and

ii. Approves a limited waiver of tribal sovereign immunity, to the extent that any such sovereign immunity exists, for any and all claims by the CEC that may arise relating to this Agreement and any remedies therefore under the laws of the state of California and the laws of the United States of America; and

iii. Consents to personal jurisdiction over the Tribe or Tribal Organization, and consents to venue in any court of the State of California and any federal court sitting in the State of California; and waives any and all claim that the Tribe or Tribal Organization may have, including without limitation that such court is an inconvenient forum, for the purposes of any proceeding related to this Agreement; and, with respect to a proceeding in a court of the State of California or a federal court sitting in the State of California, any requirement that tribal remedies must be exhausted; and

iv. delegates authority to execute the proposed agreement to an appropriate individual.

The above requirements may be provided in one or more documents. The document(s) will be included as an exhibit to the resulting grant agreement.

**Delay in award.** Any delay in the Tribe or Tribal Organization’s ability to provide such documentation may result in delayed award of the grant agreement.

**Reservation of right to cancel proposed award.** Funds available under this solicitation have encumbrance deadlines which the CEC must meet in order to avoid expiration of the funds. In addition to any other rights reserved to it under this solicitation or that it otherwise has, the CEC reserves the right to cancel a proposed award if it determines, in its sole and absolute discretion, that the documentation described above would likely not be provided prior to an encumbrance deadline, and that the CEC’s ability to meet its encumbrance deadline may thereby be jeopardized. In this instance, the CEC may cancel the proposed award and award funds to the next highest scoring applicant.

1. **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 and project team members (e.g. subrecipients and even match fund partners) 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 proposed for funding).  Applicants should provide the exact legal names of entities included in their applications, along with any fictitious business names. Fictitious business names must be currently valid, i.e., not expired with the Secretary of State. As part of the CEC’s due diligence, particularly during the agreement development phase, CEC staff may request the supporting documentation regarding the above registration requirements.

For more information, contact the Secretary of State’s Office via its website at www.sos.ca.gov.  Sole proprietors do not have to be registered with the California Secretary of State. However, the local government may require a business license and if using a fictitious business name, registration of the name may be required. Sole proprietors must be able to provide evidence of required licenses and/or registration with the appropriate local government, or evidence that such licenses and/or registration is not required, to the CEC prior to the project being recommended for approval at a CEC Business Meeting.

1. **Russia Sanctions**

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. “Economic Sanctions” refers to sanctions imposed by the U.S. government in response to Russia’s actions in Ukraine, as well as any sanctions imposed under state law. By submitting a bid or proposal, Contractor represents that it is not a target of Economic Sanctions. Should the State determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for rejection of the Contractor’s bid/proposal any time prior to contract execution, or, if determined after contract execution, shall be grounds for termination by the State.

## Project Requirements

1. **AB 209 Requirements**

Applicants must submit projects that meet the following requirements:

1. Projects must produce, process, deliver, store, or use hydrogen derived from water using eligible renewable energy resources, as defined in Section 399.12 of the California Public Utilities Code, or produced from these eligible renewable energy resources.
2. Projects must be located in-state for the demonstration or scale-up of the production, processing, delivery, storage, or use of hydrogen.
3. The financial incentives received under the proposed award must not supplant or result in duplicative offset credits, RECs or other forms of compliance credits.
4. Projects must help reduce sector-wide emissions.
5. Renewable Energy Resources

To be eligible for funding, projects must meet all of the following renewable energy resource requirements:

1. Use only power supplied in the state of California;
2. Use 100 percent eligible renewable energy resources for the project. Eligible renewable energy sources are electrical generation facilities that use:
   1. Fuel cells using renewable fuels;
   2. Geothermal;
   3. Small hydroelectric (30 megawatts or less);
   4. Ocean wave;
   5. Ocean thermal;
   6. Tidal current;
   7. Photovoltaics;
   8. Solar thermal;
   9. Biomass;
   10. Digester gas[[27]](#footnote-28);
   11. Municipal solid waste conversion;
   12. Landfill gas; or
   13. Wind.[[28]](#footnote-29); and
3. If eligibility of the facility is based on the use of landfill gas, digester gas, or another renewable fuel delivered to the facility through a common carrier pipeline, the transaction for the procurement of that fuel, including the source of the fuel and delivery method, satisfies the requirements of Section 399.12.6 of the Public Utilities Code and is verified pursuant to the accounting system established by the CEC pursuant to 399.25 of the Public Utilities Code, or a comparable system, as determined by the CEC.[[29]](#footnote-30),[[30]](#footnote-31)
4. Location

Projects must be located in California or on California Tribal land.[[31]](#footnote-32)

## CEC’s Rights and Remedies

Any process explained in this solicitation is in addition to, and does not restrict, any other rights and remedies available to the CEC.

# III. Application Submission Instructions

## Application Format, Page Limits

All items listed below are required as part of the application package. Failure to provide any items may result in disqualification of the application. Attachment requirements are expanded and explained below in this section and in the attachments themselves.

|  |  |  |
| --- | --- | --- |
| **Item** | **Attachment Number** | **Page Limitation** |
| Application Form | Attachment 1 | None |
| Executive Summary | Attachment 2 | Two pages |
| Project Narrative | Attachment 3 | Twenty-five pages |
| Project Team | Attachment 4 | Two pages for each resume |
| Scope of Work | Attachment 5 | Thirty-five pages |
| Project Schedule | Attachment 6 | Four pages |
| Budget | Attachment 7 | None |
| CEQA Compliance Form | Attachment 8 | None |
| Past Projects Information Form | Attachment 9 | Two pages for each project description |
| Commitment and Support Letters | Attachment 10 | Two pages, excluding the cover page |
| Project Performance Metrics | Attachment 11 | None |
| Applicant Declaration | Attachment 12 | None |
| References for Calculating Energy Use and GHG Emissions | Attachment 13 | None |
| Community Engagement, Benefits, and Impacts Reference | Attachment 14 | None |
| Appendix G: Environmental Checklist Form from CEQA Handbook | Attachment 15 | None |
| Special Terms and Conditions for California Native American Tribes | Attachment 16 | None |

## Method For Delivery

The only method of submitting applications to this solicitation is Energy Commission Agreement Management System (ECAMS), available at: <https://ecams.energy.ca.gov>.

The CEC is providing a team of technical assistants to support applicants with this new process. Please email [ECAMS.SalesforceSupport@energy.ca.gov](mailto:ECAMS.SalesforceSupport@energy.ca.gov) for support.

ECAMS allows applicants to complete and submit their application to the CEC prior to the date and time specified in this solicitation. Files uploaded to the system 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, such as match funding commitment letters, may be scanned and submitted in PDF format.  Completed Budget Forms Attachment must be in Excel format.

The deadline to submit applications through ECAMS system is 11:59 p.m. on the Deadline to Submit Applications date shown in the Key Activities Schedule. ECAMS automatically closes at 11:59 pm. If the full submittal process has not been completed before 11:59 p.m., your application will not be considered.

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 ECAMS, upload times may be much longer than expected. For example, unexpected issues could occur, causing long delays that prevent timely submission. Please plan accordingly. For instructions on how to apply using the ECAMS system, please see the How to Apply document available on the CEC website at: <https://www.energy.ca.gov/funding-opportunities/funding-resources>, under General Funding Information, Energy Commission Agreement Management System (ECAMS).

First time users must register as a new user to access the system. There will be two types of user accounts to establish: 1) An organizational account, for the entity applying to the solicitation; and 2) user accounts for individuals who will be submitting the application on behalf of the organization.

Applicants will be required to upload all attachments marked “required” in the system in order for the application to be submitted.

## Application Content

Below is a general description of each required section of the application. Please reference each individual attachment for a detailed description of the information requested by that attachment. Completeness in submitting all the information requested in each attachment will be factored into application scoring.

1. Application Form (Attachment 1)

This form requests basic information about the applicant and the project. The application must include an original Application Form that addresses all requested information.

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.Evaluation and Award Process, while also addressing Section I.F. Key Project Activities, Section I.C. Project Focus, and Section II.B. Project Requirements.

1. Project Team Form (Attachment 4)

Identify by name all key personnel[[32]](#footnote-33) assigned to the project, including the projects that are employed by the applicant, a subrecipient or sub-subrecipient, including the project manager and principal investigator (if applicable), and individuals employed by any major subrecipient (a major subrecipient is a subrecipient receiving $100,000 or more of Commission funds). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages).

1. Scope of Work Template (Attachment 5)

Applicants must include a completed Scope of Work for each project, as instructed in the template, and include technical requirements and required products listed in Section I.C. Project Focus, Section I.F. Key Project Activities, and Section II.B. Project Requirements. The Scope of Work identifies the tasks required to complete the project.

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.

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

1. Budget Forms (Attachment 7)

Because this solicitation is utilizing the new ECAMS system for submitting applications, applicants have two options for uploading a budget:

1. **Option 1: Prime applicant’s budget is both keyed directly into ECAMS and uploaded as an MS Excel attachment; the Prime Major subrecipient(s) budgets are uploaded as MS Excel attachments.** The new ECAMS system allows applicants to build the prime applicant’s budget directly into the system. At this time, there is no way to input major subrecipient budgets directly into the system. Instructions for inputting budget items into the ECAMS system are included at: <https://www.energy.ca.gov/funding-opportunities/funding-resources>.
2. **Option 2: Upload all budgets (Prime and Major subrecipients) as MS Excel attachments** and leave the ECAMS budget sections blank.

Instructions for completing the budgets can be found in Budget Category Guidance at the ECAMS Resources page. **Read the instructions tab on the MS Excel attachments Attachment 7 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 Anticipated Agreement Start and End dates listed in the “Key Activities Schedule” of this solicitation manual. Match share requirements are discussed in Part I.D and I.L 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 agreement terms and conditions. Rates and personnel shown must reflect the rates and personnel the applicant would include if selected as a Recipient.
3. The rates proposed, except for Direct Labor and Fringe Benefits, are considered capped and may not change during the Agreement term. Except for Direct Labor and Fringe Benefits, the grant recipient will only be reimbursed for actual rates and not to exceed the capped rates. The rates proposed for Direct Labor and Fringe Benefits are treated as estimates; a grant recipient can invoice at higher rates as long as it is only invoicing for actual expenditures it has made. If an applicant, by law, cannot agree to Direct Labor and Fringe Benefits rates being treated as estimates, the applicant can request to modify this term. This modification may be negotiated if the applicant is proposed for award. The CEC retains the sole right to refuse to agree to any requested modifications. The budget must NOT include any grant recipient profit from the proposed project, either as a reimbursed item, match share, or as part of overhead or general and administrative expenses (subrecipient profit is allowable, though the maximum percentage allowed is 10% of the total subrecipient rates for labor, and other direct and indirect costs as indicated in the Category Budget tab). Please review the terms and conditions and budget forms for additional restrictions and requirements.
4. 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 CAM.
5. 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 with CEC funds, with the exception of costs incurred by University of California grant recipients.
6. 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.
7. **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, the 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, the grant recipient must either:

(a) Proceed on the assumption that the project is a public work and ensure that:

1. prevailing wages are paid;
2. the project budget for labor reflects these prevailing wage requirements; and
3. 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,

(b) 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.

1. 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, in the CEC’s sole discretion and without limiting any of the CEC’s other rights and remedies, result in the cancellation of a proposed award and allocation of funding elsewhere, such as to the next highest-scoring project.

1. Past Projects Information (Attachment 9)

The Past Projects Information Form asks for information about the Applicant and its major subrecipients’ past agreements with the CEC and other entities.

1. 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 from each entity that is committing to providing match funding. Each commitment letter must be signed by an authorized representative of the entity or by the individual that is making the commitment. A commitment letter must include all of the following: (1) identification of the source(s) of the funds; (2) a justification of the dollar value claimed; (3) an unqualified (i.e., without reservation or limitation) commitment that guarantees the availability of the funds for the project; and (4) a strategy for replacing the funds if they are significantly reduced or lost.

* If the project involves demonstrationactivities, the applicant must include a site commitment letter signed by an authorized representative of the proposed demonstration site. The letter should: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) which must be consistent with ECAMS and Attachment 10; and (2) unconditionally commit to providing the site for the proposed activities if recipient is awarded a CEC grant.
* **Project partners** that are making contributions other than match funding or a demonstration 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) unconditionally commits to making the contribution if Recipient is awarded a CEC grant. Commitment letters from proposed offtake, feedstock, and delivery partners are encouraged.
  + 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 demonstration site. All applicants must submit a support letter from the Hydrogen Safety Panel verifying the applicant has met with the Hydrogen Safety Panel to discuss the proposed project and anticipated safety requirements. ARCHES DOE Hub project partners must submit a support letter from ARCHES to reflect confirmation of DOE Hub status.

1. Project Performance Metrics (Attachment 11)

The purpose of this questionnaire is to identify and document 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. The metrics should provide constructive targets for the performance of the technology or project and how the metric will be measured and evaluated, during the project and after the project is complete.

1. Applicant Declaration (Attachment 12)

This form requests the applicant make certain declarations under penalty of perjury. This form must be signed by an authorized representative of the applicant’s organization.

1. References for Calculating Energy Use and GHG Emissions (Attachment 13)

Applicants may use this attachment as a guide to estimate energy savings or GHG impacts described in the application to the extent that the references apply to the proposed project.

1. Community Engagement, Benefits, and Impacts Reference (Attachment 14)

Applicants may use this attachment as a guide to provide information to help scorers evaluate the applicant on Scoring Criterion 9, Benefits to Communities and Localized Health Impacts. Grant recipients will use this attachment during Agreement Development and during the Agreement term to ensure community engagement and benefits are monitored and quantified. A Community Benefits and Engagement Plan is not required for application submission.

1. Appendix G: Environmental Checklist Form from CEQA Handbook (Attachment 15)

Applicants may use this attachment as a reference guide for projects to complete CEQA. The Environmental Checklist Form is not required for application submission.

1. Special Terms and Conditions for Native American Tribes and California Tribal Organizations with Sovereign Immunity (Attachment 16)

Native American Tribes and California Tribal Organizations with Sovereign Immunity must agree to these special terms. Please also refer to Section II.A.2 for requirements for California Native American Tribes and Tribal Organizations.

# 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 past performance of CEC agreements. To evaluate applications, the CEC will organize an Evaluation Committee that consists of primarily, or all CEC staff. The Evaluation Committee may use additional technical expert reviewers to provide an analysis of applications.

1. **Stage One: Application Screening**

The Evaluation Committee will screen applications for compliance with the Application Screening Criteria in **Section E** 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. **Stage Two: Application Scoring**

Applications that pass Stage One 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.
* **A minimum score of 143.5 points** is required for criteria 1-8 to be eligible for funding.
* ARCHES DOE Hub project partners must submit a support letter from ARCHES with the Commitment and Support Letters Form (Attachment 10). The highest scoring, passing application from ARCHES DOE Hub project partners will be recommended for funding until the ARCHES DOE Hub set-aside has been awarded. The first ARCHES DOE Hub application recommended for award as part of the ARCHES set-aside can be proposed for full funding. The remaining funds will then be allocated to the next overall highest scoring application(s) in ranked order, regardless of applicant type, until all funds available under this solicitation are exhausted.

## Ranking, Notice of Proposed Award, and Agreement Development

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

Applications that receive at least the minimum required score for all criteria will be ranked according to their score by group.

* CEC staff will post a **Notice of Proposed Award (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 e-mail it to all entities that submitted an application. Proposed awards must be approved by the CEC at a business meeting.

**Debriefings:** Applicants that are not proposed for funding may request a debriefing after the release of the NOPA by e-mailing 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;
  + Aggregate funds from multiple groups to fully fund the highest ranked passing application(s), regardless of group (if applicable); and
  + Negotiate with successful applicantstomodify the project scope, schedule, project team entity that will receive the award, project location and/or level of funding.

1. **Agreements**

Applications recommended for funding in a NOPA will be developed into a proposed grant agreement to be considered at a CEC Business Meeting. Grant 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 grant recipient and the CEC).

* **Agreement Development:** The Contracts, Grants, and Loans Office will send the grant 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 project scope, level of funding, and terms and conditions) prior to executing any agreement.
* **Performance Evaluation:** An applicant receiving an award under this solicitation is subject to evaluation of performance under the resulting agreement. The CEC reserves the right to utilize the performance evaluation to screen and score future funding applications.
* **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, and without limitation to any other of its rights and remedies, 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 Electric Program Investment Charge or Gas Research and Development (formerly Public Interest Energy Research (PIER)) agreement, has received the royalty review letter (which the CEC annually sends out to remind past award 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 performance 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. If an applicant, by law, cannot agree to certain terms and conditions, the applicant can request a modification. This modification may be negotiated if the applicant is proposed for award. The CEC retains the sole right to refuse to agree to any requested modifications.
* The applicant has submitted more than one application, and as determined by the CEC in its sole discretion, the applications have overlap with respect to the tasks described in the Scope of Work, Attachment 5.
* The application does not clearly show that 50 percent of CEC funds will be spent in California, or the application does not spend 50 percent of CEC Funds in California.
* The Application does not clearly show in a submitted commitment letter(s) that it will provide at least 50 percent of the total requested CEC funds as match share.
* The project’s feedstock is not renewable as defined in Section 25741(a)(1) of the California Public Resources Code.
* Ineligible project costs, as listed in Section I.C. Project Focus, are included in the Budget Forms (Attachment 7).
* The proposed project is not located in California or on California Tribal land.

## 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 post an addendum on CEC’s website at: <https://www.energy.ca.gov/funding-opportunities/solicitations>. 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 recall or modify a submitted application within ECAMS before the deadline to submit applications. 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** and property of the State 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 unless the applicant clarifies in writing that marking the material as confidential was a mistake and the material can be made public.**

1. **Solicitation Errors**

If an applicant discovers any ambiguity, 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 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 an applicant proposed for funding from full compliance with solicitation requirements.

1. **Tiebreakers**

If the score for two or more applications are tied, the application with a higher score in the Decarbonizing Hard-to-Electrify Sectors criterion will be ranked higher. If still tied, an objective tiebreaker (such as a random drawing) will be used.

1. **Clarification Interviews**

The Evaluation Committee may conduct optional Clarification Interviews with applicants 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. **Opportunity to Cure Administrative Errors**

The CEC understands and appreciates the significant time and expense applicants spend preparing applications.  An administrative error that prevents an applicant from submitting a complete application frustrates both the CEC and applicants.  The purpose of this process is to reduce the number of applications screened out or receiving a significantly reduced score for administrative errors while maintaining a fair competition.  This process also ensures better competition and thus better projects to benefit California.

After the application deadline, an applicant might identify, or the Evaluation Committee may find what reasonably appears to be, an administrative error.  For purposes of this solicitation only, an administrative error is defined as an applicant’s inadvertent mistake that prevents materials in existence as of the application deadline from appearing in its submitted application.  Examples include, but are not limited to, accidentally:

* Scanning and submitting every other page in a document instead of every page.
* Submitting the wrong document.
* Leaving out a document.

If the Evaluation Committee finds what reasonably appears to be an administrative error, they can communicate with the applicant to confirm.  If an applicant finds an administrative error in its application, it should immediately contact the Commission Agreement Officer listed in the “Contact Information/Questions” section of this solicitation.

If an administrative error has been identified and communicated to the Commission Agreement Officer, the CEC may, but is not required to, allow the applicant a period of time to provide the missing materials.  Reasons why the CEC might NOT allow an applicant to fix an administrative error include, but are not limited to:

* The funds have a deadline that does not allow time to fix the error.
* The application has been screened out or does not receive a passing score for reasons unrelated to the administrative error, making irrelevant any efforts to fix the error.
* The applicant brings the error to the CEC’s attention too late in the solicitation process (e.g., after awards have been approved at a Business Meeting).

If the Evaluation Committee allows an applicant the opportunity to fix an administrative error, the Commission Agreement Officer will communicate in writing to the applicant’s project manager listed the deadline by which the applicant must provide the missing materials.  Reasonable efforts will be made to confirm receipt of the notice, but actual notice cannot be guaranteed, and the obligation is on the applicant to ensure the proper contact(s) are listed and available to respond.  The Evaluation Committee will not consider any materials submitted after the deadline.

This process only allows applicants to submit materials in existence as of the application deadline.  This process does NOT allow applicants to submit material created or modified after the application deadline. The CEC has sole discretion to determine whether materials submitted are eligible for consideration by the Evaluation Committee under this opportunity to cure.

Applicants must include the following certification along with the materials it submits to fix an administrative error and must explain why the materials were not provided due to an inadvertent administrative error:

“I certify on behalf of the applicant that the materials provided herein existed at the time of the application deadline, have not been modified since, and were not originally provided due to an inadvertent administrative error as described herein.”

The Evaluation Committee is not responsible for finding, or communicating with the applicant about, any errors in an application.  Applicants remain solely responsible for submitting applications, including any material submitted to fix an administrative error, that meet all solicitation requirements.

**Screening Criteria for Past Performance**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with Energy Commission**  An applicant may be disqualified under this solicitation due to severe performance issues under one or more prior or active CEC agreements. This past performance screening criterion does not apply to applicants that do not have any active or prior agreements with the CEC.  The applicant—defined for the purpose of this past performance screening criterion as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the Energy Commission (e.g., contract, grant, or loan) and entered into an agreement(s) with the Commission and demonstrated **severe performance issues** characterized by significant negative outcomes including:   * Significant deviation from agreement requirements that were caused by factors that are, or should have been, within applicant’s control; * Termination with cause; * Demonstrated poor communication, project management, and/or inability, due to circumstances within applicant’s control, or which should have been within applicant’s control, from materially completing the project; * Deliverables were not submitted to the CEC or were of significantly poor quality. For example, applicant delivered poorly written reports that required significant rework by staff prior to acceptance or publication; and * Severe audit findings not resolved to CEC’s satisfaction. Severe audit findings may include but are not limited to: incomplete or unsatisfactory deliverables; grant funds used inappropriately (i.e., other than as represented); or questioned costs. |  |
| **Must pass to continue with Application Screening and Scoring Criteria** | **Pass/Fail** |

## Stage One: Application Screening

|  |  |
| --- | --- |
| **Application Screening Criteria**  *The application must pass ALL screening criteria to progress to Stage Two.* | **Pass/Fail** |
| * + - 1. The application is received by the CEC 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 application identifies one or more demonstration/deployment site locations.  * The application includes a site commitment letter (Section III.C.10) for each demonstration/deployment site. | Pass  Fail |
| 1. The applicant passes the past performance screening criteria. | Pass  Fail |
| 1. The Applicant Declarations Form (Attachment 12) is signed where indicated. | Pass  Fail |
| 1. Applicant is eligible to apply under this solicitation (Section II.A, Applicant Requirements) and the proposed project is eligible in accordance with this solicitation (Section II.B., Project Requirements). | Pass  Fail |
| 1. The Application meets the minimum of 50 percent in match share of the total requested CEC funds and includes Commitment Letters that total at least the minimum of 50 percent in match share of the total requested CEC funds. | Pass  Fail |
| 1. The Application meets the minimum of 50 percent CEC Funds Spent in California. | Pass  Fail |
| 1. Feedstock is renewable as defined in Section 25741(a)(1) of the California Public Resources Code. | Pass  Fail |
| 1. If the applicant has submitted more than one application, 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 identifies one or more site locations located in California or on California Tribal land. | 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.

## Stage Two: Application Scoring

Applications that pass ALL Stage One Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria 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 Project Narrative Attachment must respond to each sub-criterion, unless otherwise indicated.

**Scoring Scale**

|  |  |  |
| --- | --- | --- |
| **% of Possible Points** | **Interpretation** | **Description** |
| 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. |

**Scoring CRITERIA**

**The Project Narrative Attachment** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy Use and GHG Emissions Attachment, to the extent that the references apply to the proposed project.

| **Scoring Criteria** | **Possible Points** |
| --- | --- |
| 1. **Technical Merit** 2. Provide a clear and concise description of the technological advancement that will overcome barriers to achieving the State’s statutory energy goals. 3. Describe at what scale the applicant’s equipment has been successfully demonstrated, including size or capacity, number of previous installations, location and duration, results, etc. 4. Demonstrate scalability potential within California. Identify plans to ensure the project remains operational over the system’s lifetime. 5. Provide the proposed project’s performance (e.g., system efficiency, technology efficiency, operation factor, and production capacity). 6. Identify and describe the storage facilities, including but not limited to:    * Estimated storage state (e.g., gaseous, liquid, hydrogen carriers);    * Type of storage containers (e.g., dewars, Type I-IV tanks);    * Storage capacity;    * Storage duration;    * Energy requirements for storage; and    * Potential hydrogen losses from the storage system. 7. Provide information described in Section I.C. Project Focus. | **15** |
| 1. **Technical Approach and Project Readiness** 2. Describe the technique, approach, and methods to be used in performing the work described in the Scope of Work. 3. In the Scope of Work, identify goals, objectives, and deliverables; detail the work to be performed; and align with the information presented in Project Narrative and requirements in the Solicitation Manual. 4. Discuss the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule (Attachment 6) and the Key Activities Schedule in Section I.E.    * If any equipment or materials will be purchased overseas, describe proposed actions to ensure compliance with U.S. Customs and Border Protection to avoid delay. 5. Provide a clear and plausible measurement and verification plan that includes the following:    * Production capacity (metric tons per day);    * Direct water consumption (kilograms of water consumed per kilogram of hydrogen produced);    * Water consumption for plant operations (kilograms of water per day);    * Hydrogen purity (percent);    * Well-to-gate greenhouse gas emissions assessments (kilogram of carbon dioxide equivalent (CO2e) per kilogram of hydrogen), including the lifecycle assessment method to be used over the lifetime of the hydrogen production system;    * Hydrogen leakage (kilograms and percentage released to the atmosphere overall and separately during production, delivery, and storage);    * Electricity use (kilowatt hours);    * Electricity production if using on-site renewable energy generation (kilowatts);    * Hydrogen production costs (dollars per kilogram at point of production and cost of dispensed hydrogen);    * Feedstock procurement estimates (type and quantity);    * Process design assumptions and cost analysis methodology; and    * System performance under normal operating conditions (including downtime [percent], facility system availability such as the proportion of time that the system is usable, hydrogen production efficiency [kilowatt hours per kilogram of hydrogen]). 6. Describe the approach to develop and implement the following required products described in Section I.C. Project Focus:    * Safety plan, including Hydrogen Safety Panel services;    * Operations and maintenance manual;    * System analyses, including lifecycle and technoeconomic assessments; and    * Community benefits and engagement plan. 7. Describe how the project will demonstrate successful delivery to offtake customers via gaseous tube trailers, liquid tankers, chemical hydrogen carriers, or pipeline by means of the following:    * Provide a plan, schedule, and proposed partner(s) for establishing hydrogen delivery agreements (if using third party). Include a commitment letter from proposed partner(s) using the Commitment and Support Letter Form (Attachment 10).    * Provide a transport and delivery plan that details steps involved in transporting and delivering hydrogen to offtakers, meets the requirements listed in the GFO and Scope of Work, and addresses federal and state regulations and requirements.    * Describe hydrogen leakage monitoring and quantification techniques. Describe plans to mitigate hydrogen leakage.    * Confirm delivery mechanisms exclude hydrogen blending with fossil gas. 8. Identify the source of water and verify a secured water source from reclaimed, repurposed, or recycled wastewater. 9. Describe the knowledge transfer plan to assess and advance the commercial viability of the technology. 10. Describe site readiness, such as construction and preparation at site of production, site control, right to possession of the production site, and equipment security. 11. Identify California Environmental Quality Act (CEQA) readiness.     * Describe timeframe for obtaining CEQA compliance and completed items with the local lead agency, including but not limited to a local lead agency’s Initial Study, Mitigated Negative Declaration, Notice of Determination, or Environmental Impact Report, if applicable. Include correspondence (e.g., email) with the lead agency to verify compliance timeline.     * Provide information documenting progress towards achieving CEQA compliance by addressing Section I.J. and Section III.C.8 in the CEQA Compliance Form (Attachment 8).       + In addition, provide information about the permitting required for the project and whether the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction CEQA review and project approval is not complete, applications must include information documenting progress towards a lead agency CEQA determination. All supporting documentation must be included with the CEQA Compliance Form (Attachment 8). 12. Identify and discuss factors critical for success. Identify risks, barriers, and limitations (e.g., loss of site, key subrecipients) and provide a risk mitigation plan to address them. 13. Identify proposed offtake partner(s) to support full production capacity and long-term, uninterrupted production, and include plans and schedule to establish agreements. Include a commitment letter from proposed offtake partner(s) using the Commitment and Support Letter Form (Attachment 10). 14. Identify proposed feedstock(s) and describe feedstock security over the lifetime of the hydrogen production system. 15. If applicable, describe the extent to which the project is prepared for utility connection, including but not limited to filing an application with a local utility for a load study and verifying available electric capacity with the local utility. 16. Describe preliminary discussions with the Hydrogen Safety Panel, including a timeline and anticipated costs. Include a support letter from the Hydrogen Safety Panel verifying preliminary engagement. 17. Provide information described in Section I.C. Project Focus and Section I.F. Key Project Activities. | **50** |
| 1. **Impacts and Benefits for California** 2. Describe how the project will maximize benefits including but not limited to:    * Expanding in-state clean hydrogen production (annual clean hydrogen produced in metric tons);    * Reducing sector-wide emissions (GHG emission reductions in metric tons, air emission reductions by pollutant and type) from a project’s designated hard-to-electrify end-use sector (e.g., industrial facilities, heavy-duty transportation, back-up electricity generation);    * Developing workforce (e.g., jobs creation, training, and retention);    * Increasing clean energy access and investments for local communities; and    * Minimizing or eliminating any negative impact on the surrounding communities’ exposure to pollutants and the adverse environmental conditions caused by pollution. This could involve measures such as improving air quality and responsibly sourcing and managing water, with the goal of promoting better health and equity; and    * Benefiting geographically diverse areas of the state. 3. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe. 4. Identifies the expected financial performance (e.g., payback period, return on investment) of the demonstration at scale. 5. Identifies the specific programs which the technology intends to leverage (e.g., 45V Production Tax Credit). | **35** |
| 1. **Decarbonizing Hard-to-Electrify Sectors** 2. Describe the carbon intensity of the project’s produced hydrogen (kilogram CO2e per kilogram H2) using a well-to-gate boundary. 3. Describe the source of energy, strategy to achieve 100 percent renewable energy capacity (renewable energy resources onsite, a PPA with bundled RECs, grid power with bundled RECs, or a combination), energy source location, capacity, and annual energy required for production equipment.    * If using onsite renewable energy resources, describe existing renewable electricity equipment (type, quantity, size) and provide documentation indicating the current value, if any, and/or discuss a plan to add additional resources to meet hydrogen production needs.    * If using a PPA with bundled RECs, discuss a plan to purchase electricity and associated RECs and other compliance credits, such as the amount and source of credits purchased, and to retire RECs in WREGIS. Describe use of time matching, including whether the project will use hourly, monthly, or annual time matching. Discuss assurance of electricity connection and a plan for working with the provider.    * If using grid power with bundled RECs, provide a detailed strategy for purchasing electricity and associated RECs, focusing on sourcing during off-peak hours or during times of potential curtailment to minimize grid strain. Discuss how the project will enroll into a utility’s green products. 4. Identify and describe how hydrogen produced from the proposed project will reduce CO2 emissions for the identified offtaker and its sector. Applicant must use References for Calculating Energy Use and GHG Emissions (Attachment 13) for calculations and must report the following information: baseline emissions data for designated offtaker, relevant state or industry emission reduction targets, and plans to verify these emissions reductions during the Agreement term. | **35** |
| 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. The Evaluation Committee may contact references.   1. Identify credentials of applicant and any subrecipient and sub-subrecipient key personnel, including the project manager; principal investigator; knowledge transfer lead; community engagement leads; Engineering, Procurement, and Construction contractors; technology providers; and specific team members responsible for tasks related to hydrogen production, storage, and delivery *(include this information in the Project Team Form, Attachment 4).* 2. Demonstrate that the project team has appropriate qualifications, experience, financial stability, and capability to complete the project. 3. Explain the team structure and how various tasks will be managed and coordinated. 4. Describe the facilities, infrastructure, and resources available that directly support the project. 5. Describe the team’s history of successfully completing projects in the past 10 years, including subsequent deployments and commercialization. | **10** |
| 1. **Budget and Cost-Effectiveness** 2. Include Budget forms that are complete for the applicant and all subrecipients, as described in the Budget Form (Attachment 7) and ensure eligible project costs fall within allowable percentages and dollar amounts for each category listed in Section I.C. Project Focus. 3. Justify the reasonableness of the requested funds relative to the project goals, objectives, and tasks. 4. Justify the reasonableness of direct costs (e.g., direct labor, fringe benefits, equipment, materials & misc., travel, and subrecipients). 5. Justify the reasonableness of indirect costs (e.g., overhead, facility charges [e.g., rent, utilities], burdens, subrecipient profit, and other like costs). 6. Demonstrate the need for state funding for the proposed project and how state funding can increase their ability to leverage private capital. | **20** |
| 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 Section I.M. Funds Spent in California Section for more details).   |  |  | | --- | --- | | **Percentage of CEC Funds Spent in CA vs Total CEC Funds Requested**  (Derived from Budget Forms, Attachment 7) | **Percentage of Possible Points** | | >60% | 20% | | >65% | 30% | | >70% | 40% | | >75% | 50% | | >80% | 60% | | >85% | 70% | | >90% | 80% | | >95% | 90% | | >98% | 100% | | **15** |
| 1. **Use of On-Site Renewable Energy Resources**   Describe the total energy consumption of hydrogen production technologies for the proposed project and clarify the percentage of energy consumption that will be met by on-site renewable energy resources. Projects that maximize the use of on-site renewable energy used for hydrogen production will receive points as indicated in the table below:   |  |  | | --- | --- | | **Percentage of Energy Consumption Sourced from On-site Renewable Energy Resources** | **Percentage of Possible Points** | | 0-49% | 0% | | 50-59% | 20% | | 60-69% | 40% | | 70-79% | 60% | | 80-89% | 80% | | 90-100% | 100% | | **25** |
| **Total Possible Points for Criteria 1-8**  **(Minimum Passing Score for Criteria 1 – 8 is 70% or 143.50 points)** | **205** |

| **Preference Points** Applications must meet minimum passing scores (Scoring Criteria 1-8) to be eligible for the additional points. | |
| --- | --- |
| **Scoring Criteria** | **Possible Points** |

|  |  |  |
| --- | --- | --- |
| 1. **Benefits to Communities and Localized Health Impacts** |  | |
| * 1. Localized Health Impacts  1. Summarize the potential localized health benefits and impacts of the proposed project and provide reasonable analysis and assumptions to support the findings. 2. Identify how the proposed project will reduce or not otherwise impact the community’s exposure to pollutants and the adverse environmental conditions caused by pollution and/or climate change. If projects have no impacts in this criterion, provide justification for why impacts are neutral. 3. Identify health-related Energy Equity indicators and/or health-related factors in CalEnviroscreen 4.0[[33]](#footnote-34) that most impact the community and describe how the project will reduce or not otherwise impact the indicators or factors. 4. Describe the intentional steps the project team has taken in conversation with community stakeholders to ensure that the proposed project does not bring any unintended adverse effects upon local communities, including steps taken to eliminate any hydrogen leakage and to site hydrogen infrastructure away from homes, schools, parks, and hospitals. | **15** | |
| * 1. Technology Replicability   2. Identify how the project, if successful, will lead to increased deployment of the technology or strategy in other communities, or Tribes. | **5** | |
| * 1. Project Support Letters  1. Include letters of support from technology partners, community-based organizations, 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 community. | **10** | |
| 1. **Production Capacity**   Projects that exceed the 5 metric tons per day production capacity requirement will receive preference points as indicated in the table below:   |  |  | | --- | --- | | **Metric tons of hydrogen produced per day** | **Percentage of Possible Points** | | 5-7.49 | 0% | | 7.5-9.99 | 25% | | 10-12.49 | 50% | | 12.5-14.99 | 75% | | >15 | 100% | | **5** | |
| 1. **Match Funding**    1. Cash match share is preferred; however, in-kind match 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 listed in Section I.D. using the Exceeds Minimum Match Scoring table:   **Exceeds Minimum  Match Scoring Table**   | Percentage above Minimum Match (cash and in-kind) | Score | | --- | --- | | 80% | 5 | | 60 to <80% | 4 | | 40 to <60% | 3 | | 20 to <40% | 2 | | 10 to <20 % | 1 | | **5** |
| **Total Possible Preference Points for Criteria 9-11** | **45** | |
| **Total Possible Points** | **250** | |

1. California Public Utilities Code, Section 399.12. Available at <https://california.public.law/codes/ca_pub_util_code_section_399.12>. [↑](#footnote-ref-2)
2. 2022 Scoping Plan for Achieving Carbon Neutrality. 2022 Scoping Plan Documents. California Air Resources Board. Available at <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>. [↑](#footnote-ref-3)
3. SB-32 California Global Warming Solutions Act of 2006: emissions limit. Bill Text - SB-32 California Global Warming Solutions Act of 2006: emissions limit. Available at <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32>. [↑](#footnote-ref-4)
4. GFO-22-903 Cost Share for Federal Funding Opportunities Clean Hydrogen Program. Available at <https://www.energy.ca.gov/solicitations/2023-05/gfo-22-903-cost-share-federal-funding-opportunities-clean-hydrogen-program>.  [↑](#footnote-ref-5)
5. Regional Clean Hydrogen Hubs Selections for Award Negotiations, U.S. Department of Energy. Available at <https://www.energy.gov/oced/regional-clean-hydrogen-hubs-selections-award-negotiations>. [↑](#footnote-ref-6)
6. Hydrogen Shot, U.S. Department of Energy. Available at <https://www.energy.gov/eere/fuelcells/hydrogen-shot>. [↑](#footnote-ref-7)
7. Department of the Treasury, Notice 2055-58. Available at <https://www.irs.gov/pub/irs-drop/n-22-58.pdf>.  [↑](#footnote-ref-8)
8. Pathways to Commercial Liftoff: Clean Hydrogen. U.S. Department of Energy. Available at <https://liftoff.energy.gov/clean-hydrogen/>. [↑](#footnote-ref-9)
9. Staff Workshop on the Implementation of the Clean Hydrogen Program. California Energy Commission. Available at <https://www.energy.ca.gov/event/workshop/2022-12/staff-workshop-implementation-clean-hydrogen-program>. [↑](#footnote-ref-10)
10. Draft Solicitation Concept for Large Scale Centralized Hydrogen Production. California Energy Commission. <https://efiling.energy.ca.gov/GetDocument.aspx?tn=250198&DocumentContentId=84927> [↑](#footnote-ref-11)
11. See the Hydrogen Safety Panel webpage for more information at <https://h2tools.org/hsp>. [↑](#footnote-ref-12)
12. For the purposes of this solicitation, a production facility may not be located on the same or geographically contiguous property as the hydrogen offtaker. [↑](#footnote-ref-13)
13. Appropriate knowledge transfer activities for this solicitation are listed in the Scope of Work Template (Attachment 5). [↑](#footnote-ref-14)
14. See the Hydrogen Safety Panel webpage for more information at <https://h2tools.org/hsp>. [↑](#footnote-ref-15)
15. The project must allocate appropriate funding for community-based organizations in the Budget Forms (Attachment 7). Projects are recommended to allocate a minimum 3 percent of CEC reimbursable funds to local communities. For projects located on tribal land and benefiting Tribes, the Tribe must be included on the project team and in the project budget. [↑](#footnote-ref-16)
16. See the Hydrogen Safety Panel webpage for more information at <https://h2tools.org/hsp>. [↑](#footnote-ref-17)
17. The project must allocate appropriate funding for community-based organizations in the Budget Forms (Attachment 7). Projects are recommended to allocate a minimum 3 percent of CEC reimbursable funds to local communities. For projects located on tribal land and benefiting Tribes, the Tribe must be included on the project team and in the project budget. [↑](#footnote-ref-18)
18. California Public Resources Code, Section 25741(a)(1), available at <https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=25741.&lawCode=PRC>. [↑](#footnote-ref-19)
19. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-20)
20. This deadline does not apply to non-technical questions (e.g., administrative questions concerning application format requirements or attachment instructions), including questions regarding application submission in the ECAMS system 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 I.G. at any time prior to 5:00 p.m. of the application deadline date. Please see Section I.G. for additional information. [↑](#footnote-ref-21)
21. Please see Section I.H. Questions and Section III.B. Method for Delivery for more information. [↑](#footnote-ref-22)
22. This catch-all refers to other types of environmental reviews, such as those prepared under the National Environmental Policy Act (NEPA). [↑](#footnote-ref-23)
23. See Public Resources Code section 25660, available at <https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=25664.1.&article=4.&highlight=true&keyword=ab%20209+hydrogen%20program>.  [↑](#footnote-ref-24)
24. Assembly Bill 209 (Statutes of 2021, Chapter 251), available at <https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB209>. [↑](#footnote-ref-25)
25. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-26)
26. SB 350 (Statutes of 2015, chapter 547) [↑](#footnote-ref-27)
27. Funded projects cannot use book-and-claim accounting for pipeline injected biomethane used as a feedstock for hydrogen production. [↑](#footnote-ref-28)
28. California Public Resources Code, Section 25741(a)(1), available at <https://california.public.law/codes/ca_pub_res_code_section_25741>. [↑](#footnote-ref-29)
29. California Public Utilities Code, Section 399.12.6, available at <https://california.public.law/codes/ca_pub_util_code_section_399.12.6>. [↑](#footnote-ref-30)
30. California Public Utilities Code, Section 399.25, available at <https://california.public.law/codes/ca_pub_util_code_section_399.25>. [↑](#footnote-ref-31)
31. A business located in California means businesses registered with Secretary of State. [↑](#footnote-ref-32)
32. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-33)
33. California Communities Environmental Health Screening Tool: CalEnviroScreen 4.0 is available at <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>. [↑](#footnote-ref-34)