See the formatting recommendations in Part III, Section A.

The Project Narrative must respond to each sub-criterion below.

1. **ELIGIBILITY REQUIREMENTS**

Projects must meet eligibility requirements as stated in the Solicitation Manual (see Section II.A. Applicant Requirements and Section II.B. Project Requirements) to be considered for funding.

1. **PROPOSAL EVALUATION CRITERIA**

**Technical Merit**

1. Provide a clear and concise description of the technological advancement that will overcome barriers to achieving the State’s statutory energy goals.
2. 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.
3. Demonstrate scalability potential within California. Identify plans to ensure the project remains operational over the system’s lifetime.
4. Provide the proposed project’s performance (e.g., system efficiency, technology efficiency, operation factor, and production capacity).
5. 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.
6. Provide information described in Section I.C. Project Focus.

**Technical Approach and Project Readiness**

1. Describe the technique, approach, and methods to be used in performing the work described in the Scope of Work.
2. 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.
3. 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.
4. 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 CO2e per kilogram of H2), including the lifecycle assessment method to be used over the lifetime of the hydrogen production system;
	* Hydrogen leakage (kilogram 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]).
5. Describe the approach to develop and implement the following required products described in Section I.C.:
	* Safety plan, including Hydrogen Safety Panel services;
	* Operations and maintenance manual;
	* System analyses, including lifecycle and technoeconomic assessments; and
	* Community benefits and engagement plan.
6. 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 which 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.
7. Identify the source of water and verify a secured water source from reclaimed, repurposed, or recycled wastewater.
8. Describe the knowledge transfer plan to assess and advance the commercial viability of the technology.
9. Describe site readiness, such as construction and preparation at site of production, site control, right to possession of the production site, and equipment security.
10. 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 for 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 CEQA within the timeframes specified in the Solicitation Manual. All supporting documentation must be included with the CEQA Compliance Form (Attachment 8).
11. 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.
12. Identify proposed offtake partner(s) to support full production capacity and long-term, uninterrupted production, and plans and schedule to establish agreements. Include a commitment letter from proposed offtake partner(s) in the Commitment and Support Letter Form (Attachment 10).
13. Identify proposed feedstock(s) and describe feedstock security over the lifetime of the hydrogen production system.
14. 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.
15. 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.
16. Provide information described in Section I.C. Project Focus and Section I.F. Key Project Activities.

**Impacts and Benefits to California IOU Ratepayers**

1. 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;
	* 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.
2. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
3. Identifies the expected financial performance (e.g., payback period, return on investment) of the demonstration at scale.
4. Identifies the specific programs which the technology intends to leverage (e.g., 45V Production Tax Credit).

**Decarbonizing Hard-to-Electrify Sectors**

1. Describe the carbon intensity of the project’s produced hydrogen (kilogram CO2e per kilogram H2) using a well-to-gate boundary.
2. 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), the energy source location, the 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 utilize 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.
3. 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.

**Team Qualifications, Capabilities and Resources**

Evaluations of ongoing or previous projects, including project performance by applicant and team members, will be used in scoring for this criterion. This can include contacting references.

1. 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.

*Include an organization chart similar to the one below*

**Figure X: Organization Chart**

1. Describe the facilities, infrastructure, and resources available that directly support the project.
2. Describe the team’s history of successfully completing projects in the past 10 years, including subsequent deployments and commercialization.

**Budget and Cost Effectiveness**

1. Budget forms are complete for the applicant and all subrecipients, as instructed 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.

*Provide a budget by tasks, such as:*

**Table X: Task Budget**

| **Task (by major task)** | **Energy Commission Funds** | **Match Share** | **Total** |
| --- | --- | --- | --- |
| Task 1: General Project Tasks |       |       |       |
| Task 2: |       |       |       |
| Task [TBD-1]: Evaluation of Project Benefits |       |       |       |
| Task [TBD-2]: Technology/ Knowledge Transfer Activities \* |       |       |       |

\* **Requires 3% of total CEC funds**

1. Justify the reasonableness of the requested funds relative to the project goals, objectives, and tasks.
2. Justify the reasonableness of direct costs (e.g., direct labor, fringe benefits, equipment, materials & misc., travel, and subrecipients).
3. Justify the reasonableness of indirect costs (e.g., overhead, facility charges [e.g., rent, utilities], burdens, subrecipient profit, and other like costs).
4. Demonstrate the need for state funding for the proposed project and how state funding can increase their ability to leverage private capital.

**Funds Spent in California**

This project proposes to spend $\_\_\_\_\_\_\_\_\_ (\_\_%) of Energy Commission funds in California.

**Use of On-Site Renewable Energy Resources**

1. 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% |

**Benefits to Communities and Localized Health Impacts**

*Proposals should include evaluation and performance measures that the CEC can use to ensure short- and long-term delivery of identified health and environmental benefits and prevention of negative environmental and health outcomes and respond to each sub-criterion below.*

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[[1]](#footnote-2) that most impact the community and describe how the project will reduce or not otherwise impact the indicators or factors. If projects have no impacts in this criterion, provide justification for why impacts are neutral.
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.

Technology Replicability

1. Identify how the project, if successful, will lead to increased deployment of the technology or strategy in other communities, or Tribes.

Project Support Letters

1. Include letters of support from technology partners, community-based organizations, environmental justice organizations, or other partners that demonstrate 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.
1. More information on  California Communities Environmental Health Screening Tool: CalEnviroScreen 4.0 is available at  https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.  [↑](#footnote-ref-2)