



GFO-22-304 Pre-Application Workshop

Assessing the Role of Hydrogen in California's Decarbonizing Electric System

Energy Research and Development Division, California Energy Commission

Presenter: Benson Gilbert, Mechanical Engineer

Date: November 7, 2022



Agenda

Time	Item
9:00 am	Welcome and Introduction
9:05 am	Solicitation Background <ul style="list-style-type: none">• Commitment to Diversity• EPIC Research Program• Purpose of Solicitation• Available Funding
9:25 am	Application Requirements <ul style="list-style-type: none">• Attachments• Submission Process• Evaluation Process
10:00 am	Q&As
11:00 am	Adjourn



Virtual Housekeeping

- This workshop will be recorded.
- Participants will be muted during the presentation. Please chat your question in the Q&A window.
- Updates on solicitation documents including this presentation will be posted at the Grant Funding Opportunity's webpage:

<https://www.energy.ca.gov/solicitations/2022-10/gfo-22-304-assessing-role-hydrogen-californias-decarbonizing-electric-system>



Commitment to Diversity

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

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

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the CEC's funding opportunities.
- Assist applicants in understanding how to apply for funding from the CEC's programs.
- Survey participants to measure progress in diversity outreach efforts.



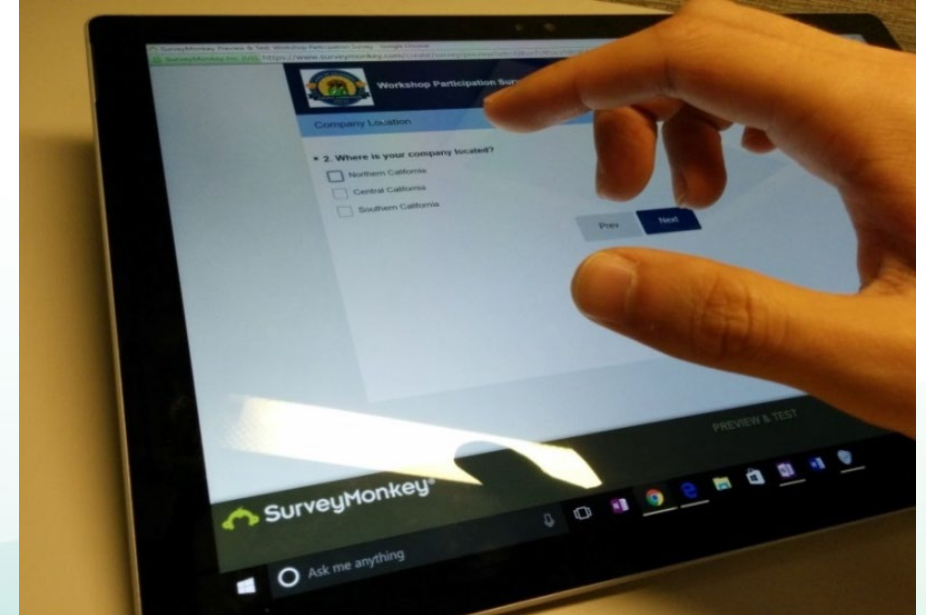
We Want to Hear From You!

Participation Survey

Survey responses will be summarized anonymously to track attendance of underrepresented groups in our workshops for public reporting purposes.

- Online participants, please use this link:
<https://forms.office.com/g/BBdMnhnsV2>

Thanks!





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Find a Partner on EmpowerInnovation.net

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

FIND A PARTNER

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

RESOURCES & TOOLS

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

<https://www.empowerinnovation.net/en/custom/funding/view/35908>



EmpowerInnovation.net





Fostering Innovation Across the Energy Sector



Mission: strategically invest funds to catalyze change and accelerate achievement of policy goals

Strategy: advance energy technology, facilitate customer learning, and strategic targeted intervention

Funding:

- Electric Program Investment Charge (EPIC), \$133 million annually
- Gas Research, Development and Demonstration Program, \$24 million annually
- Food Production Investment Program (FPIP), \$124 million biennially



EPIC Background

- The Electric Program Investment Charge (EPIC) is funded by an electricity ratepayer surcharge established in 2011 by the California Public Utilities Commission.
- Benefits ratepayers of state's electric investor-owned utilities (PG&E, SCE, and SDG&E).
- Funds clean energy technology projects: greater electricity reliability, lower costs, and increased safety.
- Projects must lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory energy goals.



EPIC Background (continued)

- Established to fund investments to advance clean energy technologies and approaches for the benefit of investor-owned utility electricity ratepayers.
- EPIC creates new energy solutions, fosters regional innovation, and brings clean energy ideas to the marketplace:





Policy Drivers

- SB 100 – Sets targets for zero carbon renewable electricity
- SB 1020 – Accelerates targets for electric decarbonization
- SB 1369 – Classifies green electrolytic hydrogen as storage
- AB 209 – Establishes hydrogen program

Federal Infrastructure and Jobs Act

- DOE Hydrogen Hubs – Funds 7-10 Regional Clean H2 Hubs

SB 100 URL: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100

SB 1020 URL: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1020

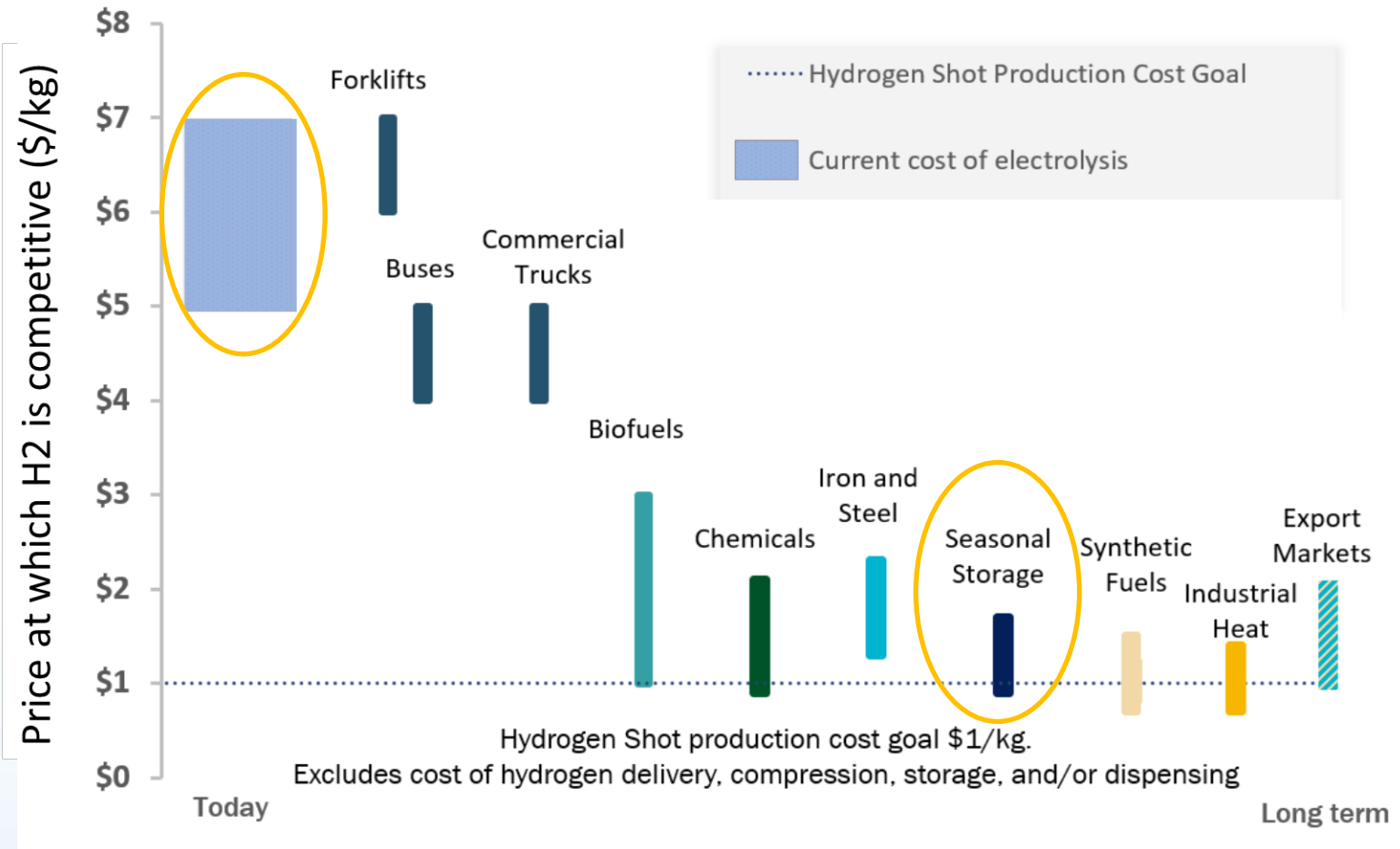
SB 1369 URL: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1369

AB 209 URL: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB209

DOE H2 Hubs URL: <https://www.energy.gov/oced/regional-clean-hydrogen-hubs>



Problem Statement



- Electric sector applications (e.g., seasonal storage) are:
 - Economically challenging
 - Require sustained cost reductions from:
 - Technology advances
 - Large-scale adoption in other sectors



Purpose of Solicitation

Evaluate potential role of hydrogen in CA's electric sector focused on:

1. Production of hydrogen from renewable electricity for any end-use and
2. Specific end-use applications in the electric sector such as seasonal storage

- Goals:

1. Provide recommendations for research, development, and demonstrations that have the potential to improve the cost competitiveness of key hydrogen technologies
2. Inform future EPIC program investments regarding hydrogen



Project Focus

Proposals must explain how the project will answer the “Project Focus” questions.

- Q1. How can the EPIC Program best coordinate investments with complementary programs?
- Q2. How is the competitiveness of hydrogen in electric sector applications impacted by adoption in other sectors?
- Q3. Which electric sector applications could reach cost competitiveness in the near, mid, and long-term and under what market conditions?
- Q4. What technology advancements can enable cost-competitive hydrogen production from renewable electricity and end-use in electric sector applications?



Project Focus (continued, 2 of 4)

- Q5. What are key cost and performance metrics and targets for different technologies for hydrogen production from renewable electricity and end-use in the electric sector?
- Q6. How does hydrogen in electric sector applications compare to other zero carbon technologies?
- Q7. What are the infrastructure requirements and costs of hydrogen storage and delivery for different electric sector applications?
- Q8. What are the environmental impacts and available mitigation strategies for different technologies for hydrogen production from renewable electricity and end-use in electric sector applications?



Project Focus (continued, 3 of 4)

- Q9. What research recommendations, with associated metrics and targets, should be prioritized by the EPIC Program?
- Q10. How do the research recommendations align with EPIC Program goals and support other complementary hydrogen programs?



Project Focus (continued, 4 of 4)

- Applicants must disclose actual or perceived conflict of interest in Project Narrative (Attachment 3).
- Applicants are encouraged to engage a broad range of stakeholders including but not limited to:
 - California gas and electric utilities,
 - Hydrogen producers and potential end-users,
 - Technology developers and manufacturers,
 - Researchers in academia and national labs, and
 - Community-based organizations.



Available Funding

- There is up to \$800,000 to fund projects under this solicitation.
- Source of funds come from the Applied Research and Development Program Area of EPIC.

Available Funding	Minimum Award Amount	Maximum Award Amount
\$800,000	\$400,000	\$800,000



Match Funding

- 10% of match funding is required.
- Applications that include match funding may receive additional points during the scoring phase.
- Match funding contributors must submit match funding commitment letters that meet the requirements. Failure to do so will disqualify the match funding commitment from consideration.
- Refer to the Solicitation Manual for more details on match funding.



Eligible Applicants

- This is an open solicitation for public and private entities, except for local publicly owned electric utilities.
- Applicants must accept the EPIC terms and conditions.
 - Standard, UC, and DOE T&Cs available online:
<https://www.energy.ca.gov/funding-opportunities/funding-resources>
- Applicants are encouraged to register with the California Secretary of State, as all recipients must be registered and in good standing to enter into an agreement with the Energy Commission: <http://www.sos.ca.gov>



Application Requirements

Each Applicant must complete and include the following:

1. Application Form (.pdf)	8. CEQA Compliance Form (.docx)
2. Executive Summary (.docx)	9. References and Work Product Form (.docx, .pdf)
3. Project Narrative (.docx)	10. Commitment and Support Letters (.pdf)
4. Project Team (.docx, .pdf)	11. Project Performance Metrics (.docx)
5. Scope of Work (.docx)	12. Applicant Declaration (.docx)
6. Project Schedule (.xlsx)	13. References for Calculating Energy End-Use and GHG Emissions (.xlsx)
7. Budget (.xlsx)	



Project Narrative (Attachment 3)

- This is your opportunity to explain the entirety of the project. The narrative should explain:
 - Why is your project necessary and important to California?
 - What is your project approach and how will each major task be implemented?
 - How will the project be completed in the term proposed
 - How will the project outcomes benefit electric ratepayers?
 - Address the solicitation specific project focus requirements described in Section I.C of the Solicitation Manual.

Respond to the scoring criteria described in Section IV.F of the Solicitation Manual.



Scope of Work (Attachment 5)

- Tell us exactly what you are proposing to do in your project.
- Identify what will be delivered to CEC.
- Be sure to include in the technical tasks:
 - At least one product deliverable per task.
 - Address requirements in Section I.C. under Project Focus.
- Be sure to include in the Project Schedule (Attachment 6):
 - Product deliverables that correspond with the Scope of Work.
 - Realistic dates on when product deliverables can be completed.



Budget (Attachment 7)

- Identify how the CEC funds and match funds be spent to complete the project.
- Subcontractors receiving \$100,000 or more CEC funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** rates for the entire project term.
- Travel Restrictions:
 - CEC funds should be limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage).
 - If an applicant plans to travel to conferences, including registration fees, they **must** use match funds.



Commitment and Support Letter Forms (Attachment 10)

- Follow guidelines provided for commitment and support letters.
 - Commitment letters are required for entities or individuals that are committing match funding, testing/demonstration sites, including the **Prime**.
 - Support letters describe a project stakeholder's interest or involvement in the project.
- All applicants must submit **at least one** support letter.
- Match funding must be supported by a match fund commitment letter.
- Any project partners that will make contributions to the project (other than match and sites) must submit a commitment letter.
- Limit to two pages per letter, excluding the cover page.



GFO Submission Requirements

- Method of Delivery is the Energy Commission Grant Solicitation System, available at: <https://gss.energy.ca.gov/>
- Electronic files must be in Microsoft Office Word (.doc, .docx) and Excel (.xls, .xlsx) formats, unless originally provided in solicitation in another format.
- Application documents should meet formatting requirements, and page recommendations.
- Attachments requiring signatures (Application Form and Support/Commitment Letters) may be scanned and submitted in PDF format.
- First-time users must register as a new user to access system.
- Grant Solicitation System (GSS) How to Apply presentation: <https://www.energy.ca.gov/media/1654>



GSS WARNING

START THE PROCESS EARLY!

- Applications must be fully submitted **BEFORE** the deadline listed in the solicitation manual
- **The GSS system will shut off at the deadline**
- Applications in the process of being submitted prior to the deadline will NOT be accepted after the deadline
- Applications will NOT be accepted after the deadline



GSS Structure

- Register as a New User
- Log In
- 3 Step Application Process:
 1. Select Solicitation
 2. Upload Files
 - Select documents for upload
 - Tag files with document type
 - Designate confidential documents (if applicable)
 3. Review and Submit

All three steps must be complete BEFORE the deadline



How will my Application be Evaluated?

Application Screening

Admin Screening Process

- CEC staff screens applications per criteria in Section IV.E.
- Criteria are evaluated on a pass/fail basis.
- Applicants must pass all screening criteria or the application will be disqualified.

Some Reasons for Disqualification

- Application is not submitted by the specified due date and time.
- Application does not include one or more support letters.
- Application contains confidential material.



How will my Application be Evaluated?

Application Scoring

- **Evaluation Committee applies the scoring scale to the scoring criteria.**
- **Applications must obtain a minimum passing score of 52.5 points for Criteria 1-4 in order to continue evaluation.**
- **Applications must obtain a minimum passing score of 70 points for Criteria 1-7 in order to be considered for funding.**
- **Review Section IV of the manual and ensure the application provides a clear and complete response to each scoring criteria.**

Scoring Criteria	Maximum Points
1. Technical Merit	15
2. Technical Approach	25
3. Impacts and Benefits for CA IOU Ratepayers	20
4. Team Qualifications, Capabilities, and Resources	15
5. Budget and Cost-Effectiveness	10
6. CEC Funds Spent in California	10
7. Ratio of Direct Labor Costs to Indirect Costs	5
Total	100
Minimum Points to Pass	70



How will my Application be Evaluated?

Application Scoring – Preference Points

- **Passing applications (score of 70 or more from Criteria 1-7) will be considered for bonus points. Criteria for bonus points include:**
 - **Match Funding**
 - **Disadvantaged Communities**

Scoring Criteria	Maximum Points
8. Match Funds	10
9. Disadvantaged & Low-income Communities	5
Total Bonus Points	15



Match Funding Points

- Applicants may receive up to 10 additional preference points based on the criteria below:
 - Up to 5 points will be awarded based on the percentage of proposed cash relative to the total match contributions using the Match Scoring Table in the Scoring Criteria.
 - The remaining 5 points may be awarded to applications that exceed the minimum match requirements up to 100 percent using the Exceeds Minimum Match Scoring table.
 - Refer to the Solicitation Manual for more details on the match funding scoring criteria.



Disadvantaged Communities

- Projects with **all test or demonstration** sites located in disadvantaged and/or low-income communities and which justify how the project will benefit these communities may receive additional points.
 - A disadvantaged community is identified by census tract and represents the 25% highest scoring tracts in CalEnviroScreen 4.0 or later versions:
<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>
 - Low-income communities are defined as communities within census tracts with median household incomes at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development.
<http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml>



Next Steps After Grant Award

- **Notice of Proposed Award:** Shows total proposed funding amounts, rank order of applicants, and the amount of each proposed award.
- **Agreement Development:** Proposal documents will be processed into a legal agreement.
- **Failure to Execute:** CEC reserves the right to cancel the pending award if an agreement cannot be successfully executed with an applicant.
- **Project Start:** Recipients may begin work on the project **only** after the agreement is fully executed (approved at a CEC business meeting and signed by the Recipient and the CEC).



Key Dates

Activity	Date
Solicitation Release	October 27, 2022
Pre-Application Workshop	November 7, 2022, at 9:00 am
Deadline for Written Questions	November 14, 2022, at 5:00 pm
Anticipated Distribution of Questions and Answers	Week of December 12, 2022
Deadline to Submit Applications	January 23, 2023, at <u>11:59 pm</u>
Anticipated Notice of Proposed Award Posting	Week of March 13, 2023
Anticipated CEC Business Meeting	June 2023
Anticipated Agreement Start Date	July 2023
Anticipated Agreement End Date	July 2025



Questions and Answers

- Please chat your question in the Question and Answers window or raise your hand and you will be called on to unmute yourself. Please remember to introduce yourself by stating your name and affiliation. (Feature found under the Participants panel)
 - 3 ways to ask questions:
 - Use the “raise hand” feature in Zoom
 - Over the telephone: dial *9 to raise your hand and *6 to mute/unmute your phone line
 - Enter your question in the Q&A window on Zoom
- Keep questions under 2 minutes to allow time for others.
- Note that our official response will be given in writing and posted on the GFO webpage.



Additional Questions

Please send all questions related to GFO-22-304 to:

Eilene Cary

Commission Agreement Officer

715 P Street, MS-18

Sacramento, CA 95814

(916) 776-0739

Eilene.Cary@energy.ca.gov

Deadline to submit questions:

Monday, November 14, 2022 at 5:00 PM



Thank You!

