



GFO-23-307 Pre-Application Workshop

Large-Scale Centralized Hydrogen Production (H2CENTRAL)

Energy Research and Development Division, California Energy Commission

Presenter: Claire Levesque, Energy Supply Branch

Date: Wednesday, March 20, 2024



Agenda

Time	Item
10:00 am	Welcome and Introduction
10:05 am	Solicitation Background <ul style="list-style-type: none">• Clean Hydrogen Program• Purpose of Solicitation• Available Funding
10:25 am	Application Requirements <ul style="list-style-type: none">• Project Requirements• Attachments• Submission Process• Evaluation Process
11:00 am	Questions
12:00 pm	Adjourn



Housekeeping

- Participants will be muted during the presentation.
- Virtual participation options:
 - Add your questions in the Q&A window.
 - Raise hand on Zoom.
 - Press *6 on the telephone during the Q&A period.
- This workshop will be recorded.
- Updates on solicitation documents including this presentation will be posted at the Grant Funding Opportunity's webpage:
<https://www.energy.ca.gov/solicitations/2024-03/gfo-23-307-large-scale-centralized-clean-hydrogen-production-h2central>



Commitment to Diversity

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

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

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



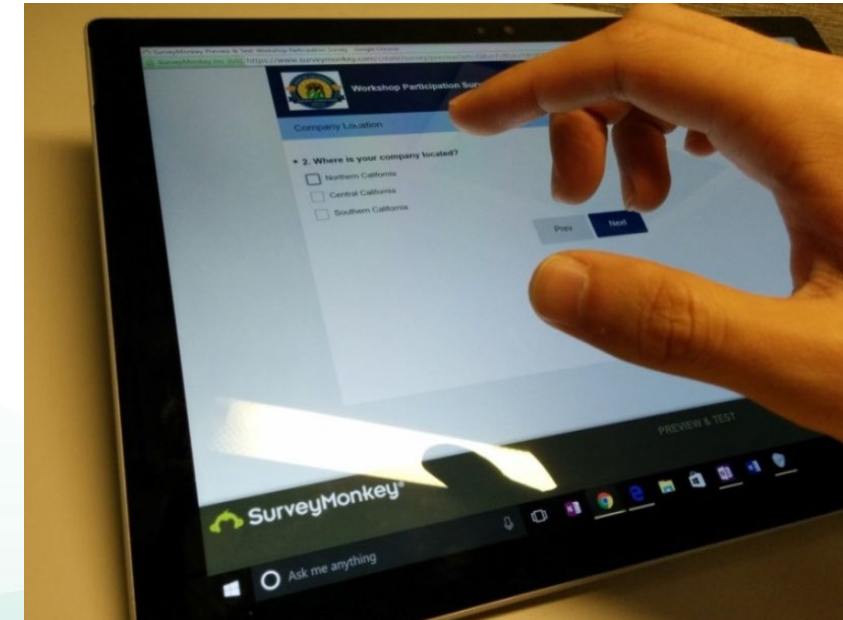
We Want to Hear From You!

Participation Survey

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

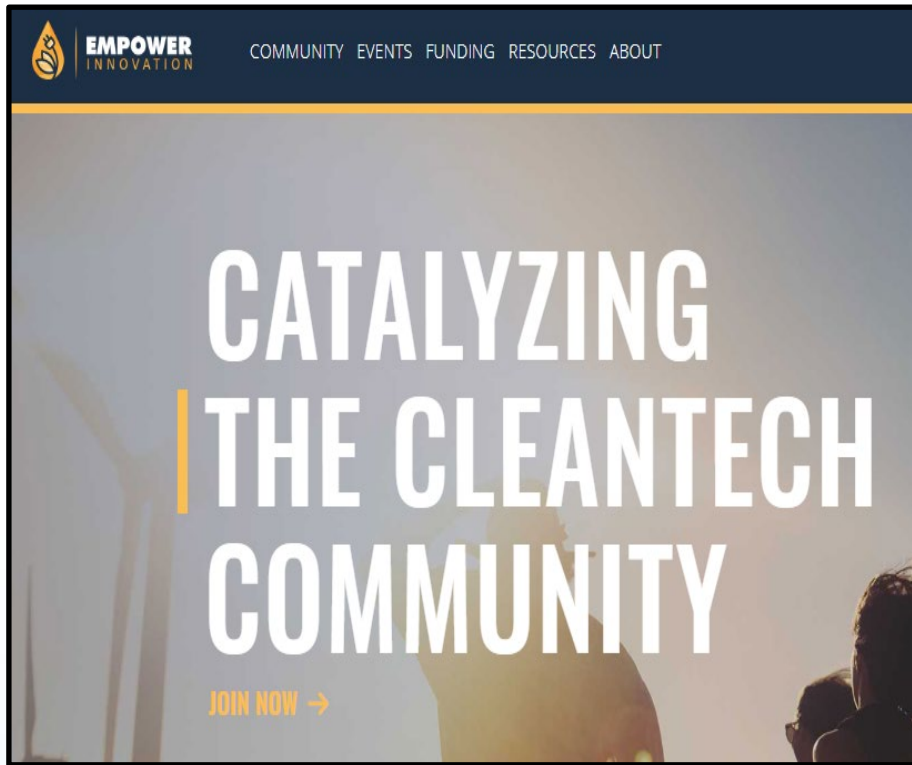
- Online participants, please use this link:
<https://forms.office.com/g/w9TD1fM6Js>

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/42210#>



EmpowerInnovation.net





Clean Hydrogen Program Background

Assembly Bill 209 (Article 4) instructs the Energy Commission (CEC) to:

1. Establish and administer the Hydrogen Program.
2. Establish project eligibility.
3. Ensure projects do not supplant or result in duplicative offset credits, renewable energy credits, or other forms of compliance credits.
4. Provide financial incentives to projects that help reduce sector-wide emissions.
5. Prioritize projects that benefit geographically diverse areas of the state.

Total Program Funding: \$65,000,000 (General Fund)



Clean Hydrogen Program

1. Provides financial incentives to eligible in-state hydrogen projects for the demonstration or scale-up of the production, processing, delivery, storage, or end use of hydrogen.
2. Eligible projects use:
 - a. Hydrogen derived from water using eligible renewable energy resources, or
 - b. Hydrogen produced from eligible renewable energy resources.



Policy Drivers

- **AB-209, The Energy and Climate Change Budget Bill:** establish and administer the Clean Hydrogen Program.
- **SB-1075, Hydrogen:** study and model potential growth for hydrogen and its role in decarbonizing, as defined, the electrical and transportation sectors of the economy, and helping to achieve specified goals.
- **SB-100, The 100 Percent Clean Energy Act of 2018³:** requires 100% of electricity come from renewable and zero-carbon resources by 2045.
- **SB-32, California Global Warming Solutions Act of 2006:** reduce greenhouse gas (GHG) emissions to 40% below 1990 levels by 2030.



Alignment with Federal Policy

- The CEC is aligned with the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES). In 2023, ARCHES was awarded up to \$1.2B to deploy a California hydrogen hub.
- ARCHES is collecting information to connect supply and demand on a rolling basis. We encourage all applicants to share relevant information with ARCHES here:
<https://archesh2.org/hydrogen-proposals/>



Solicitation Background

Clean hydrogen can serve as a potential replacement for fossil fuels in hard-to-electrify applications, such as:

1. Medium- and heavy-duty transportation;
2. Industrial processes; and
3. Back-up electricity generating sectors.

This solicitation aims to reduce the cost burden of clean hydrogen production through large-scale, centralized production coupled with storage, processing, delivery, and pre-determined offtakers.



Purpose of Solicitation

To fund projects that advance the demonstration and deployment of clean hydrogen production, storage, delivery, and end use in California. The solicitation's objectives include:

- Demonstration or scale up clean hydrogen production, processing, delivery, and storage;
- Leveraging existing technologies for large-scale production; and
- Monitoring and minimizing hydrogen leakage.



Available Funding

Available Funding	Minimum Award Amount	Maximum Award Amount
\$45,000,000	\$20,000,000	\$22,500,000



Set-Aside Funding

A minimum of **\$20 million** of total solicitation funds is set aside for **ARCHES DOE Hub Projects**.

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.



Match Funding

- 50% of match funding is required.
- Applications that include cash match or match funding that exceeds minimum match requirements will 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.



Unallowable Costs

CEC funds **cannot** be used for:

- Power acquisition of onsite renewable energy resources and other costs for installing or operating eligible renewable energy resources;
- Existing onsite eligible electricity resource equipment;
- Permit costs and expenses associated with obtaining permits; and
- Feedstocks, such as water.



Requirements

Projects must:

- Produce, process, deliver, store, or use hydrogen derived from water using eligible renewable energy resources, or produced from these eligible renewable energy resources.
- Be located in California.
- Not supplant or result in duplicative offset credits, renewable energy certificates, or other compliance credits.
- Help reduce sector-wide emissions.



Requirements (continued)

To align with renewable energy resource requirements, projects must:

1. Use only power supplied in the state of California.
2. Use 100 percent eligible renewable energy resources (California Public Resources Code, Section 25741(a)(1)) for the project.
3. Fuel procurement meets requirements of Section 399.12.6 of the Public Resources Code.



Examples for Maximizing Benefits

Demonstration of 5 or more metric tons of hydrogen per day produced by:

- Proton exchange membrane electrolysis powered by onsite renewable energy. Hydrogen is compressed and stored in Type I pressurized tanks, and subsequently delivered to designated offtakers using gaseous tube trailers.
- Alkaline electrolysis powered by renewable energy sourced from a power purchase agreement. Hydrogen is liquified via onsite cryogenic cooling and stored in insulated dewars, and subsequently delivered to offtakers by insulated tanker trucks.



Eligible Applicants

- This is an open solicitation for public and private entities.
- Applicants must accept the Clean Hydrogen Program terms and conditions.
 - 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 Screening Form (.pdf) | 9. Past Projects Information (.docx, .pdf) |
| 2. Executive Summary (.docx) | 10. Commitment and Support Letters (.pdf) |
| 3. Project Narrative (.docx) | 11. Project Performance Metrics |
| 4. Project Team (.docx, .pdf) | 12. Applicant Declaration (.docx) |
| 5. Scope of Work (.docx) | 13. <i>References for Calculating Energy End-Use and GHG Emissions</i> |
| 6. Project Schedule (.xlsx) | 14. <i>Community Engagement Plan, Benefits, and Impacts Reference</i> |
| 7. Budget (.xlsx) | 15. <i>Appendix G: Environmental Checklist Form from CEQA Handbook</i> |
| 8. CEQA Compliance Form (.docx) | 16. <i>Special Terms and Conditions for Native American Tribes and California Tribal Organizations</i> |



Project Narrative (Attachment 3)

This is your opportunity to explain the entirety of the project. The narrative explains:

- 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 reduce sector-wide emissions
- How the project will meet the Grant Agreement Objectives described in Section I.C.

Respond to the scoring criteria described in Section IV.F.



Project Narrative (Attachment 3)

Below, applicants can find examples of sub-criterion to address in the Project Narrative attachment.

Among other sub-criteria, the **Technical Merit** section should:

- Demonstrate scalability potential within California.
- Provide information described in Section I.C. Project Focus.

Among other sub-criteria, the **Technical Approach and Project Readiness** section should:

- Provide a measurement and verification plan.
- Describe delivery mechanisms.
- Identify CEQA readiness.
- Identify proposed offtake partners.



Project Narrative (Attachment 3)

Among other sub-criteria, the **Decarbonizing Hard-to-Electrify Sectors** section should:

- Describe carbon intensity.
- Describe the source of energy and strategy to achieve 100 percent renewable energy capacity.

The **Use of On-Site Renewable Energy Resources** section should:

- Describe the total energy consumption of hydrogen production technologies and the percentage of energy consumption met by on-site renewable energy resources.



Scope of Work (Attachment 5)

- Tell us exactly what you are proposing to do in your project.
- Identify what will be delivered to the Energy Commission.
- Be sure to include in the technical tasks:
 - At least one product deliverable per task.
 - Requirements in Section I.C. Project Focus.
 - Product deliverables similar to those in Section I.F. Key Project Activities.
- 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 Energy Commission funds and match funds be spent to complete the project.
- Subcontractors receiving \$100,000 or more Energy Commission funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** rates for the entire project term.
- Travel Restrictions:
 - Energy Commission funds are 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 commit match funding, testing/demonstration sites, including the **Prime**.
- Support letters describe a project stakeholder's interest or involvement in the project.



Commitment and Support Letter Forms (Attachment 10)

- 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.



Commitment and Support Letters

- ARCHES DOE Project partners **must** submit a support letter from ARCHES. These partners can contact ARCHES at info@archesh2.org with "CEC Funding Support Letter" in the subject line.
- All applicants must submit a support letter from the Hydrogen Safety Panel.
- Commitment letters from proposed offtake, feedstock, and delivery partners are encouraged.



GFO Submission Requirements

- Applicants must have or must create a user account to submit a solicitation application. To create an account, please see the guidance **User Registration Instructions** at:

<https://www.energy.ca.gov/media/7893>

Note: One account manager per organization, but users can be added by account manager

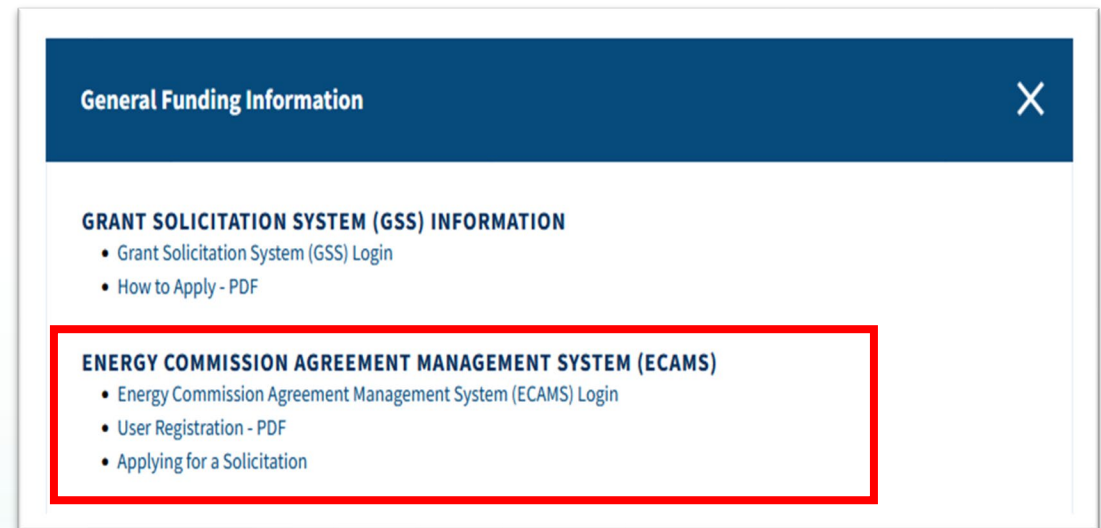
- Applications must be submitted through the **Energy Commission Agreement Management System (ECAMS)** at: <https://ecams.energy.ca.gov/>

The screenshot shows the California Energy Commission website home page. At the top left is the logo, and at the top right is a search bar and a 'Sign In' button. Below the navigation bar is a 'Welcome!' message and a 'Funding Opportunities' section with a 'View Solutions' button. A large banner image features a colorful bus, a wind turbine, solar panels, and a house. Below the banner is a paragraph: 'The California Energy Commission offers a variety of funding opportunities to advance the state's transition to clean energy and transportation through innovation, efficiency, and the development and deployment of advanced technologies.' The page is divided into six grid items: 'Funding Workshops' (with an image of an electric vehicle charging station), 'Awards' (with an image of a scientist), 'Funding Resources' (with an image of wind turbines), 'ECAMS Grant Resources' (with an image of a city skyline at night), 'Empower Innovation' (with the Empower Innovation logo), and 'Salesforce Training' (with an image of a classroom). At the bottom right, there is a 'Contact' section with the email address 'ecams.salesforcesupport@energy.ca.gov'.



GFO Submission Requirements (continued)

- For detailed instructions on application submittal, please see the *Applying for a Solicitation* at: <https://www.energy.ca.gov/media/7956>
- Both referenced guidance documents are available at: <https://www.energy.ca.gov/funding-opportunities/funding-resources> under General Funding Information.
- Questions about the ECAMS system should be directed to: ECAMS.SalesforceSupport@Energy.ca.gov

A screenshot of a web page titled "General Funding Information" with a close button (X) in the top right corner. The page is divided into two main sections. The first section is "GRANT SOLICITATION SYSTEM (GSS) INFORMATION" and contains two bullet points: "Grant Solicitation System (GSS) Login" and "How to Apply - PDF". The second section is "ENERGY COMMISSION AGREEMENT MANAGEMENT SYSTEM (ECAMS)" and contains three bullet points: "Energy Commission Agreement Management System (ECAMS) Login", "User Registration - PDF", and "Applying for a Solicitation". This second section is highlighted with a red rectangular border.



GFO Submission Requirements (continued)

- Electronic files, other than those requiring signatures, must be consistent with the specific file format provided in the solicitation.
- Application documents should meet formatting requirements, and page recommendations as specified in the solicitation manual.
- Attachments requiring signatures (Application Form and Support/Commitment Letters) may be signed, scanned, and submitted in PDF format.



Application Submission

- Register as a New User (if applicable)
- Log In
- 4-Step Application Submittal Process:
 1. Select Solicitation
 2. Enter Application Information
 3. Upload Files
 - Select documents for upload
 - Tag files with document type
 - Designate confidential documents (if applicable)
 4. Review and Submit
- Confirmation from ECAMS system that submission was successful

All steps must be complete BEFORE the submission deadline.



Application Reminders

We recommend you carefully review your application before submission.

- Verify that all necessary documents have been uploaded.
- Verify that all documents uploaded are the accurate version you intend to submit as your final.
- Verify that your documents are not marked "confidential" unless the solicitation allows specific material to be confidential. Most solicitations do not allow submission of confidential information.
- Verify that your match commitment letters accurately reflect the match amounts included in your budgets, including the match provided by the prime applicant.
- Verify that support and commitment letters are included.
- Verify that amounts entered within the system's budget (if any) concur with information included on uploaded budget worksheets.



How will my Application be Evaluated?

Application Screening

Application Screening Process

- Energy Commission 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 143.50 points for Criteria 1-8 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 and Project Readiness	50
3. Impacts and Benefits for California	35
4. Decarbonizing Hard-to-Electrify Sectors	35
5. Team Qualifications, Capabilities, and Resources	10
6. Budget and Cost-Effectiveness	20
7. CEC Funds Spent in California	15
8. Use of On-Site Renewable Energy Resources	25
Total	205
Minimum Points to Pass	143.50



How will my Application be Evaluated?

Application Scoring – Preference Points

Passing applications (score of 143.50 or more from Criteria 1-8) will be considered for preference points. These criteria give preference to projects that:

- Identify local health impacts and benefits;
- Describe community engagement;
- Produce greater than 5 metric tons of hydrogen per day;
- Offer cash match funding; and
- Exceed minimum match requirements.

Scoring Criteria	Maximum Points
9. Benefits to Communities and Localized Health Impacts	30
10. Production Capacity	5
11. Match Funding	10
Total Preference Points	45



Benefits to Communities and Local Health Impacts Points

Applicants may receive up to 30 additional preference points based on the criteria below:

- Localized health impacts assessments;
- Technology replicability; and
- Project support letters indicating the project's feasibility, viability, and increased equity in the identified community.



Production Capacity Points

Applicants may receive up to 5 additional preference points based on the criteria below:

- Project exceeds the 5 metric tons per day production capacity requirement.

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%



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.



Next Steps After Grant Award

- **Notice of Proposed Award:** Shows total proposed funding amounts, rank order of applicants by project group, and the amount of each proposed award.
- **Agreement Development:** Proposal documents will be processed into a legal agreement.
- **Failure to Execute:** The Energy Commission 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 an Energy Commission Business Meeting and signed by the Recipient and the Energy Commission).



Key Dates

Activity	Date
Solicitation Release	March 8, 2024
Pre-Application Workshop	March 20, 2024 at 10:00 AM
Deadline for Written Questions	March 27, 2024 at 5:00 PM
Anticipated Distribution of Questions and Answers	April 26, 2024
Deadline to Submit Applications	June 3, 2024 at 11:59 PM
Anticipated Notice of Proposed Award Posting	July 31, 2024
Anticipated Energy Commission Business Meeting	January 15, 2025
Anticipated Agreement Start Date	February 24, 2025
Anticipated Agreement End Date	January 28, 2028



Questions and Answers

Three ways to ask questions:

1. Use the raise hand feature in Zoom:

- Zoom phone controls:
 - *6 – Toggle mute/unmute
 - *9 – Raise hand
 - Introduce yourself by stating your name and affiliation
 - Keep questions under 2 minutes to allow time for others

2. Type questions in the Q&A Box in Zoom:

- Please provide name and affiliation.

3. Submit written questions:

- Email questions to Pierre.Washington@energy.ca.gov by **March 27, 2024 at 5:00 pm**

Note that an official CEC response will be provided in writing and posted on the GFO webpage in ~4 weeks.



Additional Questions

Please send all questions related to GFO-23-307 to:

Pierre Washington

Commission Agreement Officer

715 P, MS-18

Sacramento, CA 95814

(916)-931-8974

Pierre.Washington@energy.ca.gov

Deadline to submit questions: March 27, 2024, at 5:00 PM

Deadline to submit applications: June 3, 2024, at 11:59 PM



Thank You!

