



GFO-23-311 Pre-Application Workshop

Advancing Precipitation Enhancement in California

Energy Research and Development Division, California Energy Commission

Presenter: Dr. Martine Schmidt-Poolman

Date: March 22, 2024



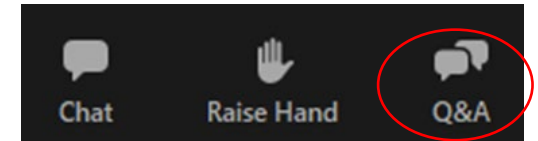
Agenda

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



Housekeeping

- This workshop will be recorded and posted to the CEC website.
- Attendees will be muted during the presentation. Please type your question using the Q&A window.
- Updates to solicitation documents will be posted at the Grant Funding Opportunity's webpage:
<https://www.energy.ca.gov/solicitations/2024-03/gfo-23-311-advancing-precipitation-enhancement-california>





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 conduct 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!

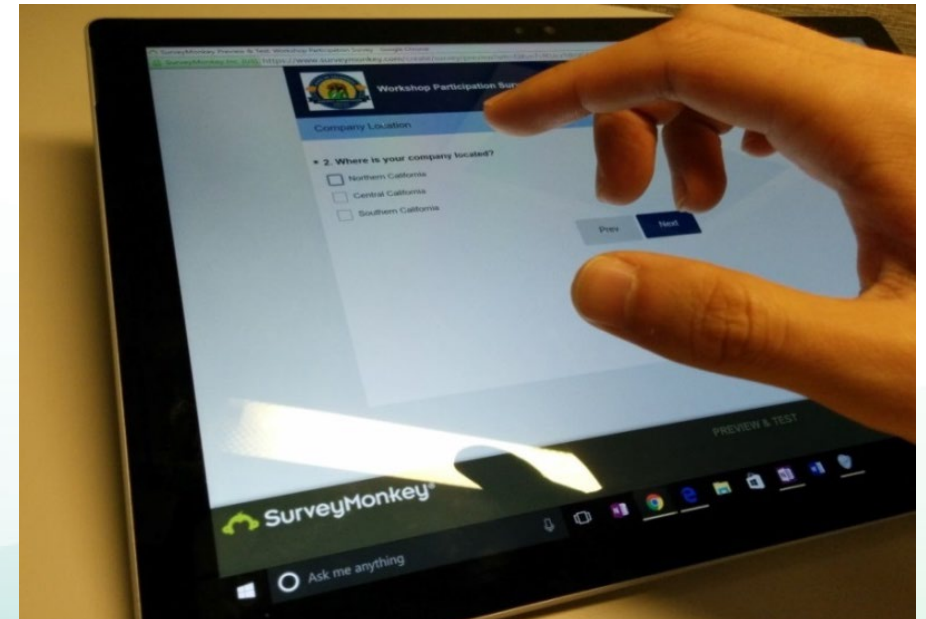
Participation Survey

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

- Please use this link:

<https://forms.office.com/g/Zpx6cpfTVB>

Thanks!





Connect With Us

EMPOWER INNOVATION COMMUNITY EVENTS FUNDING RESOURCES ABOUT

CATALYZING THE CLEANTECH COMMUNITY

[JOIN NOW →](#)

CALIFORNIA ENERGY COMMISSION

California Energy Commission
Government Organization

Liked Following Message

Timeline About Photos Reviews More





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/42396>



EmpowerInnovation.net





Policy Drivers

- **AB 32, Global Warming Solutions Act of 2006:** reduce GHG emissions to 1990 levels by 2020.
- **SB 32, California Global Warming Solutions Act of 2006 emissions limit:** statewide GHG emissions are reduced to 40% below the 1990 level by 2030.
- **SB 100, The 100 Percent Clean Energy Act of 2018:** requires that 60% of California's electricity be powered by renewable & zero-carbon sources by 2030 and 100% by 2045.
- **Executive Order B-55-18:** established a new statewide goal to achieve carbon neutrality no later than 2045.
- **Executive Order B-30-15:** establishes a new interim statewide GHG emission reduction target to reduced GHGs to 40% below 1990 levels by 2030, to ensure CA meets its target of reducing GHGs to 80% below 1990 levels by 2050.
- **Integrated Energy Policy Report (IEPR):** California Public Resources Code Section 25302 requires the Energy Commission to release a biennial report that provides an overview of major energy trends and issues facing the state.



EPIC Funding Source

Electric Program Investment Charge
Investment Plan 2021-25 strategic objective:

“Inform California’s Transition to an equitable, zero-carbon energy system that is climate-resilient and meets environmental goals” (Chapter 7).

This supports:

Initiative 44, “Integrating Climate-Resilience in Electricity System Planning”

Investment Plan: <https://www.energy.ca.gov/proceedings/energy-commission-proceedings/electric-program-investment-charge-2021-2025-investment>



CALIFORNIA
ENERGY COMMISSION



CALIFORNIA
NATURAL
RESOURCES
AGENCY

California Energy Commission
COMMISSION REPORT

The Electric Program Investment Charge Proposed 2021–2025 Investment Plan

EPIC 4 Investment Plan

Gavin Newsom, Governor
November 2021 | CEC-500-2021-048-CMF



Solicitation Background

- Hydroelectric power is a critical element of California's electricity system
- Precipitation Enhancement:
 - Practiced in California since the 1950s
 - Various programs currently operating in California
 - Recent scientific advances now enable improved verification and modeling



Purpose of Solicitation

- Fund applied research to foster cost-effective, robust approaches to manage needs for zero-carbon, fast-ramping resources.
- Advance the scientific basis and operational practices of glaciogenic seeding of orographic clouds for augmenting hydropower generation.



Available Funding

Project Group	Available Funding	Minimum Award Amount	Maximum Award Amount
Group 1: Advancing Precipitation Enhancement in California	\$2,500,000	\$1,800,000	\$2,500,000



Match Funding

- 5% of match funding is required.
- Applications that include match funding 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.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California

Successful applicant must demonstrate:

- A clearly articulated and scientifically justified approach that describes the proposed research and how it will directly improve cloud seeding operations in California.
 - An explicit description regarding how proposed research will be supported by empirical evidence from cloud seeding campaigns.
 - A detailed understanding of cloud seeding operations that benefit hydropower generation in California.
 - Description of how proposed research will enhance the current state-of-the-art of cloud-seeding operations in California.
- Description of the cloud seeding and weather modification expertise within the research team.
- A clearly articulated plan for coordination and outreach efforts with relevant stakeholders.



Advancing Precipitation Enhancement in California (cont.)

Applicant must consider and discuss:

- possible environmental impacts of cloudseeding operations and strategies that they propose to investigate.

This should be informed by credible analyses and discussions of peer-reviewed literature.





Advancing Precipitation Enhancement in California (cont.)

Research may address:

- Improving observation and measurement of cloud ice production from enhancement operations
- Effects of background aerosols on enhancement
- New seeding and transport agents (must consider toxicological and ecological impacts)

Research may develop new strategies and tools to:

- Forecast, detect, and recognize seeding opportunities in real-time
- Improve targeting and transport modeling



Eligible Applicants

- This is an open solicitation for public and private entities.
- Applicants must accept applicable 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 including the following:

- | | |
|-------------------------------|---|
| 1. Executive Summary (.docx) | 7. CEQA Compliance Form (.docx) |
| 2. Project Narrative (.docx) | 8. Past Projects Information Form (.docx, .pdf) |
| 3. Project Team (.docx, .pdf) | 9. Commitment and Support Letters (.pdf) |
| 4. Scope of Work (.docx) | 10. Project Performance Metrics |
| 5. Project Schedule (.xlsx) | 11. Applicant Declaration (.docx) |
| 6. Budget (.xlsx) | |



Project Narrative (Attachment 2)

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

- How does your project advance science and technology?
- 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 requirements for your group as described in Section I.C.

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



Scope of Work (Attachment 4)

- 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.
 - Address requirements in Section I.C. under Project Focus.
- Be sure to include in the Project Schedule (Attachment 5):
 - Product deliverables that correspond with the Scope of Work.
 - Realistic dates on when product deliverables can be completed.



Budget (Attachment 6)

- Identify how the Energy Commission funds and match funds will be spent to complete the project.
- Subrecipients receiving \$100,000 or more Energy Commission funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** estimated rates for the entire project term and any potential increases are included.
- Travel Restrictions:
 - CEC funds should be limited to project task specific in-state travel.
 - Travel to conferences are generally not considered applicable travel for projects and should not use CEC funds.



Commitment and Support Letter Forms (Attachment 9)

- 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 Applicant (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(s).
- 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

- 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 displays the California Energy Commission website. At the top left is the logo, and at the top right is a search bar and a 'Sign In' button. The main heading reads 'Welcome! Funding Opportunities' with a 'View Solutions' button. Below this is a banner image featuring a colorful bus, a wind turbine, solar panels, and a house. A paragraph states: '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 features six content tiles:

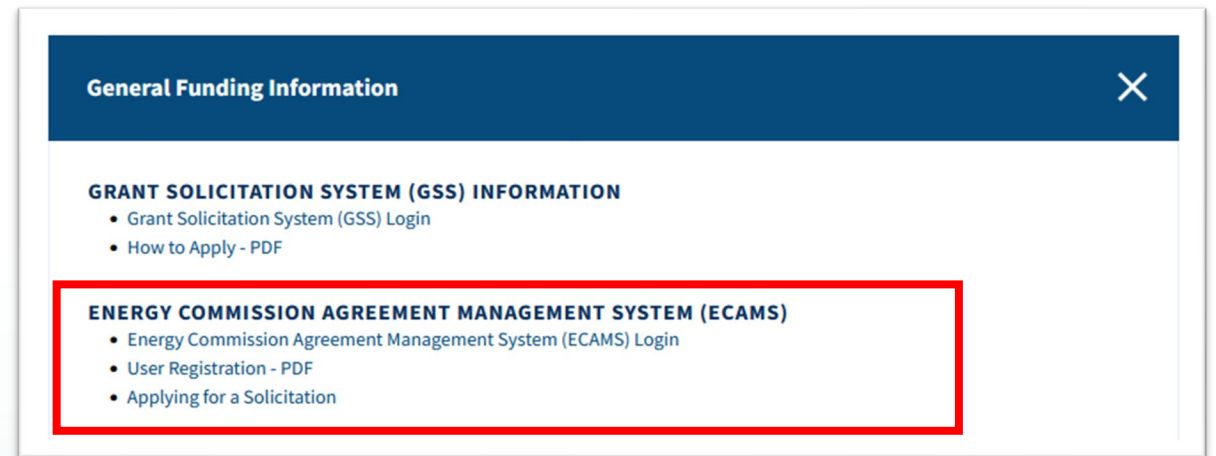
- Funding Workshops:** Find upcoming workshops to learn about solicitations, ask questions, network, and meet potential project partners.
- Awards:** Information about the California Energy Commission's awards, including notices of proposed awards and notices of selection.
- Funding Resources:** Guides, forms, templates, and other resources for individuals applying for funding opportunities that the California Energy Commission offers.
- ECAMS Grant Resources:** Templates, forms, and tools for the invoicing process and agreement management in general.
- Empower Innovation:** Empower Innovation is an initiative of the California Energy Commission, in partnership with leading California technology accelerators, fellowship programs, nonprofits, and private partners.
- Salesforce Training:** How to apply for solicitations and submit invoices.

At the bottom right, contact information is provided: 'Contact ecams_salesforcesupport@energy.ca.gov'.



GFO Submission Requirements (cont.)

- 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 with the ECAMS system should be directed to: ECAMS.SalesforceSupport@Energy.ca.gov





GFO Submission Requirements (cont.)

- 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.



Submission Warning

START THE PROCESS EARLY!

- Applications must be fully submitted BEFORE the deadline listed in the solicitation manual.
- The ECAMS system will reject applications submitted after the deadline.
- Applications in the process of being submitted prior to the deadline will NOT be accepted after the deadline.
- ECAMS support is ONLY available from 8am – 5pm Monday-Friday.



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, if required.
- 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

Admin 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 52.5 points for Criteria 1-4 in order to continue evaluation.**
- **Applications must obtain a minimum passing score of 70 points for Criteria 1-6 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	15
6. Ratio of Direct Labor Costs to Indirect Costs	10
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 1-6) will be considered for bonus points. Criteria for bonus points include:**
 - **Match Funding**
 - **Funds Spent in California**

Scoring Criteria	Maximum Points
7. Match Funds	10
8. Funds Spent in California	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.



CEC Funds Spent in California

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

- Projects that maximize the spending of CEC funds in California will receive points as indicated in the table:

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

- Refer to the Funds Spent in CA section in the Solicitation Manual for more details.



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 11, 2024
Pre-Application Workshop	March 22, 2024, at 10:00 am
Deadline for Written Questions	March 29, 2024, at 5:00 pm
Anticipated Distribution of Questions and Answers	Week of April 22, 2024
Deadline for ECAMS Submission Support	Ongoing until May 3, 2024, at 5:00 pm
Deadline to Submit Applications	May 3, 2024, at <u>11:59 pm</u>
Anticipated Notice of Proposed Award Posting	Week of June 10, 2024
Anticipated Energy Commission Business Meeting	July 31, 2024
Anticipated Agreement Start Date	August 5, 2024
Anticipated Agreement End Date	June 30, 2027



Questions and Answers

- Please type 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)
- 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-23-311 to:

Natalie Johnson

Commission Agreement Officer

715 P, MS-18

Sacramento, CA 95814

(916) 891-8523

Natalie.Johnson@energy.ca.gov

Deadline to submit questions:

Friday, March 29, 2024, 5:00 PM



Thank You!

