

**DOCKETED**

<b>Docket Stamp Updated:</b>	10/1/2025 1:47:59 PM
<b>Docket Number:</b>	23-ERDD-02
<b>Project Title:</b>	Gas Research and Development Program
<b>TN #:</b>	266228
<b>Document Title:</b>	Notice of Request for Information on Including Impacts of Changes in Hydropower Reliability in Gas System Operations & Planning
<b>Description:</b>	N/A
<b>Filer:</b>	Archal Naidu
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	9/30/2025 9:27:57 AM
<b>Docketed Date:</b>	9/30/2025

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<b>Docket Number:</b>	23-ERDD-02
<b>Project Title:</b>	Gas Research and Development Program
<b>TN #:</b>	266228
<b>Document Title:</b>	Notice of Scoping Workshop - Funding to Advance Integrated Planning of Gas System Decommissioning
<b>Description:</b>	N/A
<b>Filer:</b>	Archal Naidu
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	9/30/2025 8:52:55 AM
<b>Docketed Date:</b>	9/30/2025

**CALIFORNIA ENERGY COMMISSION**

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Sacramento, California 95814

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CEC-70 (Revised 7/22)



*IN THE MATTER OF:*

*Research idea exchange*

DOCKET NO. 23-ERDD-02

REQUEST FOR INFORMATION

RE: Impacts of Changes in Hydropower  
Reliability in Gas System Operations and  
Planning

## **Notice of Request for Information on Including Impacts of Changes in Hydropower Reliability in Gas System Operations and Planning October 20, 2025**

### **Purpose of the Request:**

The California Energy Commission (CEC) is seeking information to inform the scope of an anticipated grant funding opportunity (GFO) that will support applied research to provide more detailed understanding of the interplay between gas-fired electricity generation and hydropower resources. The purpose of the anticipated research is to facilitate improved forecasting of gas demand — including demand to support electricity generation — in the context of a changing climate and a decarbonizing energy sector. This Request for Information (RFI) will help define critical research gaps in this topic area and identify high-impact case studies that future research may target.

Responses to the RFI may inform a future GFO addressing the Gas Research and Development Program, Budget Plan FY 2022-23, Targeted Gas System Decommissioning theme, Scaled-up Gas Decommissioning Pilots and Integrated Planning Tools initiative.

### **Background:**

CPUC's Long-Term Gas Planning Rulemaking calls out the need to mitigate energy reliability challenges as fossil gas throughput declines (CPUC, R.24-09-012, p.2). Developing new or improved methodologies to improve gas demand forecasting addresses a critical element of planning a gas transition, in particular, how changes in reliability of electricity generation resources may impact gas system needs, operations, and planning across short- and long-term time frames. In the context of reliability planning that accounts for a changing climate and a decarbonizing energy system, and to facilitate effective gas demand and supply forecasting, there is a need for

more detailed understanding of the interplay between gas-fired electricity generation and renewable resources. The reliability of hydroelectric generation is of particular interest because when hydroelectric power plant capacities are significantly diminished, fossil gas power plants serve as the primary dispatchable resource for the state (Gill, et al., 2021). Ample prior research has evaluated the impacts of hydropower variability (i.e., due to drought or changes in operations) on power grids to support water and electricity planning (e.g., Turner, et al, 2024; Aramayo, 2022; Kao, et al., 2015). However, the implications for the gas system, especially via gas-fired electricity generation and subsequent capacity and contingency gas system planning impacts, have yet to be thoroughly examined.

**Requested Information:**

The following questions are designed to elicit information that will help CEC structure a solicitation related to this topic. Responders are not required to respond to every question of this RFI. In fact, responders are encouraged to respond specifically to the questions they feel most suit their knowledge and background.

1. Considering gas supply for electric generation: in what ways does hydropower availability influence the gas supply and, subsequently, gas prices? Please describe the planning process and include details concerning:
  - a. Types of data (forecasts, averages, etc.) that are collected and used to support the planning process — including the temporal and spatial scales, as well as the data sources.
  - b. Which organizations collect, use, analyze the data and use the resulting analyses? Please provide details about the specific division or group within the organization.
  - c. The planning, forecasting, and operations processes (e.g., time horizons, frequency of iteration) that data supports. Please include how the data analyses are used across different fossil gas planning service entities and hydropower generation entities (Investor-Owned Utilities, Department of Water Resources, United States Bureau of Reclamation, Western Area Power Administration, etc.).
2. If possible, in what ways should gas planning processes be improved to include the variability of hydropower generation's impact on gas-fired electricity generation planning?
  - a. How can hydropower generation and gas-fired electricity generation be used effectively and efficiently considering drought conditions, changing resource portfolios, and changing climate?
  - b. How could hydropower and gas-fired electricity generation planning, and operations be adjusted to consider drought conditions and changing climate, and which type of forecast could support these adjustments?

3. Please provide examples of specific events during which hydropower resources limitations have had an impact on gas-fired electricity generation, including:
  - a. Description of the event (date, location/region, type of climate-related event)
  - b. Specific details concerning the way gas-fired electricity generation was impacted
  - c. Description of all the factors that contribute to the impact (hydro facility output levels, gas supply, gas price, pipeline disruptions, weather events, etc.)
  - d. Description of how specific gas planning services and hydropower generation entities were impacted
4. What models are being or should be used to gain insight into hydropower generation availability impacts on gas-fired electricity generation planning?
5. Which additional modeling (of operational and forecasting data) is needed to forecast how hydropower and gas-fired electric generation planning and operations could change, considering changing climate and drought conditions?

## References

- Aramayo, Lindsay, 2022. *Drought Effects on Hydroelectricity Generation in Western U.S. Differed by Region in 2021*. U.S. Energy Information Administration  
<https://www.eia.gov/todayinenergy/detail.php?id=51839#>
- California Public Utilities Commission, Long-Term Gas Planning Rulemakings  
 R.24-09-012: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M542/K029/542029029.PDF>  
 R.20-01-007: <https://www.cpuc.ca.gov/industries-and-topics/natural-gas/long-term-gas-planning-rulemaking>
- Gill, Liz, Mark Kootstra, Elizabeth Huber, Brett Fooks, Chris McLean. 2021. *Midterm Reliability Analysis*. California Energy Commission. Publication Number: CEC-200-2021-009.  
<https://www.energy.ca.gov/sites/default/files/2021-09/CEC-200-2021-009.pdf>
- Kao, S., Sale, M.J., Ashfaq, M., Martinez, R.U., Kaiser, D.P., Wei, Y., Diffenbaugh, N.S. 2015. *Projecting changes in annual hydropower generation using regional runoff data: An assessment of the United States federal hydropower plants*, Energy, Volume 80, (239-250), ISSN 0360-5442,  
<https://doi.org/10.1016/j.energy.2014.11.066>.
- Turner, S.W.D., Ghimire, G.R., Hansen, C. *et al.* 2024. Hydropower capacity factors trending down in the United States. *Nat Commun* 15, 5445. <https://doi.org/10.1038/s41467-024-49553-x>

## How to Comment:

Comments should be submitted by 5:00 p.m. on October 20, 2025.

Please note that your written and oral comments, attachments, and associated contact information (e.g., your address, phone number, email address) become part of the viewable public record. This information may become available via Google, Yahoo, and other search engines.

Respondents to this Request for Information should not include any proprietary, sensitive, or confidential information. This Request for Information is not a request for funding.

The CEC encourages the use of its electronic commenting system. Visit the e-commenting page for this docket 23-ERDD-02 at <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=23-ERDD-02>. Can you Enter your contact information and a subject title that describes your comment. Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document in Microsoft® Word or Adobe® Acrobat®. The maximum file size allowed is 10 MB.

**Written comments** may be submitted to the Docket Unit by 5:00 p.m. on October 20, 2025. Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine. Written comments may also be submitted by email. Include docket number 23-ERDD-02 and "Hydropower and Gas-fired Electricity Generation" in the subject line and email to [docket@energy.ca.gov](mailto:docket@energy.ca.gov).

A paper copy may be mailed to:  
California Energy Commission  
Docket Unit, MS-4  
Docket No. 23-ERDD-02  
715 P Street  
Sacramento, California 95814

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**Media Inquiries.** Email [mediaoffice@energy.ca.gov](mailto:mediaoffice@energy.ca.gov) or call (916) 654-4989.

**Dated:** October 20, 2025, at Sacramento, California.

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Jonah Steinbuck  
Director of Energy and Research Development Division

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