

DOCKETED	
Docket Number:	22-ERDD-03
Project Title:	Clean Hydrogen Program
TN #:	252764
Document Title:	PG&E Comments on CEC Distributed Hydrogen Solicitation Concept
Description:	N/A
Filer:	System
Organization:	PG&E
Submitter Role:	Public
Submission Date:	10/25/2023 4:19:32 PM
Docketed Date:	10/25/2023

*Comment Received From: Josh Harmon
Submitted On: 10/25/2023
Docket Number: 22-ERDD-03*

**PG&E Comments on CEC Distributed Hydrogen Solicitation
Concept**

Additional submitted attachment is included below.

October 25, 2023

California Energy Commission
Docket Number 22-ERDD-03
715 P Street
Sacramento, CA 95814

RE: Distributed Hydrogen Solicitation Concept

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on the California Energy Commission's (CEC) Distributed Hydrogen Solicitation Concept released on October 9, 2023.

PG&E strongly supports the draft solicitation concept for on-site distributed hydrogen production. This initiative addresses a critical need by stimulating hydrogen demand while simultaneously resolving challenges related to midstream transportation. We have structured our comments below to specifically respond to the CEC's questions.

Are the Project Elements in Section IV of this document realistic, reasonable, and feasible?

PG&E suggests that the solicitation scope be broader and not tied to specific feedback or processes. As the industry is in the early stages of hydrogen production technology development, PG&E recommends avoiding unnecessary requirements. Allowing a broader range of feedstocks could help enable near-term hydrogen production while developing the market for longer lead-time renewable energy feedstocks. Accordingly, PG&E recommends the CEC consider adopting a technologically agnostic approach to hydrogen production where preference would be informed by a carbon intensity metric.

Furthermore, PGE& believes that it is important to maintain a comprehensive scope that includes hard-to-electrify end uses traditionally associated with fossil fuels. Hydrogen provides a viable option to decarbonize these processes, and doing so requires support for the transition to hydrogen-based operations with the ultimate goal of achieving 100% hydrogen utilization.

The carbon intensity metric, set at 0.45 kg of carbon dioxide equivalent per kilogram of hydrogen produced, is a low value. PG&E recommends that the CEC align with the Federal Clean Hydrogen Production Standard (CHPS), which targets a lifecycle greenhouse gas emissions of ≤ 4.0 kgCO₂e/kgH₂, in addition to the statutorily required ≤ 2 kgCO₂e/kgH₂ "clean hydrogen" target for emissions at the site of production.¹

¹ [Clean Hydrogen Production Standard](#)

Provide any feedback on the two-phase solicitation approach. Are the 1-month abstract deadline and 3-month full application deadline realistic?

PG&E believes that these timelines are challenging but achievable.

To ensure that funded projects and their impacts can inform future deployment of hydrogen in California, should the CEC consider additional performance metrics beyond those proposed for the M&V plan in Section IV?

PG&E recommends that the CEC target at least two different end use types, such as high temperature industrial process and power generation, to avoid duplication of efforts.

PG&E also suggests using a more specific metric, such as hours of operation, (e.g., 2,000 hours), instead of a metric of cumulative months.

What type of technical assistance is needed to ensure equitable participation and project success, if any?

PG&E recommends the CEC convene a technical advisory committee comprised of experts along the hydrogen value chain to provide guidance to the project team.

Are there specific end uses we should target with the one to five metric ton hydrogen capacity? If so, why?

Yes, PG&E recommends targeting high temperature industrial applications that are difficult to electrify, as well as power generation. This would align with the CEC's GFO-21-507, which includes industrial and power generation as the two end use target applications.

Are there any concerns with this solicitation allowing the use of CCUS for a project to be carbon neutral? If so, why?

No, PG&E supports the utilization of carbon capture and underground storage (CCUS) for a project aimed at achieving carbon neutrality. CCUS has the potential to contribute significantly to achieving California's climate goals and could enable a wider range of feedstocks that could be considered low carbon or carbon neutral when paired with CCUS.

Please provide relevant comments regarding other considerations not explicitly listed above.

To provide further context regarding PG&E's recommended scope expansion of this solicitation: PG&E believes that distributed methane pyrolysis is a good candidate for this funding because it would be able to leverage the existing natural gas infrastructure while decarbonizing natural gas end uses. The technology is also able to provide a valuable carbon product that may be used in carbon nanotubes, batteries, electronics, and as an additive.

Solid carbon has distinct benefits when compared to gaseous carbon dioxide: It cannot be emitted into the atmosphere, it can be used directly in a variety of products, it eliminates the need for pressurized storage, and it requires less storage space.

Additional benefits of distributed methane pyrolysis include:

- Production of hydrogen and valuable carbon materials on a distributed scale can reduce the need for centralized production facilities and associated transportation costs. A producer could sell both hydrogen and solid carbon products to the market.
- Reduced carbon emissions, promoting hydrogen as a clean energy carrier, and enabling the production of advanced carbon materials.
- Opportunities for new industries, such as carbon materials production, which could stimulate economic growth in regions with abundant sources of methane.

--

PG&E appreciates the opportunity to comment on the California Energy Commission's Distributed Hydrogen Solicitation Concept and looks forward to continuing to collaborate with the CEC. Please reach out to me if you have any questions.

Sincerely,

Josh Harmon
State Agency Relations