

DOCKETED

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CALIFORNIA ENERGY COMMISSION

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CEC-70 (Revised 2/2021)

**IN THE MATTER OF:**

*Public Comments on Upcoming Solicitation
Regarding "Pilot Test and Demonstration of
Hydrogen Blending into Existing California
Natural Gas System"*

Docket No. 19-ERDD-01

**NOTICE OF REMOTE-ACCESS
WORKSHOP**

RE: Upcoming Solicitation Regarding
Pilot test and Demonstration of
Hydrogen Blending into Existing
California Natural Gas System

**Notice of Scoping Workshop
March 18, 2021**

Start Time 9:00 a.m. (Pacific Time)

Remote Access Only

The California Energy Commission (CEC), will host a remote-access workshop to identify research needs and opportunities for testing and demonstrating hydrogen blending into the existing California natural gas system.

The workshop will be held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage physical distancing to slow the spread of COVID-19. The public can participate in the workshop consistent with the direction in these Executive Orders. There will be opportunities for public comment. Instructions for remote participation via Zoom are below.

Agenda

This scoping workshop will introduce the research initiative on hydrogen blending from the 2020-2021 Natural Gas Research and Development (R&D) Program Budget Plan and provide an update on the latest efforts and outlook from stakeholders, including utilities and research institutes. The CEC and stakeholders plan to do the following at the workshop:

- Present the general purpose and objectives of a future CEC grant funding opportunity (GFO) addressing a natural gas-related initiative titled "Pilot test and Demonstration of Hydrogen Blending into Existing California Natural Gas Pipelines".
- Present research roadmaps, plans, and results from California gas utilities and research institutions.

- Offer stakeholders, experts, and the public the opportunity to provide input about technology barriers, performance metrics, value propositions, and infrastructure planning considerations needed to facilitate successful demonstration projects.
- Gather in-depth feedback about demonstrations of hydrogen blending to meet the objectives of the solicitation.

A detailed workshop agenda will be posted prior to the workshop. The agenda will include an overview of the Natural Gas R&D Program and the relevant research initiative, planning details for a proposed future GFO, presentations from gas utilities and research institutions, and a discussion session to gather comments from stakeholders, experts, and the general public.

Background

The 2020-2021 Natural Gas R&D Program Budget Plan identified an initiative under natural gas infrastructure safety and integrity titled "Pilot test and Demonstration of Hydrogen Blending into Existing California Natural Gas Pipelines." When produced by renewable processes, hydrogen is considered a sustainable energy carrier and a promising means of storing renewable energy for California's clean energy future. This requires developing infrastructures to connect hydrogen production, transmission, distribution, storage and end-use equipment and appliances. Delivering hydrogen through the existing natural gas pipeline network has been proposed as a promising strategy to decarbonize the natural gas system^{1, 2, 3 and 4}. Delivering hydrogen through the existing natural gas pipeline network can reduce the cost of hydrogen storage and transportation and distribution infrastructures by avoiding construction of dedicated hydrogen pipelines. However, hydrogen blending faces many challenges including material embrittlement, gas permeation, potential gas leaks, etc. The research initiative identified the need to demonstrate hydrogen blending and develop deployment strategies that are tailored for California's gas system by pilot testing and demonstrating hydrogen blending into existing California gas pipeline network, which will help to identify system modifications to accommodate various blending levels, quantify the impacts, suggest changes to integrity management practices, develop blending standards and provide deployment strategies.

The CEC plans to release a GFO under the 2020-2021 Natural Gas R&D Program Budget Plan to address this initiative and the challenges faced when blending hydrogen into the existing California natural gas system. The purpose of this scoping workshop is to solicit feedback from stakeholders, experts, and the general public to determine how the CEC's funding could facilitate successful technology demonstration projects through the future GFO.

¹ IEA (2019), The Future of Hydrogen, IEA, Paris <https://www.iea.org/reports/the-future-of-hydrogen>

² Reed, Jeffrey, Emily Dailey, Brendan Shaffer, Blake Lane, Robert Flores, Amber Fong, G. Scott Samuelsen. 2020. Roadmap for the Deployment and Buildout of Renewable Hydrogen Production Plants in California.

³ Kippers, M.J., De Laat, J.C., Hermkens, R.J.M., Overdiep, J.J., Van Der Molen, A., Van Erp, W.C. and Van Der Meer, A., 2011. Pilot project on hydrogen injection in natural gas on Island of Ameland in the Netherlands. In International Gas Union Research Conference.

⁴ H21 Leeds Citygate Report, 2016, <https://www.h21.green/projects/h21-leeds-city-gate/>

CEC staff is seeking input from stakeholders to inform development of a future solicitation. Specifically, staff seeks responses and comments to the following questions:

- Due to limited funding, should certain application or scale of demonstration projects be prioritized over others for demonstrating hydrogen blending? If yes, what are they?
- What are the key challenges for demonstration that must be addressed for demonstrating hydrogen blending? How should the technical tasks regarding planning, siting, safety, and measurement verification be approached?
- What are the expected outcomes of these demonstration projects? What are the specific performance metrics that should be measured or compared against to evaluate the viability of blending for the demonstration projects?
- What existing research or pilots should this research build on?
- What other considerations or requirements should be incorporated into the future GFO?

Remote Attendance

The workshop may be accessed by clicking the Zoom link below or visiting Zoom at <https://join.zoom.us>. Enter the ID and password for the workshop listed below. If you experience difficulties joining, you may contact Zoom at (888) 799-9666 ext. 2, or the Public Advisor's Office at publicadvisor@energy.ca.gov or (800) 822-6228.

Link to Workshop:

<https://energy.zoom.us/j/98436396105?pwd=cmIPTUFMMzN0dmh2NU12NGZURTVadz09>

Workshop ID: 984 3639 6105

Workshop Password: 293354

Use the "raise hand feature" to indicate you want to speak and the event facilitator will indicate when your line is open and ready for you to make comment.

To Participate by Telephone: Dial (929) 436-2866 or (646) 518-9805 or 888 475 4499 (toll free) or 877 853 5257 (toll free). International numbers available at <https://energy.zoom.us/u/ad9ikvlyID>. When prompted, enter the ID: 984 3639 6105. To comment, dial *9 to "raise your hand" and *6 to mute/unmute your phone line.

Public Comment

Oral comments will be accepted at the end of the workshop. Comments may be limited to three minutes or less per speaker and one person per organization. If participating via Zoom's online platform, use the "raise hand" feature so the administrator can announce your name and unmute you. If you are participating by telephone, press *9 to "raise your hand" and *6 to mute/unmute.

Written comments must be submitted to the Docket Unit by **5:00 p.m. on April 2, 2021**.

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.

The CEC encourages use of its electronic commenting system. Visit the [e-commenting page](https://www.energy.ca.gov/proceedings/e-filing-and-e-commenting) at <https://www.energy.ca.gov/proceedings/e-filing-and-e-commenting>, which links to the comment page for this docket. Enter your contact information and a comment title describing the subject of your comment(s). 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 by email. Include docket number 19-ERDD-01 and "Upcoming Solicitation Regarding Pilot test and Demonstration of Hydrogen Blending into Existing California Natural Gas System" in the subject line and email to docket@energy.ca.gov.

A paper copy may be sent to:

California Energy Commission
Docket Unit, MS-4
Docket No. 19-ERDD-01
1516 Ninth Street
Sacramento, California 95814-5512

Public Advisor and Other CEC Contacts

The CEC's Public Advisor's Office provides the public with assistance in participating in CEC proceedings. For information on participation or to request interpreting services or reasonable accommodations reach out via email at publicadvisor@energy.ca.gov, by phone at (916) 654-4489, or toll free at (800) 822-6228. Requests for interpreting services and reasonable accommodations should be made at least five days in advance. The CEC will work diligently to accommodate all requests.

Please direct media inquiries to mediaoffice@energy.ca.gov or (916) 654-4989.

Please direct general and technical subject inquiries to Yahui Yang at yahui.yang@energy.ca.gov.

Availability of Documents

Documents and presentations for this meeting will be available at [Docket Unit 19-ERDD-01: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ERDD-01](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ERDD-01)

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