

Company: Southern California Gas Company (U 904 G)
Proceeding: Hydrogen Blending Demonstration Projects
Application: A.22-09-006
Witness: Chris Gilbride
Chapter: 11

**PREPARED REBUTTAL TESTIMONY OF CHRIS GILBRIDE
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

September 29, 2025

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Attachment D – SoCalGas presents hydrogen blending to Orange Cove - Mid Valley Times, November 13, 2023	CG-D-i

1 **PREPARED REBUTTAL TESTIMONY OF CHRIS GILBRIDE**
2 **ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY**

3 **I. INTRODUCTION**

4
5 The purpose of my prepared rebuttal testimony is to address SoCalGas’s community and
6 stakeholder engagement activities proposed for the hydrogen blending demonstration projects in
7 Orange Cove California and at the University of California, Irvine. Additionally, I respond to
8 intervenor arguments concerning SoCalGas’s stakeholder engagement efforts.

9 Contrary to intervenor claims,¹ for more than two years, SoCalGas has worked with the
10 City of Orange Cove and the University of California, Irvine (UC Irvine) to raise awareness
11 about the proposed hydrogen blending demonstrations, to solicit community and stakeholder
12 feedback, and to answer questions. This early engagement has been instrumental in building trust
13 with local leaders, helping SoCalGas better understand local needs, promoting early community
14 feedback, and helping to mitigate potential misunderstandings.

15 **II. SCOPING ISSUE 1: DO THE PILOTS CONFORM TO REGULATORY**
16 **REQUIREMENTS?**

17 **A. Scoping Issue 1a: SoCalGas’s Proposed Demonstration Projects Comply with**
18 **D.22-12-057**

19 **1. SoCalGas Has Performed Robust Stakeholder Engagement to Date,**
20 **and Intends to Do So Continuing into Subsequent Project Phases**
21 **(OP 7h)**

22 Contrary to certain intervenors’ contentions,² SoCalGas has worked diligently to conduct
23 stakeholder engagement and to solicit feedback from communities regarding these demonstration
24 projects. Consistent with the Commission’s directive, SoCalGas has taken stakeholder feedback
25 into account for its proposed demonstration projects in Orange Cove and UC Irvine.

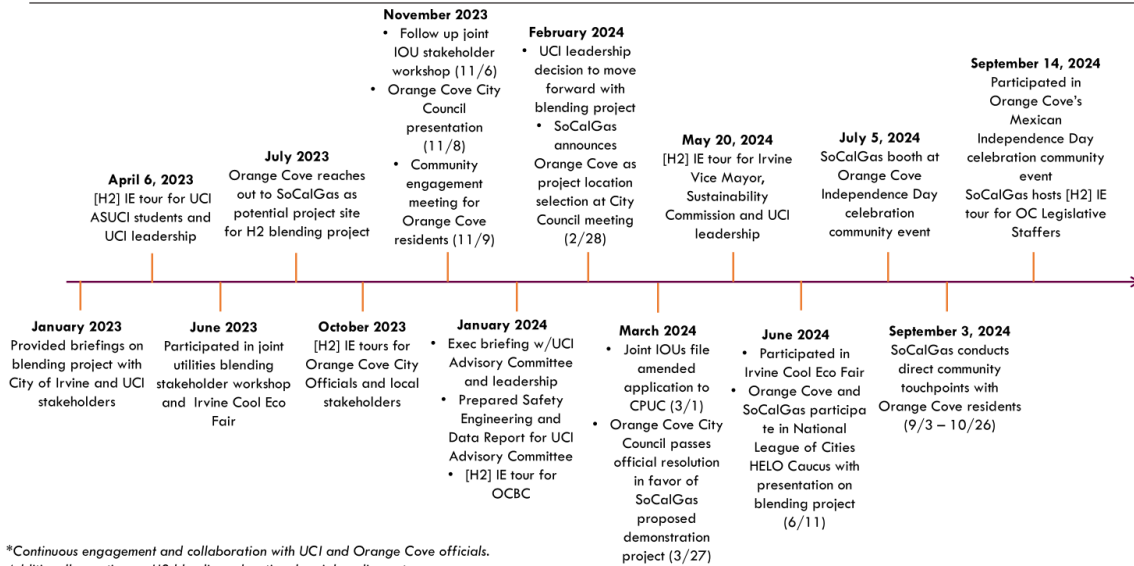
¹ Prepared Testimony of Sara Gersen on behalf of Sierra Club on the Joint Amended Application to Establish Hydrogen Blending Demonstration Projects (hereinafter “Ex. SC-01”) at 59-61; Prepared Opening Testimony of Jamie Zweifler-Katz on behalf of Orange Cove United and Leadership Counsel for Justice and Accountability on the Application of Southern California Gas Company, San Diego Gas & Electric Company, Pacific Gas and Electric Company and Southwest Gas Corporation to Establish Hydrogen Blending Demonstration Project (hereinafter “Ex. OCU/LCJA 4”) at 2.

² *Id.*

Below is a timeline demonstrating the proactive stakeholder engagement activities SoCalGas has conducted for both proposed hydrogen blending demonstration projects, throughout which stakeholders have provided input and feedback.

Figure 1: SoCalGas Stakeholder Engagement Activities (Jan. 2023 – Sept. 2024)

ENGAGEMENT TIMELINE

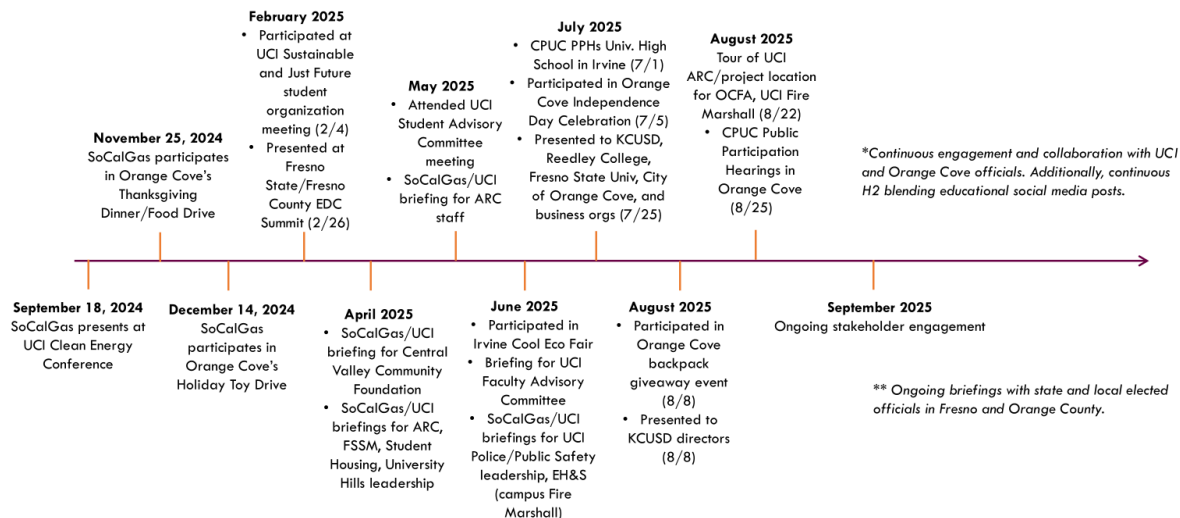


*Continuous engagement and collaboration with UCI and Orange Cove officials. Additionally, continuous H2 blending educational social media posts.

**Ongoing briefings with state and local elected officials in Fresno and Orange County.

Figure 2: SoCalGas Stakeholder Engagement Activities (Sept. 2024 – Sept. 2025)

ENGAGEMENT TIMELINE



a. Orange Cove

SoCalGas has performed robust stakeholder engagement in collaboration with the leadership of the City of Orange Cove, including weekly touchpoints. The utility has maintained a strong, long-standing, and positive partnership with the City of Orange Cove, where it is recognized as a trusted energy provider and active community partner. SoCalGas has been a part of the Orange Cove community for more than 90 years. Several of our employees live and work in the community, and surrounding area. When SoCalGas began looking for partners to host potential hydrogen blending projects, the City of Orange Cove reached out to SoCalGas to consider developing a project in this community so that residents could meaningfully participate in the clean energy transition and reap the potential educational and environmental benefits the project could bring, which is further described in the Chapter 10 prepared rebuttal testimony of Blaine Waymire.

SoCalGas started community engagement in Orange Cove on hydrogen blending in 2023. Since then, SoCalGas has worked with city leaders to implement proactive community engagement activities to inform the public, to promote transparency, solicit early feedback and build trust. Below is a list of additional activities that SoCalGas has taken to engage stakeholders and receive feedback:

- Hosted a community engagement meeting in Spanish and English to provide residents with information about the proposed project, solicit feedback from the community, and share valuable information about the customer assistance programs and services available to them;
- Conducted direct community touchpoints / door-to-door outreach (bilingual) to approx. 2,000 residences and businesses in the City of Orange Cove;
 - Distributed project fact sheets and brochures;
 - Left door hangers at residences and businesses;
- Participated in eight city community events, including hosting informational booths to engage with community members and share educational materials on hydrogen blending and customer assistance programs;
- Set up a dedicated project email box for residents;
- Shared more than 20 hydrogen blending education posts on social media;
- Engaged with local media on hydrogen blending; participated in 10 news stories³
- Provided briefings for community leaders/elected officials, community groups, educational institutions, business organizations, and non-profits;
- Facilitated tours of SoCalGas's H2 Innovation Experience—a microgrid and home that showcases how clean renewable hydrogen can be used to power homes—with community leaders, including city officials, first responders and business organizations, providing a real-world example of an existing hydrogen blending facility. The tours facilitated further dialogue, Q&A and feedback on the proposed project.

The touchpoints and door-to-door outreach with community members served as an opportunity to obtain input/feedback on the project. The following is some of the feedback received:

- Several residents said they'd stay informed and planned to contact City Hall about upcoming SoCalGas meetings.

³ See Attachment D (Mid Valley Times Article, *SoCalGas presents hydrogen blending to Orange Cove* (November 13, 2023)).

- Community members recognized SoCalGas from previous city events and appreciated the continued presence.
- Residents expressed that ongoing outreach from SoCalGas is important, as they felt decisions are often made without community input.
- Some residents asked for more information about safety, appliances, and insurance.

These community touchpoints were intended to increase awareness while minimizing misinformation by facilitating face-to-face dialogue with community members. In addition to in-person meetings and conversations with households in the city, SoCalGas continues to post updates and information on a dedicated project webpage, socalgas.com/orangecove, in English and Spanish, and has continued to maintain a presence at community events and gathering locations, including the annual Independence Day Celebration and holiday toy and food giveaways.

Related to the engagement activities described above, the leadership of the City of Orange Cove has consistently demonstrated strong support for the proposed project. In March 2024 the City Council passed a resolution directing its administration to work towards the project's completion.⁴ Further underscoring this support, the Mayor of Orange Cove submitted a letter to the editor of the *Fresno Bee*, stating: "As a steward of the city, it is my responsibility to seek out projects that will provide ongoing and long-term economic and environmental benefits to the residents of Orange Cove. That's why we sought out this opportunity; we're proud to welcome this hydrogen blending demonstration project."⁵ Additionally, the City Manager sent a letter to Commissioner Houck on behalf of City Council, reaffirming Orange Cove's commitment to the project and its anticipated benefits for the community.⁶

b. UC Irvine

SoCalGas has also conducted robust stakeholder engagement regarding the proposed UC Irvine project. The utility has a long history of research partnership with UC Irvine on clean

⁴ See Attachment A, Resolution No. 2024-04 City of Orange Cove, *A Resolution of the City Council of the City of Orange Cove Directing the City of Orange Cove Administration to Work with SoCalGas on the Clean Energy Hydrogen Blending Demonstration Project and Authorizing Execution of Contract Documents with SoCalGas for the Purpose of Completing the Project*.

⁵ See Attachment B, Fresno Bee Article, *Orange Cove gears up for clean energy* (June 2, 2024).

⁶ See Attachment C, Letter from Daniel Parra to Commissioner Houck (July 30, 2024).

1 energy initiatives like hydrogen blending. In fact, SoCalGas partnered with UC Irvine and its
2 National Fuel Cell Research Center in 2016 to implement the United States' first successful
3 power-to-gas project, which blended clean renewable hydrogen into a natural gas pipeline to help
4 power parts of the UC Irvine campus. The proposed project creates an opportunity to collaborate
5 on research projects related to hydrogen blending and associated equipment, which will provide
6 a robust learning environment for students, faculty, and the community at large. Since 2022,
7 SoCalGas has conducted close to 40 community outreach activities such as briefings,
8 presentations and tours with various stakeholders including UC Irvine leadership and staff,
9 faculty, students, city and county officials, and legislators. Additionally, SoCalGas continues to
10 work closely with UC Irvine on engagement activities that are consistent with the governance
11 structure set by campus leadership to provide oversight, include student input, and report on the
12 progress and concerns related to the proposed project.

13 Outreach activities have included educational presentations, project briefings, and
14 facilitating tours of SoCalGas's H2 Innovation Experience. Additionally, SoCalGas collaborated
15 with UC Irvine Facilities Management to host a tour of the Anteater Recreation Center (ARC)
16 project location site and held a briefing with first responders, such as the Orange County Fire
17 Authority (OCFA) and UC Irvine Fire Marshal. UC Irvine published a public-facing webpage
18 dedicated to information about the proposed project.⁷

19 The proposal to demonstrate hydrogen blending at UC Irvine, and the ARC, has also been
20 evaluated by a faculty review committee.⁸ The members of this committee recommended that
21 UC Irvine participate in the demonstration project and suggested several steps to promote safety,
22 transparency and accountability throughout the life of the project. In accordance with their
23 recommendations, should the Commission approve the proposal, this project will be guided and
24 monitored by a dedicated UC Irvine administrative team, including experts from UC Irvine's
25 Facilities Management and Environmental Health & Safety organizations.⁹ Additionally, in
26 support of openness and inclusivity, a student advisory committee has been established and

⁷ UC Irvine, *A Smart Step Towards a Cleaner Future: Hydrogen Blending Project at UC Irvine*,
available at: <https://uci.edu/hydrogen/>.

⁸ See UCI, *Recommendations for the Proposed "Hydrogen Blending Demonstration Project @ UCI*
(February 14, 2024), available at: <https://uci.edu/hydrogen/uci-h2-project-report.pdf>.

⁹ *Id.*

1 tasked with providing feedback to the campus oversight committee responsible for the hydrogen
2 blending project.¹⁰

3 Sierra Club claims that SoCalGas has not engaged with students, citing a single
4 commenter at the Commission’s public participation hearing (PPH) for SoCalGas’s proposed
5 project at UC Irvine.¹¹ While the input from the PPHs is important, it should be considered in the
6 appropriate context. The comments should not be used as evidence, which Sierra Club attempts
7 to do, because relevant context is missing and the statements can involve opinions and
8 misunderstandings that cannot be elucidated through questioning. For example, the comment
9 raised by Sierra Club does not have the context that SoCalGas was required to operate within the
10 governance structure that was established by UC Irvine, which, relevant here, is limited to a
11 student advisory committee and an administrative advisory committee. SoCalGas has swiftly
12 responded to any questions raised by these advisory committees regarding details or plans
13 regarding the project, and SoCalGas has offered to meet with the student advisory committee.
14 However, the governance structure set up by UC Irvine does not allow SoCalGas to engage
15 directly with the student body at large.

16 Further, Sierra Club contends that the project has not been approved by the Human
17 Subjects Protection Committee at UC Irvine, misleadingly suggesting the project includes testing
18 on humans that would necessitate approval from this committee.¹² This is a false premise. At no
19 point in this demonstration project will there be “tests on humans.” The proposal is a
20 demonstration project utilizing fuels in a pipeline in local operating conditions which is intended
21 to validate research findings we already understand to be true.

22 Further, end use equipment at the ARC is generally housed in separate buildings or
23 rooms where ventilation of the end-use equipment is separate from ARC users, with the sole
24 exception of the kitchen equipment, which is used for cooking classes and demonstrations.
25

¹⁰ *Id.*

¹¹ Prepared Testimony of Sara Gersen on behalf of Sierra Club on the Joint Amended Application to Establish Hydrogen Blending Demonstration Projects (hereinafter “Ex. SC-01”) at 59.

¹² *Id.* at 60.

1 **III. SCOPING ISSUE #4 ARE THE PILOT PROJECTS SAFE?**

2 **A. Scoping Issue 4.e: SoCalGas Has Performed Robust Stakeholder Outreach in**
3 **Communities Where Pilot Projects Are Proposed**

4 Stakeholder engagement activities are addressed in section II.A.1 above.
5

6 **IV. SCOPING ISSUE #5: SOCALGAS'S PROPOSED DEMONSTRATION**
7 **PROJECTS CREATE COMMUNITY BENEFITS**

8 **A. Scoping Issue 5.b What Measures Ensure Equitable Distribution of Risks**
9 **and Benefits of Each Project?**

10 As mentioned in the Chapter 11 Rebuttal Testimony of Blaine Waymire, SoCalGas
11 intends to conduct outreach to Orange Cove customers to encourage participation in existing
12 customer assistance and energy efficiency programs prior to and during the demonstration so
13 aging and faulty appliances can be replaced with safe, functional, and more energy efficient
14 ones. Orange Cove is designated as a Disadvantaged Community by CalEPA,¹³ and a
15 predominant number of customers may qualify for SoCalGas's Energy Savings Assistance
16 Program, which may be able to subsidize or fully replace existing appliances (along with other
17 program benefits) before the demonstration commences. SoCalGas serves the community
18 through more than 2,000 natural gas meters, and nearly 74% of all households are eligible for the
19 Energy Savings Assistance Program (ESA Program) and 68% are eligible for CARE.
20 Accordingly, this is a prudent approach that promotes cost-effective measures aimed at reducing
21 the number of appliances with known condition problems while matching eligible customers
22 with existing programs from which they can benefit.

23 **B. Scoping Issue 5.c: How were community stakeholders in each pilot project**
24 **included in the planning process?**

25 Intervenor are wrong that SoCalGas did not include community stakeholders in the
26 planning process for each demonstration.

27 **a. SoCalGas and UC Irvine Collaborated on Stakeholder**
28 **Engagement Within the Governance Framework**

29 At UC Irvine, a Faculty Review Committee appointed by the university Provost
30 consisting of a panel of esteemed professors vetted and reviewed the proposed project and

¹³ See CalEPA, *Disadvantaged Communities Map*, available at:
<https://calepa.ca.gov/envjustice/ghginvest/>.

recommended to move forward with the project based on safety and the scientific value of the demonstration. Following the recommendation of the Faculty Review Committee, an Administrative Oversight Committee was established to independently assess the scope of the project, provide administrative oversight, and, among other responsibilities, serve as the primary body for receiving and reviewing community input. A Student Advisory Committee has also been established to engage students and convey feedback to the Administrative Oversight Committee. Following UC Irvine's governance structure and as part of the project planning process, SoCalGas remains available to meet with students interested in learning more about the proposed project. Additionally, SoCalGas continues to work closely with UC Irvine Facilities and various leadership organizations across the campus, including the Anteater Recreation Center (ARC), Student Housing, Environment, Health & Safety, Police and Fire. SoCalGas continues to stay engaged by staying in close communication with UC Irvine leadership, students, faculty, elected officials, city staff, and community organizations.

b. Broad Community Engagement in Orange Cove

To make certain the Orange Cove community is part of the planning process for the project, SoCalGas took a hands-on approach to stakeholder outreach. The SoCalGas team went door-to-door and attended local community events to connect with residents, listen to their feedback, share updates, and gather input. These efforts were aimed at making sure the community felt heard and included every step of the way. SoCalGas has also presented at Orange Cove City Council meetings and has hosted a bilingual (Spanish/English) community engagement meeting, creating space for open conversation, answering questions, and building trust with the community. SoCalGas continues to stay engaged by regularly sharing project updates and staying in close communication with local leaders, elected officials, city staff, community organizations, and businesses. Further details are provided above in section II.A.1.

C. Scoping Issue 5.d What ongoing community engagement is planned during implementation of each pilot project?

Intervenors indicated the lack of a "plan" for stakeholder engagement for each of SoCalGas's proposed demonstration projects.¹⁴ SoCalGas values the voices of community

¹⁴ Ex. SC-01 (Gersen) at 58-60; Prepared Testimony of Ariel Strauss on behalf of Small Business Utility Advocates (SUBA), Ex. SBUA-01 at 8.

1 members and recognizes they have an important role in shaping the proposed demonstration
2 projects. Through ongoing public engagement activities, SoCalGas remains committed to
3 working closely with local stakeholders, the City of Orange Cove, and local community
4 organizations, to ensure open and continuous communication and collaboration. A variety of
5 outreach activities are planned, including community meetings/open houses, stakeholder
6 briefings, media outreach, and continued presence and participation at local events. SoCalGas
7 will continue collaborating with UC Irvine to keep students, faculty, staff, and stakeholders
8 informed through campus channels and digital platforms, with regular updates and engagement
9 opportunities throughout the demonstration.

10 **V. CONCLUSION**

11 For the reasons stated herein, the Commission should approve SoCalGas's proposed
12 hydrogen blending demonstration projects. SoCalGas has performed robust community
13 engagement and remains committed to engaging stakeholders through the course of the
14 demonstration projects.

15 This concludes my prepared rebuttal testimony.

1 **VI. QUALIFICATIONS**

2 My name is Chris Gilbride. I am employed at SoCalGas as Director of Media Relations
3 and Strategic Engagement. Currently, among other duties, I lead the team's stakeholder
4 engagement strategy for the hydrogen blending demonstrations proposed in this proceeding. I
5 have been employed at SoCalGas since June 2016 and have since led stakeholder engagement
6 activities on several significant infrastructure projects. I have 20 years of experience leading
7 communications and outreach activities at government agencies and large infrastructure
8 organizations in Los Angeles and New York. I hold a Bachelor of Arts in Economics and a
9 master's degree in public administration from the University of Connecticut. I have not
10 previously testified before the Commission.

Attachment A

City of Orange Cove Resolution

RESOLUTION NO. 2024-04 CITY OF ORANGE COVE

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE COVE
DIRECTING THE CITY OF ORANGE COVE ADMINISTRATION TO WORK
WITH SOCALGAS ON THE CLEAN ENERGY HYDROGEN BLENDING
DEMONSTRATION PROJECT AND AUTHORIZING EXECUTION OF
CONTRACT DOCUMENTS WITH SOCALGAS FOR THE PURPOSE OF
COMPLETING THE PROJECT**

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ORANGE COVE AS
FOLLOWS:

1. SoCalGas has expressed its intent to construct a Clean Energy Hydrogen Blending Demonstration Project in the City of Orange Cove.
2. The City Council of the City of Orange Cove supports SoCalGas' efforts to construct such project and will work in conjunction with SoCalGas to ensure the project is completed
3. The City Manager is authorized to sign Contract documents related to this project on behalf of the City of Orange Cove, and the City Clerk is authorized to attest to the signature of the individual who signs on behalf of the City of Orange Cove.

CLERKS CERTIFICATION

I, HEREBY CERTIFY, that the foregoing Resolution was passed and adopted by the City Council of the City of Orange Cove at a meeting thereof held on the 27th of March, 2024 by the following vote:

AYES: 4 COUNCIL MEMBERS: Cervantes, Vacio, Rodriguez, Silva

NOES: 0 COUNCIL MEMBERS: None

ABSTAIN: 0 COUNCIL MEMBERS: None

ABSENT: 1 COUNCIL MEMBER: Mayor Pro Tem Garcia

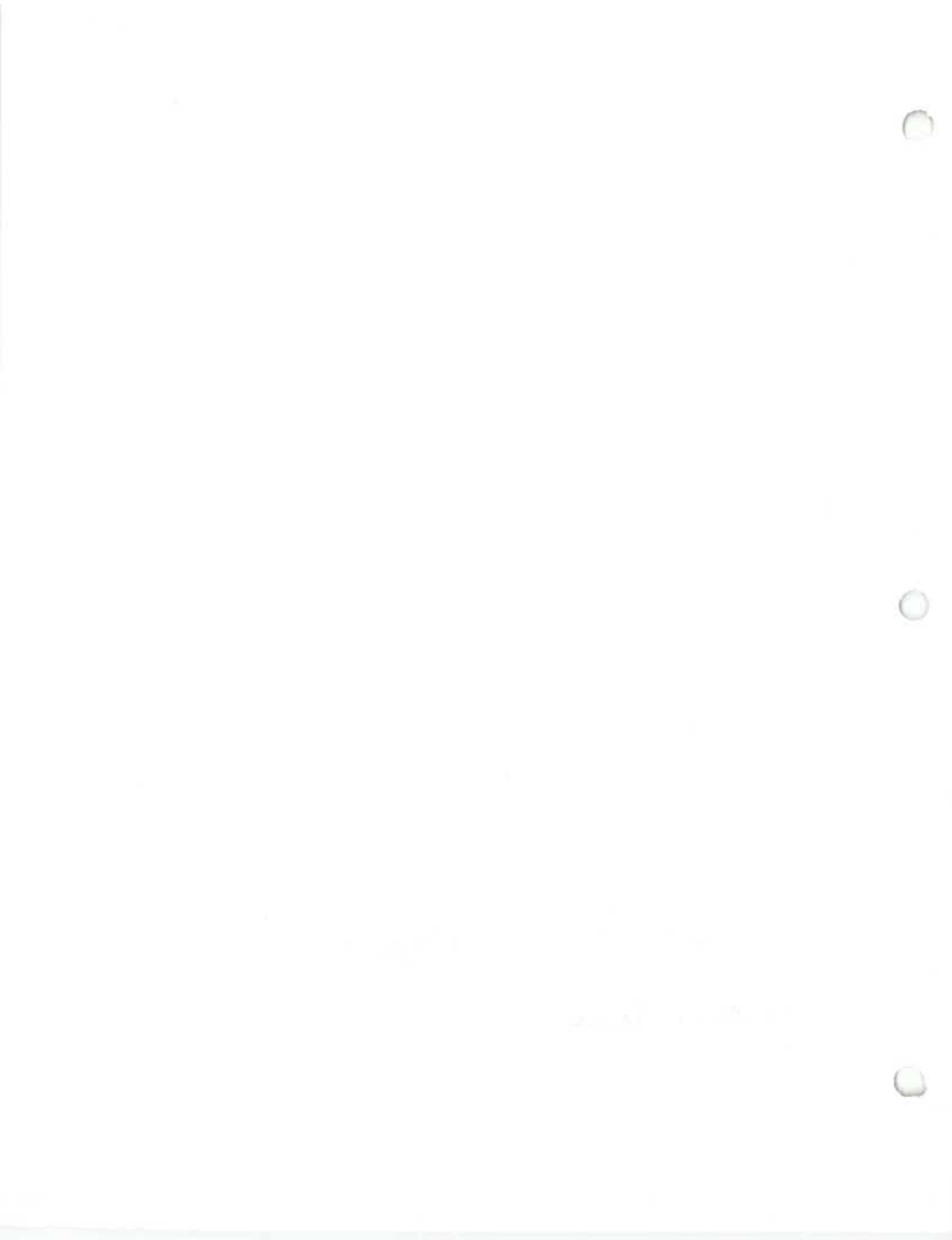

Diana Guerra-Silva, Mayor

APPROVED AS TO FORM

Megan N. Church, City Attorney

ATTEST:

Cynthia Cisneros, City Clerk
City of Orange Cove



Attachment B

Orange Cove Mayor Letter to the Editor - Fresno Bee

[LETTERS TO THE EDITOR](#)

Orange Cove gears up for clean energy

BY THE FRESNO BEE LETTER WRITERS

JUNE 02, 2024 4:00 AM



The logo for the city of Orange Cove, California. DANIEL CASAREZ *Vida Staff Photo*

Orange Cove gears up for clean energy

As the Mayor of Orange Cove, it is an honor to serve my community. The recent opinion column on Orange Cove's hydrogen blending project unfortunately misrepresented how we feel about this exciting clean energy project that will bring great benefits to our community.

You refer to the hydrogen blending project as an experiment, calling our community "lab subjects." That assertion couldn't be farther from the truth.

I know innovators and industry leaders are building clean energy projects, including hydrogen, throughout the Central Valley. This region is proud to continue its role as the energy capital of the state. As a

steward of the city, it is my responsibility to seek out projects that will provide ongoing and long-term economic and environmental benefits to the residents of Orange Cove. That's why we sought out this opportunity; we're proud to welcome this hydrogen blending demonstration project.

We will not "suffer ill health" as is stated in your piece. We are excited about and proud of our partnership with SoCalGas. It's time for Orange Cove to position itself as a leader and pioneer in the clean energy transition.

Diana G. Silva is the Mayor of Orange Cove

Attachment C

Orange Cove City Manager Letter to Commissioner Houck

Mayor:
Diana Guerra Silva

Mayor Pro Tem:
Gilbert Garcia

City Council Members:
Maria Vacio
Josie Cervantes
Esperanza Rodriguez



Incorporated January 20, 1948

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July 30, 2024

Re: Proceeding A2209006, Application to Establish Hydrogen Blending Demonstration Projects

Dear Commissioner Houck,

On behalf of the City of Orange Cove, I am writing in support of the hydrogen blending project proposed for our City. I am also writing to set the record straight after it has come to my attention that organizations are claiming to speak on behalf of our City and residents regarding the motion to dismiss the hydrogen blending project. To be clear, these groups have never contacted the City regarding their concerns.

As the City Manager of Orange Cove, and on behalf of Mayor Diana Guerra Silva and the Orange Cove City Council, it is our responsibility to seek out projects that will lead to a cleaner, healthier environment and benefit our entire community. This is why we asked Southern California Gas Co. to bring hydrogen blending to Orange Cove. This clean energy project will provide benefits for years to come, including the donation of solar panels once the demonstration project is complete.

This project will have statewide implications for establishing a hydrogen injection standard and we're proud to be part of that process. Additionally, this project could reduce fossil fuel use and create construction jobs and support local economic development.

We've seen inaccurate reports that this project has not had any community outreach and that there may be community opposition to the project. In fact, the opposite is true. From the beginning of this process, we hosted community meetings in English and Spanish for all Orange Cove residents and

businesses, where we shared information about the project and received feedback. We also shared out information on the City's social media channels. SoCalGas has hosted informational booths at community events. We toured SoCalGas' hydrogen home in Downey, and ultimately the Mayor and City Council approved a resolution in support of the project. The feedback we've received from residents is generally positive and the community is happy SoCalGas chose Orange Cove for this project.

Clean energy projects are being built throughout the Central Valley, and we want to be a part of that boom. Our community deserves to benefit from the clean energy projects that are being built in our backyard. Attached please find the City resolution in support of this project as well as a letter sent to state Sen. Anna Caballero in support of the project.

Sincerely,



Daniel Parra

Orange Cove City Manager

CC:

Commission President Alice Busching Reynolds

Commissioner John Reynolds

Commissioner Karen Douglas

Commissioner Matthew Baker

Attachment D

Mid Valley Times Article

SoCalGas presents hydrogen blending to Orange Cove

Southern California Gas Company looks to Orange Cove as a potential site for a demonstration project that would introduce hydrogen blending to the natural gas infrastructure, reducing carbon emissions



(Rigo Moran)



Serena Bettis

Published November 13, 2023 •

1:00 pm

ORANGE COVE – Residents could have a hand in helping California’s public utilities work toward reducing the state’s carbon emissions through participation in a potential future demonstration project.

Although the project is not official and Orange Cove's involvement is not guaranteed, the city could be a candidate for a project that would look at how public utilities can integrate clean fuel into the state's natural gas infrastructure through a process called hydrogen blending.

To introduce the topic and get a preliminary understanding of how residents feel about the possibility of the project, representatives from the Southern California Gas Company (SoCalGas) presented on hydrogen blending to the Orange Cove City Council at its meeting on Nov. 8 and held a community engagement meeting Nov. 9.

"There's a few different key reasons we look at hydrogen blending," Blaine Waymire, a project manager for the hydrogen blending group with SoCalGas, said at the council meeting. "One is to enhance California's clean energy economy and resiliency."

Waymire said the company is also looking at hydrogen blending in order to reduce hydrogen costs, demonstrate the safety of hydrogen blending, meet the state's climate goals and maintain and grow the skilled workforce involved in natural gas.

Multiple city council members said they had the chance to visit a house powered by renewable energy including hydrogen blending at the SoCalGas Innovation Experience Microgrid, located in Downey, a city southeast of Los Angeles, and were impressed by what they saw.

"It was really neat, how that project is, how it works," Mayor pro tem Gilbert Garcia said. "I'm excited about that; that they want to do something here in our city."

Hydrogen blending

The term hydrogen blending refers to the process of adding electrolytic hydrogen to natural gas. As a clean fuel that does not produce carbon emissions, hydrogen gas formed through a process known as electrolysis could help reduce the carbon content of the natural gas infrastructure, Waymire said.

Electrolytic hydrogen is considered a "clean molecule," meaning that it does not produce carbon when it is combusted. The gas can be created as a renewable energy, but is only carbon-neutral if other clean energy sources are used to create it.

In order to achieve this, Waymire said SoCalGas takes solar power and water to create the electrolytic hydrogen. Solar panels are used to generate electricity that powers a device known as an electrolyzer, which splits water molecules into separate hydrogen and oxygen molecules.

"That oxygen molecule is used elsewhere, and then you can take that pure hydrogen stream and put it in storage, and that can act as a long-term energy storage device or a fuel to be used for energy," Waymire said.

Then, a device called a "blending skid" is used to add the hydrogen to the existing natural gas system at whatever percentage is desired; SoCalGas would gradually work up to a 5% hydrogen

blend in its demonstration project with a possible end goal of having a 20% blend used throughout its infrastructure.

As a natural gas provider that serves more than 21 million customers, Waymire said a 20% hydrogen blend used by SoCalGas would have a carbon-reduction equivalent of removing one million passenger vehicles from the roads for a year.

SoCalGas also hopes that the increased use of hydrogen blending will help reduce the cost of production.

“Much like when you start to produce solar at a more rapid rate, the price of the solar panels start to come down,” Waymire said. “So, as you have a place to put that hydrogen, as you have more people producing hydrogen, the cost of that fuel starts to come down and be more feasible for people to use.”

Clean energy goals

With a state goal to reach net-zero greenhouse gas emissions by 2045, SoCalGas is part of the drive to find ways to integrate clean fuel into the natural gas infrastructure in a manner that is reliable, resilient and affordable.

At the council meeting, Waymire said one of the main reasons SoCalGas was presenting to the community about hydrogen blending was to talk about the company’s application with the California Public Utilities Commission (CPUC). He said that in 2019, the CPUC was looking into establishing a statewide hydrogen injection standard — it wanted to know what the safest level of blending hydrogen into the state’s natural gas infrastructure would be.

Waymire said that after several “rounds of events,” what came about was a report done by the University of California Riverside, commissioned by the CPUC, that said in order to find a statewide injection standard, there would need to be real-life demonstrations in the natural gas infrastructure.

“We can do all the testing we have in the lab, ... but what hasn’t happened is to do blending in real-world conditions,” Waymire said. “That’s what we look to achieve through our applications: to actually do demonstrations that will inform the creation of a statewide hydrogen blending standard for all of California.”

In order to do so, SoCalGas is working on proposing a project in what Waymire said is called an open system, where they would blend hydrogen into the infrastructure of a community similar to the size of Orange Cove to demonstrate the feasibility of hydrogen blending.

Waymire said they are working on gathering stakeholder input that will inform the pilot project design, and the plan is to submit the application to the CPUC by the end of the year. The CPUC’s decision on that project would likely not come until late 2024 and then once that is finalized, SoCalGas would be looking at a timeline between 2025 and 2028 for construction and the duration of the project.

According to a fact sheet provided at the community engagement meeting, the project would begin with small concentrations of 0.1% of hydrogen blended into the area's natural gas infrastructure, working its way to 5%, and would last around 18 months.

A media representative from SoCalGas said the company is still in the early stages of the entire process, and at this point they are simply working to get an understanding of what the Orange Cove community thinks about a hydrogen blending project.

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