BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Southern California Gas Company (U904G), San Diego Gas & Electric Company (U902), Pacific Gas and Electric Company (U39G) and Southwest Gas Corporation (U905G) to Establish Hydrogen Blending Demonstration Projects.	Application 22-09-006 (Filed September 8, 2022)

JOINT MOTION TO DISMISS

Rebecca Barker
Lauren Piette
Earthjustice
311 S. Wacker Drive, Suite 1400
Chicago, IL 60606
Telephone: (415) 217-2056
Email: rbarker@earthjustice.org
lpiette@earthjustice.org

Nina Robertson
Earthjustice
50 California St., Suite 400
San Francisco, CA 94111
Email: nrobertson@earthjustice.org

On Behalf of Sierra Club

Ayn Craciun
Orange County Policy Director
Climate Action Campaign
3900 Cleveland Ave., Suite 208
San Diego, CA 92103
Telephone: (949) 400-9682
Email: ayn@climateactioncampaign.org

On Behalf of Climate Action Campaign

Elizabeth M. Kelly
LAW OFFICE OF ELIZABETH KELLY
P.O. Box 225037
San Francisco, CA 94122
Telephone: (415) 535-9998
Email: beth@emk-law.com

Counsel for Environmental Defense Fund

Edward Lopez
Utility Consumers' Action Network (UCAN)
404 Euclid Avenue, Suite 377
San Diego, CA 92114
Telephone: (619) 696-6966
Email: edward@ucan.org

On Behalf of UCAN

Dated: July 15, 2024

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY 1

II. FACTUAL BACKGROUND 4

A. Procedural History 4

B. The Amended Application 5

III. LEGAL STANDARD 6

IV. ARGUMENT 8

A. Each of the IOUs' Proposed Projects Merit Dismissal for Failure to Comply with Commission Direction in D.21-07-005 and D.22-12-057. 8

1. SDG&E, SWGas, and PG&E's Proposed Projects Fail to Comply with the Commission's Requirement to Use "Clean Renewable" Hydrogen. 9

2. SoCalGas and SDG&E Fail to Comply with the Commission's Requirement That Proposed Projects Be Performed in Either a Closed System or in a Mock-Up of a Real-World System Using Typical Equipment and Materials Found in California Gas Infrastructure. 12

3. The Proposed Projects Fail to Demonstrate the Ability to Reliably Detect Leakage of Any Hydrogen, Methane, or Hydrogen/Methane Blends. 14

4. The IOUs Fail to Comply with Stakeholder Engagement Requirements. 16

5. The Proposed Projects Fail to Demonstrate Consideration of Impacts on Disadvantaged Communities or Environmental Impacts to Customers and Communities. 19

6. SoCalGas, SDG&E, and SWGas Fail to Demonstrate They Made "Every Reasonable Attempt to Use Existing and Other Funds." 23

B. The Commission Has Adequate Grounds to Dismiss the Amended Application Because It Is Not Necessary, Just, Reasonable, nor Consistent with Commission Policy, and It Implicates Industry-Wide Issues That Must Be Adequately Adjudicated Prior to Authorization of Ratepayer Funding for Hydrogen Blending Activities. 24

1. The Proposed Projects Are Not Necessary, Just, or Reasonable Uses of Ratepayer Funds. 25

2. Ratepayer-Funded Hydrogen Blending Research Is Inconsistent with Commission Policy Because New Research Demonstrates That Hydrogen Blending Is Not a Viable Decarbonization Pathway. 27

3. Even If the Commission Does Not Find That the Proposed Projects Are Inconsistent with Commission Policy Here, It Should Still Dismiss the

Amended Application to Allow for Adequate Consideration of Industry-Wide Issues in an Existing or New Rulemaking Proceeding. *35*

4. If the Commission Does Not Dismiss the Amended Application, It Should Maintain a Broad Scope for This Proceeding to Ensure Adequate Consideration of All Relevant Factors. *37*

V. CONCLUSION 37

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Southern California Gas Company (U904G), San Diego Gas & Electric Company (U902), Pacific Gas and Electric Company (U39G) and Southwest Gas Corporation (U905G) to Establish Hydrogen Blending Demonstration Projects.	Application 22-09-006 (Filed September 8, 2022)

JOINT MOTION TO DISMISS

Pursuant to Rule 11.1 of the California Public Utilities Commission ("the Commission") Rules of Practice and Procedure, Environmental Defense Fund ("EDF"), Sierra Club, Utility Consumers' Action Network ("UCAN"), and Climate Action Campaign (collectively, "Joint Intervenors") respectfully submit the following Motion to Dismiss the Joint Amended Application of Southern California Gas Company ("SoCalGas"), San Diego Gas & Electric Company ("SDG&E"), Pacific Gas and Electric Company ("PG&E"), and Southwest Gas Corporation ("SWGas") (collectively "the IOUs") to Establish Hydrogen Blending Demonstration Projects ("Proposed Projects") filed on March 1, 2024 ("Third Application" or "Amended Application"). Pursuant to Rule 11.2, this Joint Motion to Dismiss is timely filed.

I. INTRODUCTION AND SUMMARY

In the Amended Application, the IOUs advance a set of costly hydrogen blending pilot projects that violate Commission direction, unjustly and unreasonably waste ratepayer funds, and promote an imprudent use of hydrogen. Given these deficiencies, and the large and growing body of evidence that hydrogen blending in the gas distribution system is not a just use of

ratepayer funds or a viable climate solution, the Commission should dismiss the Application and address vital hydrogen blending policy questions in other related proceedings that will not impose undue costs on ratepayers.

The Commission has already entertained two rounds of deficient hydrogen blending proposals. In directing the IOUs to amend the last set of proposals, it gave clear direction on the elements that the amended proposals must include, such as clean renewable hydrogen, rigorous leak detection protocols, detailed stakeholder engagement, and consideration of Disadvantaged Communities ("DACs"), on top of the existing requirements such as demonstrated efforts to use non-ratepayer funds. On this third try, the IOUs have once again failed to present a compliant application—with each Proposed Project failing to even minimally address one or more required elements—and now propose projects with costs roughly six times higher than their first application for hydrogen blending pilot projects. As the costs associated with these projects have dramatically increased, the potential benefits have evaporated.

In the years since the Commission first contemplated these projects, new and decisive evidence has demonstrated that hydrogen blending is not a prudent decarbonization strategy. At this juncture, the underlying policy rationale for expending Commission and ratepayer resources on hydrogen blending is weak at best, and the Commission should not authorize the substantial ratepayer funding required by the IOUs without first addressing the foundational questions that this evidence poses.

While the Joint Intervenors are prepared to develop a robust record demonstrating the high risks and unjust costs of hydrogen blending, the Commission has adequate grounds now to dismiss the Amended Application based upon the deficiency of the project designs, and the inconsistency between the Proposed Projects and the Commission's affordability, public health,

and equity priorities. Dismissal of the Amended Application will enable the Commission to both (1) prevent unnecessary expenditure of intervenor and Commission resources on this proceeding and (2) fully consider core policy questions related to hydrogen blending in proceedings where the Commission is already evaluating optimal decarbonization strategies and the future of California's gas system.

Specifically, the Commission should take up hydrogen blending issues in the Building Decarbonization Order Instituting Rulemaking ("OIR") (R.19-01-011), in which the Assigned Commissioner recently issued an Amended Scoping Memo and Ruling launching Phase 4 and initiating the consideration of a Building Decarbonization Action Plan;[1] or in the expected successor to the Long-Term Gas System Planning OIR (R.20-01-007), whose scope is intended to be informed by the recently issued Phase 3 Scoping Memo and *2024 Joint Agency Staff Paper: Progress Towards a Gas Transition*.[2] After the Commission reaches a decision on hydrogen blending policy in either of those proceedings, and after sufficient time has passed beyond that decision's issuance for the IOUs to meaningfully incorporate its findings into new project designs, the Commission could determine whether new applications are appropriate.

---

[1] R.19-01-011, Assigned Commissioner's Amended Scoping Memo and Ruling, at 16–17 (July 1, 2024), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M534/K700/534700375.PDF (expressing intent to develop a formal building decarbonization action plan in Phase 4 Track C of the proceeding to "enable the Commission to align its proceedings and programs and . . . develop policies and approaches that will help cost effectively scale building decarbonization in accordance with the priorities outlined by the Governor and sister agencies.").

[2] R.20-01-007, Assigned Commissioner's Ruling Scheduling Phase 3 Prehearing Conference and Providing Joint Agency Staff Gas Transition White Paper and Draft Phase 3 Scope and Schedule for Party Comment, Attachment A (Feb. 22, 2024), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K660/525660391.PDF; *see also* R.20-01-007, Procedural Email from Administrative Law Judge Van Dyken to Service List (July 11, 2024) (stating that "plans are underway to close the current proceeding and open a new Order Instituting Rulemaking" and that "the new OIR will incorporate both the scoped issues from the draft Phase 3 scoping memo in R.20-01-007 and the Joint Agency White Paper.")

II. FACTUAL BACKGROUND

A. Procedural History

The Amended Application is the utilities'[3] third attempt to propose hydrogen blending pilot projects. The first joint application, submitted in 2020 ("First Application"), failed to pass muster because the Commission found that it was incomplete, duplicative of other hydrogen blending research, and "too uncertain" with regard to scope of work, timing, total costs, and cost recovery "to provide reasonable assurance that it will lead to optimal outcomes."[4] In dismissing the First Application, the Commission emphasized that any future blending pilot applications must show they are "just and reasonable, efficient, and cost-effective."[5]

The Second Application was submitted in 2022 and initiated this proceeding.[6] Prior to the prehearing conference for the Second Application, in December 2022, the Commission issued D.22-12-057 in R.13-02-008, which provided additional requirements for hydrogen blending pilots proposed by the IOUs, and ordered all of the IOUs, including PG&E, to propose projects compliant with those requirements.[7] The requirements include more comprehensive stakeholder and community engagement requirements, requirements for specificity in project design, and

---

[3] PG&E only participated in the first and third set of hydrogen blending pilot project proposals. SoCalGas, SDG&E, and SWGas participated in all three.
[4] D.21-07-005, *Decision Dismissing Application*, at 12–20, 30–31 (July 16, 2021) ("D.21-07-005"), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M393/K334/393334756.PDF.
[5] *Id.* at 22.
[6] A.22-09-006, Joint Application of Southern California Gas Company (U 904 G), San Diego Gas & Electric Company (U 902 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Projects (Sept. 8, 2022) ("Second Application"), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K875/496875149.PDF.
[7] D.22-12-057, *Decision Directing Biomethane Reporting and Directing Pilot Projects to Further Evaluate and Establish Pipeline Injection Standards for Clean Renewable Hydrogen*, at 61–66, 68–69 (Dec. 19, 2022) ("D.22-12-057"), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M500/K055/500055657.PDF.

procedural and reporting requirements.[8] Additionally, the Commission adopted an interim definition of "clean renewable hydrogen" as "[h]ydrogen which is produced through a process that results in a lifecycle (i.e., well-to-gate) [greenhouse gas ("GHG")] emissions rate of not greater than 4 kilograms of CO2e per kilogram of hydrogen produced and does not use fossil fuel as either a feedstock or production energy source"[9] and stated that this definition was "the definition of, and terminology for hydrogen authorized for the pilots."[10] In light of these new requirements, the Commission stayed this proceeding to allow for the IOUs to prepare an Amended Application compliant with D.22-12-057.[11]

The third application (the "Amended Application") was submitted on March 1, 2024, and is the subject of this motion.

B. The Amended Application

The Amended Application seeks $205.9 million for five pilot projects.[12] It contains two newly Proposed Projects from PG&E and SoCalGas, modifications of SoCalGas and SDG&E projects that were already proposed in the 2022 application, and the same project proposed by SWGas in the 2022 application. The proposals, including their associated revenue requirements, are summarized in Figure 1 below.

---

[8] *Id.* at 61–66.
[9] *Id.* at 48.
[10] *Id.* at 52.
[11] Assigned Commissioner's Scoping Memorandum and Ruling, at 4 (Mar. 3, 2023), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M502/K980/502980995.PDF (staying A.22-09-006 for one year, or until the IOUs submit an Amended Application).
[12] Joint Amended Application of Southern California Gas Company (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Projects, at 17–18 (Mar. 1, 2024) ("Amended Application"), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M526/K506/526506591.PDF.

Figure 1: Hydrogen Blending Pilot Proposals

IOU	Proposed Project Description	Requested Revenue Requirement
SDG&E	Fuel cell on campus at University of California ("UC") San Diego	$21.1 million[13]
SWGas	Combustion in office space, commercial building and law enforcement office in Truckee, CA	$10.2 million[14]
SoCalGas	Closed System - Combustion in recreation center and teaching kitchen at UC Irvine	$26.8 million[15]
SoCalGas	Open System - Combustion in residences in Orange Cove, CA	$53.6 million[16]
PG&E	Loop of transmission pipeline in Lodi, CA	$94.2 million[17]
TOTAL		**$205.9 million**

III. LEGAL STANDARD

When deciding whether to grant a motion to dismiss, the Commission "assum[es] that the facts as alleged in the application are true" and that "the applicant will be able to prove everything the applicant alleged in its application . . . ."[18] However, notwithstanding these

[13] *Id.* at 17.
[14] *Id.* at 15.
[15] Prepared Direct Testimony of Nasim Ahmed and Marjorie Schmidt-Pines on Behalf of Southern California Gas Company (Regulatory Accounting, Cost Recovery, Revenue Requirement, and Rates), at 4 (Mar. 1, 2024) ("IOUs Chapter 6"), https://www.socalgas.com/sites/default/files/2024-03/Chapter6_SoCalGasRegulatoryAccounting_RevenueRequirement_Rates.pdf.
[16] *Id.*
[17] Amended Application at 18.
[18] D.23-04-005, *Decision Granting the Public Advocates Office of the California Public Utilities Commission Motion to Dismiss Sunnova Community Microgrids California, LLC's Application*, at 14–15 (Apr. 10, 2023) ("D.23-04-005"), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M505/K890/505890607.PDF (citing *Application of GoGo Technologies, Inc. (dba GoGoGrandparent) for order declaring Applicant to be a non-regulated entity; to stay enforcement action pending resolution*, D.18-11-028 (2018 WL 6566916 at 2) (internal quotations omitted); D.99-11-023, 1999 Cal. PUC LEXIS 856, 10-11 (Cal. PUC 1999)).

assumptions, the Commission does not accept as true "the ultimate facts, or conclusions, that Applicant alleges, for instance, that granting the [application] would be in the public interest."[19]

Furthermore, the Commission may dismiss applications on policy grounds, to "husband limited resources, to avoid conflict with statutory policy, to avoid inefficiency, and many other reasons."[20] After accepting the facts as stated, the Commission "looks to its own law and policy."[21] In these instances, "[t]he question becomes whether the Commission and the parties would be squandering their resources by proceeding to an evidentiary hearing when the outcome is a foregone conclusion under the current law and policy of the Commission."[22]

The Commission may dismiss an Application for, among other things, failure to justify a filing,[23] failure to comply with Commission direction,[24] and flagrant and intentional disregard of the Commission's rules and regulations.[25] The Commission has dismissed Applications with allowances for future similar Applications after adjudication of underlying issues is completed in another docket.[26]

---

[19] *Id*.
[20] *Id.* at 15 (citing D.99-11-023 at 2) (internal quotations omitted).
[21] *Id.*
[22] *Id*.
[23] D.22-03-013, *Decision Dismissing Application of TruConnect Communications, Inc. Requesting to Reimburse Fees and to Reinstate a Portability Freeze*, at 1, 4 (Mar. 21, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M461/K202/461202603.PDF.
[24] D.98-01-013, *Re Privatenet, LLC*, at 3 (Jan. 7, 1998); D.11-07-036, *Decision Regarding Phase 1 Issues*, at 20 (Aug. 5, 2011), https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/140866.PDF.
[25] D.98-10-027, *In the Matter of the Application of Destiny Telecomm International, Inc., for a Certificate of Public Convenience and Necessity to Operate as a Reseller of Telecommunications Services Within the State of California*, at 7, 1998 Cal. PUC LEXIS 682, *7 (Cal. P.U.C. October 8, 1998).
[26] D.24-06-024, *Decision Dismissing With Prejudice the Application of AT&T California to Withdraw as a Carrier of Last Resort*, at 22 (June 25, 2024) ("D.24-06-024"), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M534/K542/534542934.PDF (carrier "shall not file another application for [Carrier of Last Resort ("COLR")] relief, nor a similar one, until one year after the issuance of a decision closing [a new OIR considering policy changes responsive to the underlying issues in the Application being dismissed].").

IV. ARGUMENT

A. Each of the IOUs' Proposed Projects Merit Dismissal for Failure to Comply with Commission Direction in D.21-07-005 and D.22-12-057.

Even assuming all facts set forth in the Amended Application and Testimony to be true, a project-by-project analysis demonstrates that the Amended Application and each project therein must be dismissed for failure to comply with express requirements of D.21-07-005 and D.22-12-057. Figure 2 presents a summary of these violations, which are explained in detail below.

Figure 2: Summary of Violations of Commission Requirements

	Use Clean Renewable Hydrogen[27]	**Closed System or Mock-up[28]**	**Adequately Detect Leakage of H2 and Methane[29]**	**Detailed Stakeholder Engagement Plans[30]**	**Adequately Consider DACs and Environmental Impacts[31]**	**Demonstrated Effort to Using Other Funds[32]**
SoCalGas Closed System	No guarantee of clean renewable hydrogen due to partial reliance on UC Irvine microgrid	Non-representative materials/ equipment	No rigorous leakage protocol	No workshop report; no mechanism for incorporating stakeholder feedback	Failure to consider DACs; failure to adequately consider environmental impacts to communities; inadequate monitoring for health-harming emissions	No efforts
SoCalGas Open System		Open System	No rigorous leakage protocol	No workshop report; no mechanism for incorporating stakeholder feedback	Failure to consider DACs; located in a DAC; failure to adequately consider environmental impacts to communities; inadequate monitoring for health-harming emissions	No efforts
SDG&E	No plan to use clean renewable hydrogen	Non-representative materials/ equipment		No workshop report; no mechanism for incorporating	Failure to consider DACs; failure to adequately consider	No efforts

[27] D.22-12-057 at 48, 52.
[28] *Id.* at 27, 62, COL #17.
[29] *Id.* at 22–23; *see also id.* at 61–62, COL #12, 66, COL #34.
[30] *Id.* at 61–65, COL #7, #13, #27, #28, #31.
[31] *Id.* at 61–63, COL #8, #10, #20.
[32] D.21-07-005 at 24–25.

				stakeholder feedback	environmental impacts to communities; inadequate monitoring for health-harming emissions	
SWGas	No plan to use clean renewable hydrogen		No rigorous leakage protocol	No workshop report; only vague mechanism for incorporating stakeholder feedback	Failure to consider DACs; failure to adequately consider environmental impacts to communities; inadequate monitoring for health-harming emissions	No efforts
PG&E	No plan to use clean renewable hydrogen			No workshop report; no mechanism for incorporating stakeholder feedback	Failure to consider DACs; failure to adequately consider environmental impacts to communities; inadequate monitoring for health-harming emissions	

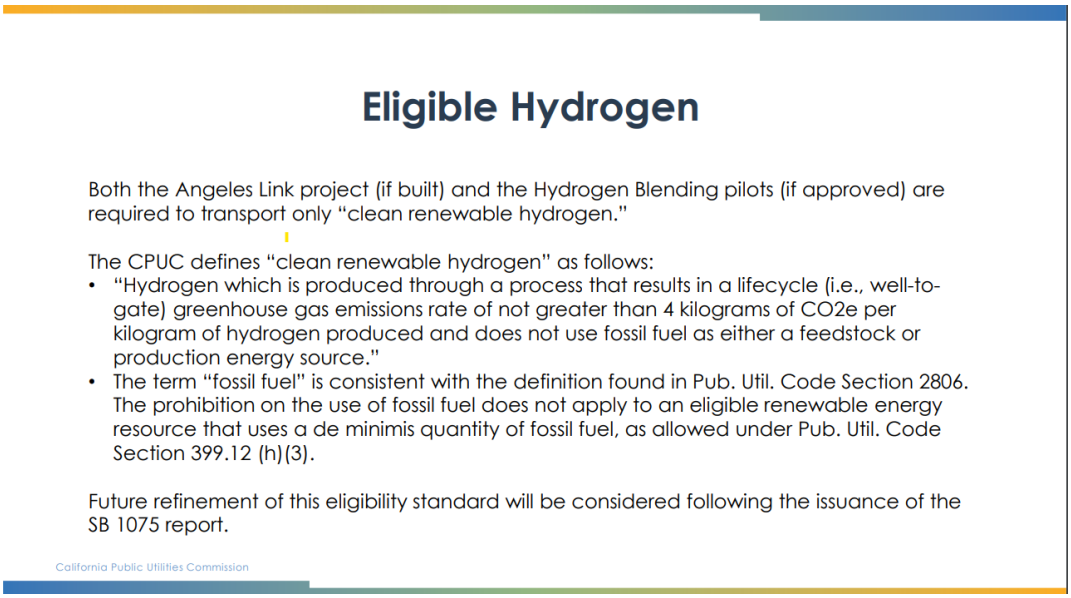
1. SDG&E, SWGas, and PG&E's Proposed Projects Fail to Comply with the Commission's Requirement to Use "Clean Renewable" Hydrogen.

In D.22-12-057, the Commission authorized the filing of the Amended Application as part of its efforts to "further evaluate standards for the safe injection of clean renewable hydrogen" to "help California meet its climate goals."[33] The Commission defined "clean renewable hydrogen" as "[h]ydrogen which is produced through a process that results in a lifecycle (*i.e.*, well-to-gate) GHG emissions rate of not greater than 4 kilograms of CO2e per kilogram of hydrogen produced and does not use fossil fuel as either a feedstock or production energy source."[34] The Commission went on to state that this definition "applies to the pilot programs directed through this Decision,"[35] and clarified that "clean renewable hydrogen" is "the

[33] D.22-12-057 at 1, 41.
[34] *Id.* at 48.
[35] *Id*. at 48.

definition of, and terminology for hydrogen authorized for the pilots."[36] This requirement has been consistently reiterated in public presentation materials delivered by both an Energy Division Director at a Senate Bill 1075 implementation workshop in September 2023 and updated presentation materials used by the Commission in April 2024, both of which state that "the Hydrogen Blending pilots (if approved) are required to transport only 'clean renewable hydrogen,'" as indicated in Figure 3.[37]

Figure 3: Excerpt of April 2024 Commission Presentation



The Amended Application fails to acknowledge this requirement, and the Proposed Projects fail to comply with it. SWGas, SoCalGas, and SDG&E have all proposed to produce the hydrogen for their projects via electrolysis at the project sites, but only SoCalGas has stated any

[36] *Id.* at 52.
[37] Simon Baker, Hydrogen Policy Work at the CPUC, at 11 (Sep. 5, 2023), https://ww2.arb.ca.gov/sites/default/files/2023-09/sb-1075-workshop-090523-presentation-cpuc.pdf; Commissioner Darcie L. Houck, Hydrogen Policy at the CPUC, at slide 33 (PDF p. 34) (Apr. 19, 2024), https://www.ieventreg.com/store/file.html?file_id=3d5c8fa91b71b673c79a7b8a845fad84.

plans to power its electrolyzer using new, onsite solar.[38] However, SoCalGas has stated its UC Irvine project would also take power from "UC Irvine's campus microgrid," which contains a gas turbine.[39] Both SDG&E and SWGas' projects would use grid electricity to power their electrolyzers, which violates the "clean renewable hydrogen" requirement, both because California grid electricity's carbon intensity far exceeds the 4 kilogram limit set forth in D.22-12-057,[40] and because a significant portion of California's grid electricity is generated using fossil fuels, which are prohibited as a "production energy source" for the hydrogen eligible for these projects.[41] PG&E has also failed to demonstrate that its Proposed Project would use eligible hydrogen, and even goes so far as to state that the production and delivery methods of the hydrogen it procures for its project are outside the scope of the application.[42]

This failure on the part of the IOUs to acknowledge—let alone comply with—the Commission's requirement that the Proposed Projects use only "clean renewable hydrogen" is

---

[38] *See* Prepared Direct Testimony of Blaine Waymire on Behalf of Southern California Gas Company (SoCalGas's Hydrogen Blending Demonstration – Closed System Project), at 8:28–30 (Mar. 1, 2024) ("IOUs Chapter 1"), https://www.socalgas.com/sites/default/files/2024-03/Chapter1_TechnicalPresentation_%20SoCalGasClosedSystem.pdf; Prepared Direct Testimony of Blaine Waymire on Behalf of Southern California Gas Company (SoCalGas's Hydrogen Blending Demonstration – Open System Project), at 8:29–9:1 (Mar. 1, 2024) ("IOUs Chapter 2"), https://www.socalgas.com/sites/default/files/2024-03/Chapter2_TechnicalPresentation_SoCalGasOpenSystem.pdf.

[39] IOUs Chapter 1 at 8:28–30.

[40] Wilson Ricks et al., *Minimizing Emissions from grid-based hydrogen production in the United States*, Env't Rsch. Letters, at 7 Fig. 2 (2023) ("Ricks et al."), https://iopscience.iop.org/article/10.1088/1748-9326/acacb5.

[41] See CEC, 2022 Total System Electric Generation, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation.

[42] Prepared Direct Testimony Danielle Mark on Behalf of Pacific Gas & Electric Company (PG&E's Hydrogen Blending Demonstration Project), at 11:8–9 (Mar. 1, 2024) ("IOUs Chapter 5"), https://www.socalgas.com/sites/default/files/2024-03/Chapter5_TechnicalPresentation_PG%26EDemonstrationProject.pdf.

sufficient reason to dismiss the Amended Application, as it violates "the current law and policy of the Commission,"[43] and represents a flagrant failure to comply with Commission direction.

2. SoCalGas and SDG&E Fail to Comply with the Commission's Requirement That Proposed Projects Be Performed in Either a Closed System or in a Mock-Up of a Real-World System Using Typical Equipment and Materials Found in California Gas Infrastructure.

In directing the submission of hydrogen blending pilots, the Commission explicitly stated that hydrogen blending "pilot projects should be performed in either a closed system or in a mock-up of a real-world system using typical equipment and materials found in California gas infrastructure."[44] This requirement tracks with the findings of UC Riverside Study[45] and serves two important purposes: first, using a closed system or a mock-up of a real-world system is a safety-protective measure to ensure that gas customers are not used as test subjects for research that seeks to evaluate the safety of a new technology; and second, using equipment and materials found in the existing gas system ensures that data generated by the projects is relevant to informing a potential statewide renewable hydrogen injection standard for California's aging gas infrastructure. As the UC Riverside Study noted, "[a] single injection standard that applies systemwide would have to consider the most susceptible conditions observed throughout all infrastructure components," and "[a]s the percentage of hydrogen increases, end-use appliances may require modifications, vintage materials may experience increased susceptibility, and legacy

[43] D.23-04-005 at 15.
[44] D.22-12-057 at 27.
[45] *See* UC Riverside, Final Report: Hydrogen Blending Impacts Study, at 115 (July 18, 2022) ("UC Riverside Study"), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF.

components and procedures may be at increased risk of hydrogen effects."[46] SoCalGas and SDG&E fail to comply and dismissal of the Amended Application is therefore warranted.

The first and most alarming violation of the Commission's closed-system requirement is SoCalGas' proposed Orange Cove project. In no uncertain terms, SoCalGas states that the proposed project "will be held in an *open* portion of the natural gas distribution system."[47] Located in a DAC in the Central Valley, this project would pipe blended gas into residents' home for real-world use. Neither closed system nor a mock-up, this project violates both the letter and spirit of the Commission's direction. Dismissal of this Proposed Project is required.

Second, SoCalGas' Closed System Project and SDG&E's Project both fail to use "typical equipment and materials found in California gas infrastructure" as they intend to use brand new pipe for their pilots.[48] SoCalGas' Closed System Project will test on "new steel pipe."[49] Similarly, SDG&E has stated that it plans to use "new, state-of-the-art [polyethylene ("PE")] meeting current industry standards and specifications" for its pilot.[50] Brand new pipe of any material is not representative of "typical equipment and materials" in California's aging gas system. Information gained regarding safe operations and pipe and equipment degradation or embrittlement based on the effects of a hydrogen blend on brand new pipe will not be useful to inform a potential injection standard for decades-old pipe across the state. Thus, because they have failed to present project designs compliant with the requirement to conduct research on

---

[46] UC Riverside Study at 4.
[47] IOUs Chapter 2 at 1:8–9 (emphasis added).
[48] D.22-12-057 at 27.
[49] IOUs Chapter 1 at 9:18.
[50] Prepared Direct Testimony of Pooyan Kabir on Behalf of San Diego Gas & Electric (The SDG&E Hydrogen Blending Demonstration Project), at 3:2–3 (Mar. 1, 2024) ("IOUs Chapter 3"), https://www.socalgas.com/sites/default/files/2024-03/Chapter3_TechnicalPresentation_SDGEDemonstrationProject.pdf.

either a "closed system" or a "mock-up of a real-world system using typical equipment and materials found in California gas infrastructure," both of SoCalGas' proposed projects and SDG&E's proposed project must be rejected.

3. The Proposed Projects Fail to Demonstrate the Ability to Reliably Detect Leakage of Any Hydrogen, Methane, or Hydrogen/Methane Blends.

The prevention and detection of leakage is fundamental to the Commission's requirements regarding hydrogen blending projects. One element of this focus on leakage is the Commission's requirement that:

> [A]ny proposed pilot project must demonstrate that the applicant can reliably detect leakage of any hydrogen, methane, or hydrogen/methane blends and include rigorous testing protocols consistent with the UC Riverside Study and should take into account parties' comments and further stakeholder input.[51]

Leakage protections are crucial to ensure the Proposed Projects do not pose health and safety risks, as the UC Riverside Study found that "blends with higher hydrogen percentages leak faster compared to methane," and recommended that further research, such as these Proposed Projects, "address knowledge gaps in specific leak mechanisms," as well as perform "in-depth study of leak detection, odorization, gas build-up, dispersion dynamics, and safety zones" and "[u]pdate existing inspection, leak detection, maintenance and repair procedures to mitigate the potential risk factors due to hydrogen's broader flammability range, low ignition energy, and high flame velocity."[52] Because hydrogen is an indirect greenhouse gas with a 20-year global warming potential roughly 30 times greater than CO_2, controlling leakage is also critical to ensuring that

[51] D.22-12-057 at 22–23.
[52] UC Riverside Study at 3, 112–114.

the blending projects do not worsen the climate crisis they are ostensibly designed to address.[53] The SoCalGas Open System project, the SoCalGas Closed System project, and the SWGas project fail to meet these requirements.

With regard to the SoCalGas Open System project, SoCalGas' leak survey protocols fundamentally lack any "rigorous testing protocols consistent with the UC Riverside Study."[54] SoCalGas proposes to undertake leak surveys of the pipeline quarterly, and leak surveys of pipe connections to appliances—meaning direct leakage impact on low-income customers—only "by customer call."[55] SoCalGas' proposed Closed System project fares little better. The leak survey of the pipeline would occur monthly, and the pipe connections to appliances would be monthly or by customer call.[56] Neither the Open System Project nor the Closed System Project identify any hydrogen detection standards or equipment, rather relying on a general American Petroleum Institute ("API") *process*, not "rigorous testing *protocols*" required by the Commission.[57] Further, SoCalGas would only "*[o]ffer* surveys of end-use customer equipment to confirm behind the meter equipment present is free of leakage and is operational" and "*[o]ffer* gas system operational tests and equipment tests (*e.g.*, customer appliance leak, customer appliance flame-out, or pilot light failure), and other operational activities that occur in a natural gas distribution system."[58] These approaches appear no different than the safety checks provided by gas utilities to non-pilot natural gas customers.

---

[53] Ilissa Ocko and Steven Hamburg, *Climate consequences of hydrogen emissions*, 22 Atmospheric Chemistry and Physics 9349, Figure 3 (2022), https://acp.copernicus.org/articles/22/9349/2022/.
[54] D.22-12-057 at 22–23.
[55] IOUs Chapter 2, at Exhibit 2A: Preliminary Data Collection Plan, PDF pages 34–35 (actual pages are unpaginated).
[56] *Id.*
[57] *Id.* at 15:25–26 (emphasis added).
[58] IOUs Chapter 2 at 16:21–22 and 17:3–5 (emphases added).

The SWGas Proposed Project only provides that hydrogen leakage protocols will be developed, asserting that:

> A third-party expert in hydrogen leakage will be consulted to help develop a leakage plan that (1) meets or exceeds the minimum interval and distance requirements of our natural gas leak detection policies and (2) in a way that hydrogen leakage can be quantified if or when detected.[59]

However, the Commission has directed that any pilot have "rigorous testing protocols consistent with the UC Riverside Study," not protocols "meeting or exceeding the *minimum* interval and distance requirements" SWGas applies to natural gas lines for leak detection.[60] Given the UC Riverside Study's suggestion that "existing inspection, leak detection, maintenance and repair procedures" must be updated to account for hydrogen's different properties from methane,[61] the IOUs' reliance on existing protocols is inadequate to ensure safety and effectiveness of the proposed projects. These failures merit dismissal of the Proposed Projects.

4. The IOUs Fail to Comply with Stakeholder Engagement Requirements.

In D.22-12-057, the Commission introduced a number of stakeholder engagement requirements related to development of the IOUs' Amended Application, including incorporating stakeholder feedback into their projects,[62] issuing "a workshop report addressing the design and implementation of the pilot projects' necessary testing and monitoring systems,"[63] including "the

---

[59] Prepared Direct Testimony of Kevin M. Lang on Behalf of Southwest Gas Corporation (Southwest Gas' Hydrogen Demonstration Project), at 19:2–5 (Mar. 1, 2024) ("IOUs Chapter 4"), https://www.socalgas.com/sites/default/files/2024-03/Chapter4_TechnicalPresentation_SWGDemonstrationProject.pdf.
[60] D.22-12-057 at 22–23; IOUs Chapter 4 at 19:3–4 (emphasis added).
[61] UC Riverside Study at 114.
[62] D.22-12-057 at 61, COL #7.
[63] *Id.* at 64, COL #27.

environmental impact of hydrogen blending at various levels on customers and communities" as a topic at the workshops,[64] and including "a detailed stakeholder engagement plan" in their application materials.[65] The Commission specifically required that stakeholder engagement plans "detail how stakeholder input will be considered for incorporation into pilot project design and execution."[66] These requirements are in line with the recommendation from the UC Riverside Study to "engage stakeholder groups including community and environmental organizations, industry, government, academia, and the general public to provide perspectives on hydrogen blending," and "address technological, societal, economic, and safety concerns, and build consensus" on hydrogen issues.[67] The IOUs have failed to comply with these requirements, thus warranting dismissal of the Amended Application.

First, with respect to workshops, the Amended Application provides generally that the IOUs held two stakeholder workshops and that they received questions and feedback pursuant to those workshops.[68] However, the only specific feedback that the utilities identify is a letter that Sierra Club sent following the second workshop, and the only evidence that the utilities provide of having accounted for that feedback is the addition of continuous monitoring and automatic shutdown protocols for the blending equipment sites in SoCalGas and SDG&E's projects.[69] The IOUs provide no documentation of the other feedback they received from stakeholders at or following the workshops. Indeed, the utilities did not record the workshops, so the Amended Application contains no record of any questions or feedback received live, nor does it include

---

[64] *Id.* at 65, COL #31.
[65] *Id.* at 64, COL #28.
[66] *Id.* at 64–65, COL #28, and at 38.
[67] UC Riverside Study at 6.
[68] Amended Application at 20.
[69] *Id.* The IOUs do not explain why these protocols were not applied to the other projects.

documentation of the utilities' moderator staff at the workshops dismissing questions about environmental, health, and safety concerns with hydrogen blending as outside the scope of the workshops. The IOUs make no mention in their Amended Application of the workshop report that they failed to issue.

Second, with regard to "detailed stakeholder engagement plans," the Amended Application also fails. For example, PG&E expressly states that its stakeholder engagement plans aim to "take the community on a journey from awareness to acceptance," with plans to educate the public about PG&E's position that hydrogen is a "clean, safe and reliable energy source and a key part of our energy future."[70] PG&E's plan is more akin to marketing than stakeholder engagement, and does not appear to contemplate any process for changing the plan in response to feedback. While SoCalGas and SDG&E offer more evidence of their stakeholder engagement thus far, such as SDG&E's redesign of its project in response to stakeholder concerns regarding SDG&E's prior proposal to test hydrogen blending in graduate student housing at UC San Diego,[71] they fail to offer detailed plans for continued engagement.[72] In particular, given that SoCalGas plans to pipe blended hydrogen into customers' homes in Orange Cove, it is critical that SoCalGas propose a credible, detailed plan for stakeholder engagement that, at a minimum, empowers and provides meaningful recourse for any individual customer who would be forced to participate in the experiment despite well-informed concerns.

---

[70] IOUs Chapter 5 at 23:30, 24:5.
[71] Sierra Club Protest to Amended Application, Attach. A, SDG&E Response to Sierra Club Data Request SC-SDGE-03, Q.14 & Attachment (Apr. 19, 2024), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M529/K918/529918196.PDF.
[72] *See* IOUs Chapter 1 at 17–19; IOUs Chapter 2 at 17–19; IOUs Chapter 3 at 15:7–16:27.

The closest any of the IOUs come to providing an actual plan for meaningful engagement is SWGas, which contemplates assigning a "dedicated team" to documenting and addressing "concerns, questions, and suggestions" in a timely manner and incorporating "[f]eedback from stakeholders and lessons learned" into "continuous improvements to the plan."[73] However, this general statement of intent is not a "detailed plan." The record of this proceeding contains a public comment letter from the mayor of Truckee stating that "the Town of Truckee is concerned that the proposed project will increase customer rates with little to no GHG reduction benefit and unknown safety risks," and clarifying for the record that the Town did not support the application and does not support the project.[74] SWGas' project design has not materially changed since receiving this letter.

At bottom, none of the IOUs' application materials offer sufficient detail about their stakeholder plans for the Commission or intervenors to assess their adequacy. Accordingly, the Commission should dismiss the Amended Application, as the IOUs have failed to comply with critical stakeholder engagement criteria required by D.22-12-057.

5. The Proposed Projects Fail to Demonstrate Consideration of Impacts on Disadvantaged Communities or Environmental Impacts to Customers and Communities.

In D.22-12-057, the Commission required that the IOUs' Proposed Projects "include in the scope the consideration of impacts on disadvantaged communities as well as environmental impact to customers and communities."[75] Relatedly, the Commission also required that the

---

[73] IOUs Chapter 4 at 17:16–23.
[74] Public Comment from Hilary Hobbs on Behalf of Truckee Mayor Lindsay Romack, (Feb. 8, 2023); *See also* Sierra Club Protest to Amended Application, Attach. B, Southwest Gas Response to Sierra Club Data Request SC-SWG-03, Q.5 & Attachments 1–2 (Apr. 15, 2024) (producing the letter in original form).
[75] D.22-12-057 at 61, COL #8.

Proposed Projects "provide for testing to control local emissions,"[76] and "include a contemporaneous measurement, monitoring, and reporting program" that "incorporate[s] the directions in this decision."[77] Contemporaneous monitoring and control of local emissions is inherently intertwined with considering the environmental impacts on customers and communities, including disadvantaged communities, as "local emissions" associated with the projects have the potential to worsen the pollution burden on impacted communities. These requirements are critical to ensuring that the Proposed Projects do not run afoul of the Commission's Environmental and Social Justice Action Plan ("ESJ Action Plan"), which declares the Commission's "commitment to furthering principles of environmental and social justice," including a goal of increasing investment in "clean energy resources to benefit ESJ communities, especially to improve local air quality and public health."[78] The Proposed Projects fail to meet these health-protective requirements, and thus the Amended Application should be dismissed.

The most glaring and direct failure of the IOUs to consider the impacts to disadvantaged communities is SoCalGas' Open System Project, which would take place in a DAC with some of the worst air pollution in the country,[79] a fact that SoCalGas does not mention even once in its application materials. The median household income in Orange Cove is $33,671 and 46.5% of

---

[76] *Id.* at COL #10.
[77] *Id.* at 62–63, COL #20.
[78] CPUC, Environmental & Social Justice Action Plan: Version 2.0, at 2, 5 (Apr. 7, 2022) ("ESJ Action Plan"), https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf.
[79] The South Coast region, where SoCalGas's Closed System Project is located, and the San Joaquin Valley, where Orange Cove is located, "have the most critical air quality challenges" in the state, and "are the only two areas in the nation with an Extreme classification for the [EPA's] 70 ppb ozone standard." CARB, 2022 State Strategy for the State Implementation Plan, at 10 (Adopted Sept. 22, 2022), https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf.

residents live in poverty.[80] Orange Cove census tracts score in the 86th to 90th percentile of CalEnviroScreen 4.0, the tool that the California EPA uses to identify communities that are disproportionately burdened by multiple sources of pollution.[81] Proposing to test the safety and feasibility of a new technology that has any potential to increase air pollution burdens in an already overburdened community is unreasonable and inconsistent with the ESJ Action Plan, yet SoCalGas has failed to present any evidence that it even considered Orange Cove's DAC status in its application materials. This substantial oversight merits dismissal of the Amended Application as to SoCalGas' Open System Project.

SoCalGas' Closed System Project, as well as the other IOUs' proposals, also fail to adequately consider DACs, although they are not specifically sited within DACs. SoCalGas' Closed System Project materials do not mention DACs at any point, nor do SDG&E's or SWGas' application materials. PG&E asserts that it has considered impacts to DACs because its project will advance knowledge of hydrogen, which "may reduce greenhouse gas emissions that may disproportionately affect disadvantaged communities"; because the project will provide jobs as well as workforce education and training; and because the project can be used "as a model for community-based energy solutions, inspiring [DACs] to explore hydrogen and other renewable energy options to meet their needs."[82] PG&E offers no evidence that it has considered the potential increases in greenhouse gas emissions or localized air pollution in DACs as a result of hydrogen production or transportation for its project, which, as explained above, it considers

---

[80] U.S. Census Data, available at: https://www.census.gov/quickfacts/fact/table/orangecovecitycalifornia/HSG445222.
[81] Cal. Off. of Env't Health Hazard Assessment, CalEnviroScreen 4.0, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40. Percentile results were retrieved using the CalEnviroScreen mapping tool on July 11, 2024.
[82] IOUs Chapter 5 at 25:11–23.

outside the scope of the project. This optimistic and cursory presentation of three potential benefits DACs may indirectly enjoy as a result of the project is insufficient to satisfy the Commission's requirement that projects include "consideration of impacts on [DACs]."[83]

With regard to consideration of "environmental impact to customers and communities," including "testing to control local emissions" and "contemporaneous measurement, monitoring, and reporting," the IOUs also fail. SoCalGas and SDG&E's plans for monitoring of health-harming NO_x emissions resulting from combustion of the hydrogen blend are severely lacking, with no comprehensive plans for monitoring, reporting, and mitigation that would adequately protect the health of project participants and host communities. For example, SoCalGas states that its Open System Project, which will result in hydrogen combustion in the homes of Orange Cove residents, will measure NO_x "from select end-use equipment to monitor the emission performance" at a frequency "[t]o be determined."[84] SoCalGas does not explain which homes or which end-use equipment will receive NO_x monitoring, and which will go unmonitored. SoCalGas has even less of a plan for NO_x monitoring at its Closed System Project on campus at UC Irvine, planning a testing frequency of only "[b]eginning and end of each phase or per customer call."[85] SWGas mentions NO_x only once in its application materials in a table seemingly copied in error from SDG&E's application, stating that they will "[m]easure emissions from the fuel cell" at a frequency "[t]o be determined" as the extent of their plan for "[e]nd-use equipment checks for emissions, including NO_x."[86] SWGas' proposed project does

[83] D.22-12-057 at 61, COL #8.
[84] IOUs Chapter 2 at 23, Table 5; *id.* at 13, Table 3.
[85] IOUs Chapter 1, Exhibit 1A: Preliminary Data Collection Plan, Table 2.
[86] IOUs Chapter 4 at 8, Table 2.

not even involve a fuel cell, underscoring how little time and attention it dedicated to evaluating NO_x or other health-harming emissions.

All four IOUs have failed to adequately consider the impacts on DACs in their Amended Application, and SoCalGas and SDG&E have further failed to meet the Commission's requirements to consider "environmental impacts to customers and communities," by failing to adequately design "testing to control local emissions," and "contemporaneous measurement, monitoring, and reporting" to address such emissions. These failures merit dismissal of the Amended Application.

6. SoCalGas, SDG&E, and SWGas Fail to Demonstrate They Made "Every Reasonable Attempt to Use Existing and Other Funds."

In D.21-07-005, the Commission required that "[a]ny new [hydrogen blending] application must show that the Joint Utilities have made every reasonable attempt to use existing and other funds before requesting new funds."[87] SoCalGas, SDG&E, and SWGas each fail to comply with this important mandate, intended to protect ratepayers from excessive utility spending.[88] The Amended Application does not describe *any* attempts by these three utilities to use existing and other funds, much less any *reasonable* attempts to use existing and other funds for their Proposed Projects. Rather, the Amended Application acknowledges the requirement but states that the IOUs are generally "unaware" of any funding from Commission, CEC, or federal funding opportunities that would apply to their Proposed Projects.[89]

Notably, PG&E describes extensive efforts that it made to secure external funding for its project, which it has been developing since 2021 without seeking ratepayer funding as its

---

[87] D.21-07-005 at 25.
[88] *See* IOUs Chapters 1–4.
[89] Amended Application at 22–23.

"Hydrogen to Infinity" project.[90] PG&E's fundraising efforts included meetings with numerous governmental and private sector funding sources, all of whom declined to fund the project.[91] Setting aside the question of whether it is reasonable to saddle ratepayers with the costs of projects no government or private sector entity has determined is worth funding, SoCalGas, SDG&E, and SWGas have not alleged making any such efforts. The Commission should accordingly dismiss the Application as to both of SoCalGas' projects, SDG&E's project, and SWGas' project.

B. The Commission Has Adequate Grounds to Dismiss the Amended Application Because It Is Not Necessary, Just, Reasonable, nor Consistent with Commission Policy, and It Implicates Industry-Wide Issues That Must Be Adjudicated Prior to Authorization of Ratepayer Funding for Hydrogen Blending Activities.

The Commission has more than adequate grounds to dismiss the Amended Application based on the extensive defects listed above. In addition to these specific defects, the Commission has further grounds to dismiss the Amended Application because the Proposed Projects are not necessary, fail to meet the just and reasonable standard for ratepayer-funded expenditures, and are not consistent with Commission policy. To the extent that the Commission believes further process beyond the adjudication of this Motion is necessary to determine whether the Proposed Projects are consistent with Commission policy, it should still dismiss the Amended Application, because the Proposed Projects cannot move forward without implicating industry-wide issues that must be properly adjudicated in a rulemaking such as R.20-01-007, R.19-01-011, or a new dedicated rulemaking, prior to authorization of ratepayer funding.[92]

---

[90] IOUs Chapter 5 at 34–36 (noting that "[t]he Project in this application is the same as the Hydrogen-to-Infinity project" and describing PG&E's years of unsuccessful attempts to find funding for the Project).
[91] *Id.*
[92] *See* D.24-06-024 at 17.

1. The Proposed Projects Are Not Necessary, Just, or Reasonable Uses of Ratepayer Funds.

In addition to its general duty to ensure just and reasonable rates pursuant to Public Utilities Code § 451, the Commission also set a foundational minimum standard for any future hydrogen blending pilot project proposals when dismissing the First Application:

> If the Joint Utilities seek funds to examine hydrogen blending, they must present a program to address necessary research and demonstration that is just and reasonable, efficient, and cost-effective.[93]

The IOUs have neither "presented a program to address *necessary* research and demonstration" nor made a showing that the Amended Application is "just and reasonable, efficient, and cost-effective." The IOUs have not offered any evidence that the Proposed Projects would provide insights on hydrogen blending that would not be otherwise informed by research and pilots elsewhere and not at ratepayer expense. Accordingly, the Commission should dismiss the Amended Application.

Hydrogen blending is not a legislatively-mandated activity, nor is it necessary to achieve a specific objective of the Commission. Three years ago, in setting forth requirements for future hydrogen blending pilot proposals, the Commission expressed its interest in "effective, efficient, and timely progress towards achieving the safe and optimal use of renewable hydrogen."[94] Since then, advances in science and policy demonstrate that hydrogen blending in the gas system—the strategy put forth by the Proposed Projects—cannot advance the Commission's objectives.

This Motion to Dismiss is not a referendum on hydrogen, or the potential strategic use of renewable hydrogen to advance California's climate objectives. Rather, this Motion to Dismiss

---

[93] D.21-07-005 at 22.
[94] *Id*. at 2.

relates to hydrogen blending as advanced by the IOUs in each Proposed Project. There is now broad consensus that hydrogen blending is not a "safe and optimal use of renewable hydrogen."[95] As discussed in detail elsewhere in this Motion, hydrogen blending would worsen indoor and outdoor air quality, waste energy, undermine decarbonization goals, and heighten risks of explosion from hard-to-detect leaks.

Moreover, the Proposed Projects make clear that hydrogen blending is not a "cost-effective" or "efficient" use of ratepayer funds. Since the IOUs' First Application, projected costs for the Proposed Projects have ballooned from approximately $31.8 million to $205.9 million.[96] At the same time, the IOUs' Amended Application materials lack sufficient information to differentiate the proposed pilots from past or ongoing hydrogen blending research conducted by either the IOUs themselves, using external funding sources, or by other entities.

Finally, the Amended Application materials fail to show that the Proposed Projects would result in sufficient data to inform a systemwide injection standard (see Section IV.A.2 above). The UC Riverside study identified a wide range of topics that would need to be extensively researched and evaluated to begin to "clos[e] the existing knowledge gap on the potential effects of hydrogen blending into existing natural gas pipeline systems,"[97] but the Amended Application

---

[95] *See e.g.*, Jan Rosenow, A meta-review of 54 studies on hydrogen heating, Cell Reps. Sustainability, at 2 ("[T]he scientific evidence does not suggest a major role for hydrogen for heating in cost-optimal pathways and indicates higher system and consumer costs. Alternative pathways such as electrification and district heating are found to be preferrable by the vast majority of studies analyzed due to their higher efficiency and resulting lower costs."), 11 ("A comprehensive review, encompassing 54 independent studies, reveals that none of them presents compelling evidence in favor of extensively utilizing hydrogen for heating purposes.") (Jan. 26, 2024), https://doi.org/10.1016/j.crsus.2023.100010 ("Rosenow Meta-Review").

[96] *Compare* D.21-07-005 at 28, FOF #5 *with* Amended Application at 16–18.

[97] UC Riverside Study at 113–16.

does not demonstrate that the Proposed Projects could address those topics adequately enough to form the basis for a statewide injection standard.

In dismissing the IOUs' First Application, the Commission noted that it "must consider whether or not the Program, as proposed, has the likelihood of its costs being reasonable, and the resulting charges to ratepayers being just and reasonable," and ultimately found that the proposal "has too many uncertainties that may not lead to optimal outcomes," meriting dismissal.[98] The Amended Application has similarly failed to show that the Proposed Projects would undertake research and demonstration that is *necessary* or spend ratepayer funds in a way that results in safe, just, and reasonable—let alone optimal—outcomes. There is no telling how many more millions of ratepayer dollars the utilities would need to request to achieve the stated goal of these pilots or of the Commission. Pouring millions of ratepayer dollars into research projects that can neither answer the questions they are intended to address nor accomplish the specific objectives the Commission set forth three years ago is not a necessary, just, or reasonable use of resources.

2. Ratepayer-Funded Hydrogen Blending Research Is Inconsistent with Commission Policy Because New Research Demonstrates That Hydrogen Blending Is Not a Viable Decarbonization Pathway.

As explained above, the Commission is empowered to dismiss applications for a variety of reasons, including "on policy grounds," "to husband limited resources," and "to avoid inefficiency."[99] In addition to the direct failures of the Amended Application to comply with express Commission requirements for such an application, the Commission should dismiss the Amended Application because the Proposed Projects are an irresponsible and excessive proposed

[98] D.21-07-005 at 10.
[99] D.23-04-005 at 15.

use of limited ratepayer resources in pursuit of an infeasible decarbonization strategy that is fundamentally inconsistent with Commission policy. The Commission should not waste any more of its own and stakeholders' resources litigating deficient proposals that will never support deep decarbonization at scale and that threaten to undermine the deep decarbonization strategies the Commission is correctly encouraging in other proceedings.

a. Hydrogen Blending Is Not a Viable Decarbonization Strategy at Scale.

Scientists and policymakers considering the role of hydrogen in the energy transition have made abundantly clear that hydrogen blending is not a viable decarbonization strategy for the use cases served by the existing gas system. At the federal level, the Department of Energy's ("DOE") National Clean Hydrogen Strategy and Roadmap underscores the need to "target strategic, high-impact uses for clean hydrogen," such as industrial sector and heavy-duty transportation use cases, with no consideration of hydrogen blending in the existing gas distribution system as a decarbonization strategy for residential or commercial buildings.[100] DOE's HyBlend initiative, which is a collaborative effort among numerous National Laboratories as well as industry, nonprofit, and academic partners, has shown that hydrogen blending would be an extremely expensive strategy, with delivered energy costs reflecting

[100] DOE, U.S. National Clean Hydrogen Strategy and Roadmap, at 2, 22 (discussing the potential for hydrogen blending only in the context of decarbonizing "industrial heat"), 31 (discussing the potential use of hydrogen blends "particularly for [industrial] applications requiring high temperatures," such as steelmaking), 74 (stating that "[b] lending with existing natural gas networks can support targeted decarbonization of high-temperature heating systems, primarily in the industrial sector where high temperatures are needed for certain sectors") (June 2023) ("DOE Clean Hydrogen Strategy and Roadmap"), https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/us-national-clean-hydrogen-strategy-roadmap.pdf.

staggering increases as blended hydrogen volume increases.[101] HyBlend research also found that with increasing percentages of blended hydrogen, emissions increase as a result of higher compression needs and leakage.[102] Additionally, the Alliance for Renewable Clean Hydrogen Energy Systems ("ARCHES") project, selected to receive up to $1.2 billion through DOE's Hydrogen Hubs Program,[103] has specifically stated that it "will not fund blending of hydrogen in natural gas distribution pipelines" as part of its "commitments to community, energy and environmental equity and justice."[104]

In addition to the astronomical costs, suboptimal use cases, safety concerns, and energy justice issues associated with hydrogen blending in pipeline gas, the potential climate benefits are negligible. Even the IOUs openly admit that a 20% hydrogen blend in the fossil gas system would result in end-use CO_2 emissions reductions of, at best, just over 6%.[105] And that meager level of emissions reductions would be extremely unlikely at scale because it depends on procuring the cleanest, highest-value hydrogen—which is likely to be directed to harder-to-electrify applications that are willing to pay a cost premium for decarbonization solutions since cheaper electrification options are not currently viable—and assumes that leakage would not offset any potential climate benefit. Indeed, even within the limited context of the Proposed Projects, three out of four of the utilities have made no effort to ensure the hydrogen produced

---

[101] Pipeline Blending CRADA: A HyBlend Project Overview, SNL, Pacific Northwest National Laboratories (PNNL), NREL, and ANL, H2IQ Hour, at slide 33 (Oct. 26, 2023), https://www.energy.gov/sites/default/files/2023-11/h2iqhour-10262023.pdf.
[102] *Id*. at slide 39.
[103] ARCHES, *California wins up to $1.2 billion from feds for hydrogen* (Oct. 20, 2023), https://archesh2.org/california-wins-up-to-1-2-billion-from-feds-for-hydrogen/.
[104] ARCHES, Commitment to Community, Energy and Environmental Equity and Justice, https://archesh2.org/community-benefits/.
[105] Amended Application at 10.

for the projects would not be more carbon-intensive than the equivalent amount of pipeline gas, negating any potential climate benefits.[106]

The paltry potential climate benefits of hydrogen blending are dramatically outweighed by both (a) the substantial risk of increasing overall emissions through the hydrogen production process, and (b) the overwhelming costs associated with retrofitting the gas system to address the differences in physical properties between hydrogen and methane gas (e.g., compression upgrades, potential replacement of pipe and other equipment, enhanced leakage protection, etc.). A 2023 comprehensive meta-review of 54 studies from around the world on hydrogen as a decarbonization pathway for buildings found that hydrogen heating "is at best a risky strategy and at worst a dead end locking in new fossil fuel infrastructure."[107] Hydrogen research and policy has advanced since the time that the Commission authorized the IOUs to look into blending as a potential "safe and optimal use of renewable hydrogen."[108] The Commission should not authorize the expenditure of any more ratepayer resources pursuing blending when it is abundantly clear it will never be an "optimal use" of hydrogen.

b. Pursuing Hydrogen Blending Pilot Projects Will Undermine Commission and State Decarbonization Goals.

California's climate policies are aligned in recognizing that electrification is necessary as the only strategy that can deliver deep decarbonization of buildings sector greenhouse gas

---

[106] *Supra* Section IV.A.1. Electrolytic hydrogen produced from California grid-average electricity is more than twice as carbon-intensive as compressed natural gas, which itself is more carbon-intensive than gas in the low-pressure distribution system due to the emissions from compression at the fueling station site. 17 C.C.R. § 95488.5 (comparing a 164.46 gCO2e/MJ carbon intensity value for hydrogen produced in California from electrolysis using California average grid electricity to a 79.21 gCO2e/MJ carbon intensity value for compressed natural gas from pipeline average North American fossil natural gas).
[107] Rosenow Meta-Review at 2, 11 (finding that "the scientific evidence does not suggest a major role for hydrogen for heating").
[108] D.21-07-005 at 2.

emissions. The California Air Resources Board ("CARB") has expressly stated that "[a]chieving carbon neutrality must include transitioning away from fossil gas in residential and commercial buildings, and will rely primarily on advancing energy efficiency while replacing gas appliances with non-combustion alternatives."[109] CARB's proposal to end the sale of new gas furnaces and water heaters by 2030 is consistent with that finding.[110] At the California Energy Commission ("CEC"), the Title 24 Building Energy Efficiency Standards have consistently advanced toward more stringent efficiency standards, electric-ready requirements, and heat pump baselines for space and/or water heating in a variety of building types.[111] Governor Newsom has established a state goal of six million heat pumps installed statewide by 2030.[112] And the Commission has taken action to encourage all-electric new construction by eliminating gas line extension allowances and electric line extension allowances for mixed-fuel new construction,[113] as well as

---

[109] CARB, 2022 Scoping Plan for Achieving Carbon Neutrality, at 212 (Dec. 2022) ("CARB 2022 Scoping Plan"), https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.
[110] CARB, State Strategy for the State Implementation Plan, at 101 (Adopted Sept. 22, 2022) ("2022 State SIP Strategy"), https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf.
[111] *See* CEC, 2022 Building Energy Efficiency Standards: What's New for Single-Family Residential, at 1 (Revised July 15, 2022), https://www.energy.ca.gov/sites/default/files/2022-08/2022_Single-family_Whats_New_Summary_ADA.pdf (summarizing advances in the 2022 Building Code that include adoption of a heat pump baseline for either space or water heating in single-family homes as well as electric-ready requirements for any mixed-fuel new single-family construction); CEC, 2022 Building Energy Efficiency Standards: What's New for Multifamily, at 1–2 (Revised Aug. 4, 2022), https://www.energy.ca.gov/sites/default/files/2022-08/2022_Multifamily_Whats_new_Summary_ADA.pdf (summarizing advances in the 2022 Building Code for multifamily buildings, including adoption of a heat pump baseline in dwelling units depending on climate zone and electric-ready requirements for mixed-fuel multifamily buildings).
[112] Letter from Gov. Gavin Newsom to CARB Chair Liane Randolph, at 2 (July 22, 2022), https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf.
[113] D.22-09-026, *Phase III Decision Eliminating Gas Line Extension Allowances, Ten-Year Refundable Payment Option, and Fifty Percent Discount Payment Option Under Gas Line Extension Rules*, at 2 (Sept. 20, 2022) ("D.22-09-026"), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K987/496987290.PDF; D.23-12-037, *Decision Eliminating Electric Line Extension Subsidies for Mixed-Fuel New Construction and Setting Reporting Requirements*, at 19 (Dec. 21, 2023), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M521/K890/521890476.PDF.

initiating a phase-out of energy efficiency incentives for gas-burning appliance measures that are not cost-effective.[114] Put simply in a 2024 Joint Agency Report from the Commission, CARB, and the CEC, "[e]lectrification is the best fit for decarbonizing homes and commercial buildings, where gas infrastructure can be fully electrified with technologies such as heat pumps for space and water heating and clothes drying and induction stoves."[115] Reducing building end use emissions to zero using existing technologies in the market is a complete and cost-effective deep decarbonization strategy for the buildings sector.

The Commission should take seriously the potential for hydrogen blending projects like these to impair or delay full decarbonization of the buildings sector, both by diverting resources away from electrification programs and by feeding a false narrative that California can meet its climate goals while its buildings continue to rely upon pipeline gas. CEC-commissioned analysis explains the risk of delaying investments in electrification in the hope that affordable deep-decarbonization solutions for pipeline gas might materialize.[116] As the CEC report notes, "if building electrification is delayed, missing the lower-cost opportunities for all-electric new construction and replacement of equipment upon failure, there is a greater risk that expensive

---

[114] D.23-04-035, *Decision Addressing Codes and Standards Subprograms and Budgets and Staff Proposal on Reducing Ratepayer-Funded Incentives for Gas Energy Efficiency Measures*, at 2 (Apr. 14, 2023), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M505/K808/505808197.PDF.

[115] R.20-01-007, 2024 Joint Agency Staff Paper: Progress Toward a Gas Transition, A White Paper Supporting the CPUC's Long-Term Gas Planning Rulemaking R.20-01-007, at 14 (Feb. 22, 2024) ("2024 Joint Agency Report"), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K660/525660391.PDF.

[116] CEC, The Challenge of Retail Gas in California's Low-Carbon Future, at 70 (Apr. 2020), https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf ("[S]hould building electrification be delayed in the hope that RNG technology will progress more rapidly than considered in the optimistic P2G cost scenario here, and these RNG cost reductions do not materialize, then it will be difficult to recover from delays in building electrification and it may prove difficult to reduce emissions at reasonable cost. Further, customers who do not electrify face the risks associated with high cost of gas, while customers who electrify, do not face the same level of rate impact risk.").

early retirement of equipment may be needed, or that the climate goals could be missed."[117] Continuing to invest ratepayer funds into strategies or technologies that perpetuate buildings' reliance on pipeline gas undermines the significant efforts California agencies have undertaken to transition to a zero-emissions buildings sector. Accordingly, the Commission should dismiss the Amended Application.

c. The Proposed Projects Are Inconsistent with the Commission's Affordability Policy and Threaten to Worsen the Ongoing Rate Affordability Crisis.

California ratepayers are currently experiencing an affordability crisis, which the Commission has taken seriously in rejecting other utility program proposals that it found did not adequately demonstrate they were the least cost approach to the greenhouse gas emissions reductions they would pursue.[118] The Proposed Projects have failed to attract funding from non-ratepayer sources, including PG&E's project, for which PG&E has spent years attempting to raise funds. This failure stands in stark contrast to the wide range of state and federal funds available to support other approaches to decarbonizing buildings, such as energy efficiency and electrification.

On top of the more than $200 million the IOUs have requested from ratepayers for these pilots, hydrogen blending at scale could require substantial additional investments into retrofits

---

[117] *Id.* at 37.

[118] *See, e.g.*, D.24-01-004, *Decision on Southern California Edison Company Proposed Building Electrification Programs*, at 23–24 (Jan. 22. 2024), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M523/K916/523916507.PDF (denying Southern California Edison's proposed building electrification programs in part because the utility failed to "establish how its Proposal leverages existing ratepayer funded programs to optimize ratepayer benefits at the least cost" and "adequately show how it considered maximizing the amount of GHG emissions reduced per dollar in collaboration with non-ratepayer funds, or partnering with federal and state incentives, to reduce the total requested budget, or to establish that it was the least total cost approach to achieve the Proposal's goals").

of the aging gas system, including not only repairs or replacement of pipes and pipe fittings, but also additional compressors to account for hydrogen's different physical qualities. Widespread hydrogen blending could also increase costs even further by reducing the useful life of gas system components. As the Commission has recognized, as California regulators increasingly encourage electrification as a cost-effective way to decarbonize the state's buildings, "[t]he maintenance and operational costs associated with gas infrastructure will need to be paid for by a shrinking number of future gas customers, which will be reflected in higher rates."[119] The Commission should be extremely skeptical of gas industry proposals that are not only costly in and of themselves, but would risk adding significant additional rate burdens to gas customers moving forward if the strategy were pursued at scale.

d. The Proposed Projects Are Inconsistent with the Commission's Environmental and Social Justice Action Plan.

As discussed above, the Proposed Projects run afoul of the Commission's ESJ Action Plan on multiple fronts. First, by risking increases in indoor and localized ambient air pollution, such as NO_x, particularly in Orange Cove, the projects risk worsening health-harming pollution in an ESJ community.[120] This is directly at odds with the ESJ Action Plan's goal to increase investment in "clean energy resources to benefit ESJ communities, especially to improve local air quality and public health."[121] The risk of increased pollution in ESJ communities extends

[119] D.22-09-026 at 16 (describing findings of Energy Division Staff).
[120] "ESJ Communities" are defined as "predominantly communities of color or low-income communities that are underrepresented in the policy setting or decision-making process, subject to a disproportionate impact from one or more environmental hazards, and are likely to experience disparate implementation of environmental regulations and socioeconomic investments in their communities," including "Disadvantaged Communities" under the Commission's definition, Tribal lands, and households or census tracts with incomes below 80% of area or state median income. ESJ Action Plan at 2.
[121] *Id.* at 5.

beyond the potential for increased NO_x at the burner tip—because SDG&E, SWGas, and PG&E do not propose to use "clean renewable hydrogen" in their projects, the hydrogen production processes and the energy generated to power them may result in increased air pollution at the generation sites. This is also a major concern that the Commission needs to grapple with regarding any attempts to scale this strategy, as a systemwide injection standard would require significant amounts of hydrogen.

The affordability concerns highlighted above also present risks that are inconsistent with the ESJ Action Plan. Affordability is of paramount importance to ESJ communities. As the ESJ Action Plan recognizes, gas system costs in particular risk being borne by "a smaller number of households, likely lower income households who cannot afford to upgrade their existing household appliances to energy efficient and/or all electric, becoming increasingly financially responsible for maintaining legacy infrastructure."[122] Thus, "[c]ontinuing to assess the cumulative impact of rates on households and working to mitigate these impacts on the most burdened households will remain a priority in all actions the CPUC takes."[123] Approving costly, unnecessary gas system expenditures runs counter to this goal.

3. Even If the Commission Does Not Find That the Proposed Projects Are Inconsistent with Commission Policy Here, It Should Still Dismiss the Amended Application to Allow for Adequate Consideration of Industry-Wide Issues in an Existing or New Rulemaking Proceeding.

The Joint Intervenors believe it is abundantly clear that hydrogen blending is not a viable building decarbonization strategy, let alone an "optimal use" of clean, renewable hydrogen, and thus should not be considered any further. But even if the Commission is not prepared to make

[122] *Id.* at 22.
[123] *Id.*

that finding here, it should consider these issues in earnest prior to authorizing ratepayer funding for such projects. Authorizing hundreds of millions in ratepayer funding for widely opposed projects with a policy rationale that is muddy at best would be irresponsible. If the Commission intends to consider hydrogen blending policy further, it should still dismiss the Amended Application until it has done so in an industry-wide rulemaking, such as the Long-Term Gas Planning OIR (R.20-01-007) or the Building Decarbonization OIR (R.19-01-011). This will avoid squandering further ratepayer, Commission, and intervenor resources considering additional iterations of the proposed projects while the crucial underlying issues have not been clearly resolved.

In a recent decision dismissing the *Application of Pacific Bell Telephone Company d/b/a AT&T California (U1001) for Targeted Relief from its Carrier of Last Resort Obligation and Certain Associated Tariff Obligations* (hereinafter "AT&T Decision"), the Commission found that the relief sought in the Application violated its existing rules regarding carriers of last resort, and that the implied changes to the rules that AT&T sought in its Application merited consideration in a full "industry-wide rulemaking, not in an application filed by a particular provider for specific relief."[124] The Commission dismissed AT&T's Application, ruling that "AT&T shall not file another application for [carrier of last resort] relief, nor a similar one, until one year after the issuance of a decision closing the new OIR."[125] While the instant Amended Application does not contemplate a change in existing Commission rules, the relief that the IOUs request—hundreds of millions of dollars in ratepayer funding for piloting a new product as a

[124] D.24-06-024 at 17.
[125] *Id.* at 22.

decarbonization strategy—should not be granted without consideration of the broader, industry-wide implications.

4. If the Commission Does Not Dismiss the Amended Application, It Should Maintain a Broad Scope for This Proceeding to Ensure Adequate Consideration of All Relevant Factors.

If the Commission does not dismiss the Amended Application now, despite abundant grounds to do so, it is critical that the scope and procedural schedule allow for intervenors to adequately develop the record in this proceeding through expert testimony, time to consider and respond to the IOUs' forthcoming Hydrogen Blending Compendium Report, evidentiary hearings, and public participation hearings, which would enable the Commission to make informed findings regarding substance of each individual project and whether the Proposed Projects have sufficient underlying policy rationale to warrant their approval.

V. CONCLUSION

For the reasons stated above, the Commission should dismiss the Amended Application and consider foundational hydrogen blending issues in either the Building Decarbonization Rulemaking (R.19-01-011) or the successor to the Long-Term Gas System Planning Rulemaking (R.20-01-007). In dismissing the Amended Application, the Commission should order that the IOUs not file an application proposing hydrogen blending until at least one year following issuance of a final decision regarding hydrogen blending in either of the above proceedings.

The Joint Intervenors thank Commissioner Houck and Administrative Law Judge Ferguson for their consideration of this Joint Motion to Dismiss and the impacts of the Proposed Projects on safety, affordability, and the climate.

Dated: July 15, 2024

Respectfully submitted,

/s/ Rebecca Barker

Rebecca Barker
Lauren Piette
Earthjustice
311 S. Wacker Drive, Suite 1400
Chicago, IL 60606
Telephone: (415) 217-2056
Email: rbarker@earthjustice.org
lpiette@earthjustice.org

Nina Robertson
Earthjustice
50 California St., Suite 400
San Francisco, CA 94111
Email: nrobertson@earthjustice.org

On Behalf of Sierra Club

/s/ Elizabeth M. Kelly
Elizabeth M. Kelly
LAW OFFICE OF ELIZABETH KELLY
P.O. Box 225037
San Francisco, CA 94122
Telephone: (415) 535-9998
Email: beth@emk-law.com

Counsel for Environmental Defense Fund

/s/ Edward Lopez
Edward Lopez
Utility Consumers' Action Network (UCAN)
404 Euclid Avenue, Suite 377
San Diego, CA 92114
Telephone: (619) 696-6966
Email: edward@ucan.org

On Behalf of UCAN

/s/ Ayn Craciun
Ayn Craciun
Orange County Policy Director
Climate Action Campaign
3900 Cleveland Ave., Suite 208
San Diego, CA 92103
Telephone: (949) 400-9682
Email: ayn@climateactioncampaign.org

On Behalf of Climate Action Campaign