PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Agenda ID# 24445

ENERGY DIVISION **RESOLUTION G-3622**

October 8, 2026

R E S O L U T I O N

Resolution G-3622. California Energy Commission's (CEC's) Gas Research, Development, and Demonstration Plans for Fiscal Years 2024-2025 (CEC Advice Letter 12-G) and 2025-2026 (CEC Advice Letter 10-G-A).

PROPOSED OUTCOME:

- Approves, in part, the California Energy Commission's (CEC's) Gas Research, Development, and Demonstration (RD&D) Plans for Fiscal Years (FYs) 2024-2025 (CEC Advice Letter 12-G) and 2025-2026 (CEC Advice Letter 10-G-A) with budgets of $24M requested in each, totaling $48M, pursuant to Decision (D.) 04-08-010. Directs the CEC to submit revised Gas RD&D Plans via Tier 2 Advice Letters with modifications described in this Resolution.
- Modifies the CEC's Gas RD&D compliance filing requirements.

SAFETY CONSIDERATIONS:

- This Resolution approves safety-related RD&D funding.

ESTIMATED COST:

- Approves CEC utilization of $21.6M and $9,476,691 in previously collected unspent ratepayer funds with associated Program Administration funds to be used first for each Plan, respectively. Total additional Ratepayer Cost is $13,470,429.

By CEC Advice Letter 12-G for FY 2024-2025, Filed on August 8, 2025, and CEC Advice Letter 10-G; 10-G-A for FY 2025-2026, Filed on March 28, 2025; October 3, 2025

SUMMARY

This Resolution approves in part and modifies in part the California Energy Commission's (CEC's) Advice Letters (ALs) 12-G and 10-G-A filed on August 8, 2025, and October 3, 2025, respectively. These ALs contain proposed Gas Research, Development, and Demonstration (RD&D) Investment Plans (Gas RD&D Plans or Plans) for Fiscal Years (FYs) 2024-2025 (the 2024 Plan) and 2025-2026 (the 2025 Plan). This Resolution approves, in part, the CEC's Gas RD&D Plans with proposed budgets of $24 million each for its 2024 Plan and its 2025 Plan, totaling $48 million. This Resolution reviews the CEC's 2024 and 2025 Plans against a list of consolidated requirements from prior decisions and resolutions. This Resolution finds that CEC Plan omissions can be remedied with additional information and directs the CEC to submit its revised 2024 and 2025 Gas RD&D Plans via Tier 2 ALs within 90 days with modifications as described below.

This Resolution reviewed the CEC's response to Energy Division's data request for detailed information on balances of previously authorized unspent funding and establishes how the CEC shall use applicable funds to minimize new additional costs to ratepayers. This Resolution explains why the CEC must use previously authorized funds, why the CEC can collect only a portion of funds from the surcharge, and what the CEC must do if there is a need to update the CPUC on the exact unspent fund balances.

The CEC shall first utilize its current balance of unspent funds falling outside of encumbrance and spending windows from previously approved Gas RD&D Plans (applicable unspent funds) in full for its 2024 and 2025 Plans prior to accessing additional ratepayer funds. These applicable unspent funds, amounting to a total of $31,076,691, are comprised of CEC's unspent program funds from its FY 2015-2016 Plan to April 30, 2026,[1] which are in addition to the associated Program Administration funds previously approved for these funds; each of these funds must first offset any new ratepayer costs for these Plans. Upon Commission approval of the CEC's 2024 and

[1] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans.

2025 Plans via Tier 2 AL, the CEC is authorized to request a total of $13,470,429 in new ratepayer funds from the CPUC's Gas Consumption Surcharge Fund as follows:

Table 1: Calculations of CEC's 2024 & 2025 Gas RD&D Plan Budgets		
	2024 Plan Budget	**2025 Plan Budget**
Utilized Applicable Unspent Funds for Initiatives	$ 21,600,000	$ 9,476,691
Previously Approved Program Administration Funds *To be utilized prior to new ratepayer funds*	$ 2,400,000	$ 1,052,880
New Ratepayer Funds for Initiatives	$ 0	$ 12,123,309[2]
New Ratepayer Funds for Program Administration	$ 0	$ 1,347,120[3]
Total New Ratepayer Funds	$ 0	$ 13,470,429
Total Authorized Budget for Initiatives	$ 21,600,000	$ 21,600,000
Total Authorized Budget for Program Administration	$ 2,400,000	$ 2,400,000
Total Authorized Annual Budget	$ **24,000,000**	$ **24,000,000**
Total Utilized Applicable Unspent Funds	$ **31,076,691**	

This Resolution provides a consolidated list of program requirements based on prior decisions and resolutions as well as establishes new requirements for improved Commission oversight. The list of consolidated program requirements is intended to aid the efficient development and streamlined review of future proposed Gas RD&D Plans. This Resolution modifies the Annual Report deadline set in Resolution G-3394 (October 31)[4] to promote coordination and transparency in comparing outcomes across CPUC ratepayer-funded RD&D programs. Annual Reports shall be due June 1 of each year, pertaining to the previous CY. To accommodate the transition from FY to CY reporting, the CEC's FY 2025-2026 Gas RD&D Annual Report, currently due October 31, 2026, shall be due June 1, 2027, and cover a one-and-a-half-year period: July 2025 through December 2026.

[2] $12,123,309 is the remaining portion of Initiative funds ($21.6M total) CEC is eligible for annually after utilizing the remaining balance of applicable unspent funds ($9,476,691).
[3] To fund its 2025 Plan, the CEC shall first utilize its remaining balance of applicable unspent funds after funding its 2024 Plan ($9,476,691), which the Commission approved via previous CEC Gas RD&D Plans with associated Program Administration budgets. Accordingly, the CEC is authorized to supplement the balance of unspent funds with $12,123,309 in new ratepayer funds for Initiatives, amounting to the authorized $21.6 million budget cap for approved RD&D Initiatives. As a result, proportionally the CEC is eligible for approximately 56.13% of the authorized $2.4 million Program Administration budget cap from new ratepayer funds, amounting to $1,347,120.
[4] Modifies Resolution G-3394 (2006): Approving CEC's CY 2007 Gas RD&D Plan at Ordering Paragraph (OP) 2. "The CEC shall submit its… Annual [Report] by October 31st."

BACKGROUND

The CPUC's Gas RD&D program is governed by statute, as well as CPUC decisions and resolutions related to the program.

Statutory Authority for Gas RD&D Program

The primary statute governing the Gas RD&D program was created via Assembly Bill (AB) 1002 (Wright, 2002)[5] which required the Commission to establish a natural gas surcharge to fund gas-related Public Purpose Programs (PPP).

Gas RD&D Program 2004 Foundational Decision

In 2002, the CPUC instituted Rulemaking (R.) 02-10-001 to implement AB 1002, resulting in D.04-08-010,[6] the Gas Research, Development, and Demonstration (RD&D) Program's foundational decision. In the decision, the Commission appointed the CEC as its administrator of the Gas RD&D Program.[7] The CEC is required to submit proposed Annual Gas RD&D Investment Plans (Plans) for consideration, subject to Commission approval via resolution.[8] For this, the decision designates Energy Division as the Commission's advisor in assisting with reviewing and adopting Plans.[9]

In adopting the Gas RD&D program, the CPUC referred to Public Utilities (PU) Code Section 740.1 as the adopted definition of public interest R&D,[10] which directs the Commission to consider the following guidelines in evaluating proposed Gas RD&D investments:

(a) *Projects should offer a reasonable probability of providing benefits to ratepayers.*
(b) *Expenditures on projects which have a low probability for success should be minimized.*[11]

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[5] AB 1002, Wright. *Natural Gas: Consumption Surcharge* at Section 2 Article 10 added Sections 890-900 to Chapter 4 of Part 1 of Division 1 of the Public Utilities Code.
[6] D.04-08-010: Opinion Regarding Implementation of Assembly Bill 1002, Establishing a Natural Gas Surcharge.
[7] D.04-08-010 at OP 18.
[8] D.04-08-010 at p. 37 & 42.
[9] D.04-08-010 at p. 32.
[10] D.04-08-010 at Finding of Fact (FOF) 31 & OP 17.
[11] The Commission's compliance assessments of Public Utilities Code 740.1 at (a) and (b) are captured in the compliance assessments of AL 12-G and 10-G-A with Resolution G-3603 (2024): Approving CEC's FY

(c) Projects should be consistent with the corporation's resource plan.[12]

(d) Projects should not unnecessarily duplicate research currently, previously, or imminently undertaken by other electrical or gas corporations or research organizations.

(e) Each project should also support one or more of the following objectives:

(1) Environmental improvement.

(2) Public and employee safety.

(3) Conservation by efficient resource use or by reducing or shifting system load.

(4) Development of new resources and processes, particularly renewable resources and processes which further supply technologies.

(5) Improve operating efficiency and reliability or otherwise reduce operating costs.[13]

In D.04-08-010, the CPUC set the following additional criteria for approved Gas R&D projects:

1) Focus on energy efficiency, renewable technologies, conservation and environmental issues,[14]
2) Support State Energy policy,
3) Offer a reasonable probability of providing benefits to the general public,[15] and

2023-2024 Gas RD&D Plan at OP 6. "Once the Electric Program Investment Charge (EPIC) program's Uniform Impact Analysis framework is approved by the Commission, the California Energy Commission shall use this framework to demonstrate outcomes of achieving its proposed benefits for all current and future research projects including through quantitative methodologies."

[12] The Commission's compliance assessment of Public Utilities Code 740.1 at (c) is captured in the compliance assessments of AL 12-G and 10-G-A with Resolution G-3592 (2023): Approving CEC's FY 2022-2023 Gas RD&D Plan at OP 5c & d. "Describe its process for seeking collaborative and co-funding opportunities, detailed proposals for such opportunities, or explain why it did not consider collaborative and co-funding opportunities [and] include information on coordination with the IOUs and other research stakeholders at both a high-level on coordination process and project level details of partnership, costs, and co-funding within the body of the research plan."

[13] Consistent with Executive Order (EO) N-5-24 (October 30, 2024) On reducing rates.

[14] The Commission's compliance assessments of D.04-08-010 at 1) is captured in the compliance assessments of AL 12-G and 10-G-A with Public Utilities Code 740.1 at (e) "Each project should also support one or more of the following objectives…"

[15] The Commission's compliance assessments of D.04-08-010 at 3) is captured in the compliance assessments of AL 12-G and 10-G-A with Resolution G-3603 (2024) at OP 6.

4) Consider opportunities for collaboration and co-funding opportunities[16] with other entities.[17]

Gas RD&D Program Budget

The Commission capped CEC's Gas RD&D Program budget at $24 million in annual funding, including all necessary administrative costs; the budget reached the maximum amount allowed in 2009 and has remained at this same level to the present.[18] The Commission adopted a zero-based budget,[19] for which the Commission may approve up to the $24 million budget cap upon determination of the eligibility of each individually proposed budget allocation or Plan element, referred to as Initiatives. The Commission adopted the zero-based method to approve Gas RD&D Annual Plans via resolution and inform utility surcharge rates and collections in the upcoming year.[20] The CEC can only request quarterly transfers from the CPUC's Gas Consumption Surcharge Fund (CPUC's Fund) consistent with the zero-based budget adopted via Commission resolution approving its Plans.[21] Disbursements from the CPUC's Fund to the Gas RD&D administrator, designated as the CEC's Public Interest RD&D Fund, shall not exceed the zero-based budget adopted via resolution.[22]

CPUC Gas RD&D Program Requirements from Prior Resolutions

The Commission has also set requirements for CEC's Gas RD&D Program via resolutions approving CEC's Gas RD&D Plans, beginning in 2004.[23] All applicable

[16] The Commission's compliance assessments of D.04-08-010 at 4) is captured in the compliance assessments of AL 12-G and 10-G-A with Resolution G-3592 (2023) at OP 5c. "[The CEC shall] describe its process for seeking collaborative and co-funding opportunities."
[17] D.04-08-010 at FOF 32.
[18] D.04-08-010 at p. 37-38.
[19] D.04-08-010 at fn. 48. "Under zero-based budgeting, projects that qualify would be identified, including cost and benefit analysis, and then summed. The Commission would determine the total appropriate funding, and include this amount in determining a surcharge. In the event a zero-based budget has not been set in time for January 1 surcharge rate updates, the surcharge will be set using the amount of the annual program spending cap. Over or under collections (including balances in excess of project costs) of R&D costs will be adjusted for in the following January 1 surcharge rates."
[20] D.04-08-010 at p. 44.
[21] D.04-08-010 at p. 41-42 & OP 20.
[22] D.04-08-010 at p. 41-42.
[23] Resolution G-3371 (2004): Approving CEC's CY 2005 Gas RD&D Plan.

Commission requirements set via resolution were rigorously reviewed to identify key orders for the Commission's evaluation of CEC's proposed Plans, detailed in *Appendix A: Key CPUC Gas RD&D Resolution Requirements*.

CEC AL 12-G Requests for 2024 Plan Approval

The CEC submitted its proposed 2024 Plan via Tier 3 CEC AL 6-G on March 27, 2024. The CEC replaced AL 6-G with a supplement (AL 6-G-A) on November 7, 2024. The CEC withdrew CEC AL 6-G-A on February 13, 2025, after consultation with Energy Division staff. The CEC resubmitted its 2024 Plan (CEC AL 12-G) on August 8, 2025. In CEC AL 12-G, the CEC seeks approval of its proposed 2024 Gas RD&D Plan, authorized by D.04-08-010 at up to $24 million with the proposed budget allocations to various Initiatives as shown below:

Table 2: 2024 Gas RD&D Plan Proposed Budget[24]

Investment Theme	**Initiative Title**	**2024 Plan Budget**
Gas Decommissioning	Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System	$ 7,600,000
Gas System Safety	Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition	$ 7,815,489
Renewable Generation	Fuel-Flexible Distributed Power Generation	$ 6,000,000
Database Development		$ 184,511
Program Administration		$ 2,400,000
	ANNUAL TOTAL:	**$ 24,000,000**

Gas Decommissioning Theme Proposed Initiatives

The CEC states that it seeks to develop Initiatives within the Gas Decommissioning Theme to "highlight important elements of variability in transition opportunity and effects" to "foster greater energy equity and build a more systematic ground-level understanding of the technology needs, opportunities, and challenges in decarbonizing the gas system."[25]

[24] AL 12-G at p. 2 & 24.
[25] AL 12-G at p. 24-25.

Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System

The CEC states that it seeks to develop projects within the Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System Initiative to understand and influence the micro-conditions of societal gas use and the adoption of alternatives; leverage data and research insights on gas conversion activities; and guide decision-making by accelerating information transference.[26] The CEC proposes to allocate $7,600,000 in its 2024 Plan to this Initiative.[27]

<u>Gas System Safety Theme Proposed Initiatives</u>

The CEC states that it seeks to develop Initiatives within the Gas System Safety Theme to coordinate with Investor-Owned Utilities (IOUs) in "developing innovative tools and technologies to better assess system vulnerability and prevent damages from geohazards, excavation, corrosion, and other threats" to "reduce costs during [the gas] transition while ensuring safety and reliability."[28]

Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition

The CEC states that it seeks to develop projects within the Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition Initiative "to improve the costs, accuracy, and data quality in operations and maintenance of underground gas storage wells and transmission pipelines by developing strategies and resources, such as continuous monitoring technologies, less intrusive inspection methods, and data management and communication systems."[29] The CEC proposes to allocate $7,815,489 in its 2024 Plan to this Initiative.[30]

[26] AL 12-G at p. 25-32.
[27] AL 12-G at p. 2 & 24.
[28] AL 12-G at p. 32-33.
[29] AL 12-G at p. 33-38.
[30] AL 12-G at p. 2 & 24.

Renewable Generation Theme Proposed Initiatives

The CEC states that it seeks to develop Initiatives within the Renewable Generation Theme to develop decarbonized combustion and non-combustion generation technologies "that use different fuels based upon the availability and costs of the renewable fuel and the fuel blending infrastructure" in distributed generation applications.[31]

Fuel-Flexible Distributed Power Generation

The CEC states that it seeks to develop projects within the Fuel-Flexible Distributed Power Generation Initiative to adapt and demonstrate fuel-flexible "distributed generation technologies, such as reciprocating engines, gas turbines, linear generators, and fuel cells," while ensuring "performance, operability, cost, low-emissions, and decarbonization goals and targets" are met.[32] The CEC proposes to allocate $6,000,000 in its 2024 Plan to this Initiative.[33]

Gas RD&D Database Development

The CEC proposes to allocate $184,511 in its 2024 Plan for its proportional share of developing a comprehensive Gas RD&D Database.[34]

Program Administration

The CEC proposes to allocate ten percent of its FY 2024-2025 budget to administrative costs, totaling $2.4 million in its 2024 Plan.[35]

CEC AL 10-G-A Requests for 2025 Plan Approval

The CEC submitted its proposed 2025 Plan via Tier 3 CEC AL 10-G on March 28, 2025. The CEC replaced CEC AL 10-G with a supplement (CEC AL 10-G-A) on October 3,

[31] AL 12-G at p. 39-40.
[32] AL 12-G at p. 40-49.
[33] AL 12-G at p. 2 & 24.
[34] AL 12-G at p. 2 & 24.
[35] AL 12-G at p. 2, p. 24, & Appendix F.

2025. In CEC AL 10-G-A, the CEC seeks approval of its proposed 2025 Gas RD&D Plan, authorized by D.04-08-010 at up to $24 million with the proposed budget allocations to various Initiatives shown below:

Table 3: 2025 Gas RD&D Plan Proposed Budget[36]		
Investment Theme	**Initiative Title**	**2025 Plan Budget**
Gas Decommissioning	Social Science Research for Gas Decommissioning in the Mid and Long Term	$ 3,000,000
	Pilot Projects to Advance Gas Decommissioning	$ 6,000,000
Building Decarbonization	Networked Geothermal Heat Pumps	$ 12,600,000
Program Administration		$ 2,400,000
	ANNUAL TOTAL:	**$ 24,000,000**

<u>Gas Decommissioning Theme Proposed Initiatives</u>

The CEC states that it seeks to develop Initiatives within the Gas Decommissioning Theme to address the "substantial social, technological, political, and economic challenges to achieving the transition to cleaner energy resources" and "away from aging and high-maintenance portions of gas infrastructure."[37]

Social Science Research for Gas Decommissioning in the Mid- and Long-Term

The CEC states that it seeks to develop projects within the Social Science Research for Gas Decommissioning in the Mid- and Long-Term Initiative to create "a portfolio of research that investigates societal elements" and "[provides] supply chain, communications, tools, and community development recommendations that could help enable the transition."[38] The CEC proposes to allocates $3,000,000 in its 2025 Plan to this Initiative.[39]

[36] AL 10-G-A at p. 2 & 22.
[37] AL 10-G-A at p. 23-25.
[38] AL 10-G-A at p. 25-31.
[39] AL 10-G-A at p. 2 & 22.

Pilot Projects to Advance Gas Decommissioning

The CEC states that it seeks to develop projects within the Pilot Projects to Advance Gas Decommissioning Initiative which will involve "gas decommissioning pilot demonstrations to gather empirical data on technical, economic, and environmental feasibility and assess practical implications and challenges of midterm gas decommissioning."[40] The CEC proposes to allocate $6,000,000 in its 2025 Plan to this Initiative.[41]

Building Decarbonization Theme Proposed Initiatives

The CEC states that it seeks to develop Initiatives within the Building Decarbonization Theme to support "the shift to community-scale approaches that enable scaling, higher efficiencies, and greater impacts," including by harnessing networked geothermal heat pump (GHP) technology as a means of "decreasing overall energy consumption, replacing fossil gas use, and enabling high thermal efficiencies at a large scale."[42]

Networked Geothermal Heat Pumps

The CEC states that it seeks to develop projects within the Networked Geothermal Heat Pumps Initiative to "assess the potential cost-effectiveness and comparative environmental advantages of deploying networked geothermal technology as a zero-emission heating and cooling alternative for gas customers in California through a two-phase approach," including one or more pilot demonstrations.[43] The CEC proposes to allocate $12,600,000 in its 2025 Plan to this Initiative.[44]

Program Administration

CEC proposes to allocate ten percent of its FY 2024-2025 budget to administrative costs, totaling $2.4 million in its 2025 Plan.[45]

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[40] AL 10-G-A at p. 31-37.
[41] AL 10-G-A at p. 2 & 22.
[42] AL 10-G-A at p. 37-38.
[43] AL 10-G-A at p. 38-45.
[44] AL 10-G-A at p. 2 & 22.
[45] AL 10-G-A at p. 2, p. 22, & Appendix F.

NOTICE

Notice of CEC 12-G was made by publication on the Commission's Daily Calendar on August 25, 2025. Notice of CEC AL 10-G-A was made by publication on the Commission's Daily Calendar on October 8, 2025. CEC states that a copy of the Advice Letters were mailed and distributed in accordance with Section 4 of General Order 96-B.

PROTESTS

CEC AL 12-G was not protested.

CEC AL 10-G was protested by the Public Advocates Office at the CPUC (Cal Advocates) on April 17, 2025. CEC issued a reply to this protest on April 30, 2025. Cal Advocates asserted that, in AL 10-G, CEC does not sufficiently demonstrate compliance with Public Utilities Code Section 740.1;[46] D.04-08-010;[47] and CPUC Resolution G-3603,[48] which require that Gas RD&D investments be coordinated with and not duplicative of existing Gas RD&D efforts underway. Specifically, Cal Advocates stated that CEC should further demonstrate how the (1) Social Science Research for Gas Decommissioning in the Mid- and Long-Term and (2) Pilot Projects to Advance Gas Decommissioning Initiatives are coordinated with and distinct from efforts underway related to Senate Bill (SB) 1221;[49] CPUC's Long-Term Gas Planning Proceeding;[50] and those conducted by other research stakeholders. Cal Advocates also stated that the CEC does not demonstrate how the Social Science Research for Gas Decommissioning in the Mid- and Long-Term Initiative is complementary to and distinct from the University of California, Los Angeles (UCLA) Mindful Gas Decommissioning Research Project.[51] Cal Advocates also argued that CEC does not explain how the Pilot Projects to Advance Gas Decommissioning Initiative is coordinated with and distinct from investments

[46] California Public Utilities Code Section 740.1 at (d).
[47] D.04-08-010 at p. 47 & 50.
[48] Resolution G-3603 (2024) at OP 4.
[49] Senate Bill (SB) 1221 (2024). *Gas Corporations: Ceasing Service: Priority Neighborhood Decarbonization Zones.*
[50] R.24-09-012 (2024): Order Instituting Rulemaking (OIR) to Establish Policies, Processes, and Rules to Ensure Safe and Reliable Gas Systems in California and Perform Long-Term Gas System Planning.
[51] University of California, Los Angeles (UCLA), Institute of the Environment and Sustainability, *Mindful Gas Decommissioning Research Project* (2023).

proposed in Southern California Gas' (SoCalGas) 2023 Gas R&D Investment Plan[52] as approved and modified in CPUC Resolution G-3601.[53] Cal Advocates also highlighted where CEC discusses that "[w]hile network geothermal demonstrations are advancing in other states, research that accounts for California's climate, population, and other unique features is critical to understanding the role this technology can play in helping California achieve its climate and clean energy goals"[54] and recommended that CEC be required to identify more specific gaps it seeks to address with the Network Geothermal Heat Pumps Initiative.

CEC submitted a supplement to CEC AL 10-G to demonstrate how proposed investments will avoid unnecessarily duplicating prior, current, or future research per Gas RD&D program requirements, including information provided in CEC's reply to Cal Advocates' protest. CEC provided the following additional information in its supplement CEC AL 10-G-A, related to:

- Social Science Research for Gas Decommissioning in the Mid- and Long-Term & Pilot Projects to Advance Gas Decommissioning Initiatives. Specifically, the CEC stated:

  In August 2024, CEC staff presented early initiative outlines to IOUs for feedback. CEC and SoCalGas staff discussed and agreed on the feasibility of developing pilot projects in Northern California and Southern California based on preliminary studies by E3 and RAND. CEC staff and IOUs collectively agreed that further assessment is needed on system integration and community outreach methods. CEC and IOUs agreed to continue coordination with one another throughout SB 1221 implementation.[55]

  SoCalGas proposed several research areas in its 2023 RD&D Program Research Plan on gas decarbonization that complement but differ from the CEC's proposed initiatives on gas decommissioning. The SoCalGas plan describes that its programs would aim to: 1) advance clean gas production technology for gas decarbonization (Low Carbon Resources Program), 2) enhance pipeline safety (Gas Operations Program), and 3) improve gas equipment efficiency (Customer End-Use Applications Program). While these efforts enhance strategies

[52] SoCalGas' 2023 Gas RD&D Plan Tier 3 Advice Letter (5991-G).
[53] Resolution G-3601 (2023): Approving SoCalGas' 2023 Gas RD&D Plan.
[54] AL 10-G at p. 29 & AL 10-G-A at p. 44.
[55] AL 10-G-A at p. 35.

for reducing GHG emissions from the existing gas system, they differ in approach from zonal gas decommissioning, which involves retiring portions of California's fossil gas infrastructure.[56]

- Network Geothermal Heat Pumps Initiative. Specifically, the CEC stated:

While networked geothermal demonstrations are advancing in other states, research that accounts for California's climate, population, and other unique features is critical to understanding the role this technology can play in helping California achieve its climate and clean air goals… Nearly all current and planned studies and pilots are concentrated in cold climates where the heating load makes up the predominant share of space conditioning. California's cooling loads vary, and there will be a need to determine the applicability and feasibility of networked geothermal as a versatile technology for California's heavily populated coastal regions, which have experienced an increasing trend in annual cooling degree days, as well as for more inland and temperate regions. The initiative further seeks to study the benefits of Networked GHPs as an alternative to water-intense air-conditioning in large buildings, a particularly relevant R&D work stream for California, where water is often scarce.[57]

DISCUSSION

Concerns Raised in Cal Advocates' Protest to CEC AL 10-G-A

Based on Staff's assessment, the Commission finds that CEC has addressed Cal Advocates' concerns raised in its protest of CEC AL 10-G with the supplemental information subsequently provided in the AL supplement, CEC AL 10-G-A. See also CEC Response in AL 10-G-A to Resolution G-3603 (2024) at OP 4 in Appendix H, where similar concerns were raised and addressed. CEC AL 10-G-A was not protested anew by Cal Advocates.

Review of CEC Gas RD&D Plans

[56] AL 10-G-A at p. 37.
[57] AL 10-G-A at p. 45.

The CEC Gas RD&D program requirements span over two decades of statute, the Gas RD&D funding guidance in D.04-08-010, and 21 Commission resolutions approving the CEC's Gas RD&D Plans beginning in 2004. To review these Advice Letters, Energy Division staff first prepared a list of all Key CPUC Gas RD&D Resolution Requirements, see Appendix A.

Assessment of 2024 Plan

Energy Division staff conducted an assessment of CEC's AL 12-G proposing its 2024 Gas RD&D Investment Plan.[58] Staff assessed CEC's 2024 Plan based on consistency with requirements and previous Commission guidance. The Commission finds that in some areas CEC's AL 12-G is not fully compliant with the Commission's previously adopted requirements as described below. See also Appendix G for additional details:

1. The CEC does not disclose the following nor demonstrate that it:
    a. First utilized its applicable unspent fund balances, providing details of encumbrance and spending windows to demonstrate compliance.[59]
    b. Addressed whether any commercial benefits have resulted from Gas RD&D investment or otherwise state that none have accrued.[60]
    c. Explained whether any interest has accrued on deposited amounts in balancing accounts held by utilities.[61]
2. The CEC does not provide sufficient detail to demonstrate that each proposed Initiative is coordinated with the IOUs and other Gas RD&D entities, including how outputs and impacts are targeted and utilized to promote complementary rather than duplicative research efforts.[62]

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[58] See Resolution G-3622 at Appendix G: Compliance Assessment of AL 12-G.
[59] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans. Public Utilities Code Section 384 at (a); Resolution G-3484 (2013) at p. 5-6; Resolution G-3584 (2021): Approving CEC's FY 2021-2022 Gas RD&D Plan at p. 8 & OP 4; & Resolution G-3592 (2023) at OP 7. In AL 12-G at p. 9, CEC states that, "[p]er Resolutions G-3584 and G-3592, the CEC will ensure that for any unspent funds that the CEC has identified and seeks to use for new Gas R&D projects, the CEC will apply this unused funding before any new or additional ratepayer funds are used."
[60] D.04-08-010 at p. 42 & OP 21.
[61] D.04-08-010 at FOF 9.
[62] Public Utilities Code 740.1 at (d) & Resolution G-3603 (2024) at OP 4.

3. The CEC does not demonstrate alignment with CPUC proceedings[63] and ratepayer benefit in its *Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System* and *Fuel-Flexible Distributed Power Generation*[64] Initiatives. The Commission has not provided guidance on the appropriate role of gas ratepayers in funding hydrogen RD&D, therefore it is not an appropriate use of funds. Funding hydrogen RD&D projects would have further implications for future ratepayer funding, including in future Gas RD&D Plans.

The omissions noted above can be rectified with supplemental information. The CEC shall submit a revised 2024 Plan via Tier 2 AL within 90 days that can address the items described above, and as detailed in Appendix G of this Resolution.[65] Once approved, the CEC will have full approval of its 2024 Plan and can utilize authorized funding.

In addition, Energy Division staff worked with CEC staff to review the balance of previously approved funds from its FY 2015-2016 Plan to present in relation to currently requested funds for the CEC's 2024 Plan. The CEC has available funding unspent from prior years; as of the April 30, 2026, data request, the CEC reported $31,076,691 in applicable unspent fund balances. Therefore, to fund its 2024 Plan, the CEC shall first utilize its balance of applicable unspent funds given this balance exceeds the $21.6 million requested budget for Initiatives. The CEC shall utilize its existing balance of unspent funds as well as previously approved associated Program Administrative funds in its Public Interest RD&D Fund for expenses arising from the implementation of the CEC 2024 Plan. The CPUC is not currently able to authorize additional funding since Program Administration funds were already jointly allocated with the unspent funds. If the CPUC were to allocate additional Program Administration dollars associated with these previously approved (but unspent) funds, then the ratepayer contribution would exceed the 10% administrative cost budget cap.[66]

[63] Resolution G-3603 (2024) at OP 5.
[64] In AL 12-G at p. 42, CEC states that "this proposed initiative is focused on technological advancements and demonstrations of fuel-flexible technologies not necessarily limited to hydrogen."
[65] See Resolution G-3622 at Appendix G: Compliance Assessment of AL 12-G.
[66] Per Resolution G-3592 (2023) at OP 2.

Table 4: CEC's 2024 Gas RD&D Plan Budgets		
Applicable Unspent Funds per April 30, 2026, Data Request[67]	$	31,076,691
Utilized Applicable Unspent Funds for Initiatives	$	21,600,000
Associated Funds for Program Administration	$	2,400,000
New Ratepayer Funds for Initiatives	$	0
New Ratepayer Funds for Program Administration	$	0
Total New Ratepayer Funds	$	0
Total Budget for Initiatives	$	21,600,000
Total Budget for Program Administration	$	2,400,000
TOTAL ANNUAL BUDGET	$	**24,000,000**

Assessment of 2025 Plan

Energy Division staff conducted an assessment of CEC's AL 10-G-A proposing its 2025 Gas RD&D Investment Plan.[68] Staff assessed CEC's 2025 Plan based on consistency with requirements and previous Commission guidance. The Commission finds that in some areas, CEC's AL 10-G-A is not fully compliant with Commission requirements for the reasons described below. See also Appendix H for additional details:

1. The CEC does not disclose the following nor demonstrate that it:
    a. First utilized its applicable unspent fund balances, providing details of encumbrance and spending windows to demonstrate compliance.[69]
    b. Addressed whether any commercial benefits have resulted from Gas RD&D investment or otherwise state that none have accrued.[70]
    c. Explained whether any interest has accrued on deposited amounts in balancing accounts held by utilities.[71]
2. The CEC does not provide sufficient detail to demonstrate that the *Networked Geothermal Heat Pumps* Initiative will involve activities that are complementary to

[67] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans detailing balances provided by the CEC per an Energy Division data request on April 30, 2026.
[68] See Resolution G-3622 at Appendix H: Compliance Assessment of AL 10-G-A.
[69] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans. Public Utilities Code Section 384 at (a); Resolution G-3484 (2013) at p. 5-6; Resolution G-3584 (2021) at p. 8 & OP 4; & Resolution G-3592 (2023) at OP 7.
[70] D.04-08-010 at p. 42 & OP 21.
[71] D.04-08-010 at FOF 9.

rather than duplicative of ongoing and proposed CEC Gas RD&D and Electric Program Investment Charge (EPIC) Initiatives.[72]

The omissions noted above can be rectified with supplemental information. The CEC shall submit a revised 2025 Plan via Tier 2 AL within 90 days that can address the items described above, and as detailed in Appendix H of this Resolution.[73] Once approved, the CEC will have full approval of its 2025 Plan and can utilize the authorized funding.

Energy Division staff worked with CEC staff to review the balance of previously approved funds in relation to currently requested funds for the CEC's 2025 Plan. The CEC has available funding unspent from prior years; as of the April 30, 2026, data request, the CEC reported $31,076,691 in applicable unspent fund balances. Some of these funds, $21.6M, shall be used to cover CEC 2024 Plan costs as noted above. There will then be a remaining balance of $9,476,691 in applicable unspent funds.

The Commission's approval of a total budget of $24 million for the CEC's 2025 Plan is comprised of $9,476,691 in unspent funds and their associated Program Administrative funds and $13,470,429 in authorized new ratepayer funds.[74] To fund its 2025 Plan, the CEC shall first utilize its remaining balance of applicable unspent funds after funding its 2024 Plan, which the Commission approved via previous CEC Gas RD&D Plans with associated Program Administration budgets. Accordingly, the CEC is authorized to supplement the balance of unspent funds with $12,123,309 in new ratepayer collections for Initiatives, amounting to the authorized $21.6 million budget cap for approved RD&D Initiatives. Proportionally the CEC is additionally eligible for approximately 56.13% of the authorized $2.4 million Program Administration budget cap from new

[72] California Public Utilities Code 740.1 at (d).

[73] See Resolution G-3622 at Appendix H: Compliance Assessment of AL 10-G-A.

[74] Consistent with Resolution G-3495 (2014): Approving CEC's FY 2014-2015 Gas RD&D Plan at p. 9. "We find it appropriate that the CEC apply the cumulative unspent amount of $4.492 million from previous program cycles to CEC's funding request at the CPUC for the 2015-16 program cycle, which will result in reducing the amount the CEC will need to draw out of the program funds for the 2015-16 program cycle. As an example, if for Fiscal Year 2015-2016 CEC requests $24 million in its proposed budget, and the CPUC authorizes $24 million in spending, then the CEC shall draw $19.508 million from the CPUC instead of $24 million." See also: Resolution G-3495 (2014) at p. 6-9, FOF 6, & OP 5; Resolution G-3584 (2021) at OP 4; Resolution G-3592 (2023) at OP 7; & Resolution G-3622 at Appendix E: CEC Gas RD&D Funding Process for Budgets Less Than $24M detailing how if "the CPUC decides to authorize less than $24 million, the Energy Commission will proportionally reduce the requested transfers from the Gas Consumption Surcharge Fund by that amount."

ratepayer funds, amounting to $1,347,120. The CPUC is not currently able to authorize additional funding beyond the details above since Program Administration funds were already jointly allocated with the unspent funds. If the CPUC were to allocate additional Program Administration dollars associated with these previously approved (but unspent) funds, then the ratepayer contribution would exceed the 10% administrative cost budget cap.[75]

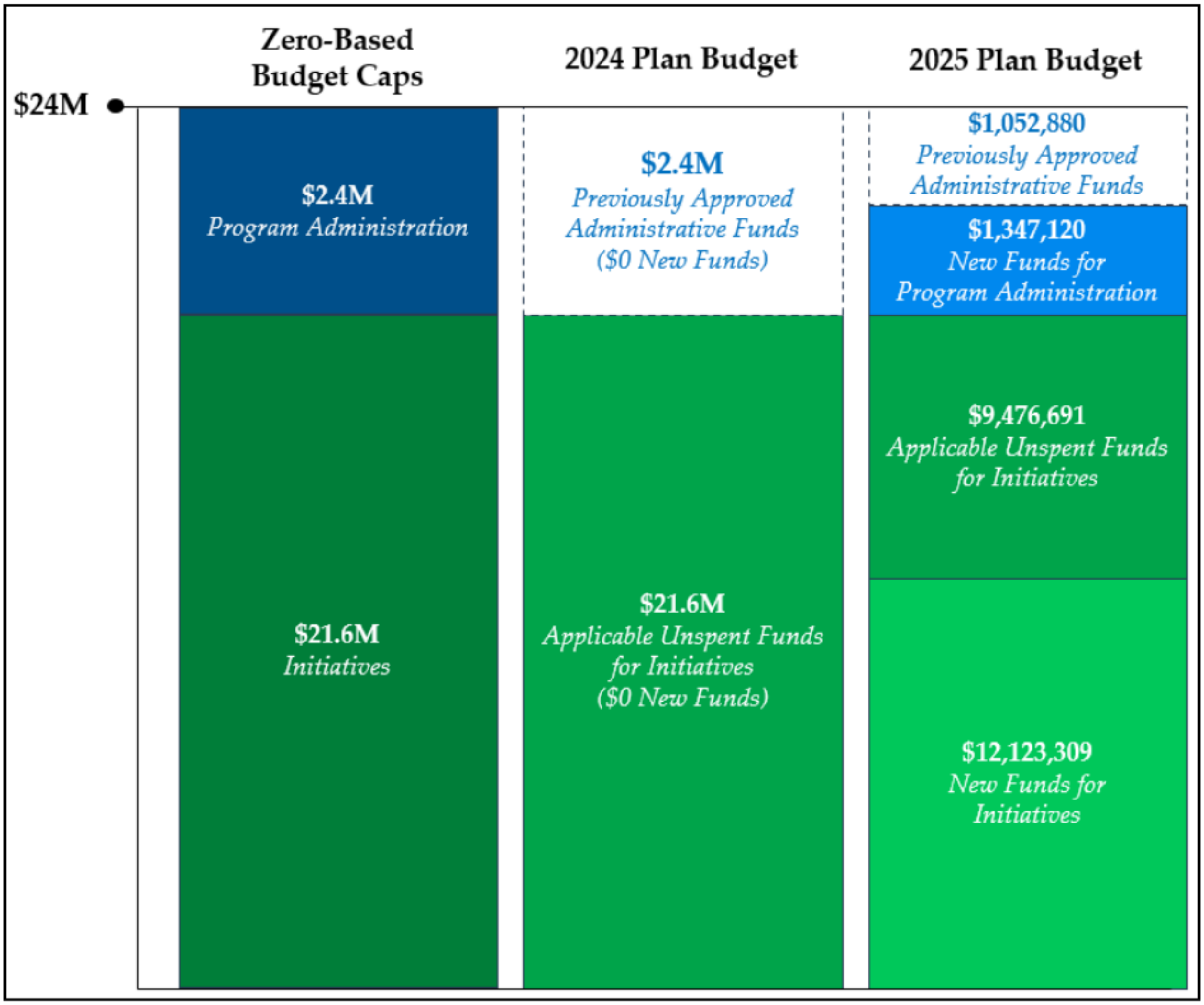
If, at the time this Resolution is issued, the CEC has encumbered or spent a portion of the approximately $31M in applicable unspent funds since reporting balances to the CPUC on April 30, 2026, the CEC shall provide updated balances to Energy Division in its Tier 2 ALs in the format provided in Appendix F. In its Tier 2 AL, the CEC shall also report potential interest and commercial benefits from Gas RD&D funds and investments or otherwise state that none have accrued. Energy Division is authorized to modify the calculations of CEC's 2025 Plan budget commensurately based on the balances of applicable unspent funds in addition to accrued interest and commercial benefits according to the methods described in this Resolution.

Table 5: CEC's 2025 Gas RD&D Plan Budgets		
Applicable Unspent Funds per April 30, 2026, Data Request[76]	$	31,076,691
Funding Re-allocated from Unspent Funds to 2024 Plan	$	21,600,000
Utilized Applicable Unspent Funds for 2025 Initiatives	$	9,476,691
Associated Funds for Program Administration	$	1,052,880
New Ratepayer Funds for Initiatives	$	12,123,309
New Ratepayer Funds for Program Administration	$	1,347,120
Total New Ratepayer Funds	$	13,470,429
Total Budget for Initiatives	$	21,600,000
Total Budget for Program Administration	$	2,400,000
Total Annual Budget	$	**24,000,000**

For clarity, we provide the graph below to illustrate how applicable unspent funds and associated Program Administration funds may be supplemented by new ratepayer funds within the authorized zero-based budget caps:

[75] Per Resolution G-3592 (2023) at OP 2.
[76] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans detailing balances provided by the CEC per an Energy Division data request on April 30, 2026.

Figure 1: Summary of Commission-Approved 2024 and 2025 Plan Budgets by Unspent and New Ratepayer Funds



Consolidated Guidance for Future CEC Gas RD&D Compliance Filings

The Commission details the following requirements for the efficient development, streamlined review, and effective implementation of future proposed Gas RD&D Plans. The CEC Gas RD&D Program requirements span over two decades of statute, the Gas RD&D funding guidance in D.04-08-010, and 21 Commission resolutions approving the CEC's Gas RD&D Plans beginning in 2004,[77] all of which were rigorously reviewed by Energy Division staff. This Resolution provides this consolidated list of program

[77] See Resolution G-3622 at Appendix A: Key CPUC Gas RD&D Resolution Requirements.

requirements based on the reviewed prior decisions and resolutions as well as establishes new requirements for improved Commission oversight.

Annual Investment Planning

Initiative Criteria

The CEC shall develop and propose Gas RD&D investments at the Initiative level and demonstrate the following for each, consistent with Commission guidance (see Appendix C):

1. **Policy Priority:** Alignment with and prioritization of critical gaps and needs identified in specific CPUC policies and proceedings, which support State goals, informed by consultation with CPUC staff on targeted policy objectives.
2. **Identified Need:** Innovation and differentiation from existing RD&D activities to support complementary rather than duplicative efforts, informed by specific consultation with other Gas RD&D Administrators. Demonstrate that the Initiative will leverage existing progress while providing distinct additional value.
3. **Proposed Solution**: Describe Research Topics, anticipated near-term project outputs commensurate with the proposed funding level, and intended pathways to scale, commercialize, and otherwise utilize results from RD&D activities to promote technology transfer and market facilitation.
4. **Anticipated Impacts**:
    a. Reasonable probability of providing California ratepayer benefit by locating projects in the State of California[78] and detailed planned methodologies for tracking and evaluating quantitative impacts from investments through the use of the EPIC Program's Uniform Impacts Analysis Foundational Principles.[79]
    b. Cost-effectiveness and protection of affordability to ratepayers.

[78] Consistent with Commission guidance to SoCalGas provided via Resolution G-3601 (2023) at OP 5. "The only exception made is for projects affiliated with out-of-state federal labs, in which case Administrators shall explicitly justify benefits to California ratepayers."
[79] Resolution G-3603 (2024) at OP 6. See Resolution G-3622 at Appendix D: EPIC Foundational Principles for the Development of a Uniform Impact Analysis Framework, adopted via D.23-04-042 at Appendix A.

c. Promote equity and provide benefits to Environmental & Social Justice (ESJ) communities, informed by consultation with community-based organizations (CBOs) and the Commission's most current ESJ Action Plan.[80]

Pre-Submittal Consultation

The refined, comprehensive pre-submittal consultation process detailed below promotes coordinated strategic planning across administrators to facilitate a holistic investment planning approach:[81]

- Intra-Administrator Coordination

  The CEC shall be proactive in collaborating with the IOU Gas RD&D administrators, Pacific Gas & Electric (PG&E) and Southern California Gas (SoCalGas), to promote and demonstrate strategically coordinated and complementary rather than duplicative RD&D activities.[82] The CEC shall document this coordination in its Gas RD&D Plans at the Initiative level, including by differentiating proposed Initiatives from similar activities, demonstrating how research outcomes inform future proposals, and defining each participant's specific intended role for each proposed Initiative.[83]

- Pre-Submittal Consultation with CPUC Subject Matter Experts (SMEs)

  The CEC shall consult with Energy Division staff to seek and integrate feedback prior to Plan submittal, and this consultation shall be documented at the Initiative level in Plans. This consultation is intended to promote ratepayer benefit and create efficiencies in the Commission's Plan review and approval by proactively aligning proposed investments at the start of the process with priority Gas RD&D-related

[80] Environmental & Social Justice (ESJ) Action Plan Version 2.0 (2022).
[81] Modifies Resolution G-3571 (2020) at OP 5e & Resolution G-3592 (2023) at OP 5b: The CEC is no longer required to provide the option to present to CPUC Commissioners in advance of Plan submittal.
[82] California Public Utilities Code Section 740.1 (d).
[83] Resolution G-3603 (2024) at OP 4. See Resolution G-3622 at Appendix C: Commission Guidance on Gas RD&D Initiative Criteria at 2.

technologies, market needs, and emerging opportunities as identified in CPUC proceedings and policies.[84]

The CEC should also explain consultation and coordination where relevant with the EPIC program. The EPIC Strategic Goal of "Achieving 100% Net-Zero Carbon and the Coordinated Role of Gas" highlights the intrinsic link between gas and electric investment policy and planning, particularly involving electrification and decarbonization efforts. Greater collaboration among California RD&D programs is necessary to identify and scale cost-effective strategies to provide ratepayer benefit and achieve "the last 10 percent of reaching the state's goal to be carbon neutral by 2045 economy-wide."[85] The CPUC's Long-Term Gas Proceeding also concludes that, "[t]o achieve California's decarbonization goals and effectuate an equitable gas transition, a coordinated, iterative, and long-term planning process will help the State agencies and utilities align initiatives related to gas system planning efforts and analytics."[86] Thus pre-submittal consultation with CPUC staff may be coordinated with other Gas RD&D and EPIC administrators to promote efficiencies and strategic, holistic investment planning across programs, thereby maximizing the impacts of investments.

- Public Workshop & ESJ Consultation

After receiving and integrating CPUC SME input to align with CPUC proceedings, the CEC shall collaborate with the IOUs to hold a Joint Annual Public Workshop to present coordinated investment proposals for the upcoming year and obtain stakeholder input prior to Plan submittal.[87] At the workshop, the CEC shall also present on outcomes from the previous year as reported in its Annual Report to promote transparency and accountability in demonstrating ratepayer benefit in addition to informing subsequent strategic investment planning. The CEC shall

[84] Resolution G-3571 (2020): Approving CEC's FY 2020-2021 Gas RD&D Plan at OP 5a & Resolution G-3603 (2024) at OP 5. See Resolution G-3622 at Appendix C: Commission Guidance on Gas RD&D Initiative Criteria at 1.
[85] D.24-03-007: Decision Adopting Strategic Goals for the EPIC Program at p. 19-20.
[86] D.24-09-012 at p. 6.
[87] Resolution G-3555 (2019): Approving CEC's FY 2019-2020 Gas RD&D Plan at OP 6a & 6b; & Resolution G-3571 (2020) at OP 8b. Consistent with: Resolution G-3573 (2021): Approving SoCalGas' 2021 Gas RD&D Plan at OP 3 & Resolution G-3586 (2022): Approving SoCalGas' 2022 Gas RD&D Plan at OP 5; & Resolution G-3592 (2023) at OP 5d.

consult Energy Division staff on its engagement of diverse relevant stakeholders, document specific feedback, detail the clear progression of proposal development and refinement through each stage of consultation, and demonstrate how input has been incorporated at the Initiative level in Plans. The CEC shall provide sufficient time for stakeholder questions and discussion, specifically via a robust, dedicated engagement component of the workshop with Environmental and Social Justice (ESJ) and Tribal communities. The CEC shall offer members of the Disadvantaged Communities Advisory Group (DACAG) the opportunity to provide input on its proposed Plan with sufficient lead-time prior to Plan submittal.[88]

Annual Plan Submittal & Approval

The CEC must submit proposed Gas RD&D Plans to the Commission via Tier 3 Advice Letter (AL) annually.[89] The CEC shall post proposed and approved Investment Plans publicly so that they are easily accessible on its website and notify the CPUC of the web address. The CEC shall also coordinate with other Gas RD&D administrators to develop service lists of relevant ongoing CPUC Proceedings on which to serve Plans and consult with Energy Division staff to ensure these lists are sufficient.[90]

The CEC's Gas RD&D Annual Plan shall only become effective when the Commission adopts a resolution approving the Plan and associated zero-based budget.[91] The CEC's annual budget cap for Gas RD&D Plans is $24 million,[92] including up to $21.6 million for Initiatives and $2.4 million for Program Administration. The Program Administration budget is capped at 10% of the total adopted budget and must be delineated by allowable cost categories so the CPUC may understand how these costs

[88] Resolution G-3571 (2020) at OP 8a & Resolution G-3592 (2023) at OP 5a.
[89] Resolution G-3571 (2020) at OP 6. "In developing the future Natural Gas R&D Plans, the CPUC requests that the CEC submit future Natural Gas R&D Plans via the Tier 3 Advice Letter/business letter process."
[90] Resolution G-3571 (2020) at OP 5c & 5d.
[91] General Order 96-B Rule 7.3.5 at PDF p. 19. D.04-08-010 at p. 37: "[W]e will adopt a zero-based budget subject to approval by the Commission."
[92] D.04-08-010 at p. 37-38.

are allocated and reasonable, consistent with Commission requirements for EPIC administrators.[93]

Staff must ensure that utility PPP surcharge rates for the following year are consistent with the Commission's adopted zero-based budget.[94] After Commission approval of the CEC's Annual Plan, the CEC may request a schedule of quarterly transfers from CPUC's Gas Consumption Surcharge Fund via a letter to the State Controller's Office (SCO) which permits PPP funds to be transferred to the CEC's Public Interest RD&D Fund. The CEC shall provide Energy Division with an annual Tier 1 AL to demonstrate its request to access the PPP funds is consistent with the Gas RD&D zero-based budget adopted by the Commission. Pursuant to D.04-08-010, disbursements from CPUC's Gas Consumption Surcharge Fund to CEC's Public Interest RD&D Fund must be consistent with the Gas RD&D zero-based budget adopted by the Commission[95] and the established schedule of quarterly transfers.

Prior to the CPUC issuing a draft resolution addressing Gas RD&D Plans, Energy Division must identify whether the CEC retains a balance of applicable unspent funds and whether commercial benefits or interest have accrued, each of which must be

[93] Resolution G-3592 (2023) at OP 2 & 5e. See Resolution G-3622 at Appendix B: Administrative Budget Cost Categories.
[94] D.04-08-010 at p. 44.
[95] D.04-08-010 at p. 41.

utilized first to offset new and/or additional ratepayer costs. To support Staff's oversight requirements, the CEC shall report the following in Annual Plans:

- Pertaining to previously approved Gas RD&D Plans:
    - The balances of spent, unspent, encumbered, and unencumbered Gas RD&D funds for each specific Initiative and for Program Administration.[96]
    - Commission-approved budget allocations, Commission approval dates,[97] and encumbrance and spending deadlines.[98]
    - For funding reallocated from approved Initiatives, the Plan and specific Initiative the funding has been reallocated to; relatedly, for funding reallocated to new Initiatives, the Plan and specific Initiative funding has been reallocated from.[99]
- Commercial benefits which may result from Gas RD&D investments.[100]
- Interest on deposited amounts in balancing accounts held by utilities.[101]

The CEC shall submit Tier 1 ALs by the start of each quarter[102] to Energy Division that provide updated statuses on the above data as part of CEC's ongoing accounting practices.

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[96] CEC shall delineate balances of Program Administration funds in reporting according to the required template. See Resolution G-3622 at Appendix B: Administrative Budget Cost Categories adopted in Resolution G-3592 (2023) at OP 5e.

[97] Commission approval dates may vary by specific Initiative in the same Gas RD&D Plan as the Commission may approve some Initiatives via Tier 3 ALs in resolutions and others via subsequent Tier 2 ALs.

[98] Resolution G-3484 (2013) at p. 5-6 & OP 5; Resolution G-3495 (2014) at OP 3; Resolution G-3507 (2015): Approving CEC's FY 2015-2016 Gas RD&D Plan at OP 3; Resolution G-3519 (2016) at OP 3; Resolution G-3527 (2017): Approving CEC's FY 2017-2018 Gas RD&D Plan at OP 3; & Resolution G-3592 (2023) at OP 7. Consistent with Resolution G-3555 (2019) at OP 4. The intent of these requirements is for CEC to demonstrate it has spent its cumulative authorized budgets for approved purposes per Resolution G-3484 (2013) at p. 6, or for the CPUC to understand which Initiatives received funds that went unspent in order recognize any trends and better optimize budget allocations per Resolution G-3584 (2021) at p. 10.

[99] Resolution G-3584 (2021) at OP 3 & Resolution G-3592 (2023) at OP 7.

[100] D.04-08-010 at p. 42 & OP 21.

[101] D.04-08-010 at FOF 9. "Ratepayers should receive interest on deposited amounts in balancing accounts held by utilities." See also D.04-08-010 at p. 8.

[102] By January 1, April 1, July 1, and October 1.

Annual Plan Implementation & Reporting

To support the Commission's oversight requirements for the accountability of ratepayer dollars, the CEC shall provide advance notice to the Commission when seeking to implement projects or make any modifications to Commission-approved Gas RD&D Plans. This practice will promote accountability, transparency, coordination, and communication in making investments on behalf of ratepayers. At least 60 days in advance of undertaking any of the following activities, the CEC shall consult Energy Division via a Tier 1 AL regarding:

- Shifting funds between Initiatives or Plans.[103]
- Modifying research topics for Initiatives, requiring justification for doing so.
- Issuing Requests for Proposals (RFPs).

This type of reporting establishes structure and common expectations as well as helps to ensure continued alignment with CPUC policies and proceedings, where ratepayer impacts are specifically considered.

Annual Report

This Resolution modifies the Annual Report deadline set in Resolution G-3394 (2006) to promote coordination and transparency across administrators of CPUC ratepayer-funded RD&D programs. The IOUs' Gas RD&D programs and CPUC's electric RD&D program, EPIC, summarize cohesive calendar year (CY) outcomes rather than fiscal year outcomes. Annual Reports shall be due June 1 of each year,[104] covering the previous CY. To accommodate the transition from fiscal year (FY) to CY reporting, CEC's next Gas RD&D Annual Report, currently due October 31, 2026, shall be due June 1, 2027, and cover a one-and-a-half-year period: July 2025 through December 2026. To ensure public transparency and inform CPUC oversight, the CEC shall utilize a standardized template provided by Energy Division staff to include:

[103] Resolution G-3571 (2020) at OP 4. "If the CEC is unable to obtain data it deems necessary to complete any of the projects proposed in the Fiscal Year 2020-2021 plan, it must first consult with Energy Division staff overseeing this program before reallocating any funding."
[104] Modifies Resolution G-3394 (2006) at OP 2. "The CEC shall submit its… Annual [Report] by October 31st."

- Consolidated, comprehensive reporting by incorporating the approved funding balance reporting required in Annual Plans as described above.
- Synthesized major accomplishments and contributions to Gas RD&D.
- Detailed information on all active and recently completed projects and realized ratepayer benefits,[105] clearly identifying the associated approved Plans and specific Initiatives.

Funding Requirements

The CEC has two years to encumber[106] project funds from Commission authorization and up to an additional four years to spend[107] the encumbered project funds. Remaining project funds not encumbered or spent within these timeframes, disencumbered,[108] or otherwise unspent[109] six years after authorization may no longer be utilized for previously approved purposes.[110] If funds for Initiatives from an approved Gas RD&D Plan remain unspent after the encumbrance and spending windows close, the CEC shall retain and utilize a commensurate portion of Program Administrative funds to administer these funds upon Commission re-authorization in a subsequent Gas RD&D Plan. Energy Division staff must assess the balances of these applicable unspent funds, as defined by the encumbrance and spending windows, including associated funds for Program Administration, to be utilized first in funding new Gas RD&D Plans, prior to new and/or additional ratepayer funds.[111] This includes

[105] Consistent with Public Resources Code 25620.8 at (a)(6).
[106] Resolution G-3584 (2021) at p. 8. "'Encumbered funds' refers to funds that are committed to projects through an executed contract but have not yet been spent."
[107] Resolution G-3584 (2021) at p. 8. "'Spent funds' refers to contracted funds that are spent on a project."
[108] Resolution G-3584 (2021) at p. 8. "'Disencumbered funds' refers to previously encumbered funds that become unencumbered because the project has been terminated or was completed under budget or due to other reasons."
[109] Resolution G-3584 (2021) at p. 8. "'Unspent funds' refers to contracted funds that have not yet been spent on a project or funds that have not been encumbered."
[110] Public Utilities Code Section 384 at (a); Resolution G-3484 (2013) at p. 5-6; Resolution G-3584 (2021) at p. 8. Note Public Utilities Code Section 384 does not apply to CEC's Gas RD&D Program Administration funds.
[111] Resolution G-3495 (2014) at p. 6-9, FOF 6, & OP 5; Resolution G-3584 (2021) at OP 4; Resolution G-3592 (2023) at OP 7. See Resolution G-3622 at Appendix E: CEC Gas RD&D Funding Process for Budgets Less Than $24M detailing how if "the CPUC decides to authorize less than $24 million, the Energy Commission will proportionally reduce the requested transfers from the Gas Consumption Surcharge Fund by that amount."

demonstrating Program Administration funds remain within the 10% budget cap[112] for all approved Gas RD&D funding. As described above, the CEC shall support Staff's oversight requirements by ensuring timely and transparent reporting in Annual Reports, Annual Plans, and Tier 1 ALs with updated data by the start of each quarter.[113]

Proactive interagency coordination and information sharing on proposed Plans and implementation promotes the optimal and prudent use of ratepayer funds. For example, pre-submittal consultation with CPUC staff is the first essential step in promoting alignment with ratepayer benefits including equity and affordability as well as creating efficiencies in CPUC Plan review to implement RD&D investments in a timely manner. Further, these parameters allow Gas RD&D investments to be responsive to evolving policies, research gaps, technologies, and market conditions to address timely innovations that can promote ratepayer benefits and support the State's broader climate and safety goals.

The CPUC's Utility Audits Branch (UAB) conducted an audit of CEC's Gas RD&D Program spending between July 1, 2022, and June 30, 2023, finding that program expenditures were generally used for allowable purposes.[114] However, the Audits process was prolonged due to insufficient initial available information provided by the CEC, necessitating several data requests to verify compliance. To address this moving forward, the CEC shall maintain supporting documentation for transparency in spending ratepayer funds that is easily auditable, including for grant recipients. In the use of ratepayer funds, the CEC shall comply with state requirements and procedures, including California Travel Reimbursements guidelines on lodging.[115]

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112 Resolution G-3592 (2023) at OP 2.
113 By January 1, April 1, July 1, and October 1.
114 CPUC Utility Audits Branch California Energy Commission Gas Research and Development Program Performance Audit Report (August 28, 2025) at p. 2.
115 Travel Reimbursements - CalHR Benefits Website.

Additional Program Modifications

Oversight Funds

The Commission has directed each Gas RD&D administrator, including the CEC, to allocate funds towards its proportional share of a Gas RD&D Program Evaluation[116] to be implemented by Energy Division. Energy Division shall advise the CEC on any reimbursement process to support a consolidated, comprehensive independent Program Evaluation across all Gas RD&D administrators to promote efficiencies, assess the Gas RD&D program at a holistic level, and improve transparency regarding the use of ratepayer funds. The CEC shall allocate funds towards its proportional share, $184,511, of developing a comprehensive Gas RD&D Database of projects.[117] In consultation with Energy Division staff and the Database administrator, the CEC shall allocate and reimburse additional funds in future Plans for its proportional share of the maintenance and operational needs of the Database once established. Energy Division shall advise the CEC on next steps.

Modeling EPIC's Strategic Goals & Objectives

In Resolution G-3618 (2026),[118] the Commission finds that Energy Division staff may commence a stakeholder process and facilitate strategic planning to model the EPIC program by identifying Strategic Goals[119] to promote coordination, consistency, and best practices across ratepayer-funded RD&D investments.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this Resolution must be served on all parties and subject to at least 30 days public review. Any comments are due within 20 days of the date of its mailing and publication on the Commission's website and in accordance with any instructions accompanying the notice. Section 311(g)(2) provides

[116] Resolution G-3592 (2023) at OP 3. "In its Fiscal Year 2023-2024 Gas R&D Plan, the CEC shall allocate 4% of its budget ($960,000) to fund a comprehensive evaluation of the CEC's Gas R&D program to be implemented Energy Division…"
[117] Consistent with Resolution G-3601 (2023) at OP 3a & D.23-11-069 at p. 221.
[118] Resolution G-3618 (2026) at p. 25 & OP 11.
[119] D.23-04-042 at OP 3 & D.24-03-007.

that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding. Comments must be limited to 10 pages or less.

FINDINGS AND CONCLUSIONS

1. The California Energy Commission (CEC) filed its 2024 (AL 12-G) and 2025 (AL 10-G-A) Gas Research, Development, and Demonstration (RD&D) Investment Plans per decision (D.)04-08-010.
2. The CEC's proposed Gas RD&D Plan and associated zero-based budget only become effective upon Commission approval via resolution.
3. Prior to Gas RD&D Plan approval via resolution, Energy Division must verify the CEC's balance of applicable unspent funds in addition to potential interest and commercial benefits from Gas RD&D funds and investments, all of which must be used to offset new and/or additional ratepayer costs for the CEC's Gas RD&D Plans accordingly. The CEC must utilize these funds prior to any new and/or additional ratepayer funds.
4. Energy Division staff must ensure that utility surcharge rates for the following year are consistent with the adopted zero-based budget and reflective of the funds used to offset new and/or additional ratepayer funds.
5. Disbursements from the CPUC's Gas Consumption Surcharge Fund to the CEC's Public Interest RD&D Fund must not exceed the zero-based budget adopted by the Commission.
6. The CEC's AL 12-G is not fully compliant with Commission requirements for the following reasons (See Appendix G for details):
    a. The CEC does not disclose the following nor demonstrate that it:
        i. First utilized its applicable unspent fund balances, providing details of encumbrance and spending windows to demonstrate compliance.
        ii. Addressed whether any commercial benefits have resulted from Gas RD&D investment or otherwise state that none have accrued.
        iii. Explained whether any interest has accrued on deposited amounts in balancing accounts held by utilities.

   b. The CEC does not provide sufficient detail to demonstrate that each proposed Initiative is coordinated with the IOUs and other Gas RD&D entities, including how outputs and impacts are targeted and utilized to promote complementary rather than duplicative research efforts.
   c. The CEC does not demonstrated alignment with CPUC proceedings and ratepayer benefit in its *Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System* and *Fuel-Flexible Distributed Power Generation* Initiatives. The Commission has not provided guidance on the appropriate role of gas ratepayers in funding hydrogen RD&D as these projects would have further implications for future ratepayer funding, including in future Gas RD&D Plans.

7. The CEC's AL 10-G-A is not fully compliant with Commission requirements for the following reasons (See Appendix H for details):
   a. The CEC does not disclose the following nor demonstrate that it:
      i. First utilized its applicable unspent fund balances, providing details of encumbrance and spending windows to demonstrate compliance.
      ii. Addressed whether any commercial benefits have resulted from Gas RD&D investment or otherwise state that none have accrued.
      iii. Explained whether any interest has accrued on deposited amounts in balancing accounts held by utilities.
   b. The CEC does not provide sufficient detail to demonstrate that the *Networked Geothermal Heat Pumps* Initiative will involve activities that are complementary to rather than duplicative of ongoing and proposed CEC Gas RD&D and EPIC Initiatives.
8. The CEC's *Social Science Research for Gas Decommissioning in the Mid and Long Term* and *Pilot Projects to Advance Gas Decommissioning* Initiatives in its proposed 2025 Plan submitted via Tier 3 AL 10-G-A are compliant with all applicable Commission requirements.
9. The CEC appropriately responded to and addressed concerns in Cal Advocates' protest on AL 10-G-A submitted April 30, 2025.
10. The CEC responded to a CPUC data request on April 30, 2026, with updated balances of spent and unspent encumbered funds and unencumbered funds from previously approved Gas RD&D Plans from FY 2015-2016 to present to

supplement information provided in its Annual Report and Annual Plan appendices.

11. The Consolidated Guidance for Future CEC Gas RD&D Compliance Filings section of this Resolution is provided to support the efficient development, streamlined review, and effective implementation of future proposed Gas RD&D Plans.

THEREFORE, IT IS ORDERED THAT:

1. The California Energy Commission's (CEC's) Gas Research, Development, and Demonstration (RD&D) Program funding level for its 2024 Plan (AL 12-G) is $24 million, comprised of $21.6 million from applicable unspent funds and $2.4 million in associated Program Administration funds. The CEC is not authorized any new ratepayer funds to fund its 2024 Plan.
2. The CEC's Gas RD&D Program funding level for its 2025 Plan (AL 10-G-A) is $24 million, comprised of:
    a. $9,476,691 from applicable unspent funds for Initiatives and $1,052,880 in associated Program Administration funds; and
    b. $13,470,429 in new ratepayer funds, including:
        i. $12,123,309 for Initiatives, and
        ii. $1,347,120 for Program Administration.
3. CEC shall submit Tier 2 Advice Letters with revised 2024 and 2025 Plans addressing all compliance issues outlined in Appendices G and H and requirements outlined in this Resolution within 90 days. CEC shall commensurately modify its 2024 and 2025 Gas RD&D Plans with this information and attach to its Advice Letter: 1) a track-change version of its original Plan; 2) a clean version of its updated Plan; 3) a table describing the changes it has made aligned with the ordering paragraph and page number.
4. If, at the time this Resolution is issued, the CEC has encumbered or spent a portion of the approximately $31M in applicable unspent funds since reporting balances to the CPUC on April 30, 2026, the CEC shall provide updated balances to Energy Division in its Tier 2 ALs in the format of Appendix F. In its Tier 2 AL, the CEC shall also report potential interest and commercial benefits from Gas

RD&D funds and investments or otherwise state that none have accrued. Energy Division is authorized to modify the calculations of CEC's 2025 Plan budget commensurately based on the balances of applicable unspent funds in addition to accrued interest and commercial benefits according to the methods described in this Resolution.

5. Upon Commission approval, CEC shall not fund hydrogen-related RD&D under its proposed 2024 Plan *Fuel-Flexible Distributed Power Generation* Initiative as the Commission has not provided guidance on the appropriate role of gas ratepayers in funding hydrogen RD&D, particularly as these projects would have further implications for ratepayer funding, including in future Gas RD&D Plans.
6. In alignment with the requirements outlined in the Consolidated Guidance for Future CEC Gas RD&D Compliance Filings section of this Resolution, CEC shall:
    a. Propose investments at the Initiative level and demonstrate fulfillment of the Initiative Criteria for each proposed Initiative.
    b. Conduct the detailed pre-submittal consultation process to promote coordinated strategic planning across administrators to facilitate a holistic investment planning approach.
    c. Report on the following in Annual Plans to support Energy Division staff's oversight requirements:
        i. Pertaining to previously approved Gas RD&D Plans:[120]
            1. The balances of spent, unspent, encumbered, and unencumbered Gas RD&D funds for each specific Initiative and for Program Administration.
            2. Commission-approved budget allocations, Commission approval dates, and encumbrance and spending deadlines.
            3. For funding reallocated from approved Initiatives, the Plan and specific Initiative the funding has been reallocated to; relatedly, for funding reallocated to new Initiatives, the Plan and specific Initiative funding has been reallocated from.
        ii. Commercial benefits which may result from Gas RD&D investments.

[120] Also required in the CEC's Gas RD&D Annual Reports.

iii. Interest on deposited amounts in balancing accounts held by utilities.

d. Submit Tier 1 ALs by the start of each quarter to Energy Division that provide updated statuses on the above data.[121]
e. Provide Energy Division with an annual Tier 1 AL to demonstrate its request to the SCO to access PPP funds is consistent with the Gas RD&D zero-based budget adopted by the Commission via resolution.
f. Consult Energy Division at least 60 days in advance regarding:
    i. Shifting funds between Initiatives or Plans.
    ii. Modifying research topics for Initiatives.
    iii. Issuing Requests for Proposals (RFPs).
g. Submit Gas RD&D Annual Reports to Energy Division by June 1 annually for the previous calendar year, utilizing a standardized template provided by Energy Division.[122]
h. If funds for Initiatives from an approved Gas RD&D Plan remain unspent after the encumbrance and spending windows close, retain and utilize a commensurate portion of Program Administrative funds to administer these funds upon Commission re-authorization in a subsequent Gas RD&D Plan.
i. In the use of ratepayer funds, maintain supporting documentation for transparency that is easily auditable, including for grant recipients, and comply with state requirements and procedures.

7. CEC shall allocate funds towards its proportional share, $184,511, of developing a comprehensive Gas RD&D Database of projects.
8. Energy Division shall advise CEC on any reimbursement process to support a consolidated, comprehensive independent Program Evaluation across all Gas RD&D administrators to create efficiencies and improve transparency regarding the use of ratepayer funds.

[121] Resolution G-3622 at OP 6c.
[122] To accommodate the transition from FY to CY reporting, CEC's next Annual Report, currently due October 31, 2026, shall be due June 1, 2027, for a one-and-a-half-year period: July 2025 through December 2026.

9. In consultation with Energy Division staff and the Database administrator, CEC shall allocate and reimburse additional funds in future Plans for its proportional share of the maintenance and operational needs of the Database once established.
10. CEC's Advice Letters 12-G and 10-G-A proposing for CEC to record up to $24 million for each FY 2024-2025 and FY 2025-2026 in Gas RD&D expenses are partially approved.

This Resolution is effective today.

Commissioner Signature blocks to be added upon adoption of the resolution.

The foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on October 8, 2026; the following Commissioners voting favorably thereon:

Dated ________________, at__________________, California

APPENDIX A

APPENDIX A: Key CPUC Gas RD&D Resolution Requirements

The Commission set requirements for CEC's Gas RD&D Program via resolutions approving CEC's Gas RD&D Plans, beginning in 2004.[123] *All applicable Commission requirements set via resolution were rigorously reviewed to identify the following key orders for the Commission's evaluation of CEC's proposed Plans:*

Resolution	Commission Order/Requirement
Resolution G-3394 (2006): Approving CEC's FY 2007-2008 Gas RD&D Plan	**OP 2**. The CEC shall submit its Annual [Plan] by March 31st, and its Annual [Report] by October 31st, [124] beginning in 2008.
Resolution G-3484 (2013): Approving CEC's FY 2013-2014 Gas RD&D Plan	In the interest of transparency, the CEC shall give an accounting of unspent PIER Natural Gas R&D funds in each future year proposed budget, beginning with the proposed budget for Fiscal Year 2014-2015. The CPUC understands that the CEC has two years to encumber PIER Natural Gas R&D funds with projects and an additional four years before such funds expire.[125] Beginning with the Fiscal Year 2014-2015 proposed budget, the CEC shall include in its proposed budget an account, by research area, of then-current unspent funds in the PIER Natural Gas R&D program, including encumbrances and expiration dates.[126] The intent of this requirement is to show that the CEC has spent its cumulative authorized budgets in the areas in which the money was authorized and to provide an accounting of the status of cumulative unspent funds. This requirement shall remain in place for each fiscal year's proposed budget, until otherwise directed by the CPUC (**p. 5-6**).
Resolution G-3571 (2020): Approving CEC's FY 2021-2021 Gas	**OP 5**. In developing all future Natural Gas R&D Plans, the CPUC requests that the CEC:

[123] Resolution G-3371 (2004): Approving CEC's CY 2005 Gas RD&D Plan.
[124] This Resolution modifies this requirement: CEC's Annual Reports will be due June 1, pertaining to the calendar year beginning in 2027.
[125] Public Utilities Code Section 384 at (a) "Any appropriations that are made from the fund shall have an encumbrance period of not longer than two years, and a liquidation period of not longer than four years." Consistent with Resolution G-3584 (2021) at p. 8. This allows the CEC certain flexibility to implement project funding approved by the CPUC for one fiscal year across fiscal years within these parameters.
[126] See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans. Consistent with:

Resolution G-3484 (2013) at OP 5.
Resolution G-3495 (2014) at OP 3.
Resolution G-3507 (2015): Approving CEC's FY 2015-2016 Gas RD&D Plan at OP 3.
Resolution G-3519 (2016) at OP 3.
Resolution G-3527 (2017) at OP 3.
Resolution G-3555 (2019) at OP 4 & 8.
Resolution G-3584 (2021) at OP 3.

Resolution	Commission Order/Requirement
RD&D Plan.	a) At least three weeks in advance of the public workshop on the proposed budget plan, coordinate with CPUC staff on development of the Draft Plan.[127] b) Post the Natural Gas Research and Development Program: Proposed Budget Plan publicly on their website and notify CPUC of the web address when requesting approval of the plan. c) Distribute the Natural Gas Research and Development Program: Proposed Budget Plan through the CEC's research/R&D community listservs and include the names of the distribution lists served when requesting CPUC's approval of the plan. d) Consult with Energy Division staff on which CPUC listservs from ongoing CPUC proceedings the CEC should notice their proposed plan to. e) Consult with CPUC staff to allow for the option of presenting the Natural Gas Research and Development Program: Proposed Budget Plan to the CPUC Commissioners during a CPUC Commissioner Committee Meeting.[128]
	OP 6. In developing the future Natural Gas R&D Plans, the CPUC requests that the CEC submit future Natural Gas R&D Plans via the Tier 3 Advice Letter/business letter process.
Resolution G-3584 (2021): Approving CEC's FY 2021-2022 Gas RD&D Plan	**OP 5**. In developing the Fiscal Year 2022-2023 Gas R&D Plan, the CEC shall: a) Consider the Assembly Bill 3232 (Friedman, 2018) report.[129]
	OP 6. In developing future Gas R&D plans, the CEC shall: a) Consider the Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals as it becomes available.[130]
Resolution G-3592 (2023): Approving CEC's FY 2022-2023 Gas RD&D Plan	**OP 5a**. Identify and engage appropriate disadvantaged community stakeholders to provide increased input on how to administer the program equitably. The CEC shall include details

[127] The Commission's compliance assessments of Resolution G-3571 (2020) at OP 5a is captured in the compliance assessments of AL 12-G and 10-G-A with Resolution G-3603 (2024) at OP 5. The CEC "shall coordinate with Energy Division and CPUC Staff in advance of commencing its plan."
[128] Consistent with Resolution G-3592 (2023) at OP 5b. The CEC shall "[c]onsult Energy Division staff at least sixty days in advance for the opportunity to present the CEC's Gas R&D plans to CPUC Commissioners, which may include the Commission's business meeting or the Commission's Emerging Technology Committee."
[129] Kenney, Michael, Nicholas Janusch, Ingrid Neumann, and Mike Jaske. California Energy Commission. 2021. "California Building Decarbonization Assessment." Publication Number: CEC-400-2021-006-CMF. https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.
[130] Consistent with Resolution G-3592 (2023) at OP 5f.

Resolution	Commission Order/Requirement
	on how disadvantaged community stakeholders and DACAG input was incorporated into each Gas R&D theme, as relevant to their input.[131]
	OP 5c & d. Describe its process for seeking collaborative and co-funding opportunities, detailed proposals for such opportunities, or explain why it did not consider collaborative and co-funding opportunities [and] include information on coordination with the IOUs and other research stakeholders at both a high-level on coordination process and project level details of partnership, costs, and co-funding within the body of the research plan.[132]
	OP 5e. Use the EPIC administrative budget template.[133]
	OP 7. In Fiscal Year 2023-2024 and all future plans, the CEC shall identify unspent funds proposed in previous plans in the Public Interest Research Development and Demonstration Natural Gas Subaccount. The CEC shall ensure that requests to use encumbered and unspent funds for any new projects will identify the respective research areas for which the CPUC originally authorized the funding. The CEC shall also list all spent, encumbered, and uncommitted funds organized by Gas R&D initiative. Unencumbered and unspent funds shall be utilized prior to the utilization of new and/or additional ratepayer funds.[134]
Resolution G-3603 (2024): Approving CEC's FY 2023-2024 Gas RD&D Plans	**OP 4**. [The CEC] shall be proactive and specific in articulating its coordination and collaboration with the Investor-Owned Utilities (IOUs), and other Gas Research and Development (R&D) entities, in advance of commencing its plan. The CEC shall meet with the administrators of other Gas R&D programs and describe in its annual plan how its research complements other Gas R&D research occurring in California, consistent with CPUC policies and proceedings.[135]
	OP 5. To ensure that research plans are coordinated, consistent, and aligned with CPUC policies and proceedings, the California Energy Commission shall coordinate with Energy Division and CPUC Staff in advance of commencing its plan.

[131] Consistent with:
Resolution G-3546 (2018): Approving CEC's FY 2018-2019 Gas RD&D Plan at OP 3a.
Resolution G-3555 (2019) at OP 6a & b.
Resolution G-3571 (2020) at OP 8a & b.
[132] Consistent with D.04-08-010 at p. 28 & Resolution G-3603 (2024) at OP 4.
[133] See Resolution G-3622 at Appendix B: Administrative Budget Cost Categories.
[134] Consistent with Resolution G-3584 (2021) at OP 4.
[135] Consistent with D.04-08-010 at p. 28 & Resolution G-3592 (2023) at OP 5c & d.

Resolution	Commission Order/Requirement
	OP 6. Once the Electric Program Investment Charge (EPIC) program's Uniform Impact Analysis framework is approved by the Commission, the California Energy Commission shall use this framework to demonstrate outcomes of achieving its proposed benefits for all current and future research projects including through quantitative methodologies.[136]

[136] Consistent with: Resolution G-3592 (2023) at OP 6.

APPENDIX B

APPENDIX B: Administrative Budget Cost Categories

Program Administrative Cost Budget Item	**Calendar Year ($)**
Investment Plan Development	
Project Planning and Initiation	
Project Oversight and Governance	
Stakeholder Communication, Engagement, and Outreach	
Regulatory Support Compliance	
Internal Management Coordination	
Program and Process Coordination and Improvement	
Administrative Activities	
Supervision and Personnel	
Training and Development	
Total	

APPENDIX C

APPENDIX C: Commission Guidance on Gas RD&D Initiative Criteria

Commission orders in bold pertain to the CEC.

Commission Guidance	**Initiative Criteria**
D.19-09-051 at p. 379. **Resolution G-3571 (2020) at OP 5a.** Resolution G-3601 (2023) at OP 6a. **Resolution G-3603 (2024) at OP 5.**	1. **Policy Priority:** Alignment with and prioritization of critical gaps and needs identified in specific CPUC policies and proceedings, which support State goals, informed by consultation with CPUC staff on targeted policy objectives.
Public Utilities Code Section 740.1 (d) Resolution G-3586 (2022) at OP 5. **Resolution G-3592 (2023) at OP 5d.** Resolution G-3601 (2023) at OP 6a & 6i. **Resolution G-3603 (2024) at OP 4.** D.24-12-074 at p. 327. Consistent with: D.23-04-042 at Appendix A. See Resolution G-3622 at Appendix D: EPIC Foundational Principles for the Development of a Uniform Impact Analysis Framework.	2. **Identified Need:** Innovation and differentiation from existing RD&D activities to support complementary rather than duplicative efforts, informed by specific consultation with other Gas RD&D Administrators. Demonstrate that the Initiative will leverage existing progress while providing distinct additional value.
Resolution G-3573 (2021) at OP 3. Resolution G-3601 (2023) at OP 6c. Consistent with: D.23-04-042 at Appendix A.	3. **Proposed Solution**: Describe Research Topics, anticipated near-term project outputs commensurate with the proposed funding level, and intended pathways to scale, commercialize, and otherwise utilize results from RD&D activities to promote technology transfer and market facilitation.
a. Public Utilities Code 740.1 at (a). D.04-08-010 at p. 28; FOF 32; & OP 17. Resolution G-3586 (2022) at OP 4 & 5. **Resolution G-3592 (2023) at OP 6.** Resolution G-3601 (2023) at OP 5 & 6b.	4. **Anticipated Impacts**: a. Reasonable probability of providing California ratepayer benefit by locating projects in the State of California[137] and

[137] Resolution G-3601 (2023) at:

Resolution G-3603 (2024) at OP 6. D.23-11-069 at p. 218 & 220. Consistent with: D.23-04-042 at Appendix A.	detailed planned methodologies for tracking and evaluating quantitative impacts from investments through the use of the EPIC Program's Uniform Impacts Analysis Foundational Principles.
b. Public Utilities Code Section 740.1 (e)(5) Resolution G-3586 (2022) at OP 4. D.23-11-069 at p. 218. Consistent with: Executive Order (EO) N-5-24 (Newsom, 2024)	b. Cost-effectiveness and protection of affordability to ratepayers.
c. **Resolution G-3555 (2019) at OP 6a.** **Resolution G-3571 (2020) at OP 8b.** Resolution G-3573 (2021) at OP 3. Resolution G-3586 (2022) at OP 4 & 5. Environmental & Social Justice (ESJ) Action Plan Version 2.0 (2022). **Resolution G-3592 (2023) at OP 5a.** Resolution G-3601 (2023) at OP 3d & 6. D.23-11-069 at p. 218 & 220-221.	c. Promote equity and provide benefits to Environmental & Social Justice (ESJ) communities, informed by consultation with community-based organizations (CBOs) and the Commission's most current ESJ Action Plan.

OP 5. "All of [SoCalGas'] new and future [RD&D] projects shall occur in the State of California. The only exception may be made for projects with out of state federal labs. In this case, SoCalGas shall explicitly justify benefits to its gas ratepayers of an out-of-state project in its Tier 3 Advice Letter annual plan."
OP 6. "[SoCalGas shall] b. Explicitly justify how all consortia dues benefit gas ratepayers."

APPENDIX D

APPENDIX D: EPIC Foundational Principles for the Development of a Uniform Impact Analysis Framework[138]

This document outlines the Commission's expectations of Electric Program Investment Charge (EPIC) administrators in developing a uniform impact analysis framework and metrics, enabling the evaluation and tracking of the impacts of all EPIC projects, that complies with D.21-11-028, Ordering Paragraph 12. These foundational principles include:

Purpose

- The mandatory guiding principle of EPIC is to provide ratepayer benefits as related to California's electric system.[139]
- The EPIC impacts analysis framework should provide EPIC administrators with a uniform methodology to demonstrate with data the realized and potential impacts to ratepayers from EPIC research, development, and demonstration (RD&D) investment.

Overarching Principles

- In general, each EPIC project should offer a reasonable probability of providing benefits to ratepayers and expenditures on projects which have a low probability for success should be minimized,[140] and the EPIC portfolio as a whole should demonstrably benefit ratepayers.
- While in some cases, a targeted group of ratepayers may benefit from an individual project's output, EPIC investments should result in scalable and replicable innovations that prioritize solutions to address California's energy and climate goals.
- Accurate and precise EPIC project and program impacts reporting is paramount to inform policy, decision making, and formulating EPIC strategic goals. Therefore, impacts resulting from the analytical framework must be defensible and not overstated.

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[138] D.23-04-042 at Appendix A.

[139] D.12-05-037: OIR on the Commission's Own Motion to Determine the Impact on Public Benefits Associated with the Expiration of Ratepayer Charges Pursuant to Public Utilities Code Section 399.8.

[140] California Public Utilities Code Section 740.1 at (a) and (b).

- Clear methods are necessary to calculate past, current, and future EPIC impacts based on published data and reasonable assumptions, such that any party can take the data and assumptions and apply the methodology to recreate the results. Without such foundation, it will be difficult to calculate quantitative impacts of EPIC innovations that lack the market or deployment history to have readily available sufficient data for impacts analysis or project future impacts of pre-commercial innovations.

Net Impacts

- Realized ratepayer benefits must be demonstrated by the incremental, value-added impact of EPIC innovation.
    - For example, if a ratepayer spends $20 to save $30, the ratepayer benefit realized is the net $10 savings, not the gross $30 impact. Thus, the metric by which EPIC investments should be evaluated is *net*, not gross, impacts.
- Net impacts are required to calculate project or program benefit-cost ratios and rates of return on investment.

Attribution

- To understand the impact of EPIC accurately and precisely, and therefore, inform continuance or improvements in EPIC strategic goals and strategic objectives, administrators should demonstrate to the CPUC what impacts have or are forecasted to occur that would not have otherwise occurred without EPIC investment (i.e., only these impacts should be attributed to EPIC.)
- The portion of the observed change that is only due to EPIC investment must be documented with data, and a set of reasonable and acceptable rules for determining the share of credit attributed to EPIC developed, including attribution for the value of cost-shared, matching, or leveraged funding.
- Comparable scenarios should be used to estimate when the market would have produced an innovation had EPIC funding not been available. Where innovation would have eventually occurred without EPIC, impacts should be based on the acceleration in the time to market readiness of the innovation, rather than the lifetime of the technology itself.
    - For example, if a deployed EPIC innovation provides impacts for 20 years between 2025 and 2045, and it is determined the innovation would have

occurred and been deployed without EPIC in 2030, then the period of market acceleration due to EPIC is five years and EPIC impacts are calculated only for that 5-year period.

Methods

- Administrators should use or adapt existing accepted methodologies where possible for efficiencies of resources, time, cost, and effort.
- The methodology used to calculate benefits should be grounded in theory (i.e., if funding certain small businesses is seen as beneficial, data documentation and impact demonstration of this strategy should be provided).
- Impacts evaluation may involve expert elicitation. Clearly and succinctly framing questions is required to guide experts in obtaining pertinent data.

Metrics

- D.13-11-025, Attachment 4 provides a list of impacts (*Metrics and Potential Areas of Measurement)* proposed by the EPIC administrators and approved by the CPUC, which can serve as the basis for discussion of metrics. The list includes 10 impact metric categories and 59 potential areas of measurement. The decision allows creation of new project-specific impact metrics to consider for revisions.
- Because units of measure have not been defined for many of these metrics, additional definitions are required for uniform impact reporting. This impacts metrics list may be modified and updated based on new information and must be used consistently across all administrators.

Assumptions

- To the extent possible, administrators should use the same core data set for basic assumptions, such as the emissions profile of peak power in each service area. If administrators do not use the same data set, they should provide rationale for why not.
- While market penetration assumptions may vary by innovation, the method by which these assumptions are arrived should be consistent.

Impact Reporting

- For clarity of impacts on different economic sectors, direct, indirect, and induced impacts should be disaggregated in reporting.

Iterative Process

- Guidelines may be revised and clarified as the EPIC Impacts Analysis Framework is developed to achieve the goals and principles outlined above.

APPENDIX E

APPENDIX E: CEC Gas RD&D Funding Process for Budgets Less Than $24M

CEC's FY 2012-2013 Annual Report (October 2013) (p. 6-7)

[Resolution G-3484] requires the Energy Commission to explain its process for funding the PIER Natural Gas R&D program in cases where the CPUC authorizes less than what the Energy Commission proposed in its budgets.

The Energy Commission acknowledges that the CPUC retains the authority to approve the full amount of funds requested in the annual Natural Gas R&D Budget Plan or to reduce that amount if the CPUC believes that a lesser amount is in the ratepayers' interest. If in future years the CPUC decides to authorize less than $24 million, the Energy Commission will proportionally reduce the requested transfers from the Gas Consumption Surcharge Fund by that amount. Below is the detailed process the Energy Commission would follow:

- The Energy Commission submits a proposed budget as part of the annual State Budget process in the fall of each year for consideration in the next year's Governor's budget. Included in the budget request is up to $24 million in proposed PIER Natural Gas funding.
- The Energy Commission submits a proposed PIER Natural Gas Budget plan to the CPUC by the following March 31st of each year for the CPUC's consideration. Typically the CPUC decides on the request by June 30th.
- The state budget is approved by the Legislature and signed by the Governor.
- Depending on the outcome of the steps above, the Energy Commission requests that the CPUC transfer the funds in four equal payments on October 1, January 1, April 1, and July 1 of the appropriate year.

If the annual natural gas budget plan submitted to the CPUC in March of each year is approved for the requested $24M, then the Energy Commission will request the transfer of $6M from the *CPUC Gas Consumption Surcharge Fund* in quarterly payments on the dates identified above. Once transferred those funds are placed in the Energy Commission's *Public Interest Research Development & Demonstration, Natural Gas Subaccount*.

If during its review of the proposed natural gas budget plan, the CPUC determines that it does not want to fund an element of the proposed budget (for example, only approve $22M of the $24M requested in the budget plan), then the CEC would request from the CPUC four equal payments of $5.5M that fiscal year instead of the maximum possible of $6M. Therefore, the CEC will only request one fourth of the amount approved by the CPUC and adopted in their resolution for any given year be transferred into the *Public Interest Research Development & Demonstration, Natural Gas Subaccount*.

APPENDIX F

APPENDIX F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans

*Gas RD&D Plan	*Initiative	*Approval Date	Encumbrance Deadline[141]	Spending Deadline[142]	*Unencumbered Funds[143]	*Unspent Encumbered Funds[144]
FY 2015-2016	Energy Efficiency: Buildings End-Use Energy Efficiency	06/25/2015	06/25/2017	06/25/2021	$ 0	$ 123,052
	Renewable Energy and Advanced Generation	06/25/2015	06/25/2017	06/25/2021	$ 0	$ 17,757
	Natural Gas-Related Transportation	06/25/2015	06/25/2017	06/25/2021	$ 0	$ 16,411
	Energy-Related Environmental Research	06/25/2015	06/25/2017	06/25/2021	$ 0	$ 11,482
	Natural Gas Pipeline Integrity	06/25/2015	06/25/2017	06/25/2021	$ 0	$ 305,349
FY 2015-2016 Supplemental	Energy-Related Environmental Research	12/03/2015	12/03/2017	12/03/2021	$ 0	$ 188,333
FY 2016-2017	Energy Efficiency: Industrial, Agriculture, and Water Efficiency	09/30/2016	09/30/2018	09/30/2022	$ 543,673	$ 279,667
	Renewable Energy and Advanced Generation	09/30/2016	09/30/2018	09/30/2022	$ 0	$ 390,680
	Natural Gas-Related Transportation	09/30/2016	09/30/2018	09/30/2022	$ 0	$ 1,235
FY 2016-2017 Supplemental	Energy-Related Environmental Research	04/27/2017	04/27/2019	04/27/2023	$ 22	$ 44,546
FY 2017-2018	Energy Efficiency	09/28/2017	09/28/2019	09/28/2023	$ 0	$ 55,846
	Renewable Energy and Advanced Generation	09/28/2017	09/28/2019	09/28/2023	$ 305	$ 1
	Natural Gas-Related Transportation	09/28/2017	09/28/2019	09/28/2023	$ 865,642	$ 17,821
	Energy-Related Environmental Research	09/28/2017	09/28/2019	09/28/2023	$ 0	$ 36,143
	Natural Gas Infrastructure Safety and Integrity	09/28/2017	09/28/2019	09/28/2023	$ 0	$ 177,764
FY 2018-2019	Energy Efficiency	01/31/2019	01/31/2021	01/31/2025	$ 880,430	$ 1,283,863
	Energy-Related Environmental Research	01/31/2019	01/31/2021	01/31/2025	$ 0	$ 996,269

[141] Two years after funding approval per Public Utilities Code Section 384 at (a); Resolution G-3484 (2013) at p. 5-6; Resolution G-3584 (2021) at p. 8.
[142] Four years after encumbrance per Public Utilities Code Section 384 at (a); Resolution G-3484 (2013) at p. 5-6; Resolution G-3584 (2021) at p. 8.
[143] Remaining funds not encumbered to projects, excluding unencumbered funds which CEC was approved to reallocate in subsequent Gas RD&D Plans.
[144] Remaining unspent funds of those encumbered, excluding unspent funds which CEC was approved to reallocate in subsequent Gas RD&D Plans.

	Natural Gas Infrastructure Safety and Integrity	01/31/2019	01/31/2021	01/31/2025	$	0	$	30,353
FY 2019-2020	Energy Efficiency	08/01/2019	08/01/2021	08/01/2025	$	5,992,293	$	708,478
	Renewable Energy and Advanced Generation	08/01/2019	08/01/2021	08/01/2025	$	485,418	$	0
	Natural Gas-Related Transportation	08/01/2019	08/01/2021	08/01/2025	$	0	$	1,476,466
	Natural Gas Infrastructure Safety and Integrity	08/01/2019	08/01/2021	08/01/2025	$	0	$	94,149
	Natural Gas Strategic Planning Research (Crosscutting)	08/01/2019	08/01/2021	08/01/2025	$	0	$	3,642
FY 2019-2020 Supplemental	Energy Efficiency	08/01/2019	08/01/2021	08/01/2025	$	0	$	495,355
	Energy-Related Environmental Research	08/01/2019	08/01/2021	08/01/2025	$	0	$	437,949
	Natural Gas Infrastructure Safety and Integrity	08/01/2019	08/01/2021	08/01/2025	$	0	$	540,553
	Natural Gas Strategic Planning Research (Crosscutting)	08/01/2019	08/01/2021	08/01/2025	$	2,290,000	$	0
FY 2020-2021	Transportation	11/05/2020	11/05/2022	11/05/2026	$	333	$	0**
	Energy-Related Environmental Research	11/05/2020	11/05/2022	11/05/2026	$	725	$	0**
	Natural Gas Infrastructure Safety and Integrity	11/05/2020	11/05/2022	11/05/2026	$	72	$	0**
FY 2021-2022	Energy-Related Environmental Research	09/23/2021	09/23/2023	09/23/2027	$	600,864	$	0**
FY 2022-2023	Decarbonization of Gas End Uses	03/16/2023	03/16/2025	03/16/2029	$	3,175,645	$	0**
	Energy Efficiency	03/16/2023	03/16/2025	03/16/2029	$	1,500,000	$	0**
	Gas Pipeline Safety and Integrity	06/06/2023	06/06/2025	06/06/2029	$	7,772	$	0**
	Targeted Gas System Decommissioning	06/06/2023	06/06/2025	06/06/2029	$	2,000,315	$	0**
FY 2023-2024	Air Pollutant Exposure Assessment in California Residences	05/09/2024	05/09/2026	05/09/2030	$	5,000,016	$	0**
				TOTAL:	$	23,343,525	$	7,733,165
				TOTAL APPLICABLE UNSPENT FUNDS:	**$**	**$31,076,691**		

**Information in indicated columns are pulled from CEC's data request response provided April 30, 2026.*

***Unspent Encumbered Funds balance is not $0, but the spending window has not closed. Note: CEC's reported balance of approved funds within encumbrance and spending windows is $53,603,242.*

APPENDIX G

APPENDIX G: Compliance Assessment of Advice Letter 12-G – 2024 Plan

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
Public Utilities Code 740.1 at (d) *Projects should not unnecessarily duplicate research currently, previously, or imminently undertaken by other electrical or gas corporations or research organizations.*	**1.** Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System: The CEC states that "[p]rojects funded by earlier Gas R&D decommissioning initiatives are continuing to make progress in compiling infrastructure and other geospatial data in guiding planning, assessing air quality impacts of reducing fossil gas use, and analyzing location-specific data to identify promising candidate pilot sites for infrastructure decommissioning."[145] Under Expected Initiative Outcomes, the CEC lists "[s]ynthesizing and communicating evidence of air quality impacts, health implications, and other costs and benefits from converting from fossil gas, including attention to the distribution of these impacts. This work could draw data from a variety of existing resources, e.g., measured data on air exchange rates in homes along with house square footage as collected during home energy upgrade programs, and pollutant concentration data from indoor air quality research. It could then use a combination of data to model impacts."[146] In Appendix D: List of 2023 Gas R&D Events, CEC lists (1) a Pre-Application Workshop: Quantifying Exposures to Indoor Air Pollutants in Multifamily Homes that Cook with Gas or Alternatives (GFO-23-501) in November 2023 and (2) Meeting of the California Energy Commission's Healthy, Equitable Energy Transition (HEET) Working Group, covering the theme "Understanding Air Quality and Equity Impacts of Clean Energy Interventions Using Models and Measurements" in December 2023. **2.** Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition: See: The CEC Response in AL 12-G to Resolution G-3603 (2024) at OP 4. **3.** Fuel-Flexible Distributed Power Generation: The CEC states it has "collaborated on and co-funded several Gas R&D projects in the past and further collaboration is expected in the future" and that this Initiative "could also leverage other state programs such as those funded through CPUC including the SoCalGas FY 2022-2023	**1.** The CEC must provide greater detail to demonstrate that outputs and impacts will be targeted and utilized to promote complementary rather than duplicative efforts. In the CEC's FY 2023-2024 Plan, it describes how this Initiative "advances the [CEC's] Gas R&D Program's decommissioning portfolio by filling a key gap between prior work and future planned efforts" and proceeds to list Initiatives and projects funded via previous CEC Gas RD&D Plans as well as this proposed FY 2024-2025 Initiative under "Gas decommissioning planning tools and frameworks."[149] The CEC must model the thorough accounting of previous investments included in its FY 2023-2024 and FY 2025-2026 Plans, including correlating this Initiative with direct activities related to "Quantifying Exposures to Indoor Air

[145] AL 12-G at p. 31.
[146] AL 12-G at p. 27.
[149] CEC's Approved FY2023-2024 Gas RD&D Plan at p. 37-38.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	R&D Budget Plan,"[147] listing several of SoCalGas' "synergistic and non-duplicative R&D initiatives."[148]	Pollutants in Multifamily Homes that Cook with Gas or Alternatives." **The CEC is *not* compliant with this requirement.** **2.** See: Compliance Assessment of Resolution G-3603 (2024) at OP 4. **The CEC is *not* compliant with this requirement.** **3**. The CEC sufficiently details and contrasts similar RD&D Initiatives and activities conducted by SoCalGas. **The CEC is compliant with this requirement.**
Public Utilities Code 740.1 at (e) *Each project should also support one or more of the following objectives:* *(1) Environmental improvement.* *(2) Public and employee safety.* *(3) Conservation by efficient resource use or by reducing or shifting system load.*	The CEC proposes budget allocations broken down by Initiatives within Investment Themes as follows: Gas System Safety: **1**. Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition.[150] Gas Decommissioning: **2**. Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System.[151] Renewable Generation: **3.** Fuel-Flexible Distributed Power Generation.[152]	Each of the CEC's proposed Initiatives supports one or more of the required objectives. **The CEC is compliant with this requirement.**

[147] AL 12-G at p. 42.
[148] AL 12-G at p. 40.
[150] AL 12-G at p. 32-38.
[151] AL 12-G at p. 24-32.
[152] AL 12-G at p. 38-49.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
(4) Development of new resources and processes, particularly renewable resources and processes which further supply technologies. *(5) Improve operating efficiency and reliability or otherwise reduce operating costs.*		
D.04-08-010 at p. 28. *Support State Energy policy.*	The CEC states that "the Gas R&D Program supports state energy policies and goals, such as achieving economywide carbon neutrality by 2045 (Executive Order B-55-18 and AB 1279, Muratsuchi, Chapter 337, Statutes of 2022) and doubling energy efficiency by 2030 (SB 350, De León, Chapter 547, Statutes of 2015)" among "several other ley energy and climate policies and goals."[153] The CEC provides additional information on policies relevant to each Initiative in Appendix A.	The CEC discusses several State Energy policies which its program supports. **The CEC is compliant with this requirement.**
D.04-08-010: *[The Gas RD&D program shall have] a maximum cap of $24 million after four years; these amounts shall include all necessary R&D administrative costs* (p. 38). *Disbursements from the Fund to the R&D administrator shall not exceed the adopted zero-based R&D budget* (p. 41-42).	The CEC proposes a total FY2024-2025 Plan budget of $24 million, including Program Administration costs.[154]	The CEC's proposed budget, including all necessary RD&D administrative costs, complies with the $24M annual cap. **The CEC is compliant with this requirement.** However, the CEC shall first utilize unspent funds prior to any new ratepayer funds for its 2024 Plan as described in this Resolution.
D.04-08-010 at p. 42. *[W]e expect the administrator to inform the Energy Division if and when any*	The CEC does not discuss commercial benefits that may have resulted from Gas RD&D investment.	**The CEC does *not* demonstrate compliance with this requirement.** In Annual Plans,

153 AL 12-G at p. 7.
154 AL 12-G at p. 2 & 24.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
commercial benefits result from the gas R&D projects funded through the gas surcharge. Commercial benefits may be used to offset future R&D costs, reduce the gas surcharge, or be returned to ratepayers, upon determination of the Commission.		the CEC shall disclose all potential commercial benefits that may result from Gas RD&D investment and demonstrate they are used to offset ratepayer costs for new Plans or otherwise state that none have accrued.
D.04-08-010 at FOF 9. *Ratepayers should receive interest on deposited amounts in balancing accounts held by utilities.*	The CEC does not discuss interest that has accrued on deposited amounts in balancing accounts held by utilities.	**The CEC does *not* demonstrate compliance with this requirement.** In Annual Plans, the CEC shall disclose all interest that accrues on deposited amounts in balancing accounts held by utilities and demonstrate it is used to offset ratepayer costs for new Plans.
Resolution G-3394 (2006) at OP 2. *The CEC shall submit… its Annual [Report] by October 31st, beginning in 2008.*	The CEC provided a draft FY 2023-2024 Annual Report to Energy Division on October 25, 2024, and received an extension to submit its final FY 2023-2024 Annual Report in March 2025.	**The CEC is compliant with this requirement.** However, the CEC shall strive to provide its final Annual Report by the deadline.
Resolution G-3484 (2013) at p. 5-6: *In the interest of transparency, the CEC shall give an accounting of unspent PIER Natural Gas R&D funds in each future year proposed budget, beginning with the proposed budget for Fiscal Year 2014-2015. The CPUC understands that the CEC has two years to encumber PIER Natural Gas R&D*	The CEC provides balances of encumbered and unspent funds from CEC's Plans from FY 2014-2015 through FY 2023-2024 as of January 2025 in Appendix B. The CEC states that "Funds Unspent refers to funds that have not been encumbered to an executed agreement (contract or grant), or previously encumbered funds that become unencumbered because the agreement has been canceled or due to other reasons."[156] The CEC reports $26.14M in unspent funds from its FY 2023-2024 Plan and details that, for this Plan, the CPUC approved reallocations amounting to $1.23M from its FY 2020-2021 Plan; $3.81 from its FY 2016-2017 Plan; and $1.5M from its FY 2015-2016 Plan in previously unspent funds. The CEC does not request to use unspent funds for any new projects in its FY 2024-2025 Plan, but states that it "will ensure that for any use of	Though the CEC reports unspent and encumbered funds, the CEC does not detail encumbrance and spending windows to demonstrate compliance. The CEC also does not provide information on the spending of program administrative costs. The information provided does not demonstrate that the CEC has

[156] AL 12-G at B-1.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
funds with projects and an additional four years before such funds expire.[155] *Beginning with the Fiscal Year 2014-2015 proposed budget, the CEC shall include in its proposed budget an account, by research area, of then-current unspent funds in the PIER Natural Gas R&D program, including encumbrances and expiration dates. The intent of this requirement is to show that the CEC has spent its cumulative authorized budgets in the areas in which the money was authorized and to provide an accounting of the status of cumulative unspent funds. This requirement shall remain in place for each fiscal year's proposed budget, until otherwise directed by the CPUC.*	encumbered and unspent funds that the CEC requests for new projects, the request will identify the respective research areas for which the CPUC originally authorized the funding."[157] However, the CEC also responded to a Spring 2026 CPUC data request with updated balances of spent and unspent encumbered funds and unencumbered funds from previously approved Gas RD&D Plans from FY 2015-2016 to present to supplement information provided in its Plan appendices. The CEC reports a total of $31,076,691 in Unspent Encumbered Funds and Unencumbered Funds outside of encumbrance and spending windows per this requirement: See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans.	spent its cumulative authorized budgets in the areas in which the money was authorized nor provide sufficient accounting on the status of cumulative unspent funds. **The CEC is *not* compliant with this requirement.** To clearly demonstrate compliance with reporting requirements, the CEC shall utilize the standardized template provided by Energy Division for its Annual Report.
Resolution G-3571 (2020) at OP 5. *In developing all future Natural Gas R&D Plans, the CPUC requests that the CEC:*[158] *b) Post the Natural Gas Research and Development*	b) The CEC states that it posts proposed Plans on "CEC's website on the page for CEC Energy Research and Development investment plans and annual reports",[159] citing California Energy Commission. "Annual Report," https://www.energy.ca.gov/data-reports/reports/energy-research-and-development-investment-plans-and-annual-reports. c) & d) The CEC details the noticed CEC lists and CPUC listservs.[160]	The CEC posted its Plan publicly and accessibly; distributed on listservs; and offered to present to CPUC Commissioners. **The CEC is compliant with this requirement.**

155 Consistent with Public Utilities Code Section 384 at (a) & Resolution G-3584 (2021) at p. 8.
157 AL 12-G at B-1.
158 The Commission's compliance assessments of Resolution G-3571 at OP 5a is captured in the compliance assessment of AL 12-G with Resolution G-3603 at OP 5.
159 AL 12-G at p. 10.
160 *Ibid.*

CPUC Requirement	**CEC Response in AL 12-G**	**Compliance Assessment**
Program: Proposed Budget Plan publicly on their website and notify CPUC of the web address when requesting approval of the plan. *c) Distribute the Natural Gas Research and Development Program: Proposed Budget Plan through the CEC's research/R&D community listservs and include the names of the distribution lists served when requesting CPUC's approval of the plan.* *d) Consult with Energy Division staff on which CPUC listservs from ongoing CPUC proceedings the CEC should notice their proposed plan to.* *e) Consult with CPUC staff to allow for the option of presenting the Natural Gas Research and Development Program: Proposed Budget Plan to the CPUC Commissioners during a*	e) The CEC states that its "offer to present the proposed budget plan was sent to Energy Division staff on January 25, 2024".[161]	

[161] AL 12-G at p. 8.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
CPUC Commissioner Committee Meeting.		
Resolution G-3571 (2020) at OP 6. *In developing the future Natural Gas R&D Plans, the CPUC requests that the CEC submit future Natural Gas R&D Plans via the Tier 3 Advice Letter/business letter process.*	The CEC submitted its FY 2024-2025 Gas RD&D Investment Plan Tier 3 Advice Letter (AL) (6-G) on March 27, 2024; submitted a supplemental Tier 3 AL (6-G-A) on November 11, 2024; withdrew the supplement on February 13, 2025; and resubmitted a Tier 3 AL (12-G) on August 8, 2025.	The CEC submitted its proposed FY 2024-2025 Gas RD&D Plan via Tier 3 AL. **The CEC is compliant with this requirement.**
Resolution G-3584 (2021) at OP 5. *In developing the Fiscal Year 2022-2023 Gas R&D Plan, the CEC shall: a) Consider the Assembly Bill 3232 (Friedman, 2018) report.[162]*	The CEC states that it "considered the AB 3232 (Friedman, Chapter 373, Statutes of 2018) report in developing the Gas R&D Budget Plan, specifically the seven key strategies to decarbonize residential and commercial buildings outlined in the 2021 report California Building Decarbonization Assessment. The initiatives in this FY 2024–2025 Gas R&D Budget Plan support several of the recommended strategies[:] • The 'Fuel-Flexible Distributed Power Generation' research initiative supports the second strategy detailed in the report for 'Decarbonizing the Electricity Generation System.' The initiative proposes using different types and qualities of renewable fuels, such as hydrogen, biomethane, or ammonia, in distributed generation technologies to enable them to be fuel-flexible. The initiative will take a technology-neutral approach that encompasses a range of strategies, from cutting combustion system emissions to expanding the operability of non-combustion systems. This approach seeks to modify or develop energy conversion systems like generators to operate on one or more renewable fuels, thereby expanding the suite of strategies to achieve a cleaner generation system. • The report also includes a strategy referred to as 'Decarbonizing the Gas System.' While the CEC originally considered a Clean Renewable Hydrogen Distribution research initiative to study the role of hydrogen separation technologies to understand whether and how hydrogen should be used to displace fossil gas in the existing gas system, the CEC ultimately decided not	The CEC demonstrates that it considered the Assembly Bill 3232 report in developing its proposed FY 2024-2025 Plan Initiatives. **The CEC is compliant with this requirement.**

[162] Kenney, Michael, Nicholas Janusch, Ingrid Neumann, and Mike Jaske. California Energy Commission. 2021. "California Building Decarbonization Assessment." Publication Number: CEC-400-2021-006-CMF. https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	to include this initiative in the FY 2024–2025 Proposed Budget Plan. This decision was based largely on CPUC and public feedback, as summarized in Appendix C."[163]	
Resolution G-3584 (2021) at OP 6. *In developing future Gas R&D plans, the CEC shall: a) Consider the Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals as it becomes available.*	The CEC that it considered the Long-Term Gas Research Roadmap, titled Recommendations for the Long-Term Gas Research Strategy to Achieve Aggressive Statewide Carbon Neutrality Goals: "The roadmap includes recommendations, which are organized around 11 initiatives pertaining to communities, equity, and environment; gas end use; and gas supply chain, including production, transport, and storage. These recommendations have helped guide the CEC's Gas R&D planning and inform the investments identified in this budget plan".[164]	The CEC demonstrates that it considered the Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals in developing its proposed FY 2024-2025 Plan Initiatives. **The CEC is compliant with this requirement.**
Resolution G-3592 (2023) at OP 2. *The CEC's administrative budget is capped at 10 percent of the total budget of $24 million, or $2.4 million.*	The CEC proposes a total FY2024-2025 Plan budget of $24 million, including 10% for Program Administration costs.[165]	The CEC proposes a $2.4 million budget for Program Administration. **The CEC is compliant with this requirement.** However, the CEC shall first utilize unspent funds prior to any new ratepayer funds for its 2024 Plan as described in this Resolution.
Resolution G-3592 (2023) at OP 5a. *Identify and engage appropriate disadvantaged community stakeholders to provide increased input on how to administer the program equitably. The CEC shall*	In an Equity Framework Matrix, the CEC identifies the direct and indirect Health & Safety; Access & Education; Financial; and Economic Development benefits across RD&D Topics.[166] The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[167] including coordination with the DACAG. The CEC describes its Equitable Program Administration, including "CEC DACAG liaisons [supporting] technical staff	**1.** Though the CEC records consultation with the DACAG and other stakeholders on its proposed FY 2024-2025 Plan, no feedback on this specific Initiative is reported.

[163] AL 12-G at p. 9.
[164] AL 12-G at p. 9.
[165] AL 12-G at p. 2 & 24.
[166] AL 12-G at p. 50.
[167] AL 12-G at p. 6.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
include details on how disadvantaged community stakeholders and DACAG input was incorporated into each Gas R&D theme, as relevant to their input.	in informing funding and focal areas and identifying engagement opportunities with the DACAG."[168] CEC states it "[provided] targeted outreach to the DACAG, California Environmental Justice Alliance, Asian Pacific Environmental Network, and the California Energy Research Center (focused on expanding education, training, and demonstration projects in the Central Valley) about the CEC's December 15, 2023, Gas R&D Plan Stakeholders Workshop and offering the opportunity for public comment."[169] The CEC includes written public comments and a DACAG Meeting Comment Summary from January 19, 2024, with the CEC Responses in Appendix C:[170] **1**. Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System: CEC reports no comments from the DACAG. **2**. Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition: The CEC clarifies that RD&D activities aimed at evaluating the risks associated with hydrogen-blending as well as hydrogen and fugitive methane emissions are included in previously proposed and approved CEC Gas RD&D Plans as opposed to this proposed Initiative; the CEC provided that "the initiative would center on improving safety and affordability of existing gas infrastructure" in response to the DACAG's concerns regarding potential embrittlement issues related to inspections for hydrogen and storage.[171] **3**. Fuel-Flexible Distributed Power Generation: The CEC states that "[w]hile renewable fuel blends will impact the performance and associated emissions of a technology, which is a specific concern raised by the DACAG, this initiative aims to introduce new installations that use electrochemical, thermochemical, or other proven pathways, with very low emissions even without being dependent on emissions control technologies or modifying existing combustion systems, potentially helping to improve local air quality and public health."[172] The CEC details several written comments from Mainspring on this Initiative, including that staff "concur with siting the [non-combustion] clean renewable fuel-flexible generation projects in frontline	**2**. & **3**. The CEC appears to have engaged and considered the concerns of the public and the DACAG related to this Initiative. **The CEC is compliant with this requirement.**

[168] AL 12-G at p. 13.
[169] AL 12-G at p. 14.
[170] AL 12-G at C-5 to C-7.
[171] AL 12-G at C-6.
[172] AL 12-G at p. 47.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	communities and at critical infrastructure facilities that offer crucial services and cannot sustain any long duration outages."[173]	
Resolution G-3592 (2023) at OP 5c & d. *Describe its process for seeking collaborative and co-funding opportunities, detailed proposals for such opportunities, or explain why it did not consider collaborative and co-funding opportunities [and] include information on coordination with the IOUs and other research stakeholders at both a high-level on coordination process and project level details of partnership, costs, and co-funding within the body of the research plan.*	The CEC describes its public engagement: "The CEC holds an annual public workshop to solicit feedback on the draft budget plan for that year. The Proposed FY 2024–2025 Gas R&D Budget Plan was presented at a public workshop December 15, 2023. Around 60 people attended the workshop, not including CEC staff, and the CEC received attendee questions and comments during the workshop discussion. The CEC considered and responded to public comments, using them to inform continued initiative and future solicitation development. (See Appendices C and G for a summary of public comments with CEC staff responses and the staff workshop presentation, respectively)."[174] Under the Cofunding Opportunities Section, the CEC states that it "leverages cofunding opportunities by either requiring applicants for competitive solicitations to secure match funding (usually 10–20 percent), providing additional scoring preferences for applications that exceed the minimum match funding requirement, or both. The cumulative match investments and project successes of the program are summarized in the Gas R&D Program Annual Report. As an example, the FY 2021–2022 Budget Plan resulted in competitively awarded projects that catalyzed nearly $8 million in match funds to expand the impact of these projects, effectively increasing the program funding level by 33 percent. A total of $1.5 million of these match funds came from IOUs (such as SoCalGas), $1.23 million from community- or publicly funded entities (for example, the South Coast Air Quality Management District), and $5.1 million from private entities."[175] See also: CEC Response in AL 12-G to Resolution G-3603 (2024) at OP 4.	The CEC describes the multiple avenues in which it seeks and utilizes co-funding. See also: Compliance Assessment of Resolution G-3603 (2024) at OP 4. **The CEC is compliant with this requirement.** However, to clearly demonstrate compliance with co-funding requirements, the CEC must utilize Energy Division guidance, including the Annual Report Template, to detail project level details of partnership, costs, and co-funding.
Resolution G-3592 (2023) at OP 5e. *Use the EPIC administrative budget template.[176]*	The CEC presents its proposed Estimated Administrative Costs delineated by Program Administrative Cost Budget Items in Appendix F.	The CEC's proposed administrative budget utilizes the required EPIC template. **The CEC is compliant with this requirement.**

[173] AL 12-G at p. 41 & C-11.
[174] AL 12-G at p. 18.
[175] AL 12-G at p. 18-19.
[176] See Resolution G-3622 at Appendix B: Administrative Budget Cost Categories.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment

Resolution G-3592 (2023) at OP 7. *In Fiscal Year 2023-2024 and all future plans, the CEC shall identify unspent funds proposed in previous plans in the Public Interest Research Development and Demonstration Natural Gas Subaccount. The CEC shall ensure that requests to use encumbered and unspent funds for any new projects will identify the respective research areas for which the CPUC originally authorized the funding. The CEC shall also list all spent, encumbered, and uncommitted funds organized by Gas R&D initiative. Unencumbered and unspent funds shall be utilized prior to the utilization of new and/or additional ratepayer funds.*
 	
See also: Resolution G-3484 (2013) at p. 5-6.
	The CEC provides balances of encumbered and unspent funds from the CEC's Plans from FY 2014-2015 through FY 2023-2024 as of January 2025 in Appendix B, including:
	• $26.14M unspent from its FY 2023-2024 Plan, including approved supplemental funds:
	    ○ $1.23M from its FY 2020-2021 Plan.
	    ○ $3.81 from its FY 2016-2017 Plan.
	    ○ $1.5M from its FY 2015-2016 Plan.
	• $5.30M unspent from its FY 2022-2023 Plan, including $3.4M and $1.9M for which solicitations are anticipated in FY 2025 and $7,772 anticipated for a supplemental Plan.
	• $865,642 unspent from its FY 2017-2018 Plan anticipated for a supplemental Plan.
	• $0 unspent, meaning all funds encumbered, from its FYs 2014-2015, 2018-2019, 2019-2020, and 2021-2022 Plans.
	
	However, the CEC also responded to a Spring 2026 CPUC data request with updated balances of spent and unspent encumbered funds and unencumbered funds from previously approved Gas RD&D Plans from FY 2015-2016 to present to supplement information provided in its Plan appendices. The CEC reports a total of $31,076,691 in Unspent Encumbered Funds and Unencumbered Funds outside encumbrance and spending windows per this requirement: See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans.
	
	The CEC does not request to use unspent funds for any new projects in its FY 2024-2025 Plan, but states that it "will ensure that for any use of encumbered and unspent funds that the CEC requests for new projects, the request will identify the respective research areas for which the CPUC originally authorized the funding."[177] The CEC also states that, "[p]er Resolutions G-3584 and G-3592, the CEC will ensure that for any unspent funds that the CEC has identified and seeks to use for new Gas R&D projects, the CEC will apply this unused funding before any new or additional ratepayer funds are used".[178]
		Though the CEC reports unspent and encumbered funds, the CEC does not provide balances of spent and unencumbered funds for these years nor does the CEC detail expiration dates to demonstrate compliance with encumbrance and spending deadlines, as described under the Commission's compliance assessment of AL 12-G with Resolution G-3484. The CEC reports unspent funds but does not demonstrate they have been or are being used to offset new or additional ratepayer costs; further, the CEC indicates it anticipates unspent funds will be used for a supplemental Plan. The CEC shall apply the cumulative applicable unspent funds from previous cycles to future funding requests, which will result in reducing the amount the CEC will need to draw out of the program funds for that cycle.[180] The CEC also does not appear to accurately report CPUC-approved budget allocations for

[177] AL 12-G at B-1.
[178] AL 12-G at p. 9.
[180] Consistent with Resolution G-3495 (2014) at p. 6-9; FOF 6; & OP 5.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	The CEC also lists $3.6M under "CPUC FY 2022-23 *Approved* Budget Plan" versus $0 under "FY 2022-23 *Current* Budget Plan" for an Entrepreneur Development Initiative, noting "CPUC modified the $3.6 million budget for Entrepreneur Development (CalSEED Initiative) and directed the CEC to submit a new proposal for reallocating the $3.6 million via a Tier 2 Advice Letter. CPUC approved the CEC's request to reallocate $600,000 to Targeted Gas System Decommissioning and $3,000,000 to Gas Pipeline Safety and Integrity."[179]	each Plan in Appendix B. **The CEC is *not* compliant with this requirement.** The CEC must ensure fund balances are listed by specific Gas RD&D Initiative rather than broader "Initiative Themes." To clearly demonstrate compliance with reporting requirements, the CEC must also utilize Energy Division guidance, including the Annual Report Template.
Resolution G-3603 (2024) at OP 4. *[The CEC] shall be proactive and specific in articulating its coordination and collaboration with the Investor-Owned Utilities (IOUs), and other Gas Research and Development (R&D) entities, in advance of commencing its plan. The CEC shall meet with the administrators of other Gas R&D programs and describe in its annual plan how its research complements other Gas R&D research occurring in California, consistent with CPUC policies and proceedings.*	The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[181] including coordination with IOUs and a public workshop. The CEC describes Coordination and Strategic Partnerships primarily at the program and Plan levels, including regular outreach meetings and general initiative coordination with the IOUs.[182] The CEC also includes a Public Workshop and Written Public Comment Summary and CEC Responses, including IOU comments.[183] **1.** Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System: CEC states that this "initiative responds to key needs identified in state processes and studies, including: SB 1221 (2024) - Gas Corporations: Ceasing Service: Priority Neighborhood Decarbonization Zones, which requires CPUC to designate priority neighborhood decarbonization zones on the gas distribution system and to facilitate decarbonization of priority neighborhood decarbonization zones. This initiative would support the implementation of SB 1221 in several dimensions, including by informing efficient execution of priority neighborhood decarbonization,	**1.** The CEC must provide greater detail on specific coordination involved in the development and planned execution of this Initiative to demonstrate that outputs and impacts will be targeted and utilized to promote complementary rather than duplicative efforts. This must include efforts planned and underway as part of SB 1221 and work directly and indirectly involving IOU infrastructure.

179 AL 12-G at B-4.
181 AL 12-G at p. 6.
182 AL 12-G at p. 14-16.
183 AL 12-G at C-1 to C-23.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	contributing to energy resilience for these areas, and assessing and communicating air quality and other local benefits of decarbonization." However, the CEC also notes that it "was originally developed before SB 1221 passed. It was designed to support gas decommissioning pilots, like those subsequently envisioned under SB 1221, as well as longer-term decommissioning and other elements of gas system decarbonization."[184] The CEC also states that this Initiative "responds to key research gaps and needs identified in coordination with CPUC, IOUs, and other stakeholders, including: Coordination with gas utility staff and research organization staff on decommissioning and decarbonization research, including exchanges related to the PG&E Innovation program, and in a CEC scoping workshop and a CEC pre-application workshop on decommissioning and decarbonization research for previously-approved initiatives within CEC's Gas Research program."[185] The CEC reports only one specific comment on this Initiative from SoCalGas: "Suggested consideration of pipeline blending of renewable gas as an alternative decarbonization pathway", to which the CEC responded that "[p]ipeline blending of renewable gas is anticipated to be a possible gas system decarbonization pathway that could be considered under this initiative."[186] **2.** Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition: The CEC-funded projects have been coordinated with PG&E "to demonstrate real-time monitoring of underground gas storage wells with the use of fiber optics and less-intrusive inspections with electromagnetic technologies" and describes a meeting held February 7, 2024, to coordinate with SoCalGas and PG&E and identify specific research gaps related to this Initiative.[187] The CEC reports only one specific comment on this Initiative from SoCalGas: "Important initiative; suggest coordination with SoCalGas; noted SoCalGas' existing pipeline inspection technology and related research", to which CEC responded that "CEC staff recognize the value of leveraging work done by SoCalGas and others in this space. Research developed and conducted under this initiative will incorporate input from IOUs relative to current practices and technologies, research needs, and	**2.** The CEC must supplement the information provided on coordination with the IOUs to identify pertinent research gaps by specifying how administrators' efforts are targeting related but distinct activities or applications. CEC must also clarify how events listed in Appendix D relate to and/or informed Initiatives. **3.** Though the CEC provides detail on coordination with SoCalGas and describes meeting with PG&E, it must explain how it will coordinate with UC Irvine per SoCalGas' clear recommendation to ensure efforts are complementary. See also: Compliance Assessment of Public Utilities Code 740.1 at (d). **The CEC is *not* compliant with this requirement.**

[184] AL 12-G at p. 30.
[185] AL 12-G at p. 31.
[186] AL 12-G at C-8.
[187] AL 12-G p. 37.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	challenges with pipeline inspection and material verification."[188] In Appendix D: List of 2023 Gas R&D Events, the CEC lists two events related to the quantification of methane emissions and gas pipeline geohazard risk mitigation but it is unclear if and how these events informed or are related to this Initiative. **3**. Fuel-Flexible Distributed Power Generation: The CEC reports and responds to several comments from SoCalGas regarding the need for CEC-led coordination on this topic, recommending that CEC consult with UC Irvine and requests that the CEC "share learnings, best practices, and requirements from the CPUC, the U.S. Department of Energy, and other funding agencies to demonstrate improved equity engagement."[189] The CEC also affirms a shared prioritization of NOx emissions control.[190] The CEC reports "an interview in April 2024 with PG&E R&D staff to exchange information and provide input on the most relevant research focus areas, critical knowledge gaps and potentials, regulations on the horizon, emerging technology and trends to explore, and strategies to increase equity components of projects."[191] See also: CEC Response in AL 12-G to Public Utilities Code 740.1 at (d).	
Resolution G-3603 (2024) at OP 5. *To ensure that research plans are coordinated, consistent, and aligned with CPUC policies and proceedings, the California Energy Commission shall coordinate with Energy Division and CPUC Staff in advance of commencing its plan.*	The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[192] including coordination with CPUC on Proposed and Final Research Initiatives. The CEC details Coordination and Strategic Partnerships with CPUC, including via monthly interagency calls and coordination on initiatives.[193] The CEC specifies meeting with CPUC on its FY2024-2025 Plan on the following dates: • November 15, 2023: Presentation to representatives from CPUC's Energy Division and Safety & Enforcement Division.	**1**. The CEC incorporated a portion of CPUC staff's feedback as detailed, however, the CEC must refine the scope of this Initiative as recommended by CPUC staff to align with gas proceedings by including the following additional research areas and questions to illuminate existing hurdles, complexities,

188 AL 12-G at p. 37 & C-8.
189 AL 12-G at p. 46 & C-9 to C-10.
190 AL 12-G at p. 46 & C-12.
191 AL 12-G at p. 46.
192 AL 12-G at p. 6.
193 AL 12-G at p. 16-17.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	• December 7, 2023: "CEC staff presented the proposed budget plan to CPUC Commissioner Douglas. Comments were not directed to the initiatives and therefore are not summarized below."[194] • December 15, 2023: Public workshop including CPUC staff. • January 10, 2025: "CEC met with CPUC subject matter experts to respond to feedback about the Gas System Safety research initiative."[195] • January 16, 2025: "CEC met with subject matter experts from CPUC to discuss the proposed Support Equitable, Safe, and Cost Effective Decarbonization initiative. The discussion strengthened interagency alignment on the initiative goals and clarified the research initiative language".[196] • January 23, 2025: "CEC met with subject matter experts from CPUC to clarify the proposed Fuel-Flexible Distributed Power Generation initiative and ensure the goals of the initiative are clearly distinguished from those of IOU research plans."[197] The CEC states that "[b]ased on feedback received through this process and current funding priorities, CEC staff did not include the proposed initiative on Clean Renewable Hydrogen Distribution: Hydrogen Separation in the FY 2024-2025 Gas R&D Program Budget Plan and redirected the associated funds".[198] The CEC also includes a list of Policies Supported by FY 2024-25 Gas R&D Program Initiative Themes at Appendix A and information on Roadmaps and Long-Term Strategies, representing "types of planning mechanisms and prioritization tools that help establish a clear link between research and energy policy goals".[199]	and pathways forward for decarbonization activities: • What influences the choice of electric appliances or appliances other than gas in any particular location or situation.[211] • An example of how interval meter data may help provide targeted information on alternatives and associated benefits to gas appliance users.[212] • Abilities and opportunities for equipment vendors and manufacturers to support the installation of electric heat pumps.[213] • In addition to reinforcing the electricity system, targeting the identification and scaling

194 AL 12-G at C-1.
195 AL 12-G at C-18.
196 AL 12-G at p. 17.
197 *Ibid.*
198 AL 12-G at C-1.
199 AL 12-G at p. 19-20.
211 AL 12-G at p. 25.
212 AL 12-G at p. 26.
213 *Ibid.*

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	In Appendix C, CEC includes a CPUC Staff Coordination Meeting Comment Summary and CEC Responses: **1**. Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System: The CEC affirms it is attuned to and committed to exploring mechanisms to accommodate transition research needs and secure interest from appropriate bidders;[200] will target "both communication efforts and the identification and development of technological advances that improve the marketability and functionality of conversion from gas";[201] and intends to coordinate with CPUC gas proceedings.[202] **2.** Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition: The CEC provided additional detail in response to CPUC feedback: a. This Initiative supports CPUC staff's interest "in well inspection practices that don't hamper operations of the wells to serve their purpose in mitigating price fluctuations in gas markets."[203] b. CEC's coordination with the utilities will promote RD&D that is "impartial, transparent, and aligned with the interest of ratepayers and the public", particularly in requiring results be made publicly available and recipients detailing a technology transfer plan.[204] c. In relation to "exploring specific factors that may contribute to extending well testing intervals", CEC coordinated with CalGEM to establish shared interest in "understanding the effectiveness of emerging technologies in identifying anomalies."[205]	of alternatives to gas heating to mitigate gas peaks.[214] **The CEC is *not* compliant with this requirement.** **2.** The CEC appropriately responded to CPUC staff feedback and provides related information in its Initiative description, however, the CEC must strive to provide greater clarity on the scale and composition of Initiative outputs, such as 3-4 projects. **The CEC is compliant with this requirement.** **3.** The CEC is partially responsive to CPUC staff feedback, however, CEC must demonstrate it will not invest in hydrogen-related RD&D, including that aimed at "[attempting] to build out comprehensive renewable generation and distribution capacity"[215] as the Commission

200 AL 12-G at C-19.
201 AL 12-G at p. 27 & C-20.
202 AL 12-G at C-19 to C-20.
203 AL 12-G at C-8.
204 AL 12-G at C-18 to C-19.
205 AL 12-G at C-19.
214 AL 12-G at p. 31.
215 AL 12-G at C-20.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	d. In pre-submittal consultation, the CEC stated it expects the proposed Initiative funding level could yield 3-4 projects. **3**. Fuel-Flexible Distributed Power Generation: The CEC notes that "the proposed $6M funding could support about 3 to 4 projects for component and full system innovations to ensure fuel-flexible technologies meet expected performance, operability, cost, low-emission, and decarbonization goals and targets."[206] The CEC removed and modified language at several points in its Initiative description per CPUC staff feedback provided during pre-submittal consultation to better align with CPUC proceedings: a. "This initiative will require projects and technology/fuel systems to be thoroughly evaluated on the basis of key metrics such as affordability, air quality, GHG and life-cycle emissions, and system performance including flexibility, operability and viability."[207] b. The CEC will "avoid investing in new combustion demonstration", limiting RD&D to potentially modifying existing combustion systems prioritizing replacing diesel backup generators for critical infrastructure.[208] c. "Given the potential scarcity of renewable fuels, potential projects must secure a reliable fuel source."[209] However, The CEC states that "this proposed initiative is focused on technological advancements and demonstrations of fuel-flexible technologies not necessarily limited to hydrogen."[210]	has not provided guidance on the appropriate role of gas ratepayers in funding hydrogen RD&D, particularly as these projects would have further implications for ratepayer funding, including in future Gas RD&D Plans. The CEC must also strive to provide greater clarity on the scale and composition of Initiative outputs. **The CEC is *not* compliant with this requirement.**
Resolution G-3603 (2024) at OP 6. *Once the Electric Program Investment Charge (EPIC) program's Uniform Impact*	The CEC describes how its "current processes align with these principles in several ways, and impact assessment occurs throughout the Gas R&D Program administration process" in its Foundational Principles for Uniform Impact Analysis section.[216] The	The CEC demonstrates attention to the Uniform Impacts Analysis Foundational Principles by selecting metrics to quantify

206 AL 12-G at C-21.
207 AL 12-G at p. 41.
208 AL 12-G at p. 41-42; C-21; & C-22.
209 *Ibid.*
210 AL 12-G at p. 42.
216 AL 12-G at p. 20-22.

CPUC Requirement	**CEC Response in AL 12-G**	**Compliance Assessment**
Analysis framework is approved by the Commission, the California Energy Commission shall use this framework to demonstrate outcomes of achieving its proposed benefits for all current and future research projects including through quantitative methodologies.	CEC lists the following anticipated Benefits to Californians and associated metrics under each Initiative.[217] **1**. Support Equitable, Safe, and Cost-Effective Decarbonization of California's Gas System:[218] • Affordability: Assessed via the "[i]ntegration of improved information into decommissioning planning and into rate-related policies." • Safety and reliability: Assessed via "[i]mprovements in estimating gas and electric demand patterns, including changes to winter peak and its weather sensitivity due to electrification of gas end uses" and the "[u]se of research results in energy forecasts, which could lead to forecast accuracy improvements that support better reliability." • Adaptation: Assessed via the "[i]dentification of barriers to conversion and improved strategies for increasing the appeal of electrification of gas end uses and for managing energy resilience vulnerabilities throughout the transition." • Environmental sustainability: Assessed via "[e]stimation of the indoor air quality improvements, criteria air pollutant reductions, and GHG emissions reductions attributable to the application of improved knowledge." • Equity: Assessed via "[i]dentification of sub-populations at risk of increased inequities in energy costs or energy reliability in a 'business-as-usual' transition away from gas." **2.** Innovations for Cost-Effective Operation and Maintenance of Critical Infrastructure During the Gas Transition:[219] • Affordability: Assessed via "[o]perational cost savings, such as avoided costs of manual inspections, reduction of associated infrastructure down time, the reduced need for redundancy to maintain reliability during inspections, or the number of alternative inspection technologies developed or demonstrated." • Safety and reliability: Assessed via the "[n]umber of integrity issues or leaks identified with alternative monitoring and inspection methods" and "[r]esponse time to address and/or repair identified threats."	ratepayer benefit that appear to be directly attributable to each of the proposed Initiatives. **The CEC is compliant with this requirement.**

[217] AL 12-G at p. 28-29, 34-35, & 42-44.
[218] AL 12-G at p. 28-29.
[219] AL 12-G at p. 34-35.

CPUC Requirement	CEC Response in AL 12-G	Compliance Assessment
	• Adaptation: Assessed via "[a]doption of research results through risk mitigation measures, practices, or policies that are informed by additional monitoring and data-driven insights." • Environmental sustainability: Assessed via "[a]voided or reduced GHG emissions as a result of 1) early detection of infrastructure anomalies or weaknesses that could result in leaks, or 2) reduced footprint of the gas system resulting from reductions in system redundancies." • Equity: Assessed via the "[n]umber of demonstrations that occur within low-income or disadvantaged communities." **3**. Fuel-Flexible Distributed Power Generation:[220] • Affordability: Assessed via "[c]ost savings measured by comparing all associated costs, such as capital, operations, and maintenance costs, with the baseline cost." • Reliability and integrity & Adaptation: Assessed via "[s]ystem performance, such as time to ramp up, seamless integration, power quality, generating capacity, availability, and capacity factor." • Safety: Assessed via the "[n]ature and frequency of critical equipment failures, fuel leakage, and all other emissions, gaseous and otherwise, that are environmental hazards." • Equity and environmental sustainability: Assessed via "[r]eduction in emissions of criteria air pollution (e.g., NOx and particulate matter), GHG emissions, and lifecycle emissions."	

[220] AL 12-G at p. 42-44.

APPENDIX H

APPENDIX H: Compliance Assessment of Advice Letter 10-G-A – 2025 Plan

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
Public Utilities Code 740.1 at (d) *Projects should not unnecessarily duplicate research currently, previously, or imminently undertaken by other electrical or gas corporations or research organizations.*	**1.** Social Science Research for Gas Decommissioning in the Mid and Long Term: See CEC Response in AL 10-G-A to Resolution G-3603 (2024) at OP 4. **2.** Pilot Projects to Advance Gas Decommissioning: See CEC Response in AL 10-G-A to Resolution G-3603 (2024) at OP 4. **3.** Networked Geothermal Heat Pumps: CEC notes that "[p]revious CEC-funded research has assessed the potential for ground-source heat pump systems in California buildings and found promising energy and emissions benefits (*Assessment of California's Low Temperature Geothermal Resources: Geothermal Heat Pump Efficiencies by Region*). However, the networked GHP concept is a recently developed model that has not yet been studied for the associated potential in the context of California's climate, geology, population, and policy landscape, nor brought to the pilot phase, and it may yield significant additional benefits."	**1.** The CEC sufficiently details and contrasts similar RD&D activities conducted (previously) by CEC, E3, SoCalGas, and PG&E. See: Compliance Assessment of Resolution G-3603 (2024) at OP 4. **The CEC is compliant with this requirement.** **2.** The CEC sufficiently details and contrasts activities associated with SB 1221 and similar RD&D activities conducted by CEC, E3, SoCalGas, and PG&E. See: Compliance Assessment of Resolution G-3603 (2024) at OP 4. **The CEC is compliant with this requirement.** **3.** Though the CEC discusses one previously funded CEC research study, the CEC does not discuss and differentiate other geothermal-related CEC RD&D Initiatives proposed and underway in this program and EPIC. **The CEC is *not* compliant with this requirement.**
Public Utilities Code 740.1 at (e) *Each project should also support one or more of the following objectives:*	The CEC proposes budget allocations broken down by Initiatives within Investment Themes as follows: Gas Decommissioning:	Each of CEC's proposed Initiatives supports one or more of the required objectives. **The**

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
(1) Environmental improvement. *(2) Public and employee safety.* *(3) Conservation by efficient resource use or by reducing or shifting system load.* *(4) Development of new resources and processes, particularly renewable resources and processes which further supply technologies.* *(5) Improve operating efficiency and reliability or otherwise reduce operating costs.*	**1.** Social Science Research for Gas Decommissioning in the Mid and Long Term.[221] **2.** Pilot Projects to Advance Gas Decommissioning.[222] Building Decarbonization: **3.** Networked Geothermal Heat Pumps.[223]	**CEC is compliant with this requirement.**
D.04-08-010 at p. 28. *Support State Energy policy.*	The CEC states that "the Gas R&D Program supports state energy policies and goals, such as achieving economywide carbon neutrality by 2045 (Executive Order B-55-18 and AB 1279, Muratsuchi, Chapter 337, Statutes of 2022) and doubling energy efficiency by 2030 (SB 350, De León, Chapter 547, Statutes of 2015)" among "several other ley energy and climate policies and goals."[224] The CEC provides additional information on policies relevant to each Initiative in Appendix A.	The CEC discusses several State Energy policies which its program supports. **The CEC is compliant with this requirement.**
D.04-08-010. *[The Gas RD&D program shall have] a maximum cap of $24*	The CEC proposes a total FY2025-2026 Plan budget of $24 million, including Program Administration costs.[225]	The CEC's proposed budget, including all necessary RD&D administrative costs, complies

[221] AL 7
[222] AL
[223] AL
[224] AL 10-G-A at p. 6-7.
[225] AL 10-G-A at p. 2 & 22.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
million after four years; these amounts shall include all necessary R&D administrative costs (p. 38). *Disbursements from the Fund to the R&D administrator shall not exceed the zero-based R&D budget [adopted via resolution]* (p. 41-42).		with the $24M annual cap. **The CEC is compliant with this requirement.** However, the CEC shall first utilize unspent funds prior to any new ratepayer funds for its 2025 Plan as described in this Resolution.
D.04-08-010 at p. 42. *[W]e expect the administrator to inform the Energy Division if and when any commercial benefits result from the gas R&D projects funded through the gas surcharge. Commercial benefits may be used to offset future R&D costs, reduce the gas surcharge, or be returned to ratepayers, upon determination of the Commission.*	The CEC does not discuss commercial benefits that may have resulted from Gas RD&D investment.	**The CEC does *not* demonstrate compliance with this requirement.** CEC shall disclose all potential commercial benefits that may result from Gas RD&D investment and demonstrate they are used to offset ratepayer costs for new Plans or otherwise state that none have accrued.
D.04-08-010 at FOF 9. *Ratepayers should receive interest on deposited amounts in balancing accounts held by utilities.*	The CEC does not discuss interest that has accrued on deposited amounts in balancing accounts held by utilities.	**The CEC does *not* demonstrate compliance with this requirement.** CEC shall disclose all interest that accrues on deposited amounts in balancing accounts held by utilities and demonstrate it is used to offset ratepayer costs for new Plans.
Resolution G-3394 (2006) at OP 2. *The CEC shall submit… its Annual [Report] by October 31st, beginning in 2008.*	The CEC provided a draft FY 2024-2025 Annual Report to Energy Division on October 15, 2025, and received an extension to submit its final FY2024-2025 Annual Report in January 2026.	**The CEC is compliant with this requirement.** However, the CEC shall strive to provide its final Annual Report by the deadline.
Resolution G-3484 (2013) at p. 5-6: *In the interest of transparency,*	The CEC provides balances of encumbered and unspent funds from CEC's Plans from FY 2014-2015 through FY 2023-2024 as of January 2025 in Appendix B. The CEC states	Though the CEC reports unspent and encumbered funds, the CEC

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
the CEC shall give an accounting of unspent PIER Natural Gas R&D funds in each future year proposed budget, beginning with the proposed budget for Fiscal Year 2014-2015. The CPUC understands that the CEC has two years to encumber PIER Natural Gas R&D funds with projects and an additional four years before such funds expire.[226] *Beginning with the Fiscal Year 2014-2015 proposed budget, the CEC shall include in its proposed budget an account, by research area, of then-current unspent funds in the PIER Natural Gas R&D program, including encumbrances and expiration dates. The intent of this requirement is to show that the CEC has spent its cumulative authorized budgets in the areas in which the money was authorized and to provide an accounting of the status of cumulative unspent funds. This requirement shall remain in place for each fiscal year's proposed budget, until otherwise directed by the CPUC.*	that "Funds Unspent refers to funds that have not been encumbered to an executed agreement (contract or grant), or previously encumbered funds that become unencumbered because the agreement has been canceled or due to other reasons."[227] The CEC reports $26.14M in unspent funds from its FY 2023-2024 Plan and details that, for this Plan, the CPUC approved reallocations amounting to $1.23M from its FY 2020-2021 Plan; $3.81 from its FY 2016-2017 Plan; and $1.5M from its FY 2015-2016 Plan in previously unspent funds. CEC does not request to use unspent funds for any new projects in its FY 2025-2026 Plan, but states that it "will ensure that for any use of encumbered and unspent funds that the CEC requests for new projects, the request will identify the respective research areas for which the CPUC originally authorized the funding."[228] However, the CEC also responded to a Spring 2026 CPUC data request with updated balances of spent and unspent encumbered funds and unencumbered funds from previously approved Gas RD&D Plans from FY 2015-2016 to present to supplement information provided in its Plan appendices. CEC reports a total of $31,076,691 in Unspent Encumbered Funds and Unencumbered Funds outside encumbrance and spending windows per this requirement: See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans.	does not detail encumbrance and spending windows to demonstrate compliance. The CEC also does not provide information on the spending of program administrative costs. The information provided does not demonstrate that the CEC has spent its cumulative authorized budgets in the areas in which the money was authorized nor provide sufficient accounting on the status of cumulative unspent funds. **The CEC is *not* compliant with this requirement.** To clearly demonstrate compliance with reporting requirements, the CEC shall utilize the standardized template provided by Energy Division for its Annual Report.

[226] Consistent with Public Utilities Code Section 384 at (a) & Resolution G-3584 (2021) at p. 8.
[227] AL 10-G-A at B-1.
[228] AL 10-G-A at B-1.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
Resolution G-3571 (2020) at OP 5. *In developing all future Natural Gas R&D Plans, the CPUC requests that the CEC:*[229] *b) Post the Natural Gas Research and Development Program: Proposed Budget Plan publicly on their website and notify CPUC of the web address when requesting approval of the plan.* *c) Distribute the Natural Gas Research and Development Program: Proposed Budget Plan through the CEC's research/R&D community listservs and include the names of the distribution lists served when requesting CPUC's approval of the plan.* *d) Consult with Energy Division staff on which CPUC listservs from ongoing CPUC proceedings the CEC*	b) The CEC states that it posts proposed Plans on "CEC's website on the page for CEC Energy Research and Development investment plans and annual reports",[230] citing California Energy Commission. "Annual Report," https://www.energy.ca.gov/data-reports/reports/energy-research-and-development-investment-plans-and-annual-reports. c) & d) The CEC details the noticed CEC lists and CPUC listservs.[231] e) The CEC states that its "offer to present the proposed budget plan was sent to Energy Division staff on January 22, 2025".[232] The CEC presented its proposed FY 2025-2026 Plan to CPUC Commissioners on June 26, 2025.	The CEC posted its Plan publicly and accessibly, distributed on listservs, and offered to present to CPUC Commissioners. **The CEC is compliant with this requirement.**

229 The Commission's compliance assessments of Resolution G-3571 at OP 5a is captured in the compliance assessment of AL 10-G-A with Resolution G-3603 at OP 5.

230 AL 10-G-A at p. 10.

231 *Ibid.*

232 AL 10-G-A at p. 10.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
should notice their proposed plan to. *e) Consult with CPUC staff to allow for the option of presenting the Natural Gas Research and Development Program: Proposed Budget Plan to the CPUC Commissioners during a CPUC Commissioner Committee Meeting.*		
Resolution G-3571 (2020) at OP 6. *In developing the future Natural Gas R&D Plans, the CPUC requests that the CEC submit future Natural Gas R&D Plans via the Tier 3 Advice Letter/business letter process.*	The CEC submitted its FY2025-2026 Gas RD&D Investment Plan Tier 3 AL (10-G) on March 28, 2025, and submitted a supplement Tier 3 AL (10-G-A) on October 8, 2025.	The CEC submitted its proposed FY 2025-2026 Gas RD&D Plan via Tier 3 AL. **The CEC is compliant with this requirement.**
Resolution G-3584 (2021) at OP 5. *In developing the Fiscal Year 2022-2023 Gas R&D Plan, the CEC shall: a) Consider the Assembly Bill 3232 (Friedman, 2018) report.*[233]	The CEC states that it "considered the Assembly Bill 3232 (Friedman, Chapter 373, Statutes of 2018) report in developing the FY 2025-2026 Gas R&D Budget Plan, specifically the seven key strategies to decarbonize residential and commercial buildings outlined in the 2021 report *California Building Decarbonization Assessment*. The initiatives in this FY 2025–2026 Gas R&D Budget Plan support several of the recommended strategies[:] • The Social Science Research for Gas Decommissioning in the Mid and Long Term initiative supports multiple strategies detailed in the report, including "Building End Use Electrification," "Decarbonizing the Gas System," and "Decarbonizing the Electricity Generation System." The initiative will provide analysis, resources, and insights into real-world dynamics of gas use and factors encouraging or dissuading conversion, including to electricity end uses. This initiative would also	The CEC demonstrates that it considered the Assembly Bill 3232 report in developing its proposed FY 2025-2026 Plan Initiatives. **The CEC is compliant with this requirement.**

[233] Kenney, Michael, Nicholas Janusch, Ingrid Neumann, and Mike Jaske. California Energy Commission. 2021. "California Building Decarbonization Assessment." Publication Number: CEC-400-2021-006-CMF. https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	identify and suggest improvements to coordination gaps between the electricity and gas systems. • The Pilot Projects to Advance Gas Decommissioning research initiative promotes the goals of "Decarbonizing the Gas System" by supporting the transition away from fossil gas. By strategically decommissioning sections of California's gas infrastructure and redirecting investment toward renewable energy alternatives, electrification, or both, this effort aims to lower the overall energy costs and GHG emissions in energy supply and end uses. • The Networked Geothermal Heat Pumps (GHPs) initiative supports the strategy of "Distributed Energy Resources" by assessing the feasibility of networked GHPs to provide neighborhood-scale, clean, efficient, distributed energy for heating and cooling as well as the goal of "Decarbonizing the Gas System" by supporting the transition away from fossil gas. Networked geothermal technology is a form of thermal energy network that implements the roughly constant temperature of the bedrock as a source and sink of energy for heat pumps, while balancing the load among a variety of end users in the network, thereby increasing overall thermal efficiency. This initiative aims to investigate the benefits of networked GHPs in the context of California's climate, geology, population, and policy landscape."[234]	
Resolution G-3584 (2021) at OP 6. *In developing future Gas R&D plans, the CEC shall: a) Consider the Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals as it becomes available.*	The CEC that it considered the Long-Term Gas Research Roadmap, titled Recommendations for the Long-Term Gas Research Strategy to Achieve Aggressive Statewide Carbon Neutrality Goals: "The roadmap includes recommendations, which are organized around 11 initiatives pertaining to communities, equity, and environment; gas end use; and gas supply chain, including production, transport, and storage. These recommendations have helped guide Gas R&D planning".[235]	The CEC demonstrates that it considered the Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals in developing its proposed FY 2025-2026 Plan Initiatives**. The CEC is compliant with this requirement.**
Resolution G-3592 (2023) at OP 2. *The CEC's administrative budget*	The CEC proposes a total FY 2025-2026 Plan budget of $24 million, including 10% for Program Administration costs.[236]	The CEC proposes a $2.4 million budget for Program

[234] AL 10-G-A at p. 8-9.
[235] AL 10-G-A at p. 9.
[236] AL 10-G-A at p. 2 & 22.

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is capped at 10 percent of the total budget of $24 million, or $2.4 million.		Administration. **The CEC is compliant with this requirement.** However, the CEC shall first utilize unspent funds prior to any new ratepayer funds for its 2025 Plan as described in this Resolution.
Resolution G-3592 (2023) at OP 5a. *Identify and engage appropriate disadvantaged community stakeholders to provide increased input on how to administer the program equitably. The CEC shall include details on how disadvantaged community stakeholders and DACAG input was incorporated into each Gas R&D theme, as relevant to their input.*	In an Equity Framework Matrix, the CEC identifies the direct and indirect Health & Safety; Access & Education; Financial; and Economic Development benefits across RD&D Topics.[237] The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[238] including coordination with the DACAG. CEC describes its Equitable Program Administration, including "CEC DACAG liaisons [supporting] technical staff in informing funding and focal areas and identifying engagement opportunities with the DACAG."[239] The CEC lists the following equity-centered outreach efforts: • "Requesting comments to elicit public input on how to center equity in the proposed initiatives in the 2025–2026 Gas R&D Program following the February 7, 2025, public workshop." • "Briefing DACAG SMEs on the initial list of proposed initiatives August 19, 2024" • "Presenting and soliciting feedback on the proposed initiatives of the Gas R&D Program and the proposed equity engagement approach at the DACAG meeting January 17, 2025." CEC details and responds to feedback from the DACAG in Appendix D.[240] • "Presenting and soliciting feedback on the proposed initiatives of the Gas R&D Program at an environmental justice roundtable October 11, 2024, with	**1**. The CEC describes how this Initiative relates to the DACAG's interests, but must continue to consider how to more directly support the DACAG's specific requests for discrete data. **2**. The CEC generally commits to addressing the EJ Representatives concerns with this Initiative, but must continue to consider how to more directly support the specific request for assistance to overcome unique barriers by demographic. **3**. The CEC appears to have engaged and considered the concerns of EJ representatives and the DACAG related to this Initiative.

[237] AL 10-G-A at p. 45.
[238] AL 10-G-A at p. 6.
[239] AL 10-G-A at p. 13.
[240] AL 10-G-A at D-10 to D-11.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	representatives from seven organizations."[241] CEC details and responds to feedback from this roundtable in Appendix D.[242] **1.** Social Science Research for Gas Decommissioning in the Mid and Long Term: The CEC affirms a shared interest with the DACAG in supporting equitable neighborhood-scale decommissioning while addressing the obligation to serve as this Initiative includes "research that estimates the degree and societal distribution of potential energy cost effects associated with gas decommissioning."[243] The DACAG also expressed interest in the CEC gathering "data on actual savings to updated modeled/projected bill impacts"[244] and the CEC states that this Initiative would promote affordability by "[providing] information to planners on costs and risks of different decommissioning pathways, supporting decisions on transition pathway management and on setting gas and electricity rates."[245] **2.** Pilot Projects to Advance Gas Decommissioning: The CEC reports that an Environmental Justice (EJ) Representative emphasized the need to provide equitable opportunities and resources to Spanish-speaking renters to overcome additional barriers to electrification; the CEC responded that "effective community engagement must be tailored to meet the unique needs of each community."[246] **3.** Networked Geothermal Heat Pumps: In response to concerns from an EJ Representative over water usage, the CEC stated that "[w]ater use and potential savings will be studied in the suitability and benefits of this technology in California" and that the Building Decarbonization Coalition reported a 18 to 46 percent reduction in water consumption by geothermal energy networks as opposed to cooling towers. [D-8 to D-9]. In response to concerns from the DACAG on the cost-effectiveness of networked geothermal heat pumps, the CEC responded that "the efficiency and economic favorability of thermal energy networks in general directly correlate with population density" and "a California-specific study of networked GHPs and their	**The CEC is compliant with this requirement.**

[241] AL 10-G-A at p. 14.
[242] AL 10-G-A at D-8 to D-9.
[243] *Ibid.*
[244] AL 10-G-A at D-10.
[245] AL 10-G-A at p. 27.
[246] AL 10-G-A at D-8.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	performance comparison with established technologies (both economically and in terms of non-economic metrics) will be further explored as part of this initiative."[247]	
Resolution G-3592 (2023) at OP 5c & d. *Describe its process for seeking collaborative and co-funding opportunities, detailed proposals for such opportunities, or explain why it did not consider collaborative and co-funding opportunities [and] include information on coordination with the IOUs and other research stakeholders at both a high-level on coordination process and project level details of partnership, costs, and co-funding within the body of the research plan.*	The CEC describes its public engagement: "The CEC holds an annual public workshop to solicit feedback on the draft budget plan for that year. The Proposed FY 2025–2026 Gas R&D Budget Plan was presented at a public workshop February 27, 2025. Approximately 70 people attended the workshop, not including CEC staff, and the CEC received around 30 attendee questions and comments during the workshop discussion. The CEC considered and responded to public comments associated with budget plan development. (See Appendices C and D for the workshop presentation and a summary of public comments and CEC staff responses, respectively)."[248] Under the Cofunding Opportunities Section, the CEC states that it "leverages cofunding opportunities by either requiring applicants for competitive solicitations to secure match funding (usually 10–20 percent), providing additional scoring preferences for applications that exceed the minimum match funding requirement, or both. The cumulative match investments and project successes of the program are summarized in the Gas R&D Program Annual Report. As an example, the FY 2021–2022 Budget Plan resulted in competitively awarded projects that catalyzed nearly $8 million in match funds to expand the impact of these projects, effectively increasing the program funding level by 33 percent. A total of $1.5 million of these match funds came from IOUs (such as SoCalGas), $1.23 million from community- or publicly funded entities (for example, the South Coast Air Quality Management District), and $5.1 million from private entities."[249] See also: CEC Response in AL 10-G-A to Resolution G-3603 (2024) at OP 4.	The CEC describes the multiple avenues in which it seeks and utilizes co-funding. See also: Compliance Assessment of Resolution G-3603 (2024) at OP 4. **The CEC is compliant with this requirement.** However, to clearly demonstrate compliance with co-funding requirements, the CEC must utilize Energy Division guidance, including the Annual Report Template, to detail project level details of partnership, costs, and co-funding.
Resolution G-3592 (2023) at OP 5e. *Use the EPIC administrative budget template.*[250]	The CEC presents its proposed Estimated Administrative Costs delineated by Program Administrative Cost Budget Items in Appendix F.	The CEC's proposed administrative budget utilizes the required EPIC template. **The CEC is compliant with this requirement.**

[247] AL 10-G-A at D-10 to D-11.
[248] AL 10-G-A at p. 17.
[249] AL 10-G-A at p. 18.
[250] See Resolution G-3622 at Appendix B: Administrative Budget Cost Categories.

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Resolution G-3592 (2023) at OP 7. *In Fiscal Year 2023-2024 and all future plans, the CEC shall identify unspent funds proposed in previous plans in the Public Interest Research Development and Demonstration Natural Gas Subaccount. The CEC shall ensure that requests to use encumbered and unspent funds for any new projects will identify the respective research areas for which the CPUC originally authorized the funding. The CEC shall also list all spent, encumbered, and uncommitted funds organized by Gas R&D initiative. Unencumbered and unspent funds shall be utilized prior to the utilization of new and/or additional ratepayer funds.*
 	
See also: Resolution G-3484 (2013) at p. 5-6.
	The CEC provides balances of encumbered and unspent funds from CEC's Plans from FY 2014-2015 through FY 2023-2024 as of January 2025 in Appendix B, including:
	• $26.14M unspent from its FY 2023-2024 Plan, including approved supplemental funds:
	  ○ $1.23M from its FY 2020-2021 Plan.
	  ○ $3.81 from its FY 2016-2017 Plan.
	  ○ $1.5M from its FY 2015-2016 Plan.
	• $5.30M unspent from its FY 2022-2023 Plan, including $3.4M and $1.9M for which solicitations are anticipated in FY 2025 and $7,772 anticipated for a supplemental Plan.
	• $865,642 unspent from its FY 2017-2018 Plan anticipated for a supplemental Plan.
	• $0 unspent, meaning all funds encumbered, from its FYs 2014-2015, 2018-2019, 2019-2020, and 2021-2022 Plans.
	
	However, the CEC also responded to a Spring 2026 CPUC data request with updated balances of spent and unspent encumbered funds and unencumbered funds from previously approved Gas RD&D Plans from FY 2015-2016 to present to supplement information provided in its Plan appendices. The CEC reports a total of $31,076,691 in Unspent Encumbered Funds and Unencumbered Funds outside encumbrance and spending windows per this requirement: See Resolution G-3622 at Appendix F: CEC Balances of Unspent Funds from Previously Approved Gas RD&D Plans.
	
	The CEC does not request to use unspent funds for any new projects in its FY 2025-2026 Plan, but states that it "will ensure that for any use of encumbered and unspent funds that the CEC requests for new projects, the request will identify the respective research areas for which the CPUC originally authorized the funding."[251] The CEC also states that, "[p]er Resolutions G-3584 and G-3592, the CEC will ensure that for any unspent funds that the CEC has identified and seeks to use for new Gas R&D projects,
		Though the CEC reports unspent and encumbered funds, the CEC does not provide balances of spent and unencumbered funds for these years nor does the CEC detail encumbrance and spending windows to demonstrate compliance as described under the Commission's compliance assessment of AL 10-G-A with Resolution G-3484. The CEC reports unspent funds but does not demonstrate they have been or are being used to offset new or additional ratepayer costs; further, the CEC indicates it anticipates unspent funds will be used for a supplemental Plan. The CEC shall apply the cumulative applicable unspent funds from previous cycles to future funding requests, which will result in reducing the amount the CEC will need to draw out of the program funds for that cycle.[254] The CEC also does not appear to accurately report CPUC-approved budget allocations for each Plan in Appendix B. **The**

[251] AL 10-G-A at B-1.
[254] Consistent with Resolution G-3495 (2014) at p. 6-9; FOF 6; & OP 5.

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	the CEC will apply this unused funding before any new or additional ratepayer funds are used."[252] The CEC also lists $3.6M under "CPUC FY 2022-23 *Approved* Budget Plan" versus $0 under "FY 2022-23 *Current* Budget Plan" for an Entrepreneur Development Initiative, noting "CPUC modified the $3.6 million budget for Entrepreneur Development (CalSEED Initiative) and directed the CEC to submit a new proposal for reallocating the $3.6 million via a Tier 2 Advice Letter. CPUC approved CEC's request to reallocate $600,000 to Targeted Gas System Decommissioning and $3,000,000 to Gas Pipeline Safety and Integrity."[253]	**CEC is *not* compliant with this requirement.** The CEC must ensure fund balances are listed by specific Gas RD&D Initiative rather than broader "Initiative Themes." To clearly demonstrate compliance with reporting requirements, the CEC must also utilize Energy Division guidance, including the Annual Report Template.
Resolution G-3603 (2024) at OP 4. *[The CEC] shall be proactive and specific in articulating its coordination and collaboration with the Investor-Owned Utilities (IOUs), and other Gas Research and Development (R&D) entities, in advance of commencing its plan. The CEC shall meet with the administrators of other Gas R&D programs and describe in its annual plan how its research complements other Gas R&D research occurring in California, consistent with CPUC policies and proceedings.*	The CEC includes a Public Workshop and Written Public Comment Summary and CEC Responses, including IOU comments,[255] and lists the following stakeholder events:[256] • "On August 12, 2024, CEC staff met with representatives from Southern California Gas Company (SoCalGas), Pacific Gas & Electric (PG&E), and Southwest Gas to gather feedback on the initial broad set of potential initiatives." • "On October 9, 2024, CEC staff met with representatives from SoCalGas, Sempra, and PG&E to gather further feedback on the selected proposed initiatives included in the Budget Plan." • "On February 7, 2025, CEC staff held a public workshop and invited additional written public comments on the proposed research initiatives." The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[257] including coordination with IOUs and a public workshop. The CEC describes Coordination and Strategic Partnerships primarily at the program and Plan levels, including regular	**1.** The CEC thoroughly details coordination on and results from related efforts previously conducted by the CEC and the IOUs in this space. The CEC demonstrates that this Initiative appropriately considers and leverages these efforts. **2.** The CEC demonstrates that this Initiative is coordinated with previous and ongoing efforts conducted by the CEC and the IOUs as well as activities associated with SB 1221. The CEC must continue to be proactive and

[252] AL 10-G-A at p. 9.
[253] AL 10-G-A at B-3.
[255] AL 10-G-A at D-1 to D-7 & D-11 to D-19.
[256] AL 10-G-A at D-1.
[257] AL 10-G-A at p. 6.

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	outreach meetings and general initiative coordination with the IOUs on August 12 and October 9, 2024.[258] **1.** Social Science Research for Gas Decommissioning in the Mid and Long Term: Earthjustice commented that CEC should explore barriers and solution related to: Structural or infrastructure constraints; Multifamily residential and renter barriers; Up-front costs and bill impacts; Resilience concerns and potential resilience benefits; and Customer attitudes and unfamiliarity with technologies – the CEC responded that the "topics and considerations mentioned are well aligned with the types of investigation covered in the initiative."[259] SoCalGas recommended that the CEC consider technologies and solutions to address "where there may be challenges to meeting increasing electric demand through the grid" when targeting gas decommissioning, and the CEC responded that projects will be "designed to accommodate consideration of varied technological possibilities and recognition of favorable opportunities for developing their potential as aligned with state goals."[260] The CEC details recommendations from SoCalGas and PG&E for the CEC to lead and document coordination on similar RD&D activities, including: • "[P]revious CEC projects that assessed gas decommissioning in Environmental and Social Justice (ESJ) communities in Northern and Southern California. The ongoing Southern California-focused gas decommissioning study was co-funded by SoCalGas and overseen by the RAND Corporation. The results of this recent Southern California study, which have not yet been published by CEC, should help guide any follow-on research regarding gas decommissioning. The CEC also previously worked with PG&E on a targeted gas decommissioning study focused on Northern California", which identified that the "obligation to serve (Public Utilities Code Section 4515) makes gas decommissioning projects very challenging to develop at any significant scale." CEC responded that this "initiative is intended to contribute to a more comprehensive understanding of the planned transition from fossil gas, generating results that help bridge energy system planning, policy	specific in articulating these coordination efforts and consider Biovind's recommendations in the solicitation phase of this Initiative. **3.** The CEC appears to have demonstrated engagement and consideration of public concerns related to this Initiative. The CEC demonstrates coordination with the IOUs, including by considering findings from related RD&D conducted in California and other states. **The CEC is compliant with this requirement.**

258 AL 10-G-A at p. 14-17.
259 AL 10-G-A at D-11 to D-13.
260 AL 10-G-A at D-3 to D-4.

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	and programs, decommissioning efforts, and fair, empirically-centered assessments of associated environmental, economic, and social impacts."[261] • PG&E efforts to approach electrification by considering 1) cost-effectiveness 2) capacity 3) and customer willingness to convert in targeting upcoming distribution pipeline replacement projects as recommended by E3 via the CEC-funded project, "Analytical Framework Results for Strategic Gas Infrastructure Decommissioning in Northern CA." PG&E states that there may be "learnings there that can be applied to future projects, especially with the community outreach findings." CEC responded that "[s]taff are familiar with the E3 study and the approach of targeting properties based on distribution pipeline conditions as well as other infrastructural and community conditions (e.g., partly laid out in CPUC's Staff Proposal on Gas Distribution Infrastructure Decommissioning Framework) and agree that E3's study will be very useful for informing research resulting from these initiatives."[262] The CEC includes "a summary of the progression of the portfolio of gas decommissioning research projects and initiatives to date", reflective of the efforts mentioned by SoCalGas and PG&E.[263] In Appendix C: List of Gas R&D Events, the CEC lists the following gas decommissioning-related events: • February 2024: Workshop on Analytical Framework Results for Strategic Gas Infrastructure Decommissioning in Northern California, coordinated by the CEC; E3 presented final results (PIR-20-009). • March 2024: Scoping Workshop: Location-Specific Gas System Decommissioning. • October 2024: Community Workshop: Mindful Gas Decommissioning Study Workshop hosted by recipient, DNV-GL, to provide project updates and a beta tool demonstration and receive additional community input (PIR-22-002) • November 2024: CEC Healthy, Equitable Energy Transition (HEET) Working Group Meeting, covering asocial science approach to the residential transition from gas to electric and the role of energy sufficiency. **2.** Pilot Projects to Advance Gas Decommissioning: The CEC states that "staff are tracking current efforts across other states as well as internationally and will explore	

[261] AL 10-G-A at D-2 to D-3.
[262] AL 10-G-A at D-4 to D-6.
[263] AL 10-G-A at p. 24-25.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	opportunities for exchanging information, such as data, best practices, and lessons learned."[264] The CEC includes a "a summary of the progression of the portfolio of gas decommissioning research projects and initiatives to date", reflective of the efforts mentioned by Earthjustice, SoCalGas, and PG&E.[265] In contrast to the previous Initiative, the CEC states this Initiative "aims to demonstrate decommissioning at street segment or neighborhood scales. These pilots will consider and leverage previous and ongoing efforts, such as existing site-selection framework tools, census or pre-evaluated sites, and SB 1221 implementation for gas conversion. The pilots will provide real world data on performance, costs, and challenges. Additionally, information resulting from these pilots can inform models, templates, and best practices for future decommissioning efforts. Successful demonstrations can also help to build customer confidence, fostering higher levels of consent within neighborhoods, counties, and cities and encouraging them to pursue similar decommissioning efforts."[266] In response to concern expressed by the public on data availability to ensure project success, the CEC states that it "will utilize data from previous and ongoing studies as well as resources resulting from SB 1221, such as zonal maps. The zonal maps developed are anticipated to include information on potential gas distribution pipeline replacement projects to inform pilot project site selection. "In alignment with Earthjustice's recommendation, the CEC states that "[p]rojects funded under this initiative will consider existing research and emerging experience in a range of low-carbon technologies and leverage work under SB 1221 where feasible." In response to Biovind's recommendation that decommissioning efforts should utilize "a standardized, risk-based framework that integrates corrosion detection, predictive modeling, and equity considerations in determining pilot site selection", the CEC responded that it "will consider them as this initiative is further refined during the solicitation scoping process" and that "staff will be working with the CPUC to position the gas decommissioning research to inform and support efforts related to SB 1221."[267]	

[264] AL 10-G-A at D-14.
[265] AL 10-G-A at p. 24-25.
[266] AL 10-G-A at D-6.
[267] AL 10-G-A at D-13 to D-15.

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	3. Networked Geothermal Heat Pumps: The CEC states that "[t]o ensure CEC is tracking and learning from these various efforts, CEC along with CPUC staff participate in the Geothermal Network Regulator Forum."[268] The CEC affirms it will employ "SB 1221 maps to identify potential sites for near- and medium-term networked GHP pilots" (per Earthjustice's recommendation)[269] and consider a "cost performance study by the National Renewable Energy Laboratory on single-owner networked GHPs [which] reported coefficients of performance for ground loops between three and 10, indicating extreme efficiency."[270] Though PG&E conducted an "initiative in San Jose connecting datacenters to nearby housing to provide energy and heat", the CEC states that "PG&E subject matter experts indicated they are not actively pursuing networked GHP research and would be interested in following the progress of this initiative."[271] In response to SoCalGas flagging issues with decreasing capacity of geothermal power generation over time, the CEC responded that "CEC staff will consider evaluations of the estimated life span of the well and anticipated performance degradation, so stakeholders can understand the long-term impacts of the project."[272] In response to SoCalGas flagging issues with brine production and seismic concerns, the CEC stated that "[s]ince the drilling is relatively less deep, the potential impact may be minimal. However, as part of the study, this concern will be investigated to ensure a comprehensive understanding of any potential effects."[273] In alignment with SoCalGas' and PG&E's recommendation, the CEC states it will consider how networked geothermal technology being studied and deployed in other states, including the first utility-scale networked geothermal system pilot being commissioned in Massachusetts in June 2024.[274]	

268 AL 10-G-A at p. 45.
269 AL 10-G-A at D-17.
270 AL 10-G-A at p. 43; D-15; & D-16.
271 *Ibid.*
272 AL 12-G at C-17.
273 AL 12-G at C-17 to C-18.
274 AL 10-G-A at p. 43-44.

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	The CEC states that given networked geothermal technology "could also offer a new potential business model for utilities to provide gas customers with a suitable zero-emission substitute", the CEC would conduct a "comparison of ratepayer monthly bills among networked GHPs, other decarbonized solutions, and existing gas systems, modeled using existing utility business models (e.g., for fossil gas) and allowable rates of return."[275] The CEC also states that adaptation benefits could be assessed via the "[u]se of study results in utility long-term planning and development of business models to incorporate the technology and support the clean energy transition."[276] In alignment with comments from the Lawrence Berkeley National Laboratory (LBNL), the CEC states that reductions in GHG emissions will be evaluated and that "by decreasing electricity demand during both cooling and heating seasons and gas demand during heating season, networked GHPs will decrease the strain on power generation and transmission infrastructure, thereby reducing the risk of overload and equipment failure and increasing reliability."[277]	
Resolution G-3603 (2024) at OP 5. *To ensure that research plans are coordinated, consistent, and aligned with CPUC policies and proceedings, the California Energy Commission shall coordinate with Energy Division and CPUC Staff in advance of commencing its plan.*	The CEC provides a Summary of Key Input Activities for the CEC Gas R&D Program Grant Solicitation and Agreement Management Process at Figure 1,[278] including coordination with CPUC on Proposed and Final Research Initiatives. The CEC details Coordination and Strategic Partnerships with CPUC, including specific meetings on its FY 2025-2026 Plan on the following dates:[279] • July 24, 2024: First briefing soliciting early and ongoing feedback. • August 27 and October 29, 2024: Subsequent updates provided during monthly CEC-CPUC Gas R&D Working Group meetings. • September 9 and November 22, 2024: Additional coordination via Initiative-specific meetings. The CEC states that "[b]ased on feedback received throughout this process, CEC staff elected to exclude a previously proposed initiative on Scaling Technology to Decarbonize California's Gas Sector in the FY 2025-2026 Budget Plan and redirected	**1**. The CEC demonstrates that it has reflected CPUC staff feedback in this Initiative and aligned with CPUC proceedings. **2.** The CEC demonstrates that it has reflected CPUC staff feedback in this Initiative and aligned with CPUC proceedings, however, the CEC must strive to provide greater clarity on the scale and composition of Initiative outputs, such as the number of projects

[275] AL 10-G-A at p. 40 & D-15.
[276] AL 10-G-A at p. 41.
[277] AL 10-G-A at p. 40; p. 42; & D-16 to D-17.
[278] AL 10-G-A at p. 6.
[279] AL 10-G-A at p. 16.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	the associated funds."[280] The CEC also includes a list of Policies Supported by FY 2025-2026 Gas R&D Program Initiative Themes at Appendix A and information on Roadmaps and Long-Term Strategies, representing "types of planning mechanisms and prioritization tools that help establish a clear link between research and energy policy goals".[281] In Appendix D, the CEC includes CPUC Subject Matter Expert Feedback provided December 23, 2025, and CEC Responses:[282] **1.** Social Science Research for Gas Decommissioning in the Mid and Long Term:[283] The CEC also states that this "initiative responds to key needs identified in state processes and studies", including "CPUC's Long-Term Gas Planning Rulemaking (R.20-01-007 and R.24-09-012) documents, which point to the need to align gas planning and electric system planning, as well as to manage impacts on 'transition-vulnerable' customers." The CEC states that this Initiative targets needs discussed in conversations with CPUC staff, who "identified information gaps such as understanding gas customer attitudes toward electrification of cooking and other end uses, supply chain limitations for heat pumps and other barriers to electrification faced by these customers, and the impacts of gas use electrification on peak loads." **2.** Pilot Projects to Advance Gas Decommissioning: The CEC reports that CPUC staff recommended increasing funding allocated to this Initiative to meet objectives;[284] the CEC increased funding allocated to this Initiative when removing the Scaling Technology Alternatives to Gas (STAG) Initiative. **3.** Networked Geothermal Heat Pumps: The CEC will consider how networked geothermal technology being studied and deployed in other states, including the first utility-scale networked geothermal system pilot being commissioned in Massachusetts in June 2024.[285]	anticipated to be delivered with a given amount of funding. **3**. The CEC includes consideration of findings from related RD&D conducted in California and other states, aligning with CPUC staff feedback. **The CEC is compliant with this requirement.**

280 AL 10-G-A at D-1.
281 AL 10-G-A at p. 18-19.
282 AL 10-G-A at D-9 to D-11.
283 AL 10-G-A at p. 29-30.
284 AL 10-G-A at D-9.
285 AL 10-G-A at p. 43-44.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
Resolution G-3603 (2024) at OP 6. *Once the Electric Program Investment Charge (EPIC) program's Uniform Impact Analysis framework is approved by the Commission, the California Energy Commission shall use this framework to demonstrate outcomes of achieving its proposed benefits for all current and future research projects including through quantitative methodologies.*	The CEC describes how its "current processes align with these principles in several ways, and impact assessment occurs throughout the Gas R&D Program administration process" in its Foundational Principles for Uniform Impact Analysis section.[286] The CEC lists the following anticipated Benefits to Californians and associated metrics under each Initiative:[287] **1.** Social Science Research for Gas Decommissioning in the Mid and Long Term: • Affordability: Assessed via the "[i]dentification of barriers to adoption of equipment that could reduce individual consumer costs"; Adaptation: Assessed via the "actualization of strategies and pathways that overcome or mitigate these barriers (e.g., through workforce training or improved technologies)." • Safety and reliability: Assessed via the "[i]dentification of prospective energy reliability and/or safety challenges based on modeling the impacts of gas end use conversion." • Environmental sustainability: Assessed via "[e]stimates of air quality impacts of any *acceleration* of transition away from gas." • Equity: Assessed via the "[i]dentification and/or dissemination of resilience strategies tailored for lower-income households and businesses." **2.** Pilot Projects to Advance Gas Decommissioning: • Affordability: Assessed via "[c]ost comparisons to existing systems per household." • Safety and reliability: Assessed via the "[i]dentification and reduction of environmental harms (e.g., soil and water contamination from corroded metal and pipeline coating substances) from abandoned pipe segments." • Adaptation: Assessed via the "[n]umber and criticality of potential points of failure identified and addressed." • Environmental sustainability: Assessed via "[c]alculated reductions in local air pollutants and GHG emissions." • Equity: Assessed via "[n]umber of communities engaged or involved in pilots and proportion of which are considered ESJ communities." **3.** Networked Geothermal Heat Pumps:	The CEC demonstrates attention to the Uniform Impacts Analysis Foundational Principles by selecting metrics to quantify ratepayer benefit that appear to be directly attributable to each of the proposed Initiatives. **The CEC is compliant with this requirement.**

[286] AL 10-G-A at p. 19-21.
[287] AL 10-G-A at p. 27-29, 32-34, & 40-42.

CPUC Requirement	CEC Response in AL 10-G-A	Compliance Assessment
	• Affordability: Assessed via "[c]omparison of ratepayer monthly bills among networked GHPs, other decarbonized solutions, and existing gas systems, modeled using existing utility business models (e.g., for fossil gas) and allowable rates of return." • Safety and reliability: Assessed via (decreased) risk of power and gas system failures. • Adaptation: Assessed via "[c]omparison of resilience metrics, such as performance loss ratios, probabilities of recovery, and adaptive capacity, between the existing and proposed technologies." • Environmental sustainability: Assessed via "[r]eduction in GHG emissions, criteria air pollutant emissions, and water use." • Equity: Assessed via "[s]avings on monthly overall energy bill cost for ESJ communities based on historical data of gas and electric price spikes."	