

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

**ENERGY DIVISION**

**AGENDA ID# 22466  
RESOLUTION G-3603  
May 9, 2024**

**RESOLUTION**

Resolution G-3603. Approval of the California Energy Commission's Gas Research and Development Program for Fiscal Year 2023-2024.

PROPOSED OUTCOME: Approves in part and modifies in part the California Energy Commission's (CEC's) *Gas Research and Development Program, Proposed Budget Plan for Fiscal Year (FY) 2023-2024* with a budget of \$24 million, plus \$6,536,412 in previously unspent funds, totaling \$30,536,412, pursuant to California Public Utilities Commission Decision (D.) 04-08-010.

SAFETY CONSIDERATIONS: This Resolution approves \$2 million for the Targeted Gas System Decommissioning Initiative theme, which funds projects regarding aging gas infrastructure in California.

ESTIMATED COST:

- Approves \$24 million in ratepayer costs, plus \$6,536,412 of previously unspent CEC Gas R&D funds, for Fiscal Year 2023-2024 as previously authorized by Decision (D.)04-08-010. Total Ratepayer Cost is \$30,536,412 for this plan.

By Advice Letter 5-G, Filed on June 1, 2023.

**SUMMARY:**

This Resolution approves in part the California Energy Commission's (CEC's) Gas Research and Development Program Proposed Budget Plan for Fiscal Year 2023-2024 (the FY 2023-2024 Plan). The Gas Research and Development Program (Gas R&D Program) was established pursuant to D.04-08-010. The California Public Utilities Commission (CPUC or Commission) approves the CEC's proposed \$24,000,000 budget, plus \$6,536,412 in unspent funds, totaling \$30,536,412. This includes a \$2.4 million administrative budget. The Resolution directs the CEC to reallocate \$10,130,876 million for the Gas Leakage Mitigation Initiative theme to other gas research projects, as described.

**BACKGROUND:**

**Procedural History**

In 2002, the CPUC instituted Rulemaking (R.)02-10-001 to implement Assembly Bill 1002 (Wright, 2000).<sup>1</sup> In that proceeding, the CPUC addressed various issues related to the design and implementation of a surcharge to fund gas public purpose programs, resulting in D.04-08-010.

D.04-08-010 establishes certain criteria for gas research and development (Gas R&D) projects to be approved under this program, specifically, that the projects:

- 1) Focus on energy efficiency, renewable technologies, conservation, and environmental issues.
- 2) Support State energy policy.
- 3) Offer a reasonable probability of providing benefits to the general public.
- 4) Consider opportunities for collaboration and co-funding opportunities with other entities.

Additionally, the Commission defines public interest Gas R&D activities as those which “are directed towards developing science or technology, the benefits of which 1) accrue to California citizens and 2) are not adequately addressed by competitive or regulated entities.”<sup>2</sup>

D.04-08-010 also designates the CEC as the administrator of the Gas R&D Program. The CEC administers various public interest research programs and is publicly accountable, being subject to the Bagley-Keene Open Meeting Act and the Public Records Act.<sup>3</sup> The CPUC identifies areas for funding and the CEC selects projects and funding areas to achieve these goals.

D.04-08-010 reserves ultimate oversight of Gas R&D investments for the CPUC. The CPUC is responsible for adopting the Gas R&D Program, for setting the surcharge to fund it, and accountability to evaluate that gas R&D investments are prudent and benefit the ratepayers that fund the program. The Decision also states that, “if any commercial benefits result, we expect that these benefits would accrue to the ratepayers

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<sup>1</sup> Available at [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=199920000AB1002](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=199920000AB1002).

<sup>2</sup> D.04-08-010 at 25.

<sup>3</sup> D.04-08-010 at 31.

who are funding the program through the gas surcharge.”<sup>4</sup> The Decision clarifies that the CPUC has final responsibility to “approve and resolve administration, funding, project approval, or other matters, and make a final decision.”<sup>5</sup> The Decision further designates the CPUC’s Energy Division to serve as the CPUC’s advisor.

## **Budget**

D.04-08-010 establishes a zero-based budget for the Gas R&D Program. Historically, each year the CEC has requested, and the CPUC has approved, the maximum budget increase over the previous year. Starting at \$12 million for 2005, the Gas R&D Program budget increased by the maximum annual amount allowed of \$3 million each year until 2009. In 2009, the budget reached the maximum amount allowed of \$24 million per year and has remained at this level to the present.<sup>6</sup>

In its FY 2023-2024 Plan, the CEC continues to request the maximum \$24 million. The CEC is also requesting to use \$6,536,412 in unspent funds (from previously planned gas energy efficiency and transportation research initiatives) in its FY 2023-2024 Plan. The CEC has historically been granted the use of 10 percent of Gas R&D funds for program administration. The FY 2023-2024 Plan similarly requests \$2.4 million, or 10 percent of the overall budget, for program administration.

## **Request for State Fiscal Year 2023-2024**

On June 1, 2023, the CEC filed Advice Letter 5-G seeking approval of its proposed FY 2023-2024 Gas R&D Plan. The Plan proposes funding for Gas R&D that the CEC states will benefit gas ratepayers by supporting the decarbonization, resilience, and safety of the gas system, and move the State closer to achieving its clean energy and climate related goals. The CEC’s Plan details funding for four research initiatives aligned with the following four themes: 1) Gas Leakage Mitigation, 2) Building

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<sup>4</sup> D.04-08-010 at 42.

<sup>5</sup> D.04-08-010 at 32.

<sup>6</sup> D.04-08-010 at 38.

Decarbonization, 3) Targeted Gas System Decommissioning, and 4) Leveraging Cost Share Opportunities.

The CEC also requests funding for a Comprehensive Programmatic Evaluation, pursuant to Resolution G-3592 and for Program Administration.

## **NOTICE**

Notice of Advice Letter (AL) 5-G was made by publication in the Commission's Daily Calendar. The California Energy Commission states that a copy of the AL was mailed and distributed in accordance with Section 4 of General Order 96-B.

## **PROTESTS**

Advice Letter 5-G was not protested.

## **DISCUSSION**

The CPUC has reviewed and evaluated the CEC's Gas Research and Development Program Proposed Budget Plan for Fiscal Year 2023-2024 based on the following:

- Consistency with D.04-08-010 (2004) - Foundational Decision
- Consistency with Resolution G-3484 (2013) - Accounting Requirements
- Consistency with Resolution G-3571 (2020) - Direction for Stakeholder Engagement
- Consistency with Resolution G-3584 (2021) - Direction for Budgeting and Reporting and Research Topic Areas
- Consistency with Resolution G-3592 (2023)
- Reasonableness of Budget Request

### **Consistency with D.04-08-010**

D.04-08-010 appoints the CEC as the administrator of the Gas R&D program to “improve gas energy efficiency and environmental quality, develop renewable technologies, and otherwise provide benefits to the public.”<sup>7</sup>

### ***Submission of FY 2023-2024 Gas R&D Proposal***

D.04-08-010 requires the CEC to provide an annual plan to the CPUC outlining its proposed Gas R&D projects. The CEC presented its draft FY 2023-2024 Plan for comment to CPUC staff on December 14, 2022.<sup>8</sup> Subsequently, the CEC presented its draft Plan in a public workshop on January 17, 2023 and received feedback from stakeholders.<sup>9</sup> The CEC submitted its FY 2023-2024 Gas R&D Plan via a Tier 3 Advice Letter on June 1, 2023. The CPUC reviewed the CEC’s plan and finds it to be submitted in compliance with D.04-08-010.

### ***Program Requirements***

D.04-08-010 requires that gas R&D projects be consistent with four requirements: 1) Focus on energy efficiency, renewable technologies, conservation, and environmental issues, 2) Support State energy policy, 3) Offer a reasonable probability of providing benefits to the general public, and 4) Consider opportunities for collaboration and co-funding opportunities with other entities.<sup>10</sup> The CEC’s proposed budget for FY 2023-2024 allocates the \$24 million budget, plus \$6.536 million of supplemental budget of previously unused funds, to the following areas:

- Gas Leakage Mitigation (\$10,130,876)
- Building Decarbonization (\$7,000,000)
- Targeted Gas System Decommissioning (\$2,000,000)
- Leveraging Cost Share Opportunities (\$8,045,266)
- Comprehensive Programmatic Evaluation (\$960,000)
- Program Administration (\$2,400,000)

The Program Administration allocation represents 10 percent of the maximum annual budget (\$24 million).

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<sup>7</sup> D.04-08-010 at 2.

<sup>8</sup> FY 2023-2024 Plan at 7.

<sup>9</sup> FY 2023-2024 Plan at 11.

<sup>10</sup> D.04-08-010 at 28.

Requirement One: “Focus on energy efficiency, renewable technologies, conservation, and environmental issues.”

The CEC states that its Plan is consistent with Requirement One. The CEC states that its Gas Leakage Mitigation theme is consistent with a focus on renewable technologies and environmental issues, its Building Decarbonization theme is consistent with conservation and environmental issues, and its Targeted Gas System Decommissioning theme is consistent with conservation.<sup>11</sup> Further, the CEC states that the Leveraging Cost Share Opportunities theme has the potential of addressing these focus areas.<sup>12</sup>

The Commission finds that the CEC is compliant with Requirement One.

Requirement Two: “Support State energy policy.”

The CEC describes in Appendix A (attached to this Resolution as Attachment A) of its FY 2023-2024 Gas R&D Plan how its Plan is consistent with State energy policies. The CEC writes how each of its FY 2023-2024 proposed initiatives align with different State policies. For example, the CEC states that its Plan supports State energy policies because it aims to achieve economywide carbon neutrality by 2045 (Executive Order B-55-18).<sup>13</sup> The CEC also discusses that its Building Decarbonization Theme supports Assembly Bill 3232 (Friedman, Chapter 373, Statutes of 2018)<sup>14</sup>, which directed the CEC to develop a California Building Decarbonization Assessment to provide a framework to tackle challenges in reducing GHG emissions associated with California’s buildings. The Building Decarbonization theme also supports Senate Bill 1477<sup>15</sup> which requires the CPUC to develop, in consultation with the CEC, two programs aimed at reducing GHG emissions associated with buildings.

Based on the research themes and initiatives described in its FY 2023-2024 Gas Plan, the Commission finds that the CEC is compliant with Requirement Two.

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<sup>11</sup> FY 2023-2024 Plan at 5.

<sup>12</sup> Ibid.

<sup>13</sup> FY 2023-2024 Plan at A-2.

<sup>14</sup> Assembly Bill 3232:

[https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB3232](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB3232)

<sup>15</sup> Senate Bill 1477: [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180SB1477](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1477)

Requirement Three: “Offer a reasonable probability of providing benefits to the general public.”

The CEC sufficiently describes in its FY 2023-2024 Gas R&D Plan the general intention of each initiative and how the research could improve safety, affordability, environmental sustainability, and equity. The Plan’s proposed benefit breakdown for each initiative both names the benefit category and explains in general terms how the initiative addresses the goal. For example, as an equity benefit, the CEC asserts that its “Air Pollutant Exposure Assessment in California Residences” initiative (Building Decarbonization initiative theme) will provide support for decarbonizing homes that maximizes local benefits associated with reduced indoor air pollutant exposures and will focus on diverse housing types, including low-income and multifamily homes.<sup>16</sup>

The CEC’s FY 2023-2024 Gas R&D Plan meets Requirement Three in terms of planning to achieve benefits. Resolution G-3592 (2023) requires the CEC to apply the impact analysis framework to be established in the EPIC proceeding to all current and future Gas R&D projects and initiatives.<sup>17</sup> We expect that once this framework is established, the CEC shall demonstrate outcomes of achieving its proposed benefits for all current and future research projects including through quantitative methodologies. This framework will be informed by the outcome of the EPIC proceeding’s uniform impact analysis framework. Pending the establishment of the Impact Analysis Framework, the CEC’s FY 2023-2024 Plan is compliant with Requirement Three.

Requirement Four: “Consider opportunities for collaboration and co-funding opportunities with other entities.”

D.04-08-010 directs the CEC to consider opportunities for collaboration and co-funding opportunities with other entities. In its FY 2023-2024 Plan, the CEC discusses its engagement with California stakeholders including research institutions, governmental agencies, industry, and utility representatives, and the public.<sup>18</sup> The CEC discusses its ongoing collaboration with California investor-owned utilities (IOUs) including PG&E, SDG&E, and SoCalGas.<sup>19</sup> The CEC also states that they often leverage cofunding opportunities from different entities, including the IOUs.<sup>20</sup> Going forward, the CEC shall meet with the administrators of other Gas R&D programs and describe in its

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<sup>16</sup> FY 2023-2024 Plan at 23.

<sup>17</sup> G-3592 at Ordering Paragraph 6.

<sup>18</sup> FY 2023-2024 Plan at 11.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

annual plan how its research is strategically coordinated and complements other Gas R&D research occurring in California, consistent with CPUC policies and proceedings. Further, the CEC shall coordinate with all IOU gas R&D administrators to hold an annual public workshop that is structured thematically to demonstrate how administrators are coordinating on gas innovation to benefit ratepayers, including impacts on ESJ communities.

### **Consistency with Resolution G-3484 (2013) Accounting Requirements**

Resolution G-3484 directs the CEC to include in its proposed Gas R&D budget an accounting, by research area, of then-current unspent funds in the program, including encumbered funds and expiration dates.<sup>21</sup> This requirement shall remain in place for each fiscal year's proposed budget, until otherwise directed by the CPUC.

Assembly Bill 148 (Committee on Budget, Chapter 115, Statutes of 2021) provided the CEC the authority to continuously appropriate gas funds from the Public Interest Energy Research, Development, and Demonstration Fund for administering energy-related programs.<sup>22</sup> As a result, gas R&D funds do not have encumbrance or liquidation dates. The CEC states that in its FY 2023-2024 Plan and future plans, the CEC will propose a supplemental budget to reuse any unspent, unencumbered, or other available funds in the Public Interest Energy Research, Development, and Demonstration Fund CEC subaccount.<sup>23</sup>

In its FY 2023-2024 Plan, CEC proposes a supplemental budget of \$6,536,142 that consists of unused funds from previously planned energy efficiency and transportation research initiatives under past approved budget plans, such as from cancelled grants and unspent or unencumbered funds.<sup>24</sup> Specifically, these unspent funds include \$1,175,266 from a cancelled project from the 2016/17 Budget Plan, \$1,230,000 from

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<sup>21</sup> "Encumbered funds" refers to funds that are committed to projects through an executed contract but have not yet been spent. The CEC has budget authority to encumber funds within two years of authorization. "Spent funds" refers to contracted funds that are spent on a project. "Unspent funds" refers to contracted funds that have not yet been spent on a project or funds that have not been encumbered. The CEC has budget authority to spend encumbered funds within four years of encumbering them through a contract. "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. "Supplemental funds" refers to encumbered but unspent funds that are requested for use on new projects. More detail on the definition of encumbered funds can be found here: [www.ebudget.ca.gov/reference/GlossaryOfTerms.pdf](http://www.ebudget.ca.gov/reference/GlossaryOfTerms.pdf).

<sup>22</sup> FY 2023-2024 Plan at 13.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

unspent and unencumbered funds from FY 2020–2021 Budget Plan, \$2,630,876 from unspent and unencumbered funds from FY 2016-17 Budget Plan.<sup>25</sup>

The CEC also provides detail on its encumbered and unspent research funds in Appendix B of its FY 2023-2024 Plan, attached to this Resolution as Attachment A.<sup>26</sup>

This is compliant with the requirement from G-3484.

### **Consistency with Resolution G-3571 (2020) Direction**

#### *Advice Letter Submission Process*

Resolution G-3571 requires the CEC to submit its Gas R&D Plans in the form of a Tier 3 business letter pursuant to General Order 96-B to be served on the gas utilities' advice letter service lists. The CEC submitted its FY 2023-2024 Plan on June 1, 2023 as a Tier 3 Advice Letter through the business letter process. The CEC's FY 2023-2024 Plan complies with this requirement.

Resolution G-3571 also includes a requirement for the CEC to post all Gas R&D Budget Plans publicly on the CEC's website<sup>27</sup> and to notify the CPUC of the web address before submitting its advice letter to the CPUC. G-3571 requires the CEC to distribute budget plans through the CEC's listservs.

The CEC met all of these requirements for its FY 2023-2024 Plan and is compliant with G-3571.

#### *COVID-related Requirements*

Resolution G-3571 directs the CEC to consider "any research gaps that might emerge because of recent budget decreases or reallocations in response to COVID-related economic impacts and potential cofounding opportunities that the Gas R&D program can provide to limit the impact of these gaps on California energy goals."<sup>28</sup> In its

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<sup>25</sup> FY 2023-2024 Plan at Footnote 22.

<sup>26</sup> FY 2023-2024 Plan at Appendix B.

<sup>27</sup> "California Energy Commission Annual Reports." Available at <https://www.energy.ca.gov/data-reports/reports/energy-research-and-development-investment-plans-and-annual-reports>.

<sup>28</sup> Resolution G-3571, OP 8e.

FY 2023-2024 plan, the CEC states: “at this time the CEC is not aware of budget decreases or reallocations that may result in research gaps.”<sup>29</sup>

The CEC is compliant with consideration of COVID-related impacts in G-3571 order.

For all future Budget Plans, the CEC no longer necessarily needs to report on COVID-related impacts, but instead, shall report on any research gaps that might emerge due to unforeseen economic or emergency circumstances including cybersecurity, human-caused and/or natural disasters.

### *Coordination with CPUC Staff*

Resolution G-3571 requires the CEC to coordinate with CPUC staff on its proposed Gas R&D budget plan at least three weeks in advance of the CEC’s public workshop. The CEC met with CPUC staff on December 14, 2022, prior to the CEC’s public workshop held on January 17, 2023.<sup>30</sup> Early coordination meetings with CEC and CPUC staff allow subject matter experts to ask relevant questions regarding research initiatives and provide feedback, aiding in ensuring that the CEC’s Gas R&D program is aligned with CPUC proceedings. Appendix C in the CEC’s FY 2023-2024 Gas R&D Plan summarizes public comments and questions between the CEC and stakeholders, including the CPUC.

The CEC is compliant with the CPUC staff coordination requirement of G-3571.

### **Consistency with G-3592 (2023) Direction**

#### *Coordination with the Disadvantaged Communities Advisory Group (DACAG)*

Resolution G-3592 requires the CEC to “Coordinate with the DACAG and provide the DACAG with the option of a live presentation, if desired by the DACAG. The CEC shall also 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.”<sup>31</sup>

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<sup>29</sup> FY 2023-2024 Plan at 7.

<sup>30</sup> Ibid.

<sup>31</sup> G-3592 at Ordering Paragraph 5a.

The CEC presented its Gas R&D FY 2023-2024 Budget Plan to the DACAG on January 20, 2023. The CEC summarizes the DACAG's comments on its FY 2023-2024 Plan from the January 20, 2023 meeting in Appendix C.<sup>32</sup> The CEC describes that it incorporated DACAG feedback into its Gas Leakage Mitigation initiative<sup>33</sup> and its Targeted Gas System Decommissioning initiative.<sup>34</sup> DACAG feedback is included as Attachment A, of this Resolution. The CEC further elaborates on program equity in the FY 2023-2024 Plan through the "Equity Benefits of Proposed Initiatives" section.<sup>35</sup> In this section, the CEC describes how it applied the DACAG Equity Framework to guide its Gas R&D investments.<sup>36</sup> The CEC elaborates on its application of the DACAG Equity Framework in Appendix E.<sup>37</sup> The CEC's application of the DACAG Equity Framework is included as Attachment A, Appendix E to this Resolution.

The CEC's FY 2023-2024 Plan is compliant with the DACAG requirement from G-3592.

### *Coordination with CPUC Commissioners*

Building on the same requirement in Resolution G-3571, Resolution G-3592 requires that in all future Gas R&D budget plans, the CEC shall "consult 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."<sup>38</sup> The CEC offered to present the proposed budget plan to Commissioners on May 15, 2023<sup>39</sup> and presented its FY 2023-2024 Gas R&D proposed budget plan at the June 29, 2023 CPUC Commissioner voting meeting.<sup>40</sup> This is compliant with the requirements from G-3592 and G-3571.

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<sup>32</sup> FY 2023-2024 Plan at Appendix C, C-4 to C-7.

<sup>33</sup> FY 2023-2024 Plan at 19-20.

<sup>34</sup> FY 2023-2024 Plan at 25.

<sup>35</sup> FY 2023-2024 Plan at 29.

<sup>36</sup> FY 2023-2024 Plan at 29-30.

<sup>37</sup> FY 2023-2024 Plan at Appendix E.

<sup>38</sup> G-3592 at Ordering Paragraph 5b.

<sup>39</sup> FY 2023-2024 Plan at 6.

<sup>40</sup> The CEC's presentation on its Gas R&D Program Proposed Budget Plan for FY 2023-2024 at the June 29, 2023 CPUC Commission Voting Meeting can be found at this link: [https://www.cpuc.ca.gov/-/media/cpuc-website/transparency/voting-meetings/presentations-archive/2023/6-29-23\\_commeeting.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/transparency/voting-meetings/presentations-archive/2023/6-29-23_commeeting.pdf)

### *Collaboration and Co-Funding*

Resolution G-3591 requires that, in its FY 2023-2024 Plan and beyond, the CEC shall:

- 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.<sup>41</sup>
- 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.<sup>42</sup>

Further, in D.04-08-010, the Commission emphasized the importance of CEC coordination and engagement with the IOUs on Gas R&D projects. For example, D.04-08-010 directs “the utilities, and other parties, [to] provide potential gas R&D projects to the administrator and the Commission for consideration and inclusion and annual gas R&D programs.”<sup>43</sup>

The CEC describes coordination with stakeholders and strategic partnerships in its FY 2023-2024 Plan. The CEC discusses the public workshop it held on January 17, 2023 where it received participation from sixty-seven attendees.<sup>44</sup> The CEC further described its process to leverage cofunding opportunities by requiring applicants for competitive solicitations to secure match funding, which is usually 10 – 20 percent.<sup>45</sup> In all future plans, the CEC shall be more proactive and specific in articulating its coordination and collaboration with the IOUs (and other Gas R&D entities). To optimize ratepayers’ investment in gas RD&D programs, as well as efficiencies to achieving innovation in the gas sector, all gas R&D administrators must coordinate early at a strategic level to assess each administrator’s appropriate and coordinated role in needed R&D as guided by the CPUC’s gas-related proceedings. It is crucial that Gas R&D not duplicate one another and leverage each other’s unique role and strengths. 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. Further, the CEC shall coordinate with all IOU gas R&D administrators to hold an annual public workshop that is structured thematically

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<sup>41</sup> G-3592 at Ordering Paragraph 5c.

<sup>42</sup> G-3592 at Ordering Paragraph 5d.

<sup>43</sup> D.04-08-010 at 28.

<sup>44</sup> FY 2023-2024 Plan at 11.

<sup>45</sup> FY 2023-2024 at 11.

to demonstrate how administrators are coordinating on methane innovation to benefit ratepayers, including impacts on ESJ communities.

### *Administrative Budget*

G-3592 requires the CEC to allocate designated costs into an administrative budget template to breakout detailed administrative costs.<sup>46</sup> The CEC breaks down its administrative costs in the template provided in Appendix F of its FY 2023-2024 Plan.<sup>47</sup>

This approach is compliant with the requirement from G-3592.

### *Long-Term Research Roadmap*

G-3592 requires the CEC to provide information on the current status of the Long-Term Research Roadmap, currently titled “Establishing a Long-Term Natural Gas Strategy to Achieve Aggressive Statewide Carbon Neutrality Goals,” including an anticipated timeframe for its completion.<sup>48</sup> The CEC states that the final report was submitted to the CEC on November 30, 2022 and contained recommendations organized by 11 initiatives: three under communities, equity, and environment; four under gas end use; and four under gas supply chain elements (production, transport, and storage).<sup>49</sup> The CEC states that these recommendations have partially informed the investments of its FY 2023-2024 Gas R&D Plan.<sup>50</sup> In the future, the CEC shall coordinate with CPUC staff to ensure that research plans are coordinated and consistent with CPUC policies and proceedings.

### **Reasonableness of Budget Request**

Below we address each of the following funding areas proposed in the CEC’s 2023-2024 Gas R&D budget:

- Gas Leakage Mitigation (\$10,130,876)
- Building Decarbonization (\$7,000,000)
- Target Gas System Decommissioning Theme (\$2,000,000)

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<sup>46</sup> G-3592 at Ordering Paragraph 5e.

<sup>47</sup> FY 2023-2024 Plan at Appendix F-1.

<sup>48</sup> G-3592 at Ordering Paragraph 5f.

<sup>49</sup> FY 2023-2024 Plan at 7.

<sup>50</sup> Ibid.

- Leveraging Cost Share Opportunities (\$8,045,266)
- Comprehensive Programmatic Evaluation (\$960,000)
- Program Administration (\$2,400,000)

### *Gas Leakage Mitigation*

The CEC requests a total of \$10,130,876 for its Gas Leakage Mitigation Initiative theme, encompassing one initiative titled “Innovative Gas Leakage Monitoring, Mitigation, and Prevention Solutions.”<sup>51</sup> Specifically, for this initiative theme, the CEC requests to utilize \$6,000,000 of FY 2023-2024 Gas R&D funds and \$4,130,876 from a supplemental budget consisting of funds from energy efficiency and transportation research initiatives under past budget plans, such as from cancelled grants and unspent or unencumbered funds.<sup>52</sup>

The CEC states that this initiative aligns with the findings of the “Long-Term Technological Development Strategy to Meet Aggressive Statewide Decarbonization Goals.”<sup>53</sup> The CEC also states that this initiative advances technological solutions to measure leakage. Reducing methane leakage reduces greenhouse gas emissions impacts and improves air quality. The CEC explains that it responded to DACAG input and expanded this initiative to detect, monitor, and address methane and methane-hydrogen blends, in addition to hydrogen.<sup>54</sup>

In its Plan, the CEC describes that its “Innovative Gas Leakage Monitoring, Mitigation, and Prevention Solutions” initiative will specifically result in RD&D to improve the sensitivity, accuracy, and cost-effectiveness of technologies and techniques for methane, hydrogen, and blends of methane and hydrogen leakage detection, monitoring, mitigation, and prevention.<sup>55</sup>

While the CEC’s Gas Leakage Mitigation is consistent with the Commission’s goals of safety and reliability of the gas system, we find that the CEC’s Gas Leakage Mitigation theme is duplicative of ratepayer funding in the Commission’s Gas Leak Abatement Order Instituting Rulemaking (OIR),<sup>56</sup> mandated by Senate Bill SB 1371. SB 1371 required the CPUC, in consultation with the California Air Resources Board (CARB), to

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<sup>51</sup> FY 2023-2024 Plan at 14.

<sup>52</sup> FY 2023-2024 Plan at 13.

<sup>53</sup> Ibid.

<sup>54</sup> FY 2023-2024 Plan at 15-16.

<sup>55</sup> FY 2023-2024 Plan at 16.

<sup>56</sup> Methane Leak Proceeding: R.15-01-008

adopt rules and procedures to reduce methane emissions from commission-regulated pipeline facilities<sup>57</sup> D.17-06-015, approving the Natural Gas Leak Abatement (NGLA) Program, required PG&E, SoCalGas, SDG&E, and Southwest Gas to open one-way balancing accounts for the costs of Pilot Projects and Research and Development activities.<sup>58</sup> For example, in 2023, the Commission approved Pilot Project budgets for SoCalGas's and SDG&E's NGLA R&D program \$14,429,709<sup>59</sup> and \$1,271,491,<sup>60</sup> respectively. These research and development activities are subject to the R&D guidelines set in § 740.1.

The CEC's Gas Leakage Mitigation hydrogen blending research requests are duplicative of current CPUC approved projects for hydrogen blending pilots in D.22-12-057. This decision states that any proposed hydrogen blending pilot "demonstrates the ability to reliably detect leakage of any hydrogen, methane, or hydrogen/methane blends and describes rigorous hydrogen leak testing protocols."<sup>61</sup> D.22-12-057 also requires the utilities to file a Hydrogen Blending Compendium Report which would include findings related to hydrogen and methane leakage.<sup>62</sup> In addition, outside of D.22-12-057, there are several State and Federal funds going toward hydrogen blending and leakage research. For example, ARCHES (funded by the federal government) states that it "will conduct safety, codes, and standards work to determine appropriate mechanisms for monitoring and rectifying any potential hydrogen leaks" and that "ARCHES projects will be required to monitor and repair leaks."<sup>63</sup>

Public Resources Code 25620.1 provides general guidance on public interest research stating that "the commission shall adopt a portfolio approach for the [Public Interest Energy Research, Demonstration and Development] program that... Ensures that prior, current, and future research not be unnecessarily duplicated."<sup>64</sup> This further illustrates the importance of the Commission's stated preference for early coordination with CPUC proceedings and gas R&D administrators. For these reasons, we deny the CEC's request for \$10,130,876 for its Gas Leakage Mitigation Initiative theme. The CEC shall reallocate the \$10,130,876 via a Tier 2 Advice Letter submitted to Energy Division within 60 days. The CEC shall reallocate these funds toward approved research areas,

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<sup>57</sup> [Senate Bill 1371 Natural Gas: Leakage Abatement | California Air Resources Board](#)

<sup>58</sup> D.17-06-015 at Ordering Paragraph 9.

<sup>59</sup> Resolution G-3595.

<sup>60</sup> Resolution G-3599.

<sup>61</sup> D.22-12-057 at Ordering Paragraph 7k.

<sup>62</sup> D.22-12-057 at 30.

<sup>63</sup> <https://archesh2.org/frequently-asked-questions/>

<sup>64</sup> PRC 25620.1 at c8.

particularly gas system pruning, decommissioning, and safety consistent with Commission proceedings and policies.

### ***Building Decarbonization***

The CEC requests \$7 million for its Building Decarbonization initiative theme, encompassing one initiative: “Air Pollutant Exposure Assessment in California Residences.”<sup>65</sup> The CEC states that this initiative will support air pollutant exposure assessment in California homes to illuminate health implications of different cooking fuels, with a focus on fossil gas and electricity.<sup>66</sup> The CEC states that this research complements a FY 2021-2022 Gas R&D research solicitation, which will measure human exposures to pollutants from residential cooking in multifamily homes.<sup>67</sup> The CEC writes that the FY 2023-2024 Gas R&D initiative will enable improved characterization of particulate matter emissions associated with cooking fuel and generated by the cooking process.<sup>68</sup> The CEC asserts that the successful execution of this initiative will deliver a framework for quantifying the magnitude and distribution of indoor exposures to cooking-related indoor air pollutants associated with a variety of household and demographic characteristics for fossil gas and alternative fuels.<sup>69</sup> The CEC states that, in response to its 2022 public workshop, the initiative will support an innovative approach that involves laboratory and field research.<sup>70</sup> The CEC asserts that this approach is the most promising strategy for cost-effectively characterizing determinants of residential indoor exposures to cooking-related air pollution in a way that lends itself to quantitative assessment.<sup>71</sup>

The CEC states that this initiative responds to the CPUC’s direction in Resolution G-3571 to “quantify and document impacts to indoor air quality from natural gas appliances and the potential technically feasible improvements and potential risks to indoor air quality that could be achieved from fuel blending or electrification.”<sup>72</sup> Further, the CEC discusses that, by providing foundational data to support quantitative assessment of exposures to health-damaging indoor air pollutants associated with cooking-related fuels and activities, this initiative will help appropriately encourage

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<sup>65</sup> FY 2023-2024 Plan at 21.

<sup>66</sup> Ibid.

<sup>67</sup> FY 2023-2024 Plan at 22.

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> FY 2023-2024 Plan at 21.

<sup>71</sup> Ibid.

<sup>72</sup> Resolution G-3571 at 15.

incentives and account for benefits of building decarbonization.<sup>73</sup> The CEC also writes that this initiative will result in equity benefits by focusing on diverse housing types to support household decarbonization in a way that maximizes local benefits.<sup>74</sup>

The Building Decarbonization initiative theme is consistent with requirement three of D.04-08-010 to “offer a reasonable probability of providing benefits to the general public.” This initiative theme is also consistent with requirement two of D.04-08-010, “support State energy policy,” as the CEC’s Integrated Energy Policy Report (IEPR) recommends that “the CEC and other relevant agencies should work to quantify the nonenergy benefits of reducing building emissions, for example, improved public health, where possible, encouraging monetization of these energy-related externalities such that their mitigation of these externalities can increase access to capital for decarbonization projects.”<sup>75</sup>

We approve of the \$7,000,000 allocated to the Building Decarbonization initiative theme. We encourage research examining the potential health and indoor air quality impacts of methane use in other appliances in the home in addition to cooking appliances. We also encourage research into cost-effective short-term mitigation of potential exposure to methane related constituents before full building electrification can be implemented.

### *Targeted Gas System Decommissioning*

The CEC requests \$2 million for its Targeted Gas System Decommissioning initiative theme, encompassing one initiative: “Scaled-Up Gas Decommissioning Pilots and Integrated Planning Tools.” The CEC states that this initiative builds on the same initiative in the FY 2022-2023 Gas RD Plan with additional funds for projects that will support the scaling up of decommissioning pilots and advanced integrated planning for gas system decommissioning.<sup>76</sup> The CEC states that this initiative is informed by ongoing interagency coordination between the CPUC and CEC staff regarding the Gas R&D program and Gas R&D priorities.<sup>77</sup> To be responsive to discussions and decisions associated with rulemakings, the CEC also states that this research will likely commence during the latter stages of the CPUC’s long term gas planning rulemaking

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<sup>73</sup> FY 2023-2024 Plan at 23.

<sup>74</sup> Ibid.

<sup>75</sup> CEC’s Integrated Energy Policy Report (IEPR) Volume 1: Building Decarbonization (2021).

<sup>76</sup> FY 2023-2024 Plan at 24.

<sup>77</sup> FY 2023-2024 Plan at 25.

(R.20-01-007) as well as the CPUC's rulemaking to modernize the electric grid for a high distributed energy resources future (R.21-06-017).

The CEC states that this research will promote a future large-scale decommissioning pilot to support a cost-controlled and equitable gas transition.<sup>78</sup> The CEC asserts that this initiative will support the ratepayer benefits of safety of the gas system, affordability regarding gas system decommissioning, environmental sustainability by decarbonization, and equity by examining the implications of decommissioning to a wide range of gas system users.<sup>79</sup>

The Targeted Gas System Decommissioning Initiative theme is consistent with Requirements One, Two, and Three of D.04-08-010. This initiative theme is also consistent with the Commission's discussion in Resolution G-3592, which suggested the CEC fund projects regarding gas pipeline and system integrity and gas system decommissioning.<sup>80</sup>

We find that the Targeted Gas System Decommissioning Initiative theme is a key strategy for the CEC's Gas R&D program. As California begins to decommission the gas system, it is essential that the CEC and other Gas R&D administrators continue to understand how California ratepayers will be affected by decommissioning. Further, it is important that decommissioning is done in a safe, affordable, and equitable manner. Given the importance of gas system integrity, it is essential that the CEC coordinate with the IOUs that own and operate the gas system to ensure that such research is practical, beneficial and not duplicative, including consistency with CPUC long-term gas planning policies. Accordingly, in its Tier 2 advice letter, the CEC shall provide details of coordination with the IOUs and CPUC proceedings related to strategic planning and gas system needs.<sup>81</sup> As a public agency the CEC has a unique role in furthering the rational decommissioning of parts of the existing methane fuel system.

We approve the \$2,000,000 allocated to the Targeted Gas System Initiative theme and require additional information on IOU and CPUC coordination in a Tier 2 advice letter.

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<sup>78</sup> FY 2023-2024 Plan at 26.

<sup>79</sup> FY 2023-2024 Plan at 27.

<sup>80</sup> G-3692 at Ordering Paragraph 4.

<sup>81</sup> Strategic planning coordination with IOU and other gas R&D administrators is different from considerations of competition or R&D project collaboration and co-funding and the two should not be conflated.

### *Leveraging Cost Share Opportunities*

The CEC requests \$8,045,266 for its Leveraging Cost Share Opportunities Initiative theme, encompassing one initiative titled “Federal and Private Cost Share.” Specifically, the CEC requests \$5,640,000 of FY 2023-2024 Gas R&D funding for this initiative theme and requests to use \$2,405,266 from past energy efficiency research budget plans that were the result of cancelled grants and unspent or unencumbered funds.<sup>82</sup>

The CEC states that this initiative aims to provide cost share funding to California-based entities that apply for and receive: “a) an award under an eligible federal funding opportunity announcement (FOA), b) subsequent funding to continue research from a previously awarded federal grant that also received CEC federal cost-share funding, or c) an award from a private or nonprofit funding opportunity.”<sup>83</sup> The CEC argues that cost sharing helps spread the risk among several funders and allows projects that are larger in scope and scale than any funder may be willing to offer.<sup>84</sup> The CEC states that cost sharing is only available to projects that are consistent with the goals and objectives of the Gas R&D program.<sup>85</sup> The CEC states that this program will attract funding to California while increasing the competitiveness of California-based organizations in accessing these funds, partnerships, and resources.<sup>86</sup>

The Leveraging Cost Share Opportunities Initiative theme is consistent with Requirement Four of D.04-08-010, which requires the CEC to consider opportunities for collaboration and co-funding opportunities with other entities. The CPUC supports the CEC in seeking to take advantage of cost-sharing opportunities, including those that may be available related to federal matching funds. We appreciate that the CEC may not yet be aware of specific cost sharing opportunities. However, cost sharing is not a theme or gas R&D initiative – it is a strategy. Cost sharing should be used as a strategy across all initiatives. Accordingly, the CEC should only utilize cost sharing for initiatives consistent with those approved in this Resolution, such as gas system pruning, decommissioning, and safety, and building decarbonization, or as demonstrated consistent with Commission proceedings and policies. The CEC must describe in its Tier 2 Advice Letter the specific initiatives for proposed funding within the Leveraging Cost Share Opportunities Initiative theme. The Cost Share activity must be consistent with current and future California Energy Policy Goals, the CPUC’s ESJ

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<sup>82</sup> FY 2023-2024 Plan at 29.

<sup>83</sup> FY 2023-2024 Plan at 28.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> FY 2023-2024 Plan at 29.

Plan and equity goals, reduction of ratepayer costs and/or safety considerations. Specific attention must be given to the overlap of California's goals for the environment including local criteria pollutants, affordability, and equity with private and/or non-profit sources of funds to address the methane gas sector.

We approve the \$8,045,266 allocated to the Leveraging Cost Share Opportunities Initiative theme with the requirement that specific initiatives for proposed funding consistent with initiatives approved in this Resolution and are detailed in the Tier 2 Advice Letter.

### *Comprehensive Programmatic Evaluation*

In Resolution G-3592, the Commission required the CEC in its FY 2023-2024 Gas R&D Plan to 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, which will develop a scope of work, issue a competitive request for proposal, and hire and manage the contractor. The CEC requests \$960,000 in compliance with this order.

We approve the \$960,000 allocated to the Comprehensive Programmatic Evaluation.

### *Administrative Budget*

The CEC requests to utilize 10 percent of its proposed \$24 million 2023-2024 budget for administrative expenses, or \$2.4 million.

We find that this is an appropriate use of ratepayer funds and approve a \$2,400,000 administrative budget for the CEC's FY 2023-2024 Gas R&D program.

### **Summary of CPUC Guidance for the CEC's Fiscal Year 2023-2024 Gas R&D Budget Proposal and Beyond**

The CPUC approves in part the California Energy Commission's (CEC's) *Gas Research and Development Program, Proposed Budget Plan for Fiscal Year 2023-2024* with a budget of \$24 million, plus \$6,536,412 in unspent funds, pursuant to D.04-08-010.

This funding level has no precedential value regarding the overall program review or funding levels beyond FY 2023-2024, as the CEC must propose a zero-based budget for

each fiscal year. Pending an assessment of the reasonableness of the overall R&D program, the maximum limit for program funding at \$24 million is reasonable.

The Commission approves the CEC's FY 2023-2024 Gas R&D plan except where noted below. The CEC shall submit a Tier 2 Advice Letter updating its FY 2023-2024 Gas R&D Plan within 60 days of the issuance of this Resolution as described in the discussion above and directed in the ordering paragraphs. We direct the CEC to provide both a track-changed update to its FY 2023-2024 Gas R&D Plan along with a clean version so the CPUC and parties can easily review changes. The CEC shall include additional requirements in subsequent Gas R&D Plan submissions as described below.

### 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 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.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

### FINDINGS

1. The California Energy Commission (CEC) filed its Fiscal Year 2023-2024 Gas Research and Development Program budget and program plan, per Decision (D.) 04-08-010.
2. The CEC's plan generally meets the requirements of D.04-08-010, except where noted.
3. The CEC's plan sufficiently meets the Accounting Requirements of G-3484 (2020).

4. The CEC's plan sufficiently addresses the research topic areas required in G-3584 (2021).
5. The CEC's plan generally meets the requirements of G-3592 (2023), except where noted.
6. The CEC's request for a 10 percent budget for administrative expenses, or \$2.4 million, is appropriate.
7. CPUC finds that the CEC must apply impact analysis methodology as soon as it is adopted by the CPUC in the EPIC proceeding.
8. CPUC finds that the CEC's FY 2023-2024 and beyond Gas R&D Plans shall provide more information on collaboration and co-funding.
9. CPUC finds that the CEC should reallocate the \$10,130,876 originally proposed to the Gas Leakage Mitigation Initiative theme.
10. CPUC finds that the CEC should provide more detail on its Leveraging Cost Share Opportunities Initiative theme and how the projects are consistent with approved initiatives and benefit ratepayers.

**THEREFORE, IT IS ORDERED THAT:**

1. The Gas R&D program funding level for Fiscal Year 2023-2024 (AL 5-G) is \$24,000,000 plus \$6,536,412 in unspent funds, totaling \$30,536,412.
2. The California Energy Commission's administrative budget is capped at 10 percent of the total annual budget of \$24 million, or \$2.4 million.
3. The California Energy Commission (CEC) shall submit a Tier 2 Advice Letter within 60 days with the following:
  - a. Detail on the specific initiatives for proposed funding within the Leveraging Cost Share Opportunities Initiative theme.
  - b. Reallocation of the \$10,130,876 currently within the Gas Leakage Mitigation Initiative theme. The CEC shall reallocate these funds toward approved research areas, particularly gas system pruning, decommissioning, and safety consistent with Commission proceedings and policies.

4. In all future plans, the California Energy Commission (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. Further, the CEC shall coordinate with all IOU Gas R&D administrators to hold an annual public workshop that is structured thematically to demonstrate how administrators are coordinating on gas innovation to benefit ratepayers, including impacts on Environmental and Social Justice communities.
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.
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.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a conference of the Public Utilities Commission of the State of California held on May 9, 2024; the following Commissioners voting favorably thereon:

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Rachel Peterson  
Executive Director