

July 5, 2022

**Advice 4626-G**

(Pacific Gas and Electric Company ID U 39 G)

**Advice 6003-G**

(Southern California Gas Company ID U 904-G)

**Advice 3098-G**

(San Diego Gas and Electric Company ID 902-G)

**Advice 1222-G**

(Southwest Gas Corporation ID 905-G)

Public Utilities Commission of the State of California

**Subject:** Standard Biomethane Procurement Methodology Pursuant to Decision 22-02-025.

**Purpose**

Pursuant to Decision (D.) 22-02-025 (Decision) Implementing Senate Bill (SB) 1440 Biomethane Procurement Program, Ordering Paragraph (OP) 2, Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), San Diego Gas and Electric Company (SDG&E), and Southwest Gas Corporation (SWG) (collectively, the Joint Utilities) submit their Standard Biomethane Procurement Methodology (SBPM) via a Tier 2 Advice Letter.

**Background**

On February 25, 2022, the California Public Utilities Commission (Commission) issued D.22-02-025. This Decision implements SB 1440 by setting biomethane (renewable natural gas (RNG) and/or bio-synthetic natural gas (bio-SNG)) procurement targets for the Joint Utilities' core customers to reduce short-lived climate pollutant emissions and adopts provisions to achieve additional co-benefits, as well as timetables for each investor-owned utility providing gas service in California to achieve specified procurement targets.

On April 5-6, 2022, the Joint Utilities hosted a two-day workshop on cost effectiveness for the SBPM in compliance with OP 1.<sup>1</sup> The workshop included panelists from the Joint Utilities, environmental advocates, social justice advocates, biomethane producers and consumer advocates.<sup>2</sup> Following each panel's presentations, a Question & Answer session was conducted, and participants were invited to submit questions and/or provide comments.<sup>3,4</sup>

The 2-Day workshop addressed the following questions:

Question 1: What specific items should be required in the SBPM cost-effectiveness test?

Question 2: How should Carbon Intensity (CI) be measured in the SBPM cost-effectiveness test?

Question 3: What criteria shall be used in a modified GREET model<sup>5</sup> and who shall be tasked with developing the model?

Question 4: What cost control mechanisms such as above market cost caps or rate increase limits should be used for each gas investor-owned utility (IOU)?

Question 5: What criteria shall be used in a preliminary cost effectiveness test while a modified GREET model is being developed?

Question 6: Discussion of environmental justice and community benefits related to biomethane procurement.

Question 6a: How do IOUs ensure that dairy biomethane facilities are not causing adverse impacts to water and air quality?

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<sup>1</sup> OP 1 states, "Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation shall host a workshop on cost-effectiveness within 45 days of the effective date of this decision. The workshop agenda shall be based on the discussion in Sections 3.3.1, 3.3.2.2, and 3.3.2.3 of this decision." The Joint Utilities provided Notice of the SBPM Workshop to the Service list for R.13-02-008 on March 25, 2022.

<sup>2</sup> D. 22-02-025 at 27.

<sup>3</sup> On March 25, 2022, the Joint Utilities provided a courtesy Notice of Availability of SBPM April 5-6 Workshop to the Service List of Rulemaking (R.)13-02-008.

<sup>4</sup> SBPM Workshop Presentations were circulated to the service list for R.13-02-008 and are available at <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=698193>.

<sup>5</sup> The GREET model is The Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model as developed by Argonne National Laboratory with sponsorship by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy <https://greet.es.anl.gov/>.

Question 6b: How do IOUs ensure that dairy biomethane facilities maintain a reasonable herd size which could be managed under responsible practices for the land application of manure (unless the facility sells the waste byproduct as soil amendment to other parties)?

Question 6c. What other requirements could the Joint IOUs establish to ensure the implementation of best industry practices?

For antitrust compliance purposes, each utility will propose utility-specific cost control mechanism(s) for the project and/or program within their individual Renewable Gas Procurement Plan filing. The project-specific cost control mechanisms were discussed during the April 5-6 Cost Effectiveness workshop and the Renewable Natural Gas program cost control mechanisms were discussed at the April 22 Renewable Gas Procurement Plan (RGPP) workshop.

OP 2 directed the Joint Utilities to submit a Tier 2 Advice Letter establishing their SBPM within 3 months of the cost effectiveness workshop as follows:

Within three months of the cost-effectiveness test workshop, Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation shall include results of the workshop and address feedback received at the workshop in Tier 2 Advice Letters establishing a Standard Biomethane Procurement Methodology.

The Joint Utilities' SBPM is provided as Attachment A. The Joint Utilities have developed an SBPM capturing many of the attributes of the cost-effectiveness test developed by NW Natural for its 2018 Integrated Resource Plan.<sup>6</sup> As in NW Natural's cost-effectiveness test, the SBPM compares the cost of procuring a quantity of RNG from a qualified<sup>7</sup> project and the cost of procuring the same amount of natural gas from conventional sources. Additionally, the SBPM considers RNG project CI, costs to society at large, compliance costs under California's Cap-and-Trade regulation, and other environmental and non-monetary factors over the delivery period of the proposed RNG contract, which may be up to 15 years per the Decision.

Overall, the SBPM cost-effectiveness score consists of two main parts: (a) the first part quantifies costs using key factors such as RNG contract price, the price of conventional natural gas, Cap-and-Trade compliance costs, CI, social cost of greenhouse gas (GHG)

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<sup>6</sup> <https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf>

<sup>7</sup> The SBPM is only applied to projects meeting a set of requirements specified in the Decision. References follow: D.22-02-025, OP 9, 10, 14, 19, 20, 22, 33, 35, 37, 38, 39, 40, 49. D.22-02-025 at 33 requires that landfill projects must "stop accepting new organic waste and implement advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions".

emissions, and natural gas transportation costs; (b) the second part captures other environmental and non-monetary factors such as the environmental benefits of carbon capture, use and storage (CCUS), waste hauler zero emission vehicles, and other benefits raised in the Decision and the SBPM workshop. The scores from each part are then combined to arrive at a final cost-effectiveness score for the project which will help prioritize projects during the project evaluation phase of SB 1440 procurement efforts.<sup>8</sup> The final step in selection of projects for procurement will be based on the criteria described in each IOU's RGPP.

The Joint Utilities' SBPM is informed by input gathered during the 2-day workshop, and to the extent practical recommendations and feedback from the workshop is incorporated into the SBPM. Attachment B contains a Report on the SBPM Workshop, recommendations from the workshop and how the Joint Utilities addressed workshop participants' recommendations.

Additionally, the Decision requires, among other items, the following elements to be included in the SBPM:

*OP 3. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in their Standard Biomethane Procurement Methodology strategies to maximize benefits to environmental justice and disadvantaged communities.** (See pg. 5 and 9-10 of Attachment A)*

*OP 4. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in their Standard Biomethane Procurement Methodology a provision giving higher priority to biomethane producers that demonstrate that their waste byproduct will be turned into soil amendment or other reuse, as well as added prioritization for facilities whose waste byproduct has had perfluoroalkyl or polyfluoroalkyl substances removed from it.***

*OP 5. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in their Standard Biomethane Procurement Methodology a provision giving higher priority to biomethane producers who demonstrate that the waste haulers delivering to their biomethane production facility will adhere to the same prospective exclusive use of near zero emission or zero emission vehicles that the facilities themselves are required to adhere to.***

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<sup>8</sup> A confidential version of Attachment A has been provided to the Commission's Energy Division along with a supporting Confidentiality Declaration from each utility.

OP 8. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in their Standard Biomethane Procurement Methodology a provision giving higher priority to biomethane producers who prevent CO<sub>2</sub> from venting into the atmosphere using Carbon Capture and Use or Storage projects.**

OP 9. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in their Standard Biomethane Procurement Methodology a provision requiring livestock and dairy biomethane facilities that contract with a gas IOU to operate in a manner that does not cause adverse impacts to water and air quality.**

OP 10. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall require biomethane producers to track volumetric injections of biomethane into pipelines through the Midwest Renewable Energy Tracking System (M-RETS) platform and/or another platform identified in the SBPM workshop to be hosted no later than 45 days from the date of adoption of this decision (see Section 3.3.1).**

OP 32. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall include in the Standard Biomethane Procurement methodology assessments of the ways in which their biomethane procurement practices affect the environment and increase or decrease the welfare of local communities, including the positive or negative ways in which modifications to a wastewater treatment plan or landfill to increase biomethane production affect those communities.**

OP 49. Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation **shall require biomethane producers to include a methane leak standard in the Standard Biomethane Procurement Methodology life cycle carbon intensity accounting in the modified Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model.** In the procurement contract, the utilities shall establish a procedure for immediate methane leak remediation at the production facility or along that gas pipeline interconnection as the preferred response, and specify required actions if there is no immediate remediation, such as timeline for repair, a graduated fee schedule to promote timely repair, or payment reductions, etc.

(Emphasis added.)

**Tariff Revisions**

The submittal would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

**Protests**

Anyone wishing to protest this submittal may do so by letter sent electronically via E-mail, no later than **July 25, 2022**, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
E-mail: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

The protest shall also be electronically sent to the Joint Utilities via E-mail at the address shown below on the same date it is electronically delivered to the Commission:

**For PG&E:** Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
  
E-mail: [PGETariffs@pge.com](mailto:PGETariffs@pge.com)

**For SoCal Gas:** Attn: Gary Lenart  
Regulatory Tariff Manager  
  
E-mail: [GLenart@socalgas.com](mailto:GLenart@socalgas.com)  
E-mail: [Tariffs@socalgas.com](mailto:Tariffs@socalgas.com)

**For SDG&E:** Attn: Greg Anderson  
Regulatory Tariff Manager  
  
E-mail: [GAnderson@sdge.com](mailto:GAnderson@sdge.com) & [SDGETariffs@sdge.com](mailto:SDGETariffs@sdge.com)

**For SWG:** Valerie J. Ontiveroz  
Regulatory Manager/California  
Southwest Gas Corporation  
  
E-mail: [valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)  
E-mail: [regserve@swgas.com](mailto:regserve@swgas.com)

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order (GO) 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name and e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

### **Effective Date**

Pursuant to GO 96-B, Rule 5.1, and OP 2 of D.22-02-025, this Advice Letter is submitted with a Tier 2 designation. The Joint Utilities request that this Tier 2 Advice Letter become effective upon approval.

### **Authorization**

This Advice Letter is submitted by PG&E on behalf of, and with the authorization from, SoCalGas, SDG&E, and SWG.

### **Notice**

In accordance with GO 96-B, Section IV, a copy of this advice letter is being sent electronically to parties shown on the attached list and the parties on the service list for **R.13-02-008**. Address changes to the GO 96-B service list should be directed to PG&E at email address [PGETariffs@pge.com](mailto:PGETariffs@pge.com). For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at [Process\\_Office@cpuc.ca.gov](mailto:Process_Office@cpuc.ca.gov). Send all electronic approvals to [PGETariffs@pge.com](mailto:PGETariffs@pge.com). Advice letter submittals can also be accessed electronically at: <http://www.pge.com/tariffs/>.

\_\_\_\_\_  
/S/

Sidney Bob Dietz II  
Director, Regulatory Relations

Attachments

cc: Service List R.13-02-008



# ADVICE LETTER SUMMARY

## ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (U 39-G)

Utility type:

- ELC       GAS       WATER  
 PLC       HEAT

Contact Person: Stuart Rubio

Phone #: (415) 973-4587

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: SHR8@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
 PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4626-G et al.

Tier Designation: 2

Subject of AL: Standard Biomethane Procurement Methodology Pursuant to Decision 22-02-025

Keywords (choose from CPUC listing): Compliance, Procurement

AL Type:  Monthly  Quarterly  Annual  One-Time  Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.22-02-025

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Confidential treatment requested?  Yes  No

If yes, specification of confidential information: See Confidential Declaration

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information: Chris Fan, ckf4@pge.com

Resolution required?  Yes  No

Requested effective date: 7/5/22

No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed<sup>1</sup>: N/A

Pending advice letters that revise the same tariff sheets: N/A

<sup>1</sup>Discuss in AL if more space is needed.



**Protests and correspondence regarding this AL are to be sent via email and are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

California Public Utilities Commission  
Energy Division Tariff Unit Email:  
[EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Contact Name: Sidnev Bob Dietz II. c/o Megan Lawson  
Title: Director, Regulatory Relations  
Utility/Entity Name: Pacific Gas and Electric Company  
  
Telephone (xxx) xxx-xxxx: (415)973-2093  
Facsimile (xxx) xxx-xxxx:  
Email: PGETariffs@pge.com

Contact Name:  
Title:  
Utility/Entity Name:  
  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

CPUC  
Energy Division Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102

Clear Form

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

**DECLARATION SUPPORTING CONFIDENTIAL DESIGNATION  
ON BEHALF OF  
PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)**

1. I, Chris Fan, am a Regulatory Principal of Core Gas Supply of Pacific Gas and Electric Company (“PG&E”), a California corporation. Fong Wan, the Senior Vice President of Energy Policy and Procurement of PG&E, delegated authority to me to sign this declaration. My business office is located at:

Pacific Gas and Electric Company  
77 Beale Street, Mail Code B5A  
San Francisco, CA 94105

2. PG&E will produce the information identified in paragraph 3 of this Declaration to the California Public Utilities Commission (“CPUC”) or departments within or contractors retained by the CPUC in response to a CPUC audit, data request, proceeding, or other CPUC request.

Name or Docket No. of CPUC Proceeding (if applicable): D. 22-02-025

3. Title and description of document(s): Joint IOU SPBM – Attach A – CONF
4. These documents contain confidential information that, based on my information and belief, has not been publicly disclosed. These documents have been marked as confidential, and the basis for confidential treatment and where the confidential information is located on the documents are identified on the following chart:

Check	Basis for Confidential Treatment	Where Confidential Information is located on the documents
<input type="checkbox"/>	<p>Customer-specific data, which may include demand, loads, names, addresses, and billing data</p> <p>(Protected under PUC § 8380; Civ. Code §§ 1798 <i>et seq.</i>; Govt. Code § 6254; Public Util. Code § 8380; Decisions (D.) 14-05-016, 04-08-055, 06-12-029)</p>	
<input type="checkbox"/>	<p>Personal information that identifies or describes an individual (including employees), which may include home address or phone number; SSN, driver’s license, or passport numbers; education; financial matters; medical or employment history (not including PG&amp;E job titles); and statements attributed to the individual</p> <p>(Protected under Civ. Code §§ 1798 <i>et seq.</i>; Govt. Code § 6254; 42 U.S.C. § 1320d-6; and General Order (G.O.) 77-M)</p>	
<input type="checkbox"/>	<p>Physical facility, cyber-security sensitive, or critical energy infrastructure data, including without limitation critical energy infrastructure information (CEII) as defined by the regulations of the Federal Energy Regulatory Commission at 18 C.F.R. § 388.113</p> <p>(Protected under Govt. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 CFR § 29.2)</p>	
<input checked="" type="checkbox"/>	<p>Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data</p> <p>(Protected under Civ. Code §§3426 <i>et seq.</i>; Govt. Code §§ 6254, <i>et seq.</i>, e.g., 6254(e), 6254(k), 6254.15; Govt. Code § 6276.44; Evid. Code §1060; D.11-01-036)</p>	<p>Joint IOU SPBM – Attach A – CONF document in entirety</p>
<input type="checkbox"/>	<p>Corporate financial records</p> <p>(Protected under Govt. Code §§ 6254(k), 6254.15)</p>	

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Third-Party information subject to non-disclosure or confidentiality agreements or obligations

(Protected under Govt. Code § 6254(k); see, e.g., CPUC D.11-01-036)

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Other categories where disclosure would be against the public interest (Govt. Code § 6255(a))

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5. The importance of maintaining the confidentiality of this information outweighs any public interest in disclosure of this information. This information should be exempt from the public disclosure requirements under the Public Records Act and should be withheld from disclosure.
6. I declare under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.
7. Executed on this 1<sup>st</sup> day of July 2022 at San Francisco, California.



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Chris Fan  
Regulatory Principal  
Pacific Gas and Electric Company

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

**DECLARATION OF RAYMOND SASAKI  
REGARDING CONFIDENTIALITY OF CERTAIN DATA/DOCUMENTS  
PURSUANT TO D.17-09-023**

I, Raymond Sasaki, do declare as follows:

1. I am the Director of Gas Acquisition, designated by Elsa Valay-Paz, Vice President of Gas Acquisition for Southern California Gas Company (“SoCalGas”). I have been delegated authority to sign this declaration by Elsa Valay-Paz, Vice President of Gas Acquisition. I have reviewed the “Joint IOU SBPM – Attach A – CONF” to SoCalGas and San Diego Gas & Electric Company’s (“SDG&E”) “Standard Biomethane Procurement Methodology Pursuant to Decision 22-02-025”, submitted concurrently herewith. In addition, I am personally familiar with the facts in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or information and belief.

2. I hereby provide this Declaration in accordance with Decision (“D.”) 17-09-023 and General Order (“GO”) 66-D to demonstrate that the confidential information (“Protected Information”) provided in Attachment A submitted concurrently herewith is within the scope of data protected as confidential under applicable law.

3. In accordance with the narrative justification described in Attachment A below, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 1<sup>st</sup> day of July 2022, at Los Angeles, California.

By:  \_\_\_\_\_

Raymond Sasaki  
Director of Gas Acquisition

# ATTACHMENT A

## SoCalGas and SDG&E Request for Confidential on the following information in Joint IOU SBPM – Attach A – CONF of Advice Letter 6003/3098-G

<b>Location of Protected Information</b>	<b>Legal Citations</b>	<b>Narrative Justification</b>
Highlighted/shaded items contained in Joint IOU SBPM – Attach A – CONF	CPRA Exemption, Gov't Code § 6254.7(d) (Trade Secrets)  CPRA Exemption, Gov't Code § 6254(k) ("Records, the disclosure of which is exempted or prohibited pursuant to federal or state law") <ul style="list-style-type: none"><li>• Cal. Evid. Code § 1060</li><li>• Cal. Civil Code §§ 3426 <i>et seq.</i></li></ul>	Data is commercially sensitive, the disclosure of which would provide market participants and SoCalGas' competitors insight into SoCalGas' procurement and decision-making process, which would place Gas Acquisition at an unfair business disadvantage. This could ultimately result in increased cost to core ratepayers.

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


**DECLARATION OF VALERIA S. ANNIBALI  
REGARDING CONFIDENTIALITY OF CERTAIN INFORMATION**

I, Valeria S. Annibali, do declare as follows:

1. I am the Manager/Sustainable Gas Supply, designated by Frank J. Stanbrough, Vice President/Administration for Southwest Gas Corporation ("Southwest Gas") to submit this declaration. In addition, I am personally familiar with the facts and representations in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or belief.
2. I have reviewed the following document and information:
  - Joint IOU SBPM – Attachment A – CONF
3. I provide this Declaration in accordance with Decision ("D.") 16-08-024 to demonstrate that the confidential information ("Protected Information") provided in the subject attachment are within the scope of data protected as confidential under applicable law, and pursuant to Public Utilities ("PUC") Code § 583 and General Order ("GO") 66-D.
4. Specifically, information included in the above-referenced attachment contains, including but not limited to, metrics associated with gas procurement practices, the disclosure of which may give vendors a competitive advantage and result in increased costs to ratepayers. Accordingly, the subject information is eligible for confidential treatment pursuant to Government Code § 6254(e), (k), and 6254.15, 6276,44, Evid. Code §1060, and D.11-01-036 as the subject document contains commercially sensitive information.
5. In accordance with the legal authority described herein, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 5<sup>th</sup> day of July 2022, at Las Vegas, Nevada.

  
\_\_\_\_\_  
Valeria S. Annibali  
Manager/Sustainable Gas Supply

**Attachment A**

**Standard Biomethane  
Procurement Methodology**



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1           A. CPUC Decision Requiring the Creation of a Standard Biomethane Procurement  
2           Methodology (SBPM)

3           On February 24, 2022, the California Public Utility Commission (CPUC) issued Decision (D.)  
4 22-02-025<sup>1</sup> (henceforth, the Decision) implementing Senate Bill (SB) 1440 (Hueso, 2018). The Decision  
5 ordered Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric  
6 Company, and Southwest Gas Corporation (henceforth, the Joint Utilities) to hold a workshop on cost-  
7 effectiveness and to establish an SBPM, a model for assessing the cost-effectiveness of renewable natural  
8 gas (RNG) supplies, addressing feedback received at the workshop.<sup>2</sup> The Joint Utilities have developed  
9 the SBPM described in this document to satisfy this order, addressing workshop feedback and various  
10 requirements of the SBPM described in the Decision.

11           B. The Joint Utilities’ SBPM

12           The Joint Utilities have developed an SBPM capturing many of the attributes of the cost-  
13 effectiveness test developed by NW Natural for its 2018 Integrated Resource Plan.<sup>3</sup> As in NW Natural’s  
14 cost-effectiveness test, the SBPM compares the cost of procuring a quantity of RNG from a qualified<sup>4</sup>  
15 project and the cost of procuring the same amount of natural gas from conventional sources.  
16 Additionally, the SBPM considers RNG project carbon intensity (CI), costs to society at large,  
17 compliance costs under California’s Cap-and-Trade regulation, and other environmental and non-  
18 monetary factors over the delivery period of the proposed RNG contract, which may be up to 15 years per  
19 the Decision.

20           Overall, the SBPM cost-effectiveness score consists of two main parts: the first part quantifies  
21 costs using key factors such as RNG contract price, the price of conventional natural gas, cap-and-trade  
22 compliance costs, carbon intensity, social cost of greenhouse gas (GHG) emissions, and natural gas  
23 transportation costs. The second part captures other environmental and non-monetary factors such as the  
24 environmental benefits of carbon capture, use and storage (CCUS), waste hauler zero-emission vehicles,  
25 and other benefits raised in the Decision and the SBPM workshop. The scores from each part are then  
26 combined to arrive at a final cost-effectiveness score for the project which will help prioritize projects  
27 during the project evaluation phase of SB 1440 procurement efforts. The final step in the selection of  
28 projects for procurement will be based on the criteria described in each investor-owned utility’s (IOU’s)  
29 Renewable Gas Procurement Plan (RGPP).

30           C. SBPM Prerequisites: Mandatory Conditions

31           Prior to being evaluated for cost-effectiveness, projects must meet all the following requirements  
32 specified in the Decision which will be enforced contractually:

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<sup>1</sup> <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.pdf>

<sup>2</sup> D.22-02-025, Ordering Paragraph (OP) 1 and 2.

<sup>3</sup> <https://edocs.puc.state.or.us/efdocus/HAH/um2030hah144246.pdf>

<sup>4</sup> The SBPM is only applied to projects meeting a set of requirements specified in the Decision. References follow: D.22-02-025, OP 9, 10, 14, 19, 20, 22, 33, 35, 37, 38, 39, 40, 49. D.22-02-025, p. 33 requires that landfill projects must “stop accepting new organic waste and implement advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions”.

Prerequisites	Method of Verification	Frequency
Livestock and dairy biomethane facilities that contract with a gas IOU shall operate in a manner that does not cause adverse impacts to water and air quality (OP 9)	Officer attestation that facility complies with all applicable federal, state, and local air and/or water pollution control standards or requirements, describing any incident of noncompliance, the cause, and when and how it was resolved.	Annual
Producers shall track volumetric injections of biomethane into pipelines through M-RETS (OP 10)	Officer attestation providing active M-RETS account number.	One Time
Biomethane procurement volumes procured and delivered up to 2025 will be produced from organic waste, including wood waste, diverted from landfills (OP 14)	Officer attestation that biomethane must be produced from organic waste, including wood waste, diverted from landfills.	One Time
Biomethane procurement volumes procured and delivered after 2025 may include production from a Dairy facility as long as its operation commenced after December 31, 2021 (OP 19)	Officer attestation with facility's first flow date.	One Time
Biomethane procurement volumes produced from a dairy facility and delivered after 2025 must not have an unresolved citation for violation of rules or requirements for protection of air or water quality from state or local regulatory agencies (OP 20)	Officer attestation that facility complies with all applicable federal, state, and local air and/or water pollution control standards or requirements, describing any incident of noncompliance, the cause, and when and how it was resolved.	Annual
Biomethane is not produced from purpose-grown crops (OP 22)	Officer attestation that biomethane is not produced from purpose-grown crops.	Annual
Producer agrees to limit hydrogen sulfide in gathering lines to 10 parts per million (OP 35)	Officer attestation that hydrogen sulfide is limited to 10 parts per million in gathering lines.	One Time
Producer agrees to specify in contract how tipping fees may modify contract terms, if at all (OP 37)	Officer attestation that modifying tipping fees may modify contract terms.	One Time
Producer agrees that any Class 8 trucks purchased or leased for use in the production of biomethane after the effective date of the Decision are near zero-emission (NZE) or zero-emission (ZE) vehicles (OP 38)	Officer attestation and requirement that producer will provide notification and information about new Class 8 trucks.	Annual

Producer agrees to prospectively cap on-site combustion-based generation of electricity using their own biogas beyond current generation levels (OP 39)	Officer attestation that on-site combustion generation of electricity using their own biogas is capped at current generation levels.	One Time
If facility has yet to purchase or plan and construct electric generation infrastructure, facility shall agree to use only non-combustion technologies for on-site electric generation (OP 40)	Officer attestation that only non-combustion technologies will be used for on-site electric generation.	One Time
Producer agrees to include a methane leak standard in CI accounting (OP 49)	Officer attestation showing methane leak factor included in validated CI calculator.	One Time
Medium-term (2030) procurement only: landfill facility does not accept new organic waste and is implementing advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions (Decision, p. 33)	Officer attestation that landfill facility does not accept new organic waste and is implementing advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions.	Annual

34 A project that does not meet all the pre-requisites as outlined in table above will be deemed as not  
35 qualified per the Decision and will be excluded from the contract evaluation process.

36 **D. SBPM, Part A: Comparing Monetary Costs**

37 Part A<sup>5</sup> of the SBPM scores the degree of cost-effectiveness of a project based on quantifiable,  
38 economic factors. This score is calculated as a ratio of the desired contract price of the supplier and a  
39 calculated break-even price:

40 
$$score_A = \frac{Contract\ Price}{Break-Even\ Price}$$

41 The break-even price is obtained by balancing the all-in cost of RNG against the all-in cost of  
42 conventional natural gas.

43 
$$All-In\ Cost\ of\ RNG = All-In\ Cost\ of\ Conventional\ NG$$

44 where the all-in costs of each include the following:

45 Components of All-In Cost of RNG:

- 46 1) Contractual fixed price of the RNG
- 47 2) Variable transportation costs to deliver the RNG to IOU systems
- 48 3) IOU infrastructure investment costs
- 49 4) Social Cost of GHG (based on CI)

51 Components of All-In Cost of Conventional Natural Gas:

- 52 1) Baseload prices of conventional natural gas for the equivalent term of the RNG contract

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<sup>5</sup> A full explanation of the methods used in Part A is presented in the appendix.

- 53 2) Variable transportation costs to deliver conventional natural gas to IOU systems  
54 3) Cap and trade compliance costs  
55 4) Social Cost of GHG (based on CI)

56 This scoring method compares the cost of purchasing RNG from a project to the cost of  
57 alternatively purchasing conventional natural gas. As a ratio, the score also allows for the comparison of  
58 the cost-effectiveness of projects with a variety of feedstocks, carbon intensities, and sizes. Lower scores  
59 indicate the project is relatively more cost-effective than projects with higher scores.

60 The Decision states, “The true cost of gas procurement includes the costs to society at large due  
61 to the environmental impacts of its production.”<sup>6</sup> The SBPM utilizes the social cost of GHG emissions,  
62 which represents the additional cost to society at large based on life-cycle analyses of each fuel, and the  
63 monetary costs of the emissions of each fuel provided by the United States Government’s Interagency  
64 Working Group on Social Cost of Greenhouse Gases (IWG).<sup>7</sup>

#### 65 E. SBPM, Part B: Other Environmental & Non-Monetary Factors

66 RNG production yields other costs and benefits which, although not easily quantified, are still  
67 relevant for cost-effectiveness. Part B of the SBPM accounts for the factors listed below, which receive  
68 [REDACTED]. The references are to ordering paragraphs in the Decision and the SBPM Workshop  
69 (WS).<sup>8</sup>

- 70 • Waste byproduct for any GHG-reducing use instead of landfill, e.g., soil amendment (OP 4, 42)  
71 • Perfluoroalkyl or polyfluoroalkyl substances removed from waste byproduct (OP 4)  
72 • Waste haulers delivering to facility use near-zero emission or zero emission vehicles (OP 5)  
73 • CO<sub>2</sub> emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or  
74 technology (OP 8, 41, WS)  
75 • Project in a remote location (OP 3, 32, WS)  
76 • Is a new project, or an expansion to an existing project (WS)

77 The Part B score for a project,  $score_B$ , decreases as a project possesses more of these benefits. Since all  
78 the benefits are [REDACTED] this decrease occurs in [REDACTED].  
79 Thus, lower scores are preferred, indicating more benefits and therefore more cost-effective.

#### 80 F. SBPM Project Score (P-Score)

81 Once the scores from both parts of the SBPM have been obtained, their weighted sum is the  
82 project score, the *P-Score* :

83 
$$P\text{-Score} = [REDACTED] \times score_A + [REDACTED] \times score_B.$$

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<sup>6</sup> D.22-02-025, p. 53, Findings of Fact 12

<sup>7</sup> [https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

<sup>8</sup> See Section G.2 (Appendix: SBPM, Part B) and Attachment B to this Advice Letter.

84 The *P-Score* is the final output of the SBPM. A lower score, closer to zero, indicates more cost-  
85 effectiveness. These final scores are be compared between different RNG projects to prioritize  
86 procurement. All other things being equal, prioritizing supplies with lower *P-Scores* leads to more cost-  
87 effective RNG procurement. Note that the cost-effectiveness scoring provided by the SBPM is meant to  
88 serve as a key element of the contract evaluation criteria. Project feasibility, viability, and other  
89 considerations not captured by the SBPM will be considered in final contracting decisions. Any such  
90 considerations will be detailed in the respective RGPP submitted by each IOU.

91 **G. Appendix**

92 For clarity and ease of understanding, the previous description of the SBPM described the  
93 essentials of the methodology. This appendix provides a full description with references to supporting  
94 materials.

95 **1. Appendix: SBPM, Part A**

96 Part A of the SBPM scores the degree of cost-effectiveness of a project based on quantifiable,  
97 monetary factors. The components used to calculate this score are described first followed by the  
98 calculations used to combine them into  $score_A$ , the Part A score.

99 **a. RNG/Biomethane Costs (RNG Cost)**

100 The cost of RNG over the delivery period of the RNG contract can be expressed as the sum of  
101 any associated fixed costs to the IOU, contracted costs of the RNG supply, and variable transport costs to  
102 deliver gas to the IOU's system<sup>9</sup> as follows,

103 
$$R(P^*) = X + \sum_t (P^* + Y_t^{RNG}) Q_t,$$

104 where  $R$  is the cost of RNG over the delivery period of the RNG contract,  $X$  (\$) is the IOU infrastructure  
105 investment cost over the delivery period of the RNG contract (if applicable),  $P^*$  (\$/MMBtu) is the  
106 contractual fixed price of the RNG to be solved for,  $Y_t$  (\$/MMBtu) is the short-term variable transport cost  
107 to deliver RNG to IOU's system over the delivery period of the RNG contract,  $Q_t$  (MMBtu/month) is the  
108 contractual quantity of RNG supplied per month over the delivery period, and  $t$  is the index of time in  
109 months.

110 **b. Conventional Natural Gas Costs (Conventional NG Cost)**

111 The cost of conventional natural gas can be expressed as the sum of the costs of the natural gas  
112 supply, the variable transport costs to deliver the gas to the IOU's system, and the sum of the costs of  
113 emissions compliance under California's Cap and Trade regulation (costs of California Carbon  
114 Allowances (CCAs)) as follows,

115 
$$C = \sum_t (V_t + Y_t^{conv} + NG_t) Q_t,$$

116 where  $C$  (\$) is the cost of conventional natural gas over the delivery period of the RNG contract,  $V_t$   
117 (\$/MMBtu) is the short-term price of the baseload conventional natural gas over the delivery period of the  
118 RNG contract,  $Y_t$  (\$/MMBtu) is the short-term variable transport cost to deliver conventional natural gas  
119 to IOU's system over the delivery period of the RNG contract,  $N$  (0.05307 MT CO<sub>2e</sub>/MMBtu) is the  
120 GHG emissions from combusting a unit of natural gas per Cap-and-Trade rules,  $G_t$  (\$/MT CO<sub>2e</sub>) is the  
121 short-term price of CCAs over the delivery period of the RNG contract,  $Q_t$  (MMBtu/month) is the  
122 contractual quantity of the RNG supplied over the delivery period, and  $t$  is the index of time in months.

123 Where appropriate, the SBPM risk-adjusts the conventional natural gas prices and CCA prices.  
124 Market prices for conventional natural gas and CCAs have quantifiable risks of deviations from their

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<sup>9</sup> No costs associated with compliance with California's Cap and Trade Regulation are calculated here. RNG supplies from within California are exempt from California's Cap and Trade regulation.

125 expected values (i.e., forward curves). When performing risk adjustment, we model these prices as  
126 random variables and calculate the [REDACTED] percentile of the overall cost of the conventional natural gas  
127 supply from their probability distributions.<sup>10</sup> This [REDACTED] percentile cost is then combined with the expected  
128 cost in a weighted sum to arrive at the risk-adjusted conventional natural gas cost as,

129 
$$rC = (1 - p) * C + p * \text{[REDACTED] percentile of prob. dist. of } C$$

130 where  $p \in [0,1]$  is the weight of the risk adjustment. For reference, NW Natural uses a similar risk  
131 adjustment approach with  $p = 0.25$ . In the SBPM, each individual IOU selects a weight of the risk  
132 adjustment based their own risk assessment process.

133 c. Social Cost of GHG

134 There are costs associated with natural gas that are beyond the market-based costs found in  
135 contracts for RNG and conventional natural gas transactions. This is recognized in the Decision, which  
136 states, “The true cost of gas procurement includes the costs to society at large due to the environmental  
137 impacts of its production.”<sup>11</sup> The Social Cost of GHG represents the costs to society as a whole resulting  
138 from the life-cycle GHG emissions of conventional and renewable natural gas.

139 The Social Cost of GHG can be used in the SBPM, as presented in the main body of this  
140 document, by adding it to both the RNG and conventional natural gas costs to get the all-in costs for both.  
141 Since, by definition, RNG will always have a CI that is lower than conventional natural gas,<sup>12</sup> we can take  
142 the difference of the social costs of conventional natural gas and RNG to express the benefit of displacing  
143 conventional gas with renewable gas as so,

144 
$$\text{Social Cost of GHG} = \frac{\text{Conventional NG}}{\text{Social Cost of GHG}} - \frac{\text{RNG}}{\text{Social Cost of GHG}}$$

145 In this form the Social Cost of GHG is interpreted as the life-cycle benefit to society from displacing  
146 conventional natural gas with RNG.<sup>13</sup>

147 To calculate this form of the Social Cost of GHG for a given year, the difference in the carbon  
148 intensity between conventional natural gas supply and the candidate RNG supply is calculated in terms of  
149 metric tons of CO<sub>2</sub> equivalent (MTCO<sub>2e</sub>) emissions per dekatherm. For a project without a CI score, the  
150 current CA-GREET model for the LCFS program can calculate an indicative CI using the various  
151 simplified CI calculators. The calculated CI of the project can then be compared to the respective CI of  
152 conventional natural gas (Lookup Table Pathways (Table 7-1)<sup>14</sup>) for comparison. As stated above, the  
153 difference of the two CI’s represents the life-cycle benefit to society of the displacement of conventional  
154 natural gas by RNG. This benefit is then multiplied by the quantity of RNG to be supplied to arrive at the

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<sup>10</sup> These distributions can be calculated via Monte Carlo methods or other methods such as historical simulation.

<sup>11</sup> D.22-02-025, p. 53, Findings of Fact 12

<sup>12</sup> American Gas Foundation, “Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment”, p.1,  
<https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf>

<sup>13</sup> <https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-models-and-documentation>

<sup>14</sup> California Air Resources Board Lookup Table Pathways (Table 7-1) available at  
<https://www.arb.ca.gov/fuels/lcfs/ca-greet/lut.pdf?ga=2.82944479.836877858.1654481394-1461991828.1648240563>.



155 reduction in GHG emissions, measured in MTCO<sub>2e</sub>. The dollar impact of this reduction is calculated by  
 156 applying the social cost of CO<sub>2</sub> emissions per MTCO<sub>2</sub> as provided by the U.S. Government’s Interagency  
 157 Working Group on Social Cost of Greenhouse Gases (IWG).<sup>15</sup> The social costs calculated by the IWG  
 158 assume a ■■■ discount rate is used and risk-adjusted. For candidate contracts beginning later than the  
 159 IWG base year, the social costs are adjusted for inflation using the annual GDP Implicit Price Deflator.

160 The calculation of the risk-adjusted Social Cost of GHG (SC-GHG) for year  $T$  is,

161 
$$rSC-GHG_T = (CI^{CONV} - CI^{RNG}) \times \left[ \frac{\text{conversion}}{\text{factor}} : \frac{gCO_2e}{MJ} \rightarrow \frac{MTCO_2e}{Dth} \right] \times Q_T \times r(SC-CO_2)_T$$

162 where  $CI$  (gCO<sub>2e</sub>/MJ) is the carbon intensity,  $Q_T$  (MMBtu/year) is the contractual quantity of the RNG  
 163 over the delivery period, and  $r(SC-CO_2)$  (\$/MT CO<sub>2</sub>) is the risk-adjusted IWG social cost of CO<sub>2</sub>, adjusted  
 164 for inflation.

165 Landfills are not able to capture all their methane emissions. Both the EPA and the current CA-  
 166 GREET model assume that 75% of this methane is captured. More recent data on methane point sources  
 167 suggests that the capture rate may be lower.<sup>16</sup> Consequently, the social cost of methane will be used to  
 168 quantify the additional societal benefit of the avoided methane venting from ■■■ of the RNG volume  
 169 produced from a landfill’s diverted organic waste. To capture this benefit, the calculation of the risk-  
 170 adjusted Social Cost of GHG (SC-GHG) for year  $T$  is the following:

171 
$$rSC-GHG_T = (CI^{CONV} - CI^{RNG}) \times \left[ \frac{\text{conversion}}{\text{factor}} : \frac{gCO_2e}{MJ} \rightarrow \frac{MTCO_2e}{Dth} \right] \times Q_T \times r(SC-CO_2)_T$$
  
 172 
$$+ \text{■■■} \times Q_T \times r(SC-CH_4)_T.$$

173 Note that this equation only applies to diverted organic waste feedstock and only until a new GREET  
 174 model has been developed to capture the benefit.

175 As with conventional natural gas supply, risk-adjustment may be applied to the social cost  
 176 calculations. The risk-adjusted IWG social cost of both CO<sub>2</sub> and CH<sub>4</sub> are given by,

177 
$$r(SC-GHG)_T = (1 - p) * (SC-GHG)_T + p * \text{■■■ percentile of freq. dist. of } (SC-GHG)_T$$

178 where,

179 
$$SC-GHG = \begin{cases} SC-CO_2 \text{ for carbon dioxide emissions} \\ SC-CH_4 \text{ for methane emissions} \end{cases}.$$

<sup>15</sup> Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide, p. 24, Table 1 and Table 2.  
[https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

<sup>16</sup> Duren, R.M., Thorpe, A.K., Foster, K.T. et al. California’s methane super-emitters. *Nature* 575, 180–184 (2019).  
<https://doi.org/10.1038/s41586-019-1720-3>

180 The [redacted] percentiles of the social costs of GHGs are taken from the IWG’s table for social costs of the  
 181 GHGs and represent the [redacted] percentile of the IWG estimates based on a [redacted] discount rate.<sup>17</sup> Because the  
 182 IWG provides yearly social costs of the GHGs that are adjusted to year 2020 values while all other values  
 183 in the SBPM are in their nominal/future-valued (FV) forms, the IWG social costs of these GHGs are  
 184 adjusted to their future values. These adjustments are made using inflation forecasts of the annual GDP  
 185 Implicit Price Deflator.<sup>18</sup> These values are then summed to arrive at the risk-adjusted Social Cost of GHG  
 186 as,

187 
$$rSC-GHG = \sum_T FV(rSCGHG)_T.$$

188 d. SBPM, Part A Score Calculation

189 The final calculation of Part A of the SBPM combines the previously described components to  
 190 calculate the degree of cost-effectiveness of the candidate RNG supply. The degree of cost-effectiveness  
 191 is calculated by solving the below equality for the break-even RNG contract price  $P^*$ ,

192 
$$R(P^*) = rC + rSC-GHG.$$

193 Using the proposed RNG contract price  $P$ , and the break-even RNG contract price  $P^*$ , the cost-  
 194 effectiveness score for Part A can be calculated by,

195 
$$score_A = \frac{P}{P^*}.$$

196 RNG supplies with lower proposed contract prices relative to their calculated  $P^*$  have lower  
 197 scores, indicating more cost-effectiveness. As a ratio, the score also allows for the comparison of the  
 198 cost-effectiveness of projects with a variety of feedstocks, carbon intensities, and sizes. Like prices for  
 199 consumers, lower scores are better, indicating increased cost-effectiveness compared to higher scores.

200 2. Appendix: SBPM, Part B

201 RNG production may yield important benefits which, although not easily quantified, are still relevant for  
 202 cost-effectiveness and procurement prioritization. Part B of the SBPM accounts for the below set of such  
 203 benefits and [redacted].

SBPM Part B	Method of Verification	Frequency
Waste byproducts are used for any GHG-reducing use instead of landfill, e.g., soil amendment (OP 4, 42)	Officer attestation with regulatory reports on waste byproducts	Annual

<sup>17</sup> Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide, p. 24, Table 1 and Table 2.  
[https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

<sup>18</sup> The annual GDP Implicit Price Deflator values in the U.S. Bureau of Economic Analysis’ (BEA) NIPA Table 1.1.9 are a part of the inflation adjustment.

Perfluoroalkyl or polyfluoroalkyl substances removed from waste byproduct (OP 4)	Officer attestation with regulatory reports on Perfluoroalkyl or polyfluoroalkyl substances	Annual
Waste haulers delivering to facility use near-zero emission or zero emission vehicles (OP 5)	Officer attestation that waste haulers delivering to facility use near-zero emission or zero emission vehicles	Annual
CO <sub>2</sub> emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or technology (OP 8, 41, WS)	Officer attestation with regulatory reports on Carbon Capture and Use or Storage projects or technology	Annual
Project in a remote location (OP 3, 32, WS)	Officer attestation that the project is not within an HCA (per 49 CFR § 192.903) replacing 1000m for the distance	One Time
Is a new project, or an expansion to an existing project (WS)	Officer attestation that the facility is new or an expansion project	One Time

204 The weighted values of the benefits provided by an individual project are then summed to arrive at a score  
205 for the project,  $S$ . The maximum weighted possible score (i.e., maximum possible value of  $S$ ) is denoted  
206 by  $S_{max}$ . Part B then calculates as,

207 
$$score_B = 1 - \frac{S}{S_{max}} .$$

208  $score_B$  can range from 1, for projects with none of the above benefits, to 0, for projects with the  
209 maximum number of the above benefits. A lower score indicates more benefits and therefore, a higher  
210 degree of cost-effectiveness. [REDACTED] of  $score_B$ .

### 211 3. Appendix: SBPM Project Score (P-Score)

212 Once the scores from both parts of the SBPM have been obtained, their weighted sum is the project score,  
213 the *P-Score*:

214 
$$P-Score = [REDACTED] \times score_A + [REDACTED] \times score_B .$$

215 The *P-Score* is the final output of the SBPM. A lower score, closer to zero, indicates more cost-  
216 effectiveness. The *P-Scores* can be compared for different RNG supplies to prioritize contracting. Note  
217 that the cost-effectiveness scoring provided by the SBPM is meant to serve as key element of the contract  
218 evaluation criteria. Project feasibility, viability and other considerations not captured by the SBPM will  
219 be considered in final contracting decisions. Any such considerations will be detailed in the respective  
220 RGPP submitted by each IOU.

**Attachment B**

**Standard Biomethane  
Procurement Methodology**

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## EXECUTIVE SUMMARY

### *Introduction*

The California Public Utility Commission (CPUC) issued Decision (D.) 22-02-025<sup>1</sup> (henceforth the Decision) implementing Senate Bill (SB) 1440 (Hueso, 2018) on February 24, 2022. The Decision ordered Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation (henceforth, Joint Utilities) to hold a workshop on cost-effectiveness within 45 days of the effective date of the Decision with an agenda based on Sections 3.3.1, 3.3.2.2 and 3.3.2.3 of the Decision.<sup>2</sup>

The Joint Utilities held the Standard Biomethane Procurement Methodology (SBPM) Workshop on April 5-6, 2022, with multiple panelists addressing the six questions raised in the Decision. The Joint Utilities invited the public to participate in the Workshop and provide any feedback for incorporation into the SBPM. The Joint Utilities noted all feedback from the Workshop from both panelists and audience members – this feedback is summarized in this report. To the extent feedback was in the scope of and in compliance with the Decision, it was incorporated into the SBPM by the Joint Utilities. All panelist materials were provided to the service list of R.13-02-008 after the Workshop.<sup>3</sup>

### *Summary by Panel*

#### **1. What specific items should be addressed in SBPM cost-effectiveness (CE) test?**

- a. **Ray Sasaki, Joint Utilities:** monetary (all-in) costs and other factors that provide incremental benefits to use of renewable natural gas (RNG)
- b. **Michael Colvin, Environmental Defense Fund (EDF):** consider the counterfactual and how much projects reduce greenhouse gas (GHG) emissions
  - i. Consider actual/verifiable leakage rates in RNG projects and how this compares to conventional, feedstocks and their impacts on local communities, optimal contract lengths for cost recovery
  - ii. Work towards developing a standard set of attributes for emissions associated with RNG
- c. **Ryan Bracken, NW Natural:** implemented NW Natural model considers all-in costs of RNG, with risk-adjustment and time accounting
  - i. Implements requirements: model does not currently include non-monetary inputs
- d. **Q&A/Comments:**
  - i. Environmental groups expressed concern about emissions, leakage from particular feedstocks, and how investor-owned utilities (IOUs) will consider secondary impacts/associated costs
  - ii. Environmental groups urge IOUs to think creatively about attaining all attributes of projects, since CA will be a leader with this RNG program

#### **2. Discussion of environmental justice and community benefits related to biomethane procurement.**

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<sup>1</sup> D.22-02-025, available at

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.PDF>.

<sup>2</sup> *Id.*, Ordering Paragraph 1.

<sup>3</sup> See <http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=698193>.

- a. **Shayne Petkiewicz, Anaergia**: SBPM should prioritize biomethane facilities that divert SB 1383 organics and social benefit of projects should be evaluated based on carbon intensity (CI)
    - i. Prioritizing organic waste diverted from landfills is mandated in the Decision
    - ii. Encourages utilizing the Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET) model and updating landfill capture assumptions/price of social cost of methane with latest numbers
  - b. **Jamie Katz, Leadership Council for Justice & Accountability**: IOUs can not ensure dairy facilities are not causing adverse impacts to water/air quality nor that they maintain reasonable herd sizes
  - c. **Lyle Schlyer, Calgren Dairy Fuels**: Calgren projects are monitored by various agencies to verify/check impacts to local communities, including water and air
  - d. **Q&A/Comments**:
    - i. Debate between producers and environmental groups over weighting feedstocks – consensus among panel that organic waste diversion should be prioritized above dairies, despite dairies being more carbon negative
      - 1. Environmental groups express opinion that dairies pollute water and air, so should be completely excluded
      - 2. Dairy producers acknowledge that dairy biomethane can be used for vehicle fuel, but should not be completely excluded from this program
- 3. How should carbon intensity be measured in the SBPM cost-effectiveness test? What criteria shall be used in modified GREET and who shall be tasked with developing the model? What criteria shall be used in a preliminary Cost Effectiveness (CE) test while a modified GREET model is being developed?**
- a. **Sam Wade, Coalition for RNG**: CI should be the primary weighting factor
    - i. RNG producers should supply costs as well as a self-adjusted lifecycle CI score
    - ii. Third party consultants should be relied upon to use GREET to produce an appropriate CI for utility end uses
  - b. **David Lindenmuth, Ecoengineers**: to get the highest reduction per dollar, established GHG accounting principles/concepts should be considered
    - i. Preliminary criteria in a CI test should be determined based on the ultimate goal of the program and the behavior it is aiming to incentivize
  - c. **Nina Robertson, Earthjustice**: CI is only one of many required considerations and should not be the most heavily weighted to ensure program is not incenting “bad behavior”
    - i. Intentionally producing methane means any leakage is GHG-positive and model should use GHG-conscious baseline assumptions
    - ii. Preliminary CE test will contain a lot of uncertainty – IOUs should proceed with caution
  - d. **Q&A/Comments**:
    - i. Debate between panelists on whether CI should be the primary weighting factor in SBPM and what the baseline/counterfactuals should be
      - 1. Environmental groups believe CI should not be weighted more than air/water quality and that baselines should be GHG-conscious
      - 2. Industry experts (Coalition for RNG) believe CI should be most heavily weighted and that baselines should be based on current reality, not optimistic futures
- 4. What cost control mechanism such as above market cost caps or rate increase limits should be used for each gas IOUs?**
- a. **Ray Sasaki, Joint Utilities**: Renewable gas procurement plans (RGPP) will provide program-level guidance for expected bill impacts, and CE test will provide guidance for individual contracts

- i. Cost is an important consideration, and cost control mechanisms are needed to keep costs in check
- b. **Julia Levin, Bioenergy Association of California:** Any cost-effectiveness test that the IOUs adopt has to be tied to the level of short-lived climate pollutant (SLCP) and GHG reductions
  - i. RNG project costs should only be compared to other RNG projects
  - ii. Preferred cost cap mechanism is 100% performance/CI-based
- c. **Marcel Hawiger, The Utility Reform Network (TURN):** above market cost cap should be established for individual projects based on the principle of ratepayer neutrality
  - i. Preferred mechanism is capping individual contract prices at a unit price based on incremental cost
- d. **Q&A/Comments:**
  - i. Panelists (TURN and Bioenergy Association) agree that cost caps should be project-specific
  - ii. Debate between panelists on whether LCFS carbon price should be used as a price floor
    - 1. Bioenergy asserts it is necessary for this program to compete with LCFS
    - 2. TURN argues if ratepayers are paying for program, projects should have additionality (additional waste diversion) and not be biomethane that could otherwise be used for LCFS
  - iii. Bioenergy Association emphasizes importance of moving this program into practice quickly as climate cannot wait



## KEY RECOMMENDATIONS

No.	Recommendation	Included in SBPM? (Y=Yes, N=No, or N/A)
<b><i>Carbon Intensity Calculations &amp; GREET</i></b>		
1	Joint Utilities should evaluate social benefit of biomethane facilities based on Carbon Intensity.	Y, Part A
2	Joint Utilities should measure both societal cost of carbon and societal cost of methane.	Y, Part A
3	Joint Utilities should use GREET 3.0 as a starting point for evaluating CI of biomethane facilities.	Y, Part A
4	Joint Utilities should include distance traveled on pipeline in SBPM in order to acknowledge that there is greater opportunity for climate harm with greater distance traveled on pipeline.	Y, Part A (CI)
5	Joint Utilities should additionally consider carbon negative biomethane projects when evaluating social cost and pricing and update the CI tier 1 calculator to reflect carbon negative ability for biogas.	Y, Part A
6	Joint Utilities should consider how RNG procurement program intersects with other markets and the value required to incentivize development.	Y, Part A
7	Joint Utilities should factor in upstream emissions and leakage when calculating CI.	Y, Part A, GREET
8	Joint Utilities should require RNG producers to supply both cost (on per unit energy basis) and lifecycle CI score in their bids.	Y, Part A
9	Joint Utilities should consider projects “carbon negative” if they include carbon sequestration.	Y, Part A & B
10	Joint Utilities should rely on third party consultants to use/modify GREET to produce an appropriate CI for utility end use and consider the following GREET modifications: <ul style="list-style-type: none"> <li>• Update the landfill capture rate to reflect latest direct measurement studies</li> <li>• Establish a conventional NG baseline for state/region</li> <li>• Change final use to thermal load (residential/industrial) rather than vehicle use</li> <li>• Review SLCP treatment in GREET vs. what LCFS has established</li> <li>• Review more industrial applications (incl. home water heaters)</li> </ul>	Y, Part A
11	Joint Utilities should assess RNG projects based on existing frameworks, particularly when considering counterfactuals/baselines for CI, and compare costs of projects only to other sources of biomethane eligible for the program.	Y, Part A, GREET
12	Joint Utilities should use GHG-conscious baseline assumptions and prioritize alternatives that avoid methane generation.	N/A

13	Joint Utilities should be wary of negative CI scores creating risks or incentivizing bad behavior.	N/A
<b>Accounting, Feedstocks &amp; Model Weights</b>		
14	CI is only one of the required considerations in the Decision, and the Joint Utilities should not weight it more heavily than other factors in SBPM.	Y, Parts A & B
15	Joint Utilities should use CI/emissions reduction as the strongest weight in the SBPM model to achieve the greatest GHG reductions.	Y, Parts A & B
16	Joint Utilities should consider risk adjustment to account for uncertain costs and time, particularly when not contractually obligated.	Y, Part A
17	Joint Utilities should use a performance-based cost assessment similar to low carbon fuel standard (LCFS) that considers the base price of lifecycle CI, the modified GREET model, carbon reduction prices, and cost adders for items listed in Decision.	Y
18	Joint Utilities should weight feedstocks in SBPM to prioritize procuring biomethane produced from organic waste over biomethane produced from dairy, despite dairies being more carbon negative than organics.	N See Decision
19	Joint Utilities should weight feedstocks in SBPM to extend prioritization of SB 1383 organic waste diversion from short-term requirement to the medium-term requirement.	N See Decision
<b>Environmental &amp; Social Justice</b>		
20	Joint Utilities should consider project location and how it impacts priorities (e.g., high poverty and unemployment rates, environmental and social justice, air and water quality issues).	Y, Part B (location)
21	Joint Utilities should include in SBPM consideration of the different ways that biogas can create hotspots of pollution (e.g., fuel cells as considered in Decision).	Y, Part B (location)
22	Joint Utilities should keep an eye on costs to help underserved communities, since high utility bills harm customers.	Y
23	Joint Utilities should ensure that SBPM relies on air and water board compliance at the time of procurement, just as the California Department of Food and Agriculture (CDFA) does for the Dairy Digester Research and Development Program (DDRDP).	Y, prereq.
24	Joint Utilities should take into account in SBPM air and water quality and welfare in local communities.	Y, prereq.
<b>Contract/Project Requirements</b>		
25	Joint Utilities should expressly include any livestock facility generating animal manure that is used to produce biomethane in SBPM analysis.	Y, prereq. and Part B
26	Joint Utilities should ensure that biomethane for the program is in addition to existing production so as not to divert RNG from existing and operational uses.	Y, Part B
27	Joint Utilities should scrutinize contracts with a term of 10-15 years more than contracts with terms of less than 10 years.	N/A

28	Joint Utilities should consider adding an “out clause” or penalty to long-term contracts if producers are not able to meet cost-effectiveness standard (which may not be fully developed at the time contracts are signed) or promised performance level.	N/A
29	Joint Utilities should ask producers for all GHG accounting information (including monitoring, leakage, updates on production resources, etc.).	N/A
30	Joint Utilities should use an “above market” cost cap – contract prices should cover only the incremental cost of producing biomethane for pipeline injection.	N/A
31	Joint Utilities should exclude projects that increase emissions and exclude dairy biomethane projects.	N/A See Decision
32	Joint Utilities should procure from dairy biomethane projects whose activities are monitored by various agencies (e.g., Water Board, CARB, etc.).	N/A
33	Joint Utilities should not procure dairy biomethane as part of the Renewable Gas procurement program, since they cannot ensure that dairy biomethane facilities are not causing adverse impacts to water and air quality or maintaining a reasonable herd size.	N/A See Decision
34	Joint Utilities should strike a balance between populating all methodology components and ability to negotiate contracts.	N/A
35	Joint Utilities should use a portfolio approach when procuring RNG – maintain flexibility around project selection to meet obligations and compare RNG projects.	N/A
36	Joint Utilities should ensure program is reducing emissions by enforcing leak control/tracking GHGs at every link of the chain (including production/source), from start to finish of a project.	N/A

**PG&E Gas and Electric  
Advice Submittal List  
General Order 96-B, Section IV**

AT&T  
Albion Power Company

Alta Power Group, LLC  
Anderson & Poole

Atlas ReFuel  
BART

Barkovich & Yap, Inc.  
Braun Blasing Smith Wynne, P.C.  
California Cotton Ginners & Growers Assn  
California Energy Commission

California Hub for Energy Efficiency  
Financing

California Alternative Energy and  
Advanced Transportation Financing  
Authority  
California Public Utilities Commission  
Calpine

Cameron-Daniel, P.C.  
Casner, Steve  
Center for Biological Diversity

Chevron Pipeline and Power  
City of Palo Alto

City of San Jose  
Clean Power Research  
Coast Economic Consulting  
Commercial Energy  
Crossborder Energy  
Crown Road Energy, LLC  
Davis Wright Tremaine LLP  
Day Carter Murphy

Dept of General Services  
Don Pickett & Associates, Inc.  
Douglass & Liddell

East Bay Community Energy Ellison  
Schneider & Harris LLP  
Engineers and Scientists of California

GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz &  
Ritchie  
Green Power Institute  
Hanna & Morton  
ICF  
International Power Technology

Intertie

Intestate Gas Services, Inc.  
Kelly Group  
Ken Bohn Consulting  
Keyes & Fox LLP  
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated  
Waste Management Task Force  
MRW & Associates  
Manatt Phelps Phillips  
Marin Energy Authority  
McClintock IP  
McKenzie & Associates

Modesto Irrigation District  
NLine Energy, Inc.  
NRG Solar

OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

Redwood Coast Energy Authority  
Regulatory & Cogeneration Service, Inc.  
SCD Energy Solutions  
San Diego Gas & Electric Company

SPURR  
San Francisco Water Power and Sewer  
Sempra Utilities

Sierra Telephone Company, Inc.  
Southern California Edison Company  
Southern California Gas Company  
Spark Energy  
Sun Light & Power  
Sunshine Design  
Stoel Rives LLP

Tecogen, Inc.  
TerraVerde Renewable Partners  
Tiger Natural Gas, Inc.

TransCanada  
Utility Cost Management  
Utility Power Solutions  
Water and Energy Consulting Wellhead  
Electric Company  
Western Manufactured Housing  
Communities Association (WMA)  
Yep Energy