SOUTHWEST GAS CORPORATION

August 3, 2026

**Advice Letter No. 1384-G**
(Southwest Gas Corporation ID U 905-G)

**Advice Letter No. 5241-G**
(Pacific Gas and Electric ID U 39-G)

**Advice Letter No. 6675-G**
(Southern California Gas Company ID U 904-G)

**Advice Letter No. 3540-G**
(San Diego Gas and Electric Company ID 902-G)

Public Utilities Commission of the State of California

**Subject: Revisions to Standard Biomethane Procurement Methodology Pursuant to Decision 26-04-044**

## Purpose

Pursuant to Decision (D.) 26-04-044 Implementing Changes to the Renewable Gas Standard Program and Modifying Renewable Gas Procurement Plans, Ordering Paragraph (OP) 7, Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), San Diego Gas and Electric Company (SDG&E), and Southwest Gas Corporation (Southwest) (collectively, the Joint Utilities) submit revisions to the Standard Biomethane Procurement Methodology (SBPM) via a Tier 1 Advice Letter.

## Background

On February 25, 2022, the California Public Utilities Commission (Commission) issued D.22-02-025. This Decision implemented 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 adopted 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 workshop on cost effectiveness for the SBPM in compliance with D.22-02-025, OP 1.[1] During the workshop, the Joint Utilities discussed project-specific cost control mechanisms Carbon Intensity (CI) measurement, GREET model development, related environmental justice and community benefits, dairy biomethane considerations, and best industry practices.[2]. The Joint Utilities developed an SBPM capturing many of the attributes of the cost-effectiveness test developed by NW Natural for its 2018 Integrate Resource Plan,[3] as well as recommendations and feedback from the workshops. As required by D.22-02-025,[4] the Joint Utilities submitted the SBPM on July 5, 2022, through the advice letters 4626-G, 6003-G, 3098-G, and 1222-G. These advice letters were subsequently approved on December 28, 2022.

On May 5, 2026, D.26-04-044 was issued directing the Joint Utilities to submit a Tier 1 Advice Letter reflecting modifications for the SBPMs. OP 7 states:

> "*Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Gas Company, and Southwest Gas Corporation (collectively, the "Utilities") shall file a Tier 1 Advice Letter within 90 days of the date of issuance of this decision to reflect the modifications adopted for the Standard Biomethane Procurement Methodology (SBPMs). The Utilities must copy the Service Lists for Rulemaking 13-02-008 and Rulemaking 22-12-011 on this Advice Letter filing."*

The Joint Utilities' modified SBPM implementing the changes prescribed in D.26-04-044 is provided as Attachment A with confidential information redacted. A redline version and clean version are provided.

## Effective Date

The Joint Utilities believe this Advice Letter is subject to Energy Division disposition and should be classified as Tier 1 (effective pending disposition) pursuant to OP 7 of D.26-04-044 and General Order (GO) 96-B. The Joint Utilities request an effective date of August 3, 2026, which is the date of submission.

## Protest

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[1] 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.

[2] 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/.

[3] https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf

[4] Ops 3, 4, 5, 8, 9, 10, 32, and 49.

Anyone may protest this Advice Letter to the Commission's Energy Division. The protest must state the grounds upon which it is based with specificity and must be sent no later than 20 days after the date of this Advice Letter submission. Protests are to be submitted electronically to the Commission's Energy Division at:

Email: edtariffunit@cpuc.ca.gov

In addition, protests and all other correspondence regarding this Advice Letter should be sent electronically to:

**For Southwest Gas**: Laurie Brown, Regulatory Manager/California
Valerie J. Ontiveroz, Senior Manager/Regulatory Affairs & Compliance
Email: laurie.brown@swgas.com
valerie.ontiveroz@swgas.com
regserve@swgas.com

**For PG&E**: Nika Kjensli, Chief, Regulatory Relations
Email: PGETariffs@pge.com

**For SoCalGas:** Veronica Arroyo, Regulatory Tariff Manager
Email: VGarcia2@socalgas.com
Tariffs@socalgas.com

**For SDG&E:** Greg Anderson, Regulatory Tariff Manager
Email: GAnderson@sdge.com
SDGETariffs@sdge.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).

## Notice

The Joint Utilities are exempt from the notice requirements set forth in General Rule 4.2 in GO 96-B since this Advice Letter is submitted in accordance with OP 7 in D.26-04-044 and will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule and rule that are currently in effect.

**Service**

In accordance with GO 96-B, General Rule 7.2, Southwest Gas is serving copies of this Advice Letter to the utilities and interested parties shown on the attached list.

Respectfully submitted,

SOUTHWEST GAS CORPORATION

By: Laurie Brown
Laurie Brown

Attachments

**Distribution List**

Advice Letter No. 1384-G

In conformance with GO 96-B, General Rule 4.3

The following individuals or entities have been served by electronic mail:

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California Public Utilities Commission
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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

**DECLARATION OF CHRISTOPHER BROWN REGARDING CONFIDENTIALITY OF CERTAIN INFORMATION**

I, Christopher Brown, do declare as follows:

1. I am the Director/Regulations and Gas Resources, designated by Amy Timperley, Senior Vice President/Chief Regulatory, Public Affairs, and Gas Resources Officer for Southwest Gas Corporation ("Southwest Gas"). Additionally, 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 3rd day of August 2026, at Las Vegas, Nevada.

Christopher Brown
Director/Regulations and Gas Resources

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

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

1. I, Wini Chen, am a Principal of Core Gas Supply of Pacific Gas and Electric Company ("PG&E"), a California corporation. Gillian Clegg, the 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
   300 Lakeside Dr.
   Oakland, CA 94612

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): R.13-02-008; D.26-04-044.

3. Title and description of document(s): "Joint IOU SBPM Attachment 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 with further detail provided in Appendix A, which is incorporated into this declaration:

| Check | Basis for Confidential Treatment | Where Confidential Information is Located on the Documents |
|---|---|---|
| ☐ | Customer-specific data, which may include demand, loads, names, addresses, and billing data.<br>(Protected under Pub. Util. Code § 8380; Civ. Code §§ 1798 *et seq.*; CPUC Decisions (D.) 14-05-016) | |
| ☐ | 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&E job titles); and statements attributed to the individual.<br>(Protected under Civ. Code §§ 1798 *et seq.;* Gov. Code § 7927.400; 42 U.S.C. § 1320d-6; General Order (G.O.) 77-M; see also CPUC D. 04-08-055, 06-12-029) | |
| ☐ | Physical facility, cyber-security sensitive, or critical 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 and/or General Order 66-D ("The subject information: (1) is not customarily in the public domain by providing a declaration in compliance with Section 3.2(c) stating that the subject information is not related to the location of a physical structure that is visible with the naked eye or is available publicly online or in print; **and** (2) the subject information either: could allow a bad actor to attack, compromise or incapacitate physically or electronically a facility providing critical utility service; or discusses vulnerabilities of a facility providing critical utility service").<br>(Protected under Gov. Code § 7927.705, 7929.205; 6 U.S.C. § 671; 6 CFR § 29.2) | |
| X | Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data.<br>(Protected under Civ. Code §§ 3426 *et seq.*; Gov. Code §§ 7927.300, 7927.705, 7929.420, 7927.605, 7930.205; Evid. Code §1060; CPUC D.11-01-036) | Joint IOU SBPM<br>Attachment A - CONF. |
| ☐ | Corporate financial records.<br>(Protected under Gov. Code §§ 7927.705, 7927.605) | |

| | | | |
|---|---|---|---|
| ☐ | Third-Party information subject to non-disclosure or confidentiality agreements or obligations.<br>(Protected under Gov. Code § 7927.705; see, e.g., CPUC D.11-01-036) | | |
| ☐ | Other categories where disclosure would be against the public interest.<br>(Gov. Code § 7922.000) : | | |

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 31st day of July, 2026 at Oakland, California.

**/s/ Wini Chen**
Wini Chen
Principal of Core Gas Supply
Pacific Gas and Electric Company

**PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)**
**D.26-04-044**
**ATTACHMENT TO DECLARATION**
August 3, 2026

| ATTACHMENT NAME | DOCUMENT NAME | CATEGORY OF CONFIDENTIALITY | LOCATION |
|---|---|---|---|
| Joint IOU SBPM Attachment A CONF | Joint IOU SBPM Attachment A CONF | Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data.<br>(Protected under Civ. Code §§ 3426 *et seq.*; Gov. Code §§ 7927.300, 7927.705, 7929.420, 7927.605, 7930.205; Evid. Code §1060; CPUC D.11-01-036) | Section E<br>Section G |
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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

**DECLARATION OF ALAN L. HAVEN REGARDING CONFIDENTIALITY OF CERTAIN DATA/DOCUMENTS PURSUANT TO D.25-01-005**

I, Alan L. Haven, do declare as follows:

1. I am the Manager of Energy & Carbon Trading (ECT), designated by Elsa Valay-Paz, Vice President, Gas Acquisition for Southern California Gas Company ("SoCalGas") to submit this declaration. I have reviewed the "Joint IOU SBPM – Attach A – CONF" to SoCalGas and San Diego Gas & Electric Company's ("SDG&E") "Revisions to Standard Biomethane Procurement Methodology Pursuant to Decision 26-04-044," submitted concurrently herewith. 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 hereby provide this Declaration in accordance with PUC Section 583, Decision ("D.") 25-01-005 and General Order ("GO") 66-D Revision 3 to demonstrate that the confidential information ("Protected Information") provided in the attached reports submitted concurrently herewith is within the scope of data protected as confidential under applicable law.

3. In accordance with the legal citations and narrative justification described in Attachment A, 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 31st day of July 2026, at Los Angeles, California.

Alan Haven

Alan L. Haven
Manager of Energy & Carbon Trading

# ATTACHMENT A

## SoCalGas and SDG&E Request for Confidentiality on the following information contained in the Joint IOU Attachment A CONF of Advice Letter 6675-G/3540-G

| Location of Protected Information | Legal Citations | Narrative Justification |
|---|---|---|
| Information highlighted in gray contained in "Joint IOU SBPM Attach A CONF" | CPRA Exemption, Gov't Code §6254.7(d) (Trade Secrets).<br><br>CPRA Exemption, Gov't Code §6254(k) ("Records, the disclosure of which is exempted or prohibited pursuant to federal or state law")<br><br>Evidence Code, §1060<br><br>Civil Code, §3426 *et. seq.* | Market-sensitive procurement information, if disclosed could provide market participants and SoCalGas's competitors insight into Gas Acquisition's purchase patterns and physical market activity, which would place Gas Acquisition at an unfair business disadvantage. If disclosed, SoCalGas's competitors and market participants could also derive economic value from this information. |

# Attachment A

# Standard Biomethane Procurement Methodology

*This document contains CONFIDENTIAL information described in the accompanying Declarations*

# Table of Contents


A. CPUC Decisions Requiring the Creation and Subsequent Modification of the Standard Biomethane Procurement Methodology (SBPM) ..... 2

B. The Joint Utilities' SBPM ..... 2

C. SBPM Prerequisites: Mandatory Conditions ..... 3

D. SBPM, Part A: Comparing Monetary Costs ..... 5

E. SBPM, Part B: Other Environmental & Non-Monetary Factors ..... 6

F. SBPM Project Score (P-Score) ..... 6

G. Appendix ..... 8

1. Appendix: SBPM, Part A ..... 8
2. Appendix: SBPM, Part B ..... 11
3. Appendix: SBPM Project Score (P-Score) ..... 12

## A. CPUC Decisions Requiring the Creation and Subsequent Modification of the Standard Biomethane Procurement Methodology (SBPM)

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

On May 5, 2026, the CPUC issued D. 26-04-044 implementing changes to the Renewable Gas Standard program and modifying Renewable Gas Procurement Plans. D.26-04-044 ordered the Joint Utilities to modify the established SBPM. The Joint Utilities modified the SBPM described in this document to satisfy the requirements set forth in D.26-04-044.

## B. The Joint Utilities' SBPM

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.[3] As in NW Natural's cost-effectiveness test, the SBPM compares the cost of procuring a quantity of RNG from a qualified[4] project and the cost of procuring the same amount of natural gas from conventional sources. Additionally, the SBPM considers RNG project carbon intensity (CI), costs to society at large, compliance costs under California's Cap-and-Invest 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 D.22-02-025.

Overall, the SBPM cost-effectiveness score consists of two main parts: the first part quantifies costs using key factors such as RNG contract price, the price of conventional natural gas, cap-and-invest compliance costs, carbon intensity, social cost of greenhouse gas (GHG) emissions, and natural gas transportation costs. 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 D.22-02-025, D.26-04-044, 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. The final step in the selection of projects for procurement will be based on the criteria described in each investor-owned utility's (IOU's) Renewable Gas Procurement Plan (RGPP).

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[1] https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.pdf
[2] D.22-02-025, Ordering Paragraph (OP) 1 and 2.
[3] https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf
[4] The SBPM is only applied to projects meeting a set of requirements specified in D.22-02-025 and D.26-04-044. References follow: D.22-02-025, OP 9, 10, 14, 19, 20, 22, 33, 35, 37, 38, 39, 40, 49 and D.26-04-044 Conclusions of Law (COL) 4, 19, 21, 23, 27. D.22-02-025, p. 33 requires that landfill projects must "implement advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions".

## C. SBPM Prerequisites: Mandatory Conditions

Prior to being evaluated for cost-effectiveness, projects must meet all the following requirements specified in D.22-02-025 and D.26-04-044 which will be enforced contractually:

| 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 (D.22-02-025, 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 (or other tracking platform) (D.22-02-025, OP 10) | Officer attestation providing active M-RETS (or other tracking platform) account number. | One Time |
| Biomethane may be procured from all eligible feedstocks, without first meeting the Diverted Organic Waste (DOW) target. Biomethane sourced from all types of co-digestion, including co-digestion without wastewater, must separate component feedstocks for attribution. (D.26-04-044, COL 4) | Officer attestation identifying baseline biomethane production without DOW, projected biomethane production with DOW inclusion, feedstock(s) tonnage attributable to procured volumes of biomethane, and for biomethane volumes claimed towards the DOW target, confirmation that the biomethane is produced from organic waste which may include 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 (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, 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 D.22-02-025 are near zero-emission (NZE) or zero-emission (ZE) vehicles (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, OP 40) | Officer attestation that only non-combustion technologies will be used for on-site electric generation. | One Time |
| If a wastewater treatment plant is utilizing incremental existing combustion generation capacity for biomethane production processes in the RGS program, facility shall agree to comply with any and all applicable air quality regulations, use high-efficacy filtration technologies, or show their ineffectiveness or use to be uneconomic, include the combustion in project CI lifecycle analysis, and use the power only for RGS-related biomethane production, processing, and upgrading (D.26-04-044, COL 21) | Officer attestation that any use of incremental existing combustion generation capacity satisfies conditions for air quality regulation compliance, high-efficacy filtration evaluation and/or use, use inclusion in project CI lifecycle analysis, and use restrictions. | One Time |
| Producer agrees to include a methane leak standard in CI accounting (D.22-02-025, OP 49) | Officer attestation showing methane leak factor included in validated CI calculator. | One Time |
| Landfill facility implements advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions (D.22-02-025, p. 33) | Officer attestation that the facility is implementing advanced landfill gas capture automation and monitoring technology to decrease fugitive methane emissions. | Annual |

| | | |
|---|---|---|
| Landfill facility demonstrates that participation under the SB 1440 biomethane contract does not result in project activities that would not have occurred absent of such participation (D.26-04-044, COL 27) | Officer attestation that the facility maintains compliance with applicable waste acceptance requirements. | Annual |

For purposes of officer attestations required throughout this methodology, an "Officer" is defined as a statutory corporate officer under California Corporation Code 312, any executive-level employee, or the "responsible managing officer." (D.26-04-044, COL 19)

A project that does not meet all the pre-requisites as outlined in the table above will be deemed as "not qualified" per D.22-02-025 and D.26-04-044 and will be excluded from the contract evaluation process.

## D. SBPM, Part A: Comparing Monetary Costs

Part A[5] of the SBPM scores the degree of cost-effectiveness of a project based on quantifiable, economic factors. This score is calculated as a ratio of the desired contract price of the supplier and a calculated break-even price:

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

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

$$All\text{-}In\ Cost\ of\ RNG = All\text{-}In\ Cost\ of\ Conventional\ NG$$

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

Components of All-In Cost of RNG:

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

Components of All-In Cost of Conventional Natural Gas:

1) Baseload prices of conventional natural gas for the equivalent term of the RNG contract
2) Variable transportation costs to deliver conventional natural gas to IOU systems
3) Cap and Invest compliance costs
4) Social Cost of GHG (based on CI)

This scoring method compares the cost of purchasing RNG from a project to the cost of alternatively purchasing conventional natural gas. As a ratio, the score also allows for the comparison of

[5] A full explanation of the methods used in Part A is presented in the appendix.

the cost-effectiveness of projects with a variety of feedstocks, carbon intensities, and sizes. Lower scores indicate the project is relatively more cost-effective than projects with higher scores.

D.22-02-025 states, "The true cost of gas procurement includes the costs to society at large due to the environmental impacts of its production."[6] The SPBM utilizes the social cost of GHG emissions, which represents the additional cost to society at large based on life-cycle analyses of each fuel, and the monetary costs of the emissions of each fuel provided by the United States Government's Interagency Working Group on Social Cost of Greenhouse Gases (IWG).[7]

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

RNG production yields other costs and benefits which, although not easily quantified, are still relevant for cost-effectiveness. Part B of the SBPM accounts for the factors listed below, which receive [redacted]. The references are to ordering paragraphs in D.22-02-025, D.26-04-044, and the SBPM Workshop (WS).[8]

- Waste byproduct for any GHG-reducing use instead of landfill, e.g., soil amendment (D.22-02-025, OP 4, 42)
- Perfluoroalkyl or polyfluoroalkyl substances removed from waste byproduct (D.22-02-025, OP 4)
- Waste haulers delivering to facility use near-zero emission or zero emission vehicles (D.22-02-025, OP 5)
- $CO_2$ emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or technology (D.22-02-025, OP 8, 41, WS)
- Project in a remote location (D.22-02-025, OP 3, 32, WS)
- Projects close to population centers that can demonstrate net local emissions benefits for health and wellbeing of local communities (D.26-04-044, COL 23)
- Is a new project, or an expansion to an existing project (WS)

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

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

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

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

The *P-Score* is the final output of the SBPM. A lower score, closer to zero, indicates more cost-effectiveness. These final scores are be compared between different RNG projects to prioritize

[6] D.22-02-025, p. 53, Findings of Fact 12
[7] https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf
[8] See Section G.2 (Appendix: SBPM, Part B) and Attachment B to this Advice Letter.

procurement. All other things being equal, prioritizing supplies with lower *P-Scores* leads to more cost-effective RNG procurement. Note that the cost-effectiveness scoring provided by the SBPM is meant to serve as a key element of the contract evaluation criteria. Project feasibility, viability, and other considerations not captured by the SBPM will be considered in final contracting decisions. Any such considerations will be detailed in the respective RGPP submitted by each IOU.

## G. Appendix

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

### 1. Appendix: SBPM, Part A

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

#### a. RNG/Biomethane Costs (RNG Cost)

The cost of RNG over the delivery period of the RNG contract can be expressed as the sum of any associated fixed costs to the IOU, contracted costs of the RNG supply, and variable transport costs to deliver gas to the IOU's system[9] as follows,

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

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

#### b. Conventional Natural Gas Costs (Conventional NG Cost)

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

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

where $C$ ($) is the cost of conventional natural gas over the delivery period of the RNG contract, $V_t$ ($/MMBtu) is the short-term price of the baseload conventional natural gas over the delivery period of the RNG contract, $Y_t$ ($/MMBtu) is the short-term variable transport cost to deliver conventional natural gas to IOU's system over the delivery period of the RNG contract, $N$ (0.05307 MT $CO_2$e/MMBtu) is the GHG emissions from combusting a unit of natural gas per Cap-and-Invest rules, $G_t$ ($/MT $CO_2$e) is the short-term price of CCAs over the delivery period of the RNG contract, $Q_t$ (MMBtu/month) is the contractual quantity of the RNG supplied over the delivery period, and $t$ is the index of time in months.

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

[9] No costs associated with compliance with California's Cap and Invest Regulation are calculated here. RNG supplies from within California are exempt from California's Cap and Invest regulation.

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

$$rC = (1-p) * C + p * [redacted]\ percentile\ of\ prob.dist.of\ C$$

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

c. Social Cost of GHG

There are costs associated with natural gas that are beyond the market-based costs found in contracts for RNG and conventional natural gas transactions. This is recognized in D.22-02-025, which states, "The true cost of gas procurement includes the costs to society at large due to the environmental impacts of its production."[11] The Social Cost of GHG represents the costs to society as a whole resulting from the life-cycle GHG emissions of conventional and renewable natural gas.

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

$$Social\ Cost\ of\ GHG = \underset{Social\ Cost\ of\ GHG}{Conventional\ NG} - \underset{Social\ Cost\ of\ GHG}{RNG}.$$

In this form the Social Cost of GHG is interpreted as the life-cycle benefit to society from displacing conventional natural gas with RNG.[13]

To calculate this form of the Social Cost of GHG for a given year, the difference in the carbon intensity between conventional natural gas supply and the candidate RNG supply is calculated in terms of metric tons of $CO_2$ equivalent ($MTCO_2e$) emissions per dekatherm. For a project without a CI score, the current CA-GREET model for the LCFS program can calculate an indicative CI using the various simplified CI calculators. The calculated CI of the project can then be compared to the respective CI of conventional natural gas (Lookup Table Pathways (Table 7-1)[14]) for comparison. As stated above, the difference of the two CI's represents the life-cycle benefit to society of the displacement of conventional natural gas by RNG. This benefit is then multiplied by the quantity of RNG to be supplied to arrive at the

[10] These distributions can be calculated via Monte Carlo methods or other methods such as historical simulation.
[11] D.22-02-025, p. 53, Findings of Fact 12
[12] 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
[13] https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-models-and-documentation
[14] 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.

reduction in GHG emissions, measured in $MTCO_2e$. The dollar impact of this reduction is calculated by applying the social cost of $CO_2$ emissions per $MTCO_2$ as provided by the U.S. Government's Interagency Working Group on Social Cost of Greenhouse Gases (IWG).[15] The social costs calculated by the IWG assume a [redacted] discount rate is used and risk-adjusted. For candidate contracts beginning later than the IWG base year, the social costs are adjusted for inflation using the annual GDP Implicit Price Deflator.

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

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

where $CI$ ($gCO_2e/MJ$) is the carbon intensity, $Q_T$ (MMBtu/year) is the contractual quantity of the RNG over the delivery period, and $r(SC\text{-}CO_2)$ ($/MT $CO_2$) is the risk-adjusted IWG social cost of $CO_2$, adjusted for inflation.

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

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

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

As with conventional natural gas supply, risk-adjustment may be applied to the social cost calculations. The risk-adjusted IWG social cost of both $CO_2$ and $CH_4$ are given by,

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

where,

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

[15] 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

[16] 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

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

$$rSC\text{-}GHG = \sum_T FV(rSCGHG)_T.$$

### d. SBPM, Part A Score Calculation

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

$$R(P^*) = rC + rSC\text{-}GHG.$$

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

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

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

## 2. Appendix: SBPM, Part B

RNG production may yield important benefits which, although not easily quantified, are still relevant for cost-effectiveness and procurement prioritization. Part B of the SBPM accounts for the below set of such 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 (D.22-02-025, OP 4, 42) | Officer attestation with regulatory reports on waste byproducts | Annual |

[17] 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

[18] 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 (D.22-02-025, 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 (D.22-02-025, OP 5) | Officer attestation that waste haulers delivering to facility use near-zero emission or zero emission vehicles | Annual |
| $CO_2$ emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or technology (D.22-02-025, 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 (D.22-02-025, 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 |
| Projects close to population centers that can demonstrate net local emissions benefits for health and wellbeing of local communities (D.26-04-044, COL 23) | Officer attestation, accompanied by narrative and supporting evidence, demonstrating net local emissions benefits for health and wellbeing of local communities produced by the project. | 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 |

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

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

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

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

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

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

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

# Standard Biomethane Procurement Methodology

# Redline

*This document contains CONFIDENTIAL information described in the accompanying Declarations*

# Table of Contents


A. CPUC Decisions Requiring the Creation and Subsequent Modification of the Standard Biomethane Procurement Methodology (SBPM) ..... 2

B. The Joint Utilities' SBPM ..... 2

C. SBPM Prerequisites: Mandatory Conditions ..... 3

D. SBPM, Part A: Comparing Monetary Costs ..... 5

E. SBPM, Part B: Other Environmental & Non-Monetary Factors ..... 6

F. SBPM Project Score (P-Score) ..... 6

G. Appendix ..... 8

1. Appendix: SBPM, Part A ..... 8

2. Appendix: SBPM, Part B ..... 11

3. Appendix: SBPM Project Score (P-Score) ..... 12

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

~~B. The Joint Utilities' SBPM ..... 2~~

~~C. SBPM Prerequisites: Mandatory Conditions ..... 2~~

~~D. SBPM, Part A: Comparing Monetary Costs ..... 4~~

~~E. SBPM, Part B: Other Environmental & Non-Monetary Factors ..... 5~~

~~F. SBPM Project Score (P-Score) ..... 5~~

~~G. Appendix ..... 6~~

~~1. Appendix: SBPM, Part A ..... 6~~

~~2. Appendix: SBPM, Part B ..... 9~~

~~3. Appendix: SBPM Project Score (P-Score) ..... 10~~

## A. CPUC Decisions Requiring the Creation ~~of a~~and Subsequent Modification of the Standard Biomethane Procurement Methodology (SBPM)

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

On May 5, 2026, the CPUC issued D. 26-04-044 implementing changes to the Renewable Gas Standard program and modifying Renewable Gas Procurement Plans. D.26-04-044 ordered the Joint Utilities to modify the established SBPM. The Joint Utilities modified the SBPM described in this document to satisfy the requirements set forth in D.26-04-044.

## B. The Joint Utilities' SBPM

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.[3] As in NW Natural's cost-effectiveness test, the SBPM compares the cost of procuring a quantity of RNG from a qualified[4] project and the cost of procuring the same amount of natural gas from conventional sources. Additionally, the SBPM considers RNG project carbon intensity (CI), costs to society at large, compliance costs under California's Cap-and-~~Trade~~ Invest 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~~D.22-02-025.

Overall, the SBPM cost-effectiveness score consists of two main parts: the first part quantifies costs using key factors such as RNG contract price, the price of conventional natural gas, cap-and-~~trade~~ invest compliance costs, carbon intensity, social cost of greenhouse gas (GHG) emissions, and natural gas transportation costs. 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~~D.22-02-025, D.26-04-044, 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. The final

[1] https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.pdf
[2] D.22-02-025, Ordering Paragraph (OP) 1 and 2.
[3] https://edocs.puc.state.or.us/efdocs/HAH/um2030hah144246.pdf
[4] The SBPM is only applied to projects meeting a set of requirements specified in ~~the Decision~~D.22-02-025 and D.26-04-044. References follow: D.22-02-025, OP 9, 10, 14, 19, 20, 22, 33, 35, 37, 38, 39, 40, 49 and D.26-04-044 Conclusions of Law (COL) 4, 19, 21, 23, 27. 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".

step in the selection of projects for procurement will be based on the criteria described in each investor-owned utility's (IOU's) Renewable Gas Procurement Plan (RGPP).

## C. SBPM Prerequisites: Mandatory Conditions

Prior to being evaluated for cost-effectiveness, projects must meet all the following requirements specified in ~~the Decision~~D.22-02-025 and D.26-04-044 which will be enforced contractually:

| 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 (D.22-02-025, 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 (or other tracking platform) (D.22-02-025, OP 10) | Officer attestation providing active M-RETS (or other tracking platform) 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)~~ Biomethane may be procured from all eligible feedstocks, without first meeting the Diverted Organic Waste (DOW) target. Biomethane sourced from all types of co-digestion, including co-digestion without wastewater, must separate component feedstocks for attribution. (D.26-04-044, COL 4) | Officer attestation identifying baseline biomethane production without DOW, projected biomethane production with DOW inclusion, feedstock(s) tonnage attributable to procured volumes of biomethane, and for biomethane volumes claimed towards the DOW target, confirmation that the biomethane ~~must be~~is produced from organic waste~~,~~ which may ~~including~~ include 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 (D.22-02-025, 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 | 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 | Annual |

| | | |
|---|---|---|
| local regulatory agencies (D.22-02-025, OP 20) | cause, and when and how it was resolved. | |
| Biomethane is not produced from purpose-grown crops (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, 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~~D.22-02-025 are near zero-emission (NZE) or zero-emission (ZE) vehicles (D.22-02-025, 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 (D.22-02-025, 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 (D.22-02-025, OP 40) | Officer attestation that only non-combustion technologies will be used for on-site electric generation. | One Time |
| If a wastewater treatment plant is utilizing incremental existing combustion generation capacity for biomethane production processes in the RGS program, facility shall agree to comply with any and all applicable air quality regulations, use high-efficacy filtration technologies, or show their ineffectiveness or use to be uneconomic, include the combustion in project CI lifecycle analysis, and use the power only for RGS-related biomethane production, processing, and upgrading (D.26-04-044, COL 21) | Officer attestation that any use of incremental existing combustion generation capacity satisfies conditions for air quality regulation compliance, high-efficacy filtration evaluation and/or use, use inclusion in project CI lifecycle analysis, and use restrictions. | One Time |
| Producer agrees to include a methane leak standard in CI accounting (D.22-02-025, OP 49) | Officer attestation showing methane leak factor included in validated CI calculator. | One Time |
| ~~Medium term (2030) procurement only: l~~Landfill facility ~~does not accept new organic waste and is implementing~~ implements advanced landfill gas capture automation and monitoring technology to decrease fugitive | Officer attestation that ~~landfill facility does not accept new organic waste and~~ the facility is implementing advanced landfill gas capture automation and monitoring | Annual |

| | | |
|---|---|---|
| methane emissions (~~Decision~~D.22-02-025, p. 33) | technology to decrease fugitive methane emissions. | |
| Landfill facility demonstrates that participation under the SB 1440 biomethane contract does not result in project activities that would not have occurred absent of such participation (D.26-04-044, COL 27) | Officer attestation that the facility maintains compliance with applicable waste acceptance requirements. | Annual |

For purposes of officer attestations required throughout this methodology, an "Officer" is defined as a statutory corporate officer under California Corporation Code 312, any executive-level employee, or the "responsible managing officer." (D.26-04-044, COL 19)

A project that does not meet all the pre-requisites as outlined in the table above will be deemed as "not qualified" per ~~the Decision~~D.22-02-025 and D.26-04-044 and will be excluded from the contract evaluation process.

## D. SBPM, Part A: Comparing Monetary Costs

Part A[5] of the SBPM scores the degree of cost-effectiveness of a project based on quantifiable, economic factors. This score is calculated as a ratio of the desired contract price of the supplier and a calculated break-even price:

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

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

$$All\text{-}In\ Cost\ of\ RNG = All\text{-}In\ Cost\ of\ Conventional\ NG$$

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

Components of All-In Cost of RNG:

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

Components of All-In Cost of Conventional Natural Gas:

1) Baseload prices of conventional natural gas for the equivalent term of the RNG contract
2) Variable transportation costs to deliver conventional natural gas to IOU systems
3) Cap and ~~trade~~ Invest compliance costs
4) Social Cost of GHG (based on CI)

[5] A full explanation of the methods used in Part A is presented in the appendix.

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

~~The Decision~~D.22-02-025 states, "The true cost of gas procurement includes the costs to society at large due to the environmental impacts of its production."[6] The SPBM utilizes the social cost of GHG emissions, which represents the additional cost to society at large based on life-cycle analyses of each fuel, and the monetary costs of the emissions of each fuel provided by the United States Government's Interagency Working Group on Social Cost of Greenhouse Gases (IWG).[7]

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

RNG production yields other costs and benefits which, although not easily quantified, are still relevant for cost-effectiveness. Part B of the SBPM accounts for the factors listed below, which receive [redacted]. The references are to ordering paragraphs in ~~the Decision~~D.22-02-025, D.26-04-044, and the SBPM Workshop (WS).[8]

- Waste byproduct for any GHG-reducing use instead of landfill, e.g., soil amendment (D.22-02-025, OP 4, 42)
- Perfluoroalkyl or polyfluoroalkyl substances removed from waste byproduct (D.22-02-025, OP 4)
- Waste haulers delivering to facility use near-zero emission or zero emission vehicles (D.22-02-025, OP 5)
- $CO_2$ emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or technology (D.22-02-025, OP 8, 41, WS)
- Project in a remote location (D.22-02-025, OP 3, 32, WS)
- Projects close to population centers that can demonstrate net local emissions benefits for health and wellbeing of local communities (D.26-04-044, COL 23)
- Is a new project, or an expansion to an existing project (WS)

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

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

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

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

[6] D.22-02-025, p. 53, Findings of Fact 12
[7] https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf
[8] See Section G.2 (Appendix: SBPM, Part B) and Attachment B to this Advice Letter.

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

## G. Appendix

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

### 1. Appendix: SBPM, Part A

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

#### a. RNG/Biomethane Costs (RNG Cost)

The cost of RNG over the delivery period of the RNG contract can be expressed as the sum of any associated fixed costs to the IOU, contracted costs of the RNG supply, and variable transport costs to deliver gas to the IOU's system[9] as follows,

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

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

#### b. Conventional Natural Gas Costs (Conventional NG Cost)

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

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

where $C$(\$) is the cost of conventional natural gas over the delivery period of the RNG contract, $V_t$ (\$/MMBtu) is the short-term price of the baseload conventional natural gas over the delivery period of the RNG contract, $Y_t$ (\$/MMBtu) is the short-term variable transport cost to deliver conventional natural gas to IOU's system over the delivery period of the RNG contract, $N$(0.05307 MT $CO_2$e/MMBtu) is the GHG emissions from combusting a unit of natural gas per Cap-and-~~Trade~~ Invest rules, $G_t$(\$/MT $CO_2$e) is the short-term price of CCAs over the delivery period of the RNG contract, $Q_t$(MMBtu/month) is the contractual quantity of the RNG supplied over the delivery period, and $t$ is the index of time in months.

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

[9] No costs associated with compliance with California's Cap and ~~Trade~~ Invest Regulation are calculated here. RNG supplies from within California are exempt from California's Cap and ~~Trade~~ Invest regulation.

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

$$rC = (1-p) * C + p * [redacted]\ percentile\ of\ prob.dist.of\ C$$

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

### c. Social Cost of GHG

There are costs associated with natural gas that are beyond the market-based costs found in contracts for RNG and conventional natural gas transactions. This is recognized in ~~the Decision~~D.22-02-025, which states, "The true cost of gas procurement includes the costs to society at large due to the environmental impacts of its production."[11] The Social Cost of GHG represents the costs to society as a whole resulting from the life-cycle GHG emissions of conventional and renewable natural gas.

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

$$Social\ Cost\ of\ GHG = \underset{Social\ Cost\ of\ GHG}{Conventional\ NG} - \underset{Social\ Cost\ of\ GHG}{RNG}.$$

In this form the Social Cost of GHG is interpreted as the life-cycle benefit to society from displacing conventional natural gas with RNG.[13]

To calculate this form of the Social Cost of GHG for a given year, the difference in the carbon intensity between conventional natural gas supply and the candidate RNG supply is calculated in terms of metric tons of $CO_2$ equivalent ($MTCO_2e$) emissions per dekatherm. For a project without a CI score, the current CA-GREET model for the LCFS program can calculate an indicative CI using the various simplified CI calculators. The calculated CI of the project can then be compared to the respective CI of conventional natural gas (Lookup Table Pathways (Table 7-1)[14]) for comparison. As stated above, the difference of the two CI's represents the life-cycle benefit to society of the displacement of conventional natural gas by RNG. This benefit is then multiplied by the quantity of RNG to be supplied to arrive at the

[10] These distributions can be calculated via Monte Carlo methods or other methods such as historical simulation.
[11] D.22-02-025, p. 53, Findings of Fact 12
[12] 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
[13] https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-models-and-documentation
[14] 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.

reduction in GHG emissions, measured in $MTCO_2e$. The dollar impact of this reduction is calculated by applying the social cost of $CO_2$ emissions per $MTCO_2$ as provided by the U.S. Government's Interagency Working Group on Social Cost of Greenhouse Gases (IWG).[15] The social costs calculated by the IWG assume a [redacted] discount rate is used and risk-adjusted. For candidate contracts beginning later than the IWG base year, the social costs are adjusted for inflation using the annual GDP Implicit Price Deflator.

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

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

where $CI$ ($gCO_2e/MJ$) is the carbon intensity, $Q_T$ (MMBtu/year) is the contractual quantity of the RNG over the delivery period, and $r(SC\text{-}CO_2)$ ($/MT $CO_2$) is the risk-adjusted IWG social cost of $CO_2$, adjusted for inflation.

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

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

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

As with conventional natural gas supply, risk-adjustment may be applied to the social cost calculations. The risk-adjusted IWG social cost of both $CO_2$ and $CH_4$ are given by,

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

where,

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

[15] 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

[16] 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

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

$$rSC\text{-}GHG = \sum_T FV(rSCGHG)_T.$$

### d. SBPM, Part A Score Calculation

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

$$R(P^*) = rC + rSC\text{-}GHG.$$

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

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

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

## 2. Appendix: SBPM, Part B

RNG production may yield important benefits which, although not easily quantified, are still relevant for cost-effectiveness and procurement prioritization. Part B of the SBPM accounts for the below set of such 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 (D.22-02-025, OP 4, 42) | Officer attestation with regulatory reports on waste byproducts | Annual |

[17] 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

[18] 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 (D.22-02-025, 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 (D.22-02-025, OP 5) | Officer attestation that waste haulers delivering to facility use near-zero emission or zero emission vehicles | Annual |
| $CO_2$ emissions into atmosphere prevented by Carbon Capture and Use or Storage projects or technology (D.22-02-025, 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 (D.22-02-025, 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 |
| Projects close to population centers that can demonstrate net local emissions benefits for health and wellbeing of local communities (D.26-04-044, COL 23) | Officer attestation, accompanied by narrative and supporting evidence, demonstrating net local emissions benefits for health and wellbeing of local communities produced by the project. | 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 |

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

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

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

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

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

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

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

# California Public Utilities Commission

# ADVICE LETTER SUMMARY

ENERGY UTILITY

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

Company name/CPUC Utility No.: Southwest Gas Corporation (U 905 G)

Utility type:
☐ ELC ☑ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Laurie Brown
Phone #: (702) 364-3082
E-mail: laurie.brown@swgas.com
E-mail Disposition Notice to: laurie.brown@swgas.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 1384

Tier Designation: Tier 1

Subject of AL: Revisions to Standard Biomethane Procurement Methodology (SBPM) Pursuant to Decision 26-04-044

Keywords (choose from CPUC listing):

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: Not applicable.

Summarize differences between the AL and the prior withdrawn or rejected AL: Not applicable.

Confidential treatment requested? ☑ Yes ☐ No

If yes, specification of confidential information: Specific Information in the SBPM
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:

Resolution required? ☐ Yes ☑ No

Requested effective date: 8/3/26

No. of tariff sheets: N/A

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:

Service affected and changes proposed[1]: See 'Subject of AL' above.

Pending advice letters that revise the same tariff sheets: Not applicable.

[1]Discuss in AL if more space is needed.

Clear Form

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

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov


Name: Laurie Brown
Title: Regulatory Manager/California
Utility Name: Southwest Gas Corporation
Address: P. O. Box 98510
City: Las Vegas State: Nevada
Telephone (xxx) xxx-xxxx: 702-364-3082
Facsimile (xxx) xxx-xxxx: 702-364-3446
Email: laurie.brown@swgas.com

Name: Valerie J. Ontiveroz
Title: Senior Manager/Regulatory Affairs & Compliance
Utility Name: Southwest Gas Corporation
Address: P. O. Box 98510
City: Las Vegas State: Nevada
Telephone (xxx) xxx-xxxx: 702-876-7323
Facsimile (xxx) xxx-xxxx: 702-876-7323
Email: valerie.ontiveroz@swgas.com


Clear Form

## ENERGY Advice Letter Keywords

| | | |
|---|---|---|
| Affiliate | Direct Access | Preliminary Statement |
| Agreements | Disconnect Service | Procurement |
| Agriculture | ECAC / Energy Cost Adjustment | Qualifying Facility |
| Avoided Cost | EOR / Enhanced Oil Recovery | Rebates |
| Balancing Account | Energy Charge | Refunds |
| Baseline | Energy Efficiency | Reliability |
| Bilingual | Establish Service | Re-MAT/Bio-MAT |
| Billings | Expand Service Area | Revenue Allocation |
| Bioenergy | Forms | Rule 21 |
| Brokerage Fees | Franchise Fee / User Tax | Rules |
| CARE | G.O. 131-D | Section 851 |
| CPUC Reimbursement Fee | GRC / General Rate Case | Self Generation |
| Capacity | Hazardous Waste | Service Area Map |
| Cogeneration | Increase Rates | Service Outage |
| Compliance | Interruptible Service | Solar |
| Conditions of Service | Interutility Transportation | Standby Service |
| Connection | LIEE / Low-Income Energy Efficiency | Storage |
| Conservation | LIRA / Low-Income Ratepayer Assistance | Street Lights |
| Consolidate Tariffs | Late Payment Charge | Surcharges |
| Contracts | Line Extensions | Tariffs |
| Core | Memorandum Account | Taxes |
| Credit | Metered Energy Efficiency | Text Changes |
| Curtailable Service | Metering | Transformer |
| Customer Charge | Mobile Home Parks | Transition Cost |
| Customer Owned Generation | Name Change | Transmission Lines |
| Decrease Rates | Non-Core | Transportation Electrification |
| Demand Charge | Non-firm Service Contracts | Transportation Rates |
| Demand Side Fund | Nuclear | Undergrounding |
| Demand Side Management | Oil Pipelines | Voltage Discount |
| Demand Side Response | PBR / Performance Based Ratemaking | Wind Power |
| Deposits | Portfolio | Withdrawal of Service |
| Depreciation | Power Lines | |

**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
BART

Ava Community Energy

BART
Buchalter
Barkovich & Yap, Inc.
Biering & Brown LLP
Braun Blaising Smith Wynne, P.C.

California Community Choice Association
California Cotton Ginners & Growers Association
California Energy Commission
California Hub for Energy Efficiency
California Alternative Energy and Advanced Transportation Financing Authority
California Strategies

California Public Utilities Commission
Calpine
Cameron-Daniel, P.C.
Casner, Steve
Center for Biological Diversity
Chevron Pipeline and Power

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
Diablo Canyon Independent Safety Committee
Douglass & Liddell
Downey Brand LLP

Duncan Weinberg Genzer Pembroke
Ellison Schneider & Harris LLP
Electrical Power Systems, Inc. Fresno
Engie North America
Engineers and Scientists of California

GenOn Energy, Inc.
Green Power Institute

Hanna & Morton LLP

ICF consulting

iCommLaw

International Power Technology Intertie

Intestate Gas Services, Inc.

Kaplan Kirsch LLP
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.
NOSSAMAN LLP
NRG Energy Inc.

Pacific Gas and Electric Company
Peninsula Clean Energy
Pioneer Community Energy

Public Advocates Office
Redwood Coast Energy Authority

Regulatory & Cogeneration Service, Inc.
Resource Innovations
Rockpoint Gas Storage

San Diego Gas & Electric Company
San Jose Clean Energy
SPURR

Sempra Utilities

Sentinel 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.

Utility Cost Management

Water and Energy Consulting

Yep Energy