EXH. EAB-19
DOCKETS UE-220066/UG-220067
2022 PSE GENERAL RATE CASE
WITNESS: ED BURGESS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-220066** **Docket UG-220067**

EIGHTEENTH EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED RESPONSE TESTIMONY OF

ED BURGESS

ON BEHALF OF NW ENERGY COALITION, FRONT AND CENTERED, AND SIERRA CLUB

JULY 28, 2022

COM/CR6/mef 11/16/2021

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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Building Decarbonization.	Rulemaking 19-01-011

ASSIGNED COMMISSIONER'S AMENDED SCOPING MEMO AND RULING

This Amended Scoping Memo and Ruling (Phase III Scoping Memo) opens and sets forth the scope and schedule for Phase III. Phase III is initiated to further fulfill the goals set out in Rulemaking (R.) 19-01-011. In particular, Phase III will consider the reasonableness of addressing building decarbonization by modifying or ending gas distribution main and service line extension allowances, refunds, and discounts.

Appendix A of this Phase III Scoping Memo is an Energy Division Staff Proposal that addresses gas line and service extension allowances, titled "R.19-01-011 Phase III Staff Proposal" (Staff Proposal). Respondents shall, and other parties may, comment on the Staff Proposal with comments filed and served no later than December 20, 2021. Comments of respondents shall, and other parties may, address the questions listed in Appendix B of this ruling along with anything else a party believes necessary to create a complete record. Reply comments shall be filed and served by January 10, 2022.

This Phase III Scoping Memo requests the assistance of several state agencies and departments in order to comply with obligations under Public Utilities (Pub. Util.) Code §783(c). Their assistance is requested by, but not

limited to, their serving comments and reply comments on the service list of this proceeding by the above dates.

Except as expressly set forth in this Phase III Scoping Memo, the terms of the previously issued Scoping Memos remain unchanged.

1. Procedural Background

On January 31, 2019, in response to the passage of Senate Bill (SB) 1477 (Stern, 2018),[1] the California Public Utilities Commission (Commission) initiated this rulemaking to support the decarbonization of buildings in California. A Scoping Memo was issued on May 17, 2019 setting forth the issues to be considered in this proceeding, and specifically identifying the issues for Phase I (initial Scoping Memo). Phase I was resolved in Decision (D.) 20-03-027 issued on April 6, 2020 (Phase I decision). The Phase I decision established the two pilot programs called for in SB 1477, the Building Initiative for Low Emissions Development (BUILD) Program, and the Technology and Equipment for Clean Heating (TECH) Initiative.[2]

On August 25, 2020, the assigned Commissioner issued an Amended Scoping Memo setting forth the issues to be considered in Phase II of this proceeding and included an associated Staff Proposal. Phase II was resolved in D.21-11-002 issued on November 9, 2021 (Phase II decision). The Phase II decision (a) adopted guiding principles for the layering of incentives when multiple programs fund the same equipment, (b) established a new Wildfire and Natural Disaster Resiliency Rebuild (WNDRR) program to help victims of wildfires and natural disasters rebuild all-electric properties, (c) provided

[1] SB 1477 was codified as Pub. Util. Code §§ 748.6, 910.4, 921, and 922.

[2] *See,* D.20-03-027 at 7.

guidance on data sharing, and (d) directed California's three large electric Investor-Owned Utilities (IOUs)[3] to each study energy bill impacts that result from switching from gas water heaters to electric heat pump water heaters, and to propose a new rate adjustment in a new Rate Design Window application if their study reflects a net energy bill increase; D.21-11-002 also directed the collection of data on fuels used to power various appliances, including propane.

2. Scope of Issues for Phase III

As described in the initial Scoping Memo:

> "Initially, the scope of this proceeding is intended to focus on implementation of Senate Bill (SB) 1477…More broadly, this proceeding is intended to coordinate with the California Energy Commission's activities to design and implement Title 24 building codes and Title 20 appliance standards, to support further building decarbonization potential. Finally, the scope shall consider all policy framework issues, including programs, rules, and rates, that will help accomplish building decarbonization, as part of the state's greenhouse gas (GHG) reduction goals."[4]

In furtherance of the state's GHG reduction goals, Phase III will consider changes to gas line extension rules.[5]

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[3] Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas & Electric Company (SDG&E).

[4] *See,* Assigned Commissioner's Scoping Memo (May 17, 2019) at 3 to 4.

[5] Gas Rules 15 and 16 for PG&E (https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_RULES_15.pdf, https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_RULES_16.pdf), SDG&E (https://tariff.sdge.com/tm2/pdf/GAS_GAS-RULES_GRULE15.pdf, https://tariff.sdge.com/tm2/pdf/GAS_GAS-RULES_GRULE16.pdf), and Southwest Gas Corporation (https://www.swgas.com/1409184638489/rule15.pdf, https://www.swgas.com/1409184638517/RULE_16---GRC_Eff-April-1-2021.pdf), and Gas Rules 20 and 21 for Southern California Gas Company (https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/20.pdf, https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/21.pdf). Rule 15/20 pertains to gas distribution main extensions and Rule 16/21 pertains to gas service line extensions.

Under current gas line extension rules, when a building is constructed, the entity that owns the dwelling or building (applicant) applies for connection of the building to the gas utility's system in order to receive the gas utility's services.[6] First, the gas utility's distribution main may need to be extended to the edge of the applicant's property (distribution main extension). Second, the gas utility's service line will have to be connected to the dwelling's meter (service line extension). In this ruling, we refer to both the distribution main extension and service line extension collectively as "gas line extension."

The total cost of the applicant's gas line extension is paid by the applicant at project commencement. The total project cost is divided into two parts: non-refundable and refundable. Both the non-refundable and refundable costs are paid by the applicant, but the refundable costs are offset in whole or part by all other ratepayers via the gas line extension allowance. The allowance recognizes the benefit that the new customer will contribute to utility costs over the duration of the gas service connection. Allowances are fixed amounts for each eligible gas appliance[7] to be installed on the premise, and each gas utility has different allowance levels.[8] The refundable costs in excess of the allowance may be refunded to the applicant under either a 10-year refundable payment option (refund) or a 50 percent discount payment option (discount) under the gas line extension rules.

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[6] D.07-07-019 addressing electric and gas residential line extension allowance calculation methodology provided background information describing the line extension allowance.

[7] Eligible gas appliances include space heating equipment, water heating equipment, cooktop/stove units, and dryers for all gas utilities. SoCalGas and SWG's Southern California service territory provide an additional allowance for space cooling equipment that runs on gas.

[8] *Id*.

To encourage and advance building decarbonization, in this phase, the Commission will consider eliminating gas line extension allowances, refunds, and discounts provided under current gas line extension rules. The issues to be resolved include:

a. Whether the Commission should modify or eliminate gas line extension allowances for some or all customer classes (residential and non-residential);
b. Whether the Commission should modify or eliminate gas line extension refunds for some or all customer classes (residential and non-residential); and
c. Whether the Commission should modify or eliminate gas line extension discounts for some or all customer classes (residential and non-residential).

It should be clarified that if the Commission eliminates gas line extension allowances, refunds, and/or discounts as proposed in the Staff Proposal, an applicant can still apply to a gas utility to be connected to that gas utility's system, but all costs of a gas line extension would be considered non-refundable and would be paid by the applicant.

Successor proceedings or future phases and/or tracks of this proceeding may consider further issues, as needed. In particular, the Commission may consider modifications to current electric line extension rules and/or treatment of costs associated with electric distribution system upgrades triggered by residential and/or non-residential building decarbonization projects, consistent with exiting tariff rules, Pub. Util. Code §783, and any other relevant regulations or state statutes.

3. Staff Proposal and Party Comments

Appendix A of this Phase III Scoping Memo is Energy Division's Phase III Staff Proposal. The Staff Proposal recommends the elimination of gas line

extension allowances for new customers, as well as the elimination of the 10-year refundable payment option and the 50 percent discount payment option, for all customer classes. All other provisions remain unchanged for both new and existing customers (*e.g.,* safety standards, construction and design specifications, applicant design option, etc.).[9]

Respondents shall, and other parties may, submit comments and reply comments on the Staff Proposal, with comments filed and served by December 20, 2021, and reply comments filed and served by January 10, 2022. In order to expedite the creation of a robust and reliable record, and allow the Commission to find facts based on those pleadings, comments and reply comments shall be verified (*see* Rules 1.11 and 18.1 of the Commission's Rules of Practice and Procedure). Unverified comments and reply comments will only be given the weight of argument.

Respondents shall, and other parties may, answer the questions listed in Appendix B of this Phase III Scoping Memo. The answers should be included as part of party comments, and may include discussion and recommendations on the Staff Proposal that are not captured in the questions. When doing so, comments, responses, and recommendations should be organized in the order in which the topics appear in the Staff Proposal, followed by the questions in Appendix B, identified by question number. Parties are strongly encouraged to file joint comments to assist the Commission and other parties in focusing on the issues and reducing duplicative pleadings. Parties need not agree on all matters to file joint comments but may file joint comments limited to the matters on

[9] Moreover, existing customers on the 10-year refundable payment option will continue with that option.

which they agree. Parties may address the matters on which they did not reach agreement in a separate section of the joint comments or in a separate pleading.

Additionally, state law requires the Commission to consult with several other state agencies before making any changes to the rules regarding gas line extensions. Specifically, Pub. Util. Code §783(c) states:

> "The commission shall request the assistance of appropriate state agencies and departments in conducting any investigation or proceeding pursuant to subdivision (b), [to consider changes in line extension rules], including, but not limited to, the Transportation Agency, the Department of Food and Agriculture, the Department of Consumer Affairs, the Bureau of Real Estate, and the Department of Housing and Community Development."

Therefore, in compliance with state law, and in order to facilitate the creation of a robust and complete record, this Phase III Scoping Memo officially requests the assistance in this proceeding of all interested state agencies and departments. These agencies and departments include, but are not limited to, the California State Transportation Agency, California Department of Food and Agriculture, California Department of Consumer Affairs, California Department of Real Estate, and the California Department of Housing and Community Development. We invite their assistance to be in the form of, but not limited to, providing comments on Appendix B of this Phase III Scoping Memo and reply comments to opening comments. Their comments and reply comments need not be filed, but must be served on the service list of this proceeding. The invitation to comment does not constitute an obligation.

4. Schedule

The following schedule is adopted for Phase III and may be modified by the Administrative Law Judge (ALJ) or assigned Commissioner as required to promote the efficient and fair resolution of the rulemaking:

Event	Date	
Phase III Scoping Memo and Staff Proposal	November 16, 2021	
WebEx Presentation and Q&A on Staff Proposal	December 2021	
Opening Comments on the Phase III Staff Proposal	December 20, 2021	
Reply Comments on the Phase III Staff Proposal	January 10, 2022	
Deadline to File a Motion to Request Evidential Hearings (EHs)	February 28, 2022	
Responses to Motion to Request EHs	March 4, 2022	
Ruling on Motion to Request EHs	March 9, 2022	
	With No EHs	With EHs
Intervenor Testimony (if motion granted)	NA	End of March 2022
Rebuttal Testimony (if motion granted)	NA	April 2022
Evidentiary Hearings (if motion granted)	NA	Early May 2022
Opening Briefs Motion for Oral Argument (if EHs are held)	April 1, 2022	May 2022
Reply Briefs, Submission Date Response to Motions for Oral Argument (if EHs are held)	April 15, 2022	June 2022
Proposed Decision	July 2022	September 2022
Final Decision (expected)	August 2022	October 2022

Parties may comment on whether Energy Division should conduct a workshop after the reply comments on the Staff Proposal are due and/or before the deadline to file a motion to request evidentiary hearings, and if so, what topics should be covered by the workshop.

In order to effectively manage evidentiary hearings and move the proceeding forward efficiently, this ruling provides that evidentiary hearings, if held, will be limited to disputed material factual issues and will not, absent good cause, be permitted on policy or legal issues. The motion, if any, for leave to hold evidentiary hearings shall identify what material facts are in dispute. It shall state whether the evidentiary hearings are for the purpose of cross-examination of statements in comments and/or reply comments, or if the party seeks to offer testimony. If the party seeks to introduce testimony, the motion shall identify what the party will seek to show in testimony. The motion shall also include a proposed schedule and any other information necessary to ensure equitable, just, and speedy hearings, if held. Parties moving for evidentiary hearings are encouraged to file a joint motion. Parties can address policy and other issues in their opening and reply comments, and legal issues in their opening and reply briefs.

Energy Division will conduct a WebEx presentation prior to the due date of opening comments to present the Staff Proposal and address party questions. Energy Division may conduct a workshop after the reply comments are filed and/or before the deadline for the motion to request evidentiary hearings. Any workshops in this proceeding, if held, shall be noticed on the Commission's Daily Calendar to inform the public that a decision-maker or advisor may be present at those meetings or workshops. Notice of workshops will also be served on the service list.

Finally, parties seeking oral argument are encouraged to coordinate and file one joint motion. The joint motion must contain a proposed schedule. The motion should propose grouping parties with similar positions, if possible, and recommend equitable amounts of time for each group or party. It should include

anything else necessary to assist the Commission in conducting an efficient and effective oral argument.

5. Category of Proceeding/ *Ex Parte* Restrictions

This ruling reconfirms the Commission's preliminary determination that this is a quasi-legislative proceeding.[10] Accordingly, *ex parte* communications are permitted without restriction or reporting requirement pursuant to Article 8 of the Commission's Rules of Practice and Procedure.

6. Intervenor Compensation

Pursuant to Pub. Util. Code § 1804(a)(1), a customer who intends to seek an award of compensation must file and serve a notice of intent to claim compensation (NOI). The NOI shall be filed and served within 30 days of the date of issuance of this Phase III Scoping Memo. (Rule 17.1(a)(2).) A customer already found eligible remains eligible for Phase III and any subsequent phases of this proceeding and need not file a new NOI. (Rule 17.2.) A party already found eligible, however, must file an amended NOI within 15 days after the issuance of this Phase III Scoping Memo if that customer is likely to later request compensation that exceeds the expected budget in its original NOI, or in any other way seeks to modify its original NOI, (Rule 17.1(b)).

7. Response to Public Comments

Parties may, but are not required to, respond to written comments received from the public (*See* Pub. Util. Code § 1701.1(g)). Parties may do so by posting such response using the "Add Public Comment" button on the "Public Comment" tab of the docket card for the proceeding.

[10] R.19-01-011 at 25.

8. Public Advisor

Any person interested in participating in this proceeding who is unfamiliar with the Commission's procedures or has questions about the electronic filing procedures is encouraged to obtain more information at http://consumers.cpuc.ca.gov/pao/ or contact the Commission's Public Advisor at (866) 849-8390 or (415) 703-2074 or (866) 836-7825 (TYY), or send an email to public.advisor@cpuc.ca.gov.

9. Service of the Phase III Scoping Memo

The initial Scoping Memo described the scope of the proceeding in broad terms. The Phase III Scoping Memo describes specific proposals that may affect or modify existing programs and rates. These issues are within the original scope of this proceeding. So that those interested in the specific programs and rates have the opportunity to be informed and participate in this proceeding, the Phase III Scoping Memo is served on the following service lists:

- Long-Term Gas System Planning Rulemaking, R.20-01-007;
- Building Decarbonization Rulemaking, R.19-01-011;
- Mobilehome Park Utility Conversion Program Rulemaking, R.18-04-018;
- Self-Generation Incentive Program Rulemaking, R.20-05-012;
- Energy Efficiency Rulemaking, R.13-11-005;
- Microgrids and Resiliency Strategies Rulemaking, R.19-09-009;
- San Joaquin Valley Affordable Energy Rulemaking, R.15-03-010;
- Affordability Rulemaking, R.18-07-006;
- IOU Energy Savings Assistance and California Alternate Rates for Energy Programs and Budgets for Program Years 2021-2026, Application (A.) 19-11-003 *et al.;*

- SCE general rate case (GRC) Phase 2 Application, A.17-06-030;
- SDG&E GRC Phase 2 Application, A.19-03-002, consolidated to A.10-07-009 *et al*.; and
- PG&E GRC Phase 2 Application, A.19-11-019.

Moreover, to ensure that each state agency or department identified in Pub. Util. Code §783(c) is provided notice of this proceeding and is invited to participate, this Phase III Scoping Memo is served on the Executive Director (or an equivalent position) of the following agencies or departments:

- California State Transportation Agency;
- California Department of Food and Agriculture;
- California Department of Consumer Affairs;
- California Department of Real Estate;
- California Department of Housing and Community Development

10. Assignment of Proceeding

Clifford Rechtschaffen is the assigned Commissioner and Presiding Officer, and Ava Tran and Scarlett Liang-Uejio are the assigned ALJs for the proceeding.

IT IS RULED that:

1. The scope of issues and schedule for Phase III of this proceeding are set forth above. Except as expressly set forth in this Phase III Scoping Memo, the terms of the previously issued scoping memos and rulings remain unchanged.

2. Respondents shall, and parties may file and serve comments on Energy Division's R.19-01-011 Phase III Staff Proposal (Appendix A). The comments of respondents shall, and of parties may, include responses to the issues and questions in Appendix B. Comments, responses, and

recommendations should be organized in the order in which the topics appear in the Staff Proposal, followed by the questions in Appendix B, identified by question number. The comments (including responses to the issues and questions in Appendix B) shall be filed and served by no later than December 20, 2021. Parties are strongly encouraged to file joint comments. Comments shall be verified.

3. Parties may file and serve reply comments, and shall do so by no later than January 10, 2022. Parties are strongly encouraged to file joint reply comments. Reply comments shall be verified.

4. Motions identified in the schedule shall be filed and served by the noted dates and shall at a minimum include the items specified in this Phase III Scoping Memo.

5. A customer who intends to seek intervenor compensation, and who has not already been found eligible in a prior phase of this proceeding, shall file and serve a Notice of Intent to claim compensation (NOI) within 30 days of the issuance of this Phase III Scoping Memo. A customer who has already been found eligible remains eligible in later phases of this proceeding. A customer already found eligible shall file an amended NOI within 15 days of issuance of this Phase III Scoping Memo if the customer is likely to later request compensation that exceeds the expected budget in its original NOI, or in any other way seeks to modify its original NOI. (Rule 17.1(b).)

6. This Phase III Scoping Memo is served on the service lists of the multiple proceedings listed in the body of this Phase III Scoping Memo, as well as on the Executive Director (or an equivalent position) of each of the state agencies and departments listed in the body of this Phase III Scoping Memo.

This order is effective today.

Dated November 16, 2021, at San Francisco, California.

/s/ CLIFFORD RECHTSCHAFFEN
Clifford Rechtschaffen
Assigned Commissioner

Appendix A

R.19-01-011 Phase III Staff Proposal

California Public
Utilities Commission

R.19-01-011 Phase III Staff Proposal

CPUC ENERGY DIVISION STAFF

November 16, 2021

Table of Contents

Acronyms & Abbreviations

AB	Assembly Bill
ALJ	Administrative Law Judge
AGIC	Avoided Gas Infrastructure Cost
BAMBE	Bay Area Multifamily Building Enhancements
BAAQMD	Bay Area Air Quality Management District
BARC	Base Annual Revenue Calculation
BayREN	Bay Area Regional Energy Network
BUILD	Building Initiative for Low-Emissions Development Program
Bcf	Billion Cubic Feet
CalPA	California Public Advocates Office
CalSTA	California State Transportation Agency
CARB	California Air Resources Board
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
COO	Cost of Ownership
COS	Cost of Service
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
D.	Decision
DCA	California Department of Consumer Affairs
DRE	California Department of Real Estate
EDF	Environmental Defense Fund
EPA	Environmental Protection Agency
GHG	Greenhouse Gas
GRC	General Rate Case
HCD	California Department of Housing and Community Development
HPWH	Heat Pump Water Heater
HVAC	Heating, Ventilation, and Air Conditioning
IDER	Integrated Distributed Energy Resources

IEPR	Integrated Energy Policy Report
IOU	Investor-Owned Utility
IRP	Integrated Resource Plan
JA13	Qualification Requirements for HPWH Demand Management Systems
LNG	Liquified Natural Gas
MMBtu	Million British Thermal Units
MMCF	Million Cubic Feet
NA	Not applicable
NOx	Nitrogen Oxides
PG&E	Pacific Gas & Electric Company
PU	Public Utilities
R.	Rulemaking
RASS	Residential Appliance Saturation Study
SB	Senate Bill
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
SGC	Strategic Growth Council
SGIP	Self-Generation Incentive Program
SoCalGas	Southern California Gas Company
Staff	CPUC Energy Division Staff
SWG	Southwest Gas Corporation
TECH	Technology and Equipment for Clean Heating Initiative
Title 20	California Appliance Efficiency Regulations
Title 24	California Building Energy Efficiency Standards
TSM	Transformers, Services, and Meter
US	United States of America

Tables & Figures

1 Executive Summary

On January 31, 2019, the California Public Utilities Commission (CPUC) initiated Rulemaking (R.) 19-01-011[1] to explore policy options "that could lead to the reduction of greenhouse gas (GHG) emissions associated with energy use in buildings."[2] Phases I and II of R.19-01-011 were resolved in Decision (D.) 20-03-027[3] and D.21-11-002,[4] respectively. On November 16, 2021, the CPUC opened Phase III of R.19-01-011 in an Amended Scoping Memo and Ruling that set forth the scope and schedule for Phase III. The Phase III Scoping Memo identifies four main issues to be considered: (1) Whether the Commission should eliminate gas line extension allowances for all customer classes (residential and non-residential); (2) Whether the Commission should eliminate gas line extension refunds for all customer classes (residential and non-residential); and (3) Whether the Commission should eliminate gas line extension discounts for all customer classes (residential and non-residential).

This Staff Proposal addresses Phase III considerations. R.19-01-011's preliminary Scoping Memo articulates the purpose of Phase III as follows: "This category involves developing guidelines for Commission rules, policies, and procedures to support the development of current and future Title 24 building standards and Title 20 appliance standards at least cost, maximizing their decarbonization benefits."[5] It continues, "In this portion of the proceeding, we will examine additional policies or frameworks that the Commission can use to support transformation of portions of the building market to support faster penetration of more stringent building codes related to building decarbonization."[6] According to the initial Scoping Memo, "Once a technology or approach becomes more commonplace and costs are reduced, it becomes easier to justify a building code change to make the technology or practice a requirement for new or existing buildings in the future."[7] The goal of Phase III, therefore, should be to encourage builders to take concrete steps now that will help the building industry more easily decarbonize moving in the future.

[1] See: https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1901011.
[2] See: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M264/K629/264629773.PDF, p.2.
[3] See: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M331/K772/331772660.PDF.
[4] See: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M421/K107/421107786.PDF.
[5] See: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M264/K629/264629773.PDF, p.9.
[6] *ibid*, p.16.
[7] *ibid*, pp.15-16.

Keeping true to the original intent of Phase III, Energy Division staff (Staff) recommend revisions to the Investor-Owned Utility (IOU) gas rules governing main extensions and service extensions in order to incent builders to choose Title 24 compliance pathways that maximize GHG reductions and facilitate the adoption of highly efficient electric heat pump appliances. As required by Public Utilities (PU) Code Section 783(c),[8] Staff requested the assistance of the California State Transportation Agency (CalSTA), California Department of Food and Agriculture (CDFA), California Department of Consumer Affairs (DCA), California Department of Real Estate (DRE),[9] and California Department of Housing and Community Development (HCD) in developing the recommendations in this Staff Proposal. Feedback that was received has been considered as part of Staff's recommendations. The California Air Resources Board (CARB), California Energy Commission (CEC), and California Strategic Growth Council (SGC) were also consulted.

Staff's recommendations focus on three distinct, but inter-related issues. Staff recommend:

1. Elimination of gas line extension **allowances** provided under current gas rules for all customer classes;
2. Elimination of gas line extension **refunds** provided under current gas rules for all customer classes; and
3. Elimination of gas line extension **discounts** provided under current gas rules for all customer classes.

In totality, adoption of Staff's three recommendations would send a strong signal to the builder community that future building projects should transition away from gas use, thus encouraging all-electric new construction and aiding the effort to reduce GHG emissions across California. Consistent with requirements articulated in state statute,[10] these changes, if adopted by the Commission in 2022, would take effect on July 1, 2023, "so as to ensure that the public has at least six months to consider the new order or decision." This would give the builder community ample time to adjust their practices and plan accordingly.

[8] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.
[9] Statute requires the CPUC to request the assistance of the "Bureau of Real Estate," which has since become DRE.
[10] PU Code Section 783(d). See:
https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

2 Background

This "Background" section of the Staff Proposal details what California is currently doing to reduce GHG emissions from its building sector. First, Staff address the extent to which California buildings currently rely on gas service, so as to set the context for how much work is still necessary to meet the state's climate goals. Second, Staff address the numerous policies and incentives that have been introduced in recent years to encourage greater building decarbonization. Finally, Staff address the role of the California Energy Code – commonly referred to as "Title 24"[11] – in helping California's buildings become more efficient, reduce GHG emissions, and guide the builder community toward an all-electric future.

2.1 Gas Usage in California Buildings

Approximately 77 percent[12] of California's homes receive gas supplied by California's common carrier pipeline network, which is owned and operated by CPUC-regulated gas IOUs.[13] Many of California's homes that do not use gas lack access to gas service and instead supplement with propane. For the residential sector, most gas is used for space and water heating, with smaller percentages used for cooking, fireplaces, clothes drying, and a few other functions, all of which could be powered by electricity. Some of the 23 percent of homes that are currently without gas service were built between the 1950s and the 1970s when Edison Electric and Westinghouse Electric Corporation promoted a "Gold Medallion" program for all-electric homes. The all-electric home was promoted as a cleaner and more forward-looking alternative to gas usage, as reflected in the "Living Better Electrically" campaign.[14] At the same time, the advent of nuclear power promised a limitless supply of inexpensive electricity that was "too cheap to meter," in the words of then-Atomic Energy Commissioner Lewis Strauss.[15]

[11] "Title 24" is a reference to Part 6 of Title 24 of the California Code of Regulations. See: https://www.dgs.ca.gov/BSC/Codes.
[12] U.S. Energy Information Agency. https://www.eia.gov/dnav/ng/ng_cons_num_a_EPG0_VN3_Count_a.htm. EIA data indicate that 11,186,350 California homes are gas consumers. This is out of a total of 14,366,336 households, according to the US Census: https://www.census.gov/quickfacts/CA.
[13] California's four major gas IOUs include Pacific Gas and Electric, Southern California Gas Company, San Diego Gas and Electric, and Southwest Gas. A map detailing pipeline ownership is available at https://www.energy.ca.gov/sites/default/files/2020-10/Natural_Gas_Pipelines_ADA.pdf.
[14] Washington State Department of Archaeology and Historic Preservation. https://dahp.wa.gov/historic-preservation/historic-buildings/historic-building-survey-and-inventory/live-better-electrically-the-gold-medallion-electric-home-campaign.
[15] Pope, Daniel. "The Unkept Promise of Nuclear Power." Origins (Ohio State University) April 2021. https://origins.osu.edu/article/unkept-promise-nuclear-power.

The current widespread availability of gas and prevalence of dual fuel homes – those using both electricity and gas – is largely the result of policy decisions from an era preceding the Renewables Procurement Standard (RPS) when gas was perceived as a relatively clean source of fuel. This is reflected in 1980's D.91328, which reads,

> "We reconfirm at this time the policy conclusion, enunciated in Decision No. 89177 in the Liquified Natural Gas Terminal proceeding, that on both economic and environmental grounds, natural gas is the preferred fuel for residential energy needs. The adopted extension rules, set forth in the ensuing order are designed to strongly favor the use of natural gas for cooking and space and water heating where it is available and the use of electricity for these purposes where natural gas in unavailable and alternative energy sources are less economical and/or efficient than electricity.'[16]

The same decision goes on to say,

> ". . .in late 1978 and early 1979, the parties to the proceeding modified their original proposals to reflect: (a) this Commission's recommended use of gas over alternate fuels as the main energy source pending the full development of renewable energy resources; (b) the Department of Energy's recent study suggesting that regulatory decisions, which inhibit the growth of gas usage by residential users, are promoting the inefficient allocation of premium energy supplies; and (c) the present improved outlook for gas supplies."[17]

Policies such as those articulated in D.89177 and D.91328 helped dual fuel homes become the dominant home type in the 20th and early 21st century in California. In the 20th century, electricity was largely generated using dirty sources such as coal and oil, making gas a better alternative for the environment. In the 21st century, dual fuel new construction has been favored partly because gas prices have been relatively low due to the widespread use of hydraulic fracturing, or "fracking," a technology which grew in use by 45 percent per year between 2005 and 2010.[18] Figure 1 displays how the price of gas stabilized in 2009 and remained at about $5 per million British Thermal Units (MMBtu) until 2021.

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[16] CPUC Decision 91328 in Case 10260, dated 2/13/80, 3 CPUC 2d 274, 1980 Cal. PUC LEXIS 148. p.30.
[17] *ibid*, p.32
[18] The Economist. "Shale of the century." June 2, 2012. https://www.economist.com/business/2012/06/02/shale-of-the-century. The science behind hydraulic fracking is described at https://www.usgs.gov/faqs/what-hydraulic-fracturing?qt-news_science_products=0#qt-news_science_products.

Figure 1: United States Gas Industrial Prices in the 21st Century

There is some concern amongst analysts that this era of stability in the American gas market may be ending.[19] This is partly the result of numerous export terminals opening since 2016 along the Gulf of Mexico that now make it possible to ship American gas to other continents in the form of liquefied natural gas (LNG). In January 2016, the United States (US) exported 26 million cubic feet (MMCF) of gas; in January 2021, the US exported 305,196 MMCF of gas, more than a 10-fold increase in volume.[20] The largest recipient of American gas is China, where the spot price of gas hit a record $34 per MMBtu in October 2021.[21] In a few short years, the US has gone from a net importer of LNG to being the world's third largest exporter, behind Australia and Qatar.[22] With this shift, the American gas market is no longer as insulated from global gas markets as it once was.

Recent pipeline outages and supply constraints further portend future instability in the American gas market. An August 2021 explosion in El Paso[23] and the February 2021 Texas power crisis[24] that preceded it both highlight the vulnerability of the gas system to sudden disruption. Meanwhile, California's sustained drought has reduced the availability of hydroelectric generation and wildfire smoke has reduced solar generation, thus necessitating increased generation from natural gas power plants and pushing October gas

[19] Disavino, Scott. "Analysis: Global Natgas Price Surge Looms for United States This Winter." October 4, 2021. https://www.reuters.com/business/energy/global-natgas-price-surge-looms-united-states-this-winter-2021-10-04/.
[20] https://www.eia.gov/dnav/ng/hist/n9133us2m.htm.
[21] Jaganathan, Jessica. "Asian Prices Surge to Record High as Winter Starts." Reuters, October 1, 2021. https://www.reuters.com/business/energy/asian-prices-surge-record-high-this-week-winter-starts-2021-10-01/.
[22] Energy Information Agency. https://www.eia.gov/todayinenergy/detail.php?id=39312.
[23] See: https://www.naturalgasintel.com/el-paso-natural-gas-pipeline-segment-shut-monday-after-deadly-blast/.
[24] See: https://www.eia.gov/todayinenergy/detail.php?id=47016.

prices to as high as $13/MMBtu[25] – approximately 333 percent higher than the $3/MMBtu that California's natural gas IOUs projected as the near-term price outlook in the 2020 California Gas Report.[26] Building decarbonization compounds commodity cost pressures by reducing the need for significant portions of gas distribution pipeline in the future. R.20-01-007[27] will examine ways for California to maintain gas reliability in the face of changing gas infrastructure needs moving forward.

California's Building Market

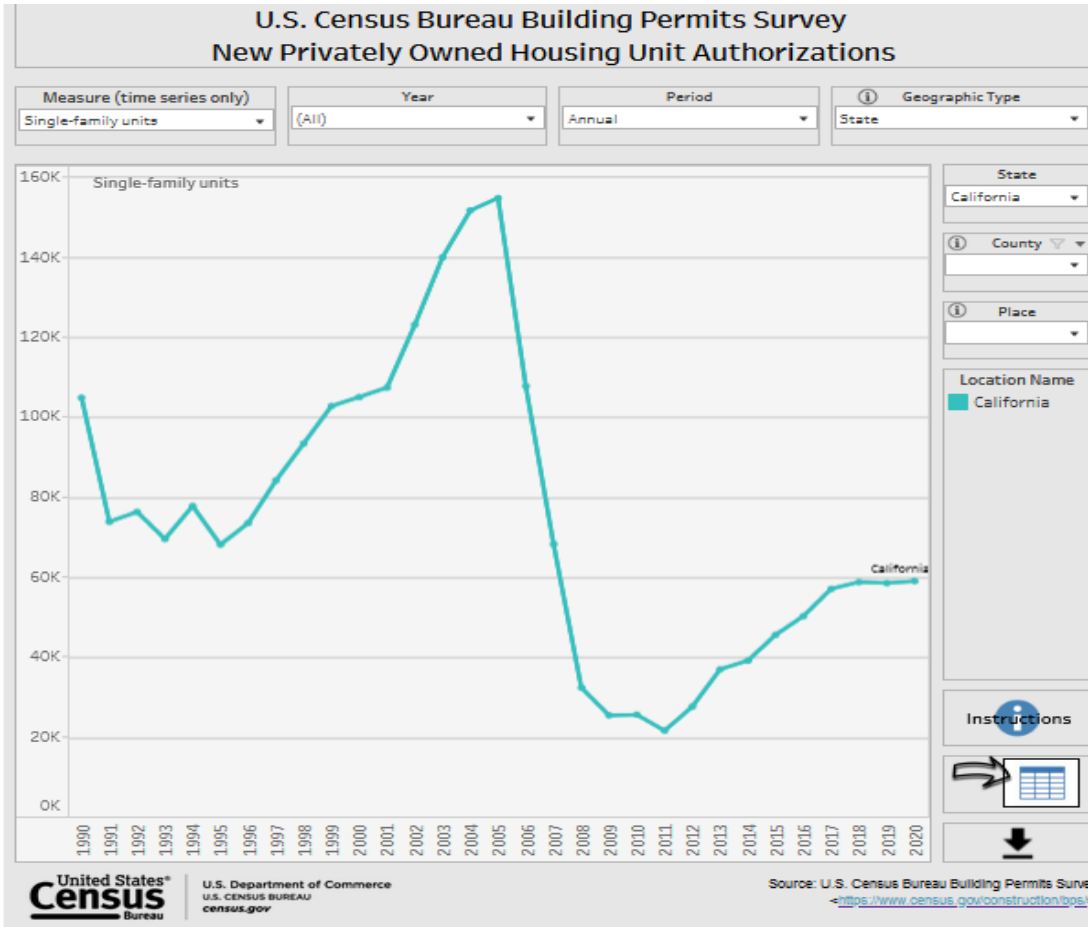

Figure 2: Housing Permits Issued for New Single-Family Units (1990-2020)[28]

[25] See: https://www.reuters.com/business/energy/global-natgas-price-surge-looms-united-states-this-winter-2021-10-04/.
[26] See: https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf.
[27] See: https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R2001007.
[28] See: https://www.census.gov/construction/bps/data_visualizations/.

While significantly below the high volume of building in the 2000s, construction of new homes in California remains significant. According to US census data, there were 59,043 new single-family units built in 2020 (Figure 2), while 47,032 new multi-family units were built in the same year (Figure 3). The COVID-19 global pandemic did not have a significant impact on the pace of housing construction, although multi-family new construction did slow. The Great Recession of 2008, however, resulted in a severe decline in housing construction, and California has not yet returned to the level of home building seen before then in single-family developments, though multi-family construction has returned to pre-recession levels.

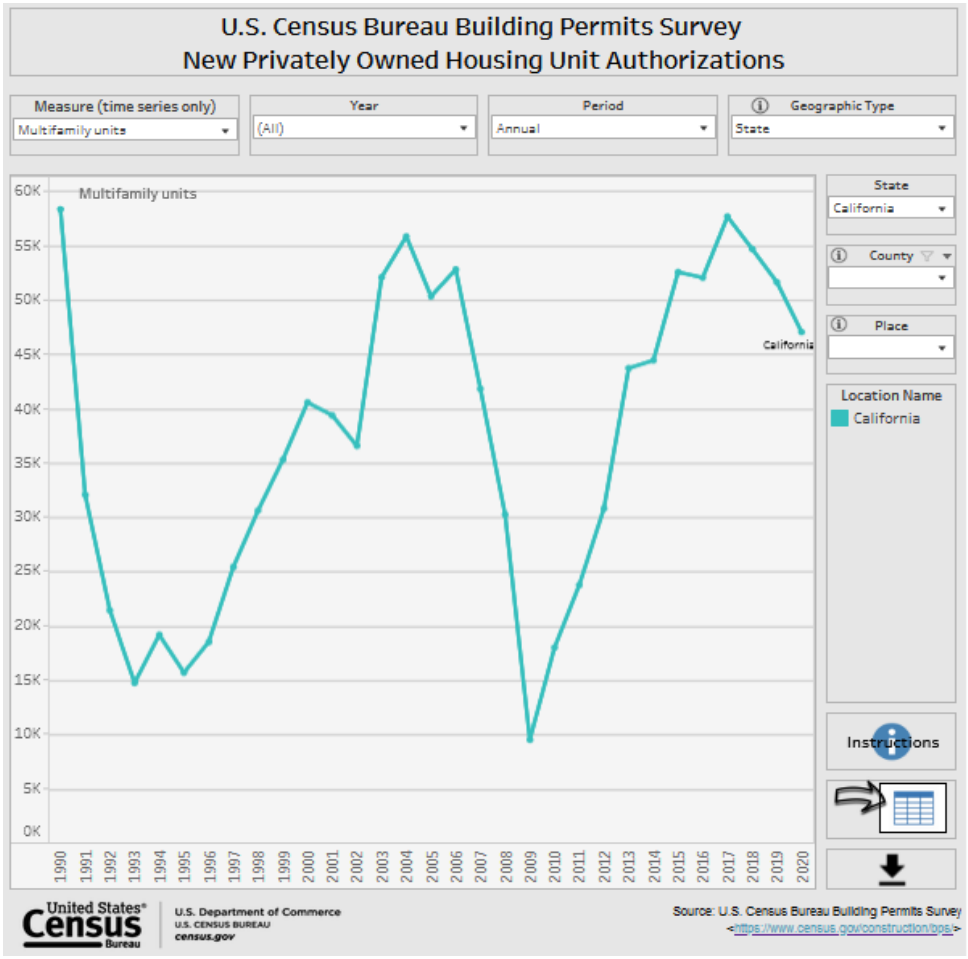

Figure 3: Housing Permits Issued for New Multi-Family Units (1990-2020)[29]

As shown in Table 1 below, of all new home construction in California between 2014 to 2020, only 1.25 percent was all-electric.

[29] *ibid.*

Home Type	Percentage of All-Electric New Construction	Sample Size (Total Units)
Single-Family	0.48%	191,731
Low-Rise Multi-Family	4.43%	46,447
All Low-Rise Residential New Construction	**1.25%**	**238,178**

Table 1: All-Electric Residential New Construction (2013-2016)[30]

California Gas Consumption

Gas accounts for 28 percent of all energy consumption in California.[31] Overall gas demand has been falling since 2013, with PG&E and SoCalGas both forecasting continuing declines of one percent annually between 2021 and 2035.[32] This overall gas consumption decline is due mostly to less natural gas being used to generate electricity, as seen in Figure 4.

[30] Data generated by Southern California Edison (SCE) and sent to Energy Division. Totals arrived by analyzing multiple sources of California HERS Registry Data and includes registrations from both 2013 and 2016 code cycles and represent installation certificates for new construction projects.
[31] California Energy Commission. "2021 IEPR Workshop on Gas Market and Demand Forecasts." Presentation delivered on August 30, 2021 by Melissa Jones. Most of the decline in gas consumption is from electricity generation. See: https://www.energy.ca.gov/event/workshop/2021-08/iepr-commissioner-workshop-natural-gas-market-and-demand-forecasts.
[32] *ibid*, Slide 12.

Figure 4: Gas Consumption by Category[33]

Out of approximately 13 million households in California, just over 11 million households were gas customers in 2019. In total, California has consistently consumed just over 2 billion cubic feet (Bcf) of gas per year from 2015 to 2019.[34] Directly contrary to trends overall, the volume of gas delivered directly to residential customers has steadily risen in the last few years, from 401,000 MMcf in 2015 to 464,672 MMcf in 2019.[35] Some 21 percent of all gas consumed in California was for direct use in buildings in 2019. According to CARB, direct emissions from buildings, specifically gas-fueled appliances, account for 10.5 percent of the state's overall GHG emissions.[36]

The Climate Imperative

Since the passage of the Global Warming Solutions Act in 2006, more commonly referred to as "AB 32" in reference to Assembly Bill (AB) 32 (Núñez, 2006),[37] California lawmakers have made the mitigation of GHG emissions a key priority. Since 2006, numerous laws and regulations have passed in California

[33] *ibid.*
[34] US Energy Information Agency. See: https://www.eia.gov/dnav/ng/ng_sum_snd_dcu_SCA_a.htm.
[35] See: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.
[36] California Air Resources Board, "California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators." July 29, 2021. Page 8.
[37] See: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32.

targeting specific industries and sources of pollution, and Executive Orders[38] continue to underscore the priority of fighting climate change. The increasing impacts and urgency of climate change in California – manifesting as hotter temperatures, longer droughts, and more destructive wildfires – are reflected in the laws and regulations that the state continues to adopt.[39]

In addition to the impact of gas appliances on the climate, there is an additional public health impact in that those gas appliances are situated within homes and offices where people live and work. Gas cooktops in particular have been identified as a leading cause of indoor air pollution. CARB found that indoor cooking with gas emits dangerous emissions such as carbon monoxide, formaldehyde, and other pollutants, exacerbating respiratory health issues.[40]

AB 3232

In 2018, California passed AB 3232 (Friedman, 2018),[41] which required the CEC to "…assess the potential for the state to reduce the emissions of greenhouse gases from the state's residential and commercial building stock by at least 40% below 1990 levels by January 1, 2030."[42] In August of 2021, the CEC finalized its "California Building Decarbonization Assessment," which analyzed several scenarios to meet the buildings emissions reduction level specified in the legislation. The CEC found that the scenario which focused on "…efficient electrification of space and water heating in California's buildings combined with refrigerant leakage reduction presents the most readily achievable pathway" that could exceed the specified reduction level assessed.[43] In analyzing the cost per metric ton of GHGs avoided, the CEC found that scenarios that emphasize building electrification had costs of $50 per metric ton or less. Scenarios that included an emphasis on renewable gas, in comparison, had a much higher cost of $350 per metric ton.[44]

CARB Staff's Proposal for Gas Appliances

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[38] For example, see: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf.
[39] Another example of this is in Executive Order N-82-20, which opens "WHEREAS the climate change crisis is happening now, impacting California in unprecedented ways including intensifying wildfires, mud slides, floods and drought, sea level rise and extreme heat, that threaten our economy, communities, public safety, and cultural and natural resources." https://www.gov.ca.gov/wp-content/uploads/2020/10/10.07.2020-EO-N-82-20-signed.pdf.
[40] California Air Resources Board, https://ww2.arb.ca.gov/resources/documents/indoor-air-pollution-cooking
[41] See: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB3232.
[42] AB 3232, Legislative Digest. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB3232.
[43] California Energy Commission. "California Building Decarbonization Assessment," published August 21, 2021. Available at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-DECARB-01, p.ii.
[44] *ibid*, p.59.

Staff at CARB have proposed a statewide zero GHG emission standard for commercial and residential buildings in a draft of their 2022 *Strategy for the State Implementation Plan.* According to the proposed standard, "Beginning in 2030, 100 percent of sales of new space heaters and water heaters would need to comply with the emission standard." If approved by CARB, the regulation would rely heavily on heat pump technologies as an alternative to gas models.[45] In scenarios proposed by CARB, new residential and commercial buildings would have to install all-electric appliances beginning in 2026 to meet a 2035 carbon neutrality target, or either by 2026 or 2030 to meet the same target by 2045.[46]

Local and Federal Actions

There has also been significant movement to decarbonize buildings on the part of local government agencies. More than 50 California cities have either passed or are considering reach codes or ordinances that either limit or ban the installation of gas connections to new buildings.[47] These range from San Jose's reach code which gives builders the flexibility to build dual fuel buildings in some cases, as long as the building has appropriate electrical hookups and capacity,[48] to outright bans on all natural gas hookups, as seen in Berkeley.[49] Additionally, the Bay Area Air Quality Management District (BAAQMD), which oversees air quality in nine Bay Area counties, is considering new regulations that would reduce nitrogen oxides (NOx) from furnaces, water heaters, and gas boilers in the buildings in its district. If enacted, it would ultimately lead to the phase-out of gas space and water heating systems through zero-emission appliance standards. The proposed rule changes would take effect between 2027 and 2031, depending on the appliance.[50]

2.2 Building Decarbonization Initiatives

California's building decarbonization efforts are reflected in a number of programs and initiatives intended to shift from appliances that are powered by gas to their high efficiency electric-powered

[45] California Air Resource Board. "2022 State Strategy for the State Implementation Plan: Draft Measures." https://ww2.arb.ca.gov/sites/default/files/2021-10/2022_SSS_Draft_Measures.pdf.
[46] California Air Resource Board "Proposed Pathways Scenario Modeling Assumptions." See: https://ww2.arb.ca.gov/sites/default/files/2021-09/Draft_2022SP_ScenarioAssumptions_30Sept.pdf.
[47] A list of these cities is available at https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-gas-free-future.
[48] NRDC, "San Jose's Proposed Building Reach Code Explained" https://www.nrdc.org/experts/pierre-delforge/san-joses-proposed-building-reach-code-explained.
[49] Prohibition of Natural Gas Infrastructure in New Buildings. City of Berkeley. https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/2019-07-23%20Item%20C%20Prohibiting%20Natural%20Gas%20Infrastructure.pdf.
[50] See: https://www.baaqmd.gov/rules-and-compliance/rule-development/building-appliances?sc_lang=zh-TW&switch_lang=true.

counterparts. Programs authorized by the CPUC have a combined budget of approximately $435 million over the next four years.[51] Those efforts overseen by the CPUC are summarized below:

BUILD and TECH

Senate Bill (SB) 1477 (Stern, 2018)[52] authorized two programs to promote clean heating technologies in California: the Building Initiative for Low Emissions Development (BUILD) Program and the Technology and Equipment for Clean Heating (TECH) Initiative. D.20-03-027[53] provided guidelines for both programs, which have a combined budget of $200 million. BUILD is a new construction program for all-electric, low-income housing. TECH is a market transformation initiative that will focus on training contractors, providing incentives, and removing market barriers to the adoption of heat pump water heating and space heating appliances. The two programs are funded by gas IOU Cap-and-Trade allowance proceeds.

Change in the "Three-Prong Rule"

In 2019, D.19-08-009 modified a 1992 rule with regard to using public purpose energy efficiency (EE) funds for "fuel substitution." Fuel substitution refers to any measure which would change a fuel source from one CPUC-regulated fuel to another (e.g., replacing a gas furnace with an electric heat pump heating, ventilation, and air conditioning (HVAC) system). According to the revised rule, customers can opt for appliances that substitute fuel so long as the substitution does not increase "source energy," and that it does not harm the environment (which is measured as not increasing greenhouse gas emissions).[54] There is a fuel substitution calculator to determine if fuel substitution measures meet the criteria for ratepayer-funded incentives.[55] This rule change makes efficient electric appliances more widely available in the EE portfolios. Those appliances are now on the list of eligible measures for the statewide Plug Load and Appliance, HVAC, and new construction programs."

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[51] https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/building-decarb/cpuc-hpwh-and-electrification-fact-sheet_q22020.pdf.
[52] See: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1477.
[53] See: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M331/K772/331772660.PDF.
[54] According to the Fuel Substitution Technical Guidance document, source energy is defined as "All the depletable energy used upstream to generate and deliver the energy at the site. Only the source energy from depletable fossil-fuel resources such as natural gas and coal are considered. The source energy from non-depletable (i.e. renewable energy) sources such as solar, wind, and hydro-electric is considered as zero BTUs." Environmental harm is defined as not increasing greenhouse gas emissions. Available at https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/fuel-substitution-in-energy-efficiency, p.3
[55] More information at https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/fuel-substitution-in-energy-efficiency.

Total System Benefit

In D.21-05-031, the CPUC adopted a new metric, the Total System Benefit (TSB). The TSB is an expression, in dollar terms, of the lifecycle energy, capacity, and GHG benefits of a measure on an annual basis. According to the decision, "Use of a single, lifecycle TSB metric, expressed annually, will tie the goals for the program administrators directly to the avoided cost value of energy efficiency savings, which should encourage achievement of savings that deliver high value. Another advantage of this single metric is that it is agnostic as to fuel, which facilitates fuel substitution as an option, without the need to convert savings from one fuel to the other."[56] The intent of this metric is to move away from the focus of EE programs on first-year energy savings, in the form of kw, kWh, and therm savings, which are metrics that many stakeholders felt did not capture the policy goals of EE. According to the decision, "…the current first-year savings goals do not adequately encourage longer-duration energy savings. This potentially creates a policy misalignment that encourages optimization of portfolios to meet or exceed forecasted net annual first-year energy savings, regardless of potential longer-term benefits to the system."[57]

Avoided Gas Infrastructure Costs

In Advice Letter 4386-G/6094-E, PG&E requested that the CPUC clarify the appropriate regulatory path to ensure proper accounting for the benefits of avoiding natural gas infrastructure in the all-electric option of the statewide new construction program PG&E is administering. PG&E proposed an "Avoided Gas Infrastructure Cost" (AGIC) metric to account for incentives that reward all-electric new construction. SoCalGas protested PG&E's request on the procedural grounds that such a request can only occur in the Integrated Distributed Energy Resources (IDER) proceeding and also claimed that allowing this rule change would lead to unfair competition with local EE programs. In its disposition approving PG&E's advice letter, the CPUC found that "…it is appropriate to use the AGIC values….Avoided supply costs are a necessary component for calculating TRC, and the PG&E territory based estimates represent the best estimates currently available."[58] D.21-09-037 reaffirmed this by finding that the interim values for avoided gas infrastructure, as proposed by PG&E, are reasonable for certain programs until superseded by future proceedings.[59]

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[56] D.21-05-031, p.9.
[57] D.21-05-031, p.8.
[58] PG&E's proposed values are presented in Attachment D of PG&E's Advice Letter 4386-G/6094-E and 4387-G/6095-E and were approved by the CPUC via non-standard disposition letter April 28, 2021.
[59] D.21-09-037, Conclusion of Law 7.

San Joaquin Valley Pilots

In D.18-12-015, the CPUC approved funding for pilot programs that would provide electric space heating, water heating, cooking, and clothes drying technologies for residents in 11 disadvantaged communities in the San Joaquin Valley. This $56 million program is replacing wood and propane appliances mostly with efficient electrical appliances.[60] The two objectives of the pilots are to provide access to affordable energy by reducing total energy costs for participating households, and to collect data for use in a later phase of the proceeding. This decision authorized approximately 1,891 households to receive appliance retrofits at no cost. The IOUs administering these funds were directed to leverage funding from other programs, such as the Energy Savings Assistance program. The decision also directed IOUs and the third-party program implementers to work to ensure that participating households experience reduced energy costs.[61] The pilots are currently being implemented.

HPWHs in SGIP

In proceeding R.20-05-012, the CPUC is considering new Self-Generation Incentive Program (SGIP) rules for electric heat pump water heaters (HPWHs) used as thermal energy storage that can shift load to off-peak times. The CPUC approved almost $45 million in incentives to advance adoption of HPWHs, aiding in the state's efforts to encourage greater amounts of electricity use mid-day when renewable generation is highest. A 2021 Staff Proposal recommended a suite of incentives for HPWHs through the SGIP budget, focusing mostly on incentives for single family homes, but also addressing multi-family and small commercial buildings. Incentives recommended in the Staff Proposal include $3,100 for unitary residential HPWHs and installation costs, a $1,500 kicker for HPWHs that use refrigerants with a low global warming potential (GWP), and $2,800 for a panel upgrade, if needed. Amounts for the HPWH and panel upgrade are higher for equity customers.[62]

WatterSaver

In Resolution E5073, the CPUC adopted program implementation details for PG&E's proposed behind-the-meter energy storage program, "WatterSaver," focusing on replacement of electric resistance

[60] R.15-03-010. See: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/identifying-disadvantaged-communitie.
[61] D.18-12-015, pp.1-3.
[62] SGIP HPWH Staff Proposal. Filed as a ruling in R.20-05-012, April 16, 2021. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M377/K729/377729072.PDF. pp.1-3.

water heaters with efficient heat pump models. WatterSaver is also coordinating with midstream heat pump programs (such as TECH) as well as equity-based programs (such as the Energy Savings Assistance Program) in order to leverage other incentives. WatterSaver requires participants to subscribe to a time-of-use rate as a load-shifting strategy in order to incentivize maximizing use of electricity during the middle of the day when solar resources are plentiful.[63]

Bay Area Regional Energy Network (BayREN):

The Bay Area Multifamily Building Enhancements (BAMBE) program offers cash rebates and no-cost energy consulting for multi-family properties that undertake energy and water upgrades, including decarbonization measures. The program offers incentives of up to $750 per unit. BayREN also has a building codes and standards training program that includes decarbonization trainings.[64]

2.3 The California Energy Code

In 1978, California became the first state in the US to implement minimum EE standards through the newly created Title 24, Part 6 of the Building Code ("the California Energy Code"), also called the "Energy Efficiency Standards for Residential and Non-Residential Buildings." Title 24 strives to:

- Ensure that building construction and system design and installation achieve higher EE;
- Preserve environmental quality; and
- Create minimum energy-efficiency levels for new residential and nonresidential buildings. The higher the efficiency level in a building's design, the greater the energy savings.[65]

The CEC updates the California Energy Code every three years. Most recently, the CEC adopted the 2022 California Energy Code that will take effect on January 1, 2023. In the 2022 California Energy Code, the CEC responded to California's increasing drive towards decarbonization with measures that favor decarbonization in residential buildings. Below is a list of measures in both the 2019 and 2022 code cycles:[66]

[63] CPUC Resolution E-5073. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M349/K865/349865969.PDF.
[64] More information at https://www.bayren.org/.
[65] https://www.pge.com/en_US/large-business/save-energy-and-money/facility-improvement/building-and-construction/building-codes.page?WT.mc_id=Vanity_title24.
[66] The portal for Title 24 code development is at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards.

- Heat pump requirements (2022 California Energy Code) – Every California Energy Code iteration requires new homes to meet or beat an energy budget. As of 2023, the energy budget will be based on heat pumps (thus making it a smaller budget since heat pumps have high efficiencies), so as to encourage builders to favor them over gas appliances.
- Electric-ready construction (2022 California Energy Code) – As of 2023, new single-family homes will be required to be capable of switching over to solely electric appliances, or electric-ready, with dedicated 240-volt outlets and space so that electric appliances can eventually replace installed gas appliances.[67]
- Energy storage system-ready requirements (2022 California Energy Code) – As of 2023, single-family homes will be required to have a minimum 225-amps busbar rating for electrical panels to carry the extra capacity needed for electric appliances and vehicles.[68]
- Solar panels (2019 and 2022 California Energy Code) and battery storage standards (2022 California Energy Code) – As of 2020, new single-family homes require the installation of solar panels in most cases. As of 2023, the requirement extends to high-rise multifamily and many types of commercial buildings and includes modestly sized battery requirements in addition to solar for high-rise multifamily, hotels, office, medical office, retail, grocery stores, restaurants, schools, civic space.
- Joint Appendix (JA) 13 communication standard (2022 California Energy Code) – In 2020, the CEC approved an application filed by the Natural Resources Defense Council to add an appendix to the Title 24 code which would allow a standard for the JA13 standard to enable demand management capabilities of electric water heaters. According to the standard, "The primary function of the System is to serve the users' domestic hot water needs and provide daily load shifting, as applicable, for the purpose of user bill reductions, maximized solar self-utilization, and grid harmonization."[69]
- Water heaters (2019 California Energy Code) – As of 2020, homes must have a dedicated 125-volt, 20-amp electrical outlet connected to the electrical panel with a 120/240-volt 3 conductor, within 3 feet from the water heater.[70]

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[67] https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.
[68] CEC Presentation, 2022 Building Energy Standards: https://efiling.energy.ca.gov/GetDocument.aspx?tn=239586&DocumentContentId=73019.
[69] JA13 requirements can be found at https://www.energy.ca.gov/sites/default/files/2020-07/JA13_Qualification_Requirement_HPWH_DM_ADA.pdf.
[70] https://www.energy.ca.gov/sites/default/files/2021-06/CEC-400-2018-020-CMF_0.pdf.

3 Challenges

This "Challenges" section of the Staff Proposal focuses on three ways in which current IOU gas rules create barriers to building decarbonization and, by extension, serve as obstacles to GHG reductions in California's building sector. First, Staff address how gas line extension allowances encourage builders to continue to install gas lines in new construction. Second, Staff address how the provision of refunds over a 10-year period for gas infrastructure development further encourages builders to install gas lines. Finally, Staff address how the option for builders to choose a 50 percent discount on gas line installation costs is an additional impediment to decarbonization.

3.1 Gas Line Extension Allowances

California's transition to all-electric new construction is impeded by gas rules[71] that direct ratepayer funds to applicant builders – professional or otherwise – whose building projects rely on gas as an energy source. Current gas rules specify that gas IOUs must provide builders with what is known as a "line extension allowance" that helps cover the cost necessary to extend a gas line to a newly constructed building. Line extension allowances cover a portion of both the cost of extending a pipeline farther down a roadway (i.e., "distribution line" extensions) and the cost of connecting a building to the distribution line (i.e., "service line" extensions). The extent to which the allowance covers total project expenses is determined by how extensive the required work is to facilitate interconnection to the gas pipeline network. Such allowances promote the continued use of gas in buildings and are therefore inconsistent with California's building decarbonization goals.

[71] Gas Rules 15 and 16 for PG&E, SDG&E, and SWG and Gas Rules 20 and 21 for SoCalGas. Gas Rule 15 and Gas Rule 20 pertain to distribution lines. Gas Rule 16 and Gas Rule 21 pertain to service lines.

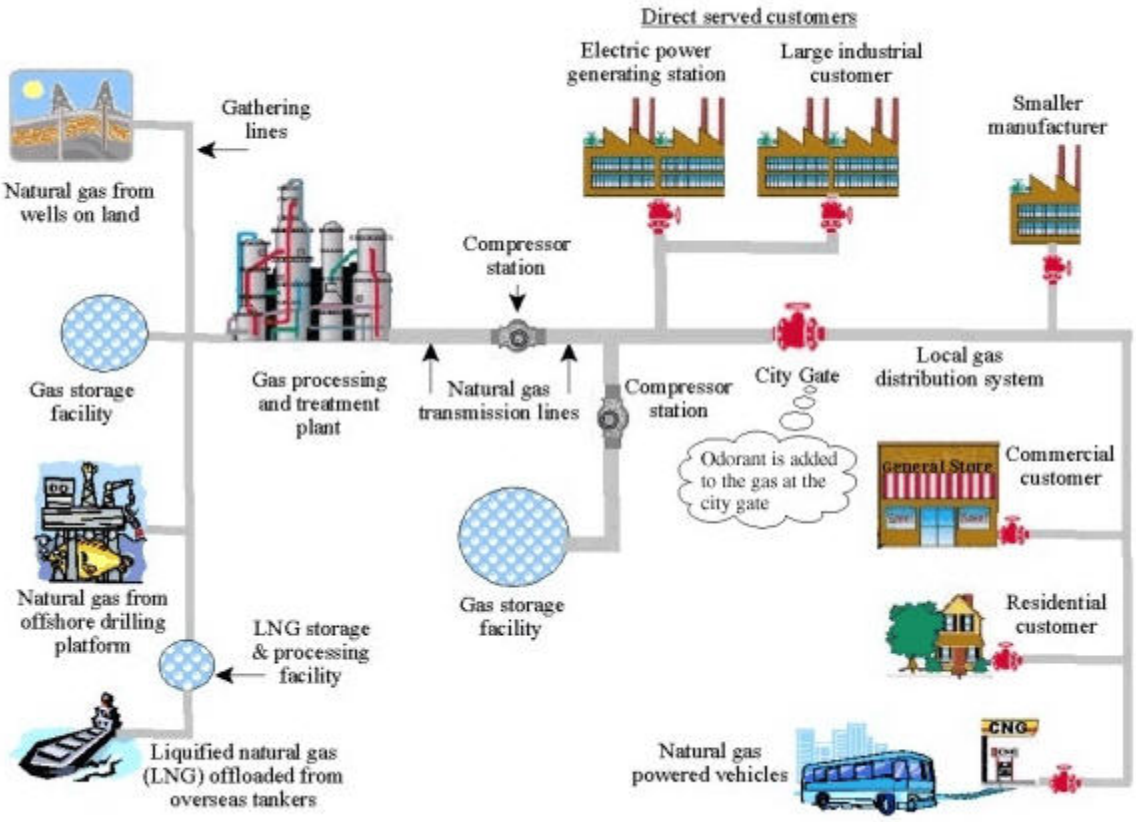

Figure 5: The Gas Pipeline System[72]

The history of line extension rules in California dates back more than a century. Per a series of CPUC decisions beginning in 1915,[73] California's gas IOUs have an obligation to provide prospective new customers the opportunity to receive service via a line extension. While the gas IOUs are not obligated to extend gas lines free of cost, they must provide the opportunity for line extension at reasonable prices, terms, and conditions. According to PU Code Section 783(f), "An electrical or gas corporation shall permit any new or existing customer who applies for an extension of service from that corporation to install a gas or electric extension in accordance with the regulations of the commission and any applicable specifications of that electrical or gas corporation."[74] California's current line extension rules can be traced back to 1994 when D.94-12-026 established a revenue-based formula for determining line extension allowances for

[72] United States Department of Transportation. See: https://primis.phmsa.dot.gov/comm/NaturalGasPipelineSystems.htm.
[73] See: D.2689, 7 CRC 830, 862.
[74] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

residential customers. While the 1994 formula has evolved over the years to calculate input values in different ways, the same basic formula remains in place today. That formula specifies that allowance value is equal to "net revenue" divided by "cost of service factor."

"Net revenue" is a projection of how much additional revenue a gas IOU is expected to net annually as a result of a new customer using a particular gas appliance. To calculate net revenue, the gas IOU first derives a "Weighted Consumption" value for all the various gas appliances used by residential customers by multiplying average annual gas consumption for each appliance type by IOU-specific saturation levels (i.e., the percentage of customers using that particular appliance) for each appliance type using the latest available Residential Appliance Saturation Study (RASS) data[75] compiled by the CEC.[76] The Weighted Consumption levels are then expressed in percentage terms that only account for appliance types that are eligible for an allowance.[77] The gas IOU then "reallocates" the Weighted Consumption values for all the appliance types that are *not* eligible for an allowance to the appliance types that *are* eligible using the percentage share of the Weighted Consumption for the eligible appliance types. This revised "Weighted Gas Consumption" value is then multiplied by the gas IOU's CPUC-approved "Residential Distribution Rate" – expressed in dollars per therm – to compute net revenue for each eligible appliance type. Table 2 shows current net revenue values for each eligible appliance type.

[75] See: https://www.energy.ca.gov/publications/2021/2019-california-residential-appliance-saturation-study-rass.
[76] Use of RASS data was mandated by D.07-07-019. See: https://docs.cpuc.ca.gov/PublishedDocs/PUBLISHED/FINAL_DECISION/70109.htm.
[77] Appliance types that are eligible for an allowance include gas space heating equipment, gas water heating equipment, gas cooking equipment, and gas clothes dryers for PG&E, SDG&E, and SWG's Northern California service territory. Eligible appliance types for SoCalGas and SWG's Southern California service territory include the aforementioned four, as well as gas air conditioners.

	Water Heater	Space Heater	Oven/Range[78]	Dryer Stub	Space Cooling
PG&E[79]	$119	$146	$13	$5	NA
SDG&E[80]	$161	$140	$28	$41	NA
SoCalGas[81]	$115	$125	$20	$29	$197
SWG[82]	$30/$40	$109/$151	$11/$5	$19/$12	$284/NA

Table 2: Current Net Revenue Values for Each Gas Appliance Type[83]

"Cost of service factor" is a figure that represents the annual cost of servicing one dollar's worth of capital investment that ratepayers must pay for. That figure is updated periodically as part of each gas IOU's Gas Rule 2 and includes both labor-related expenses (e.g., maintenance, operation, administrative and general expenses, and payroll taxes) and non-labor-related expenses (e.g., franchise fees and uncollectibles, depreciation, facility replacement costs, authorized return, state income taxes, federal income taxes, property taxes, and property insurance). These costs vary across gas IOUs, but they typically fall between 1 percent and 1.6 percent per month, putting the cost of service factor at 12 percent to 20 percent annually. PG&E's annual cost of service factor is currently 16.36 percent,[84] SDG&E's cost of service factor is currently 14.15 percent,[85] SoCalGas's cost of service factor is currently 17.91 percent,[86] and SWG's cost of service factor is currently 16.1 percent in its Southern California service territory and 17.5 percent in its Northern California

[78] SoCalGas refers to this appliance category as "Cooktop & Oven."
[79] PG&E Advice Letter 3906G/5177E. See: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_3906-G.pdf.
[80] SDG&E Advice Letter 3543E/2866G. See: https://tariff.sdge.com/tm2/pdf/3543-E.pdf.
[81] SoCalGas Advice Letter 5637G. See: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5637.pdf.
[82] Per Staff extrapolation based on SWG's cost of service factor and current gas allowances. SWG reports being unable to locate this information, as these values were last updated in 2004. Because SWG has two different sets of allowances for their two different service territories, Southern California figures are displayed first in the table and Northern California figures are displayed second (i.e., "South/North").
[83] Figures are rounded.
[84] PG&E Gas Rule 15 states that its cost of service factor "is the annualized utility-financed Cost of Ownership as stated in Gas Rule 2." The corresponding monthly cost reflected in PG&E Gas Rule 2 is rounded to 1.36 percent. See: https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_RULES_2.pdf.
[85] SDG&E Gas Rule 15 states that its cost of service factor is 14.15 percent. However, SDG&E Gas Rule 2 states that its corresponding monthly figure is 1.57 percent, which would annualize to 18.84 percent. The reason for the mismatch between SDG&E Gas Rule 2 and SDG&E Gas Rule 15 is not immediately clear. SDG&E's data request response to Staff states, "The monthly cost of service factor was established via SDG&E Advice Letter 1332-G in 2002. Due to the length of time that has lapsed, SDG&E does not have the work papers or any other data to determine the exact figures, only the rounded numbers established in the tariff." SDG&E Gas Rule 2 would benefit from being updated to reflect current reality. See: https://tariff.sdge.com/tm2/pdf/GAS_GAS-RULES_GRULE2.pdf.
[86] SoCalGas Gas Rule 20 states that its cost of service factor is 17.91 percent. The corresponding monthly cost reflected in SoCalGas Gas Rule 2 is rounded to 1.49 percent. See: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/02.pdf.

service territory.[87] Table 3 shows current allowance values for each eligible appliance type after net revenue is divided by the cost of service factor.

	Water Heater	Space Heater	Oven/Range	Dryer Stub	Space Cooling
PG&E[88]	$728	$890	$79	$30	NA
SDG&E[89]	$1,138	$987	$201	$289	NA
SoCalGas[90]	$643	$698	$114	$160	$1,098
SWG[91]	$183/$231	$674/$862	$69/$28	$115/$70	$1,765/NA

Table 3: Current Allowance Values for Each Gas Appliance Type

Figure 6 displays for demonstrative purposes all the values used to derive PG&E's current residential gas line extension allowances.[92] Using the values provided for Space Heating, the Weighted Gas Consumption (207.20 therms) is multipled by the Residential Distribution Rate ($0.70286/therm) to produce a net revenue of $145.63. The net revenue is then divided by the cost of service factor (16.36 percent, or 0.1636) to produce an allowance value of $890.16, which rounds down to an even $890. If a builder constructs a new residential building in the PG&E service teritory that uses gas only for space heating while relying on electricity to power all of the home's other appliances, that builder is entitled only to an $890 water heating allowance for each gas service meter. If, however, a builder constructs a new

[87] Per staff data request response. SWG Gas Rule 2 does not establish a numeric value for its cost of service factor. SWG Gas Rule 2 would benefit from being updated to reflect current reality. See: https://www.swgas.com/1409184602439/RULE_02---AL-1167_Eff-April-28-2021.pdf.
[88] Effective January 1, 2018 pursuant to approval of PG&E Advice Letter 3906G/5177E. See: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_3906-G.pdf. Note that PG&E has a proposed revision to its allowance values currently pending (PG&E Advice Letter 4488-G/6330-E). See: https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4488-G.pdf.
[89] Effective July 6, 2020 pursuant to approval of SDG&E Advice Letter 3543E/2866G. See: https://tariff.sdge.com/tm2/pdf/2866-G.pdf.
[90] Effective July 1, 2020 pursuant to approval of SoCalGas Advice Letter 5637G. See: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5637.pdf. Note that subsequent revisions to SoCalGas Gas Rule 20 and SoCalGas Gas Rule 2 were made effective June 1, 2021 pursuant to approval of SoCalGas Advice Letter 5806G, but those revisions did not change allowance values. See: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5806.pdf.
[91] See: https://www.swgas.com/1409184638489/rule15.pdf.
[92] An update to PG&E's line extension allowance values is currently pending. That update filing can be viewed at https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4488-G.pdf. A companion filing updating PG&E's cost of service factor can be viewed at https://www.pge.com/tariffs/assets/pdf/adviceletter/GAS_4489-G.pdf.

residential building in PG&E's service territory that uses gas for space heating, water heating, clothes drying, and cooking, that builder is entitled to as much as $1,727 for each gas service meter. D.07-07-019[93] provided detailed specifications for how to perform the allowance calculations and what data to use. Per D.97-12-098, the gas IOUs are authorized to file advice letters to update their allowances when changes in the underlying factors would produce a change of more than five percent.

Pacific Gas and Electric Company
Residential Gas Line Extension Allowance Calculation

Line	Gas Appliances	Gas Consumption (1)	Saturation (1)	Weighted Consumption		Reallocate Pool & Spa Heating and Miscellaneous	Weighted Gas Consumption	Residential Distribution Rate ($ per Therm)	Monthly Cost of Ownership Distribution (2)	Cost Service Factor	Residential Allowance
1	Space Heating	213	95%	202	51.54%	4.85	207.20	$0.70286	1.36%	16.36%	$890
2	Water Heater	188	88%	165	42.14%	3.97	169.41	$0.70286	1.36%	16.36%	$728
3	Dryer/Stub	22	31%	7	1.74%	0.16	6.98	$0.70286	1.36%	16.36%	$30
4	Oven/Range	31	58%	18	4.58%	0.43	18.41	$0.70286	1.36%	16.36%	$79
5	Pool Heating	183	3%	5							
6	Spa Heating	52	4%	2							
7	Miscellaneous	23	8%	2							
8	Total	712		402	100.00%	9.41	402				$1,727

Notes:

(1) Gas consumption and saturation data are based on the 2009 California Residential Appliance Saturation Study (RASS) administered by the California Energy Commission (CEC) and shown in "Table ES-3: Natural Gas UEC and Appliance Saturation Summaries by Utility" (See PG&E results). The saturation percentages on the CEC table are shown rounded to the whole percent. The weighed consumption total is 402 therms for PG&E customers. The 2009 RASS was issued in October 2010.

(2) 2017 Gas Distribution Special Facilities Study

Figure 6: PG&E's 2017 Residential Gas Line Extension Allowance Calculation

The latest available data indicates that California's four large[94] gas IOUs expended $95,564,041 on residential gas line extension allowances in 2020. That $95,564,041 figure includes both single-family and multi-family residences and represents an increase of $2,817,570 over the $92,746,471 expended in 2019. Allowance expenditures will accelerate according to the pace of new construction and may have been higher in 2020 had it not been for the COVID-19 pandemic and its disruption of many building projects, especially multi-family new construction. Of the $95,564,041 in residential allowances expended in 2020, PG&E was responsible for 54.73 percent of total expenditures, followed by SoCalGas at 41.02 percent, SDG&E at 2.51 percent, and SWG at 1.74 percent. In three of the four years preceding 2020, however, SoCalGas expended more in residential allowances than PG&E, a change that could be attributable to PG&E updating its allowance values in 2017 while SoCalGas's allowance values were not updated until 2020. Table 4 shows the

[93] See: https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/70109.PDF.
[94] "Large" encompasses all California gas IOUs with compliance obligations to CARB for GHG emissions associated with the combustion of gas.

breakdown of residential allowance expenditures for California's gas IOUs over the last five full calendar years.

	PG&E		SoCalGas		SDG&E[95]		SWG		Statewide Total	
	Total Allowances - Dollar Amount	Number of Allowances	Total Allowances - Dollar Amount	Number of Allowances	Total Allowances - Dollar Amount	Number of Allowances	Total Allowances - Dollar Amount	Number of Allowances	Total Allowances - Dollar Amount	Number of Allowances
2016	$29,825,525	14,321	$30,707,049	49,915	$2,475,403	398	$1,162,794	1,043	$64,170,771	65,677
2017	$28,081,839	14,381	$37,088,873	56,203	$2,619,290	455	$1,527,258	1,648	$69,317,260	72,687
2018	$36,660,842	14,634	$42,168,612	52,142	$5,402,969	1,292	$1,152,999	1,298	$85,385,422	69,366
2019	$47,831,937	24,351	$39,759,509	61,801	$3,957,119	1,047	$1,197,906	1,279	$92,746,471	88,478
2020	$52,302,004	37,259	$39,196,519	50,988	$2,399,226	306	$1,666,292	1,540	$95,564,041	90,093

Table 4: Residential Allowance Expenditures for California Gas IOUs (2016-2020)[96]

California's gas IOUs further expend significant sums for non-residential line extension allowances. Non-residential building projects are subject to the same basic formula used to derive the residential line extension allowances. Rather than standardized allowances, however, non-residential allowances are calculated on a site-specific basis that takes into consideration usage, demand, and other factors. In 2020, California's four large gas IOUs expended $19,964,264 on non-residential line extension allowances. Table 5

[95] SDG&E's data request response claims that "system limitations" prevent them from providing allowance expenditure figures, a problem no other gas IOU reported. Instead, SDG&E reported total residential project costs that went to rate base and clarified that that figure deducted project costs advanced by applicant builders. That should indicate that total residential project costs include both allowance expenditures and lost revenue associated with providing applicant builders the 50 percent discount payment option (See Section 2.3). As such, to approximate figures for SDG&E, Staff took the reported total residential project costs that went to rate base and attributed 98.17 percent of the value to allowance expenditures and 1.83 percent of the value to providing applicant builders the 50 percent discount payment option. Those percentage values were derived from the five-year average residential allowance-to-discount ratio observed for SDG&E's sister utility SoCalGas.

[96] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.

displays non-residential line extension allowance expenditures by California's gas IOUs in the last five full calendar years.

	PG&E	SoCalGas	SDG&E[97]	SWG	Statewide Total
	Total Allowances - Dollar Amount	Total Allowances - Dollar Amount	Total Allowances - Dollar Amount	Total Allowances - Dollar Amount	Total Allowances - Dollar Amount
2016	$5,013,237	$10,037,290	$5,023,943	$1,413,244	$21,487,714
2017	$5,562,966	$8,381,347	$1,399,975	$2,126,629	$17,470,917
2018	$5,524,617	$10,880,205	$2,002,717	$1,515,730	$19,923,269
2019	$7,466,618	$10,262,626	$340,642	$6,589,032	$24,658,918
2020	$7,291,046	$11,168,929	$122,617	$1,381,672	$19,964,264

Table 5: Non-Residential Allowance Expenditures for California Gas IOUs (2016-2020)[98]

California's gas line extension allowances are designed to encourage gas usage, as affirmed in both D.89177 and D.91328. Builders receive a separate allowance for each approved appliance type, so the more appliances they install, the more they can defray their costs. Those gas appliances, in turn, perpetuate reliance on gas service and lock in all associated GHG emissions for the life of the appliance – which averages 10 to 20 years for a gas water heater and 18 years for a gas furnace[99] – unless the appliance is

[97] SDG&E's data request response claims that "system limitations" prevent them from providing allowance expenditure figures, a problem no other gas IOU reported. Instead, SDG&E reported total non-residential project costs that went to rate base and clarified that that figure deducted project costs advanced by applicant builders. That should indicate that total non-residential project costs include both allowance expenditures and lost revenue associated with providing applicant builders the 50 percent discount payment option (See Section 2.3). As such, to approximate figures for SDG&E, Staff took the reported total non-residential project costs that went to rate base and attributed 99 percent of the value to allowance expenditures and 1 percent of the value to providing applicant builders the 50 percent discount payment option. Those percentage values were derived from the five-year average non-residential allowance-to-discount ratio observed for SDG&E's sister utility SoCalGas.
[98] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.
[99] Consumer Reports. See: https://www.consumerreports.org/cro/news/2009/03/by-the-numbers-how-long-will-your-appliances-last-it-depends/index.htm.

retired early and replaced with an electric alternative. Additionally, with California now seeking to reduce GHG emissions by phasing out gas usage, any new gas infrastructure is likely to become a stranded asset that will need to be paid for by a shrinking number of future gas customers, which will be reflected in higher rates. As such, the provision of gas line extension allowances makes it harder to meet California's GHG reduction goals while increasing the future cost of receiving gas service for customers that are unwilling or unable to decarbonize.

3.2 Gas Line Extension Refunds

Additional rules govern what happens when the cost of extending a gas line exceeds available allowances. One option provided to builders is what is called the "10-year refundable payment option." Under the 10-year refundable payment option, the builder must advance all project costs exceeding available allowances to the gas IOU. Project costs include "refundable" costs and "non-refundable" costs, both of which are specified in Section D.6 of Gas Rule 15 for PG&E, SDG&E, and SWG and Gas Rule 20 for SoCalGas. Per Section D.6.a of Gas Rule 15/20, refundable costs include the total estimated installed cost, including taxes, to complete the distribution line extension. Per Section D.6.c of Gas Rule 15/20, non-refundable costs include the estimated value of all substructures and other protective structures. Section E.5 of Gas Rule 16 for PG&E, SDG&E, and SWG and Gas Rule 21 for SoCalGas specifies that service line extensions are not eligible for refund. For those costs that are eligible for refund, the gas IOU refunds the builder over the course of 10 years if further development occurs that utilizes the same newly constructed segment of the gas distribution line. In other words, if a builder pays the IOU to extend a gas distribution line to a new development, a portion of those costs are returned to the builder as additional homes and businesses are constructed within that development. By making refunds contingent on adding new load, builders are incented to develop more buildings using gas in order to recoup project costs.

Residential refund expenditures by California's gas IOUs amounted to $2,022,698 in 2020. This figure represents only 2.12 percent of total residential allowance expenditures for the same year. Of reported total expenditures, SDG&E was a clear outlier among the gas IOUs, representing some 71.62 percent of total refunds. Refunds are provided automatically for residential building projects when builders pursue the 10-year refundable payment option. Table 6 displays residential refund expenditures by California's gas IOUs in the last five full calendar years.

	PG&E	SoCalGas	SDG&E	SWG	Statewide Total
	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount
2016	$378,613	$1,669,311	$989,675	$103,158	$3,140,757
2017	$474,651	$1,612,777	$850,468	$84,143	$3,022,039
2018	$622,274	$796,390	$2,241,197	$90,326	$3,750,187
2019	$470,306	$60,992	$1,656,844	$31,057	$2,219,199
2020	$504,533	$30,526	$1,448,631	$39,008	$2,022,698

Table 6: Residential Refund Expenditures for California Gas IOUs (2016-2020)[100]

Non-residential refund expenditures by California's gas IOUs amounted to $602,980 in 2020. Both SoCalGas and SWG report multiple years of no refund expenditures whatsoever between 2016 and 2020. PG&E made up the majority of non-residential refund expenditures in 2020 with 55.80 percent of total expenditures. Unlike residential building projects, non-residential building projects are subject to a mandatory Base Annual Revenue Calculation (BARC) review each year for the first three years after construction – and the following seven years if desired by the builder – that is used to determine refund eligibility. Table 7 displays non-residential refund expenditures by California's gas IOUs in the last five full calendar years.

[100] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.

	PG&E	SoCalGas	SDG&E	SWG	Statewide Total
	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount	Total Refunds - Dollar Amount
2016	$551,202	$274,585	$36,839	$59,393	$922,019
2017	$472,136	$298,658	$8,030	$0	$778,824
2018	$235,221	$47,012	$7,515	$0	$289,748
2019	$176,498	$0	$24,953	$0	$201,451
2020	$336,475	$0	$72,967	$193,538	$602,980

Table 7: Non-Residential Refund Expenditures for California Gas IOUs (2016-2020)[101]

3.3 Gas Line Extension Discounts

California builders can opt for what is called the "50 percent discount payment option" as an alternative to the 10-year refundable payment option. The 50 percent discount payment option can be a more desirable option for builders who are unsure whether there will be additional future development in the vicinity of their building project that would entitle them to refunds over the course of the following 10 years. Rather than speculate under such circumstances, Section D.6.b of Gas Rule 15/20 allows the builder to pay only half of the project costs that would otherwise be considered "refundable" and forgo the option for future refunds. As is the case with the 10-year refundable payment option, builders opting for the 50 percent discount payment option are allowed to deduct allowances from their project costs and are obligated to pay non-refundable project costs in full. Unlike the 10-year refundable payment option, however, the 50 percent discount payment option amounts to a subsidy to the builder by requiring the gas IOU – and, by extension, the ratepayers – to pay more for project costs than it is receiving in payment from

[101] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.

the builder. And because there is not necessarily a corresponding benefit of increased sales further down the newly constructed distribution line in subsequent years, there is no guarantee that the gas IOU will recoup revenue commensurate with discount expenditures in a timely manner.

	PG&E	SoCalGas	SDG&E[102]	SWG	Statewide Total
	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount
2016	$6,904,860	$679,179	$46,144	$41,410	$7,671,593
2017	$5,834,041	$466,848	$48,827	$84,664	$6,434,380
2018	$8,645,692	$855,576	$100,717	$19,364	$9,621,349
2019	$14,133,264	$672,762	$73,765	$24,189	$14,903,980
2020	$20,330,935	$851,929	$44,724	$11,039	$21,238,627

Table 8: Residential Discount Expenditures for California Gas IOUs (2016-2020)[103]

Residential discount expenditures by California's gas IOUs amounted to $21,238,627 in 2020. Comprising the vast majority of total residential discount expenditures, PG&E is a clear outlier among the gas IOUs. PG&E reports to Staff that this is because few of its customers opt for the refund option over the discount option. More specifically, "During the period of 2016-2020, for contracts with Refundable amounts, 14% of customers elected the "10-Year Refundable Payment Option" while 86% of customers

[102] SDG&E's data request response claims that "system limitations" prevent them from providing discount expenditure figures, a problem no other gas IOU reported. Instead, SDG&E reported total residential project costs that went to rate base and clarified that that figure deducted project costs advanced by applicant builders. That should indicate that total residential project costs include both lost revenue associated with providing applicant builders the 50 percent discount payment option and allowance expenditures (See Section 2.1). As such, to approximate figures for SDG&E, Staff took the reported total residential project costs that went to rate base and attributed 98.17 percent of the value to allowance expenditures and 1.83 percent of the value to providing applicant builders the 50 percent discount payment option. Those percentage values were derived from the five-year average residential allowance-to-discount ratio observed for SDG&E's sister utility SoCalGas.
[103] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.

elected the "50% Discount Option"."[104] PG&E further states that "For residential customers (the vast majority being subdivision or developments), the determining factor is usually the size of the project. For smaller projects, the allowance and the cost are similar, so it is not typically beneficial to elect the "10-Year Refundable Payment Option". For larger projects, the difference between the allowance and the cost starts widening and makes it more desirable to take the "10-Year Refundable Payment Option" with potential of refunds."[105] Table 8 displays residential discount expenditures by California's gas IOUs in the last five full calendar years.

	PG&E	SoCalGas	SDG&E[106]	SWG	Statewide Total
	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount	Total Discounts - Dollar Amount
2016	$3,363,661	$8,540	$50,7467	$0	$3,879,668
2017	$3,690,732	$32,430	$14,141	$0	$3,737,303
2018	$4,222,928	$89,315	$20,229	$0	$4,332,472
2019	$4,338,608	$356,487	$3,4401	$0	$4,729,496
2020	$4,931,282	$24,491	$1,239	$0	$4,957,012

Table 9: Non-Residential Discount Expenditures for California Gas IOUs (2016-2020)[107]

[104] Per Staff data request response.
[105] *ibid.*
[106] SDG&E's data request response claims that "system limitations" prevent them from providing discount expenditure figures, a problem no other gas IOU reported. Instead, SDG&E reported total non-residential project costs that went to rate base and clarified that that figure deducted project costs advanced by applicant builders. That should indicate that total non-residential project costs include both lost revenue associated with providing applicant builders the 50 percent discount payment option and allowance expenditures (See Section 2.1). As such, to approximate figures for SDG&E, Staff took the reported total non-residential project costs that went to rate base and attributed 99 percent of the value to allowance expenditures and 1 percent of the value to providing applicant builders the 50 percent discount payment option. Those percentage values were derived from the five-year average non-residential allowance-to-discount ratio observed for SDG&E's sister utility SoCalGas.
[107] Per Staff data request responses. All gas IOUs were given the same prompt for data request response, but methods of determining relevant figures may vary across utilities.

Non-residential discount expenditures by California's gas IOUs amounted to $4,957,012 in 2020. PG&E is again a clear outlier, comprising virtually all total non-residential discount expenditures. Also notably, SWG does not provide discounts to any non-residential customers. According to PG&E, "Many non-residential customers usually take the "50% Discount Option" due to the uncertainty of predicting future energy usage for the next ten years in determining possible Refunds. This is especially true if an allowance was granted, as it would put the customer at full risk to generate the predicted revenue vs. only half the risk if the "50% Discount Option" is chosen."[108] Table 9 displays non-residential discount expenditures by California's gas IOUs in the last five full calendar years.

[108] Per Staff data request response.

4 Recommendations

This "Recommendations" section of the Staff Proposal provides recommendations that, if adopted, would remove significant barriers to building decarbonization and complement recent updates to the California Energy Code. First, Staff address the need to eliminate gas line extension allowances altogether. Second, Staff address how eliminating refunds to builders will help make builders partners in building decarbonization rather than obstacles to the effort. Finally, Staff address how eliminating discounts to builders can accelerate building decarbonization even further.

4.1 Eliminate All Gas Line Extension Allowances

Staff recommend that the CPUC eliminate all gas line extension allowances by adding a new Section C.6 to Gas Rule 15 (for PG&E, SDG&E, and SWG) and Gas Rule 20 (for SoCalGas) that reads, "ELIMINATION OF ALLOWANCES. All allowances set forth in Section C of this rule will cease to be provided effective July 1, 2023."[109] By eliminating all gas line extension allowances, builders would be forced to shoulder greater expense if they choose to construct a building that uses gas, as would customers seeking to extend gas service on existing property. That greater expense, in turn, would be passed on at the point of sale for a new building or directly absorbed by the customer for an existing building. The added up-front cost burden would send a signal to builders that building new gas infrastructure is more expensive, and thus make dual fuel new construction less desirable and financially riskier. As such, the builder community would be more likely to gravitate toward all-electric new construction.

Eliminating gas line extension allowances is not expected to lead to a significant rise in average property prices. To the extent that such a policy change leads to more all-electric new construction, those new homes and offices will be less expensive than if they were built dual fuel due to the elimination of any expense associated with installing gas infrastructure.[110] If a builder opts to still build dual fuel, any resulting property price increase should be minimal. D.07-07-019 found that residential property prices would

[109] It is not Staff's intention to deny applicants already receiving refund payments any portion of payment that they are entitled to under current gas rules. As such, Staff believe that adding a sunset clause for new allowance payments is preferable to deleting all references to allowances in the various gas rules. This arrangement should result in minimal confusion moving forward and not complicate the refund process.

[110] It should be noted, however, that new electric appliances may be more expensive than gas alternatives depending on what kind of electric appliance is installed and how efficient it is vis-à-vis a gas alternative.

increase 0.19 percent if electric line extension allowances were eliminated.[111] That figure – adopted in July of 2007 – assumed a new home sale price of $650,000 and a total price increase of $1,235 per dwelling. No corresponding findings were made for gas allowances, but gas allowances at the time comprised 36.72 percent of PG&E allowances[112] and 44.42 percent of SDG&E allowances[113] (or an average of 41.39 percent when allowances from both utilities are added together).[114] If the $1,235 residential property price increase associated with eliminating electric allowances is assumed to be 58.61 percent (i.e., the inverse of 41.39 percent) of the residential property price increase associated with eliminating all allowances (i.e., electric and gas allowances combined), then the corresponding value for eliminating gas allowances would be $872.15 – or 0.13 percent of $650,000. This gas-specific estimate, however, is reflective of home sale prices and allowance levels in July of 2007.

Estimating 2021 property price impacts requires examination of 2021 allowance levels and property prices. The median price of a single-family home[115] in California was $827,940 in August of 2021.[116] While $827,940 may seem significantly higher than the $650,000 figure used in D.07-07-019, $650,000 in July 2007 dollars is equal to $853,669.72 in August 2021 dollars according to the Consumer Price Index (CPI).[117] As such, California home prices have effectively dropped 3.01 percent below the $650,000 price value used in D.07-07-019 after adjusting for inflation. Inversely, allowance values have risen. PG&E's gas line extension allowances have increased 72.57 percent[118] and SDG&E's gas allowances have increased 40.42 percent (or an average of 51.66 percent when allowances from both utilities are added together).[119] If the property price figure used in D.07-07-019 ($650,000) is lowered by 3.01 percent (to $630,435) and the gas allowance impact ($872.15) is raised by 51.66 percent (to $1,322.70), the prior estimated average property price increase (0.13 percent) rises to 0.21 percent. This revised figure for 2021 is roughly comparable to the 0.19 percent impact that D.07-07-019 determined will not "have a material effect on the overall price of housing."[120] If, however, PG&E's pending gas allowance update is approved, its new gas allowances would be 148.41 percent higher

[111] See: https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/70109.PDF, Finding of Fact 19, p.46.
[112] $1,313 for electric and $762 for gas.
[113] $1,774 for electric and $1,418 for gas.
[114] Only PG&E and SDG&E allowances are reflected here because they are dual fuel utilities for which electric allowances can be compared to gas allowances.
[115] Note that median single-family home sale prices are not necessarily the same as new home sale prices.
[116] See: https://www.sacbee.com/news/politics-government/capitol-alert/article254417138.html.
[117] See: https://www.bls.gov/data/inflation_calculator.htm.
[118] This figure adjusts $762 of total gas line extension allowances available in July 2007 to August 2021 dollar values ($1,000.76) and compares that figure to the $1,727 of total gas line extension allowances available today.
[119] This figure adjusts $1,418 of total gas line extension allowances available in July 2007 to August 2021 dollar values ($1,862.32) and compares that figure to the $2,615 of total gas line extension allowances available today.
[120] D.07-07-019, p.18.

than its inflation-adjusted allowances in July of 2007 (or an average of 78.17 percent when allowances from both utilities are added together). This increases the estimated property price increase from 0.21 percent to 0.25 percent, or $1,553.91.

Non-residential property price impacts can be estimated based on the same logic used to estimate residential property price impacts. D.07-07-019 did not make any finding of fact regarding the property price impact associated with the elimination of line extension allowances for non-residential buildings, but the inputs and assumptions used to determine non-residential allowances (e.g., demand, usage, etc.) are largely the same as for residential allowance computations. As such, it is reasonable to use the same 0.25 percent residential property price impact estimate for the non-residential sector, as well.

PU Code Section 783(b)[121] states that whenever the CPUC "institutes an investigation into the terms and conditions for the extension of services provided by gas and electrical corporations to new or existing customers, or considers issuing an order or decision amending those terms or conditions, the commission shall make written findings" on seven distinct issues. To aid the CPUC in making such written findings, Staff address those seven issues as follows:

(1) The economic effect of the line and service extension terms and conditions upon agriculture, residential housing, mobilehome parks, rural customers, urban customers, employment, and commercial and industrial building and development.

a. Staff expect that eliminating gas line extension allowances for all new construction would increase the number of newly constructed all-electric buildings and that prices for those all-electric buildings will likely be less than those for an equivalent newly constructed dual fuel building. Dual fuel buildings constructed without gas line extension allowances would be expected to cost more than they do today, but not by more than approximately 0.25 percent on average. Whether or not customer bills would be higher or lower in a new all-electric building vis-à-vis a new dual fuel building would depend on numerous factors that include tariff type, climate zone, future electricity prices, future gas prices, customer energy consumption habits, and time of energy usage. One significant issue that should also be considered is the economic effect on the affordable housing sector, low-income customers, and disadvantaged communities. PU Code Section 783(b) does

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[121] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

not specifically call out this issue. However, these impacts merit close consideration given that prioritizing the needs of low-income customers and disadvantaged communities in the formulation of building decarbonization policy is fundamentally important to the CPUC. Similarly, the economic impact on the gas industry workforce also merits consideration. Robust stakeholder input on these issues is welcome.

(2) The effect of requiring new or existing customers applying for an extension to an electrical or gas corporation to provide transmission or distribution facilities for other customers who will apply to receive line and service extensions in the future.

a. Staff expect that eliminating gas line extension allowances for all new construction would result in no change to current methods of providing transmission or distribution facilities for future customers, as Staff is not proposing to modify such rules. If Staff's recommendation is adopted and builders increase their rate of all-electric new construction, builders building dual fuel new construction further away from a point of gas pipeline interconnection could expect to pay more than they otherwise would be expected to if they have to pay for additional trenching and infrastructure that neighboring all-electric buildings did not need and thus did not help pay to extend from its current cut-off location.

(3) The effect of requiring a new or existing customer applying for an extension to an electrical or gas corporation to be responsible for the distribution of, reinforcements of, relocations of, or additions to that gas or electrical corporation.

a. Staff expect that eliminating gas line extension allowances for all new construction would result in increased costs to any customer seeking to extend a gas line. Depending on what infrastructure upgrades are necessary to extend gas service to the customer's building, the increased cost would vary.

(4) The economic effect of the terms and conditions upon projects, including redevelopment projects, funded or sponsored by cities, counties, or districts.

a. Staff expect that eliminating gas line extension allowances for all new construction would not result in changes specific to projects sponsored by cities, counties, or districts, as Staff is not proposing any such changes. Should those projects be constructed all-electric, they will be less expensive than they are today, and should those projects be constructed dual fuel, they are anticipated to be only slightly more expensive than they are today.

(5) The effect of the line and service extension regulations, and any modifications to them, on existing ratepayers.

a. Based on 2020 reported data, Staff expect that eliminating gas line extension allowances for all new construction would lead to a reduction of approximately $115,528,305 in annual costs to gas ratepayers ($95,564,041 in residential costs and $19,964,264 in non-residential costs) as a result of no longer having to pay for gas line extension allowances. However, if eliminating gas line extension allowances is successful at encouraging building decarbonization and increasing the number of customers leaving gas service altogether, the cost of maintaining the gas pipeline network would fall on a shrinking number of customers and would likely result in upward rate pressure as a result of a smaller customer base having to share in maintenance expenses. The extent to which savings from eliminating gas line extension allowances could help defray future rate burdens is dependent on the number of customers who depart gas service altogether and what future costs to gas ratepayers may be. This issue merits careful consideration given that the last customers on the gas system may be low-income customers who lack the resources needed to switch from gas appliances to electric alternatives.

(6) The effect of the line and service extension regulations, and any modifications to them, on the consumption and conservation of energy.

a. Staff expect that eliminating gas line extension allowances for all new construction would result in less gas consumption and more electricity consumption. Because gas consumed in California is overwhelmingly non-renewable and electricity is increasingly carbon-free, the encouragement of fuel substitution associated with adoption of Staff's recommendation would result in fewer GHG emissions and less air pollution. However, additional electrical load will gradually result in the need for additional electricity procurement and could pose challenges to managing winter peak electric demand if not properly planned for.

(7) The extent to which there is cost-justification for a special line and service extension allowance for agriculture.

a. Staff do not recommend any special allowance for agricultural customers and, as such, there is no cost-justification needing to be made for such an allowance. Agricultural operations typically use gas primarily for greenhouse heating and grain drying, both of which can be done using electricity. Additionally, the small property price increase for

new dual fuel construction that can be expected if Staff's recommendation is adopted is insufficiently high to merit a special allowance for any customer class.

PU Code Section 783(d) requires that any new amendment to the terms and conditions governing the extension of services provided by gas and electrical corporations to new or existing customers "shall become effective on July 1 of the year that follows the year when the new order or decision is adopted by the commission, so as to ensure that the public has at least six months to consider the new order or decision."[122] Based on this provision, if the CPUC adopts Staff's recommendation to eliminate gas line extension allowances in 2022, the change will take effect on July 1, 2023.

4.2 Eliminate All Gas Line Extension Refunds

Staff recommend that the CPUC eliminate all gas line extension refunds by adding a new Section D.6.d to Gas Rule 15 (for PG&E, SDG&E, and SWG) and Gas Rule 20 (for SoCalGas) that reads, "ELIMINATION OF REFUNDS. Any refunds provided pursuant to Section D.6.a of this rule will cease to be provided effective July 1, 2023." Eliminating refunds will make dual fuel construction projects less financially appealing and help shift the building industry toward all-electric new construction in a similar way as eliminating allowances will. However, eliminating refunds is also significant in that it would remove additional incentives for builders to encourage even more dual fuel construction in the future. Because refund payments are contingent on additional dual fuel buildings being added to a newly constructed gas line extension, builders have a strong interest in adding more dual fuel homes in the vicinity of their dual fuel construction projects. Eliminating refunds removes such considerations and motivations for the builder.

Eliminating refunds has the additional benefit of encouraging a more predictable future for the building industry. California is already on a trajectory toward building decarbonization, which will eventually result in builders receiving less and less in refund payments as a greater percentage of homes and offices are built all-electric moving forward. Rather than have builders speculate as to whether they will ever be refunded their full advance payments for building gas infrastructure, eliminating refunds on a set date lets builders know from what point forward their refund payments will stop. Having a set date for refunds to no longer be offered at all will further let the builder community know from what point forward they will not

[122] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

be entitled to any refunds whatsoever, and thus enable the builder community to build that knowledge into their project financing considerations and future revenue assumptions.

The builder community has adjusted to changes similar to what Staff is recommending before. For example, D.97-12-098 required builders to advance non-refundable costs for service line extensions that were previously free, thus adding additional cost and risk to building projects. Adopting Staff's recommendation would simply apply current service extension refund rules to all gas line extensions. As is the case currently for service line extensions, newly constructed gas distribution lines would need to be ceded to gas IOU ownership after installation so that builders have no ongoing obligation to maintain those gas distribution lines. Staff does not intend to eliminate the ability of a builder to extend a gas line to a new building altogether. Rather, it is Staff's sole intention to remove any financial incentive to pursue dual fuel building projects so that builders are encouraged to instead build all-electric and help California achieve its GHG reduction goals.

The property price impact on new dual fuel buildings associated with implementing Staff's recommendation is anticipated to be minimal. If we apply the calculated percentage price impact previously estimated for allowances to median sale prices for single-family homes in August of 2021, we find that the allowance impact is 0.25 percent of $827,940, or $2,069.85. Data from the gas IOUs indicates that annual expenditures for residential and non-residential refunds combined totaled $16,949,900 for 2016-2020. That $16,949,900 averages to $3,389,980 annually, which is 3.02 percent of the $112,283,889 yearly average for total allowance expenditures. If the previously computed residential property price impact associated with eliminating gas allowances ($1,553.91) is similarly reduced to 3.02 percent, the resulting number is $46.93. Because refunds are currently dispensed over 10 years and property sales are a single transaction, Staff find it reasonable to multiply $46.93 by 10, or $469.30. That $469.30 represents 0.07 percent of $630,435 (i.e., the 2021 adjusted sale price calculated using the formula in D.07-07-019), which is the estimated property price impact from eliminating refunds. It must be reiterated, however, that, as in the case of allowances, such property price considerations would be moot if homes and offices are built all-electric.

PU Code Section 783(b)[123] states that whenever the CPUC "institutes an investigation into the terms and conditions for the extension of services provided by gas and electrical corporations to new or existing customers, or considers issuing an order or decision amending those terms or conditions, the commission

[123] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

shall make written findings" on seven distinct issues. To aid the CPUC in making such written findings, Staff address those seven issues as follows:

(1) The economic effect of the line and service extension terms and conditions upon agriculture, residential housing, mobilehome parks, rural customers, urban customers, employment, and commercial and industrial building and development.

a. Staff expect that eliminating gas line extension refunds for all new construction would increase the number of newly constructed all-electric buildings and that prices for those all-electric buildings will likely be less than those for an equivalent newly constructed dual fuel building. Dual fuel buildings constructed without gas line extension allowances would be expected to cost more than they do today, but not by more than approximately 0.07 percent on average. Whether or not customer bills would be higher or lower in a new all-electric building vis-à-vis a new dual fuel building would depend on numerous factors that include tariff type, climate zone, future electricity prices, future gas prices, customer energy consumption habits, and time of energy usage. One significant issue that should also be considered is the economic effect on the affordable housing sector, low-income customers, and disadvantaged communities. PU Code Section 783(b) does not specifically call out this issue. However, these impacts merit close consideration given that prioritizing the needs of low-income customers and disadvantaged communities in the formulation of building decarbonization policy is fundamentally important to the CPUC. Similarly, the economic impact on the gas industry workforce also merits consideration. Robust stakeholder input on these issues is welcome.

(2) The effect of requiring new or existing customers applying for an extension to an electrical or gas corporation to provide transmission or distribution facilities for other customers who will apply to receive line and service extensions in the future.

a. Staff expect that eliminating gas line extension refunds for all new construction would result in no change to current methods of providing transmission or distribution facilities for future customers, as Staff is not proposing to modify such rules. If Staff's recommendation is adopted and builders increase their rate of all-electric new construction, builders building dual fuel new construction further away from a point of gas pipeline interconnection could expect to pay more than they otherwise would be expected to if they have to pay for additional trenching and infrastructure that

neighboring all-electric buildings did not need and thus did not help pay to extend from its current cut-off location.

(3) The effect of requiring a new or existing customer applying for an extension to an electrical or gas corporation to be responsible for the distribution of, reinforcements of, relocations of, or additions to that gas or electrical corporation.

a. Staff expect that eliminating gas line extension refunds for all new construction would result in increased costs to any customer seeking to extend a gas line. Depending on what infrastructure upgrades are necessary to extend gas service to the customer's building, the increased cost would vary.

(4) The economic effect of the terms and conditions upon projects, including redevelopment projects, funded or sponsored by cities, counties, or districts.

a. Staff expect that eliminating gas line extension refunds for all new construction would not result in changes specific to projects sponsored by cities, counties, or districts, as Staff is not proposing any such changes. Should those projects be constructed all-electric, they will be less expensive than they are today, and should those projects be constructed dual fuel, they are anticipated to be only slightly more expensive than they are today.

(5) The effect of the line and service extension regulations, and any modifications to them, on existing ratepayers.

a. Based on 2020 reported data, Staff expect that eliminating gas line extension refunds for all new construction would lead to a reduction of approximately $2,625,678 in annual costs to gas ratepayers ($2,022,698 in residential costs and $602,980 in non-residential costs) as a result of no longer having to pay for gas line extension refunds. However, if eliminating gas line extension refunds is successful at encouraging building decarbonization and increasing the number of customers leaving gas service altogether, the cost of maintaining the gas pipeline network would fall on a shrinking number of customers and would likely result in upward rate pressure as a result of a smaller customer base having to share in maintenance expenses. The extent to which savings from eliminating gas line extension refunds could help defray future rate burdens is dependent on the number of customers who depart gas service altogether and what future costs to gas ratepayers may be. This issue merits careful consideration given that

the last customers on the gas system may be low-income customers who lack the resources needed to switch from gas appliances to electric alternatives.

(6) The effect of the line and service extension regulations, and any modifications to them, on the consumption and conservation of energy.

a. Staff expect that eliminating gas line extension refunds for all new construction would result in less gas consumption and more electricity consumption. Because gas consumed in California is overwhelmingly non-renewable and electricity is increasingly carbon-free, the encouragement of fuel substitution associated with adoption of Staff's recommendation would result in fewer GHG emissions and less air pollution. However, additional electrical load will gradually result in the need for additional electricity procurement and could pose challenges to managing winter peak electric demand if not properly planned for.

(7) The extent to which there is cost-justification for a special line and service extension allowance for agriculture.

a. Staff do not recommend any special allowance for agricultural customers and, as such, there is no cost-justification needing to be made for such an allowance. Agricultural operations typically use gas primarily for greenhouse heating and grain drying, both of which can be done using electricity. Additionally, the small property price increase for new dual fuel construction that can be expected if Staff's recommendation is adopted is insufficiently high to merit a special allowance for any customer class.

PU Code Section 783(d) requires that any new amendment to the terms and conditions governing the extension of services provided by gas and electrical corporations to new or existing customers "shall become effective on July 1 of the year that follows the year when the new order or decision is adopted by the commission, so as to ensure that the public has at least six months to consider the new order or decision."[124] Based on this provision, if the CPUC adopts Staff's recommendation to eliminate gas line extension refunds in 2022, the change will take effect on July 1, 2023.

4.3 Eliminate All Gas Line Extension Discounts

[124] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

Staff recommend that the CPUC eliminate all gas line extension discounts by adding a new Section D.6.e to Gas Rule 15 (for PG&E, SDG&E, and SWG) and Gas Rule 20 (for SoCalGas) that reads, "ELIMINATION OF DISCOUNTS. The non-refundable discount option set forth in Section D.6.b of this rule will cease to be provided effective July 1, 2023." As with the elimination of allowances and the elimination of refunds, eliminating discounts is also anticipated to discourage construction of gas infrastructure and lead to more all-electric new construction that will aid in reducing GHG emissions and improving air quality. Discounts are more similar to allowances than to refunds, however, in that their expense impact is realized immediately by ratepayers who must pay for the full cost of a gas line extension after only receiving half of the refundable project costs that would otherwise defray total project costs.

PG&E's most recent General Rate Case (GRC) filing is demonstrative of line extension costs have a significant impact to rate base. In Chapter 14 of Exhibit PG&E-3 filed in A.21-06-021,[125] PG&E's reported costs under 'Capital NB (MWC 29)' for connecting new customers in 2023 are forecasted to total $126,957,000. That amount would be a decrease from reported costs in 2020 of $132,286,000, something that PG&E attributes to reach codes and ordinances imposed by local governments in recent years restricting as usage in new construction. Not all of the reported and forecasted expense is specifically tied to gas line extension discounts, but the large figure is demonstrative of the impact of such expenses on rate base and that building decarbonization measures that have recently been adopted are already helping relieve ratepayer expenses. Adopting Staff's recommendation would help further relieve rate pressures at a time when rates are rising across California.

Staff do not anticipate a significant impact on property prices as a result of eliminating discounts. If we revisit the calculated percentage price impact previously computed for allowances to median sale prices for single-family homes in August of 2021, the allowance impact is 0.25 percent of $827,940, or $2,069.85. Data from the gas IOUs indicates that annual expenditures for residential and non-residential discounts combined totaled $81,505,880 for 2016-2020. That $81,505,880 averages to $16,301,176 annually, which is 14.52 percent of the $112,283,889 yearly average for total allowance expenditures. If the previously computed residential property price impact associated with eliminating gas allowances ($1,553.91) is similarly reduced to 14.52 percent, the resulting number is $225.63. That $225.63 represents 0.04 percent of $630,435 (i.e., the 2021 adjusted sale price calculated using the formula in D.07-07-019), which is the estimated property price impact from eliminating discounts. It must be reiterated, however, that, as in the

[125] See: https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:A2106021.

case of allowances, such property price considerations would be moot if homes and offices are built all-electric.

PU Code Section 783(b)[126] states that whenever the CPUC "institutes an investigation into the terms and conditions for the extension of services provided by gas and electrical corporations to new or existing customers, or considers issuing an order or decision amending those terms or conditions, the commission shall make written findings" on seven distinct issues. To aid the CPUC in making such written findings, Staff address those seven issues as follows:

(1) The economic effect of the line and service extension terms and conditions upon agriculture, residential housing, mobilehome parks, rural customers, urban customers, employment, and commercial and industrial building and development.

a. Staff expect that eliminating gas line extension discounts for all new construction would increase the number of newly constructed all-electric buildings and that prices for those all-electric buildings will likely be less than those for an equivalent newly constructed dual fuel building. Dual fuel buildings constructed without gas line extension discounts would be expected to cost more than they do today, but not by more than approximately 0.04 percent on average. Whether or not customer bills would be higher or lower in a new all-electric building vis-à-vis a new dual fuel building would depend on numerous factors that include tariff type, climate zone, future electricity prices, future gas prices, customer energy consumption habits, and time of energy usage. One significant issue that should also be considered is the economic effect on the affordable housing sector, low-income customers, and disadvantaged communities. PU Code Section 783(b) does not specifically call out this issue. However, these impacts merit close consideration given that prioritizing the needs of low-income customers and disadvantaged communities in the formulation of building decarbonization policy is fundamentally important to the CPUC. Similarly, the economic impact on the gas industry workforce also merits consideration. Robust stakeholder input on these issues is welcome.

(2) The effect of requiring new or existing customers applying for an extension to an electrical or gas corporation to provide transmission or distribution facilities for other customers who will apply to receive line and service extensions in the future.

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[126] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

a. Staff expect that eliminating gas line extension discounts for all new construction would result in no change to current methods of providing transmission or distribution facilities for future customers, as Staff is not proposing to modify such rules. If Staff's recommendation is adopted and builders increase their rate of all-electric new construction, builders building dual fuel new construction further away from a point of gas pipeline interconnection could expect to pay more than they otherwise would be expected to if they have to pay for additional trenching and infrastructure that neighboring all-electric buildings did not need and thus did not help pay to extend from its current cut-off location.

(3) The effect of requiring a new or existing customer applying for an extension to an electrical or gas corporation to be responsible for the distribution of, reinforcements of, relocations of, or additions to that gas or electrical corporation.

a. Staff expect that eliminating gas line extension discounts for all new construction would result in increased costs to any customer seeking to extend a gas line. Depending on what infrastructure upgrades are necessary to extend gas service to the customer's building, the increased cost would vary.

(4) The economic effect of the terms and conditions upon projects, including redevelopment projects, funded or sponsored by cities, counties, or districts.

a. Staff expect that eliminating gas line extension discounts for all new construction would not result in changes specific to projects sponsored by cities, counties, or districts, as Staff is not proposing any such changes. Should those projects be constructed all-electric, they will be less expensive than they are today, and should those projects be constructed dual fuel, they are anticipated to be only slightly more expensive than they are today.

(5) The effect of the line and service extension regulations, and any modifications to them, on existing ratepayers.

a. Based on 2020 reported data, Staff expect that eliminating gas line extension discounts for all new construction would lead to a reduction of approximately $26,195,639 in annual costs to gas ratepayers ($21,238,627 in residential costs and $4,957,012 in non-residential costs) as a result of no longer having to pay for gas line extension discounts. However, if eliminating gas line extension discounts is successful at encouraging building decarbonization and increasing the number of customers leaving gas service altogether,

the cost of maintaining the gas pipeline network would fall on a shrinking number of customers and would likely result in upward rate pressure as a result of a smaller customer base having to share in maintenance expenses. The extent to which savings from eliminating gas line extension discounts could help defray future rate burdens is dependent on the number of customers who depart gas service altogether and what future costs to gas ratepayers may be. This issue merits careful consideration given that the last customers on the gas system may be low-income customers who lack the resources needed to switch from gas appliances to electric alternatives.

(6) The effect of the line and service extension regulations, and any modifications to them, on the consumption and conservation of energy.

a. Staff expect that eliminating gas line extension discounts for all new construction would result in less gas consumption and more electricity consumption. Because gas consumed in California is overwhelmingly non-renewable and electricity is increasingly carbon-free, the encouragement of fuel substitution associated with adoption of Staff's recommendation would result in fewer GHG emissions and less air pollution. However, additional electrical load will gradually result in the need for additional electricity procurement and could pose challenges to managing winter peak electric demand if not properly planned for.

(7) The extent to which there is cost-justification for a special line and service extension allowance for agriculture.

a. Staff do not recommend any special allowance for agricultural customers and, as such, there is no cost-justification needing to be made for such an allowance. Agricultural operations typically use gas primarily for greenhouse heating and grain drying, both of which can be done using electricity. Additionally, the small property price increase for new dual fuel construction that can be expected if Staff's recommendation is adopted is insufficiently high to merit a special allowance for any customer class.

PU Code Section 783(d) requires that any new amendment to the terms and conditions governing the extension of services provided by gas and electrical corporations to new or existing customers "shall become effective on July 1 of the year that follows the year when the new order or decision is adopted by the commission, so as to ensure that the public has at least six months to consider the new order or

decision."[127] Based on this provision, if the CPUC adopts Staff's recommendation to eliminate gas line extension discounts in 2022, the change will take effect on July 1, 2023.

[127] See: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=783&lawCode=PUC.

5 Conclusion

California must accelerate its efforts to reduce gas usage in homes and offices if it is to succeed in meeting its ambitious climate goals. The 2022 California Energy Code is already poised to make great strides toward achieving greater building decarbonization, but more must be done to encourage the builder community to adopt all-electric construction as the new norm. Adoption of this Staff Proposal would make an important contribution toward furthering the goal of building decarbonization and complement ongoing efforts at the CEC (e.g., the Integrated Energy Policy Report), CARB (e.g., the Scoping Plan), and CPUC (e.g., the Integrated Resource Plan) to achieve a sustained decrease in gas usage across California. The result of such a change would be a decrease in GHG emissions from the building sector that would help position California to meet its long-term goal of becoming carbon-neutral by 2045.

Ratepayers would benefit from eliminating gas line extension allowances, refunds, and discounts by saving approximately $120 million annually, based on 2020 data. This savings could, in turn, be used for a multitude of useful purposes. For example, Gridworks,[128] Environmental Defense Fund (EDF),[129] and others have suggested using future cost savings to accelerate the depreciation of existing gas pipelines and related infrastructure. This would help ensure that any costs resulting from building decarbonization are shared amongst a broader group of gas ratepayers and do not fall more heavily on the last remaining gas customers who may be disproportionately low-income. Depreciation schedules aside, R.13-02-008[130] is exploring investments necessary to bring more renewable gas to the California market, which is anticipated to entail significant costs that the savings from adopting Staff's recommendations could also help pay for. Staff do not at this time make any recommendations on diverting funds for either of these purposes as part of R.19-01-011, but rather highlight that cost savings make some of these investments possible without causing upward rate pressure.

The CPUC should use its broad regulatory authority to act decisively in support of building decarbonization. Other states, including Washington,[131] have recently revised or are considering revising their gas line extension rules. Staff's recommendations are consistent with the direction of California climate policy and would meaningfully accelerate the pace of building decarbonization across the state. Adoption of

[128] See: https://gridworks.org/wp-content/uploads/2021/01/CA_Gas_Resource_Infrastructure_Plan_Report_FINAL.pdf.
[129] See: http://blogs.edf.org/energyexchange/files/2021/01/Aligning-Gas-Regulation-and-Climate-Goals.pdf.
[130] See: https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1302008.
[131] See "Order 1 Authorizing and Requiring Tariff Revisions" at https://www.utc.wa.gov/casedocket/2021/210729/docsets.

Staff's recommendations would have a minimal impact to property prices, but would help reduce GHG emissions and save ratepayers money without limiting any builder from still seeking a gas line extension if one is still desired. Additionally, because such changes would not take effect until July 1, 2023 if adopted in 2022, the builder community would have adequate time to transition their business practices. As such, Staff's recommendations are prudent, reasonable, and should be adopted as proposed.

6. Appendix A: CPUC Decisions Related to Line Extensions

Below is a regulatory history of line extension allowances in California:

Line Extension Allowances in 1957

Charges for gas line extensions beyond the free footage allowances varied (a) from $0.60/foot to $1.54 per foot for combined gas and electric utilities and (b) from $1.21/foot to $1.82 per foot for strictly gas utilities.

LINE NO	APPLIANCE	RANGE OF ALLOWANCES (Feet)
	INDIVIDUAL NEW CUSTOMERS: Combined Gas and Electric Utility	
1	Water Heater	25 to 100
2	Range	15 to 75
3	Space Heating (per thousand BTU)	1 to 2.5
4	Total for three uses (water heater, range, 5,000 BTU of space heating)	45 to 187.5
	INDIVIDUAL NEW CUSTOMERS: Gas Utility Only	
5	Per individual	100 to 175
6	Range	15 to 75
7	Space Heating (per thousand BTU)	1 to 2.5
8	Total for three uses (water heater, range, 5,000 BTU of space heating)	45 to 187.5

Table 10: Gas Line Extension Allowances in 1957

Case No. 5945 (1957)

The CPUC opened an investigation in 1957 into then-current line extension rules and practices given (a) the rapid population growth and change in economic conditions, (b) potential desirability of more rule uniformity, (c) change in unit costs of gas and electric lines, (d) change in revenues per customer (considered in determining the free footage lengths per appliance), (e) increased use per customer (due to new uses such as televisions, room coolers, air conditioners), and (f) other changes. The CPUC (1) adopted modified rules with increased uniformity statewide, (2) continued allowances determined by the number and type of appliances (in continued recognition of declining marginal and average costs), and (3) resolved that

allowances continue to be sufficient to encourage load (with benefits conferred on ratepayers as a whole), but not so great as to burden existing customers.[132]

Case No. 10260 (1977)

The 1970s presented California with several unprecedented energy challenges. These included (1) oil and natural gas embargos, shortages, and significant price increases; (2) cost and environmental concerns from the continued use and new development of conventional thermal electric generating resources (including oil, gas, coal, nuclear, and other traditional power sources); (3) increased focus on developing cost-effective conservation, demand reduction, and alternative sources of supply (including cogeneration – now called combined heat and power – and small power production, such as solar and wind); (4) stagflation;[133] and (5) repeated gas and electric utility cost and rate increases. California responded in many ways, including by establishing the CEC in 1975 via the Warren-Alquist Act. Creation of the CEC was largely based on a need to promote cost-effective energy conservation, concerns with environmental effects of increased energy production and consumption, and particular concerns with nuclear power.

The Legislature requested that the CPUC investigate electric rate structures and consider alternatives that would discourage, rather than encourage, increased consumption.[134] The CPUC did so, and in 1976 issued a landmark decision ordering large utilities to file time-of-use pricing tariffs, file experimental air conditioning tariffs, file proposals for use of waste heat (cogeneration), continue development of demand control rate schedules, continue development of load management techniques to conserve electricity, and to use marginal costs, as well as average costs, in the development of rates.[135]

The CPUC opened an investigation in 1977 to reconsider line extension rules given changes in economic conditions, including substantial increases in utility costs over the 1970s. Among the considerations was whether existing free footage allowances for extensions of gas and electric service should be modified or abolished. Several decisions followed and are summarized below.

D.91328 (1980)

On February 13, 1980, the CPUC issued D.91328. The CPUC found that marginal costs of both gas and electric utilities were increasing rapidly, with no foreseeable end. The CPUC also found that existing line

[132] D.59011; also see D.82-04-068, 8 CPUC2d 588, 592.)
[133] A term used to describe an undesirable economic condition of stagnation (i.e., poor economic growth accompanied by persistent levels of unemployment) and inflation.
[134] Assembly Concurrent Resolution No. 192, April 31, 1974.)
[135] D.85559, 79 CPUC 513, 543, 570-571

extension rules directly conflicted with the CPUC's EE and conservation goals by promoting increased growth.

The decision took the following important steps: (1) terminated then present gas and electric line and service extension rules; (2) abolished free footage allowances (except for agricultural electric line extensions of up to 700 feet); (3) terminated refunds of advances for residential electric line extensions; and (4) prescribed a new gas main extension footage allowance of 75 feet and a free service extension allowance of 40 feet. This was conditioned upon the applicant using gas for spacing heating, water heating, and cooking, and installing an outlet for gas clothes drying (referred to as the "four gas-use" requirement). The new rules also established a point system of conservation incentives for an applicant installing specified energy conservation features in new residential construction. The incentives were valued at $2.50 per point, payable by the utility. Point-based incentive payments were payable in areas served by gas if the applicant met the four gas-use requirement, and payments were doubled in areas not served by gas.[136] Upon the filing of applications for rehearing, D.91328 was stayed and further hearings scheduled.[137]

D.82-04-068 (1982)

The CPUC again found that greater energy demand no longer produced lower rates, and it was necessary to reverse the consumption-promoting policies in the old extension rules. A system of phasing out existing allowances over five and one-half years was adopted, thereby promoting equity and gradually shifting the burden so as to provide an orderly transition. Conservation incentive payments were not adopted, however, given concerns with potential duplication or conflict with CEC building standards (based on energy budgets) and other programs. A special free footage allowance was not adopted for any specific customer class based on location. Rather, the CPUC said judgments regarding special treatment were best left to the Legislature.

Based on applications for rehearing, the CPUC suspended D.82-04-068 until further CPUC action.[138] Shortly thereafter, the CPUC continued the suspension and ordered further hearings. The further hearings were limited to the issue of the unique characteristics, if any, of agricultural customers that might justify their own special free footage allowance.[139] Further consideration was also permitted regarding (a) the appropriate maximum electric allowance, (b) cost-effectiveness of a conservation incentive, particularly with

[136] An area served by gas was defined as the area which is within a distance equal to 200 feet times the number of metered residences to be served from an existing gas main. (D.91328, cited in D.82-04-068, footnote 3; 8 CPUC2d 588, 594).
[137] D.82-04-068, 8 CPUC 2d 588, 593-595.
[138] D.82-07-040.
[139] D.82-09-110, Ordering Paragraph 3.

respect to nonparticipants, and (c) the circumstances under which it is appropriate to allow competitive bidding for applicant-installed extensions.

D.82-12-094 (1982)

The CPUC finalized earlier decisions, terminated suspension of the rules, and established June 1, 1983 for the filing of utility tariffs to begin phasing out free footage allowances.[140]

SB 48 and PU Code Section 783

The Legislature responded in 1983 by passing an urgency bill (SB 48) adding PU Code Section 783 (effective September 30, 1983). The new law required that the CPUC continue to enforce the line extension rules that were in place on January 1, 1982 (except for amendments to permit applicant installations), and no other amendments (except for periodic review provisions of existing rules, and amendments to permit applicant installation) be adopted unless the CPUC made written findings on each of seven issues.

D.83-09-066 (1983)

The CPUC rejected all tariffs filed in compliance with D.82-12-094 and reopened C.10260 for hearings on the requirements of PU Code Section 783.

D.84-04-047 (1984)

This order rescinded all prior orders in C.10260, determined that competitive bidding rules would be adopted in a separate proceeding, and closed C.10260.

R.92-03-050 (1992)

The CPUC opened this rulemaking in 1992 to reconsider line extension rules given similar circumstances to those that led to opening C.5945: population growth, changed economic conditions, and a desire for a comprehensive review of the line extension rules. The CPUC also sought to consider the reasonableness of utilities absorbing the cost differential for underground versus overhead line extensions. Finally, the CPUC sought opportunities to consolidate, simplify, and standardize extension rules, reduce administrative costs, and more appropriately assign extension costs.[141]

D.94-12-026 (1994)

The CPUC adopted a Settlement Agreement, which included the necessary PU Code Section 783 findings. The Settlement Agreement provided for uniform gas and uniform electric tariffs which

[140] See Rulemaking 92-03-050 (1992 Cal. PUC LEXIS 233 at 6.)
[141] See D.97-12-098, 77 CPUC2d 785, 787.

incorporated changes including: (a) revenue-based allowances,[142] (b) a non-refundable discount option, (c) published unit costs and flat residential allowances, and (d) reduced uncertainty regarding utility-imposed charges other than the filed unit costs for the extension. The resulting gas and electric allowances were based on the following formula: Allowance = Net Revenue divided by Cost of Service Factor.

For electric, residential allowances were a fixed dollar amount, and non-residential allowances were determined for each customer by formula. For gas, residential allowances were a fixed dollar amount for each of several uses and appliances, while non-residential gas allowances were determined for each customer by formula.

D.97-12-098 (1997)

This decision addressed (a) reducing the amounts paid by existing ratepayers of line and service extension costs caused by new ratepayers and (b) increasing the uniformity and consistency of utility practices. In particular, the CPUC adjusted line and service extension rules to: (a) revenue-justify service rules by including the cost of transformers, services, and meter (TSM) equipment as costs payable by applicant, subject to allowances;[143] (b) limit applicable net revenues for the allowance calculation to distribution-based revenues (rather than total revenues including generation, transmission and other revenues from the full range of utility services);[144] and (c) establish a simplified advice letter mechanism to flow through relevant cost and revenue decisions from other proceedings to the calculations of line and service extension allowances without a formal Commission proceeding. The decision included the necessary PU Code Section 783 findings.

D.99-12-046 (1999)

This decision removed the revenue cycle services credit from the numerator in the electric line extension allowance calculation to further improve the distribution revenues used to revenue-justify allowances (consistent with further rate unbundling and provision of distribution services by alternative providers, such as energy service providers).

Three Consolidated Applications (2005)

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[142] Previous free footage allowances considered revenues in determining the amount of footage. In 1994 the CPUC adopted a more precise and rigorous formula, and required the allowances to be based on (justified by) revenues. Revenues included the full range of utility services (e.g., generation, transmission, distribution). Revenue-justification applied here only to the utility's main and distribution extension costs, not service extension costs.

[143] TSM costs were previously paid by the utility and included in rates paid by all ratepayers. As revised, the TSM costs were henceforth provided to the applicant at no cost only to the extent the revenue expected from the new load matches the utility's investment (i.e., is revenue justified). This revenue justification is reflected in the amount of the allowance.

[144] This was consistent with re-regulation of the electric industry and the gas and electric industry practice of unbundling cost elements into separate components of the rates.

The CPUC ordered the major utilities to file applications to address specific line extension issues.[145] Three applications for line extension revisions were consolidated in 2005: A.05-09-019, A.05-10-016, and A.05-10-019. The CPUC in D.07-07-019 declined to consider wholesale changes to line and service extension rules, but refined both the allowance calculation and cost of ownership (COO) charges applicable to the refundable costs in excess of the allowance.[146] In particular, the following refinements were ordered:

- Residential electric net revenue: to be based on the average distribution revenue per residential customer (total residential distribution revenue divided by total number of residential customers);
- Average residential electric distribution revenue: if the cost of an electric distribution rate discount is not included in residential electric distribution rates (but recovered separately through a surcharge), the revenue effect of the discount is excluded from the calculation of average distribution revenue per residential customer;
- RASS for average gas use: average household appliance usage for each type of gas use is determined by the RASS implemented by the CEC;
- Average residential gas distribution rate: calculated as total residential distribution revenues divided by total residential usage;
- Average residential gas distribution revenue: if the cost of a residential gas distribution rate discount is not included in residential gas distribution rates (but recovered separately through a surcharge), the revenue reduction due to the discount is excluded from the calculation of the average residential gas distribution rate;
- 60-year cost of service factor: the cost of service factor shall include facility replacement for 60 years;
- Data for Calculations: data used to calculate allowances shall include data previously adopted by the CPUC or derived from such data, recorded data, or data adopted by other state or federal agencies; and

[145] Resolution No. E-3921.
[146] The changes were made pursuant to periodic review provisions of existing rules (PU Code Section 783(a)) and did not require the written findings identified in PU Code Section 783(b).

- 60-year COO factor: the COO factor applicable to refundable costs in excess of line extension allowances shall include facility replacement for 60 years and shall not include capital-related costs.

(END OF APPENDIX A)

Appendix B

Questions to be Addressed in Parties' Comments in Response to the Staff Proposal

1. (Gas IOUs only) What is the total amount projected to be paid by your ratepayers under the following categories for the current year and each of the next five years (2021-2026)? What are the factors contributing to each year's projected decrease or increase?
    a. Gas line extension allowances for residential customers;
    b. Gas line extension allowances for non-residential customers;
    c. The 10-year refundable payment option for residential gas customers;
    d. The 10-year refundable payment option for non-residential gas customers;
    e. The 50 percent discount payment option for residential gas customers; and
    f. The 50 percent discount payment option for non-residential gas customer classes.
2. Should the Commission eliminate or modify gas line extension allowances provided in current gas rules for all or some of the customer classes (residential and non-residential)? If so, explain why.
    a. If the position is to modify, and not eliminate the allowances, provide a specific recommendation on how the allowances should be modified and for which customer class.
    b. If the position is to modify, and not eliminate the allowances, provide support for why the proposed modification should be considered over the Staff Proposal's recommendation to eliminate.
    c. What are the implications of your recommendation for the affordable housing sector and low-income customers? How can any potential negative implications be mitigated?

3. Should the Commission eliminate or modify the 10-year refundable payment option for all or some of the customer classes (residential and non-residential)? If so, explain why.
    a. If the position is to modify, and not eliminate the refunds, provide a specific recommendation on how the refunds should be modified, and for which customer class.
    b. If the position is to modify, and not eliminate the refunds, provide support for why the proposed modification should be considered over the Staff Proposal's recommendation to eliminate.
    c. What are the implications of your recommendation for the affordable housing sector and low-income customers? How can any potential negative implications be mitigated?

4. Should the Commission eliminate or modify the 50 percent discount payment option for all or some of the customer classes (residential and non-residential)? If so, explain why.
    a. If the position is to modify, and not eliminate the discounts, provide a specific recommendation on how the discounts should be modified, and for which customer class.
    b. If the position is to modify, and not eliminate the discounts, provide support for why the proposed modification should be considered over the Staff Proposal's recommendation to eliminate.
    c. What are the implications of your recommendation for the affordable housing sector and low-income customers? How can any potential negative implications be mitigated?

5. Aside from the lowering the upfront costs of the gas line extensions to the builder or homeowner, what ancillary benefits to stakeholders (including but

not limited to the utility, builder, homeowner, ratepayers, society), are provided through continuing these allowances, refunds, and discounts?

6. What impact (including but not limited to financial, economic, environmental, equity), if any, would the elimination of these allowances, refunds, and discounts have on the following groups or items in the short term and long term. How can any potential negative impacts be mitigated?
    a. Current and future gas ratepayers;
    b. Current and future electric ratepayers;
    c. New home and/or new home construction prices;
    d. New commercial building and/or commercial building construction prices;
    e. Contractor and Builder community;
    f. Affordable housing developers;
    g. New homeowners;
    h. Commercial property owners;
    i. Low income, disadvantaged,[11] low ranked Socioeconomic Vulnerability Index (SEVI) communities,[12] and Environmental and Social Justice (ESJ) communities;[13]

[11] California Environmental Protection Agency, Designation of Disadvantaged Communities Pursuant to Senate Bill 535(De Leon), https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf.

[12] California Public Utilities Commission, Socioeconomic Vulnerability Index Interactive Map, https://www.cpuc.ca.gov/SEVI-2019/.

[13] ESJ communities are commonly identified as those where residents are predominantly communities of color or low-income, underrepresented in the policy setting or decision-making process, subject to a disproportionate impact from one or more environmental hazards, and likely to experience disparate implementation of environmental regulations and socio-economic investments in their communities. Environmental and Social Justice Action Plan, Version 1.0, February 21, 2019 at 9-10.

j. Gas industry workforce;
k. The electric grid and electricity demand;
l. The gas system and gas demand; and
m. Gas and electric utilities.

7. How would the proposed elimination of these allowances, refunds, and discounts impact the utility bills of those customers in a new all-electric building versus a new dual fuel building in the short term and long term?
8. Public Utilities Code Section 783(b) states that whenever the Commission "institutes an investigation into the terms and conditions for the extension of services provided by gas and electrical corporations to new or existing customers, or considers issuing an order or decision amending those terms or conditions, the commission shall make written findings" on seven distinct issues. Therefore, to assist the Commission in making written findings, we invite party comments on the issues outlined in Public Utilities Code Section 783(b) and Section 4 of the Staff Proposal (*see* Appendix A, R.19-01-011 Phase III Staff Proposal, Section 4).
    a. The economic effect of the line and service extension terms and conditions upon agriculture, residential housing, mobilehome parks, rural customers, urban customers, employment, and commercial and industrial building and development.
    b. The effect of requiring new or existing customers applying for an extension to an electrical or gas corporation to provide transmission or distribution facilities for other customers who will apply to receive line and service extensions in the future.
    c. The effect of requiring a new or existing customer applying for an extension to an electrical or gas corporation to be responsible for the

distribution of, reinforcements of, relocations of, or additions to that gas or electrical corporation.

d. The economic effect of the terms and conditions upon projects, including redevelopment projects, funded or sponsored by cities, counties, or districts.
e. The effect of the line and service extension regulations, and any modifications to them, on existing ratepayers.
f. The effect of the line and service extension regulations, and any modifications to them, on the consumption and conservation of energy.
g. The extent to which there is cost-justification for a special line and service extension allowance for agriculture.

9. What other issues and/or factors should the Commission consider in determining whether or not to adopt the Staff Proposal?

(END OF APPENDIX B)