Decision **PROPOSED DECISION OF ALJ ZHANG (Mailed 10/27/2023)**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Southern California Edison Company (U338E) for Approval for Its Building Electrification Programs.	Application 21-12-009

DECISION ON SOUTHERN CALIFORNIA EDISON COMPANY PROPOSED BUILDING ELECTRIFICATION PROGRAMS

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Summary

This decision denies the application by Southern California Edison Company (SCE) for approval of its building electrification programs.

The California Public Utilities Commission (Commission) strongly supports the primary goal of SCE's application, which is to reduce greenhouse gas (GHG) emissions. The Commission appreciates SCE's initiative in advancing creative ideas to address electrification and GHG emissions reductions and encourages SCE to continue to do so. The Commission, however, also has the statutory duty to establish just and reasonable rates so Californians have access to affordable electricity that is essential for their health, safety, and wellbeing. On balance, the Commission finds that the application fails to meet the burden of proof to merit its adoption. SCE's proposed programs fail to sufficiently show clear customer benefits in the face of certain costs. The programs are not sufficiently well-developed because, as proposed, they (1) fail to avoid duplication and incorporate lessons learned relative to already authorized ratepayer-funded building electrification programs; (2) fail to estimate and incorporate the impacts of federal and state funding; and (3) are based on unreliable estimates of GHG emissions reductions and marginal GHG abatement costs.

A substantial amount of federal, state, and ratepayer money is already being spent, and has been allocated for future use, to largely implement the same building electrification efforts in SCE's proposal. It is imperative that SCE's proposed programs avoid duplication and incorporate lessons learned from the hundreds of millions of dollars already spent and being spent on existing federal

and state programs. This will ensure that additional Commission-authorized use of ratepayer funds achieves the most incremental benefits.

Application 21-12-009 is closed.

1. Background

1.1. Procedural Background

On December 20, 2021, Southern California Edison Company (SCE) filed Application (A.) 21-12-009 for approval of its building electrification programs (Proposal or Application).

On January 20, 2022, responses or protests were filed by Southern California Gas Company (SoCalGas); Pacific Gas and Electric Company (PG&E); Southwest Gas Corporation; Sunrun, Inc. (Sunrun); Sierra Club; Natural Resources Defense Council (NRDC); Environmental Defense Fund (EDF); the International Brotherhood of Electrical Workers, Local 47 (IBEW),[1] the Public Advocates Office at the California Public Utilities Commission (Cal Advocates), and The Utility Reform Network (TURN).

In March 2022, Small Business Utility Advocates (SBUA), California Large Energy Consumers Association (CLECA), Wild Tree Foundation (Wild Tree), and the Local Government Sustainable Energy Coalition were granted party status.

The prehearing conference was held on March 24, 2022. The Assigned Commissioner's Scoping Memo and Ruling was issued on April 27, 2022 (*hereinafter* Scoping Memo).

On April 15, 2022, Cal Advocates moved to consolidate this instant application with SCE's application for approval of its 2024-2031 energy efficiency

[1] IBEW filed an amended response to the application on January 31, 2022.

business plan and 2024-2027 portfolio plan, A.22-03-007. On May 2, 2022, SCE, TURN, CLECA, Sierra Club, EDF, and NRDC responded to Cal Advocates' motion. On May 12, 2022, Cal Advocates filed its reply. On May 23, 2022, the assigned Administrative Law Judge (ALJ) denied the motion.

A status conference was held on October 17, 2022. The evidentiary hearing was held on October 18 through October 20, 2022. To afford the parties ample time to explore all settlement options, the parties' request to extend the briefing deadlines by one month was granted.[2] The parties did not reach a settlement.

On December 15, 2022, SCE, SoCalGas, Sunrun, Sierra Club, NRDC, EDF, IBEW, Cal Advocates, and TURN, SBUA, CLECA, and Wild Tree filed concurrent opening briefs. On January 20, 2023, SCE, SoCalGas, PG&E, Sunrun, Sierra Club, NRDC, IBEW, Cal Advocates, TURN, SBUA, CLECA, and Wild Tree filed concurrent reply briefs.

On January 20, 2023, the record was submitted for the California Public Utilities Commission (Commission) decision upon the filing of concurrent reply briefs.

On April 19, 2023, an Assigned Commissioner's Ruling (ACR) set aside submission for further development of the record. The ACR directed the parties to address a list of additional questions and directed the parties to serve additional supplemental testimony. The ACR set a date for parties to file motions for additional hearings, briefs, and/or objections to receipt of additional testimony as evidence. It also provided that, absent motions otherwise, the supplemental served testimony would be received as evidence.

[2] Email Ruling Granting Joint Motion for Revised Briefing Schedule, November 17, 2022.

The parties served concurrent supplemental testimony on May 10, 2023, concurrent supplemental rebuttal testimony on June 10, 2023, and concurrent supplemental sur-rebuttal on June 28, 2023. No motions were filed for additional hearings, briefs, or objections to receipt of the supplemental testimony into evidence. By Ruling filed on September 20, 2023, additional testimony was marked, identified and received into evidence.

On July 10, 2023, the record was closed and resubmitted for Commission decision.

The initial statutory deadline to complete this proceeding was June 20, 2023.[3] Decision (D.) 23-06-010 extended the statutory deadline to March 20, 2024.

1.2. Southern California Edison Company's Building Electrification Proposal

The primary goal of SCE's application is to combat climate change and help California reduce greenhouse gas (GHG) emissions.[4] Over the course of four years (2024-2027), SCE proposes to spend $667.2 million, or up to $733.9 million,[5] to support installation of approximately 250,000 electric heat pumps and electrical upgrades for 65,000 households, with an emphasis on low-income and environmental and social justice (ESJ) communities.[6]

[3] Pub. Util. Code § 1701.5.

[4] Application at 1.

[5] SCE proposes to record the actual incremental operations and maintenance, payroll taxes, and capital and regulatory asset-related revenue requirements (i.e., depreciation/amortization, return on rate base, property taxes and income taxes) in a one-way balancing account called the Building Electrification Programs Balancing Account (BEPBA). (Exhibit (Ex.) SCE-03 at 2.) SCE further proposes that it "will not record any revenue requirements related to Building Electrification programs expenditures exceeding 110% of the $677.2 million (2021$, direct spend) cap in the BEPBA." (Ex. SCE-03 at 2.) Adding 10 percent to the $667.2 million initial request brings the total to $733.9 million.

[6] Ex. SCE-02 at 1.

Throughout this decision, we refer to SCE's Proposal budget as "up to $733.9 million."

SCE's Proposal includes three distinct programs: BE Ready Home and BE Ready Catalina focused on residential customers, and BE Business for the non-residential customers. SCE proposes the following budget:

Table 1: Southern California Edison Company Proposal Budget[7] ($ Millions)

Cost Category	BE Ready Home	BE Ready Catalina	BE Business	Total
Utility-Side Capital Utility-side Infrastructure (meter, service, line extension, underground civil work)[8]	67.1	2.1	-	69.2
Customer-Side Capital (Regulatory Asset) Costs in the rate base for customer-side items include home electric panels (new or upgrades), circuits, wiring	193.6	6.2	-	199.8
Operations and Maintenance Expenses charged each year for items such as program implementation, engineering support, market analysis, marketing and evaluation, and appliance incentives	318.0	7.2	83.0	408.2
Total Budget	**578.6**	**15.6**	**83.0**	**677.2**

[7] Application at 9; SCE Opening Brief (OB) at 6, Table I-1.

[8] The utility side infrastructure upgrades are governed by SCE's Tariff Rule 16 Service Extensions (*e.g.*, underground or overhead service conductors, poles, transformers, metering equipment) and SCE's Tariff Rule 15 Line Extensions (*e.g.*, distribution transformers, switching equipment and conductor (primary or secondary)). (Ex. SCE-02 at 49-51.)

Cost Category	BE Ready Home	BE Ready Catalina	BE Business	Total
SCE Request for Authorization of up to 110% of Budget Without Additional Reasonableness Review				**733.9**

SCE proposes to use approximately 88 percent of the funds for residential customers, including Catalina Island. SCE proposes to use the remaining 12 percent for non-residential customers, with a strategic emphasis on targeting businesses located in ESJ communities.[9]

If approved, the proposed programs would begin in 2024 and end in 2027, with a mid-cycle review in 2025 or early 2026. Below, each program in the Proposal is described with proposed incentive levels; marketing, education, and outreach (ME&O), evaluation and reporting; and cost recovery.

1.2.1. BE Ready Home

BE Ready Home would serve single family and small multifamily customers. SCE states that rental property owners can take advantage of BE Ready Home, such as owners of multifamily buildings where the rent is below the area median rent and not formally subsidized by government programs.[10] BE Ready Home would offer:

- Free residential electrification readiness assessment (on-line and in-home);
- Appliance incentives for heat pump water heaters and heat pump heating, ventilation, and air conditioning (HVAC) systems (both mini-split and central systems); and

[9] Application at 9; SCE OB at 6, Table I-1.

[10] Ex. SCE-02 at 39-42.

- Low or no-cost customer electrical upgrades (electric panel, circuit breakers, wiring).

BE Ready Home's goal is 240,000 digital home assessments, 120,000 in-home assessments, 69,080 installed heat pump HVAC (both mini-split and central system), 130,000 installed heat pump water heaters, and 63,700 customer electrical upgrades.[11]

1.2.2. BE Ready Catalina

Due to the unique characteristics of Catalina being an island 22 miles off the coast of southern California, SCE is proposing BE Ready Catalina, separate from BE Ready Home. BE Ready Catalina would offer preliminary assessments and panel upgrades. In addition, BE Ready Catalina would provide residential customers with incentives to replace an expanded array of combustion-based appliances.[12] The program would offer:

- Incentives for high-efficiency electric appliances (*e.g.*, heat pumps, induction cooking appliances and clothes dryers);
- Enhanced logistics for bringing equipment and workforce to Catalina Island; and
- Increased availability of electric appliances through reseller partnerships.

BE Ready Catalina would also offer fuel substitution kicker incentives to cover additional costs associated with fuel switching ranging from $100 to $500.[13] BE Ready Catalina's target is installing 2,400 building electrification appliances.[14]

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[11] Ex. SCE-02 at 23, 47.

[12] *Id.* at 53.

[13] *Id.* at 58, Table II-9. The kicker incentive is an increment above the incentive proposed for a BE Ready Home item (*e.g.*, up to $500 more per unit for heat pump water heaters, as shown in Table 2 below).

[14] *Id.* at 23.

1.2.3. BE Business

Lastly, BE Business would provide non-residential customers such as schools, restaurants, and medical centers with the following:

- heat pump space heating/cooling technology incentives (for readily available commercial heat pump HVAC equipment); and
- engineering/design team technical assistance.[15]

Unlike the two residential programs, BE Business would not offer panel upgrades. BE Business targets installation of 49,000 heat pump HVAC.[16]

1.2.4. Low-Income and Environmental and Social Justice Communities

BE Ready Home and BE Business target low-income[17] and ESJ communities.[18] The Proposal allocates 40 percent of the equipment incentives budgets to ESJ communities, which SCE anticipates would result in approximately 81,000 heat pump installations. Similarly, SCE allocates 40 percent of the electric panel upgrade budget under BE Ready Home for

[15] *Id.* at 66-67.

[16] *Id.* at 22, Table I-2 at 23-24.

[17] Low-income means either (a) those households whose income does not exceed 80 percent of the area median income, adjusted for family size and revised annually, defined in Section 50093 of the California Health and Safety Code, or (b) those households that meet the income eligibility for Energy Savings Assistance (ESA) Program set at or below 250 percent of Federal Poverty Guidelines.

[18] ESJ communities include but are not limited to Disadvantaged Communities, census tracts that score in the top five percent CalEnviroScreen 3.0's Pollution Burden but do not receive an overall score, low-income census tracts below 80 percent of the state or area minimum income, low-income households below 80 percent of the area minimum income, and all tribal lands. (*See* CPUC Environmental and Social Justice Action Plan Version 2.0, April 7, 2022, at 2, available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf.)

low-income households, which would result in approximately 17,000 no-cost in-home electric panel upgrades for qualifying low-income households.[19]

1.2.5. Incentives and Costs

The incentives and cost coverage are as follows:

Table 2: **Southern California Edison Company's Proposal Incentives**

BE Home[20]	ESJ or Low-Income Incentives	Incentives
Heat Pump Water Heaters	Up to $1,500 per unit	Up to $1,000 per unit
Heat Pump Ductless Mini-Split Systems	Up to $600 per ton (based on size of the unit)	Up to $400 per ton ($400-$1,000, assumes per 2 ton unit)[21]
Heat Pump HVAC Central Systems	Up to $600 per ton[22] (based on size of the unit)	Up to $400 per ton ($700-$1,750, assumes per 3.5 ton unit)[23]
Panel upgrades	Estimated between $2,821 to $6,663[24]	

[19] Ex. SCE-02 at 13-14.

[20] *Id.* at 44.

[21] Ex. SCE-06 at 18, Table III-3.

[22] Cal Advocates estimates that the average combined incentive for heat pump HVAC and heat pump water heater will be $2,225. (Ex. CA-02 at 108.)

[23] Ex. SCE-06 at 18, Table III-3.

[24] Ex. CA-02 at 1-8. SCE proposes to allocate 40 percent of the BE Ready Home panel upgrades budget (40 percent of $193.6 million is $77.44 million) to ESJ and low-income customers. Electrical upgrades will be determined upon selection of a Program Implementer. Customers will work with contractors/electricians to determine the equipment and labor, a portion or all the cost could be covered by the incentives. (*See* Ex. SCE-02 at 44-46.)

BE Catalina[25]	ESJ or Low-Income Incentives[26]	Incentives
Heat Pump Water Heater	-	Up to $1,500 per unit
Heat Pump AC Central System	-	Up to $1,800 (per ton calculation)
Heat Pump Ductless Mini-Split System	-	Up to $1,200 (per ton calculation
Induction Range/Cooktop	-	Up to $800 per unit
Electric Clothes Dryer	-	Up to $700 per unit

BE Business[27]	ESJ or Low-Income Incentives	Incentives
Packaged Heat Pump < 65 kBtu/h[28]	Up to $1,151 per unit	Up to $959 per unit
Packaged Heat Pump 65 to 134 kBtu/h	Up to $1,292 per unit	Up to $1,076 per unit
Packaged Heat Pump 135 to 239 kBtu/h	Up to $1,557 per unit	Up to $1,297 per unit
Packaged Heat Pump 240 to 760 kBtu/h	Up to $4,145 per unit	Up to $3,455 per unit
Split Heat Pump Systems	Up to $788 per unit	Up to $657 per unit

1.2.6. Marketing, Education & Outreach

SCE's marketing, education, and outreach includes grassroots and community outreach, direct marketing, public relations, local advertising,

[25] Ex. CA-02 at 58.

[26] *Id.* (SCE did not propose specific levels of incentives for ESJ communities.)

[27] *Id.* at 64, 68 (SCE proposes that incentives for installations located inside ESJ communities will be 20 percent higher than installations outside of ESJ communities).

[28] One thousand British Thermal Units per hour.

community events, and content marketing, in order to target each of the three program audiences.[29]

1.2.7. Program Evaluation & Reporting

SCE's evaluation and reporting plan would analyze the impacts of the programs at different stages of implementation. Third-party implementers will conduct the evaluations, identify progress, key outcomes, and improvement opportunities.[30]

SCE would convene a BE Advisory Panel comprised of customers, equity and disadvantaged community advocates, industry, ESJ organizations, community-based organization, contractors/installers, and other stakeholders to provide input and guidance.[31] SCE proposes a mid-cycle review in 2025 or 2026.

1.2.8. Cost Recovery

SCE requests authorization to recover the cost of its Proposal in three cost categories: (1) $69.2 million in capital costs (utility-side infrastructure), (2) $199.8 million in capitalized regulatory asset costs (customer-side infrastructure), and (3) $408.2 million in operations and maintenance expenses. SCE proposes that the utility-side direct capital expenditures of $69.2 million become part of SCE's rate base, and thereby be eligible to earn the Commission authorized rate of return.[32]

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[29] Ex. SCE-02 at 80-84.

[30] Ex. SCE-02 at 103.

[31] SCE OB at 10.

[32] The current authorized rate of return is 7.68 percent. (D.21-08-036.) The rate of return is adjusted every three years in a cost of capital proceeding. Capital expenditures are not included in the rate base until assets are ready for service. After assets are in service, then the costs go into the rate base and depreciation begins. (Ex. SCE-03 at 14-15.)

SCE proposes to recover the customer-side infrastructure (*e.g.*, panel upgrades, circuits, wiring, and associated costs) of $199.8 million as a regulatory asset placed into the rate base (capitalization), thereby also eligible to earn the Commission authorized rate of return. Instead of spreading the costs over four years of the program (2024 to 2027), SCE proposes to depreciate the regulatory asset within the rate base over 20 years because such treatment would reduce the annual rate and revenue impacts.[33] SCE proposes that the $408.2 million in operations and maintenance expenses be charged when spent over the duration of the four-year program.

SCE proposes to record the actual revenue requirements for all three cost categories in a new one-way Building Electrification Programs Balancing Account. SCE requests that no further reasonableness review be required for expenses up to 110 percent of the approved budget (*i.e.*, no ex post facto review, with expenses up to 110 percent over the approved budget deemed reasonable and recoverable from customers without further analysis).[34] If allowed by the Commission, the total authorized budget without further review could be as high as $733.9 million.[35]

[33] Ex. SCE-03 at 6, footnote (fn.) 3 and associated text (explaining that electric service panels have an expected life of about 50 years, while circuit breakers within the panels have an expected life of about 35 years; given the need to balance the expected useful life with the possibility of obsolescence due to reconstruction, redevelopment or other building improvements and renovation, or code changes and technology improvements, SCE recommends recovery over 20 years, asserting that this period essentially balances the potential life of the asset with the potential for obsolescence unrelated to function).

[34] Ex. SCE-03 at 1, 3-4.

[35] *See* fn. 5 and associated text.

1.3. Positions of the Parties

The parties' positions generally fall into three categories: deny the Proposal, approve the Proposal with modifications, or no position on the Proposal but with comments on specific issues.

Cal Advocates, CLECA, TURN, and Wild Tree recommend rejecting the Proposal. If not rejected, they propose smaller or more limited programs. For example, Cal Advocates proposes an $80 million residential program for low-income customers. TURN suggests a reduced program for low-income customers with a focus on zonal electrification. Wild Tree recommends that, at the very least, the Commission deny BE Ready Catalina, and limit appliances in any approved program to those that exceed Energy Star and Consortium for Energy Efficiency initiative standards.

No parties support SCE's Proposal without modifications. NRDC suggests reducing the electric panel replacement budget by 50 percent and increasing the low-income participation to 69 percent. Sierra Club recommends that 100 percent of the funding for BE Ready Home and BE Ready Business to be allocated to ESJ communities. EDF recommends modifications to ensure data sharing with SoCalGas to prioritize coordination with gas system pruning.[36] IBEW recommends approval but suggests changes to the workforce standards. Sunrun supports SCE's workforce standards but suggests changes to the contractor requirements. SBUA argues SCE neglects small commercial customers and suggests on-bill financing for BE Ready Home and maintaining BE Ready Business.

[36] Gas system pruning means decommissioning parts of the gas distribution pipeline system with the highest expected long-term benefits. (Assigned Commissioner's Amended Scoping Memo and Ruling, Rulemaking 20-01-0007, January 5. 2022.)

PG&E and SoCalGas neither support nor oppose the Proposal. However, PG&E urges the Commission to refrain from substantive rulings on regulatory asset treatment. SoCalGas recommends the Commission make no finding related to indoor air quality. Also, SoCalGas recommends more detailed data collection and sharing for stakeholder feedback.

2. Issues

The issues in this proceeding, as identified in the April 27, 2022 Scoping Memo, fall into four categories: reasonableness of the program proposal, cost recovery, ESJ considerations, and safety:

1. Program Reasonableness:
    a. Overall Program Reasonableness: Whether SCE's proposed Building Electrification programs are reasonable, including but not limited to program goals, design, costs, benefits, funding sources, and implementation; and
    b. State Budget Impact: Whether SCE should modify its original proposal to address any relevant issue(s) or funds included within the adopted 2022-2023 State Budget as they relate to this application.
2. Cost Recovery
    a. Overall Cost Recovery: Whether SCE's proposed cost recovery for its building electrification programs is reasonable; and
    b. Capitalization of Customer-Side Infrastructure Costs: Whether SCE's proposed capitalization of customer-side building electrification infrastructure as a regulatory asset is reasonable and permissible under the law.
3. Environmental and Social Justice Considerations
    a. How SCE's proposed building electrification programs impact ESJ communities and/or furtherance of the

Commission's goals, defined in the Commission's ESJ Action Plan.

4. Safety Considerations
    a. Whether there are safety concerns associated with SCE's proposed Building Electrification programs and whether any measures should be adopted to mitigate or eliminate those safety concerns.

Lastly, the Scoping Memo includes specific questions related to the first two issues. These specific questions address several topics including coordination with other Commission authorized activities, zonal electrification, and financing options.[37]

Shortly after the filing of the Scoping Memo, SCE clarified that it seeks regulatory asset treatment as an accounting tool but does not propose to own or maintain customer-side infrastructure.[38] SCE and Sunrun state their agreement that SCE would work with the third-party program implementer and the BE Advisory Panel to develop criteria to establish the most appropriate in-home electrical upgrade solutions, including Power Control Systems, Energy Management Systems, sub-panels, smart panels, smart switches, smart breakers, load control relays, and load-sharing devices.[39]

The ACR sought further information for the record on the issues already scoped in the Scoping Memo, with specific questions attached to the ACR. The questions address several topics, including narrowing the scope of the Proposal, availability of additional data, geographic focus, zonal electrification

[37] Scoping Memo at 3-7.

[38] SCE explains that its request for regulatory asset treatment is only as an accounting tool to smooth and distribute the cost impacts of the program over 20 years. (Status Conference Transcript, October 17, 2022, 55:23-56:4.)

[39] Ex. Sunrun-02.

opportunities, abilities to coordinate and leverage efforts between SCE's Proposal and other programs, and bill impacts of alternative scenarios.[40]

The parties stipulated that there are no disputed issues related to safety considerations.[41] There are no known safety issues with SCE's Proposal. Thus, this decision does not address safety.

3. Standard of Review

All charges demanded or received by any public utility must be just and reasonable.[42] Regarding just and reasonable, the Commission has said that "a key element of finding a charge or rate is just and reasonable is whether that charge or rate is affordable."[43] The Commission has described just and reasonable as those acts or decisions "expected by the utility to accomplish the desired result at the lowest reasonable cost consistent with good utility practices."[44] Good utility practices "are based upon cost-effectiveness, reliability, safety, and expedition."[45] Further, the Commission may supervise and regulate every public utility, and may do all things which are necessary and convenient to exercise such power and jurisdiction.[46]

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[40] Assigned Commissioner's Ruling Setting Aside Submission, April 19, 2023 (ACR Ruling) at Attachment A.

[41] Joint Case Management Statement, October 10, 2022.

[42] Pub. Util. Code Section 451.

[43] D.19-05-020 at 11.

[44] D.17-11-033 at 10 quoting D.87-06-021 (describing the prudent manager stander for expenses incurred by the utility).

[45] *Id.*

[46] Pub. Util. Code Section 701.

As the applicant, SCE bears the burden of affirmatively establishing the reasonableness of all aspects of its application.[47] SCE has the burden of showing by a preponderance of evidence that its Proposal and proposed cost recovery are reasonable.

Preponderance of the evidence is defined "in terms of probability of truth, *e.g.*, 'such evidence as, when weighed with that opposed to it, has more convincing force and the greater probability of truth.'"[48] An application is denied when the applicant fails to present sufficient evidence and argument to meet its burden of proof.

The Commission has held that when other parties propose a different result, they have a "burden of going forward" to produce evidence to support their position and raise a reasonable doubt as to the utility's request.[49] When this counterpoint causes the Commission to entertain a reasonable doubt regarding the applicant's position, and applicant does not overcome this doubt, the applicant has not met its burden of proof.[50]

4. Context of Southern California Edison Company's Proposal

We evaluate SCE's Proposal in the larger context of California's GHG policy and SCE's current and expected future rate levels. We conclude that SCE did not carry its burden of demonstrating that customer benefits from its Proposal would outweigh the costs. SCE failed to prove by a preponderance of the evidence that its Proposal is (a) a reasonable use of ratepayer funds to

[47] D.09-03-025 at 8; D-06-05-016 at 7.

[48] D.08-12-058 at 19, citing Witkin, Calif. Evidence, 4th Edition, Vol. 1 at 184.

[49] D.20-07-038 at 3-4; D.87-12-067 at 25-26, 1987 Cal PUC LEXIS 424, *37.

[50] Cal Advocates OB at 203, citing D.07-011-037 at 101, fn. 41, and D.87-12-067 at 22.

achieve important electrification goals in light of, and in coordination with, other non-ratepayer funded programs, and (b) a reasonable use of ratepayer funds in light of recent, and projected, rate increases, especially in light of SCE's 2023 general rate case (GRC) filing. We address these two larger points in this section.

4.1. California's Greenhouse Gas Policy

There is no dispute as to the importance of reducing GHG emissions. Assembly Bill 32 (Nunez, 2006) codified a GHG emissions target of reaching 1990 levels of GHG emissions by 2020. Senate Bill (SB) 32 (Pavley, 2016) advanced the target to reduce emissions by 40 percent below 1990 levels by 2030. Executive Order (EO) B-55-18 (2018) further advanced the target by establishing a statewide goal to achieve carbon neutrality by 2045.[51] SB 100 (De Leon, 2018) set policy to require that 100 percent of total retail electricity sales in California come from renewable energy and zero-carbon resources by 2045. SB 1020 (Laird, 2022) further advances these goals by providing that renewable energy and zero-carbon resources supply 90 percent of all retail electricity sales to end-use customers by 2035, 95 percent of all retail electricity sales to end-use customers by 2040, and 100 percent of all retail electricity sales to end-use customers by 2045. It also requires that renewable energy and zero-carbon resources supply 100 percent of electricity procured to serve state agencies by 2035. Based on California's current trajectory of GHG emissions, SCE estimates there could be a 30 to 90 million metric ton (MMT) gap in reaching California's 2030 decarbonization goals.[52] SCE predicts that California must spend between

[51] EO B-55-18 to Achieve Carbon Neutrality, September 10, 2018, available at: https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/39-B-55-18.pdf.

[52] SCE focuses on the upper limit of the range 90 MMT gap in its briefs, which also pushes its estimates of required funding to the upper most limit. However, SCE also predicts a lower

$6 billion to $19 billion to close the 30 MMT to 90 MMT gap. SCE predicts that 9 million residential electric appliances are necessary by 2030 to maintain an adoption trajectory towards achieving the 2023 GHG reduction targets.[53] SCE argues that because California is currently projected to only install 4.7 million electric appliances by 2030, this leaves a gap of 4.3 million appliances. SCE characterizes its Proposal as a market transformation portfolio that addresses 15 percent of the gap for electric heat pump adoption in SCE's service territory by 2030.[54]

Meeting GHG goals is very important. The Commission appreciates SCE's initiative to address California's GHG emission reduction goals, and to propose programs aimed at meeting SCE's statewide share. At the same time, the Commission has the statutory duty to set just and reasonable rates for ratepayers, even in the context of market transformation programs.

Here, we find that SCE failed to demonstrate how its Proposal fully leverages existing programs to produce the most benefits at the least cost to the ratepayers, and how its Proposal will complement incoming state and federal funds. Moreover, related proceedings and other events have progressed over the nearly two years since SCE filed this application. The Commission must consider this application in the context of those events.

As explained below, it is unreasonable to authorize up to $733.9 million, to be paid by ratepayers, to fund this Proposal at this time. In short, the record of this proceeding in support of the Proposal, as presented by SCE, lacks any

30 MMT gap, which also leads to a lower potential need for funding in the amount of $6 billion. (Ex. SCE-05 at 3-4.)

[53] SCE-01 at 11-12, 16; *see* Table III-1, 2030 California Heat Pump Adoption Forecast at 14.

[54] Application at 5; Ex. SCE-01 at 4.

(1) concrete results of other existing Commission authorized programs which are underway, (2) incorporation and implementation of lessons and results from those existing programs to maximize ratepayer and public benefit, and (3) thoughtful accounting for and planning of the program investments that optimally targets those funds for maximum ratepayer benefits to complement other existing and anticipated state and federally funded efforts.[55]

4.2. Southern California Edison Company's Current Rate Increases and Affordability

SCE's customers have recently experienced large rate increases, sometimes including double-digit percentage amounts as noted below. Additional future rate increases are expected.

For example, after careful consideration in the 2019 GRC application,[56] the Commission rejected SCE's request for a 19.3 percent increase and authorized a 7.63 percent increase over SCE's authorized revenue requirement.[57] Cal Advocates calculated that SCE's bundled residential average rate increased 17.6 percent for the year from June 1, 2021 to June 1, 2022.[58] The Commission noted that the estimated impact on an average residential non-CARE monthly bill was approximately $12.41.[59]

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[55] Cal Advocates supports denying the application, adding that it is unreasonable for ratepayers to fund and for SCE to receive a rate of return, on measures subsidized by federal and state funds. (Ex. CA-01 at 1-12.)

[56] A.19-08-013.

[57] D.21-08-036 at 1.

[58] Ex. CA-01, Appendix B, Attachment 1-C (stating that SCE advice letters shows 17.6 percent residential average rate increase from June 1, 2021, to June 1, 2022).

[59] D.21-08-036 at 3. California Alternate Rates for Energy (CARE) offers a 30 to 35 percent discount on electric bills and 20 percent discount on natural gas bills.

SCE's new GRC application, filed in May of 2023, requests a $1.90 billion increase, or 23 percent in test year 2025 over the 2024 base revenue requirement.[60] In addition, SCE seeks three years of attrition increases from 2026 to 2028 totaling another $1.36 billion.[61]

The recent monthly bill impacts, annual increases, and possible future increases show it is particularly important at this time to keep rates affordable by maximizing the benefits from non-ratepayer funding sources for these programs and more strategically targeting ratepayer funding. Those non-ratepayer sources, for example, include federal and state dollars, and other sources within California's general fund.

SCE acknowledges that its Proposal will raise rates in the near term,[62] but asserts that it will result in overall rate reductions in the long term. As discussed below, in the following sections, we conclude that this is either not the case, or at least very unlikely based on the record before us.

Cal Advocates highlights the Commission's annual SB 695 reports, which inform the Governor and the legislature on current and future utility rates and costs. In 2021, significant wildfire-related operating expenses, including wildfire liability insurance coverage, began to appear in each utilities' rates and rate base, and all indicators point to continued significant rate growth in the near term resulting from the ongoing wildfire mitigation efforts.[63] The Commission acknowledged "it will be essential to employ aggressive actions to minimize

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[60] A.23-05-010 at 6.

[61] *Id.* at 7. The requested attrition increases are $373.1 million in 2026 plus $476.5 million in 2027 plus $514.5 million in 2028, for a total over the three years of $1,364.1 million.

[62] Ex. SCE-23 at 2.

[63] 2021 SB 695 Report: Utility Costs and Affordability of the Grid to the Future: An Evaluation of Electric Costs, Rates and Equity Issues Pursuant to P.U. Code Section 913.1, May 2021 at 3-4.

growth in utility rate base and to protect lower-income ratepayers from cost shifts and bill impacts."[64]

In fact, in 2022, the Commission projected there will likely be higher than historic annual average growth rates for transmission and distribution infrastructure to account for climate-driven investments, and notably wildfire mitigation costs.[65] Specifically, the Commission's 2022 report said SCE's bundled average rates would be approximately 25 percent higher than they would have been if SCE's 2013 rates had grown only at the rate of inflation.[66]

The Commission agrees with Cal Advocates that as buildings and transportation transition to 100 percent electric, any increase in rates will increase the cost of electricity used to replace fossil fuels.[67] Not only does affordability impact public health and safety needs in buildings, at home and at work, but high rates also discourage state-wide electrification. Hence, it is vital to use ratepayers funds thoughtfully and wisely as we consider investments to advance electrification in order to achieve the best possible outcome.

As explained below, we find that SCE has not met its burden of proof. Despite this finding, we appreciate SCE's initiative in presenting its Proposal. In

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[64] *Id.* at 7.

[65] 2022 SB 695 Report: Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to Public Utilities Code Section 913.1, May 2022 at 9.

[66] *Id.* at 14 (stating "…by 2025, bundled RARs [residential average rates] are forecast to be approximately 60 percent (PG&E), 25 percent (SCE), and 70 percent (SDG&E) higher than they would have been if 2013 rates for each IOU had grown at the rate of inflation."). *See* Ex. CA-01 at 1-5.

[67] Ex. CA-01 at 1-5: "And every time the Commission authorizes an increase in California's electricity rates, it makes all future electrification efforts more risky and less equitable and less cost-effective. This situation occurs because customers transitioning from a mixed-fuel bill to an electric-only bill will face greater costs than they would have faced before the rate increase. In other words, with each rate increase, California's decarbonization becomes yet more costly and inequitable, all else being equal."

view of the concerns set forth in this decision, we encourage SCE to address the concerns noted in this decision by submitting a new proposal.

In the meantime, we expect SCE to continue to do everything reasonably practicable with the substantial amounts of its other existing available funds (and those that might be authorized in its current GRC application) to maximize GHG reductions in pursuit of state GHG goals.

5. Reasonableness of Southern California Edison Company's Proposal

We next examine whether SCE proved by a preponderance of the evidence that its Proposal is reasonable. We conclude that SCE has not. Specifically, SCE failed to reasonably consider existing programs, take other federal and state funding options into account, and accurately determine the GHG emissions and marginal GHG abatement costs.

5.1. Existing Ratepayer Programs

Ratepayers in SCE's territory have experienced record increases in recent years, and these increases are likely to continue. Although SCE argues ratepayers will benefit from its Proposal because they will experience long-term benefits such as climate mitigation, rate reduction and cleaner air,[68] SCE fails to establish how its Proposal leverages existing ratepayer funded programs to optimize ratepayer benefits at the least cost.[69] Further, SCE does not adequately show how it considered maximizing the amount of GHG emissions reduced per dollar in collaboration with non-ratepayer funds, or partnering with federal and

[68] SCE OB at 27.

[69] Here, "leveraging" means using non-ratepayer funds to extend ratepayer funds, or to maximized total ratepayer benefits at least cost to ratepayers. (*See* Ex. EDF-01 at 10-11.)

state incentives, to reduce the total requested budget, or to establish that it was the least total cost approach to achieve the Proposal's goals.[70]

SCE provides high level descriptions of programs related to its Proposal, but there are insufficient details as to how SCE uses the incentives in a coordinated manner to decrease costs and maximize ratepayer benefits.[71] Below are ten Commission-authorized programs in which SCE is either a participant or the main implementer.[72]

Table 3: Ratepayer Funded Programs Related to Heat Pumps

Program	Ratepayer Funds	Description
1. San Joaquin Valley Pilot[73] 2020-2024	$15 million for SCE	Direct install program of electric appliances, including heat pumps, for a limited number of homes in the San Joaquin Valley without access to natural gas
2. TECH Initiative[74] 2021-2024	$120 million statewide. SCE administers the contracting process with	Upstream[76] and midstream[77] incentives for heat pump technology (heat pump

[70] Ex. EDF-01 at 10-11.

[71] Ex. SCE-02 at 20, Figure I-1 at 21, Figure I-2.

[72] The Build Initiative for Low Emissions Development is not on the list because it does not apply to existing buildings, only to low-income new construction. GoGreen Financing, authorized by D.21-08-066, is also not included on the list.

[73] D.18-12-015.

[74] D.20-03-027.

[76] Upstream as in program elements aimed at encouraging manufacturers to make the most efficient equipment available at competitive prices. (D.20-03-027 at 78, fn. 225, 83.)

[77] Midstream is defined as program elements that encourage wholesale distributors, retailers, e-commerce company and/or contractors to stock and/sell more efficient products. (D.20-03-027 at 78, fn. 226, 83.)

Program	Ratepayer Funds	Description
	the program implementer[75]	water heater, heat pump HVAC)
3. Wildfire and Natural Disaster Resiliency Rebuild[78] 2022-2032	$23.27 million for SCE	Residential rebuilding assistance for victims of natural disasters with incentives for all electric rebuilds
4. Energy Savings Assistance (ESA) Building Electrification Core Program[79]	$431.2 million for SCE	Income qualified Energy Efficiency[80] direct install program
5. ESA Building Electrification Pilot[81] 2021/2022-2026	$40.8 million for SCE	Targets low-income households, facilitating adoption of electric appliances and replacing combustion-based water heaters, space heating and cooling equipment, cooking appliance and laundry appliances.
6. Clean Energy Homes Pilot[82] 2022 for six years	$10.5 million for SCE	Low-income new construction program, not limited to heat pump water heaters.

[75] *Id.* at 93.

[78] D.21-11-002 at 35, 43, 48, 106-110, 113, Ordering Paragraph (OP) 2, Appendix B.

[79] D.21-06-015.

[80] Energy Efficiency is using less energy to perform the same function. Energy Efficiency programs are designed to use energy more efficiently — doing the same work with less.

[81] D.21-06-015 at 382-387, 513, OP 163.

[82] D.21-06-015 at 387-389, 514, OP 164.

Program	Ratepayer Funds	Description
7. SGIP HPWH[83] 2022-2025	$15.2 million for SCE	A distributed generation program providing incentives for heat pump water heaters and electric panel upgrades. Includes load shifting requirements.
8. SCE Smart Water Heater Program[84] 2022-2027	$13.9 million for SCE	Heat pump water heater smart controls program.
9. Residential Energy Efficiency Fuel Substitution Equity Program[85] 2022-2023	$11.1 million for SCE	Energy Efficiency equity program, retrofits.
10. Small/Medium Business Energy Efficiency and Fuel Substitution Equity Program[86] 2022-2023	$7.4 million for SCE	Energy Efficiency equity program, retrofits.

[83] D.22-04-036 at 117-118, Finding of Fact (FOF) 25 (stating that the Self-Generation Incentive Program (SGIP) will cover panel upgrades). In December 2021, there were at least 20 local and regional entities in California offering incentives for heat pumps, along with 11 ratepayer funded programs. City of Santa Monica was one of the local entities, which offered heat pump water heater incentives. (D.22-04-036 at 48-50, Appendix C at C1-C3, Non-Jurisdictional Heat Pump Water Heater (HPWH) Incentive Programs as of December 2021.)

[84] D.22-04-044.

[85] SCE Advice Letter 4633-E-A was approved on February 15, 2022, available at: https://www.sce.com/regulatory/advice-letters.

[86] *Id.*

SCE is currently and actively in the process of implementing more than $100 million of Commission authorized heat pump programs, even excluding new construction programs, such as the TECH Initiative, and the ESA Building Electrification Core Program.[87] Yet, SCE's instant Proposal does not show how it meaningfully coordinates with these other programs and initiatives to avoid duplication, minimize mistakes, conserve resources, and maximize ratepayer benefits by incorporating lessons learned.

For example, given the existing heat pump programs currently underway, SCE's Proposal does not describe how it explored cost-effective or cost-saving options to create efficiencies or reduce administration duplications between the Proposal's administration costs of over $18 million and existing programs.[88]

Similarly, the TECH pilot began with $120 million in funding statewide and has been extended with an additional $50 million authorization for 2022-2023. SCE states that similar to TECH, it intends to leverage the "Find a Contractor" portal on the Building Decarbonization Coalition's "Switch is On" website.[89] TECH is continuing as a valuable upstream and midstream pilot program and SCE's Proposal is a downstream program at the customer level. However, SCE does not explore areas of overlap that might result in value added

[87] SGIP HPWH ($15.2 million) + San Joaquin Valley Pilot ($15 million) + Smart Water Heater Program ($13.9 million) + Energy Savings Assistance Building Electrification Pilot ($40.8 million) + Residential Energy Efficiency Fuel Substitution Equity Program ($11.1 million) + Small/Medium Business Energy Efficiency Fuel Substitution Equity Program ($7.4 million) = $103.4 million.

[88] *Id*. at 72. Program Administration for BE Ready Home is $15 million, $332,000 for BE Ready Catalina, and $3 million for BE Business. (Ex. SCE-02 at 49, 61.)

[89] Ex. SCE-06 at 35.

if it collaborated with upstream and midstream implementers to target the same property owners in a particular geographic area.[90]

SCE should explore expanding on existing programs without duplication. We discuss below two programs with implementation lessons SCE does not detail in its Proposal, from which it could incorporate lessons learned to save costs and maximize benefits.

5.1.1. Energy Savings Assistance Building Electrification Pilot

SCE's $40.8 million Building Electrification Pilot through the ESA Program was scheduled to run through 2026.[91] The ESA Building Electrification Pilot would offer "a variety of heat pump technologies for space and water heating, and clothes drying, and other electric technologies, including induction cooktops that offer faster, safer, and cleaner alternatives to gas appliances."[92] The ESA Building Electrification Pilot will "provide cleaner, more affordable energy options to low-income single family residential customers located in DACs [disadvantaged communities] in SCE's jurisdiction, … [provide] BE retrofits to reduce energy operating costs and GHG production of customers currently using natural gas or propane," and increase customers' knowledge of clean energy electric options.[93] D.21-06-015 instructed SCE to report on goals and objectives, including customer bill and energy savings results, customer targeting success, coordination with other programs, customer knowledge and awareness of electrification, and lessons learned and applied from San Joaquin Valley pilots or

[90] Ex. CA-01 at 2-1 (recommending collaboration to save administration costs).

[91] D.22-04-036, FOF 25 at 117-118; CA-01 at 1-6.

[92] D.21-06-015 at 383, 513, OP 163.

[93] *Id.* at 383.

other ratepayer funded efforts.[94] This additional knowledge from the ESA Building Electrification Pilot should be incorporated into SCE's new building electrification proposals.

While SCE characterizes BE Ready Home as different from the ESA Building Electrification Pilot because its Proposal here offers partial cost incentives to all customers, and the ESA Building Electrification Pilot offers no-cost installations for select "high-usage," income-qualified single-family households in disadvantaged communities, SCE does not explore or describe opportunities to increase ratepayer benefits.[95]

SCE states that its Proposal in this Application is much larger, with installation of 250,000 heat pumps while the ESA Building Electrification Pilot plans to install approximately 3,000 to 4,000 heat pumps.[96] Even with a smaller target heat pump installation number, however, SCE could take lessons learned from the ESA Building Electrification Pilot to evaluate whether specific low-income, geographic, or other areas are more ready for electrification than others.

5.1.2. San Joaquin Valley Pilot

Cal Advocates highlights how bill impacts for low-income, disadvantaged, and ESJ communities are a special concern. EDF explains that low-income, disadvantaged, and ESJ communities historically have high energy burden and low energy security, meaning that high energy bills make up a large portion of

[94] *Id.* at 386.

[95] Ex. SCE-06 at 28

[96] *Id.*

their income and increases are difficult to absorb.[97] The San Joaquin Valley Pilot provides insight into this concern.

In the debate about the San Joaquin Valley Pilot, Cal Advocates states that after program participation, the average fuel cost was higher than before program participation in a three-month period by $45.49, which fortunately was offset by the program discount of 36 percent.[98] According to SCE, however, the average bill savings over 12 months was $206 per month if there was no program discount.[99] At the evidentiary hearing, Cal Advocates clarified that it only intended to show that bill increases can occur, not that there was an increase in the average bill for a 12-month period.[100] SCE responded it does not claim that "natural gas customers would save on total energy costs" by participating in the San Joaquin Valley Pilot.[101]

The important point from this exchange between SCE and Cal Advocates is that it is uncertain if vulnerable customers can afford electricity bills after switching to electric appliances.[102] The San Joaquin Valley Pilot includes bill protection in the form of bill discounts because it is not guaranteed that total energy bill impacts would otherwise be negative. In contrast, SCE's Proposal does not include any bill protection for low-income or ESJ communities in the

[97] Ex. EDF-01 at 13; *see* Ex. SC-01 at 28-29.

[98] Ex. CA-03 at 1-17 - 1-18, Appendix B, Attachment 1-N; SCE OB at 16. *See* Ex. CA-03 at 1-18, Appendix B, Attachment 1-O (stating that PG&E's service territory for the San Joaquin Valley Pilot also experienced an average 39.5 percent average energy bill increase without the program specific discount).

[99] SCE OB at 15.

[100] Evidentiary Hearing Transcript at 354:21-355:9.

[101] SCE Reply Brief (RB) at 5-6.

[102] Ex. CA-02 at 1-19.

face of these known uncertainties. That is, not all customers in ESJ communities will become program participants but all customers, including those in ESJ communities, will see rate increases.

Additionally, the Commission agrees with Cal Advocates that SCE does not analyze which customer groups or geographic areas might be particularly susceptible to higher electricity bills.[103] SCE will conduct more extensive analysis on the San Joaquin Valley Pilot in 2024.[104] SCE's 2024 analysis should inform the design of SCE's future building electrification programs.

SCE does not justify why its Proposal is appropriate at this time when valuable lessons following the conclusion of the existing pilots would be available to enhance a new proposal in the near future, perhaps at an even larger scale than the current Proposal. The findings from the ESA Building Electrification Pilot and the San Joaquin Valley Pilot would create a solid foundation upon which SCE can pursue cost-effective methods of reducing GHG emissions with its building electrification programs at lower costs to ratepayers.[105]

SCE is implementing more than $100 million in Commission authorized heat pump programs, which should provide SCE with critical knowledge and experience to design effective programs that reduce the most GHG emissions while reducing ratepayer burden. Besides simply emphasizing the large

[103] Ex. CA-03 at 1-18 (stating that actual customer data from existing electrification pilots can determine which types of customers might experience bill increases and which customers might experience bill decreases); Ex. SCE-21 at 37-39 (stating bill impacts for participating residential and commercial customers by climate zones but does not address non-participants); Ex. SCE-21, Appendix A, at A-4 to A-5 (stating monthly bill impacts by customer class but does not identify subsets that are more susceptible to higher electric bills).

[104] Ex. CA-03, Appendix B, Attachment 1-N.

[105] Ex. CA-01 at 1-6 and 1-15 - 1-16.

quantity of heat pump installations, SCE must provide a more thoughtful and specific analysis on how to supplement or fill gaps in existing programs to carry its burden of proof here.

5.1.3. Coordination Opportunities

The ACR directed SCE, and invited other parties, to provide supplemental testimony regarding the Proposal's relationship, and potential for improved coordination opportunities, with other programs.[106] This included information on leveraging customer support, outreach and administrative efforts; geographic considerations; layering incentives; and barriers to coordination.

SCE responds that it plans to strategically engage with program administrators of complementary energy efficiency and clean energy programs to coordinate and/or partner in achieving program goals. SCE more specifically notes it will (a) layer incentive levels consistent with the layering incentive principles adopted in D.21-11-002; (b) streamline assessments to enroll eligible customers across multiple programs to maximize participation and benefits; (c) coordinate installation contractors or even have the same contractor perform work for multiple programs to minimize disruptions, improve customer experience, and reduce costs; (d) coordinate ME&O activities with multiple programs; and (e) enhance data collection.[107]

These worthy concepts are neither adequately developed nor sufficiently specific to support authorization of up to $733.9 million that SCE acknowledges will raise rates for the ratepayers in the near term.[108]

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[106] ACR question affixed as Attachment 2, Question 5.

[107] Ex. SCE-21 at 14-15.

[108] Ex. SCE-23 at 2.

SCE's response to the concern regarding insufficient coordination with other programs is that establishing:

> detailed procedures and layering arrangements at this stage reflects a lack of understanding of the complexities of incentive layering… establishing incentive layering arrangements is not a simple exercise that SCE can unilaterally conduct, nor can SCE predict at this stage exactly how incentive layering arrangements with other programs will play out.[109]

We agree there are complexities relative to layering. For example, SCE points out five important barriers to effective coordination. These barriers are variations among program rules, data collection requirements, customer eligibility specifications, equipment eligibility standards, and contractor eligibility criteria. SCE states these programs need to have minimal variations to ensure effective coordination. We agree. Clearly, there is more work to be done here.

Thus, we cannot authorize SCE's Proposal at this stage. We suggest SCE consider returning with a new, more well-developed proposal.

5.2. Federal and State Funds

According to SCE, its Proposal is necessary because current federal and state funding does not provide the $19 billion in estimated budget for the number of electric appliance installs to meet California's 2030 decarbonization goals.[110] That number is SCE's uppermost limit of its own estimates; SCE's lower estimate for required funding is $6 billion.[111] SCE's estimates of the GHG

[109] Ex. SCE-23 at 6, 8.

[110] SCE OB at 20.

[111] SCE's estimated range of required decarbonization investment is based on SCE's Pathway 2045 report ($19 billion) and the Governor Brown's September 10, 2018, EO B-55-18 ($6 billion). (Ex. SCE-05 at 4, Table II-1.)

reductions needed to reach California's decarbonization goals in 2030 spans over a similarly large range between 30 and 90 MMT.[112] We find these arguments unpersuasive for the following four reasons.

First, substantial federal and state tax and other funds are expected to flow into the SCE territory in the near future, which will discernably lower SCE's future need for ratepayer funds for these programs. The table below shows some current and anticipated federal and state tax and other funds that focus on building electrification.

Table 4: Federal and California General Funds

	Amount	**Description**
Federal Inflation Reduction Act (IRA)	$11 billion nationwide[113]	Rebates for low and moderate income households. Tax credits for higher income households. Increases and expands tax deduction for commercial buildings.[114] (heat pump HVAC, heat pump water heater, electric stoves (includes induction), panel upgrades, wiring improvements, insulation sealing)[115]
Federal Infrastructure Investment and Jobs Act[116]	$550 million nationwide[117]	Energy Efficiency Conservation Block Grants. Formula and qualification requirements for the grants in June 2023.

[112] SCE focuses on the upper limit of the range 90 MMT gap in its briefs, which also pushes its estimates of required funding to the upper most limit of $19 billion. However, even by SCE's own estimates, the lower limit is $6 billion. (Ex. SCE-05 at 3.)

[113] Ex. SCE-06 at 3.

[114] Ex. CA-02 at 1-10.

[115] *Id.* at 1-5, Table 1; Ex. CLE-02 at 2.

[116] Ex. CA-02 at 1-11, 1-12.

[117] Ex. EDF-01 at 11.

	Amount	Description
California Energy Commission (CEC) Equitable Building Decarbonization Program	$152 million	The incentive program will include "low-carbon building technologies, such as heat pumps, space and water heaters, and other efficient electric technologies, at minimal or no cost for low-to-moderate income residents.

SCE fails to show how its proposed programs costing up to $733.9 million reasonably consider and complement existing and new state and federal funds. Based on Cal Advocates' estimates, SCE's territory might receive over $200 million in general funds for heat pumps and panel upgrades in the near term.[118] Cal Advocates and CLECA recommend that the Commission reject SCE's application given the availability of such other funds.

In response, SCE presents estimates of a remaining gap of 1.3 to 1.4 million heat pumps in SCE's service area even after accounting for the IRA and CEC Equitable Building Decarbonization Program.[119] We are not persuaded. SCE's analysis only considers IRA and CEC money and fails to account for other funds and incentives (e.g., Federal Infrastructure Investment and Jobs Act). We cannot authorize SCE to spend up to $733.9 million of ratepayer money without a stronger showing by SCE of how it will make the best use of all federal and state and other money and more carefully target ratepayer funds.

Second, simply asserting that its Proposal is necessary because current federal and state funding cannot provide the $19 billion budget for the number of electric appliance installs to meet California's 2030 decarbonization goals[120]

[118] Ex. CA-01 at 2-3 - 2-5.

[119] Ex. SCE-23 at 5.

[120] SCE OB at 20.

fails to address how the Proposal maximizes ratepayer benefits at least cost. In fact, federal and state programs include characteristics that directly overlap with SCE's Proposal. Comparing the incentives of SCE's Proposal in Table 2 of Section 1.2 with the IRA rebates listed in Table 5 below show that SCE's Proposal cover the same appliances and panel upgrades.

Table 5: Federal Inflation Reduction Act Rebates

Measure	Maximum Rebate
Heat Pump HVAC	$8,000
Heat Pump water heater	$1,750
Heat pump clothes dryer	$840
Electric stove (includes induction)	$840
Electrical panel upgrades	$4,000
Electric wiring improvements	$2,500
Insulation/sealing	$1,600

Cal Advocates gives the following examples where IRA rebates overlap with SCE's Proposal.[121] In the IRA, the up to $8,000 rebate for heat pump HVAC could cover most or all the replacement cost, when the estimated cost of heat pump HVAC is between $4,000 to $5,000.[122] For heat pump HVACs, SCE's proposed incentives average between $650 to $2,000. The IRA offers rebates for a heat pump water heater of up to $1,750, which is like SCE's proposed incentive of $1,500 for ESJ customers and $1,000 for non ESJ customers.[123] The IRA offers

[121] Ex. CA-02 at 1-5.

[122] *Id*. at 1-8.

[123] *Id*. at 1-5.

incentives for panel upgrades of up to $4,000, whereas SCE's Proposal is estimated to be between $2,821 and $6,663.[124]

Additionally, IRA provides tax credit for home energy audits, which overlaps with SCE's Proposal to perform 120,000 in home assessments and 240,000 digital assessments.[125] Lastly, Cal Advocates points out that the IRA increases and expands tax deductions for commercial buildings with the "Energy Efficient Commercial Buildings Deduction." The deduction is available to a variety of building owners, including tribal and non-profit organizations such as schools.[126] This will duplicate some or all of SCE's proposed BE Business.

In the supplemental testimony submitted in response to the ACR, SCE affirms that it will apply the guiding principles for layering incentives adopted in D.21-11-002 and that SCE will cap incentive levels "so all layered or stacked incentives including potential tax credits available under the Inflation Reduction Act do not exceed the total cost of the appliance and installation."[127] At the same time, SCE states that "[i]ncentive layering on federal tax credits is complicated."

We believe SCE will do its best to apply the layering principles from D.21-11-002, especially with regard to already authorized funds. It is also clear that, as SCE says, it is complicated, and based on the record of this proceeding, we do not have the needed confidence that these complexities are reasonably addressed here. We therefore cannot authorize up to another $734 million based on SCE's showing here.

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[124] *See* Table 2.

[125] *Id.* at 1-9 - 1-10.

[126] *Id.* at 1-10 - 1-11.

[127] Ex. SCE-21 at 25.

Third, another federal opportunity is the Infrastructure and Investment and Jobs Act. SCE could structure their program to coordinate with local government entities eligible to receive the Energy Efficiency Conservation Block Grants through the Infrastructure Investment and Jobs Act.[128]

Fourth, regarding CEC programs, collectively called the "Equitable Building Decarbonization Program," Cal Advocates states that in the next fiscal year, there will be funding to serve low-to-moderate income residents, "with a preference for buildings in under-resourced communities or owned by a California Native American tribe or one of its members." The incentive program will include "low-carbon building technologies, such as heat pumps, space and water heaters, and other efficient electric technologies."[129] EDF states SCE could leverage a community development block grant in consultation with the California Department of Housing and Community Development and the CEC.[130] These programs duplicate some or all of SCE's Proposal, but SCE does not take this into account.

Thus, other non-ratepayer state and federal funds not collected by utility rates are and will be available to address the same policy goals with the same or similar incentives as SCE's Proposal. When SCE's Proposal is examined in the context of the large influx of federal and state funding and existing ratepayer funded programs, it is inconsistent with just and reasonable rates to authorize SCE's Proposal.

[128] Ex. CA-02 at 1-11.

[129] *Id.* at 1-13.

[130] Ex. EDF-01 at 11.

5.3. Southern California Edison Company's Estimated Greenhouse Gas Emissions

We decline to rely on SCE's estimated GHG emissions reductions that SCE claims result from its Proposal. As correctly noted by intervenors Cal Advocates and TURN, SCE only uses Climate Zone (CZ) 10, which overstates the estimated GHG reductions and is not truly representative of SCE's service territory.

5.3.1. Climate Zones

SCE's service area includes ten climate zones, but its calculations are based only on CZ 10, which does not reflect the diversity in GHG emissions reductions in the ten climate zones. Of the ten climate zones, SCE provides no calculations of how CZ 10 is the average climate zone. In fact, CZ 10 only covers the southern California interior valleys and hills with hotter summers and colder winters than the coastal climates.

In a revised analysis, SCE used CZ 6 for Catalina Island,[131] and argues that CZ 10 based forecasts/estimates would still be appropriate for its other eight territories because SCE used a forecasting methodology similar to that used in other programs.[132] SCE argues that CZ 10 might result in a conservative estimate because it is between the milder climate zones (6, 8, 9) and the hotter climate zones (13, 14, 15). To assess this further, we look at the evidence based both on (1) therms of natural gas, and (2) metric tons of GHG.

5.3.2. Greenhouse Gas Emissions Reductions Estimates

GHG emissions reductions estimates are based on the reduction in natural gas use and the net energy results. When gas savings exceed the incremental increase in electric energy usage per unit, the system provides a net reduction in

[131] SCE OB at 32, fn. 172 and associated text.

[132] *Id.* at 32.

energy. The higher the net energy reductions, the higher the avoided GHG emissions.

Regarding therms, SCE estimates that there will be lifecycle net reduction of 654 million therms on natural gas energy usage.[133] In contrast, Cal Advocates calculations shown in Table 6 below indicates there could be nearly 30 percent less savings depending on the chosen climate zone.[134] Cal Advocates argues that inaccuracies are exacerbated when the performance of each type of heat pump technology to produce one ton of cooling varies by climate zone.[135]

Table 6: Lifecycle Net Energy Reduction (therms)

	Lifecycle Therms Reduction	**Percent Reduction from SCE**
SCE Application (CZ 10)	654,915,271	
Cal Advocates Scenario 1 (CZ 10) (Riverside)	600,349,537	8.3
Cal Advocates Scenario 2 (CZ 9) (Downtown LA)	507,329,876	22.5
Cal Advocates Scenario 3 (CZ 6) (Coastal LA)	468,181,342	28.5

In making its calculations, Cal Advocates first updated SCE's annual net energy savings (mmBTU[136] per ton of GHG) with corrected energy inputs from the energy efficiency workpaper for mini-split heat pump, which lowered the

[133] *Id.* at 29.

[134] Ex. CA-01 at 1-27, Table IV-5.

[135] *Id.* at 1-25. For example, Cal Advocates found that in CZ 10, ductless mini-split heat pump results in higher net energy savings when compared to heat pump HVAC central system. In CZ 6, Cal Advocates found that central heat pump system exhibits higher energy savings than ductless mini-split system. (Ex. CA-01 at 1-25, 1-26, Table IV-4.)

[136] Million British Thermal Units.

annual energy savings.[137] Then, Cal Advocates calculated the lifecycle energy impacts[138] to compare with SCE's application. Cal Advocates argues that SCE neglected the larger populations and larger temperature increases in coastal Los Angeles (CZ 6) and down town Los Angeles (CZ 9), and also the coast and slightly inland areas of southern California where there will be the largest increases in electricity demand due to climate change.[139] As a result, in Table 6 above, Cal Advocates shows CZ 9 and CZ 6 have lower lifecycle net energy savings compared to CZ 10. The lower net energy savings then translates into lower avoided GHG emissions.

Regarding metric tons, SCE claims that its Proposal would result in 3.5 MMT of lifetime avoided GHG emissions. In contrast, Cal Advocates calculations show that the results vary again by climate zone.

Table 7: **Lifetime Avoided Greenhouse Gas Reduction (metric tons)**

	SCE's Application	Cal Advocates Scenario 1 (CZ 10) (Riverside)	Cal Advocates Scenario 2 (CZ 9) (Downtown LA)	Cal Advocates Scenario 3 (CZ 6) (Coastal LA)
BE Portfolio	3,487,091	3,148,245	2,631,364	2,393,957
Percent decrease compared to SCE's estimates		10	25	31

[137] Ex. CA-01 at 1-24, Table IV-3. SCE responds that Cal Advocates used an updated version of energy efficiency workpaper that came into effect after SCE started working on its application. SCE states that new variations are introduced periodically, and can be factored in, but should not affect existing measure energy savings forecasts to maintain their analysis. (Ex. SCE-06 at 24.)

[138] The lifecycle energy impacts represent the annual energy impacts multiplied by the effective useful life of the measures. (Ex. CA-01 at 1-27, Table IV-5.)

[139] Ex. CA-01 at 1-18.

In Table 7 above Cal Advocates shows using CZ 6 would result in 31 percent less avoided GHG emissions compared to SCE's estimates.[140]

We are persuaded by Cal Advocates that there is a wide range of reasonably possible estimates of GHG emissions reductions. We conclude that SCE's Proposal fails to provide sufficiently reliable estimates to show it maximizes avoided GHG emissions with ratepayer funds. We strongly support the Proposal's primary goal "to pursue carbon neutrality with unprecedented urgency and commitment."[141] Nevertheless, SCE's claimed climate change benefits could be 30 percent less than SCE claims. This is another reason why it is unreasonable to add this magnitude of additional cost burden on the ratepayers at this time for an outcome that may be substantially less than estimated by SCE.

Moreover, the Commission agrees with NRDC that it is important to strive to reduce the most GHG per dollar spent.[142] SCE's Proposal, as is, does not show by a preponderance of evidence that it will achieve the estimated GHG emissions reductions at least cost. It is vital to refrain from spending limited ratepayer resources without a high degree of confidence that the dollars spent will achieve the best outcome.

In the future, after evaluating existing pilots, SCE should consider incorporating lessons learned to make a showing of how a revised proposal will reduce GHG emissions and maximize benefits to ratepayers, in balance with just and reasonable rates.

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[140] *Id.* at 1-34.

[141] SCE OB at 14; Application at 1.

[142] Ex. NRDC-01 at 13.

5.4. Southern California Edison Company's Estimated Marginal Greenhouse Gas Abatement Costs

Because we find that SCE's estimated GHG emissions reductions are likely overstated, we also find that SCE's estimates of the marginal cost of GHG abatement are likely understated, unreliable, and unpersuasive. We agree with Cal Advocates that the marginal cost of reducing each ton of GHG is likely more expensive than SCE's estimates, as discussed below.

Estimated avoided GHG emissions are an input when calculating the marginal GHG abatement costs. SCE argues that its Proposal's marginal GHG abatement cost estimate is reasonable because the average abatement cost of its three programs is $139 per ton, which is within the range of $118 to $188 per ton discussed in CEC's Building Decarbonization Report.[143] We find, however, that we are unable to rely on SCE's marginal GHG emissions abatement cost estimates of $139 per ton.

The marginal cost of a GHG reduction is the total cost for the program divided by the tons of GHG reduced. If the total cost stays the same but the achieved reduction is less, the marginal cost increases.

As discussed in Section 5.4, Cal Advocates shows that avoided GHG emissions vary by climate zone. Although SCE estimates that average marginal GHG abatement cost at $139 per ton, Cal Advocates shows an increase in abatement costs depending on the climate zone.

In Table 8 below, Cal Advocates' GHG emissions reductions numbers from different climate zones are used to calculate the marginal abatement cost.

[143] SCE OB at 36 (citing Final Commission's Report California Building Decarbonization Assessment, August 2021, at 55, 57).

According to Cal Advocates, the average abatement is no longer $139 per ton but between $161 and $224 per ton.

Table 8: Marginal Greenhouse Gas Emissions Abatement Cost

	SCE's Application	Cal Advocates Scenario 1 (CZ 10) (Riverside)	Cal Advocates Scenario 2 (CZ 9) (Downtown LA)	Cal Advocates Scenario 3 (CZ 6) (Coastal LA)
BE Portfolio (Avoided GHG metric tons)	3,487,091	3,148,245	2,631,364	2,393,957
Abatement cost ($/ton)				
BE Home	143	170	221	257
BE Catalina	335	392	499	566
Business[144]	111			
BE Portfolio Average	139	161	199	224
Percent Above SCE		16	43	61

As pointed out by Cal Advocates, the decrease in avoided GHG emissions correlates with increased abatement costs between 15 percent and 61 percent, with the highest increase in abatement costs in CZ 6, Coastal LA.[145]
Cal Advocates' analysis shows that the marginal abatement costs could average up to $224 per metric ton of avoided GHG emissions for SCE's Proposal.[146]

Marginal abatement costs are relevant in determining the reasonableness of SCE's Proposal. We are not persuaded that SCE's marginal abatement cost estimates are sufficiently reliable to justify SCE's Proposal, given the diverse results depending on which climate zone SCE uses to represent its entire territory.

[144] Cal Advocates did not change the modelling for BE Business from SCE's estimates.

[145] Ex. CA-01 at 1-32, Figure IV-1, 1-33 - 1-34, Table IV-6.

[146] *Id.* at 1-34, Table IV-6.

The Commission agrees that reducing GHG emissions to meet the state's climate change goals is urgent and critical. It is even more vital that the Commission ensure that each ratepayer dollar be spent wisely, efficiently, and thoughtfully, to produce the most benefit for the cost. Here, we find that SCE's Proposal fails to maximize GHG impact per dollar of ratepayer funds.

5.5. Southern California Edison Company's Proposed Cost Recovery

As described in Section 1.2.6 above, SCE proposes to recover $69.2 million in capital costs (utility-side infrastructure), $199.8 million in regulatory asset costs (customer-side infrastructure), and $408.2 million in operations and maintenance expenses. SCE requests regulatory asset treatment for $199.8 million, customer-side electrical infrastructure upgrades (*e.g.*, panels, circuits, wiring).

This means the customer-side infrastructure costs will be spread over 20 years instead of 2024-2027, decreasing the monthly bill impact. However, customers will experience higher total costs over 20 years, as SCE will be eligible to recover the Commission authorized rate of return. The current authorized rate of return is 7.68 percent. If SCE's Proposal is approved, however, parties dispute treatment of the regulatory asset.[147] We need not decide on that treatment since we deny the application on other grounds. That is, we deny SCE's Proposal with or without regulatory asset treatment of customer-side infrastructure.

We find that SCE has failed to establish that it has reasonably: incorporated using federal and state funds before ratepayer funds, proposed

[147] Only SCE advocates for regulatory asset treatment. No other party supports this approach, with six in direct opposition and three taking no position.

coordination with already funded programs, proposed methods to apply lessons learned from other programs to its Proposal, maximized ratepayer benefits, and offered a Proposal that achieves the most benefits at the least cost. Our subsequent assessment of bill impacts further supports this conclusion.

5.6. Southern California Edison Company's Estimated Rate and Bill Impacts Are Unpersuasive

As discussed below, the Proposal will likely result in rate increases, not decreases. In fact, the majority of SCE's customers are certain to experience rate and bill increases under its Proposal,[148] and all parties agree that residential rates will increase in the first four years (2024-2027) of the program, with disputes limited to whether or not residential rates will decline beginning in 2028.[149]

Regarding non-residential rates, even SCE acknowledges that "non-residential customers may realize a modest rate increase through at least 2038…"[150] In fact, SCE notes "the business customer class is not expected to realize rate reductions until approximately 2050."[151] SCE predicts a commercial

[148] In response to the ACR, SCE updated its monthly bill analysis. The base case is SCE's proposal remains the same. The updated base case includes all recent rate increases (e.g., current rates implemented on March 1. 2023, to include the 2021 GRC attrition year revenue adjusted for SCE's most recent cost of capital decision, and all other authorized rate updates since October 1, 2021). SCE reports the "result is that for most customers the higher base revenue and rates in 2023 relative to 2021 results in a smaller percent increase for the same (based on $667 million) BE program-related revenue requirements." (Ex. SCE-21 at 35.) The update narrows in percentage increase but does not fundamentally change our analysis of SCE's Proposal.

[149] Ex. SCE-02 at 2; Ex. SCE-21 at 33 (Figure II-1); Ex. SCE-23 at 2 ("We acknowledge that making strategic near-term investments to support decarbonization and electrification does increase near-term electric costs."); SCE RB at 8 ("…while the portfolio would result in a modest, temporary rate increase during the 2024-2027 program years, [footnote deleted] it would result in lower rates for residential ratepayers on a going forward basis.").

[150] SCE RB at 8, fn. 78.

[151] Ex. CA-03 at 11.

customer whose average bill is approximately $620 per month will see a bill increase of $4 to $5 per month now, with the amount declining over time.[152]

Based on this evidence, neither rates nor bills will decline in the first four years, and most rates and bills will not decline for up to decades thereafter, with the possible exception of residential customers beginning in 2028. For those residential customers, SCE estimates rates will decline after 2028, while Cal Advocates and TURN contend the rates will not decline but remain above present levels even after 2028.

In weighing the competing evidence, we find that SCE's proposed rate and bill impacts unpersuasive for the following reasons: (1) uncertainties regarding usage by climate zone, (2) the level of adoption and electricity consumption by low-income and ESJ customers required to achieve downward pressure on rates and bills, (3) a lack of analysis on the bills of customers who are on tariffs other than the default, such as the TOU[153]-D-PRIME rate, and (4) a failure to consider the impact of free ridership on rates and bills.[154]

First, SCE's rate and bill impact estimates are unpersuasive because of uncertainties relative to usage by climate zone. SCE asserts rates will decrease as total costs are spread over increased electricity sales resulting from building electrification. In other words, the increase in electricity sales will result in a downward pressure on rates overall. The Commission agrees with SCE that predicting future rates depends on future sales, which are a function of electricity consumption, incremental electrification, and load profiles. Electricity consumption, incremental electrification and load profiles vary by climate zone.

[152] Ex. SCE-03 at 11-12.

[153] Time-of-Use.

[154] Ex. TURN-01 at 12-13.

As discussed in Sections 5.3-5.4 above, SCE's use of only one climate zone results in overestimate of ratepayer benefits.[155] As correctly pointed out by TURN, because CZ 10 is a hot climate zone, it is not indicative of the impacts of HVAC installations in cool climate zones. Moreover, TURN states customers in moderate and cool climate zones outside of CZ 10 use less electricity, and therefore customers in those other climate zones will use far less electricity and experience far less decrease in rates as compared to CZ 10 customers.

Second, SCE's rate and bill analysis are dependent on the level of adoption by low-income and ESJ customers. SCE states that 40 percent of its budget will be allocated to low-income and ESJ communities, which it predicts will result in 32 percent to 33 percent of the building electrification program participants who will be on the CARE rate.[156] This equates to 32 percent to 33 percent of the program revenue coming from customers who are on the CARE rate. SCE notes that if more 32 percent to 33 percent of the revenue comes from customers who are on CARE rates, then the total revenue decreases because CARE customers receive a 30 percent discount on electric bills.[157] SCE further explains that as the program shifts to more low-income and ESJ communities, and the number of CARE customers increase, the program total revenues are lower, and the rate increases from its Proposal are larger.[158] This means that SCE's estimated rate and bill savings are heavily dependent on the assumed level of adoption by low-income and ESJ customers on the CARE rate. SCE presents no specific and

[155] *Id*.

[156] Evidentiary Hearing Transcript at 150:11-15:25.

[157] *Id*. at 152:11-152:13, 155:15-155:25, 163:20-164:15.

[158] *Id*. at 155:15-155:25, 158:4-158:21, 159:19-159:22.

concrete data or real-world based experience to support its assumed level of adoption.

Moreover, SCE claims the 40 percent budget allocation by low-income and ESJ communities is a floor, not a ceiling.[159] If more than 40 percent is spent, and more CARE customers participate in the program, then SCE's rate and bill savings will be less than SCE estimates here.

We are not persuaded to authorize a program, the results of which are so dependent on the level of adoption by low-income and ESJ customers, without more confidence in the underlying assumptions and estimate.[160]

Third, SCE's rate and bill analyses are unpersuasive because they do not explore potential revenue shortfalls that may increase rates for certain other non-participating customers. For example, Cal Advocates argue SCE's rate impacts and bill impacts do not consider the increased number of customers that might enroll in the TOU-D-PRIME rate. The TOU-D-PRIME rate includes a fixed charge and a reduced volumetric rate that is designed to provide lower bills when compared to SCE's default residential rates.

Cal Advocates states that customers enrolled in TOU-D-PRIME receive artificially lower rates, which results in a revenue shortfall.[161] Cal Advocates

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[159] SCE RB at 47.

[160] SCE states that it anticipates actual funding for ESJ communities will exceed 40 percent, and that it has determined it can dedicate up to 50 percent of program funds to ESJ communities while still maintaining positive rate impacts. (SCE RB at 47; see also Reporters' Transcript October 18, 2022, at 164:9-164:16; Ex. SCE-06 at 66.) The record shows rates increase with an increased number of CARE customers in the program but does not establish the level of adoption by CARE customers. We remain unpersuaded to authorize a program with results so dependent upon the level of adoption of one customer group without confidence in the underlying estimate, particularly when SCE states the budget allocation is intended to be a floor, not a ceiling.

[161] Ex. CA-01 at 1-12 - 1-13.

explains that with more TOU-D-PRIME enrollment the revenue shortfall increases, and the revenue deficit created by TOU-D-PRIME enrolled customers is recovered from non-participating residential customers through higher rates.[162] Cal Advocates estimates a revenue shortfall of $17 million, with 121,444 Building Electrification customers enrolling in TOU-D-PRIME. The $17 million shortfall equates to an average residential rate increase of 0.3 percent for residential customers not in TOU-D-PRIME.[163]

In response, SCE argues the TOU-D-PRIME rate is a better representation of the cost to serve customers.[164] Nevertheless, SCE does not refute Cal Advocates' claim that certain classes of customers could experience additional increases on top of the Proposal's costs.

Lastly, we find that SCE's rate and bill impact analyses unpersuasive because SCE does not consider free riders. "Free riders" are households that would make the investments without the Proposal's programs given already existing alternative programs or other considerations,[165] but who would nonetheless enroll in the Proposal's programs and receive the incentive payment. SCE rejects the argument that its Proposal's incentives may be "wasted" on customers who would have purchased the appliances without the incentives. SCE argues that it appropriately used the Commission approved free-ridership factor through a Net-to-Gross value of 1.0, meaning there are no free riders.[166]

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[162] *Id.* at 1-13.

[163] *Id.* at 1-14.

[164] Ex. SCE-06 at 53.

[165] These might include high income early adopters who choose advanced technologies for environmental, social, or other considerations rather than only economic factors.

[166] Ex. SCE-06 at 26; SCE OB at 31; Ex. TURN-01 at 10.

TURN reiterates that even if there is no existing Net-to-Gross ratio for heat pumps, a Net-to-Gross ratio of 1.0 is unrealistic, and 0.75 is more appropriate.[167]

The Commission agrees with TURN that 1.0 is unrealistic. Given the existence of Commission-authorized programs described in Section 5.1, and the state and federal incentive programs described in Section 5.2, it is unreasonable to assume that existing heat pump programs would result in zero free riders and have zero impact on SCE's Proposal. With fewer customers installing new appliances due to the Proposal's programs, there will be less electricity consumption directly linked to the Proposal, which means fixed costs will be spread over less sales, and there will be less downward pressure on rates in the future.

We agree with Cal Advocates that when accounting for free ridership, SCE's estimates of incremental sales attributable to its Proposal should be reduced.[168] Thus, SCE's calculations do not present a reasonable picture of rate and bill impacts.

In short, the Commission agrees with TURN and Cal Advocates that SCE's rate and bill analyses do not satisfy its burden of proof. We find that when weighed with that opposed to it, we are not persuaded by SCE's arguments here.

6. Conclusion

The Commission supports the important and worthy goals of SCE's Proposal to reduce GHG emissions through building electrification. At this time, the Commission concludes that it cannot authorize the Proposal seeking up to $733.9 million in ratepayer funds without SCE doing a better job of its due

[167] Ex. TURN-01 at 10; TURN RB at 4–5.

[168] Ex. CA-01 at 1-3.

diligence to ensure ratepayer money will be spent thoughtfully to obtain the most benefits at the least cost. This decision does not analyze BE Ready Catalina or BE Business separately because the reasons set forth in this decision apply to SCE's Proposal overall.

We deny SCE's Proposal and encourage SCE to redesign and return program(s) in the future that reduce(s) costs and maximizes benefits for ratepayers in another application. A new application should include:

- Addressing the nexus between building electrification investments and distribution planning, with the goal of avoiding unnecessary distribution upgrades where avoidable by other measures, and minimizing costly distribution upgrades in the near term;
- Leveraging existing programs to minimize the total expenditure on HPWH deployments to meet state policy goals, while maximizing both greenhouse gas reductions and adoption in ESJ communities;
- Strategizing customer data sharing requirements that need to be enabled in order to minimize net bill impacts for customers on both electric and gas bills;
- Supporting cost reductions in the natural gas system, including but not limited to laying the groundwork for enabling strategic and sensible gas system decommissioning in the future;
- Establishing mechanisms for maximizing demand flexibility and load shifting to the fullest extent possible; and
- Establishing strategies for minimizing the demand for panel upgrades, including deploying innovative strategies to avoid upgrades when possible (e.g., circuit sharing plugs, smart devices).

7. Procedural Matters

All outstanding motions not expressly ruled upon prior to the date of this decision or addressed by this decision are denied. The record for the above-captioned proceeding is deemed to have been submitted on July 10, 2023.

8. Comments on the Proposed Decision

The proposed decision was served on _____. On _____, _____ filed opening comments. On _____, _____ filed reply comments. The Commission carefully considered the comments made by the parties.

9. Assignment of Proceeding

Karen Douglas is the assigned Commissioner. Zhen Zhang is the assigned ALJ and the presiding officer in this proceeding.

Findings of Fact

1. SCE seeks authorization to recover $667.2 million for its Building Electrification programs to support the installation of approximately 250,000 heat pumps and provide electrical upgrades for 65,000 households, with no further reasonableness review required for costs up to an additional 10 percent, for a total up to $733.9 million.
2. The Building Electrification programs would be administered over four years (2024-2027) and is composed of three programs: BE Ready Home, BE Ready Catalina, BE Ready Business.
3. The proposed BE Ready Home budget is $578.6 million.
4. The proposed BE Ready Catalina budget is $15.6 million.
5. The proposed BE Business budget is $83.0 million.
6. The proposed BE Ready Home designates 40 percent of its budget to fund ESJ communities.

7. The Proposed BE Business would provide 20 percent higher incentives for non-residential buildings located in ESJ communities.

8. SCE proposes to recover capital of $69.2 million for utility infrastructure.

9. SCE proposes to recover capital costs of $199.8 million for customer-side infrastructure as a regulatory asset depreciated over 20 years by rate base treatment.

10. SCE proposes to recover operations and maintenance expenses of $408.2 million annually over the four years of the program as expenses occur.

11. SCE's customers have recently experienced large rate increases and rates are projected to increase further.

12. SCE is involved in Commission authorized heat pump programs costing over $100 million.

13. SCE's Proposal fails to maximize benefits, reduce costs, avoid duplications, and incorporate lessons learned relative to Commission-authorized building electrification programs.

14. The SCE territory has and will continue benefit from existing federal and state funds.

15. SCE failed to estimate and incorporate the impacts of federal and state general funds, including federal and state programs with characteristics and program incentives that directly overlap with those in SCE's Proposal.

16. SCE's estimated GHG emissions reductions are unpersuasive given evidence that the reductions vary substantially by climate zone.

17. SCE's GHG marginal abatement costs are unpersuasive given evidence from Cal Advocates that these costs vary substantially by climate zone.

18. If SCE's Proposal is implemented, rates will not decline for SCE's customers.

19. SCE's bill analysis is not persuasive given all of the uncertainties regarding four factors (i.e., usage by climate zone, uncertainties regarding levels of adoption by low-income and ESJ communities, lack of analysis on the impact of specific tariffs on customer bills, and failure to consider free ridership); and the evidence in this proceeding show customer bills are negatively impacted by each of these four factors.

20. SCE's bill analysis failed to address other possible rate increases for different groups of customers who are impacted by customers who are not on the default tariff, such as those on the TOU-D-PRIME rate.

21. SCE's bill analysis failed to account for free ridership.

22. There are complexities with layering incentives and more work is needed on layering and reducing barriers to coordination to achieve multiple goals across various programs in the most efficient, effective, and equitable manner.

Conclusion of Law

1. SCE has the burden of affirmatively establishing that all aspects of its Proposal are just and reasonable.

2. SCE failed to meet its burden to show that is Proposal is just and reasonable.

3. SCE should fully leverage existing programs to produce the most benefits for the least cost, and SCE should optimize the use of all other state and federal funding opportunities, before further ratepayer funds are sought to advance building electrification programs in SCE's territory, such as SCE's Proposal.

4. A.21-12-009 should be denied.

5. A.21-12-009 should be closed.

O R D E R

IT IS ORDERED that:

1. Application 21-12-009 filed by Southern California Edison Company requesting approval of its Building Electrification programs is denied.
2. Application 21-12-009 is closed.

This order is effective today.

Dated _____, at Sacramento, California.