Proceeding: R.22-07-005

Exhibit No.: SCE-01

Witnesses: Robert A. Thomas

(U 338-E)

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) TESTIMONY DESCRIBING ITS INCOME-GRADUATED FIXED CHARGE PROPOSAL

EXHIBIT SCE-01 – SCE's Income-Graduated Fixed Charge Proposal

Before the

Public Utilities Commission of the State of California

Rosemead, California
April 7, 2023

Southern California Edison Testimony Describing Income-Graduated Fixed Charge Proposal

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I.

EXECUTIVE SUMMARY

Southern California Edison Company (SCE) hereby submits to the California Public Utilities Commission (Commission or CPUC) details regarding SCE's proposal for an income-graduated fixed charge that is consistent with the provisions of Assembly Bill (AB) 205[1] and in compliance with the Assigned Commissioner's Phase 1 Scoping Memo and Ruling in the Demand Flexibility OIR (R. 22-07-005).[2] SCE reserves the right to modify this proposal as more data and information become available.

SCE is proposing to add Income Graduated Fixed Charges (IGFCs) to all its residential rate schedules. The structure will consist of four tiers of fixed charges corresponding to four-income brackets. In order to properly identify households that fall into the highest tier, third party income verification is required and would need to be fully in place prior to implementation.

II.

ORGANIZATION OF SCE'S TESTIMONY

SCE's testimony in support of this proposal is organized as follows: 1) Description of SCE customer segment in the public tool; 2) Basis for the establishing the IGFC level; 3) Cost Categories included in the IGFC; 4) Determination of the Income brackets and Discount Levels; 5) Impact on Low-income households; 6) Default and Optional rate descriptions; and 7) Bill impacts and energy burden.

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[1] Cal. Pub. Util. §§ 381, 382, 739.1, 739.7, and 739.9.

[2] Assigned Commissioner's Phase 1 Scoping Memo and Ruling (Nov. 2, 2022).

III.

INCOME GRADUATED FIXED CHARGE PROPOSAL

A. Description of SCE Customer Segment in Public Tool

For SCE, the Public Tool's residential population consists of approximately 4.5 million customers. Of these customers, approximately 26% are CARE and/or FERA customers. Table III-1 provides residential customer counts within CARE, FERA, and non-CARE/FERA groups, while Table III-2 provides the percent of population by income level. CARE and FERA enrollments change over time with changes in economic conditions. SCE experienced increased enrollment in the CARE program, approximately 20% greater than average enrollment numbers, during the COVID-19 pandemic, with a corresponding decline in the 2-year retirement cycle. The proportion of residential customers SCE estimates are eligible for the FERA program is 4%. However, current enrollment is approximately 0.6% of the residential population.

The Public Tool looks at a number of SCE's residential customers segment combinations under three categories. This includes 1) Climate Zones, 2) whether the residential customer is on Net Energy Metering (NEM) or not, and 3) whether the residential customers is CARE, FERA, or neither. These combinations total 54 different residential subclasses. For SCE, the Customer load profile in the Public Tool varies by Climate Zone and NEM status, however, since FERA and non-CARE customers share the same load profile, there are only 36 different residential customer load profiles. The actual residential customer load profile shape used in the bill impact comparisons are not income differentiated.

Table III-1
Customer Counts by Income Level

Income Bracket	CARE	FERA	Non-CARE Non-FERA	Group Total
$0 - $25,000	476,430	10,340	158,327	645,097
$25,000 - $50,000	330,251	7,363	462,311	799,925
$50,000 - $75,000	140,045	3,181	600,183	743,410
$75,000 - $100,000	67,249	1,541	540,182	608,973
$100,00 - $150,000	73,201	1,702	733,584	808,486
$150,000 - $200,000	30,425	721	388,000	419,146
$200,000+	23,505	561	470,345	494,412
Group Total	**1,141,107**	**25,409**	**3,352,933**	**4,519,449**

Table III-2
Percent of Population by Income Level

Income Bracket	CARE	FERA	non-CARE non-FERA	Group Total
$0 - $25,000	10.5%	0.2%	3.5%	14.3%
$25,000 - $50,000	7.3%	0.2%	10.2%	17.7%
$50,000 - $75,000	3.1%	0.1%	13.3%	16.4%
$75,000 - $100,000	1.5%	0.0%	12.0%	13.5%
$100,00 - $150,000	1.6%	0.0%	16.2%	17.9%
$150,000 - $200,000	0.7%	0.0%	8.6%	9.3%
$200,000+	0.5%	0.0%	10.4%	10.9%
Group Total	**25.2%**	**0.6%**	**74.2%**	**100.0%**

The Public Tool uses representations of SCE's residential customer counts and kWh usage determinants. These representations are used for the purpose of evaluating proposals under a common set of assumptions, and thus do not reflect the customer counts and usage determinants that ultimately be used to set rates under an income graduated fixed charge structure.

B. <u>Basis for Establishing SCE's IGFC Level</u>

SCE's proposed IGFC will improve affordability for many residential customer segments while simultaneously lowering the volumetric rates to encourage adoption of new electrification

technologies. Consistent with the modernized rate design principles (RDPs), SCE established several target parameters to reach its design goal. The first being to ensure that on average low-income customers in each climate zone realize a lower bill. The second targets fixed cost revenue recovery representing 30% to 40% of the bill to balance bill impacts associated with introducing a fixed charge with a reduction in the average volumetric rate. The last parameter was to achieve an average volumetric rate in the range of 20-25 cents/kWh as an incentive to encourage adoption of building and transportation electrification technologies.

SCE's design parameters resulted in income brackets that provide low-income customers discounts relative to the average fixed charge; middle-income customers paying the average fixed charge; and surcharges relative to the average fixed charge for more affluent segments. These income graduations and the costs that make up the IGFC are described in the following sections.

C. Cost Categories in IGFC

SCE's IGFC is comprised of costs that do not vary with changes in usage or demand. These costs are currently embedded in residential rates and recovered through volumetric charges. The IGFC structure does not introduce a new charge to the electricity bills, but rather rearranges how fixed and variable costs are recovered by aligning fixed costs with charges assessed on a dollar-per-month basis and aligning variable costs with charges assessed on a dollar-per-kWh basis.

SCE's proposed IGCF recovers costs associated with the customer charge (i.e., meter, final line transformer, and customer service); Energy Efficiency (EE) programs identified in AB 205 in addition to other Public Purpose Programs costs (PPPC) and; non-marginal distribution costs (i.e., non-securitized wildfire mitigation costs, distribution capital and O&M, and demand response (DR) programs). The resulting class average fixed charge is 51.27 $/mo. derived by dividing the total revenue requirement associated with fixed costs by the total number of residential customers. The corresponding class average volumetric rate is 22 cents-per-kWh, inclusive of CARE, FERA and non-CARE customers. The non-CARE average rate is 24 cents-

per-kWh. The following sections provide details regarding the various cost categories that comprise SCE's average IGFC.

Monthly customer marginal costs that reflect all or a portion of the customer-related distribution marginal costs are determined in each General Rate Case (GRC) Phase 2 proceeding. The customer marginal costs are associated with facilities and activities for connecting customers to SCE's delivery system, which typically include the cost of a final line transformer, service drop and meter. Customer marginal costs also include on-going customer service and billing related costs. For most non-residential rate groups, the customer marginal costs are scaled on an Equal Percent Marginal Cost (EPMC) basis to arrive at a customer charge that recovers the authorized revenue requirement for this component. For the residential class however, the customer charge has been maintained at $0.94/mo. due to Commission policies regarding residential rate design that are under review in this proceeding. In SCE's 2021 GRC Phase 2 residential the customer marginal cost was determined to be $10.94/mo.[3] using the Real Economic Carrying Charge (RECC)[4] methodology. The class average EPMC scaled fixed charge, reflected in IGFC, is $15.88/mo.

SCE proposes to recover PPPC through the IGFC. These costs are currently recovered through a volumetric charge. The types of costs present in the PPPC are primarily associated with programs driven by State policy initiatives such as energy efficiency, self-generation, and low-income assistance. Section 381 of AB 205 removed the requirement that funds for certain

[3] The public tool reflects a customer charge of $7.88/mo., which is a value used for revenue allocation purposes only. This value reflects an average of the TURN NCO proposal and SCE's RECC proposal in the proceedings. Customer charges for all other rate classes use the RECC derived marginal costs as the basis for the charge.

[4] The Real Economic Carrying Charge, or "Rental", methodology reflects the estimate of the first year charge for a unit long-run investment that is based on the present value of fixed costs for that investment.

EE programs[5] be recovered through volumetric rates. Though not specifically addressed in AB 205, SCE includes, in its IGFC, other PPPC related costs that do not vary as a function of the incremental provision of service. SCE finds the recovery of PPPC costs through the IGFC to be appropriate from both a statutory and affordability perspective. As discussed in the Joint IOUs briefs[6], current statute requires the volumetric recovery of nonbypassable charges in only three cases: Operations of Diablo Canyon, the DWR Wildfire Fund and; the Competitive Transition Charge. The lack of mandates to recover PPPC cost through a volumetric charge means the Commission can now adopt policies to collect PPPC related funds through more progressive rate designs. SCE's IGFC structure represents a more progressive rate structure relative to the current rate by placing more responsibility for funding these programs outside of the most vulnerable segments. Studies have shown[7] that low-income customers have a larger proportion of their incomes going towards paying for public programs in addition to other fixed costs above the marginal costs of service. By including PPPC costs, which are essentially state mandated programs that would otherwise be collected through taxes in the IGFC, SCE is able to provide a more progressive rate structure. The class average PPPC component of the IGFC is an average of 6.21 $/mo. The surcharge for the low-income CARE program is also recovered through the PPPC volumetric charge. Because the overall CARE benefit afforded by AB 205 potentially allows for a benefit in excess of SCE's current 32.5% overall benefit , SCE proposes to recover a portion of the AB 205 CARE benefit, equivalent to 3.14$/mo., through the CARE surcharge such that the overall surcharge remains unchanged thus maintaining existing interclass allocation of

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[5] Section 381 (b) programs include:1) Cost-effective energy efficiency and conservation activities; 2) Public interest research and development not adequately provided by competitive and regulated markets and; 3) In-state operation and development of existing and new emerging eligible renewable energy resources, as defined in Section 399.8.

[6] Joint Opening Brief of PG&E, SDG&E, and SCE on Statutory Interpretation Questions Posed by December 9, 2022, Ruling.

[7] Next 10, Paying for Electricity in California, How Residential Rate Design Impacts Equity and Electrification, *available at* https://www.next10.org/sites/default/files/2022-09/Next10-paying-for-electricity-final-comp.pdf.

this costs. The amount of PPPC recovered through the IGFC is 0.67$/mo., for a total PPPC component of 6.89 $/mo.

SCE also proposes to include a category of costs referred to as non-marginal distribution costs in its IGFC. Similar to PPPC, non-marginal distribution related costs do not vary with changes in usage or demand. By definition, non-marginal distribution revenue requirements represent the difference in revenue between the retail rate and marginal cost rate. Non-marginal distribution costs include costs associated with distribution capital and O&M, non-securitized wildfire mitigation costs, demand response program costs, and public policy. The non-marginal distribution component of the IGFC is 26.04 $/mo.

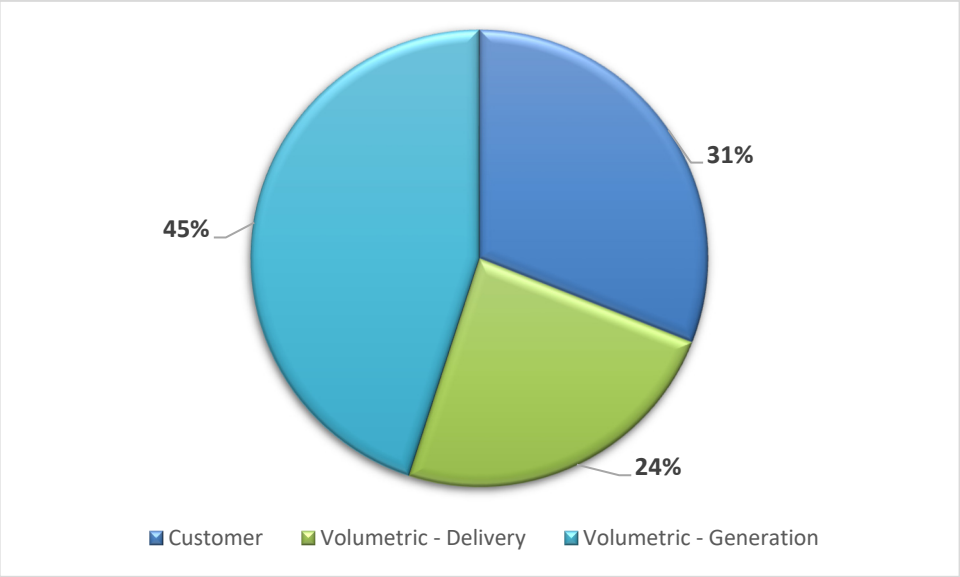
The IGFC components illustrated in Table III-3 provide a perspective into how IGFC components build up to the average effective fixed charge, which reflects the level of fixed costs actually recovered through the IGFC structure after accounting for the treatment of CARE surcharge revenues. The Customer Access Charge, which recovers costs for the most basic level of service, is applied to all residential customers regardless of income bracket or rate option, with the cumulative total representing the balance of fixed cost recovery, applied at various amounts based on the income brackets. Therefore, the lowest-income bracket is effectively only subject to the Customer Access Charge, while progressively higher income brackets are responsible for more of the non-marginal distribution costs and the cost associated with State policy objectives. This results in a progressive rate structure where approximately 9% of IGFC revenues are recovered from the two low-income brackets, approximately 33% from the highest income-bracket, and the balance is recovered from Bracket 3 customers.

Table III-3
Revenue Requirement Categories Underlying SCE's Proposed Fixed Charges and Resulting Reductions in the Volumetric Rate Component

#	Revenue Requirement Category	Fixed Charge ($/month)	Cumulative Fixed Charge ($/month)
1	Customer Access Charge	$15.88	$15.88
2	Non-Marginal Distribution Charge	$26.04	$41.92
3	Public Purpose Programs (Excl. CARE Surcharge)	$6.21	$48.13
4	Other Nonbypassable Charges and PPP CARE Surcharge	$0.67	$48.80

By modestly increasing the level of fixed cost recovery for certain utility fixed costs and public policy costs, Table III-4 illustrates the proportion of volumetric and fixed charge recovery SCE achieved through the proposed IGFC rates as compared to the predominantly volumetric recovery of all costs in current residential rates, where approximately 1% of costs are recovered through fixed charges.

Table III-4
Total Cost Recovery by Rate Component



As described in the Summary of Discount Levels section and further discussed below, SCE's IGFC proposal reflects a fixed charge for Bracket 1 of $15.00/mo., for Bracket 2 of $20.00/mo., for Bracket 3 of $51.00/mo., and for Bracket 4 of $85.00/mo.

D. Determination of IGFC Income Brackets and Discount Levels

1. Summary of Discount Levels

The Joint IOUs proposed IGFC structure will include four income brackets, where income is determined at the household[8] level. The first two income brackets consist of low-income customers, comprising 26% of the population represented in the Public Tool. The upper brackets apply to all non-CARE/FERA customers with Bracket 3 and Bracket 4 representing approximately 55% and 19% of the residential population, respectively. The population income bracket distributions, setting the Bracket 3 fixed charge at the class average, and residually calculating the Bracket 4 fixed charge results in a reasonable transition between these brackets

[8] Term "Household" in each income tiers is defined as an average of 3-person per household, as stated in the ALJ Ruling Providing Additional Guidance for Track A Proposals.

with a differential of 1.7:1. The distribution of customers across the income brackets is shown in Table III-5.

Table III-5
SCE's IGFC Bracket Distribution

Bracket	% of Cust
Bracket 1 – Extra Discounted Fixed Charge	11%
Bracket 2 – Discounted Fixed Charge	15%
Bracket 3 – Fixed Charge	55%
Bracket 4 – Fixed Charge	19%

SCE's proposed income brackets are designed to use existing household income data from the CARE and FERA programs in assigning low-income customers to the appropriate tier level. SCE will rely on third party verification to assign customers to the non-CARE/FERA brackets. With this framework, SCE will not be responsible for collecting and reducing household income into the specific income brackets, but rather will receive the reduced data from the third party for rate setting and customer care activities. SCE proposes the following income thresholds:

- Bracket 1 – Extra Discounted Fixed Charge (applicable to a subset of the lowest income CARE customers) with household income of up to 100% of Federal Poverty Level.
- Bracket 2 – Discounted Fixed Charge (CARE/FERA customers) with household income between 100% and 250% of Federal Poverty Level.
- Bracket 3 – Fixed Charge for Non-CARE/FERA customers with household income up to 650% of Federal Poverty Level.
- Bracket 4 – Fixed Charge for Non-CARE/FERA customers with household income of greater than 650% of Federal Poverty Level.

Table III-6 illustrates the IGFC applicable to each income bracket and discount or surcharge relative to the class average fixed charge.

Table III-6
Illustrative Proposed IGFCs

Income Bracket	Criteria	SCE IGFC ($/month)	Diff. Relative to $51.27 Average Fixed Charge
Bracket 1 – Extra Discounted Fixed Charge	CARE (<100% FPL)	$15.00	($36.27)
Bracket 2 – Discounted Fixed Charge	CARE/FERA (<250% FPL)	$20.00	($31.27)
Bracket 3 – Fixed Charge	Non-CARE/FERA <650% FPL*	$51.00	($0.27)
Bracket 4 – Fixed Charge	Non-CARE/FERA >650% FPL*	$85.22	$33.73

E. IGFC Impact on Low-Income Households – CARE and FERA Programs

AB 205 changed the method for determining CARE discounts. Current law now requires that the "average effective CARE discount…not reflect any charges for which CARE customers are exempted, discounts to fixed charges or other rates paid by non-CARE customers, or bill savings resulting from participation in other programs…[9]" Current statute also maintains that the overall average effective CARE discount be no less than 30% and no greater than 35%. For SCE customers, the current effective CARE discount is 32.5%. Previously, SCE applied the CARE discount on a line-item basis to non-exempt billed charges, with the overall bill-to-bill difference, relative to a non-CARE bill, reflecting an average discount of 32.5%.

Consistent with the current language on Section 739.1 and SCE's current CARE discount level, SCE's proposed CARE discount applies a 32.5% discount only to the non-exempted volumetric charges, thus excluding the IGFC, exempted energy charges, and any other bill discounts in the determination of the billed CARE discount. However, under the IGFC construct, the overall CARE customer benefit includes the benefit from the low-income fixed

[9] Cal. Pub. Util. Code §739.1.

charge discount, in addition to exemptions[10] and the CARE discount on the non-exempt volumetric charges. For an average CARE customer, the sum of benefits would provide a 45%[11] bill-to-bill difference relative to an average non-CARE bill inclusive of the IGFC.

AB 205 requires the fixed charge discount be set "so that a low-income ratepayer in each baseline territory would realize a lower average monthly bill without making any changes in usage." The Commission's additional guidelines call for parties to demonstrate compliance with this requirement by comparing proposed IGFC rates to the counterfactual rates produced by the Public Tool. In this way, the bill difference only reflects the effect of transitioning to an IGCF structure. As illustrated in the heat maps provided in Appendix B to the concurrently-served Joint IOU Testimony (Fixed Charge Tool Outputs), SCE's proposed IGFC is compliant with the AB 205 requirement when applied to Schedule D, TOU-D-4-9 and TOU-D-PRIME in all of its climate zones. The greatest bill savings on an absolute and percentage basis occur in the hotter climate zones where the average usage is the highest. In climate 15 (eastern desert area) the average bill savings are $26 / month, equivalent to a 12% savings. In cooler coastal climate zones the average savings are $11 / month equivalent to 7%.

Current law requires that FERA participants receive an 18% line-item discount off the non-CARE bill. As discussed in the Joint IOU Rate Design Chapter, the joint IOUs propose to calculate the FERA discount in a consistent manner as the CARE discount, where the 18% line-item discount would be applied to volumetric charges and be included with the Bracket 2 – Discounted Fixed Charge when rendering a bill. For SCE FERA customers, the proposed methodology results in an average bill-to-bill difference of around a 32%[12] discount when compared to a proposed non-CARE/FERA bill inclusive of the IGFC.

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[10] CARE customers are exempt from charges associated with the CARE surcharge, SGIP, and the DWR Wildfire Fund.

[11] The CARE bill-to-bill benefit ranges from 43% to 47% across all climate zones.

[12] The FERA bill-to-bill benefit ranges from 29% to 36% across all climate zones.

F. Default and Optional Rate Descriptions

SCE's current default Time-of-Use (TOU) rate, TOU-D-4-9 recovers costs primarily through volumetric energy charges and includes a baseline credit that effectively makes the rate a tiered rate option. TOU-D-4-9 is a seasonal rate with two-seasons, winter and summer, each with a five-hour weekday, 4 p.m. to 9 p.m., on-peak period. A nominal monthly fixed charge is used to recover a portion of distribution costs. A balance of minimum charge is applied when a customer's delivery bill falls below $10.52-per-month for non-CARE customers and $5.26 for CARE/FERA and medical baseline customers. TOU-D-4-9 is the standard rate customers are defaulted to at time of turn-on, regardless of climate zone or CARE/FERA status.

The proposed TOU-D-4-9 rate adopts the IGFC structure in place of the current nominal fixed charge and retains the same TOU periods with the volumetric rates adjusted to a lower level to make the overall rate revenue neutral. The minimum charge for both CARE and non-CARE service will be eliminated as the lowest level of IGFC, of $15.00, will be sufficient to recover the revenues normally collected through the minimum charge. New customers, regardless of service option, will continue to be defaulted to TOU-D-4-9 at time of turn-on.

1. Available Optional Rates

SCE offers a variety of optional TOU rates for residential customers that are designed revenue neutral to the default TOU-D-4-9 rate. These optional TOU rates are mostly all-volumetric rates, with varying levels of fixed charge recovery. SCE proposes to apply the same IGFC structure to all residential rates to mitigate the potential of customers selecting an optional rate simply to avoid the income graduations of the default rate. Schedules TOU-D-5-8, Schedule D Domestic, and TOU-D-PRIME will all use the same 4-braket income graduations and associated fixed charges. The following is a description of the rate options available to SCE residential customers.

Schedules TOU-D-5-8 and (D) Domestic: The current TOU-D-5-8 rate option is a two-season rate (winter and summer), with a three-hour weekday on-peak period from 5 p.m. to 8 p.m. on weekdays. This option is structured similar to the default rate with the exception of the

three-hour on peak window instead of the five-hours used in the default rate. The current TOU-D-5-8 includes a baseline credit and minimum charge as the TOU-D-4-9 default rate. The current Schedule D is a three-tiered non-TOU rate that recovers costs primarily through volumetric energy charges. A nominal monthly fixed charge is used to recover a portion of distribution costs, with a balance of minimum charge applied in a similar fashion as the default rate.

The proposed TOU-D-5-8 and the proposed Schedule D options will adopt the IGFC structure in place of the current nominal fixed charge and retain the same TOU periods and rate tier level differentials, respectively, as the current rate structures. The volumetric rates for both options will be adjusted to a lower level making the overall rates revenue neutral to the default rate. The balance of minimum charge for both CARE and non-CARE service will be eliminated.

TOU-D-PRIME: The TOU-D-PRIME option is designed for households with an electric or plug-in hybrid vehicle, residential battery, or building electrification technologies. The rate option is also suitable for households with higher energy usage. A fixed daily basic charge allows for lower Super Off-Peak and Off-Peak rates from 8 a.m. – 4 p.m. and 9 p.m. – 8 a.m., with higher rates during the on-peak period from 4 p.m. - 9 p.m. on weekdays. Additionally, A rider option under TOU-D-PRIME is available to residential customers who have separately metering electric vehicle charging.

The proposed TOU-D-PRIME will adopt the same IGFC as the default rate and will retain the remaining features and eligibility requirements of the current PRIME rate. With the addition of IGFC in TOU-D-PRIME, the only distinguishing feature between TOU-D-PRIME and the default rate will be the steeper pricing differential of the TOU-D-PRIME. As customers become more familiar with TOU pricing, over time, SCE may explore further pricing differentials between the Super Off-Peak and Off-Peak rates, the addition of time-variant demand charges, or dynamic pricing in order to maintain TOU-D-PRIME's position of encouraging the adoption of GHG reducing technologies.

Consistent with SCE's current approach to separately metered residential EV charging[13], customers taking service on this option, in any of the income brackets, will be provided a meter credit that removes the value of the final line transformer and final line service drop from the monthly customer charge. As these facilities are shared with the primary meter service account, the cost will be recovered from the primary account. The current value for the separately metered EV credit is $3.35-per-month. The separately metered EV account will be responsible for the balance of costs reflected in the IGFC.

G. Bill Impacts and Energy Burden

1. Bill Impact Results

All Bill Impacts presented in this section are modelled based on SCE's customer and usage distribution as presented in the Public Tool and modelled as a comparison between the tool's included counterfactual rates and SCE's proposed IGFC rates in this proceeding. Overall, the combined effect of lower volumetric rates driven by the use of an IGFC structure has the effect of redistributing residential cost recovery to benefit lower income customers when compared to the current and the modeled counterfactual default rates. The results show SCE's proposal results Bracket 1 – Extra Discounted Fixed Charge CARE customers can expect, on average, lower bills of 17% ; Bracket 2 – Discounted Fixed Charge CARE and FERA customers can expect, on average, lower bills in the range of 11% to 17%; Bracket 3 –Fixed Charge for non-CARE/FERA can expect, on average, lower bills of 3%, while Bracket 4 – Fixed Charge for non-CARE/FERA the highest income non-CARE and non-FERA customers can expect, on average, higher bills in the range of 17% to 19%. Table III-7 below summarizes the average monthly percent change in TOU-D-4-9 bills for specified income groupings as averaged across all baseline regions for CARE, FERA, and non-CARE/FERA customers.

[13] D. 22-08-001, Decision approving Motion of SCE and Settling Parties for Adoption of Residential and Small Commercial Rate Design Settlement Agreement.

Table III-7
Percent Change in Bill – Proposed versus Current TOU-4to-9

Income Bracket	CARE	FERA	non-CARE non-FERA
$0 - $25,000	-16.6%	-17.7%	-2.8%
$25,000 - $50,000	-12.0%	-17.5%	-3.9%
$50,000 - $75,000	-11.8%	-17.4%	-3.7%
$75,000 - $100,000	-11.8%	-17.3%	-3.3%
$100,00 - $150,000	-11.5%	-17.1%	-2.8%
$150,000 - $200,000	-11.1%	-16.7%	17.3%
$200,000+	-10.5%	-16.2%	19.2%
Group Average	**-13.8%**	**-17.5%**	**2.2%**

In addition to the percent change in bills shown above Table III-8 also illustrates the relative share of the income graduated fixed charge as a percent of total bill for each income septile across the CARE, FERA, and Non-CARE/Non-FERA customer categories.

Table III-8
IGFC as a percent of Total Bill

Income Bracket	CARE	FERA	non-CARE non-FERA
$0 - $25,000	15.7%	16.8%	29.4%
$25,000 - $50,000	20.0%	16.9%	28.6%
$50,000 - $75,000	20.1%	16.9%	28.7%
$75,000 - $100,000	20.1%	16.9%	28.8%
$100,00 - $150,000	20.2%	17.0%	29.1%
$150,000 - $200,000	20.5%	17.2%	41.2%
$200,000+	20.9%	17.6%	42.1%
Group Average	18.3%	16.9%	32.5%

The Joint IOU IGFC Proposal Printable Results located in the Appendix contains additional details and presents the distributional impact to customer bills across all of SCE's baseline regions as well as changes to relative bills across different rate structures such as SCE's TOU-PRIME electrification rate and SCE's Schedule D rate.

H. Energy Burden Analysis

SCE has summarized the electrification results of its proposed income graduated fixed charge (IGFC) from the Public Tool. The results show that total energy bills, which include electricity, natural gas, and gasoline costs, are lower for households that electrify their appliances and vehicle compared to households that use a mix of fuels under the IGFC rate structure. For example, an inland household with moderate income would save about $650 annually if it were electrified.

1. Electrification is one of the Primary Mitigations to Address California's Climate Goals

Recently the California Air Resource Board (CARB) completed its vision, the 2022 Scoping Plan Update[14], for how California can reach decarbonization goals of carbon neutrality and an 85% reduction of 1990 anthropogenic GHG emissions by 2045[15]. In the CARB 2022 Scoping Plan Update, transportation and building electrification were identified as significant mitigation steps to reduce GHG emissions. By 2030, the 2022 Scoping Plan Update forecasts that there will be about 6 million electric and plug-in vehicles. This is equivalent to 1-in-5 vehicles being electric. In addition, there will be more than 6 million heat pumps used for space and water heating in residential buildings by 2030.

2. Lower Volumetric Rates Promote Electrification Adoption

As noted above, transportation and building electrification is one of the primary mitigations to meet California's climate goals. While California has enacted a number of steps to increase adoption, affordability remains a concern. With current volumetric rates that are higher than most other states, electrification adoption can be hindered. In contrast, lower

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[14] California Air Resources Board (CARB) 2022 Scoping Plan for Achieving Carbon Neutrality (Nov. 2022) *available at* https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf.

[15] California's 2045 GHG reduction goals set forth from the passage of Assembly Bill 1279 (2022).

volumetric rates can have the effect of increasing electrification adoption[16] for both transportation [17] and building end-uses[18]. Thus, with the implementation of the income graduated fixed charge, the lower volumetric rates would promote electrification adoption.

3. Households that Embrace Electrification Will See Lower Total Energy Bills Compared to Households that Use Mixed-Fuels Under the New IGFC Rate Structure

More broadly, the implementation of the income graduated fixed charge reduces total energy bills[19] for customers who wholly or partially adopt electrification technologies. This IGFC addresses affordability concerns while better supporting the transition towards a decarbonized economy. The IGFC structure provides adopters of electrification technologies with lower total annual bills when compared to non-adopters. The two graphs below (See Figure III-1) demonstrate the savings comparing adopters or households that fully electrify their home and drive one electric vehicle to non-adopters or households that use mixed fuels in their home and drive one gasoline-powered vehicle under the IGFC structure using SCE's TOU-D-4-9. The first figure shows a non-CARE household with moderate income located in an inland region. This household will have higher electricity usage and correspond to the $51 per month fixed charge. The adopter household would save about $650 per year compared to the non-adopter household. Similarly, as demonstrated in the second graph (See Figure III-2), an inland CARE household with a $20 per month fixed charge that embraced electrification would see significant annual savings of about $1,100 per year.

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[16] K. Sobh, K. Heaslip, A. Stenovic, R. Bosworth, D. Radivojevic, Analysis of the Electric Vehicles Adoption over the United States (2017) *available at* https://www.sciencedirect.com/science/article/pii/S235214651730162X.

[17] J. Bushnell, E. Muehlegger, D.Rapson, Do Electricity Prices Affect Electric Vehicle Adoption? (May 2021) *available at* https://escholarship.org/uc/item/5f80503b.

[18] Next 10, Paying for Electricity in California: How Residential Rate Design Impacts Equity and Electrification, p. 12, *available at* https://www.next10.org/publications/electricity-rates-2.

[19] Total Energy Bills is the summation of electric bills, natural gas bills, and gasoline bills.

Figure III-1
Total Energy Bills for Moderate Income, Inland Household
Under the Proposed Rate

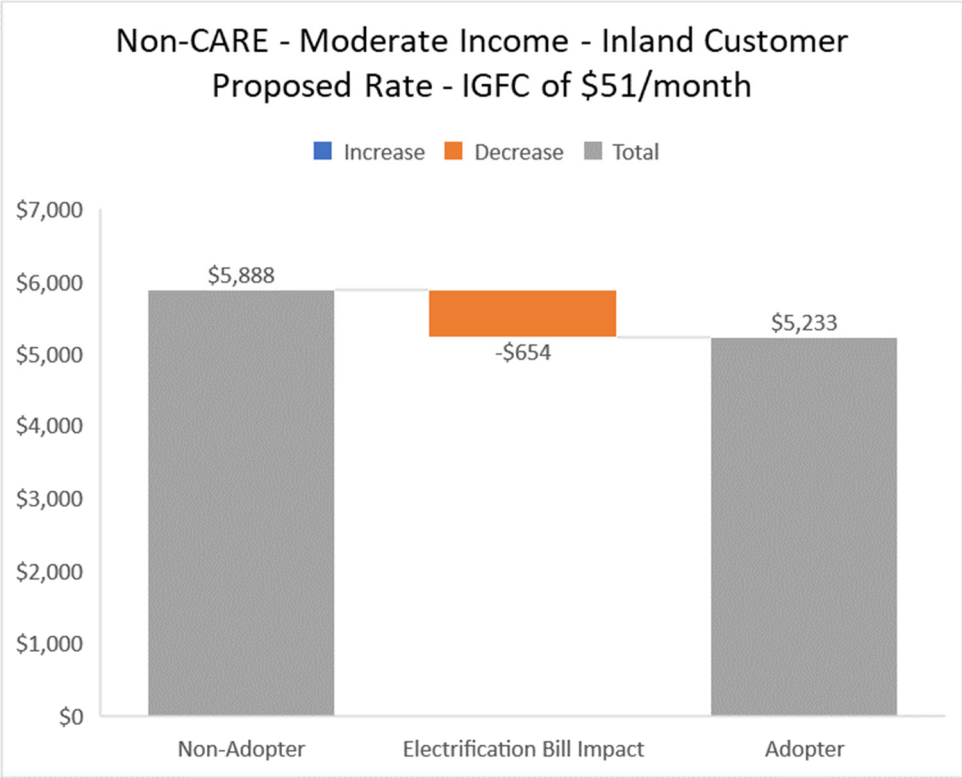
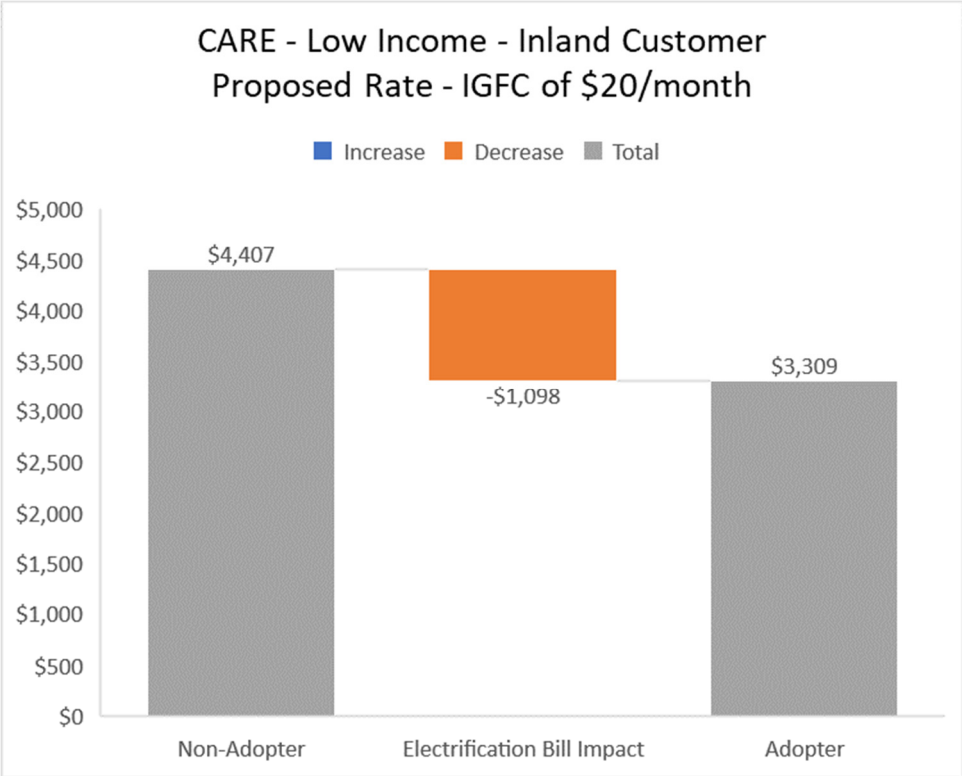
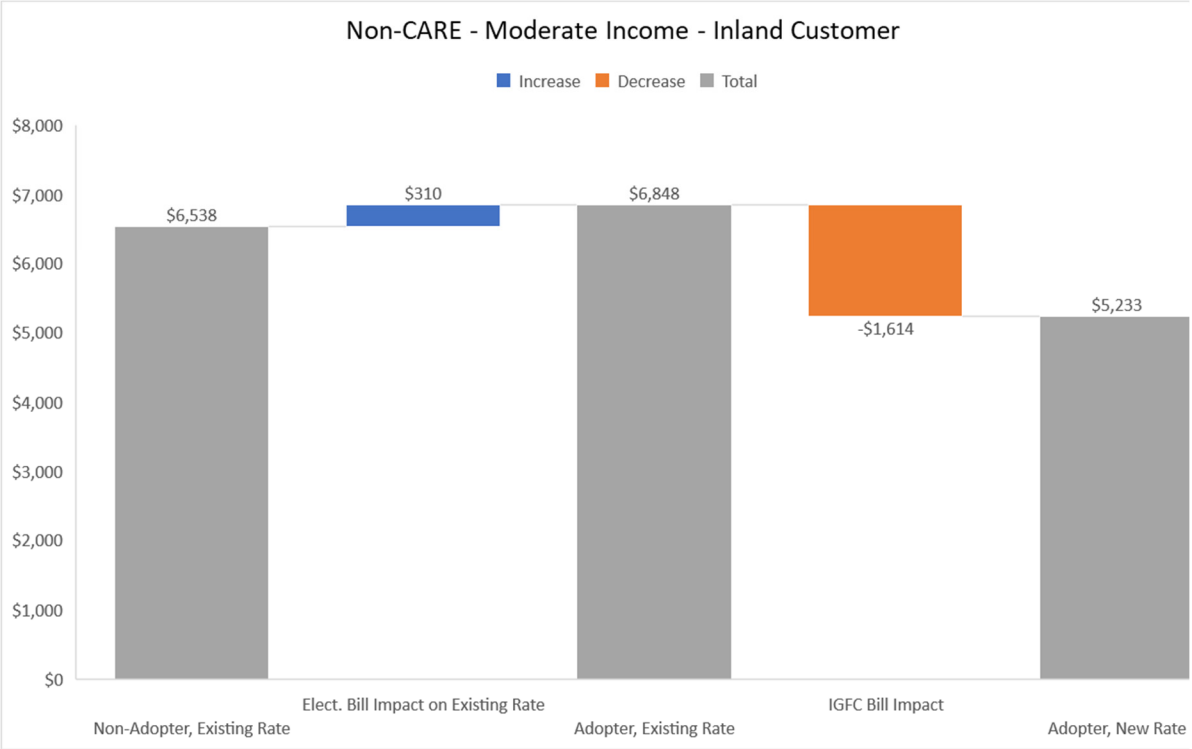


Figure III-2
Total Energy Bills for Low Income, Inland CARE Household under under the Proposed Rate



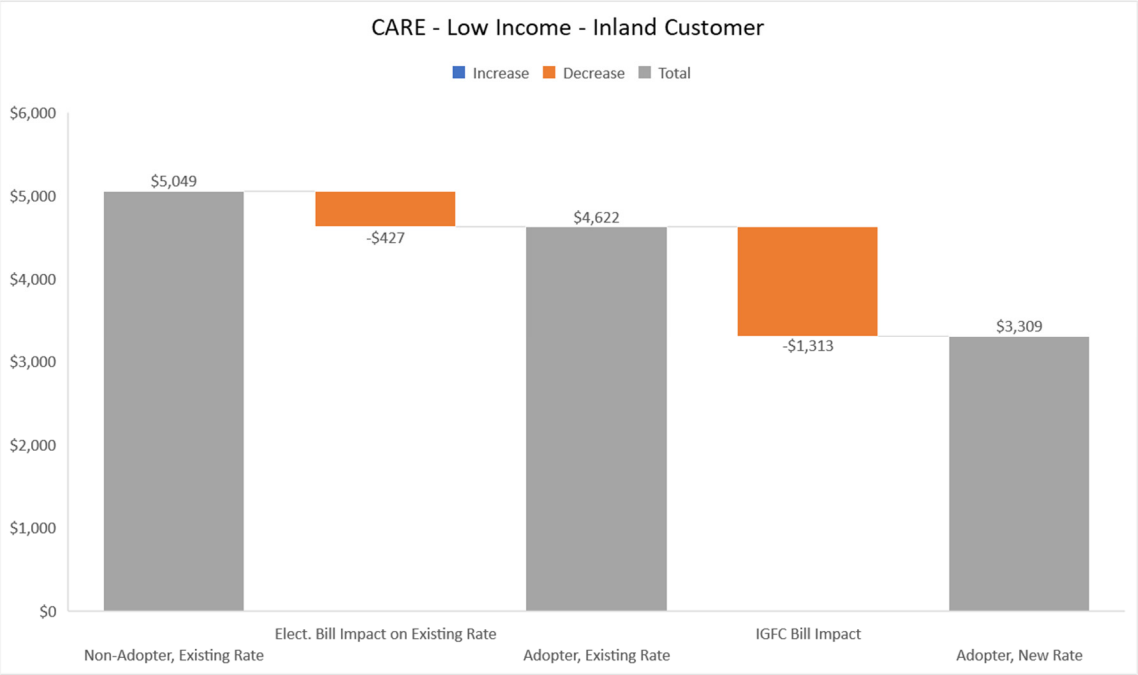
SCE also looked at the potential transition path as households electrify. In the figure below, the total annual energy bill for a non-CARE, non-adopter household with moderate income located in an inland region under the existing TOU-D-4-9 rate would be approximately $6,500 per year. Under the same existing rate, if that household electrifies their home, their total annual energy bill would increase by about $300 per year to $6,800. However, after implementation of the IGFC rate structure, the household would see their total energy bill decrease to about $5,200 per year, a savings of $1,600 per year (See Figure III-3 below).

Figure III-3
Total Energy Bills for Moderate Income, Inland Household through Electrification and Proposed Rate



For a CARE, non-adopter household with low income located in an inland region, total energy bills under the existing TOU-D-4-9 rate would be about $5,000 per year. Transitioning to electrification under the existing rate would result in a total energy bill of about $4,600 per year or a savings of about $400 per year. After IGFC implementation, the CARE household would see their total energy bill decrease to about $3,300 per year or a savings of $1,300 per year (See Figure III-4 below).

Figure III-4
Total Energy Bills for Low Income, Inland CARE Household
Through Electrification and Proposed Rate



This increase in savings highlights the impact of the IGFC with lower volumetric rates has on total annual energy bills especially when a household is electrified. The significant savings associated with the lower volumetric rates and the implementation of the IGFC will help support the transition of households to embrace electrification and enable California to reach its climate goals.