

San Diego Gas & Electric

# Residential Rate OIR: Rate Design and Bill Impact Analysis Model

User Guide

February 11<sup>th</sup>, 2013

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# Residential Rate OIR: Rate Design and Bill Impact Analysis Model

User Guide



San Diego Gas and Electric is providing this model for the limited purpose of examining alternative proposed residential rate designs as part of CPUC proceeding R.12-06-013. San Diego Gas and Electric believes this model to be correct to the best of its knowledge as of February 11<sup>th</sup> 2013, but does not provide any warranty or guarantees regarding its use or ability to analyze all potential rate design scenarios. Parties are, of course, free to develop their own analyses.

## Overview

The Electric Rate Design Model provides the user with a tool that allows them to design and evaluate different residential rate structures.

The model has the following assumptions:

- All rate and customer bill impacts are compared to San Diego Gas & Electric's (SDG&E) current rates and illustrative cost-based rate<sup>1</sup> structure.
- Revenue neutral with respect to current rates<sup>2</sup>
- Current authorized revenue allocations
- Determinants consistent with those in SDG&E's pending General Rate Case (GRC) Phase II.

The resulting rates are presented as Total Rates, but the analysis focuses on the cost drivers and rate design structures of three rate components; Distribution, Commodity, and Total Rate Adjustment Component (TRAC). All other rate components are equal to current authorized<sup>3</sup>. The rate design options follow the cost based structure of the identified rate components as discussed below. However, TRAC is a rate component strictly responsible for meeting

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<sup>1</sup> Developed in SDG&E GRC Phase II Application 11-10-002 and adjusted for revenue neutrality

<sup>2</sup> Effective September 1<sup>st</sup>, 2012 per Advice Letter 2396-E

<sup>3</sup> Other components include; Transmission, Public Purpose Program (PPP) Charges, Nuclear Decommissioning (ND) Charge, Ongoing Competition Transition Charges (CTC), Reliability Services (RS), and Department of Water Resources Bond Charge (DWR-BC).

AB1X and SB695 legislative compliance and has no “cost-based” structure. In addition the user may select alternative structures for California Alternate Rates for Energy (CARE) to providing assistance to low income customers.

Specifically, the user is able to choose the following:

**1. Distribution:**

- a. Customer Cost Recovery
  - i. Variation of Basic Service Fee (BSF)<sup>4</sup> and/or recovery through energy rates<sup>5</sup>
- b. Demand Cost Recovery
  - i. Non-Coincident Demand (NCD)<sup>6</sup>, Fixed Charge Demand Adder<sup>7</sup>, and/or recovery through energy rates

**2. Commodity:**

- a. Capacity Cost Recovery
  - i. Variation of On-Peak Demand<sup>8</sup> and/or recovery through energy rates
- b. Energy Cost Recovery
  - i. Time-of-Use (TOU) rates<sup>9</sup> or Non-TOU<sup>10</sup>

**3. TRAC:**

- a. Tier Structure through which through which subsidies ensuring compliance with AB1X/SB695 are applied and recovered for SDG&E.

**4. California Alternate Rates for Energy (CARE)<sup>11</sup>**

- a. CARE rates and discount

This guide goes into detail to show the user how to select different rate options of cost recovery and includes screenshot examples for each of the components mentioned above. Included throughout the presentation are four rate design scenarios. At the end of each section the guide describes what selections need to be made for each scenario.

Section V of the guide has complete step-by-step instructions for each of the four scenarios and the resulting output is

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<sup>4</sup> Customer pays a fixed \$/month

<sup>5</sup> Customer pays for cost recovery through a cent/kWh energy charge.

<sup>6</sup> Customer pays a dollar amount per NCD-kW; maximum demand during the billing period regardless of TOU period.

<sup>7</sup> Customer pays fixed \$/month added to Basic Service Fee to recover distribution demand costs.

<sup>8</sup> Customer pays a dollar amount per Peak-kW; maximum demand measured during the peak period.

<sup>9</sup> Different rate levels depending upon the time period in which energy is used.

<sup>10</sup> Customer pays a flat commodity rate (cents/kWh) only different between summer and winter.

<sup>11</sup> Alternative mechanism for providing assistance for low-income customers.

shown for scenario four. The goal is for any user to be able to design and evaluate residential rate structures using the model by following the instructions and examples in this guide.

The Four scenarios are identified as:

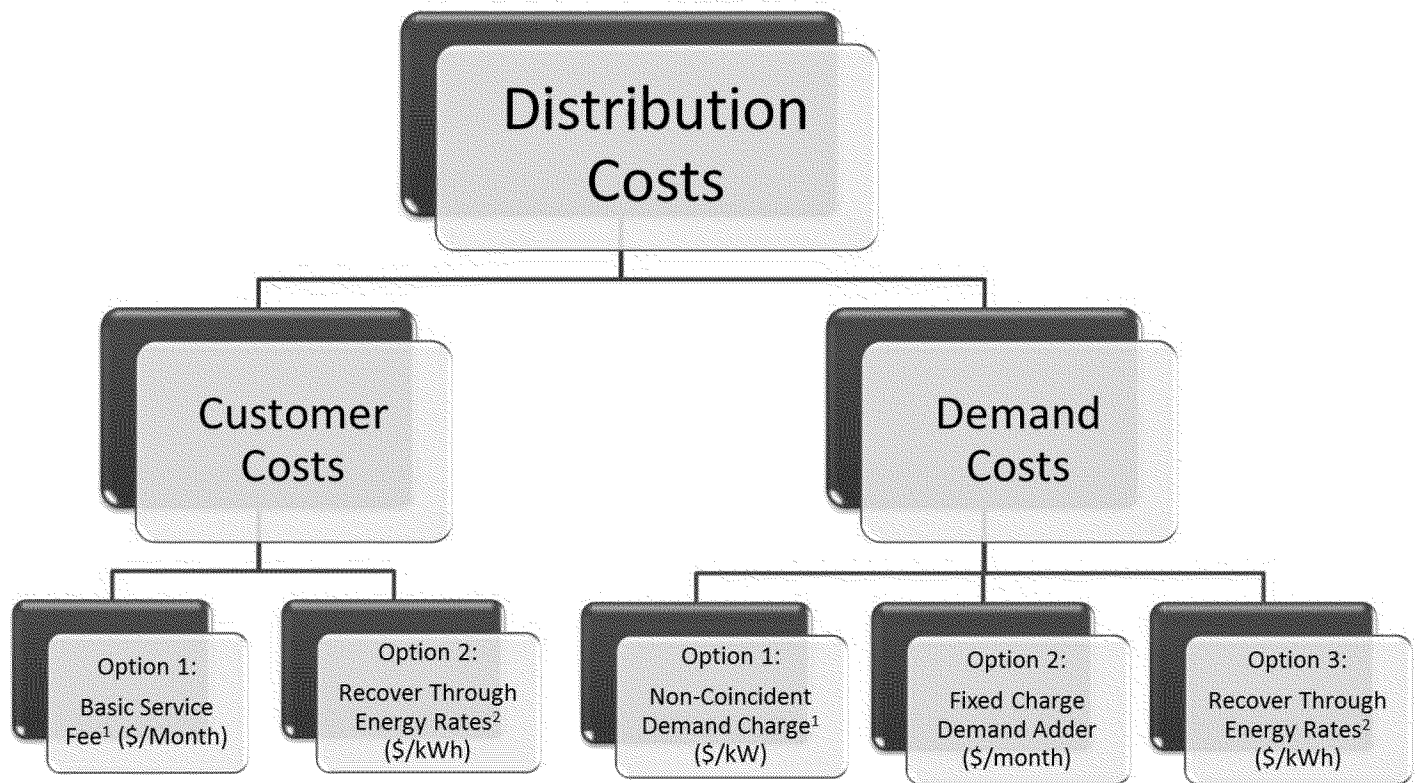
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Customer Charge</b>	\$20/month	\$10/month	\$5/month	\$5/month
<b>Demand Differentiated Basic Service Fee (BSF) Adder</b>	N/A	N/A	2 BSF levels: \$5/month for customers with max annual demand <3kW; \$10/month for 3kW or above	2 BSF levels: \$5/month for customers with max annual demand <3kW; \$10/month for 3kW or above
<b>TOU</b>	None - Flat	150% OP/OF	None - Flat	150% OP/OF
<b>Tiers</b>	None	None	2 tiers with 20% differential	None
<b>CARE</b>	20% Discount	20% Discount	20% Discount	20% Discount

Step-by-step instructions for all scenarios with expanded output for scenario four are located in the Appendix.

## Marginal Costs

The user is able to input marginal distribution and commodity costs to create a “User Inputted cost-based rate” used for output comparisons in the model. This is accomplished on the inputs tab next to the rate component selections under “User Inputted Cost-Based Reference (Pre-Revenue Neutral Adjustment)”.

## I. Distribution Costs



<sup>1</sup> Cost-Based Structure

<sup>2</sup> Current Structure

The above chart illustrates the two parts of identified distribution costs, Customer and Demand, and the rate design options available, noting the cost-based recovery structure. Any Distribution Customer Costs not collected in the Basic Service Fee (BSF) will be collected through a flat energy rate as an equal cent per kWh. Similarly, any Distribution Demand Costs not recovered in a Non-Coincident Demand Charge or Fixed Charge Demand Adder will be collected as an equal cent per kWh.

**A. Distribution Customer costs** – there are 2 non-exclusive rate design options available for cost recovery:

1. **Basic Service Fee** – All customers pay a dollar per month charge.
  - a. For cost based recovery of distribution customer costs. This can be partial or full recovery of distribution customer costs.
  - b. When no BSF is selected, the minimum bill option occurs as the default.
2. **Recover through energy rates** – All Distribution Customer Costs are collected as an equal cent per kWh (\$/kWh).
  - a. As stated above, depending on the Basic Service Fee level, this could be partial or full recovery of distribution customer costs.
  - b. If this option is selected, instructions will appear to enter a minimum bill \$ per day. A minimum bill cannot be entered if a basic service fee is selected.
    - i. The user has the option to set the minimum bill for delivery only or the total bill. If total bill is selected, the minimum bill is evaluated compared to the total calculated bill and the greater number is the customer's bill. If Delivery is selected, the customer will have a minimum bill for UDC + DWR-BC and then will receive a flat commodity energy rate for any consumption during that period. For example, if a customer uses 10 kWh, the commodity rate is 8 cents/kWh and the minimum bill amounts to \$5 for the month; applying minimum bill to the total bill results in just the \$5 charge whereas applying it to delivery only would result in the \$5 charge plus (8 cents x 10 kWh) for a total of \$5.80.

**B. Distribution Demand costs** – there are 3 rate design options available; Options 1 and 2 are mutually exclusive but both are non-exclusive with option 3:

1. **Non-Coincident Demand Charge** – For cost based recovery of distribution demand costs.
  - a. Charge based on the customer's maximum annual demand at any time during the day (\$/kW).
2. **Fixed Charge Demand Adder** – Hybrid option for cost based recovery of distribution demand costs only available if a Basic Service Fee is selected for Distribution Customer Cost recovery.
  - a. A fixed dollar per month dependent on the customer's maximum annual demand. Up to 4 levels can be designated (0-3 kW, 3-7 kW, 7-13 kW, and over 13 kW). This adder is presented in the Basic Service Fee.
3. **Recovery through energy rates** - All Distribution Demand Costs are collected as an equal cent per kWh (\$/kWh).
  - a. As stated above, depending on NCD and Fixed Charge Demand Adder, this could be partial or full recovery of distribution customer costs.

**C. Miscellaneous Distribution costs** – Currently included in distribution, the user can select to include these costs in the PPP or Distribution rate component. The rates are unchanged from current (9/1/2012) rates. The following components make-up miscellaneous distribution costs:

1. Self-Generation Incentive Program (SGIP),
2. California Solar Initiative (CSI) and
3. Rewards & Penalties Balancing Account (RPBA)



The below image is a screenshot from the model of the distribution portion of the inputs described above.

**RESET INPUTS**

**Select Options and Inputs:**

**SDG&E Cost-Based Reference (Pre-Revenue Neutral Adjustment)**

**Distribution:**

Customer Cost: Basic Service Fee (Action Required) \$11.65/month/customer

Basic Service Fee Amount: Enter \$/month

Residual Customer Cost per kWh: 1.5 Cents per kWh

Distribution Demand: Fixed Charge Demand Adder (Action Required) \$6.40/kW/NCD

Fixed Charge Demand Adder: Enter \$/month

Residual Demand Cost per kWh: 3.2 Cents per kWh

Include SGIP, CSI, & RPBA in: Distribution Rate (Action Required)

Drop-down menu gives cost recovery options for each cost component

Dependent on selections from drop-down menus, instructions appear highlighted in yellow.

Cents/kWh not collected by cost-based structure that flow to energy rates

#### D. Distribution Rate Design Scenario Examples – Instructions for Distribution portion only.

##### Scenario One: \$20 Basic Service Fee

1. Select "Basic Service Fee" from Customer Cost dropdown menu
2. Enter \$20 for Basic Service Fee Amount
3. Select "Recover through energy rates" for Distribution Demand
4. Select "Distribution Rate" for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

##### Scenario Two: \$10 Basic Service Fee

1. Select "Basic Service Fee" from Customer Cost dropdown menu
2. Enter \$10 for Basic Service Fee Amount
3. Select "Recover through energy rates" for Distribution Demand
4. Select "Distribution Rate" for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

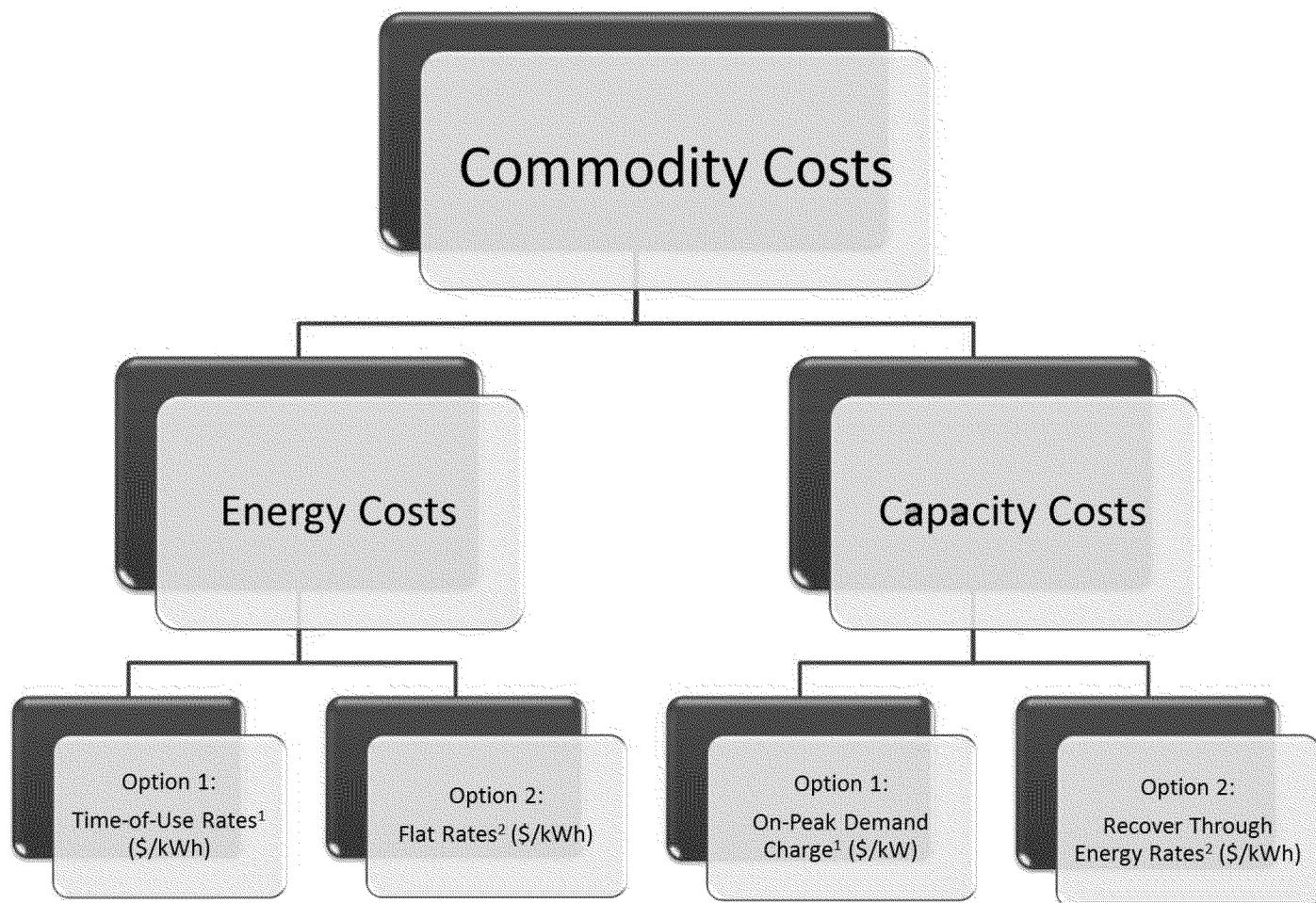
##### Scenario Three: \$5 Basic Service Fee, Fixed Charge Demand Adder \$5 below 3 kW and \$10 above 3 kW

1. Select "Basic Service Fee" from Customer Cost dropdown menu
2. Enter \$5 for Basic Service Fee Amount
3. Select "Fixed Charge Demand Adder" for Distribution Demand
4. Enter \$5 for 0-3 kW Adder
5. Enter \$10 for 3-7 kW Adder, 7-13 kW Adder and >13 kW Adder
6. Select "Distribution Rate" for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

##### Scenario Four: \$5 Basic Service Fee, Fixed Charge Demand Adder \$5 below 3 kW and \$10 above 3 kW

Same as Scenario Three Distribution portion above.

## II. Commodity Costs



<sup>1</sup> Cost-Based Structure

<sup>2</sup> Current Structure

The above chart illustrates the two parts of identified commodity costs; Energy and Capacity, and the rate design options available, noting the cost-based recovery structure. First the user selects commodity capacity rate design for cost recovery. If recovery through energy rates is chosen, then all capacity costs will be collected in summer commodity energy rates. Any Commodity Capacity Costs not collected in an On-Peak Demand charge are collected through summer energy rates.

**A. Commodity Capacity costs** – there are 2 non-exclusive rate design options available:

1. **On-Peak Demand Charge** – Charge based on the customer’s maximum demand measured during the peak period.<sup>12</sup>
2. **Recover through energy rates** – All Commodity Capacity Costs are collected as a summer energy rate dependent upon the rate structure selected below. For example, if a Flat Energy rate is chosen, the capacity costs will be an equal cent per kWh for summer energy. If Time-of-Use energy is chosen then the commodity capacity costs will be recovered in summer energy usage dependent upon on-peak/off-peak ratio desired.

**B. Commodity Energy costs** – there are 2 mutually-exclusive rate design options available:

1. **Time-of-Use Rates** – Energy costs are recovered per kWh with different rates by time of use (On-Peak, Semi-Peak, and Off-Peak) and season<sup>13</sup>.
  - a. The user is able to select the ratio of On-Peak to Off-Peak rates and ratio of Semi-Peak to Off-Peak by season. For example, an On/Off ratio of 2 and Semi/Off ratio of 1.5 means the On-Peak commodity rate is double the Off-Peak commodity rate and the Semi-Peak rate is 50% higher than the Off-Peak rate. If no difference between On/Semi is desired, enter the same ratio for On/Off and Semi/Off. If no difference between Semi/Off is desired, enter 1 for the Semi/Off ratio.
    - i. Summer Example: On-peak “surcharge” and off-peak “credit”
      1. The user can set the summer On/Off ratio greater than 1 and the Semi/Off ratio greater than 1 (but less than the On/Off ratio). Effectively the summer rate is the semi-peak rate, while off-peak usage has a credit equal to the difference between the semi-peak and off-peak rate, and an on-peak surcharge equal to the difference between the semi-peak and on-peak rate.
        - a. i.e. On, Semi, Off = 10, 8, 6 is the same as a 8 cent summer rate with the 2 cent surcharge for on-peak usage and 2 cent credit for off-peak usage.
      - ii. Winter Example: No on-peak “surcharge” is desired but maintain off-peak “credit”
        1. The ratio of On/Off and Semi/Off should be set equal (greater than 1). The semi-peak and on-peak rate is effectively the winter rate and the difference between that rate and the off-peak rate is the off-peak credit.
          - a. i.e. On, Semi, Off = 8, 8, 6 is the same as an 8 cent winter rate with a 2 cent credit for off-peak usage.
  2. **Non-TOU Rate (Non-TOU)** – Energy costs are recovered per kWh, differing only between summer and winter.

<sup>12</sup> Currently residential commodity capacity is summer only.

<sup>13</sup> SDG&E Residential Time-of-Use periods:

	Summer (May-Oct)	Winter (Nov-April)
<b>On-Peak</b>	11am-6pm	5pm-8pm
<b>Semi-Peak</b>	6am-11am & 6pm-10pm	6am-5pm & 8pm-10pm
<b>Off-Peak</b>	Other hours + Holidays and Weekends	Other hours + Holidays and Weekends

### C. Seasonal Rate Adjustment – Percent Difference of Seasonal EECC – Percent Difference of Seasonal EECC rate.

There will be a seasonal difference in the summer and winter EECC rate. The user is able to input a % of that difference to increase or decrease the seasonal difference in total rates. For example, if the summer commodity rate is 5 cents higher than the winter commodity rate, to lessen the differential the user could enter 75% which would set the different at  $5 \times 75\% = 3.75$  cents. This is adjusted through the TRAC mechanism.

*The below image is a screenshot from the model of the commodity portion of the inputs described above.*

The screenshot shows a form titled "Commodity:" with several input fields and calculated results. The fields include:

- Capacity:** A dropdown menu with "Recover through energy rates" selected.
- Energy:** A dropdown menu with "Time-of-Use" selected.
- Summer On/Off Relationship:** A text input field with "1.25" entered.
- Summer Semi/Off Relationship:** A text input field with "1.50" entered.
- Winter On/Off Relationship:** A text input field with "1.25" entered.
- Winter Semi/Off Relationship:** A text input field with "1.25" entered.
- Seasonal Rate Adjustment - Percent Difference of Seasonal EECC:** A text input field with "55%" entered.

Calculated results on the right side of the form include:

- Residual Capacity Cost per kWh (Summer):** 3.82 Cents per kWh
- Time-of-Use (TOU):** Example: Ratio of 2.0 On/Off and 1.5 Semi/Off would yield On Peak=20 Semi-Peak=15 and Off-Peak=10
- Seasonal Difference:** 5.04 Cents/kWh x 0.55 = 2.77 Cents/kWh

Callouts below the form provide additional information:

- "Drop-down menu gives cost recovery options for each cost component" points to the Capacity and Energy dropdowns.
- "Dependent on selections from drop-down menus, instructions appear highlighted in yellow." points to the relationship input fields.
- "Cents/kWh not collected by cost-based structure that flow to energy rates. Also, examples of how inputs made affect the rates." points to the calculated results.

### D. Commodity Rate Design Scenario Examples – Instructions for Commodity portion only.

#### Scenario One: Flat Energy Rate

1. Select "Recover through energy rates" from Capacity dropdown menu
2. Select Non-TOU from Energy dropdown menu
3. Input 75% for Seasonal Rate Adjustment (*not specified in scenario*).

#### Scenario Two: Time of Use Energy Rate with 150% On-Peak to Off-Peak relationship

1. Select "Recover through energy rates" from Capacity dropdown menu
2. Select "Time-of-Use" from Energy dropdown menu
3. Enter 1.5 for Summer On/Off Relationship and 1.5 for Winter On/Off Relationship
4. Enter 1.25 for Summer On/Off Relationship and 1.25 for Winter Semi/Off Relationship (*not specified in scenario*).
5. Input 75% for Seasonal Rate Adjustment (*not specified in scenario*).

#### Scenario Three: Flat Energy Rate

*Same as Scenario One Commodity portion above.*

#### Scenario Four: Time of Use Energy Rate with 150% On-Peak to Off-Peak relationship

*Same as Scenario Two Commodity portion above.*

### III. Total Rate Adjustment Component (TRAC)

The TRAC component is the mechanisms that differentiates SDG&E's residential tiered rates and ensures regulatory compliance with AB1X/SB695. Tier 1 and Tier 2 TRAC credits ensure total Tier 1 and Tier 2 rates meet the constraints under AX1X/SB695. These credits are then recovered through charges applied to upper tier TRAC rates. In the event Time-of-Use commodity energy is selected, tiers will be reflected as baseline adjustments. If a flat commodity energy rates are selected, tiers will be reflected in the total rate, consistent with the current rate structure. The user first selects how many Tiers are desired from the drop down menu highlighted in yellow, in Column C. If 2, 3 or 4 Tiers are chosen then additional instructions will appear, as explained below.

#### A. **Number of Tiers** – there are 4 mutually exclusive rate design options available:

1. **Flat - No** tier differentials. This would not be in compliance with AB1X/SB695 and require legislative change.
2. **2 Tiers** – Reflects a baseline/non-baseline option with the two tiers differentiated by a consistent percent increase of Tier 2 rates over Tier 1 rates. This would change both Tier 1 and Tier 2 rates thus it would not be in compliance with AB1X/SB695 and require legislative change.
3. **3 Tiers** – Three tiers with option to keep Tier 1 and Tier 2 in compliance with AB1X/SB695. Tier 3 would apply to usage greater than 130% of Baseline.
4. **4 Tiers** – Four tiers with option to keep Tier 1 and Tier 2 in compliance with AB1X/SB695.

#### B. **Tier Differential** – User can choose to ignore current AB1X/SB695 requirements and enter tier differentials in the form of cents/kWh or percent difference.

If 3 or 4 Tiers are selected, the user is instructed to decide to maintain current Tier 1 and Tier 2 references or ignore AB1X/SB695. If "No" is inputted, the user is instructed to decide to have percent or cent tier differentials (with 2 Tiers the user has to ignore AB1X/SB695 references and jumps to deciding to have a cent or percent differential).

The user has two options after selecting to have cent or percent differentials (for 3 or 4 Tiers):

1. **Fixed Tier 1 Reference** - Find the highest Tier and maintain the current Tier 1 reference if the user selected not to maintain both Tier 1 and tier 2 references but selected to fix Tier 1. The difference between the highest and second highest Tier cannot be defined and will be found.

2. **Tier 1 as Residual Calculation** - If Tier 1 is not fixed to current levels then the user can define the difference between all the tiers, including the highest and second-highest tier, and Tier 1 will be found. The user is instructed to input the corresponding differentials depending on number of Tiers and inputs as described.

Note that if the user wishes to consolidate tiers, for example tiers 2 and 3, they will select to have 4 tiers and then set the differential between tiers 2 and 3 to be either 0 cents or 0%.

**C. Percent increase to current Tier 1 and Tier 2 rates** – Option if Tier 1 and 2 references are maintained.

Instructions will appear to enter a percent increase to Tiers 1 and 2. For example if 3% is selected, the current Tier 1 and Tier 2 rates will be increased by 3%. This option is available if 3 or more Tiers are chosen and the user selected to maintain current Tier 1 and Tier 2 references.

**D. Tiers with Time-of-Use Commodity Structure** – It is possible to have a tiered time-of-use rate. Note that the TOU structure is addressed in the commodity component.

The tiering is done with baseline adjustment credits for all tiers except the highest tier. The baseline adjustment is calculated by taking the difference between the highest tier's TRAC rate and the TRAC rate of each tier in the corresponding non time-of-use scenario. The highest TRAC rate is applied to every kWh then the credit is given for any kWh not in the highest tier corresponding to selected Tier differentials.

The below image is a screenshot from the model of the TRAC portion of the inputs described above.

Total Rate Adjustment Component (TRAC):		
Number of Tiers:	4	<--- Enter 2, 3, 4 or Flat
Maintain Current Tier 1 and Tier 2 References:	No	<--- Enter 'Yes' or 'No'
% Differential or Cent/kWh Differential Between Tiers:	Percent	<--- Enter 'Percent' or 'Cent'
Fix Tier 1 and find Highest Tier:	No	<--- Enter 'Yes' or 'No'
Tier 1 to Tier 2 Differential (%):	20%	<--- Enter % Difference T1 to T2
Tier 2 to Tier 3 Differential (%):	0%	<--- Enter % Difference T2 to T3
Tier 3 to Tier 4 Differential (%):	20%	<--- Enter % Difference T3 to T4

\*Not in compliance with SB695 Tier 1 and Tier 2 Levels

Dependent on selections, instructions appear highlighted in yellow.

#### E. TRAC Rate Design Scenario Examples – Instructions for TRAC portion only.

##### Scenario One: No Tiers (Flat)

1. Enter "Flat" for Number of Tiers

##### Scenario Two: No Tiers (Flat)

*Same as Scenario One TRAC portion above.*

##### Scenario Three: 2-Tiers with 20% differential

1. Enter 2 for Number of Tiers
2. Enter "Percent" for % Differential or Cent/kWh Differential Between Tiers
3. Enter 20% for % Difference Tier 1 to Tier 2

##### Scenario Four: No Tiers (Flat)

*Same as Scenario One TRAC portion above.*

#### IV. California Alternate Rates for Energy (CARE)

The following are alternative options for providing additional assistance for low income customers. Currently, in addition to the benefits of a 20% line item discount, exemption from the Department of Water Resources Bond Charge, an exemption from the CARE surcharge, CARE customers also receive rate design benefits which result in a reference rate lower than the non-CARE rate prior to these other benefits.

##### A. **CARE Percent Discount** – Select percent discount for CARE customers.

CARE customers can receive a percent off their total electric bill. Currently, the discount is 20% for the final bill. The user has the option to enter different percentages for each type of charge selected;

- Basic service fee,
- Fixed charge demand adder,
- Non-coincident demand charge,
- On-peak demand charge, and
- Energy charges

The user can enter any percentages. For the energy charges, the user has the option to enter different CARE discount percentages by tier depending on how many tiers are selected.

##### B. **CARE Fixed Charge Discount** – Select dollar discount per month for CARE customers.

Enter a dollar amount to be taken off of a CARE customer's monthly bill. This can be in place of a percent total bill discount but not added to a percent total bill discount. The user can enter different \$/month discounts by maximum kW demand range, the same ranges as the Fixed Charge Demand Adder for distribution demand costs.

##### C. **CARE Tier 1 and Tier 2 Rates equal to non-CARE rates** – Available for any number of Tiers selected.

CARE customers currently receive lower rates than non-CARE customers. Enter Yes to set CARE and non-CARE Tier 1 and Tier 2 rates equal or No to maintain the current relationship.

##### D. **CARE Tier 3 Rate equal to non-CARE rate** – Available only if 3 or 4 Tiers are selected.

CARE customers currently receive lower rates than non-CARE customers. Enter Yes to set CARE and non-CARE Tier 3 rates equal or No to maintain the current relationship.

##### E. **Revenue shift to non-Residential classes from selections**

Difference between current CARE discount revenue allocations and what would result from the selected rate structure. The amount shown is the total revenue difference minus the residential allocation. All of the current class allocation percentages for the discount remain unchanged. The complete table showing current, proposed, \$ change, and % change for all classes is located on the inputs tab under the total rate comparison.



**F. Illustrative CARE income-based fixed discount** – Refer to Appendix B Section VI #2

On the top calculation based on the CARE scenario (% or fixed discount) selected in the inputs. This is a way to re-examine the CARE scenario based on income. This is explained in the output section in more detail.

**G. Illustrative CARE income-based percent discount** - Refer to Appendix B Section VI #2

On the top calculation based on the CARE scenario (% or fixed discount) selected in the inputs. This is a way to re-examine the CARE scenario based on income. This is explained in the output section in more detail.

*The below image is a screenshot from the model of the CARE portion of the inputs described above.*

**California Alternate Rates for Energy (CARE):**

CARE Discount:	Percent Discount	
Tier 1 CARE Energy Discount % :	Select One	Enter %
Tier 2 CARE Energy Discount % :	Percent Discount	Enter %
Tier 3 CARE Energy Discount % :	Fixed Charge Discount	Enter %
Tier 4 CARE Energy Discount % :	20%	Enter %
Basic Service Fee CARE Discount %:	20%	Enter %
Fixed Charge Demand Adder CARE Discount %:	20%	Enter %
CARE Discount Fixed \$/month discount:		
\$/month discount 0-3 kW Demand		Enter \$/month
\$/month discount 3-7 kW Demand		Enter \$/month
\$/month discount 7-13 kW Demand		Enter \$/month
\$/month discount > 13 kW Demand		Enter \$/month
CARE Tier 1 and Tier 2 Rate equal non-CARE?:	No	Enter 'Yes' or 'No'
CARE Tier 3 Rate equal non-CARE?:	No	Enter 'Yes' or 'No'
Estimate of revenue shift to non-Residential classes:	\$ 3 Million	

Input a Line Item Discount for CARE customers (\$/month) varying by demand levels.

Ability to set CARE rates equal to non-CARE rates. CARE Tier 3 option only appears if 3 or 4 Tiers are selected.

Ability to select CARE Discount % varying by Tier and type of charge.

**H. CARE Rate Design Scenario Examples** – Instructions for CARE portion only.

**Scenario One: 20% Discount**

1. Select "Percent Discount" for CARE Discount
2. Enter 20% for CARE Energy Discount %:
3. Enter 20% for Basic Service Fee CARE Discount %:
4. Enter "No" for CARE Tier 1 and Tier 2 Rates equal non-CARE?

**Scenario Two: 20% Discount**

*Same as Scenario One CARE portion above.*

**Scenario Three: 20% Discount**

1. Select "Percent Discount" for CARE Discount
2. Enter 20% for Tier 1 CARE Energy Discount %:
3. Enter 20% for Tier 2 CARE Energy Discount %:
4. Enter 20% for Basic Service Fee CARE Discount %:
5. Enter 20% for Fixed Charge Demand Adder CARE Discount %:
6. Enter "No" for CARE Tier 1 and Tier 2 Rates equal non-CARE?

**Scenario Four: 20% Discount**

1. Select "Percent Discount" for CARE Discount
2. Enter 20% for CARE Energy Discount %:
3. Enter 20% for Basic Service Fee CARE Discount %:
4. Enter 20% for Fixed Charge Demand Adder CARE Discount %:
5. Enter "No" for CARE Tier 1 and Tier 2 Rates equal non-CARE?

## V. Appendix A: Scenario Instructions

### 1. Scenario One: Basic Service Fee (Dist.)

#### Distribution

##### **Step 1: Distribution Customer Costs: \$20 per month Basic Service Fee**

Customer Cost dropdown menu – select “Basic Service Fee”. Instructions appear to enter a \$/month next to Basic Service Fee Amount; enter \$20.

##### **Step 2: Distribution Demand Costs: Recovered through energy rates**

Distribution Demand dropdown menu – select “Recover through energy rates”

**Step 3: Miscellaneous Distribution costs:** Select “Distribution Rate” for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

#### Commodity

##### **Step 4: Commodity Demand Costs: Recovered through energy rates**

Capacity dropdown menu – select “Recover through energy rates”

##### **Step 5: Commodity Energy Costs: Flat rates by season**

Energy dropdown menu – select “Non-TOU”

##### **Step 6: Seasonal Rate Adjustment**

Enter 75% (not specified in scenario)

#### TRAC

##### **Step 7: TRAC: Flat (no tiers)**

Next to Number of Tiers type “Flat”

#### CARE

##### **Step 8: CARE: 20% Discount; Not set equal to non-CARE rates**

Select “Percent Discount” from the dropdown menu. Next to CARE Energy Discount % and Basic Service Fee CARE Discount % : enter 20%, next to CARE Tier 1 and Tier 2 Rate equal non-CARE?: Enter No.

#### Execute

**Step 9: Click “Calculate Selected Rate Structure”** – The box below should be highlighted in green and read “Revenue Neutrality Confirmed”.

## 2. Scenario Two: Time-of-Use Energy (Comm.) + BSF (Dist.)

### Distribution

#### **Step 1: Distribution Customer Costs: \$10 per month Basic Service Fee**

Customer Cost dropdown menu – select “Basic Service Fee”. Instructions appear to enter a \$/month next to Basic Service Fee Amount; enter \$10.

#### **Step 2: Distribution Demand Costs: Recovered through energy rates**

Distribution Demand dropdown menu – select “Recover through energy rates”

**Step 3: Miscellaneous Distribution costs:** Select “Distribution Rate” for Include SGIP, CSI, & RPBA in: *(not specified in scenario)*

### Commodity

#### **Step 4: Commodity Demand Costs: Recovered through energy rates**

Capacity dropdown menu – select “Recover through energy rates”

#### **Step 5: Commodity Energy Costs: Time-of-Use with 150% On-Peak/Off-Peak ratio**

Energy dropdown menu – select “Time-of-Use”. Instructions appear to enter On-Peak /Off-Peak ratio; enter 1.5 for both summer and winter. Instructions appear to enter Semi-Peak/Off-Peak ratio; enter 1.25 for both summer and winter (not specified in scenario).

#### **Step 6: Seasonal Rate Adjustment**

Enter 75% (not specified in scenario)

### TRAC

#### **Step 7: TRAC: Flat (no tiers)**

Next to Number of Tiers type “Flat”

### CARE

#### **Step 8: CARE: 20% Discount; Not set equal to non-CARE rates**

Select “Percent Discount” from the dropdown menu. Next to CARE Energy Discount % and Basic Service Fee CARE Discount % : enter 20%, next to CARE Tier 1 and Tier 2 Rate equal non-CARE?: Enter No.

### Execute

**Step 9: Click “Calculate Selected Rate Structure”** – The box below should be highlighted in green and read “Revenue Neutrality Confirmed”.

### 3. Scenario Three: BSF w/ Fixed Charge Demand Adder (Dist.) + Tiers (TRAC)

#### Distribution

##### **Step 1: Distribution Customer Costs: \$5 per month Basic Service Fee**

Customer Cost dropdown menu – select “Basic Service Fee”. Instructions appear to enter a \$/month next to Basic Service Fee Amount; enter \$5.

##### **Step 2: Distribution Demand Costs: Fixed Charge Demand Adder**

Distribution Demand dropdown menu – select “Fixed Charge Demand Adder”. Instructions appear to enter a \$/month next to demand (kW) levels. Enter \$5 for 0-3 kW and enter \$10 for 3-7 kW, 7-13 kW and >13 kW.

**Step 3: Miscellaneous Distribution costs:** Select “Distribution Rate” for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

#### Commodity

##### **Step 4: Commodity Demand Costs: Recovered through energy rates**

Capacity dropdown menu – select “Recover through energy rates”

##### **Step 5: Commodity Energy Costs: Flat rates by season**

Energy dropdown menu – select “Non-TOU”

##### **Step 6: Seasonal Rate Adjustment**

Enter 75% (not specified in scenario)

#### TRAC

##### **Step 7: TRAC: 2-Tiers with 20% Difference**

Enter “Percent” for % Differential or Cent/kWh Differential Between Tiers. Instructions appear to enter % Difference Tier 1 to Tier 2; enter 20%

#### CARE

##### **Step 8: CARE: 20% Discount; Not set equal to non-CARE rates**

Select “Percent Discount” from the dropdown menu. Next to Tier 1 CARE Energy Discount %, Tier 2 CARE Energy Discount % , Basic Service Fee CARE Discount % and Fixed Charge Demand Adder CARE Discount %: enter 20%, next to CARE Tier 1 and Tier 2 Rate equal non-CARE?: Enter No.

#### Execute

**Step 9: Click “Calculate Selected Rate Structure”** – The box below should be highlighted in green and read “Revenue Neutrality Confirmed”.

#### 4. Scenario Four: BSF w/ Fixed Charge Demand Adder (Dist.) + TOU Energy (Comm.)

##### Distribution

##### **Step 1: Distribution Customer Costs: \$5 per month Basic Service Fee**

Customer Cost dropdown menu – select “Basic Service Fee”. Instructions appear to enter a \$/month next to Basic Service Fee Amount; enter \$5.

##### **Step 2: Distribution Demand Costs: Fixed Charge Demand Adder**

Distribution Demand dropdown menu – select “Fixed Charge Demand Adder”. Instructions appear to enter a \$/month next to demand (kW) levels. Enter \$5 for 0-3 kW and enter \$10 for 3-7 kW, 7-13 kW and >13 kW.

**Step 3: Miscellaneous Distribution costs:** Select “Distribution Rate” for Include SGIP, CSI, & RPBA in: (*not specified in scenario*)

##### Commodity

##### **Step 4: Commodity Demand Costs: Recovered through energy rates**

Capacity dropdown menu – select “Recover through energy rates”

##### **Step 5: Commodity Energy Costs: Time-of-Use with 150% On-Peak/Off-Peak ratio**

Energy dropdown menu – select “Time-of-Use”. Instructions appear to enter On-Peak /Off-Peak ratio; enter 1.5 for both summer and winter. Instructions appear to enter Semi-Peak/Off-Peak ratio; enter 1.25 for both summer and winter (not specified in scenario).

##### **Step 6: Seasonal Rate Adjustment**

Enter 75% (not specified in scenario)

##### TRAC

##### **Step 7: TRAC: Flat (no tiers)**

Next to Number of Tiers type “Flat”

##### CARE

##### **Step 8: CARE: 20% Discount; Not set equal to non-CARE rates**

Select “Percent Discount” from the dropdown menu. Next to CARE Energy Discount %, Basic Service Fee CARE Discount % and Fixed Charge Demand Adder CARE Discount %: enter 20%, next to CARE Tier 1 and Tier 2 Rate equal non-CARE?: Enter No.

##### Execute

**Step 9: Click “Calculate Selected Rate Structure”** – The box below should be highlighted in green and read “Revenue Neutrality Confirmed”.

## VI. Appendix B: Illustrative Output: Scenario Four

### 1. Total Rate Comparison

Total Rate comparison of non-CARE and CARE rates with Current Structured Rates (9/1/2012 rates), Cost-Based Rates (per revenue adjusted SDG&E GRC Phase II 2012 Marginal Costs), the Resulting Rates from the inputs selected, and Alternative Cost-Based Rates (User Inputted or equal to SDG&E if no changes specified) shown side-by-side. The cost-based rates and current rates do not change with any selections to the inputs. In this view, the CARE rates are shown prior to any discount or CARE surcharge exemption.

Resulting Rates (non-CARE)		SDG&E Cost-Based Rates (non-CARE)		Current Structured Rates (non-CARE)		Alternative Cost-Based Rates (non-CARE)	
	Total Rate		Total Rate		Total Rate		Total Rate
<b>SCHEDULE DR</b>		<b>SCHEDULE DR</b>		<b>SCHEDULE DR</b>		<b>SCHEDULE DR</b>	
Basic Service Fee		Basic Service Fee	12.67	Basic Service Fee	0.00	Basic Service Fee	12.67
0-3 kW	10.00						
3-7 kW	15.00						
7-13 kW	15.00						
>13 kW	15.00						
Non-Coincident Demand	0.00	Non-Coincident Demand	6.96	Non-Coincident Demand	0.00	Non-Coincident Demand	6.96
On Peak Demand		On Peak Demand		On Peak Demand		On Peak Demand	
Summer	0.00	Summer	6.97	Summer	0.00	Summer	6.97
Winter	0.00	Winter	0.00	Winter	0.00	Winter	0.00
Summer Energy		Summer Energy		Summer Energy		Summer Energy	
On Peak	0.21071	On Peak	0.12088	Baseline Energy	0.14334	On Peak	0.12088
Semi Peak	0.18968	Semi Peak	0.10592	101% to 130% of Baseline	0.16580	Semi Peak	0.10592
Off Peak	0.16866	Off Peak	0.09003	131% to 200% of Baseline	0.27982	Off Peak	0.09003
Winter Energy		Winter Energy		Above 200% of Baseline	0.29982	Winter Energy	
On Peak	0.16179	On Peak	0.10443	Winter Energy		On Peak	0.10443
Semi Peak	0.15102	Semi Peak	0.09515	Baseline Energy	0.14334	Semi Peak	0.09515
Off Peak	0.14024	Off Peak	0.08228	101% to 130% of Baseline	0.16580	Off Peak	0.08228
Minimum Bill	0.00000			131% to 200% of Baseline	0.26239		
Baseline Discount \$/kWh	0 Summer 0 Winter			Above 200% of Baseline	0.28239		
101%-130% Baseline Discount \$/kWh	0 Summer 0 Winter			Minimum Bill	0.17		
131%-200% Baseline Discount \$/kWh	0 Summer 0 Winter						
<b>Resulting Rates (CARE before Discount)</b>		<b>SDG&amp;E Cost-Based Rates (CARE before Discount)</b>		<b>Current Structured Rates (CARE before Discount)</b>		<b>Alternative Cost-Based Rates (CARE before Discount)</b>	
	Total Rate		Total Rate		Total Rate		Total Rate
<b>SCHEDULE DR-LI</b>		<b>SCHEDULE DR-LI</b>		<b>SCHEDULE DR-LI</b>		<b>SCHEDULE DR-LI</b>	
Basic Service Fee		Basic Service Fee	12.67	Basic Service Fee	0.00	Basic Service Fee	12.67
0-3 kW	10.00						
3-7 kW	15.00						
7-13 kW	15.00						
>13 kW	15.00						
Non-Coincident Demand	0.00	Non-Coincident Demand	6.96	Non-Coincident Demand	0.00	Non-Coincident Demand	6.96
On Peak Demand		On Peak Demand		On Peak Demand		On Peak Demand	
Summer	0.00	Summer	6.97	Summer	0.00	Summer	6.97
Winter	0.00	Winter	0.00	Winter	0.00	Winter	0.00
Summer Energy		Summer Energy		Summer Energy		Summer Energy	
On Peak	0.17240	On Peak	0.11575	Baseline Energy	0.12738	On Peak	0.11575
Semi Peak	0.15137	Semi Peak	0.10079	101% to 130% of Baseline	0.14815	Semi Peak	0.10079
Off Peak	0.13035	Off Peak	0.08490	131% to 200% of Baseline	0.22236	Off Peak	0.08490
Winter Energy		Winter Energy		Above 200% of Baseline	0.22236	Winter Energy	
On Peak	0.14042	On Peak	0.09930	Winter Energy		On Peak	0.09930
Semi Peak	0.12965	Semi Peak	0.09002	Baseline Energy	0.12738	Semi Peak	0.09002
Off Peak	0.11887	Off Peak	0.07715	101% to 130% of Baseline	0.14815	Off Peak	0.07715
Minimum Bill	0.00000			131% to 200% of Baseline	0.20811		
Baseline Discount \$/kWh	0 Summer 0 Winter			Above 200% of Baseline	0.20811		
101%-130% Baseline Discount \$/kWh	0 Summer 0 Winter			Minimum Bill	0.17		

To the right of the non-discounted CARE rates shown above are the current and resulting CARE rates after the CARE surcharge exemption and percent discount specified in the scenario inputs.

## 2. Illustrative CARE Discount based on estimated income level

The total CARE discount calculated from the selected inputs can be viewed illustratively by using two types of income based discounts; fixed monthly discount by income and percent discount by income. The user can enter different dollar amount or percentages for the specified income ranges and then adjust the inputted values to be revenue neutral with the amount of CARE discount collected from the selected inputs. The purpose is to illustrate an alternative CARE discount method based on income. The estimated income data is the median census tract household income<sup>14</sup> based on the location of the sample observation, in other words it is the median income of the area where the CARE customer lives, not the median income of the CARE household specifically. SDG&E used this to for illustrative purposes only due to availability of income data at this time. Percent of customers and revenue are taken from the sample and applied to the rate design determinants. Implementation of income based discounts would require additional vetting of administrative issues such as the income data and verification process.

### 1. Fixed Discount by Income Range:

- a. Example - Using the calculated scenario 4 CARE discount amount apply \$15/month discount for income less than \$50,000, \$10/month for income between \$50,000 and \$75,000 and no discount for income above \$75,000/year.
  - i. Enter the amounts explained above, then click "Calculate \$/Month Adjustment Factor". This will apply the same factor to all discount amounts to ensure revenue neutrality with the CARE discount calculated in scenario 4 (20% discount for everyone). Illustratively, the estimate of the adjusted \$ Discount per Month by income range would result in the same discount as 20% for everyone.

Illustrative Example of collecting the same CARE Discount amount via income based fixed discounts:

Income Range:	% of DR-LI customers	# of DR-LI customers	Input Amounts Below	
			\$ Discount per Month	Adjusted \$ Discount per Month
0 to \$25,000	0.0%	0	\$15.00	\$18.23
\$25,000 to \$30,000	6.7%	17,986	\$15.00	\$18.23
\$30,000 to \$35,000	2.4%	6,511	\$15.00	\$18.23
\$35,000 to \$40,000	12.9%	34,844	\$15.00	\$18.23
\$40,000 to \$45,000	17.7%	47,659	\$15.00	\$18.23
\$45,000 to \$50,000	8.2%	22,014	\$15.00	\$18.23
\$50,000 to \$55,000	17.7%	47,652	\$10.00	\$12.15
\$55,000 to \$60,000	9.6%	25,844	\$10.00	\$12.15
\$60,000 to \$65,000	9.1%	24,503	\$10.00	\$12.15
\$65,000 to \$70,000	4.3%	11,681	\$10.00	\$12.15
\$70,000 to \$75,000	0.0%	0	\$10.00	\$12.15
\$75,000 to \$80,000	2.9%	7,851	\$0.00	\$0.00
\$80,000 to \$85,000	1.9%	5,170	\$0.00	\$0.00
\$85,000 to \$90,000	3.3%	8,993	\$0.00	\$0.00
\$90,000 to \$95,000	1.9%	5,170	\$0.00	\$0.00
\$95,000 to \$100,000	0.0%	0	\$0.00	\$0.00
Over \$100,000	1.5%	4,021	\$0.00	\$0.00
<b>Total</b>	<b>100.0%</b>	<b>269,897</b>	<b>\$36,383,834</b>	<b>\$44,211,355</b>
Check			-\$7,827,521	\$0
Adjustment Factor to match revenue			1.215	

Income is defined as the median income by census tract for the location of CARE customer in the sample. This is not the income of the specific CARE customer, rather the median income of the households in the general area where the CARE customer lives.

Calculate \$/Month Adjustment Factor

<sup>14</sup> Income data is from 2010 American Community Survey (ACS) administered by the U.S. Census Bureau.



2. **Percent Discount by Income Range:**

- a. Example - Using the calculated scenario 4 CARE discount amount apply 30% discount for income less than \$50,000, 10% for income between \$50,000 and \$75,000 and no discount for income above \$75,000/year.
  - i. Enter the amounts explained above, then click “Calculate % Discount Adjustment Factor”. This will apply the same factor to all percentages to ensure revenue neutrality with the CARE discount calculated in scenario 4 (20% discount for everyone). Illustratively, the estimate of the adjusted % Discount by income range would result in the same discount as 20% for everyone.

Illustrative Example of collecting the same CARE Discount amount via income based percent discounts:

Income Range:	% of DR-LI revenue	DR-LI Revenue	Input Amounts Below		% Discount Adjusted
			% Discount		
0 to \$25,000	0.0%	\$0	30%		37.0%
\$25,000 to \$30,000	3.0%	\$6,530,583	30%		37.0%
\$30,000 to \$35,000	3.8%	\$8,503,595	30%		37.0%
\$35,000 to \$40,000	11.9%	\$26,378,231	30%		37.0%
\$40,000 to \$45,000	13.7%	\$30,367,369	30%		37.0%
\$45,000 to \$50,000	7.3%	\$16,051,776	30%		37.0%
\$50,000 to \$55,000	14.8%	\$32,678,628	10%		12.3%
\$55,000 to \$60,000	11.5%	\$25,492,261	10%		12.3%
\$60,000 to \$65,000	10.3%	\$22,709,194	10%		12.3%
\$65,000 to \$70,000	6.2%	\$13,814,120	10%		12.3%
\$70,000 to \$75,000	0.0%	\$0	10%		12.3%
\$75,000 to \$80,000	4.0%	\$8,854,857	0%		0.0%
\$80,000 to \$85,000	3.6%	\$8,007,916	0%		0.0%
\$85,000 to \$90,000	1.5%	\$3,353,627	0%		0.0%
\$90,000 to \$95,000	4.2%	\$9,319,483	0%		0.0%
\$95,000 to \$100,000	0.0%	\$0	0%		0.0%
Over \$100,000	4.1%	\$8,995,134	0%		0.0%
<b>Total</b>	<b>100.0%</b>	<b>\$221,056,773</b>	<b>\$35,818,886</b>		<b>\$44,211,355</b>
	<b>Check</b>		<b>-\$8,392,468</b>		<b>\$0</b>
	<b>Adjustment Factor to match revenue</b>				<b>1.234</b>

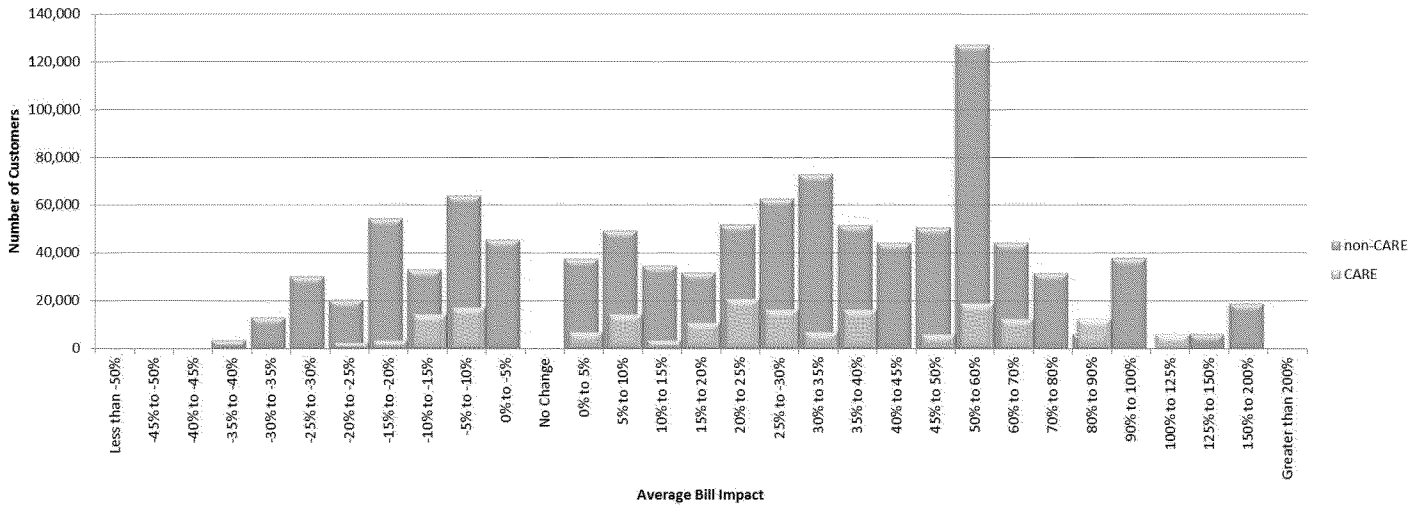
Calculate % Discount Adjustment Factor

Income is defined as the median income by census tract for the location of CARE customer in the sample. This is not the income of the specific CARE customer, rather the median income of the households in the general area where the CARE customer lives.

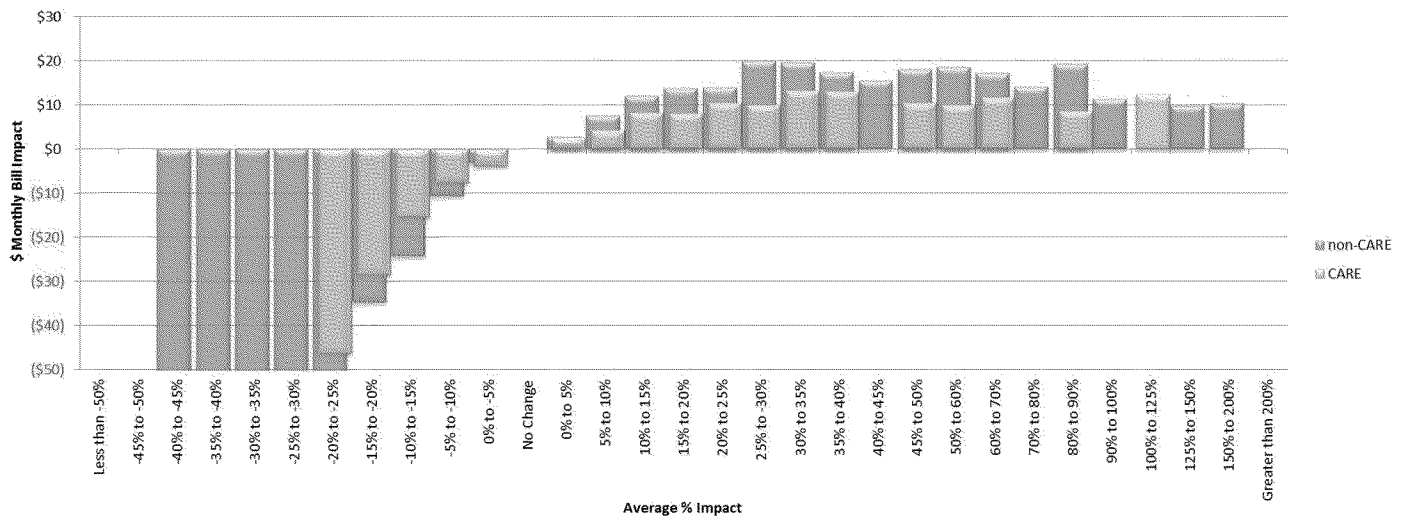
### 3. Bill Impact: Number of Customers by % Impact

Distribution of customers by % Bill Impact from current and corresponding monthly dollar bill impact from current. Graphed separately for non-CARE and CARE customers. User can select to graph SDG&E Cost-Based Rates, User Inputted Cost-Based rates, or User Selected Rates. The tables below the graphs contain the details going into the graph and additionally a comparison of the “energy burden” which is the estimated annual bill amount as a percent of median census tract household income (averages of the customers for each % impact range).

**Number of Customers by % Impact**



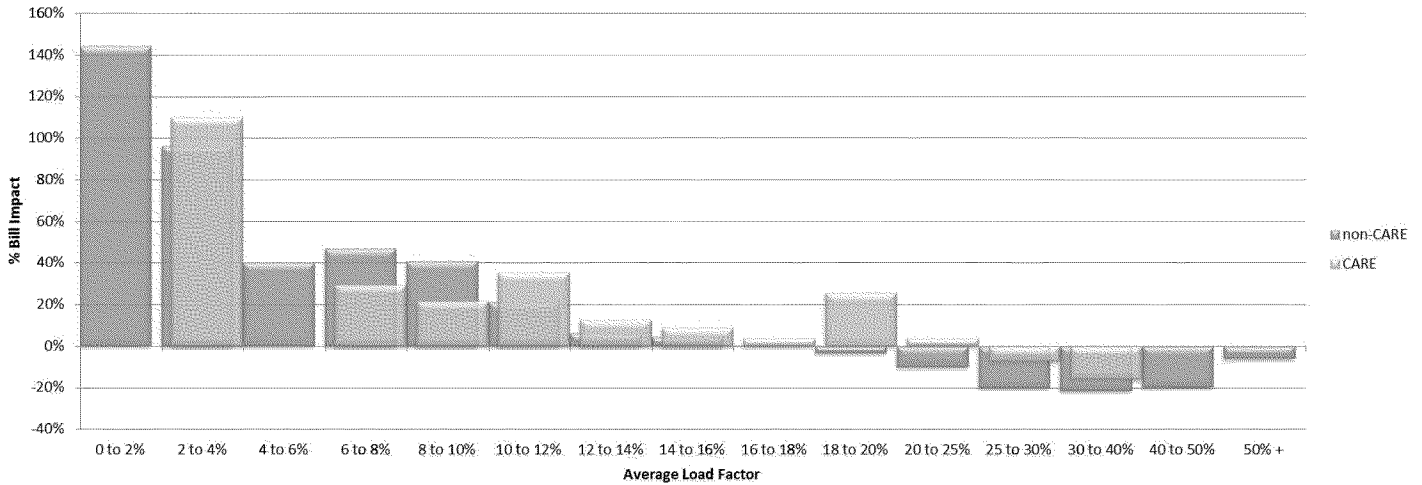
**Average \$ Monthly Impact by % Impact**



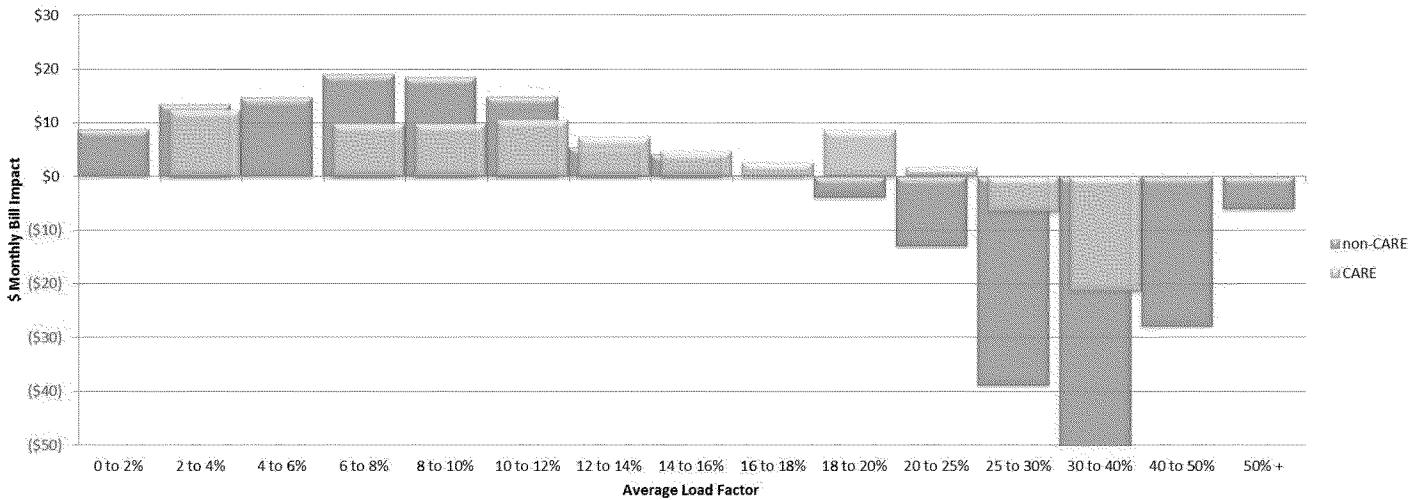
#### 4. Bill Impact: % Impact by Average Non-Coincident Demand Load Factor

Average % impact from current by Load Factor range and corresponding monthly dollar bill impact from current. Graphed separately for non-CARE and CARE customers. User can select to graph SDG&E Cost-Based Rates, User Inputted Cost-Based rates, or User Selected Rates. The tables below the graphs contain the details going into the graph and additionally a comparison of the “energy burden” which is the estimated annual bill amount as a percent of median census tract household income (averages of the customers for each Load Factor range).

**Average % Bill Impact by Non-Coincident Load Factor**



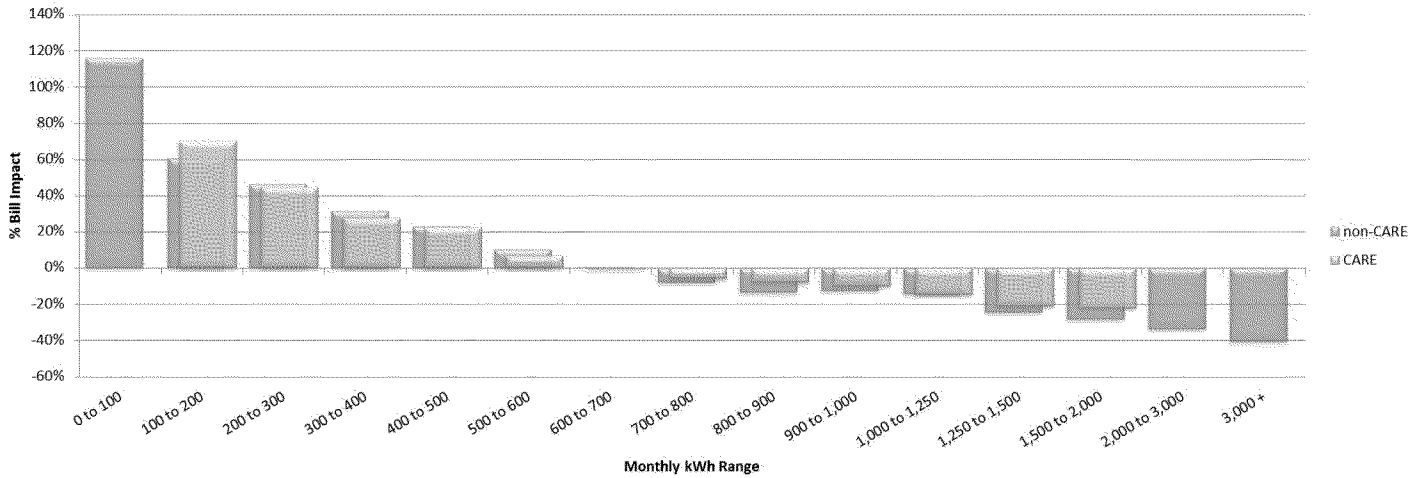
**Average \$ Monthly Bill Impact by Non-Coincident Load Factor**



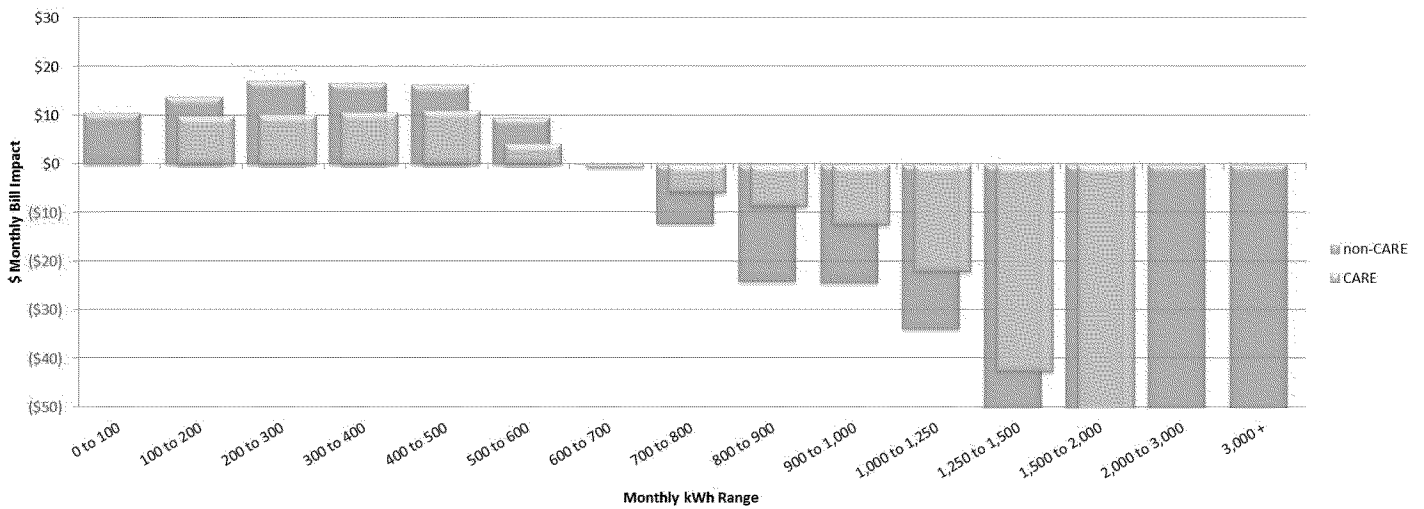
### 5. Bill Impact: % Impact by Average Monthly kWh Consumption

Average % impact from current by average monthly kWh consumption and corresponding monthly dollar bill impact from current. Graphed separately for non-CARE and CARE customers. User can select to graph SDG&E Cost-Based Rates, User Inputted Cost-Based rates, or User Selected Rates. The tables below the graphs contain the details going into the graph and additionally a comparison of the “energy burden” which is the estimated annual bill amount as a percent of median census tract household income (averages of the customers for each kWh range).

**Average % Bill Impact by kWh**



**Average Monthly \$ Bill Impact by kWh**

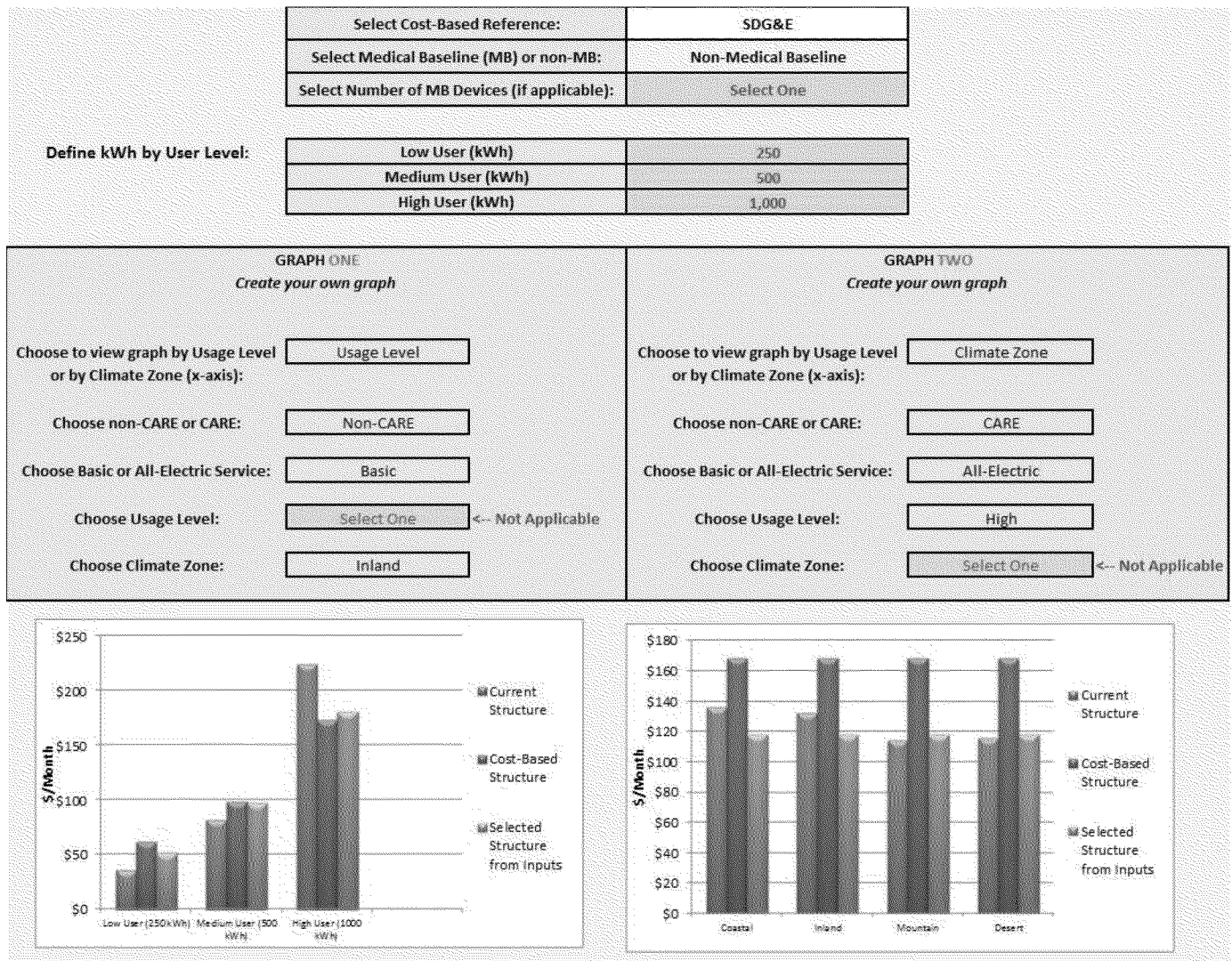


## 6. Illustrative Monthly Bill Comparison

The user can design two side-by-side graphs to compare example monthly bill impacts, choosing from the following options:

- Comparison with SDG&E Cost-Based Rates or User Inputted Cost-Based Rates
- Medical Baseline (MB) or non-Medical Baseline
- If Medical Baseline is selected, the User can select between 1 and 5 approved devices
- CARE or non-CARE
- Type of Service: Basic or All-Electric Service
- Usage Level : Low (250 kWh), Medium (500 kWh) or High (1,000 kWh)
- Climate Zone: Coastal, Inland, Mountain or Desert

Graph One is looking at a non-MB, Basic service, Inland non-CARE customer, between differing usage levels. Graph Two is looking at a non-MB, All-Electric service, High level (1,000 kWh) CARE customer, between differing climate zones.



## 7. Elasticity of Demand Template

Non-CARE and CARE billing determinants with corresponding current and proposed rates. User has flexibility to enter any elasticity for every part of the bill. Note that there is no reference for current TOU rates and that the elasticity's for Non-Coincident Demand or On-Peak Demand cannot be calculated because the current rate is zero.

### Elasticity of Demand Template

	Non-CARE (Schedule DR) Determinants (kWh)	Current Rate (9/1/12) (\$/kWh)	Proposed Rate from Inputs (\$/kWh)	Price Elasticity of Demand (E <sub>d</sub> ) $\frac{(dQ/Q)}{(dP/P)}$	Estimated Change in quantity $(dP/P) \times E_d \times Q$	
Summer	Tier 1	1,564,387,200	0.14334	TOU Rates Selected		N/A
	Tier 2	320,551,974	0.16580	TOU Rates Selected		N/A
	Tier 3	506,678,357	0.27982	TOU Rates Selected		N/A
	Tier 4	722,605,210	0.29982	TOU Rates Selected		N/A
Winter	Tier 1	1,705,632,978	0.14334	TOU Rates Selected		N/A
	Tier 2	320,598,737	0.16580	TOU Rates Selected		N/A
	Tier 3	478,243,381	0.26239	TOU Rates Selected		N/A
	Tier 4	552,688,427	0.28239	TOU Rates Selected		N/A
Summer	On-Peak	722,633,065		0.21071		N/A
	Semi-Peak	905,999,397		0.18968		N/A
	Off-Peak	1,485,590,280		0.16866		N/A
Winter	On-Peak	359,472,957		0.16179		N/A
	Semi-Peak	1,136,592,033		0.15102		N/A
	Off-Peak	1,561,098,533		0.14024		N/A
	Non-CARE (Schedule DR) Determinants (kWh)	Current Rate (9/1/12) (\$/kWh)	Proposed Rate from Inputs (\$/kWh)	Price Elasticity of Demand (E <sub>d</sub> ) $\frac{(dQ/Q)}{(dP/P)}$	Estimated Change in quantity $(dP/P) \times E_d \times Q$	
	Non-Coincident Demand	43,491,342	0.00	0.00		N/A
	On-Peak Summer Demand	17,073,758	0.00	0.00		N/A

\*Note that because the current rate is zero the Estimated Change is not mathematically possible to compute.

## 8. Effective Cost Curve

Graph of effective rate by kWh for non-CARE customers. Ability to view comparison SDG&E or User Inputted Cost-Based rate reference, current rates, and selected rates from inputs. The graph shows Distribution, Commodity, and Total Rate separately. Note that once SDG&E cost-based rates or User Inputted cost-based rates are selected the user must click "Refresh Table" to update the data accordingly. Below shows the Cost-Based Structure versus Structure from Inputs Selections.

