SDGE

A Sempra Energy utility

San Diego Gas & Electric

Residential Rate OIR:

Rate Design and Bill Impact Analysis Model

User Guide

March 21st, 2013

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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 March 21st 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 & Elec tric's (SDG&E) current rates and illustrative cost-based rate structure, developed in SDG&E GRC Phase II Application 11 -10-002 and adjusted for revenue neutrality.
- Revenue neutral with respect to current rates effective September 1st, 2012 per Advice Letter 2396-E
- 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 t he 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. 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). The rate design options follow the co st based structure of the identified rate components as discussed below . However, TRAC is a rate component strictly

responsible for meeting 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, customer pays a fixed $/month) and/or recovery through energy rates (customer pays for cost recovery through a cent/kWh energy charge).
   b. Demand Cost Recovery
      i. Non-Coincident Demand (NCD, customer pays a dollar amount per NCD-kW: maximum demand during the billing period regardless of TOU period), Fixed Charge Demand Adder (customer pays fixed $/month added to the Basic Service Fee to recover distribution demand costs), and/or recovery through energy rates

2. **Commodity:**
   a. Capacity Cost Recovery
      i. Variation of On-Peak Demand (customer pays a dollar amount per Peak-kW; maximum demand measured during the peak period) and/or recovery though energy rates

   b. Energy Cost Recovery
      i. Time-of-Use rates (TOU, different rate levels depending upon the time period in which energy is used) or Non-TOU (customer pays a flat commodity rate only different between summer and winter).

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)** – alternative mechanism for providing assistance for low-income customers
   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 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
Customer Charge	$20/month	$10/month	$5/month	$5/month
Demand Differentiated Basic Service Fee (BSF) Adder	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
TOU	None - Flat	150% OP/OF	None - Flat	150% OP/OF
Tiers	None	None	2 tiers with 20% differential	None
CARE	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)". In each of the output graphs and cost curve the user can view their cost based rates in place of SDG&E's cost-based rates.

I.   Distribution Costs
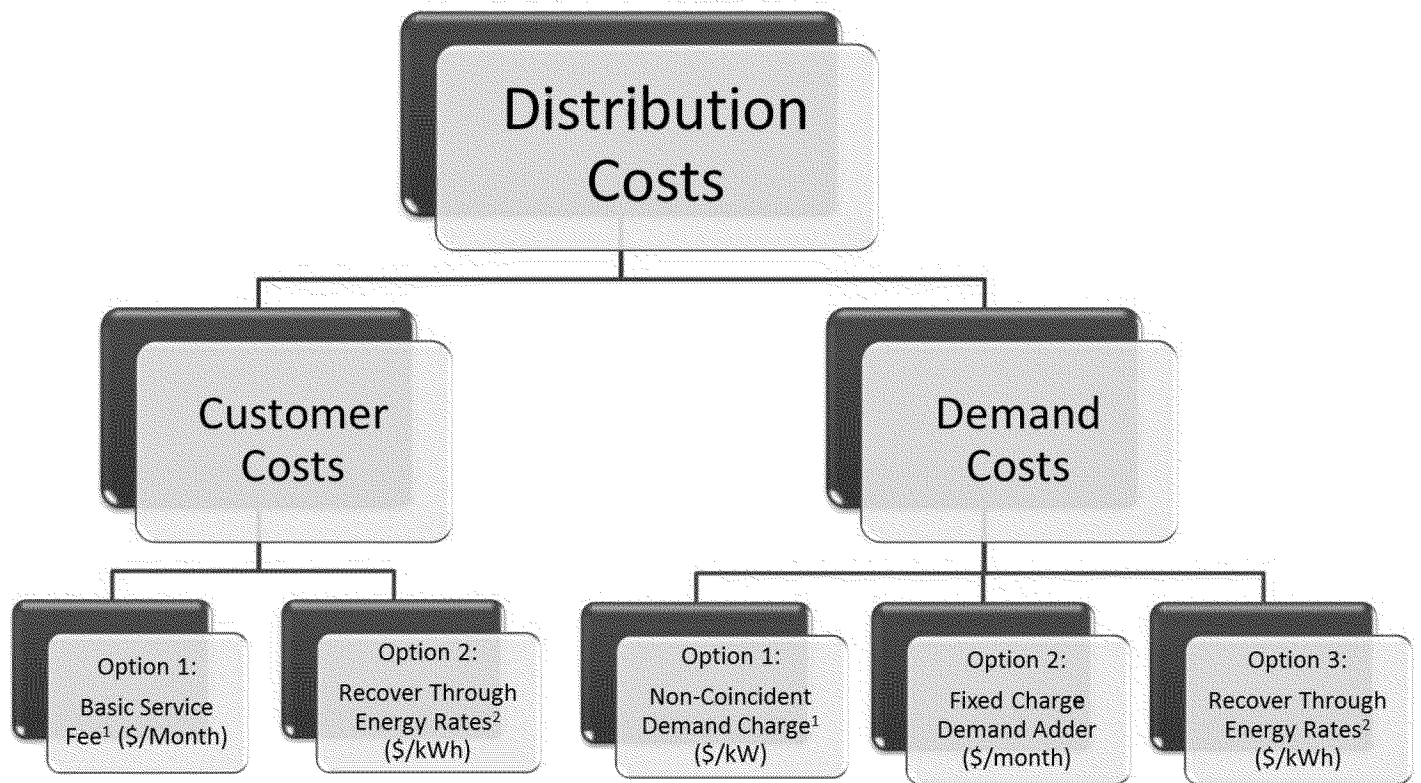
```
                    ┌─────────────────┐
                    │  Distribution   │
                    │     Costs       │
                    └─────────────────┘
                      │             │
          ┌───────────┘             └───────────┐
   ┌─────────────┐                       ┌─────────────┐
   │  Customer   │                       │   Demand    │
   │   Costs     │                       │   Costs     │
   └─────────────┘                       └─────────────┘
      │       │                        │        │        │
```

| Option 1: Basic Service Fee[1] ($/Month) | Option 2: Recover Through Energy Rates[2] ($/kWh) | | Option 1: Non-Coincident Demand Charge[1] ($/kW) | Option 2: Fixed Charge Demand Adder ($/month) | Option 3: Recover Through Energy Rates[2] ($/kWh) |

[1] Cost-Based Structure
[2] 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 results 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 monthly 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. If the user desired to have a fixed charge demand adder without a basic service fee, select Basic Service Fee and enter $0.
    a. A fixed dollar per month dependent on the customer's maximum annual demand. Up to 4 levels can be designated (0 to <3 kW, 3 to <7 kW, 7 to <13 kW, and 13 and above kW). This adder is presented in the Basic Service Fee.
3. **Recovery through energy rates** - All Distribution Demand Costs are collected as an equal cent per kWh ($/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. To view the component location of this portion of the rate, refer to the "Rates" tab. The movement makes no difference to the total rate. 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. Demand Response

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

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

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

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
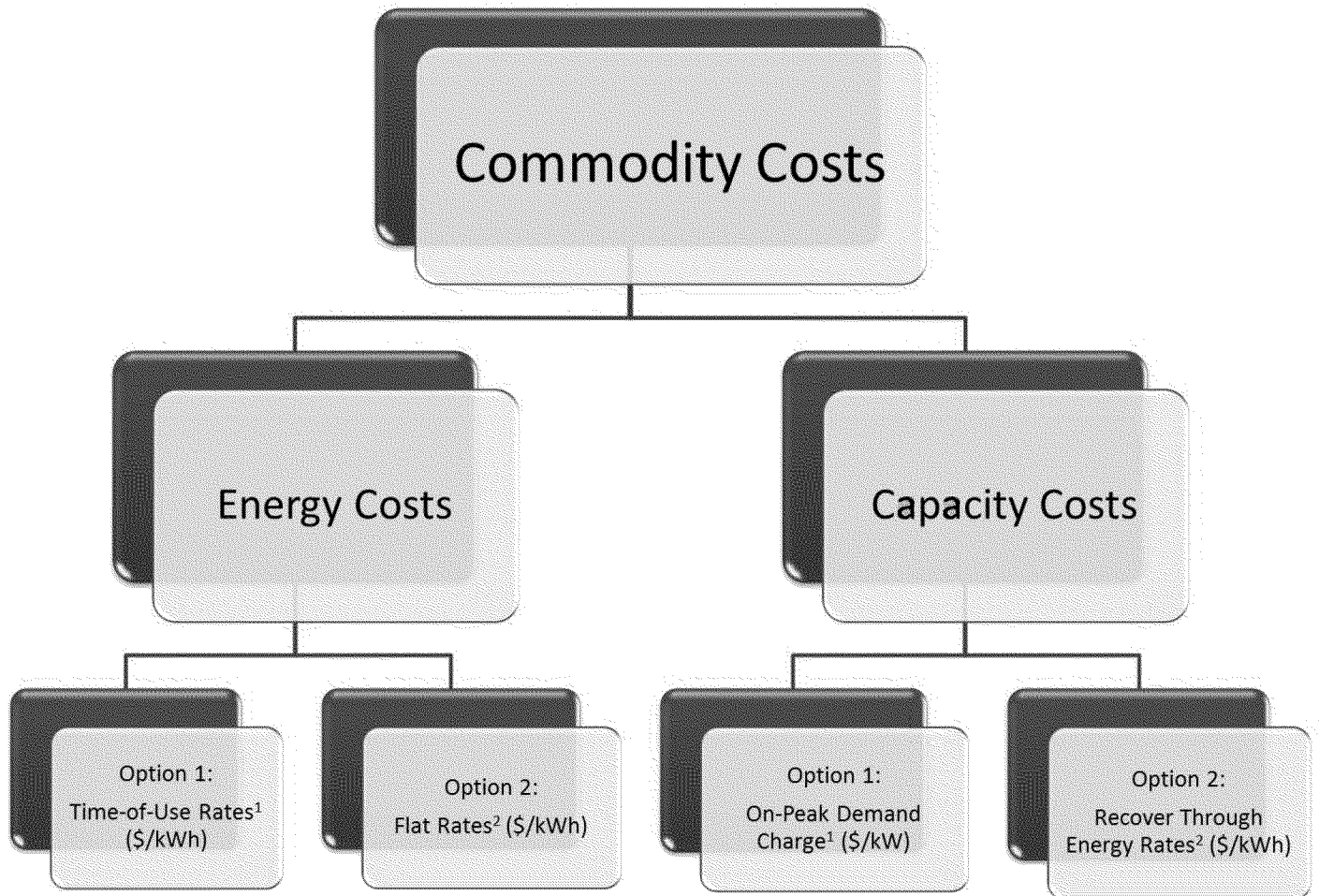
[1] Cost-Based Structure
[2] Current Structure

The above chart illustra tes 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 recover y through energy rat es is chosen, then all capacity costs will be colle cted 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. Currently residential commodity capacity is summer only.

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[1]. The user selects to have either a cent per kWh differential between TOU periods or a ratio between on-peak/off-peak and semi-peak/off-peak. Note that the ratios only affect the commodity portion of the rate. For the total rate ratios that result from the commodity ratio chosen, refer to column H next to the total rate output. The user can adjust the commodity ratios accordingly to increase or decrease the total rate ratios.

   a. **Time-of-Use Ratio Differentials:** 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. Note that once the ratios are added, the model will find the rates to match the seasonal commodity revenue while maintaining the specified ratios between periods.
   b. **Time-of-Use Cent Differentials:** The user has two choices when Cent differentials are selected.
      i. Define Off-Peak Credit : The user will be able to enter a summer and winter on-peak surcharge and off-peak credit and the model will find the rates to match the seasonal commodity revenue while maintaining the specified cent differentials between periods.
      ii. Find Off-Peak Credit: The user will only be able to enter a summer and winter on-peak surcharge amount and the model will find the off-peak credit by using the summer semi-peak rate and calculating the credit needed to match the summer commodity revenue. The same off-peak credit is applied to winter, and the winter semi-peak rate is found to match the winter commodity revenue.

2. **Non-TOU Rate (Non-TOU)** – Energy costs are recovered per kWh, differing only between summer and winter.

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[1] SDG&E Residential Time-of-Use periods:

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

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SB_GT&S_0520666

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 x 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.

If TOU is chosen, option to have cent or ratio differential. For cent differential, can find or define off-peak credit.

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

Cents/kWh not collected by cost-based structure that flow to energy rates. Also, examples of how inputs made affect the rates.

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. Input "Ratio" for option to define TOU Periods by Ratio or Cent Differential
4. Enter 1.5 for Summer On/Off Relationship and 1.5 for Winter On/Off Relationship
5. Enter 1.25 for Summer On/Off Relationship and 1.25 for Winter Semi/Off Relationship *(not specified in scenario)*.
6. 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 tier   ed 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 with 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 rates 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 the current rate 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.

If the user wants to fix the Tier 1 rate equal to current, they have the option to lower the Tier 1 rate from the Basic Service Fee in order to maintain the same effective Tier 1 rate, or not lower the Tier 1 rate and instead lower the upper tier rates by having a basic service fee.

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%. Also note that if 4 Tiers are chosen and Tier 2 and 3 are combined, the current CARE tier 4 (above 200% of baseline) will be allowed to be set differently than CARE tier 3 (131%-200% of baseline) in order to create a 3-tier rate for both non-CARE and CARE.

C. **Customer Charge Adjustment to Tier 1 Revenues** – Option if 3 or 4 tiers are chosen, the current Tier 1 rate is maintained and there is a basic service fee.

If a Basic Service Fee is chosen, the user can enter "Yes" to lower the Tier 1 rate from having the basic service fee to keep the current effective Tier 1 rate revenues unchanged, or "No" to keep Tier 1 rates unadjusted and lower the upper tier rates.

D. **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.

E. **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.

For presentation purposes, if a Time-of-Use Commodity rate is chosen the total rates are presented two ways:

1. **Time-of-Use rates with baseline credits** – The time-of-use rates are applied then the customer receives a credit for usage in the respective tier prior to the highest tier.

2. **Tiered rates with Time-of-Use on-peak surcharge and off-peak credits** - Tiered rates are applied then the customer receives a surcharge for on-peak usage and credit for off-peak usage. The tiered rates shown are the semi-peak rates.

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

Total Rate Adjustment Component (TRAC) - Choosing the tier structure

Number of Tiers:	4	<---- Enter 2, 3, 4 or Flat
Maintain SDG&E Current Tier 1 and Tier 2 Rates:	No	<---- Enter 'Yes' or 'No'
Enter yes to set current Tier 1 and Tier 2 rates equal to current, enter no to maintain CARE rate differences		
% Differential or Cent/kWh Differential Between Tiers:	Percent	<---- Enter 'Percent' or 'Cent'
Fix Tier 1 and find Highest Tier:	No	<---- Enter 'Yes' or 'No'
Entering Yes will fix Tier 1 and find the highest tier, otherwise the user can define the differential between every tier and Tier 1 will be found		
Tier 1 to Tier 2 Differential (%):		<---- Enter % Difference T1 to T2
Tier 2 to Tier 3 Differential (%):		<---- Enter % Difference T2 to T3
Tier 3 to Tier 4 Differential (%):		<---- Enter % Difference T3 to T4
Not in compliance with SB695 Tier 1 and Tier 2 Levels		

Dependent on selections, instructions appear.

F. 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 W   ater Resource s 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.   **Set pre-discount CARE Tier 1 and Tier 2 Rates equal to non-CARE rate** – Available for any number of Tiers selected.

CARE customers currently receive lower rates than non-CARE customers on top of the DWR-BC, CSI, and CARE surcharge exemptions. Enter Yes to set CARE and non-CARE Tier 1 and Tier 2 rates equal, minus the exemptions which will be unchanged, or No to maintain the current relationship.

D.   **Set pre-discount 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 on top of the DWR-BC, CSI, and CARE surcharge exemptions. Enter Yes to set CARE and non-CARE Tier 3 rates equal, minus the exemptions which will be unchanged, 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 in 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.

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

Scenario One: 20% Discount
1. Enter "No" for Set pre-discount CARE Tier 1 and Tier 2 Rates equal non-CARE
2. Select "Percent Discount" for Type of CARE Discount
3. Enter 20% for CARE Energy Discount %:
4. Enter 20% for Basic Service Fee CARE Discount %:

Scenario Two: 20% Discount
Same as Scenario One CARE portion above.

Scenario Three: 20% Discount

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

Scenario Four: 20% Discount

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

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

Next to Set pre-discount CARE Tier 1 and Tier 2 Rate equal non-CARE: Enter No, Select "Percent Discount" from the dropdown menu. Next to CARE Energy Discount % and Basic Service Fee CARE Discount % : enter 20%.

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". Input "Ratio" for the cell Define TOU Periods by Ratio or Cent Differential. 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

Next to Set pre-discount CARE Tier 1 and Tier 2 Rate equal non-CARE: Enter No, Select "Percent Discount" from the dropdown menu. Next to CARE Energy Discount % and Basic Service Fee CARE Discount % : enter 20%.

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

Next to Set pre-discount CARE Tier 1 and Tier 2 Rate equal non-CARE: Enter No, 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%.

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". Input "Ratio" for the cell Define TOU Periods by Ratio or Cent Differential. 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
Next to Set pre-discount CARE Tier 1 and Tier 2 Rate equal non-CARE: Enter No, 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%.

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. The CARE rates are shown with any percent discount and CARE surcharge exemption. To see the CARE discount prior to any percent discount and CARE surcharge exemption, refer to the right of this table inside the model.

User-Defined Rates (non-CARE)

SCHEDULE DR	Total Rate
Basic Service Fee	
0 to <3 kW	10.00
3 to <7 kW	15.00
7 to <13 kW	15.00
13 and above kW	15.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
On Peak	0.21181
Semi Peak	0.19078
Off Peak	0.16975
Winter Energy	
On Peak	0.16288
Semi Peak	0.15211
Off Peak	0.14133
Minimum Bill	0.00000
Baseline Credit $/kWh	0 Summer 0 Winter
101%-130% Baseline Credit $/kWh	0 Summer 0 Winter
131%-200% Baseline Credit $/kWh	0 Summer 0 Winter

User-Defined Rates (non-CARE) Tiers with TOU Overlay (if TOU Commodity)

SCHEDULE DR	Total Rate
Basic Service Fee	
0 to <3 kW	10.00
3 to <7 kW	15.00
7 to <13 kW	15.00
13 and above kW	15.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
Baseline Energy	0.19078
101% to 130% of Baseline	0.19078
131% to 200% of Baseline	0.19078
Above 200% of Baseline	0.19078
Winter Energy	
Baseline Energy	0.15211
101% to 130% of Baseline	0.15211
131% to 200% of Baseline	0.15211
Above 200% of Baseline	0.15211
Minimum Bill	0.00
Summer On-Peak Surcharge	0.02103
Summer Off-Peak Credit	(0.02103)
Winter On-Peak Surcharge	0.01078
Winter Off-Peak Credit	(0.01078)

SDG&E Cost-Based Rates (non-CARE)

SCHEDULE DR	Total Rate
Basic Service Fee	12.67
Non-Coincident Demand	6.96
On Peak Demand	
Summer	6.97
Winter	0.00
Summer Energy	
On Peak	0.12088
Semi Peak	0.10592
Off Peak	0.09003
Winter Energy	
On Peak	0.10443
Semi Peak	0.09515
Off Peak	0.08228

Current Structured Rates (non-CARE)

SCHEDULE DR	Total Rate
Basic Service Fee	0.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
Baseline Energy	0.14334
101% to 130% of Baseline	0.16580
131% to 200% of Baseline	0.27982
Above 200% of Baseline	0.29982
Winter Energy	
Baseline Energy	0.14334
101% to 130% of Baseline	0.16580
131% to 200% of Baseline	0.26239
Above 200% of Baseline	0.28239
Minimum Bill	0.17

Alternative Cost-Based Rates (non-CARE)

SCHEDULE DR	Total Rate
Basic Service Fee	12.67
Non-Coincident Demand	6.96
On Peak Demand	
Summer	6.97
Winter	0.00
Summer Energy	
On Peak	0.12088
Semi Peak	0.10592
Off Peak	0.09003
Winter Energy	
On Peak	0.10443
Semi Peak	0.09515
Off Peak	0.08228

User-Defined Rates (CARE w/ Discount)

SCHEDULE DR-LI	Total Rate
Basic Service Fee	
0 to <3 kW	8.00
3 to <7 kW	12.00
7 to <13 kW	12.00
13 and above kW	12.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
On Peak	0.13629
Semi Peak	0.11947
Off Peak	0.10264
Winter Energy	
On Peak	0.09715
Semi Peak	0.08853
Off Peak	0.07991
Minimum Bill	0.00000
Baseline Credit $/kWh	0 Summer 0 Winter
101%-130% Credit Discount $/kWh	0 Summer 0 Winter
131%-200% Credit Discount $/kWh	0 Summer 0 Winter

User-Defined Rates (CARE w/ Discount) Tiers with TOU Overlay (if TOU Commodity)

SCHEDULE DR-LI	Total Rate
Basic Service Fee	
0 to <3 kW	8.00
3 to <7 kW	12.00
7 to <13 kW	12.00
13 and above kW	12.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
Baseline Energy	0.11947
101% to 130% of Baseline	0.11947
131% to 200% of Baseline	0.11947
Above 200% of Baseline	0.11947
Winter Energy	
Baseline Energy	0.08853
101% to 130% of Baseline	0.08853
131% to 200% of Baseline	0.08853
Above 200% of Baseline	0.08853
Minimum Bill	0.00
Summer On-Peak Surcharge	0.01682
Summer Off-Peak Credit	(0.01682)
Winter On-Peak Surcharge	0.00862
Winter Off-Peak Credit	(0.00862)

SDG&E Cost-Based Rates (CARE)

SCHEDULE DR-LI	Total Rate
Basic Service Fee	12.67
Non-Coincident Demand	6.96
On Peak Demand	
Summer	6.97
Winter	0.00
Summer Energy	
On Peak	0.11575
Semi Peak	0.10079
Off Peak	0.08490
Winter Energy	
On Peak	0.09930
Semi Peak	0.09002
Off Peak	0.07715

Current Structured Rates (CARE w/ Discount)

SCHEDULE DR-LI	Total Rate
Basic Service Fee	0.00
Non-Coincident Demand	0.00
On Peak Demand	
Summer	0.00
Winter	0.00
Summer Energy	
Baseline Energy	0.09958
101% to 130% of Baseline	0.11620
131% to 200% of Baseline	0.17557
Above 200% of Baseline	0.17557
Winter Energy	
Baseline Energy	0.09958
101% to 130% of Baseline	0.11620
131% to 200% of Baseline	0.16417
Above 200% of Baseline	0.16417
Minimum Bill	0.136

Alternative Cost-Based Rates (CARE)

SCHEDULE DR-LI	Total Rate
Basic Service Fee	12.67
Non-Coincident Demand	6.96
On Peak Demand	
Summer	6.97
Winter	0.00
Summer Energy	
On Peak	0.11575
Semi Peak	0.10079
Off Peak	0.08490
Winter Energy	
On Peak	0.09930
Semi Peak	0.09002
Off Peak	0.07715

Additionally, included in the tab "Output - Rate Comparison" is another rate comparison with all rates shown side-by-side with Tier structure and TOU surcharge/credit for another way to compare the resulting rates with Cost-Based and Current.

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 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. The income data is from 2010 American Community Survey (ACS) administered by the U.S. Census Bureau. SDG&E used this 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:

Total DR-LI Revenue:	$210,844,375			
Total CARE Discount:	$42,168,875			
Number of DR-LI Customers:	269,897		Input Amounts Below	
Income Range:	% of DR-LI customers	# of DR-LI customers	$ Discount per Month	Adjusted $ Discount per Month
0 to $25,000	0.0%	0	$15.00	$17.39
$25,000 to $30,000	6.7%	17,986	$15.00	$17.39
$30,000 to $35,000	2.4%	6,511	$15.00	$17.39
$35,000 to $40,000	12.9%	34,844	$15.00	$17.39
$40,000 to $45,000	17.7%	47,659	$15.00	$17.39
$45,000 to $50,000	8.2%	22,014	$15.00	$17.39
$50,000 to $55,000	17.7%	47,652	$10.00	$11.59
$55,000 to $60,000	9.6%	25,844	$10.00	$11.59
$60,000 to $65,000	9.1%	24,503	$10.00	$11.59
$65,000 to $70,000	4.3%	11,681	$10.00	$11.59
$70,000 to $75,000	0.0%	0	$10.00	$11.59
$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
Total	100.0%	269,897	$36,383,834	$42,168,875
Check			-$5,785,041	$0
Adjustment Factor to match revenue			1.159	

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]

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	% Discount	% Discount Adjusted
0 to $25,000	0.0%	$0	30%	36.9%
$25,000 to $30,000	3.0%	$6,298,000	30%	36.9%
$30,000 to $35,000	3.8%	$8,036,706	30%	36.9%
$35,000 to $40,000	12.0%	$25,218,062	30%	36.9%
$40,000 to $45,000	13.8%	$29,088,107	30%	36.9%
$45,000 to $50,000	7.4%	$15,519,790	30%	36.9%
$50,000 to $55,000	14.8%	$31,219,157	10%	12.3%
$55,000 to $60,000	11.5%	$24,256,329	10%	12.3%
$60,000 to $65,000	10.3%	$21,632,038	10%	12.3%
$65,000 to $70,000	6.2%	$13,055,522	10%	12.3%
$70,000 to $75,000	0.0%	$0	10%	12.3%
$75,000 to $80,000	4.0%	$8,518,356	0%	0.0%
$80,000 to $85,000	3.5%	$7,477,339	0%	0.0%
$85,000 to $90,000	1.5%	$3,225,705	0%	0.0%
$90,000 to $95,000	4.1%	$8,749,929	0%	0.0%
$95,000 to $100,000	0.0%	$0	0%	0.0%
Over $100,000	4.1%	$8,549,336	0%	0.0%
Total	100.0%	$210,844,375	$34,264,504	$42,168,875
Check			-$7,904,371	$0
Adjustment Factor to match revenue				1.231

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 Impacts of alternative CARE discounts by Income Range**
   a. Graph – CARE Discount by kWh
      i. Comparison of the percent and dollar bill impacts for CARE customers by kWh range, similarly to the graph explained in section 6 below, but with comparisons of the Non-Income based CARE discount, Income Based $/month CARE discount, and Income Based % CARE Discount as the user selects from the Inputs tab.
   b. Graph – CARE Discount by LF
      i. Comparison of the percent and dollar bill impacts for CARE customers by non-coincident load factor range, similarly to the graph explained in section 5 below, but with comparisons of the Non-Income based CARE discount, Income Based $/month CARE discount, and Income Based % CARE Discount as the user selects from the Inputs tab.
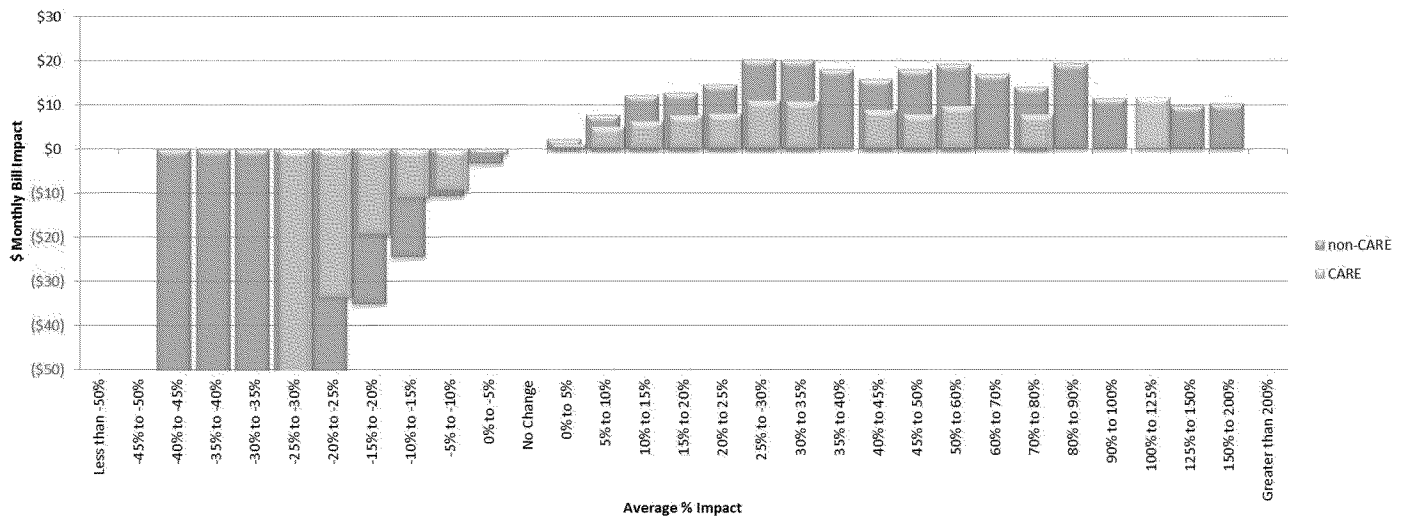
3.   Bill Impact: Number of Customers by % Impact

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 Bill Impact
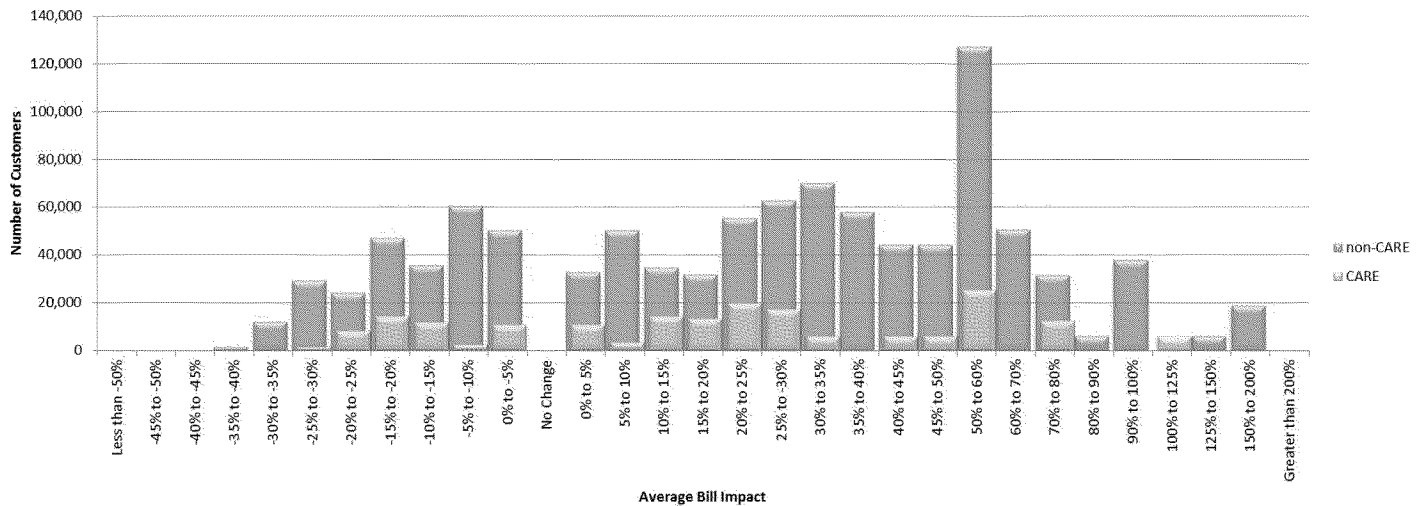
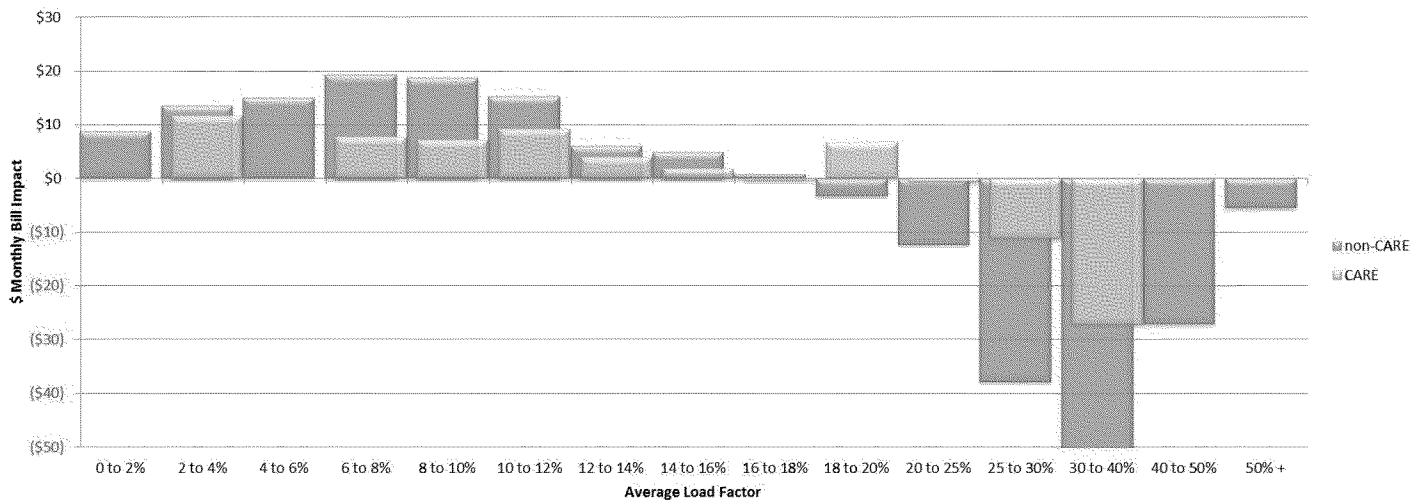**Average $ Monthly Impact by % Impact**

Average % 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
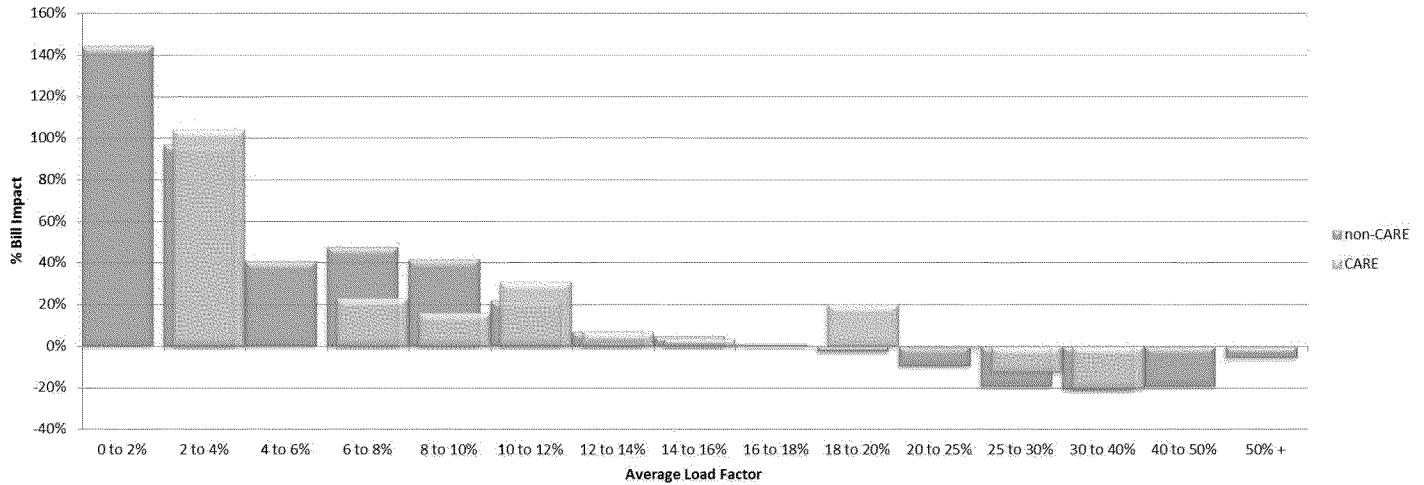
### Average $ Monthly Bill Impact by Non-Coincident Load Factor

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).
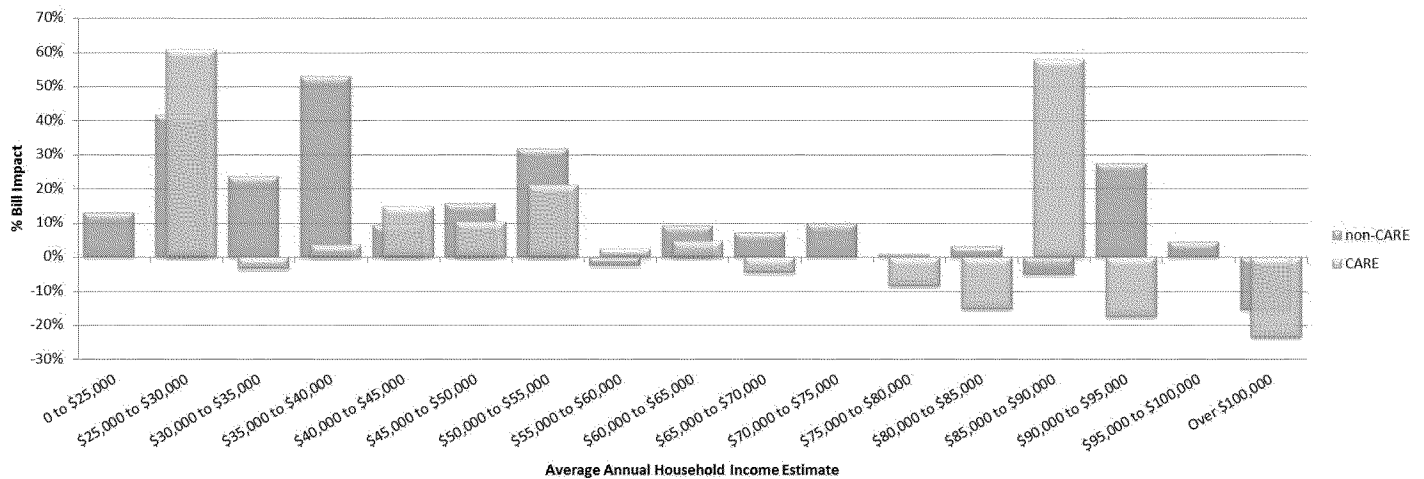
Average % Bill Impact by kWh
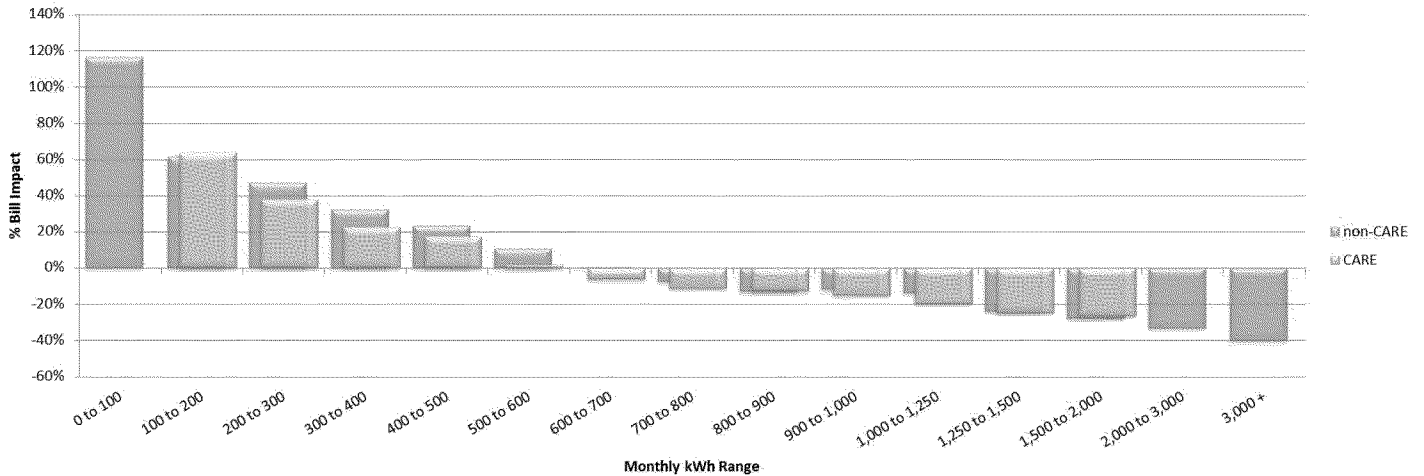
**Average Monthly $ Bill Impact by kWh**
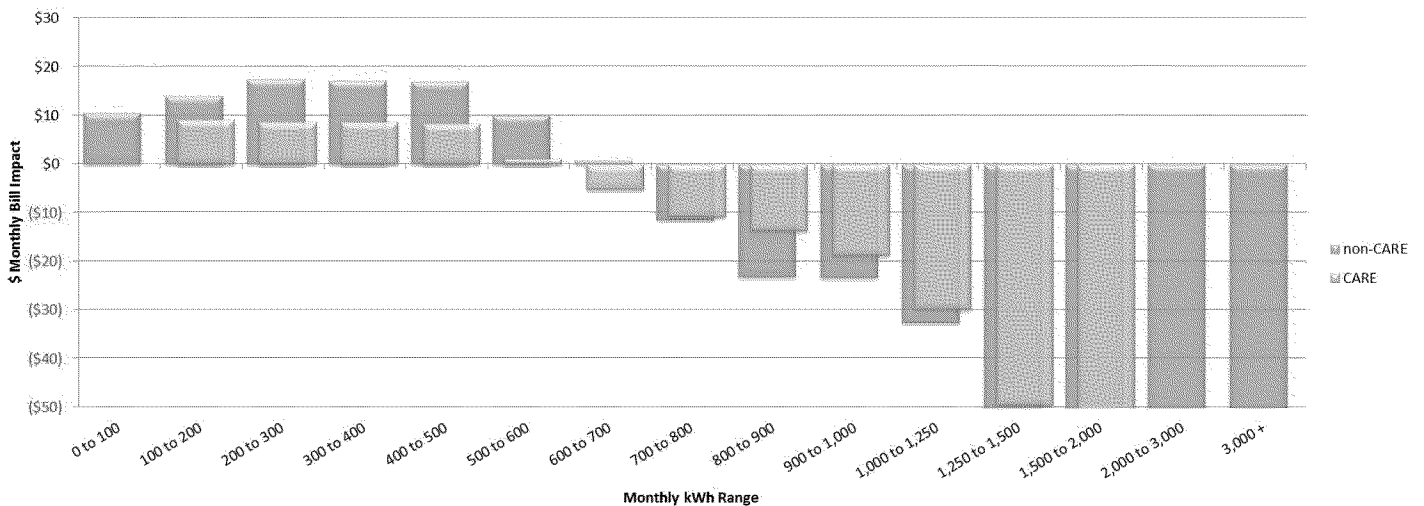
6.   Bill Impact: % Impact by Estimated Household Income Range

Average % impact from current by estimated Household Income 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 estimated income data is the median census tract household income 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. The income data is 2010 American Community Survey (ACS) administered by the U.S. Census Bureau. SDG&E used this for illustrative purposes only due to availability of income data at this time.

Average % Bill Impact by Estimated Household Income

Average Monthly $ Bill Impact by Estimated Household Income
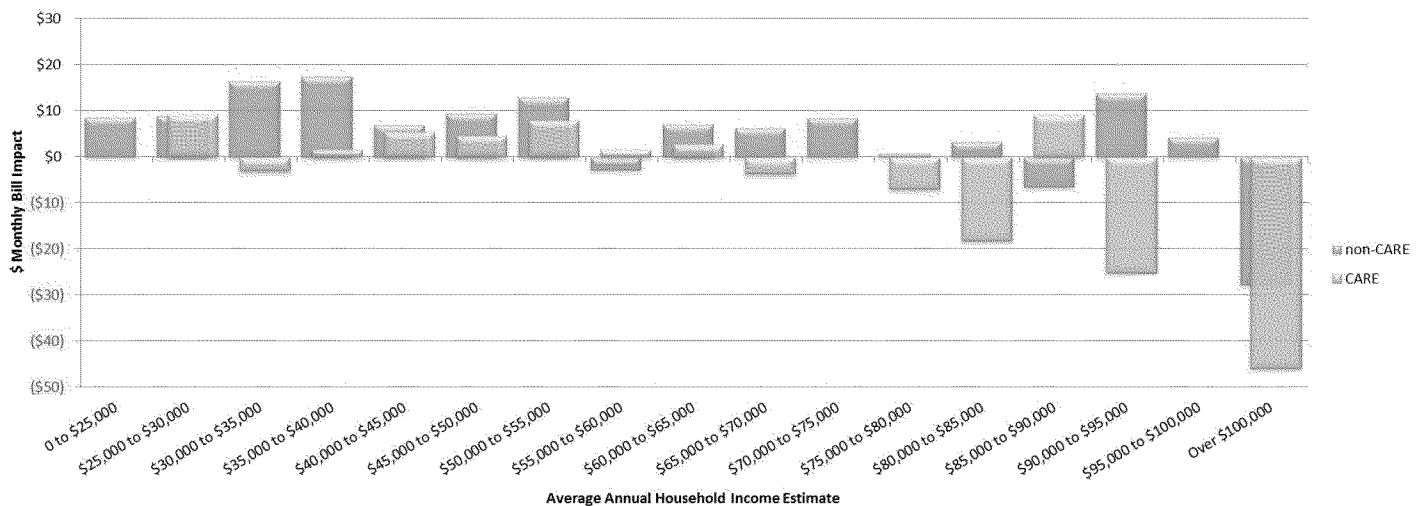
7. Illustrative Monthly Bill Comparison

The use 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)
  - To compare different levels of consumption the user can enter any value for a Low, Medium, and High user profile and view the results.
- 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. For a more detailed reference, the tables with the information feeding this tab can be found in the tab "Climate Zone Examples".
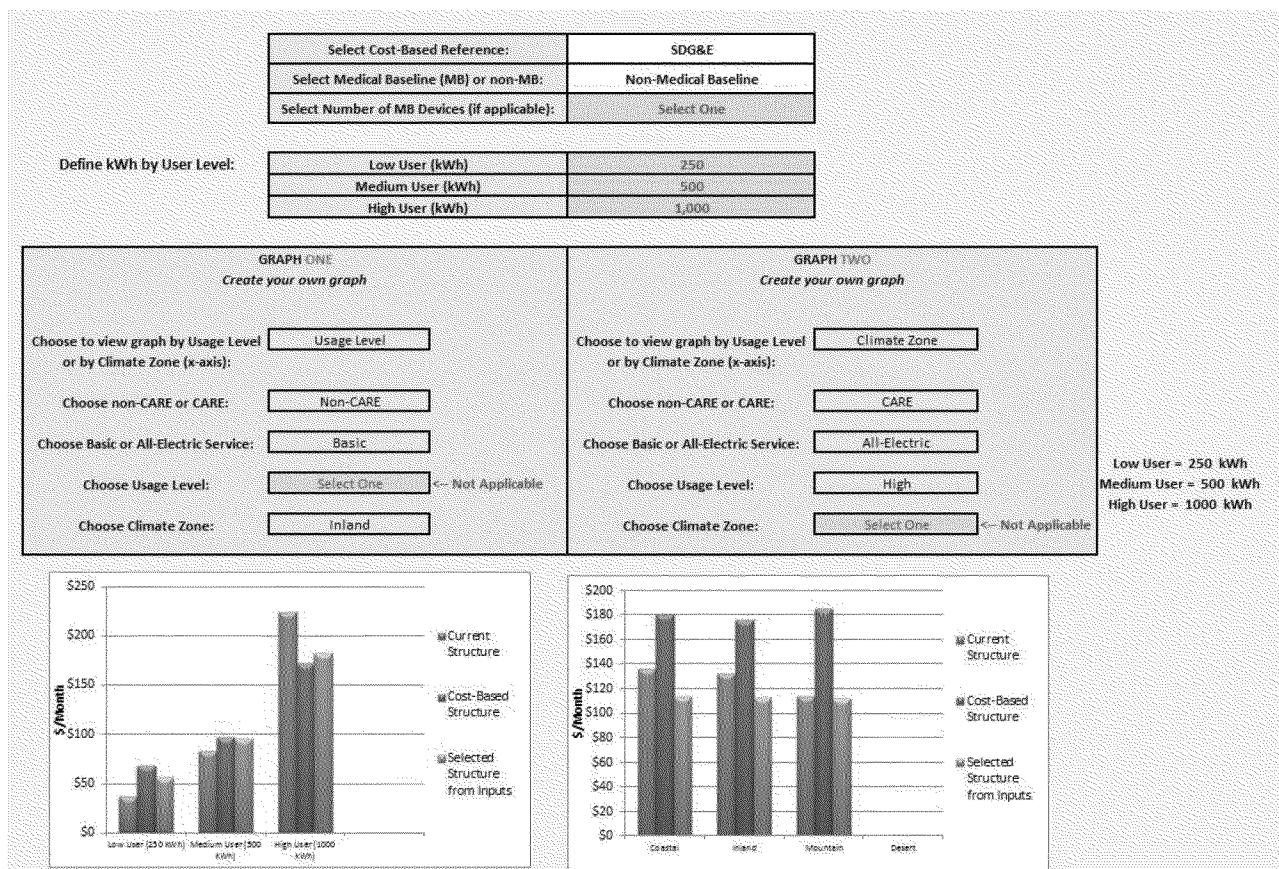
8. Elasticity of Demand Template

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. Also, because this template has the determinants and rates for non-CARE and CARE, the user can use this information for other elasticity comparisons of their choosing. Note that there is no reference for current TOU rates and the current Non-Coincident Demand or On-Peak Demand the current rates are zero, so the user can enter their own current reference in order to perform the calculation. Note that for the Time-of-Use proposed energy rates without any baseline credits.

### Price Elasticity of Demand Template - non CARE

Energy (Tiers)	Non-CARE (Schedule DR) Determinants (kWh)	Current Rate (9/1/12) ($/kWh)	Proposed Rate from Inputs ($/kWh)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x 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

Energy (Time-of-Use)	Non-CARE (Schedule DR) Determinants (kWh)	User Defined Reference ($/kWh)	Proposed Rate from Inputs Prior to Baseline Credits ($/kWh)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x Q
Summer					
On-Peak	722,633,065		0.21181		N/A
Semi-Peak	905,999,397		0.19078		N/A
Off-Peak	1,485,590,280		0.16975		N/A
Winter					
On-Peak	359,472,957		0.16288		N/A
Semi-Peak	1,136,592,033		0.15211		N/A
Off-Peak	1,561,098,533		0.14133		N/A

Demand	Non-CARE (Schedule DR) Determinants (kW)	User Defined Reference Rate ($/kW)	Proposed Rate from Inputs ($/kW)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x Q
Non-Coincident Demand	43,491,342		0.00		N/A
On-Peak Summer Demand	17,073,758		0.00		N/A

Price Elasticity of Demand Template CARE

Energy (Tiers)	CARE (Schedule DRLI) Determinants (kWh)	Current Rate (9/1/12) ($/kWh)	Proposed Rate from Inputs ($/kWh)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x Q
Summer					
Tier 1	443,210,446	0.12738	TOU Rates Selected		N/A
Tier 2	67,681,693	0.14815	TOU Rates Selected		N/A
Tier 3	85,120,464	0.22236	TOU Rates Selected		N/A
Tier 4	66,596,459	0.22236	TOU Rates Selected		N/A
Winter					
Tier 1	487,638,702	0.12738	TOU Rates Selected		N/A
Tier 2	62,285,512	0.14815	TOU Rates Selected		N/A
Tier 3	73,366,879	0.20811	TOU Rates Selected		N/A
Tier 4	47,874,739	0.20811	TOU Rates Selected		N/A

Energy (Time-of-Use)	Non-CARE (Schedule DR) Determinants (kWh)	User Defined Reference ($/kWh)	Proposed Rate from Inputs Prior to Baseline Credits ($/kWh)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x Q
Summer					
On-Peak	153,753,683		0.15668		N/A
Semi-Peak	192,768,296		0.13565		N/A
Off-Peak	316,087,083		0.11462		N/A
Winter					
On-Peak	78,918,241		0.10775		N/A
Semi-Peak	249,525,984		0.09698		N/A
Off-Peak	342,721,607		0.08620		N/A

Demand	Non-CARE (Schedule DR) Determinants (kW)	User Defined Reference Rate ($/kW)	Proposed Rate from Inputs ($/kW)	Price Elasticity of Demand (E$_d$) (dQ/Q)/(dP/P)	Estimated Change in quantity (dP/P) x E$_d$ x Q
Non-Coincident Demand	9,399,201		0.00		N/A
On-Peak Summer Demand	3,632,664		0.00		N/A

9.   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.
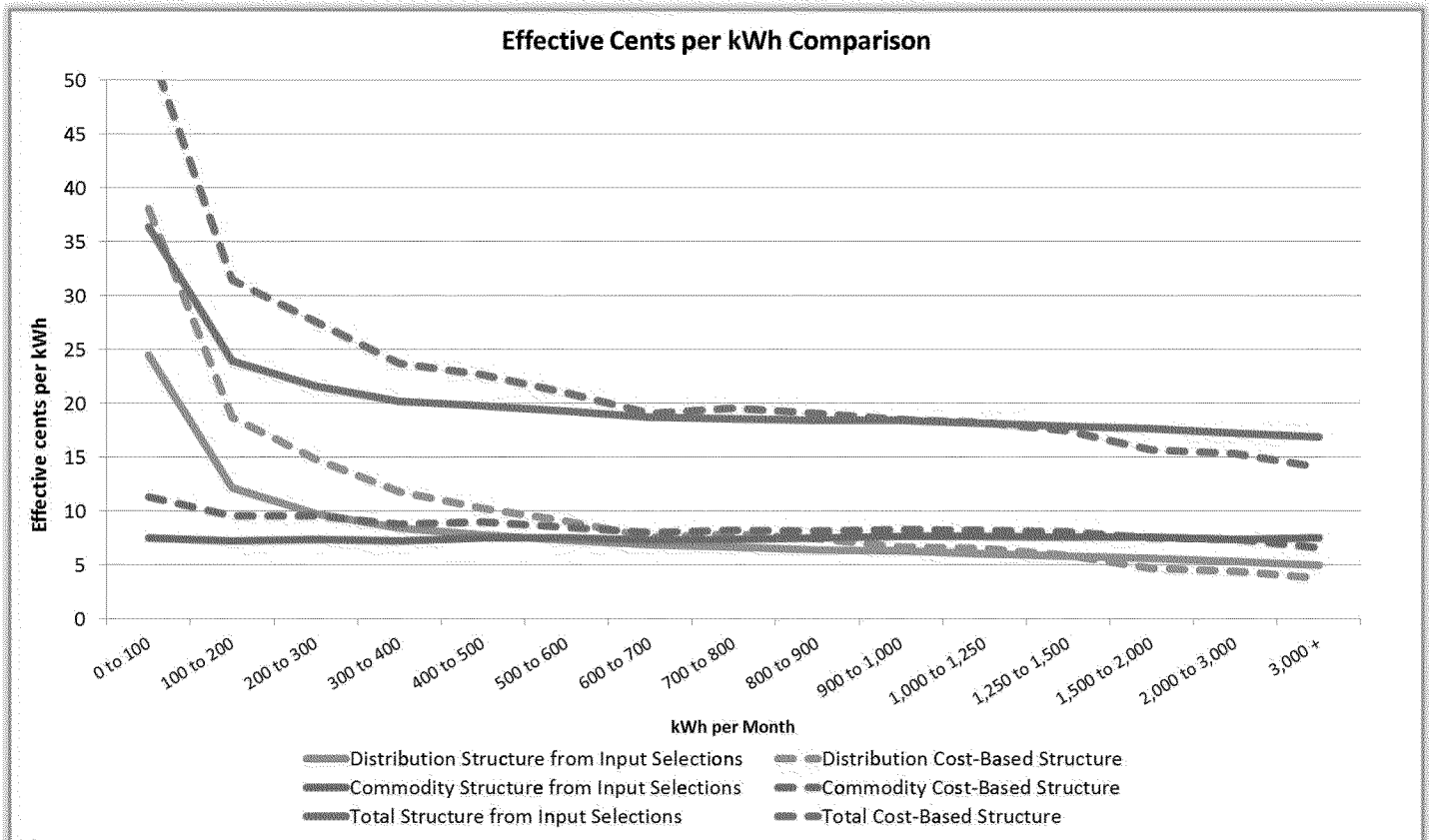
10.   Print Resulting Rates and Graphs

At the bottom of the inputs tab under the revenue neutrality check is an option to "Print Results". The user can enter a short description of the scenario that was developed and this will print on the graph output so the user can easily reference and compare scenario results. By clicking "Print Results" the following will be printed:

1.   Inputs chosen by the user
2.   Rate Comparison
3.   Graph - # of Customers by % Impact w/Table
4.   Graph – Average % Impact by Load Factor w/Table
5.   Graph – Average % Impact by kWh w/Table
6.   Graph - % Impact by Estimated Household Income w/Table
7.   Graph – CARE Discount by kWh w/Table
8.   Graph – CARE Discount by LF w/Table
9.   Choose Graph for Comparison
10.   Climate Zone Examples
11.   Elasticity Template
12.   Graph – Cost Curve

Note that these will print however they are shown in the Excel file at the time of printing the results. If the user wishes to only print some of the above tabs or print as an electronic file; simply select the array of tabs you wish to print/save and then go to File Print and make your print/save selection. The tabs are formatted for printing and include a footer with the Date, Time, SDGE Version Reference and Tab Name.

Type scenario description to appear on the graph printouts

Initiates print macro

Scenario Description (used for Printing):

<—— Enter description of scenario for your reference.

Print Results

The following information will be printed with the Print Results buttom:
1) Inputs chosen above
2) Rate Comparison
3) Graph - # Customers by % Impact w/ Table
4) Graph - Average % Impact by Load Factor w/ Table
5) Graph - Average % Impact by kWh w/ Table
6) Graph - % Impact by Estimated Household Income w/Table
7) Graph - CARE Discount by kWh w/ Table
8) Graph -CARE Discount by LF w/ Table
9) Choose Graph for Comparison
10) Climate Zone Examples
11) Elasticity Template
12) Graph - Cost Curve

Note that these will print however they are shown in the Excel file at the time of printing the results. If the user wishes to only print some of the above tabs or save as an electronic file; simply select the array of tabs you wish to print/save and then go to File Print and make your print/save selection. The tabs are formatted for printing and include a footer with the Date, Time, and Tab Name.

NOTES