

Assessment of Fixed Charge Proposals

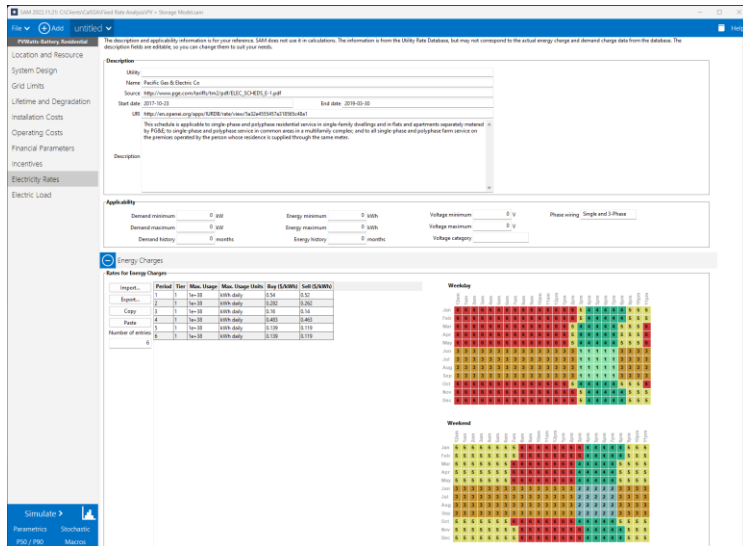
JR Plaisted 08.14.2023

Scope & Approach



Summary

- Proposals on fixed charge rates were assessed from: CPUC Public Advocates Office (PAO), TURN/NRDC, and the Joint IOU filing
- Costs under current and proposed rates for each utility were analyzed with home load profiles for following climate zones: PG&E - CZ12 Sacramento, SCE - CZ9 Los Angeles, and SDG&E - CZ7 San Diego.
- Three separate households were modeled to assess the impact of usage & load shape:
 - A 1,250 ft² home with light efficiency upgrades (e.g. lighting + EnergyStar appliances)
 - A 2,500 ft² home built to 2016 Title 24 standards. Aligns with typical home consumption.
 - A 3,750 ft² larger and older home with lower insulation, increased leakage, and heavier appliance use resulting from higher occupancy
- EnergyPlus simulation software (from USDoE) was used to model each home in the respective climates
- 8760 Hourly home electricity load profiles were monetized using NREL System Advisor Model (SAM) with both current and proposed tariffs from each proposal under 3 separate tariffs representing the following rate types: flat, TOU, and electrification/EV.
- Impacts on homeowner annual electric bills as compared to existing rate structures were assessed for each proposal across regions and housing types.
- The cost effectiveness of 'fuel switching' from natural gas to high efficiency electric appliances was assessed under the new proposed rates, all of which aim to reduce variable energy charges to promote electrification.

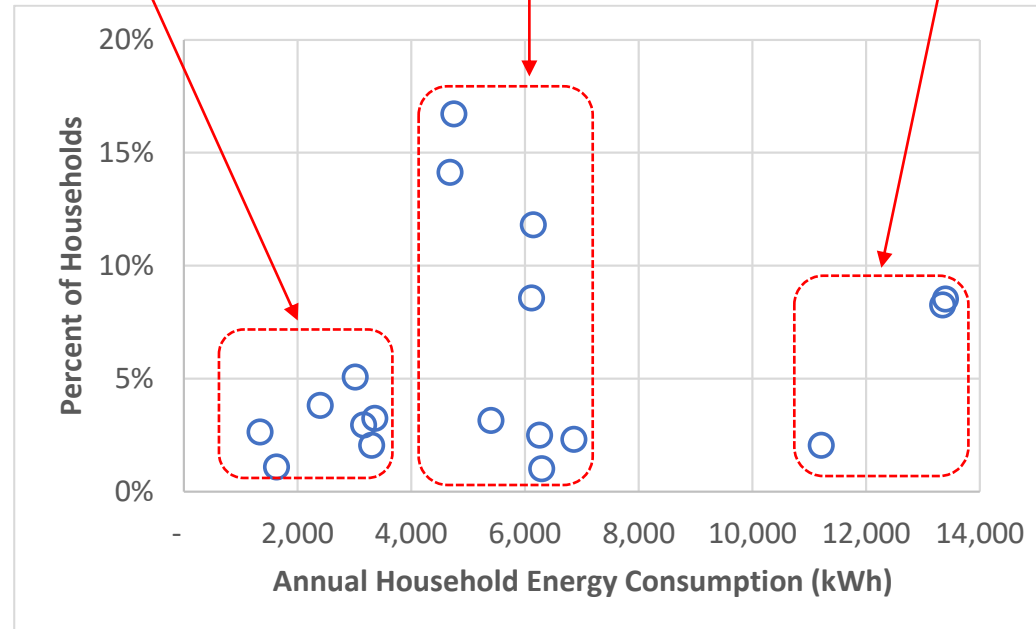


Assumptions

Home Energy Usage Profiles

DoE EnergyPlus Baseline Home Assumptions

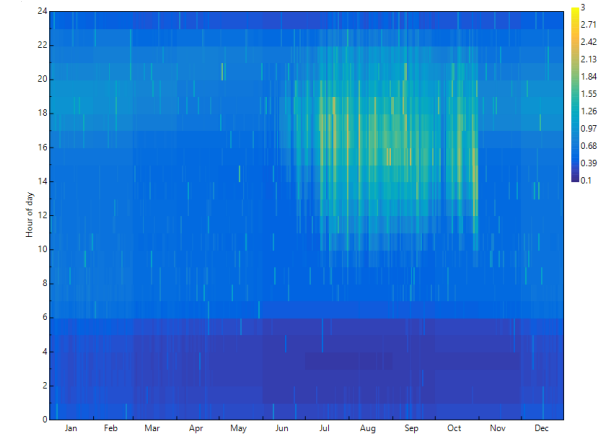
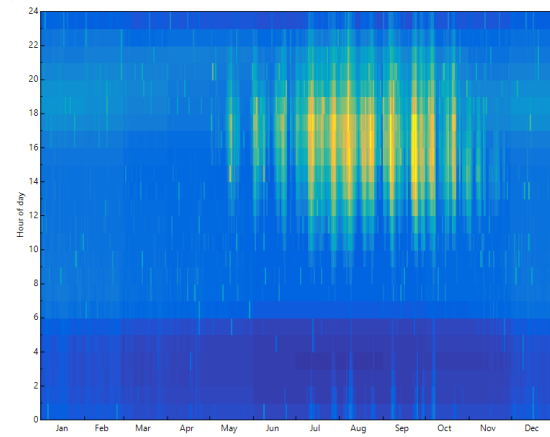
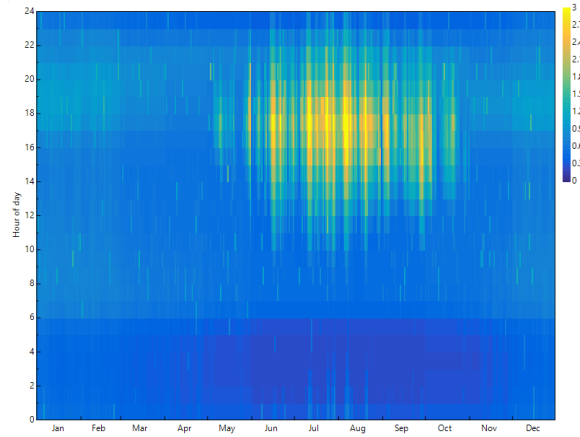
	Low Use	Normal Use	High Use
Construction			
Home size (sq ft.)	1250	2500	3750
Bedroom/Bath	2/1.5	3/2	4/3
Wall Insulation	R-13	R-13	R-7
Ceiling Insulation	R-30	R-30	R-13
Window U-Value	0.49	0.49	0.76
Leakage	6 ACH50	6 ACH50	10 ACH50
Ventillation	ASHRAE 2013 Exhaust	ASHRAE 2013 Exhaust	None
Ducts	R-8, 10% Leakage	R-8, 10% Leakage	R-4, 15% Leakage
Appliances/Fixtures			
Air Conditioner	SEER 13	SEER 13	SEER 13
Furnace	80% AFUE	80% AFUE	80% AFUE
Water Heater	0.59 EF Gas	0.59 EF Gas	0.59 EF Gas
Lighting	100% LED	80% LED	80% LED
Refrigerator	18 sq. ft. 21.9 EF	18 sq. ft. 17.6 EF	25 sq. ft. 19.6 EF
Washer	EnergyStar (80% usage)	EnergyStar	EnergyStar (120% usage)
Misc loads (kWh/year)	1365	2351	4314



CEC 2019 RASS Survey

Annual Energy Consumption by dwelling type, profile, and representation in population

Annual Energy Load Comparison to CEC Baseline



	PG&E – CZ12 Sacramento	SCE – CZ9 Los Angeles	SDG&E – CZ7 San Diego
Energy Plus Usage (kWh)	6,310 kWh	6,263	5,665
CEC 2019 Survey Usage (kWh)	6,266 kWh	6,424	5,230
Variance	+1%	-3%	+8%

Comparison to CEC 2019 RASS survey for 'Normal Use' home in each IOU territory

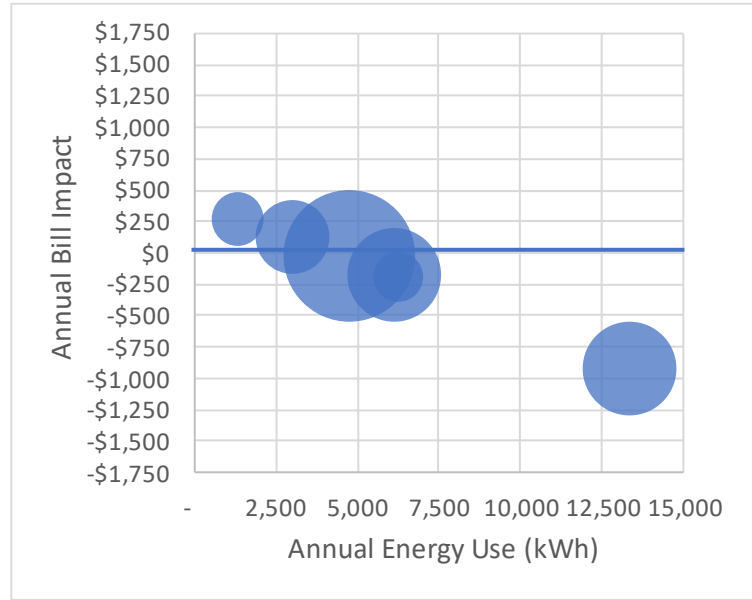
Results

SCE Results

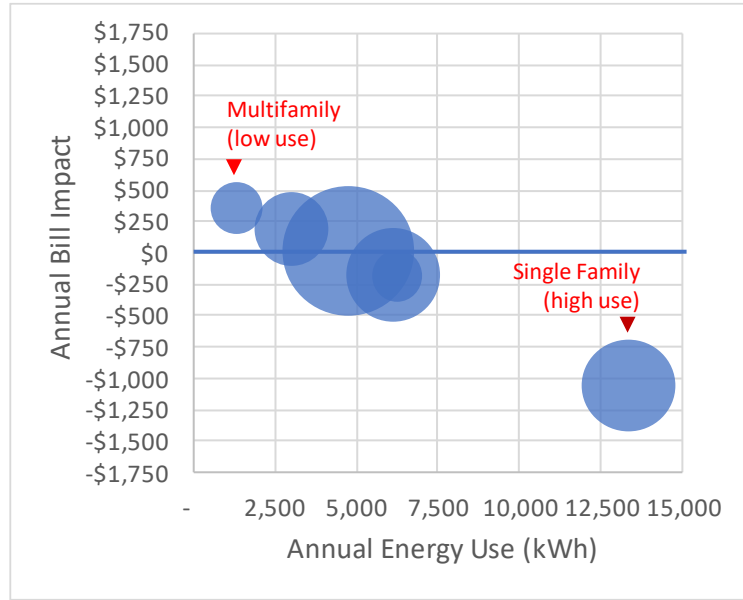
		1,250 Home			2,500 Home			3,750 Home			
Annual Usage (kWh)		3508			6263			10974			
Current Utility Bill	Existing Rate Baseline - Electric	D	TOU-D-4-9	TOU-D-PRIME	D	TOU-D-4-9	TOU-D-PRIME	D	TOU-D-4-9	TOU-D-PRIME	
	Blended Variable Charge \$/kWh	\$ 0.310	\$ 0.315	\$ 0.338	\$ 0.329	\$ 0.336	\$ 0.339	\$ 0.358	\$ 0.371	\$ 0.344	
	Annual Variable Charge	\$ 1,087	\$ 1,105	\$ 1,184	\$ 2,058	\$ 2,104	\$ 2,125	\$ 3,934	\$ 4,076	\$ 3,774	
	Annual Fixed Charge	\$ -	\$ -	\$ 155	\$ -	\$ -	\$ 155	\$ -	\$ -	\$ 155	
	Annual Electrical Bill	\$ 1,087	\$ 1,105	\$ 1,339	\$ 2,058	\$ 2,104	\$ 2,280	\$ 3,934	\$ 4,076	\$ 3,929	
Proposed Rate Changes											
Proposed Variable Energy Component (Not Impacted by Income)	Blended Variable Charge (\$/kWh)										
	CPUC PAO	\$ 0.258	\$ 0.260	\$ 0.303	\$ 0.274	\$ 0.277	\$ 0.305	\$ 0.298	\$ 0.307	\$ 0.309	
	NRDC/TURN	\$ 0.240		\$ 0.265	\$ 0.255		\$ 0.267	\$ 0.278		\$ 0.271	
	IOU	\$ 0.216	\$ 0.218	\$ 0.255	\$ 0.228	\$ 0.232	\$ 0.257	\$ 0.249	\$ 0.257	\$ 0.262	
	Annual Variable Charge										
	CPUC PAO	\$ 905	\$ 912	\$ 1,062	\$ 1,713	\$ 1,737	\$ 1,907	\$ 3,275	\$ 3,370	\$ 3,392	
	NRDC/TURN	\$ 842		\$ 930	\$ 1,595		\$ 1,670	\$ 3,054		\$ 2,977	
	IOU	\$ 758	\$ 765	\$ 895	\$ 1,431	\$ 1,456	\$ 1,609	\$ 2,730	\$ 2,825	\$ 2,870	
	Median Income Household										
	Proposed Fixed Charge Component (\$84,000 Median Income Household)	Annual Fixed Charge									
CPUC PAO		\$ 367	\$ 367	\$ 368	\$ 367	\$ 367	\$ 368	\$ 367	\$ 367	\$ 368	
NRDC/TURN		\$ 492		\$ 612	\$ 492	\$ -	\$ 612	\$ 492	\$ -	\$ 612	
IOU		\$ 612	\$ 612	\$ 612	\$ 612	\$ 612	\$ 612	\$ 612	\$ 612	\$ 612	
Annual Bill Impact	Annual Bill										
	CPUC PAO	\$ 1,272	\$ 1,279	\$ 1,430	\$ 2,080	\$ 2,104	\$ 2,275	\$ 3,642	\$ 3,737	\$ 3,760	
	NRDC/TURN	\$ 1,334	\$ -	\$ 1,542	\$ 2,087	\$ -	\$ 2,282	\$ 3,546	\$ -	\$ 3,589	
	IOU	\$ 1,370	\$ 1,377	\$ 1,507	\$ 2,043	\$ 2,068	\$ 2,221	\$ 3,342	\$ 3,437	\$ 3,482	
	Annual Bill Change										
	CPUC PAO	17%	16%	7%	1%	0%	0%	-7%	-8%	-4%	
	NRDC/TURN	23%		15%	1%		0%	-10%		-9%	
	IOU	26%	25%	13%	-1%	-2%	-3%	-15%	-16%	-11%	
	\$150k Household										
	Proposed Fixed Charge Component (\$150,000 Income Household)	Annual Fixed Charge									
CPUC PAO		\$ 422	\$ 422	\$ 423	\$ 422	\$ 422	\$ 423	\$ 422	\$ 422	\$ 423	
NRDC/TURN		\$ 744		\$ 912	\$ 744	\$ -	\$ 912	\$ 744	\$ -	\$ 912	
IOU		\$ 1,022	\$ 1,023	\$ 1,023	\$ 1,022	\$ 1,023	\$ 1,023	\$ 1,022	\$ 1,023	\$ 1,023	
Annual Bill Impact	Annual Bill										
	CPUC PAO	\$ 1,327	\$ 1,334	\$ 1,485	\$ 2,135	\$ 2,159	\$ 2,330	\$ 3,697	\$ 3,792	\$ 3,815	
	NRDC/TURN	\$ 1,586	\$ -	\$ 1,842	\$ 2,339	\$ -	\$ 2,582	\$ 3,798	\$ -	\$ 3,889	
	IOU	\$ 1,780	\$ 1,788	\$ 1,918	\$ 2,453	\$ 2,479	\$ 2,632	\$ 3,752	\$ 3,848	\$ 3,893	
	Annual Bill Change										
	CPUC PAO	22%	21%	11%	4%	3%	2%	-6%	-7%	-3%	
	NRDC/TURN	46%		38%	14%		13%	-3%		-1%	
	IOU	64%	62%	43%	19%	18%	15%	-5%	-6%	-1%	

PG&E Results Visually Expanded for All Dwelling Types

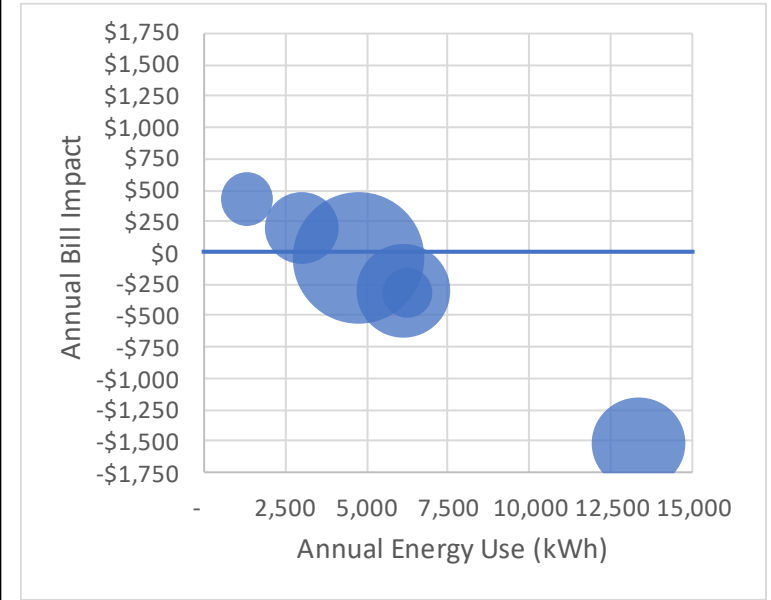
CPUC PAO



NRDC/TURN

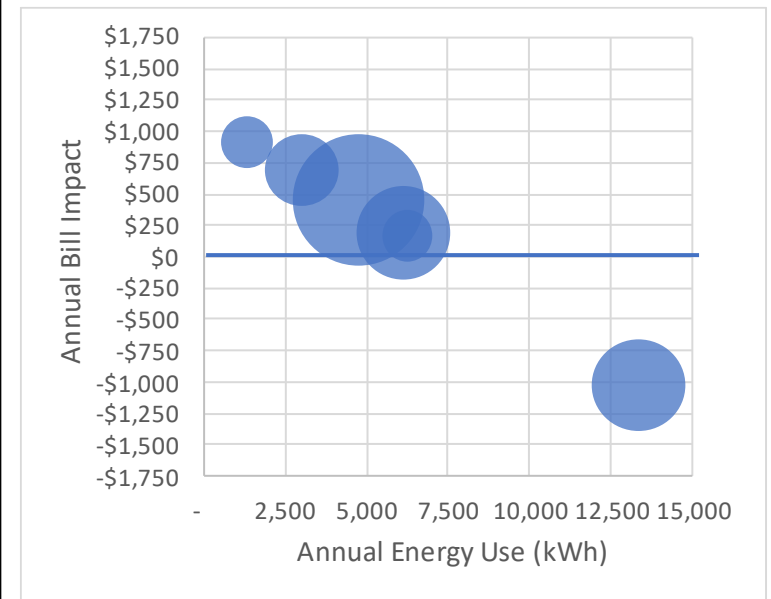
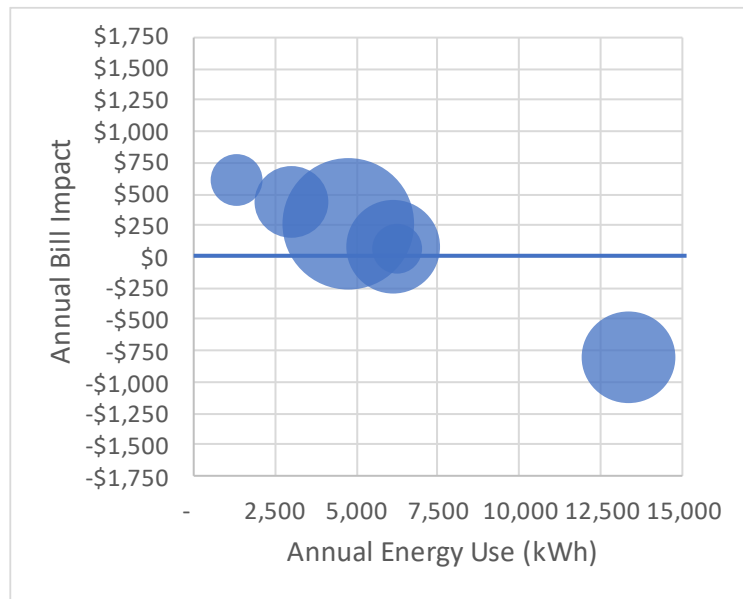
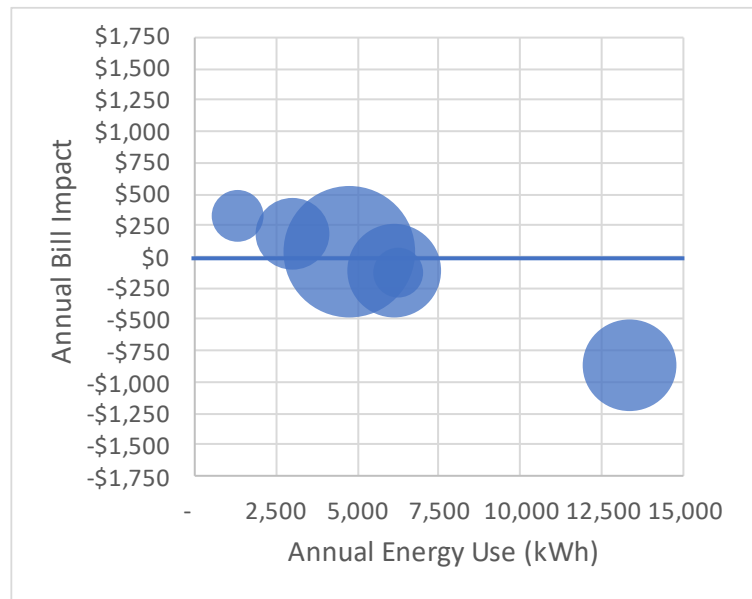


IOU



\$150k Household Income

Median Household Income



Annual Bill Impacts for Electrification

	Non-CARE					
	Gas - Low Efficiency Appliances			Gas - High Efficiency Appliances		
	PG&E	SCG	SDG&E	PG&E	SCG	SDG&E
Gas Usage & Cost						
Space Heating (therms/yr)	334	96	76	256	73	57
Water Heating (therms/yr)	159	146	149	94	85	87
Appliances (therms/yr)	57	57	57	57	57	57
Annual Gas Usage (Therms)	550	299	281	407	214	201
Annual Gas Variable Charges	\$ 941	\$ 388	\$ 549	\$ 663	\$ 279	\$ 392
Annual Gas Fixed Meter Charges		\$ 60			\$ 60	
Annual Gas Total Charges	\$ 941	\$ 448	\$ 549	\$ 663	\$ 339	\$ 392
Electrification Use (kWh)	4,080	2,299	2,224	4,080	2,299	2,224
Breakeven Rate (\$/kWh)	\$ 0.231	\$ 0.195	\$ 0.247	\$ 0.162	\$ 0.147	\$ 0.176
Rate Proposal - Variable						
CPUC PAO	\$ 0.237	\$ 0.249	\$ 0.362	\$ 0.237	\$ 0.249	\$ 0.362
NRDC/TURN	\$ 0.198	\$ 0.211	\$ 0.317	\$ 0.198	\$ 0.211	\$ 0.317
IOU	\$ 0.177	\$ 0.201	\$ 0.236	\$ 0.177	\$ 0.201	\$ 0.236
Annual Bill Savings						
CPUC PAO	(\$24)	(\$124)	(\$257)	(\$302)	(\$233)	(\$414)
NRDC/TURN	\$133	(\$38)	(\$157)	(\$145)	(\$147)	(\$314)
IOU	\$217	(\$15)	\$25	(\$61)	(\$124)	(\$132)

Modeled gas appliance efficiencies and electrification equivalent

	Gas – Low Efficiency	Gas – High Efficiency	Electric – High Efficiency
HVAC – Heating	80% AFUE Furnace	98% AFUE Furnace	10 HSPF Heat Pump
HVAC – Cooling	SEER 13 Air Conditioner	SEER 21 Air Conditioner	22 SEER Heat Pump
Water Heating	0.59 EF Gas Storage	0.96 Tankless	3.5 UEF Heat Pump
Cooking	Gas	Gas	Induction Cooktop
Dryer	Gas	Gas	Heat Pump

Using a Highly Differentiated TOU Instead

Home Baseline						Annual & Monthly Energy Use (kWh)												
Period	Existing		Proposed		%	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1 - Summer: On-Peak	\$ 593	\$ 0.546	\$ 949		\$ 0.874	17%	1,086						223	310	307	246	
2 - Summer: Mid-Peak	\$ 214	\$ 0.385	\$ 342	\$ 0.615	9%	555						118	156	152	130			
3 - Summer: Off-Peak	\$ 305	\$ 0.328	\$ 427	\$ 0.459	15%	931						212	257	243	219			
4 - Winter: On-Peak	\$ 343	\$ 0.315	\$ 257	\$ 0.236	17%	1,090	149	129	112	97	149					186	123	145
5 - Winter: Mid-Peak	\$ 205	\$ 0.293	\$ 72	\$ 0.103	11%	699	91	81	89	82	93					108	70	85
6 - Winter: Off-Peak	\$ 544	\$ 0.279	\$ 156	\$ 0.080	31%	1,951	297	256	241	222	211					219	223	283
Total	\$ 2,204	\$ 0.349	\$ 2,203	\$ 0.349		6,311	537	465	441	401	453	553	723	702	594	513	415	514

Electrification Load						Annual & Monthly Energy Use (kWh)												
Period	Existing		Proposed		%	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1 - Summer: On-Peak	\$ 59	\$ 0.546	\$ 95		\$ 0.874	3%	108						43	25	21	19	
2 - Summer: Mid-Peak	\$ 31	\$ 0.385	\$ 50	\$ 0.615	2%	81						22	25	13	21			
3 - Summer: Off-Peak	\$ 96	\$ 0.328	\$ 135	\$ 0.459	7%	294						63	71	52	107			
4 - Winter: On-Peak	\$ 178	\$ 0.315	\$ 134	\$ 0.236	13%	567	130	79	59	57	40					57	54	91
5 - Winter: Mid-Peak	\$ 159	\$ 0.293	\$ 56	\$ 0.103	13%	543	127	73	65	47	26					47	51	107
6 - Winter: Off-Peak	\$ 741	\$ 0.279	\$ 213	\$ 0.080	63%	2,657	605	410	344	242	115					242	245	455
Total	\$ 1,265	\$ 0.298	\$ 681	\$ 0.160		4,249	861	562	468	346	181	127	121	87	147	346	349	653

Notes

1. Only 2/3rds of electricity usage in electrification happens during winter off-peak, only 3% is summer on-peak
2. Therefore, you do not need to use a blunt instrument like high fixed charges to make electrification work, you just need to decrease winter off-peak towards the cost basis. Because electrification is not peak intensive, you can even offset this by increasing summer on-peak to make the new tariff revenue neutral while still advantaging electrification
3. The result of such a highly differentiated TOU is that you can halve the annual operating cost while not impacting fixed charges. The decrease in the levelized energy cost to \$0.16/kWh is below even the most aggressive IOU proposals.

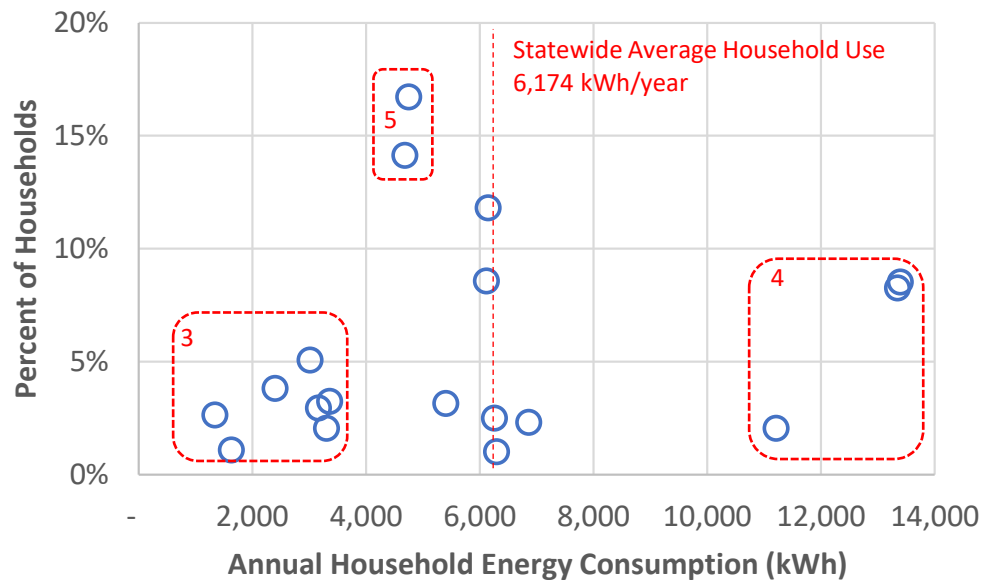
Appendix

Distribution of Energy Use by Dwelling Type (all IOU)

Table 14: Comparison of Energy Consumption for RASS Respondents and Target Population

Utility	Study Characteristic	Single family Dwelling Low	Single family Dwelling Medium	Single family Dwelling High	All	Net Metered	Multi-family Dwelling Low	Multi-family Dwelling Medium	Multi-family Dwelling High	All	Net Metered	Utility Total
LADWP	Population Count	130,613		42,971	288,699	29,944	482,086		155,624	230,958	1,850	1,362,745
LADWP	Population kWh/Yr	4,726		18,157	9,232	6,696	2,454		7,933	4,677	4,731	5,702
LADWP	Sample Count	276		74	934	111	791		208	400	2	2,796
LADWP	Respondent kWh/Yr	5,345		16,420	8,476	4,625	2,593		6,557	4,356	3,038	5,332
LADWP	StdErr of Respondent kWh/Yr	303		1,160	766	465	114		427	273	1,077	236
PG&E	Population Count	1,418,740	727,135	702,012	134,827	332,802	224,884	431,210	213,042	469,544	13,171	4,667,367
PG&E	Population kWh/Yr	4,747	6,112	13,337	8,300	4,216	1,334	3,009	6,254	4,528	2,638	6,032
PG&E	Sample Count	4,716	2,753	2,143	434	1,671	594	1,074	871	1,647	64	15,967
PG&E	Respondent kWh/Yr	4,878	6,107	12,606	10,157	3,973	1,352	2,904	5,928	4,335	1,990	5,949
PG&E	StdErr of Respondent kWh/Yr	135	129	380	1,437	460	52	64	208	157	343	131
SCE	Population Count	1,199,237	1,003,043	723,300	130,936	248,342	323,941	275,658	196,564	282,133	2,033	4,385,187
SCE	Population kWh/Yr	4,676	6,142	13,391	7,869	8,683	2,397	3,353	6,853	4,746	6,249	6,622
SCE	Sample Count	3,778	2,895	1,718	757	1,370	1,091	564	505	693	10	13,381
SCE	Respondent kWh/Yr	4,633	6,139	12,261	7,849	8,805	2,348	3,328	7,250	4,936	6,251	6,446
SCE	StdErr of Respondent kWh/Yr	127	79	268	497	455	98	83	456	448	1,400	112
SDGE	Population Count	251,239	267,135	174,511		115,752	92,340	174,854	86,284	70,323	6,732	1,239,170
SDGE	Population kWh/Yr	3,160	5,398	11,205		3,039	1,623	3,296	6,291	3,296	2,473	4,891
SDGE	Sample Count	1,250	1,343	743		475	323	548	284	196	10	5,172
SDGE	Respondent kWh/Yr	3,037	5,395	10,166		2,762	1,502	3,372	5,860	3,104	2,958	4,650
SDGE	StdErr of Respondent kWh/Yr	110	82	304		830	74	80	206	368	831	140
SMUD	Population Count	282,190		92,790		16,754				133,073	157	524,964
SMUD	Population kWh/Yr	7,383		18,042		7,389				5,731	7,057	8,848
SMUD	Sample Count	1,518		370		125				352	1	2,366
SMUD	Respondent kWh/Yr	7,177		16,035		7,907				5,610	21,356	8,371
SMUD	StdErr of Respondent kWh/Yr	216		705		1,252				540		306

Source: 2019 California Residential Appliance Saturation Survey;



Notes

- The CEC 2019 Survey breaks out 3 classes of customer usage for single family & multi-family homes representing low, medium, and high usage. For each classification, they present a representative annual consumption as well as the number of units in each class as shown in table 14 from the CEC survey shown at the left.
- Plotting the energy use of each dwelling type by its percentage representation within each IOU gives us the plot at the lower left. Within this plot, we have indicated the average annual energy consumption for all California homes, which has close alignment with the medium usage single family detached homes you see as close clustering around this usage. However, we see the following representative clusterings far from the average
- Low Use:** This cluster is made of low and medium use multi-family dwellings using roughly half of the statewide average. Approximately 1:5 IOU households falls in this category
- High Use:** This cluster is made of high usage single family detached homes using approximately double the statewide average. Just under 1:5 IOU households falls in this category
- Efficient Single Family:** The highest representation is in low usage single family homes making up nearly 1:3 households and using 24% less energy than the average home

Tariff Schedules Used for A

	Electricity				Natural Gas	
	Flat	TOU	Electrification	CARE Discount	Gas	CARE Discount
PG&E	E1	E-TOU-C	E-ELEC	35.0%	G-1	20.0%
SCE/SCG	D	TOU-D-4-9	TOU-D-PRIME	32.5%	GR	20.0%
SDG&E	DR	TOU-DR1	TOU-E-ELEC	35.0%	GR	20.0%

Notes

- We analyzed three separate tariffs under each proposal including: flat non-TOU rate structure, typical TOU rate, and the electrification/EV rate
- Standard residential gas tariffs were used with the proper allocation of baseline and excess rates based on modeled home gas consumption
- In the analysis of CARE customers, the rates were discounted according to the CARE discounts as shown



	1,250 Home			2,500 Home			3,750 Home		
Annual Usage (kWh)	3216			5665			9575		
Existing Rate Baseline - Electric	DR	TOU-DR1	TOU-E-ELEC	DR	TOU-DR1	TOU-E-ELEC	DR	TOU-DR1	TOU-E-ELEC
Blended Variable Charge \$/kWh	\$ 0.452	\$ 0.462	\$ 0.429	\$ 0.480	\$ 0.492	\$ 0.430	\$ 0.517	\$ 0.534	\$ 0.437
Annual Variable Charge	\$ 1,455	\$ 1,486	\$ 1,378	\$ 2,719	\$ 2,789	\$ 2,438	\$ 4,947	\$ 5,112	\$ 4,180
Annual Fixed Charge	\$ -		\$ 192	\$ -		\$ 192	\$ -		\$ 192
Annual Electrical Bill	\$ 1,455	\$ 1,486	\$ 1,570	\$ 2,719	\$ 2,789	\$ 2,630	\$ 4,947	\$ 5,112	\$ 4,372
Proposed Rate Changes									
Blended Variable Charge (\$/kWh)									
CPUC PAO	\$ 0.382	\$ 0.391	\$ 0.408	\$ 0.405	\$ 0.416	\$ 0.410	\$ 0.436	\$ 0.452	\$ 0.416
NRDC/TURN	\$ 0.370		\$ 0.365	\$ 0.393		\$ 0.367	\$ 0.425		\$ 0.373
IOU	\$ 0.271	\$ 0.281	\$ 0.283	\$ 0.287	\$ 0.298	\$ 0.285	\$ 0.308	\$ 0.323	\$ 0.291
Annual Variable Charge									
CPUC PAO	\$ 1,228	\$ 1,258	\$ 1,312	\$ 2,296	\$ 2,359	\$ 2,322	\$ 4,177	\$ 4,325	\$ 3,982
NRDC/TURN	\$ 1,190		\$ 1,175	\$ 2,229		\$ 2,080	\$ 4,067		\$ 3,575
IOU	\$ 871	\$ 903	\$ 911	\$ 1,626	\$ 1,689	\$ 1,614	\$ 2,951	\$ 3,091	\$ 2,788
Median Income Household									
Annual Fixed Charge									
CPUC PAO	\$ 445	\$ 444	\$ 443	\$ 445	\$ 444	\$ 443	\$ 445	\$ 444	\$ 443
NRDC/TURN	\$ 492		\$ 612	\$ 492	\$ -	\$ 612	\$ 492	\$ -	\$ 612
IOU	\$ 860	\$ 857	\$ 855	\$ 860	\$ 857	\$ 855	\$ 860	\$ 857	\$ 855
Annual Bill									
CPUC PAO	\$ 1,673	\$ 1,702	\$ 1,755	\$ 2,741	\$ 2,803	\$ 2,765	\$ 4,622	\$ 4,769	\$ 4,425
NRDC/TURN	\$ 1,682	\$ -	\$ 1,787	\$ 2,721	\$ -	\$ 2,692	\$ 4,559	\$ -	\$ 4,187
IOU	\$ 1,731	\$ 1,760	\$ 1,766	\$ 2,486	\$ 2,546	\$ 2,469	\$ 3,811	\$ 3,948	\$ 3,643
Annual Bill Change									
CPUC PAO	15%	15%	12%	1%	1%	5%	-7%	-7%	1%
NRDC/TURN	16%		14%	0%		2%	-8%		-4%
IOU	19%	18%	12%	-9%	-9%	-6%	-23%	-23%	-17%
\$150k Household									
Annual Fixed Charge									
CPUC PAO	\$ 512	\$ 511	\$ 510	\$ 512	\$ 511	\$ 510	\$ 512	\$ 511	\$ 510
NRDC/TURN	\$ 744		\$ 912	\$ 744	\$ -	\$ 912	\$ 744	\$ -	\$ 912
IOU	\$ 1,505	\$ 1,500	\$ 1,496	\$ 1,505	\$ 1,500	\$ 1,496	\$ 1,505	\$ 1,500	\$ 1,496
Annual Bill									
CPUC PAO	\$ 1,740	\$ 1,769	\$ 1,822	\$ 2,808	\$ 2,870	\$ 2,832	\$ 4,689	\$ 4,836	\$ 4,492
NRDC/TURN	\$ 1,934	\$ -	\$ 2,087	\$ 2,973	\$ -	\$ 2,992	\$ 4,811	\$ -	\$ 4,487
IOU	\$ 2,376	\$ 2,403	\$ 2,407	\$ 3,131	\$ 3,189	\$ 3,110	\$ 4,456	\$ 4,591	\$ 4,284
Annual Bill Change									
CPUC PAO	20%	19%	16%	3%	3%	8%	-5%	-5%	3%
NRDC/TURN	33%		33%	9%		14%	-3%		3%
IOU	63%	62%	53%	15%	14%	18%	-10%	-10%	-2%



Annual Usage (kWh)	1,250 Home			2,500 Home			3,750 Home		
	3494			6310			11370		
Existing Rate Baseline - Electric	E1	E-TOU-C	E-ELEC	E1	E-TOU-C	E-ELEC	E1	E-TOU-C	E-ELEC
Blended Variable Charge \$/kWh	\$ 0.341	\$ 0.340	\$ 0.349	\$ 0.367	\$ 0.367	\$ 0.350	\$ 0.393	\$ 0.396	\$ 0.357
Annual Variable Charge	\$ 1,190	\$ 1,189	\$ 1,219	\$ 2,318	\$ 2,318	\$ 2,206	\$ 4,469	\$ 4,505	\$ 4,056
Annual Fixed Charge	\$ -		\$ 180	\$ -		\$ 180	\$ -		\$ 180
Annual Electrical Bill	\$ 1,190	\$ 1,189	\$ 1,399	\$ 2,318	\$ 2,318	\$ 2,386	\$ 4,469	\$ 4,505	\$ 4,236
Proposed Rate Changes									
Blended Variable Charge (\$/kWh)									
CPUC PAO	\$ 0.256	\$ 0.267	\$ 0.287	\$ 0.276	\$ 0.288	\$ 0.288	\$ 0.295	\$ 0.312	\$ 0.295
NRDC/TURN	\$ 0.240		\$ 0.247	\$ 0.259		\$ 0.248	\$ 0.277		\$ 0.255
IOU	\$ 0.203	\$ 0.212	\$ 0.228	\$ 0.219	\$ 0.228	\$ 0.228	\$ 0.233	\$ 0.247	\$ 0.236
Annual Variable Charge									
CPUC PAO	\$ 895	\$ 934	\$ 1,003	\$ 1,742	\$ 1,820	\$ 1,815	\$ 3,356	\$ 3,545	\$ 3,353
NRDC/TURN	\$ 839		\$ 863	\$ 1,635		\$ 1,562	\$ 3,153		\$ 2,895
IOU	\$ 709	\$ 740	\$ 796	\$ 1,379	\$ 1,441	\$ 1,441	\$ 2,654	\$ 2,813	\$ 2,679
Median Income Household									
Annual Fixed Charge									
CPUC PAO	\$ 383	\$ 382	\$ 381	\$ 383	\$ 382	\$ 381	\$ 383	\$ 382	\$ 381
NRDC/TURN	\$ 492		\$ 600	\$ 492		\$ 600	\$ 492		\$ 600
IOU	\$ 612	\$ 611	\$ 610	\$ 612	\$ 611	\$ 610	\$ 612	\$ 611	\$ 610
Annual Bill									
CPUC PAO	\$ 1,278	\$ 1,316	\$ 1,384	\$ 2,125	\$ 2,202	\$ 2,196	\$ 3,739	\$ 3,927	\$ 3,734
NRDC/TURN	\$ 1,331	\$ -	\$ 1,463	\$ 2,127	\$ -	\$ 2,162	\$ 3,645	\$ -	\$ 3,495
IOU	\$ 1,321	\$ 1,351	\$ 1,406	\$ 1,991	\$ 2,052	\$ 2,051	\$ 3,266	\$ 3,424	\$ 3,289
Annual Bill Change									
CPUC PAO	7%	11%	-1%	-8%	-5%	-8%	-16%	-13%	-12%
NRDC/TURN	12%		5%	-8%		-9%	-18%		-17%
IOU	11%	14%	1%	-14%	-11%	-14%	-27%	-24%	-22%
\$150k Household									
Annual Fixed Charge									
CPUC PAO	\$ 440	\$ 440	\$ 438	\$ 440	\$ 440	\$ 438	\$ 440	\$ 440	\$ 438
NRDC/TURN	\$ 744		\$ 900	\$ 744		\$ 900	\$ 744		\$ 900
IOU	\$ 1,101	\$ 1,100	\$ 1,098	\$ 1,101	\$ 1,100	\$ 1,098	\$ 1,101	\$ 1,100	\$ 1,098
Annual Bill									
CPUC PAO	\$ 1,335	\$ 1,374	\$ 1,441	\$ 2,182	\$ 2,260	\$ 2,253	\$ 3,796	\$ 3,985	\$ 3,791
NRDC/TURN	\$ 1,583	\$ -	\$ 1,763	\$ 2,379	\$ -	\$ 2,462	\$ 3,897	\$ -	\$ 3,795
IOU	\$ 1,810	\$ 1,840	\$ 1,894	\$ 2,480	\$ 2,541	\$ 2,539	\$ 3,755	\$ 3,913	\$ 3,777
Annual Bill Change									
CPUC PAO	12%	16%	3%	-6%	-3%	-6%	-15%	-12%	-10%
NRDC/TURN	33%		26%	3%		3%	-13%		-10%
IOU	52%	55%	35%	7%	10%	6%	-16%	-13%	-11%