Affordability Metrics Implementation Workshop

November 15, 2021

Note: This session will be recorded and posted to the CPUC website.

California Public Utilities Commission

Agenda

Opening Remarks	12:00 noon – 12:15 pm
Water Rate and Bill Tracker Tool	12:15 pm – 1:30 pm
Electric Cost and Rate Tracker and Affordability Ratio Calculator Tools	1:30 pm – 3:00 pm
Break	3:00 pm – 3:15 pm
Implementation Recommendations	3:15 pm – 4:45 pm
Closing	4:45pm – 5:00 pm

Virtual Housekeeping

3 ways to comment

- Use the "raise hand" feature in WebEx
- Over the telephone: dial *3 to "raise hand" and *6 to mute/unmute your phone line
- Type your question in the “Chat” window

Joseph Haga, IT Services

Joseph.Haga@cpuc.ca.gov 415-407-4404 text/voice 415-703-2766 desk (voice)

Opening Remarks

Commissioners

Water Rate and Bill Tracker Tool

12:15 pm – 1:30 pm

Jefferson Hancock, Water Division
Ana Maria Johnson, Public Advocates Office
Surabhi Karambelkar, Public Advocates Office

Water Cost Tracking and Bill Impacts Template

Ana Maria Johnson

Surabhi Karambelkar

Communications and Water Policy Branch

November 15, 2021

R.18-07-006: Affordability Metrics Implementation Workshop

Agenda

- Audience & Users
- Reporting Requirements & Template's User-Friendly Features
- Template Walk Through
- Conclusion

Audience & Users

Audience & Users

Audience

Decision-Makers
Commission Staff
Intervenors

Users

Golden State Water Company
California American Water
Liberty
California Water Service — Quality. Service. Value.
San Gabriel Valley Water Company
Great Oaks Water Company
SouthWest Water Company
San Jose Water

Report Requirements and Template's User-Friendly Features

Reporting Requirements

Submit with each filing that may cause impacts to revenue requirement and/or customer bills.

User-Friendly Features of the Template

- Relies on already available information
- Can be easily updated
- Semi-automated
- Transparent

Template Walk Through

Prep: Information Needed to Fill the Template

- **Most Recent Commission-Adopted GRC**
- **Revenue Requirement by Filings**
  - Active
  - Pending (Filed, New Filing)
  - Anticipated
- **CAP & non-CAP Residential Connections**
- **CAP & non-CAP Residential Water Usage**
- **Tier Rates, Surcharges, Taxes & Fees**

Template Flow Chart

Table 1: Revenue Requirement → Table 2: Average Residential Water Use → Table 3: Inputs & Current Bill → Table 4: Impact to Average Bill

Input:

Filing Info. & Annual Revenue Requirement

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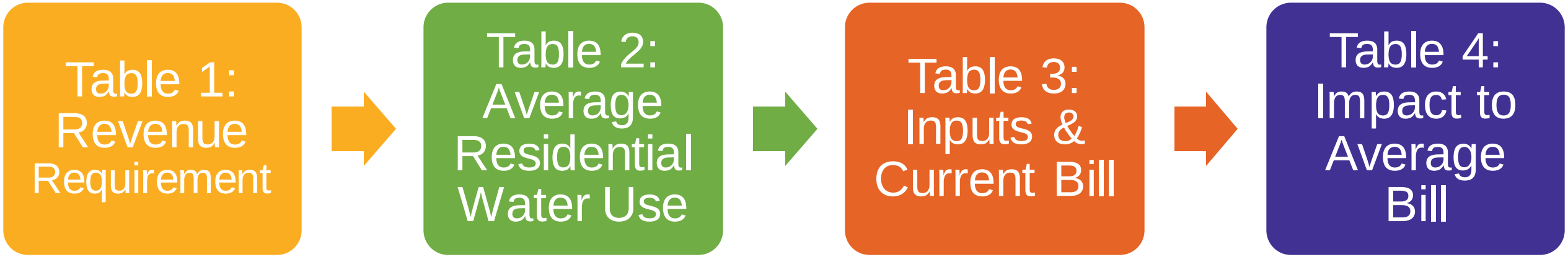
Table 1: Revenue Requirement

	Latest Adopted Company-Wide Revenue Requirement (Adopted on XX/XX/XXX Per Filing #)		Latest Adopted Ratemaking Area Revenue Requirement (Adopted on XX/XX/XXX Per Filing #)				Annual Revenue Requirements (End of Year)				
	$		$				Year 1	Year 2	Year 3	Year 4	Year 5
Status	**Proceedings**	**Footnote Reference**	**Description of Filing**	**Revenue Recovery Mechanism**	**Effective Date or Proposed Effective Date**	**Expiration Date or Proposed Expiration Date**	**2021**	**2022**	**2023**	**2024**	**2025**
Baseline Revenue Requirement (Ratemaking Area)							$	$	$	$	$
Active	A.18-XX-XX; D.19-XX-XXX		(e.g. Bal. Acct., IRMA, WRAM)	(e.g., amortization of balancing account, GRC base rate increase, etc.)			$ 7,779,000	$ 4,159,000	$ 4,304,000		
Active	A.18-XX-XXX; D.19-XX-XXX										
Active	AL # XXXX						$ 2,000,000				
Active	AL # XXXX										
Active	AL # XXXX										
Active	AL # XXXX										
	USE THIS BUTTON TO ADD ACTIVE FILINGS										
Total Active	Add Active Filing						**$ 9,779,000**	**$ 4,159,000**	**$ 4,304,000**	**$ -**	**$ -**
Pending - Filed	AL # XXXX										
Pending - Filed	AL # XXXX										
Pending - Filed	AL # XXXX										
Pending - Filed	AL # XXXX										
Pending - Filed	A.XX-XX-XXX										
Pending - Filed	A.XX-XX-XXX										
Pending - New Filing	AL # XXXX						$ 2,000,000				
	USE THIS BUTTON TO ADD PENDING FILINGS										
Total Pending	Add Pending Filing						**$ 2,000,000**	**$ -**	**$ -**	**$ -**	**$ -**
Anticipated	Advice Letter		IRMA (as appropriate)	No change to stated rev. req.			TBD				
Anticipated	Advice Letter		20XX Estimated Escalation Year Increase, Pending Earnings Test	Base rate increase (est.)							

Template Flow Chart



Input:

Filing Info. & Annual Revenue Requirement

Input:

Total No. of Residential Connections & Water Usage

California Public Utilities Commission

Table 2: Average Residential Usage

	All Residential Customers	Non-Customer Assistance Program (CAP) Customers	CAP Customers	Tier 1 Usage (up to XX Units/month) for Non-CAP Customers	Tier 1 Usage (up to XX Units/month) for CAP Customers
Total Residential Usage (in units used by service area) in 12 Months (from last GRC filing)	**18,000,000**	15,000,000	3,000,000	N/A	N/A
Total Number of Residential Connections (from last GRC filing)	**121,000**	100,000	21,000	N/A	N/A
Residential Average Annual Usage (in units used by service area) Per Connection, or Tier 1 Annual Usage Amount	**148.76**	**150.00**	**142.86**	**144.00**	**142.86**
Current Residential Average Annual Bill	**N/A**	**$318**	**$213**	**$304**	**$213**

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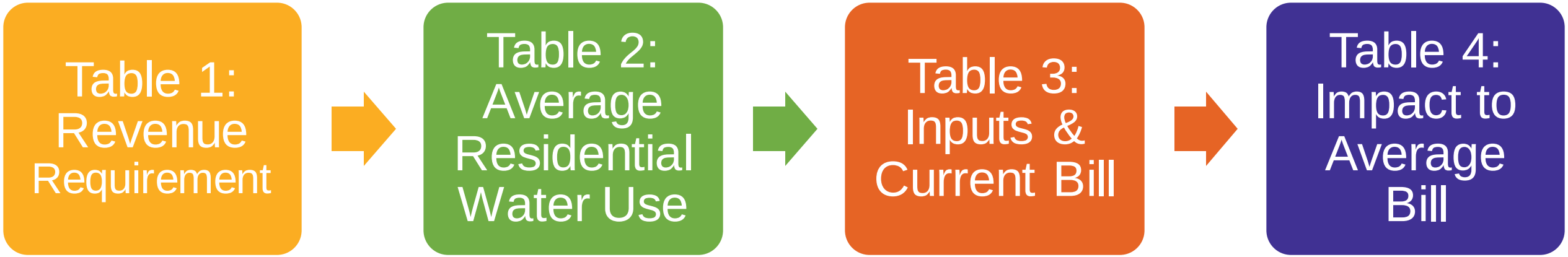
Template Flow Chart



Input:

Filing Info. & Annual Revenue Requirement

Input:

Total No. of Residential Connections & Water Usage

Input:

Tier Rates, Fixed Charges, Surcharges & Credits

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Table 3: Inputs

Quantity Basis	CCF
Variable Charge Calculation	
Number of Tiers	2

	Non-CAP Average Use	CAP Average Use
	12.5	11.9047619

	Tier Start	Tier End (CCF)	Tier Width	Non-CAP Tier Rate (A)	CAP Tier Rate (B)	Non-CAP Average Consumption In Tier (C)	CAP Avg Consumption in Tier (D)	**Average Monthly Bill in Tier (E) = (A) * (C)**	**Average CAP Monthly Bill in Tier (F) = (B) * (D)**
Tier 1	0 CCF to	12	12	$1.00	$1.00	12	11.9047619	**$12.00**	**$11.90**
Tier 2	Over 12 CCF			$2.00	$2.00	0.5	0	**$1.00**	**$0.00**
								$13.00	**$11.90**

Monthly Fixed Charge Calculation		
Most Common Residential Meter	5/8" x 3/4"	
	Non-CAP Fixed Charge	CAP Fixed Charge
5/8" x 3/4" Fixed Charges	$10.00	$10.00

Add Surcharge Tax or Fee				
Surcharges, Credits, Fees and Taxes	Type of Charge	Amount of Charge (Non-CAP)	Amount of Charge (CAP)	Number of Months in Effect
CAP Credit	Fixed		-$5.00	12
CAP Surcharge	Variable	$0.10		12
Temporary Surcharge 1	Variable	$0.20	$0.20	9
Temporary Surcharge 2	Variable	$0.01	$0.01	6
	Fixed			12
	Fixed			12

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Table 3: Current Bill

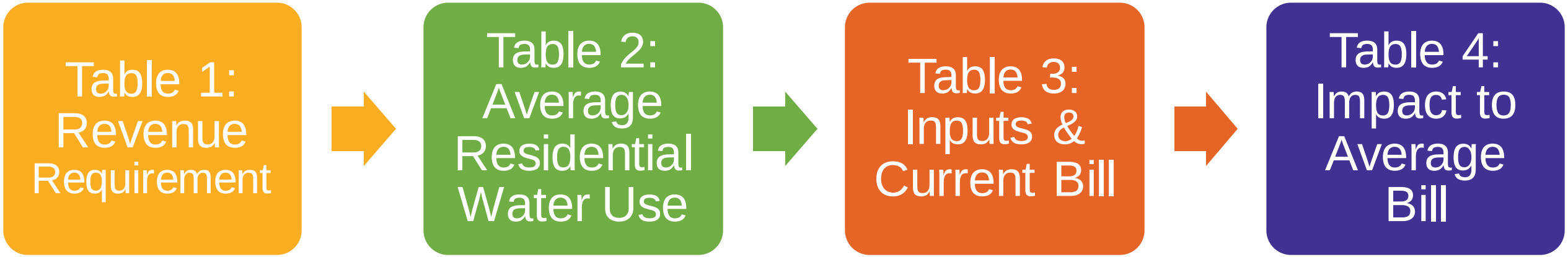
Average Monthly Bill Calculation for Residential 5/8" x 3/4" Meter as of the filing date:					
	Average Usage		Tier 1 Usage		Appropriate Rate
	Non-CAP	CAP	Non-CAP	CAP	
Usage (Ccfs/Month)	*12.50*	*11.90*	*12.00*	*11.90*	*(Incl. Start and Expiration Date as Appropriate)*
Service Charge	$ 10.00	$ 10.00	$ 10.00	$ 10.00	*$10.00 per month*
Quantity Charge	$ 13.00	$ 11.90	$ 12.00	$ 11.90	*$1.000 per CCF*
Subtotal:	*$ 23.00*	*$ 21.90*	*$ 22.00*	*$ 21.90*	
CAP Credit	$ -	$ (5.00)	$ -	$ (5.00)	*$5.00 per month*
CAP Surcharge	$ 1.25	$ -	$ 1.20	$ -	*$0.100 per CCF*
Temporary Surcharge 1	$ 2.50	$ 2.38	$ 2.40	$ 2.38	*$0.200 per CCF (applies 1/1/2018 - 10/1/2019*
Temporary Surcharge 2	$ 0.13	$ 0.12	$ 0.12	$ 0.12	*$0.010 per CCF (applies 7/1/2019 - 3/1/2020*
Subtotal:	*$ 3.88*	*$ (2.50)*	*$ 3.72*	*$ (2.50)*	
CPUC Fee	$ 0.33	$ 0.24	$ 0.32	$ 0.24	*1.23%*
Total Avg. Monthly Bill for July 2019:	$ 27.21	$ 19.64	$ 26.04	$ 19.64	

Average Annual Bill Calculation for Residential 5/8" x 3/4" Meter as of the filing date:					
	Average Usage		Tier 1 Usage		Appropriate Rate
	Non-CAP	CAP	Non-CAP	CAP	
Usage (Ccfs/Year)	*150.00*	*142.86*	*144.00*	*144.00*	*(Incl. Start and Expiration Date as Appropriate)*
Service Charge	$120.00	$120.00	$120.00	$120.00	*$XX.XX per month or bimonthly*
Quantity Charge	$156.00	$142.86	$144.00	$144.00	*$XX.XX per CCF*
Subtotal:	*$276.00*	*$262.86*	*$264.00*	*$264.00*	
Relevant Surcharges, Credits, Fees and Taxes					
CAP Credit	$0.00	-$60.00	$0.00	-$60.00	*$ per month*
CAP Surcharge	$15.00	$0.00	$14.40	$0.00	*$0.1 per CCF*
Temporary Surcharge	$22.50	$21.43	$21.60	$21.60	*$0.2 per CCF*
Temporary Surcharge	$0.75	$0.71	$0.72	$0.72	*$0.01 per CCF*
…	$0.00	$0.00	$0.00	$0.00	*$ per month*
…	$0.00	$0.00	$0.00	$0.00	*$ per month*
Subtotal:	*$38.25*	*-$37.86*	*$36.72*	*-$37.68*	
CPUC Fee	$3.87	$2.77	$3.70	$2.78	*1.23%*
Total Avg. Annual Bill for 2021:	$318.12	$227.77	$304.42	$229.10	

Table 3: Current Bill

Estimated Incremental Annual Bill Impact for Residential ___" Meter with 2020 and 2021 Rate Escalation related to 2017 GRC:					
2020	**Average Usage**		**Tier 1 Usage**		
	Non-CAP	**CAP**	**Non-CAP**	**CAP**	
Service Charge	$ 12.00	$ 12.00	$ 12.00	$ 12.00	*From $10 to $11 per month*
Quantity Charge	15.00	14.29	14.40	14.40	*From $1.000 to $1.100 per CCF*
Increm. Ann. Impact	$ 27.00	$ 26.29	$ 26.40	$ 26.40	

Template Flow Chart



Input:

Filing Info. & Annual Revenue Requirement

Input:

Total No. of Residential Connections & Water Usage

Input:

Tier Rates, Fixed Charges, Surcharges & Credits

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Table 4: Impact to Average &Tier 1 Bill

Non-CAP Residential Customers - Average Usage

Status	Proceedings	Description of Filing	Revenue Recovery Mechanism	Effective Date or Proposed Effective Date	Expiration Date or Proposed Expiration Date	Annual Bill Impacts (For Both Non-CAP and CAP Customers at Average and Tier 1 Usage Amounts) 2019	2020	2021	2022	2023
Baseline bill (incl. service & quantity charges)	**D.XX-XX-XXX/A. or AL**					**$ 276.00**	**$ 276.00**	**$ 276.00**	**$ 276.00**	**$ 276.00**
CAP Surcharge	A.18-XX-XXX; D.19-XX-XXX	(e.g., Bal. Acct., IRMA, WRAM)	(e.g., amortization of balancing account, GRC base rate increase, etc.)			$ 15.00	$ 15.00	$ 15.00	TBD	TBD
Temporary Surcharge #1	A.18-XX-XXX; D.19-XX-XXX			1/1/2018	10/1/2019	$ 22.50	$ -	$ -	$ -	$ -
Temporary Surcharge #2	AL # XXXX			7/1/2019	3/1/2020	$ 0.75	$ 0.25	$ -	$ -	$ -
Total Active						**$ 38.25**	**$ 15.25**	**$ 15.00**	**$ -**	**$ -**
Pending (New)	AL # XXXX	2019 Estimated Escalation Year Increase, Pending Earnings Test	Base rate increase	1/1/2020		$ -	$ 27.00	$ 27.00	*Not applicable*	*Not applicable*
Total Pending						**$ -**	**$ 27.00**	**$ 27.00**	**$ -**	**$ -**
Anticipated	Advice Letter	Cost of capital	Base rate change				TBD	TBD	TBD	
Anticipated	Application	2020 GRC	Base rate change			*Not applicable*	*Not applicable*	*Not applicable*	TBD	TBD
Total Anticipated						**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
CPUC Fee						**$ 3.87**	**$ 3.91**	**$ 3.91**	**$ 3.39**	**$ 3.39**
Total Estimated Annual Bill, Not Including TBD Amounts						**$ 318.12**	**$ 322.16**	**$ 321.91**	**$ 279.39**	**$ 279.39**
Change in Estimated Annual Bill, as Compared to Year 1						***n/a***	***$ 4.05***	***$ 3.80***	***$ (38.72)***	***$ (38.72)***

Thank you!

Questions?

Electric Cost and Rate Tracker and Affordability Ratio Calculator Tools

1:30 pm – 3:00 pm

Ankit Jain, Energy Division
Bridget Sieren-Smith, Energy Division

Energy Division Cost and Rate Tracker (CRT) Tool

- The CRT is an excel workbook that, among other uses, allows a user to generate projected essential usage bills that in turn can be used as inputs in calculating the Affordability Ratio metric and the Hours at Minimum Wage metric.

The three large electric IOUs have been submitting quarterly electric CRTs to Energy Division for about two years

PG&E has been submitting a gas CRT to Energy Division for about one year

SDG&E gas and SoCalGas CRTs are in development

Demonstration: Using the CRT to Calculate Essential Usage Bills (EUB)

- Demonstration uses SCE's Q1-2021 CRT and SCE's 2021 GRC Track 3 Request, which was used for the case example in the Staff Proposal.
- Demonstration limited to the worksheet showing Inputs and Outputs, as the worksheets that perform the rate and bill calculations have data marked confidential.
  - Inputs: $496.82 million incremental revenue requirement collected through distribution rate component, 9 different climate zones
  - Outputs: Table 3 in the Staff Proposal showing EUBs by climate zone and by basic and all-electric service
- Disclaimer: CRT is not intended to function at the computing level used for producing the utility's tariffed rates.
  - Tool provides illustrative proposed rates and bills resulting from the proposed change in revenue requirement requested in a proceeding, based on currently adopted sales forecasts and revenue allocation.
  - Actual rates implemented as a result of the proceeding will be based on the changes in revenue requirements authorized in the proceeding and the adopted sales forecast and revenue allocation in effect at that time.

Overview of Affordability Ratio Calculator (ARC)

- Purpose: allow parties to easily calculate affordability ratio (AR) metric at useful geographic scales, based on user-defined essential usage bills for current and future years

- How it works:
  - For each census block in the state, identifies essential usage bills, income, and housing costs for representative households at the 20th and 50th percentiles of PUMA income distributions.
  - Calculates census block-level AR values (industry-specific and bundled)
  - Calculates weighted average AR values for different geographic scales

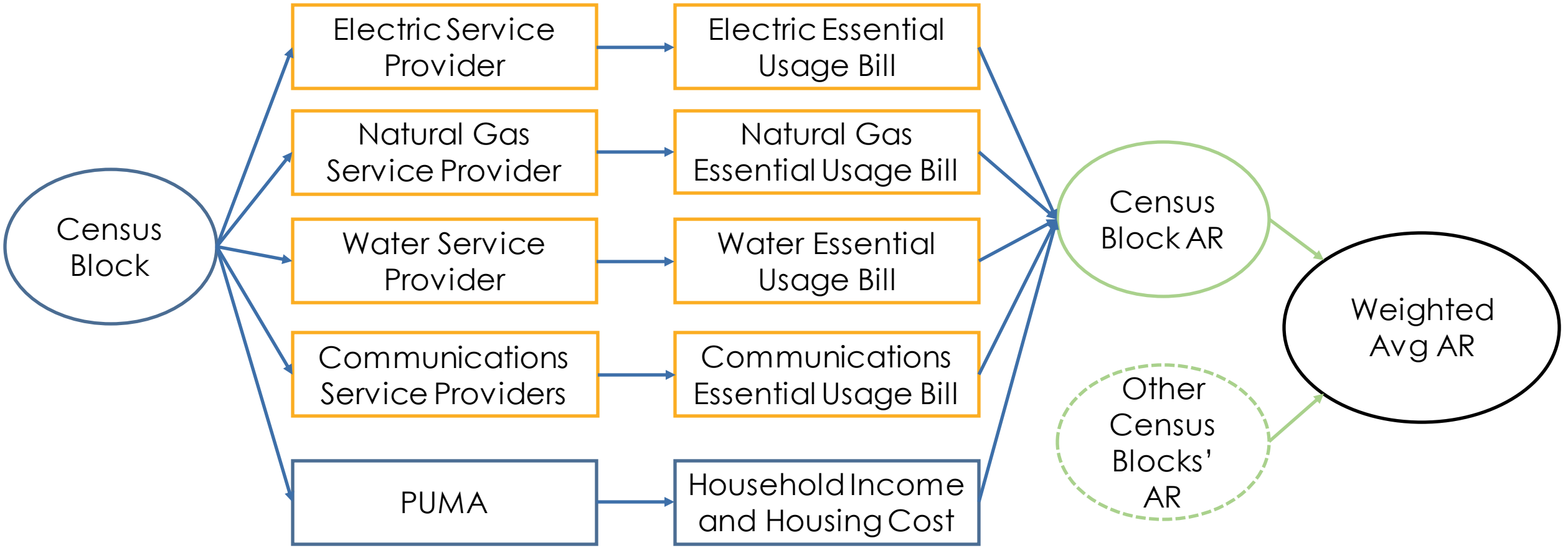
- Calculates AR for base analysis year and seven-year forecast period

ARC Calculations

Affordability Ratio (AR)

$$\frac{\$ \text{ essential services bill}}{\$ \text{ household income} - \text{non-discretionary expenses (housing and other utilities)}} = \text{AR}$$

where utility services are least affordable for households at a particular point of the income distribution (e.g., AR_{20} is households at the lowest 20th percentile of income)



Essential Usage Bill Inputs

- Users specify monthly essential usage bills for each year of the analysis period (or for specific years of interest)
- Pre-populated with 2019 essential usage bills and inflation-based forecasts of future values, which can be overwritten by users
- Industry-specific input tabs for each essential service
- Electric input tab allows for input of essential usage bills for basic and all-electric rates (tool calculates weighted average bill)

Industry	Geographic Scale of Input
Electricity	Utility/Climate Zone
Gas	Utility/Climate Zone
Water	Water System/Ratemaking Area
Communications	Area defined by combination of ILEC Voice and Lowest Cost Broadband

Essential Usage Bill Input Example (Electric)

	A	B	C	D	E	F	G	H	I
					Basic Service				
	Electric Provider and Climate Zone	Regulated	Percentage of Customers on All-Electric Rate	2019 Essential Usage Bill ($/month)	2020 Essential Usage Bill ($/month)	2021 Essential Usage Bill ($/month)	2022 Essential Usage Bill ($/month)	2023 Essential Usage Bill ($/month)	2024 Essential Usage Bill ($/month)
9	Merced Irrigation District		0.00%	55.36	56.01	57.09	58.51	59.88	61.17
0	Modesto Irrigation District		0.00%	86.25	87.28	88.96	91.17	93.29	95.31
1	PacCorp DEL NORTE	X	77.62%	109.64	110.95	113.08	115.90	118.60	121.16
2	PacCorp NON-DEL NORTE	X	55.52%	98.68	99.86	101.78	104.31	106.74	109.05
3	PG&E P	X	54.41%	85.00	86.01	87.67	89.85	91.94	93.93
4	PG&E Q	X	51.03%	76.22	77.13	78.61	80.57	82.45	84.23
5	PG&E R	X	12.91%	90.63	91.71	93.47	95.80	98.03	100.15
5	PG&E S	X	11.59%	84.05	85.05	86.69	88.85	90.92	92.88
7	PG&E T	X	16.59%	51.87	52.49	53.50	54.83	56.11	57.32
3	PG&E V	X	58.83%	56.93	57.61	58.72	60.18	61.58	62.91
9	PG&E W	X	7.25%	91.09	92.18	93.95	96.29	98.53	100.66
0	PG&E X	X	14.91%	69.68	70.51	71.87	73.66	75.37	77.00
1	PG&E Y	X	14.22%	79.10	80.04	81.58	83.61	85.56	87.41
2	PG&E Z	X	64.45%	50.81	51.42	52.40	53.71	54.96	56.15
3	Pittsburg Power Company		0.00%	88.47	89.53	91.25	93.52	95.70	97.77
4	Plumas-Sierra Rural Elec Coop		0.00%	71.54	72.39	73.79	75.62	77.38	79.06
5	Sacramento Municipal Util Dist		0.00%	67.44	68.24	69.56	71.29	72.95	74.53
5	SCE 10	X	9.27%	81.40	82.37	83.95	86.05	88.05	89.95
7	SCE 13	X	7.55%	87.71	88.75	90.46	92.72	94.87	96.93
3	SCE 14	X	8.73%	79.33	80.27	81.82	83.86	85.81	87.67
9	SCE 15	X	14.23%	124.35	125.83	128.25	131.45	134.51	137.42
0	SCE 16	X	18.17%	73.06	73.93	75.35	77.23	79.03	80.74
1	SCE 5	X	34.90%	99.68	100.87	102.81	105.37	107.82	110.15
2	SCE 6	X	16.84%	62.55	63.30	64.51	66.12	67.66	69.12
3	SCE 8	X	10.90%	62.41	63.15	64.37	65.97	67.51	68.97
4	SCE 9	X	8.63%	76.05	76.96	78.44	80.39	82.26	84.04

Geographic Scale of Outputs

- Level of aggregation for output tabs is specific to each industry
- Census Block-level results are also available in the "Census Block Level Calculations" tab for single year analysis (based on most recently run year of analysis)

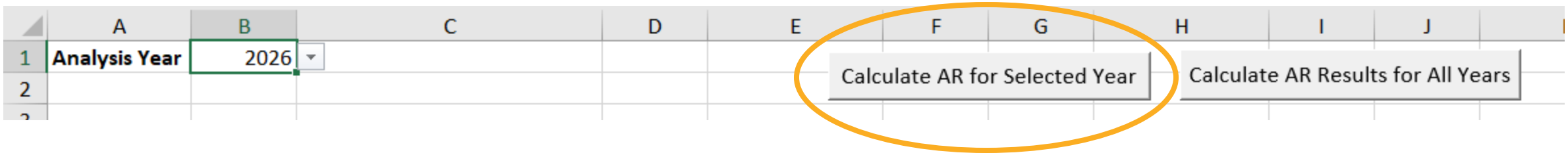
Industry	Geographic Scale of Output
Electricity	• Climate Zones broken down by PUMA (Electric PUMA-CZ Results) • Climate Zone (Electric CZ Results)
Gas	• Climate Zones broken down by PUMA (Gas PUMA-CZ Results) • Climate Zone (Gas CZ Results)
Water	• Water System/Ratemaking Area (Water Results)
Communications	• Area defined by combination of ILEC Voice and Lowest Broadband broken down by PUMA (Comm PUMA-Provider Results) • PUMA (Comm PUMA Results)
Bundled (All Services Combined)	• PUMA (PUMA Bundled AR Results)

Save/Load Scenarios

- Once essential usage bills have been input, users can save scenario
  - In the "Scenario Input" tab, enter name of new scenario
  - Click on "Save New Scenario" macro button
  - Tool copies essential usage bills currently entered (including any formulas) to a hidden tab and adds name of new scenario to dropdown menu
- To load saved scenario, select from dropdown menu and click on "Load Selected Scenario" macro button
- Pre-populated default values are saved as "2019 Base" scenario

Calculations: Single Year Analysis

- Allows user to quickly obtain AR results for a specific year
  - User specifies analysis year of interest in "Scenario Input" tab
  - Click on "Calculate AR for Selected Year" macro button



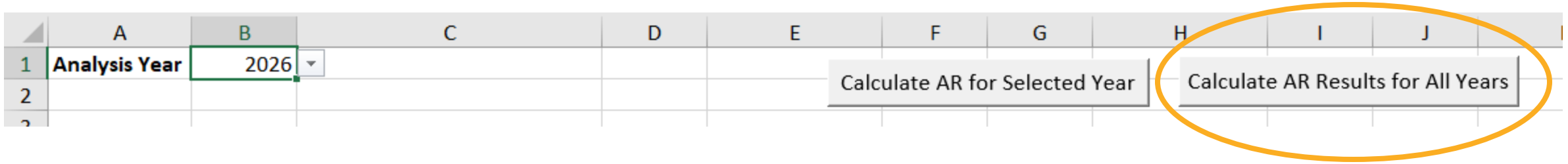
Single Year Analysis Output

- In each of the output tabs, the results for the selected year will be displayed on the left side of the sheet
- AR values for single year analysis will be in blue shaded cells
- Estimates for number of residential housing units located in each geographic area is also provided

	A	B	C	D	E	F	G
1	Currently selected year:		2026				
2	PUMA	County/City	Electric Climate Zone	PUMA/Electric Climate Zone	Electric AR_{20}	Electric AR_{50}	Estimated # of Housing Units
3	00101	Alameda County (North)--Berkeley & Albany Cities PUMA	PG&E T	00101, PG&E T	8.48%	1.05%	58116
4	00101	Alameda County (North)--Berkeley & Albany Cities PUMA	PG&E X	00101, PG&E X	10.88%	1.35%	25
5	00102	Alameda County (Northwest)--Oakland (Northwest) & Emeryville Cities PUMA	PG&E T	00102, PG&E T	11.52%	1.50%	80100
6	00103	Alameda County (Northeast)--Oakland (East) & Piedmont Cities PUMA	PG&E T	00103, PG&E T	2.48%	0.69%	59005

Calculations: Multi-Year Analysis

- Calculation of the entire analysis period (base year + seven-year forecast period) is computationally intensive and takes several minutes
- Click on "Calculate AR Results for All Years" in "Scenario Input" tab
- Performs single year analysis for base year, copies values of results in each output tab to a summary table on right side of sheet, selects the next year, and repeats until all years are evaluated



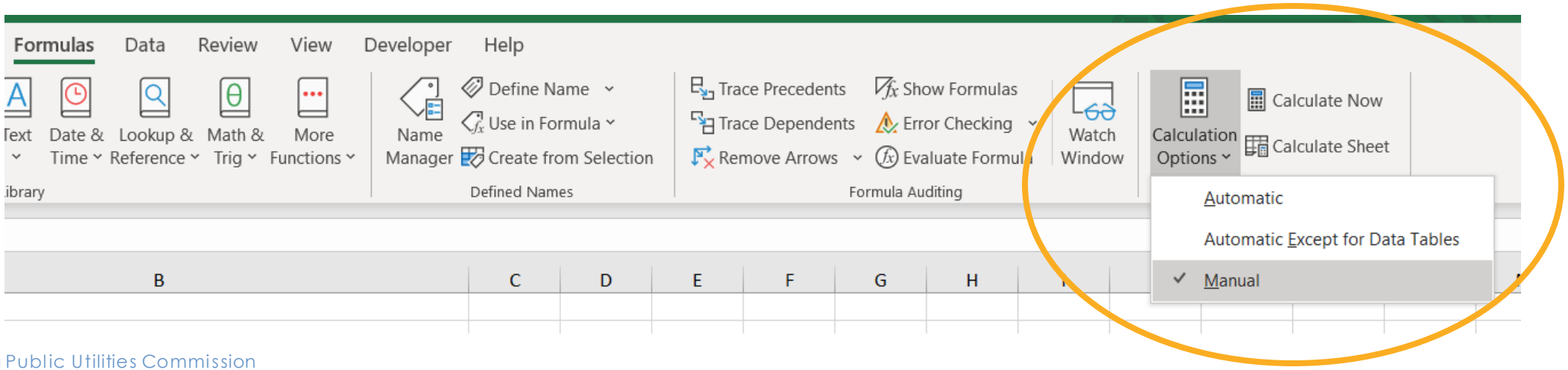
Multi-Year Analysis Output

- In each output tab, results for entire analysis period is in table on the right side of sheet (AR values from multi-year analysis in orange shaded cells)
- **Note:** multi-year analysis results are not updated when running single year analysis; this table will reflect results from most recently run multi-year analysis

	A	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Currently s				2019		2020		2021		2022		2023	
2	PUMA	County/City	Electric Climate Zone	PUMA/Electric Climate Zone	Electric AR_{20}	Electric AR_{50}	Electric AR_{20}	Electric AR_{50}	Electric AR_{20}	Electric AR_{50}	Electric AR_{20}	Electric AR_{50}	Electric AR_{20}	Electric AR_{50}
6	00103	Alameda County (Northeast)--Oakland (East) & Piedmont Cities PUMA	PG&E T	00103, PG&E T	2.62%	0.73%	2.63%	0.73%	2.60%	0.72%	2.56%	0.71%	2.54%	0.71%
7	00103	Alameda County (Northeast)--Oakland (East) & Piedmont Cities PUMA	PG&E X	00103, PG&E X	3.36%	0.94%	3.38%	0.94%	3.34%	0.93%	3.29%	0.92%	3.26%	0.91%
8	00104	Alameda County (North Central)--Oakland City (South Central) PUMA	PG&E T	00104, PG&E T	14.20%	2.17%	14.62%	2.17%	14.24%	2.15%	13.87%	2.13%	13.76%	2.11%
9	00104	Alameda County (North Central)--Oakland City (South Central) PUMA	PG&E X	00104, PG&E X	18.49%	2.81%	19.03%	2.80%	18.53%	2.77%	18.04%	2.75%	17.90%	2.72%
10	00105	Alameda County (West)--San Leandro, Alameda & Oakland (Southwest) Cities PUMA	City of Alameda	00105, City of Al	3.43%	0.97%	3.46%	0.97%	3.42%	0.96%	3.36%	0.95%	3.33%	0.94%
11	00105	Alameda County (West)--San Leandro, Alameda & Oakland (Southwest) Cities PUMA	PG&E T	00105, PG&E T	3.89%	1.11%	3.92%	1.11%	3.86%	1.09%	3.80%	1.09%	3.77%	1.07%

Additional Notes

- Read through the "Instructions" tab prior to using the tool
- This is a large spreadsheet (~90 MB), so calculations will take a few minutes to complete (particularly the multi-year analysis). Be patient!
- To make it easier while working in the tool, change the calculation options (under the "Formulas" menu) to "Manual"



Demonstration: Using the ARC to Calculate the Change in AR for the 2021 SCE GRC Track 3 Request

Link to ARC and Documentation

- ARC can be downloaded from CPUC Affordability Implementation staff proposal website:
  - https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability/implementation-staff-proposal
  - On right side of page, look for link to "Affordability Ratio Calculator (ARC)"
  - File is ~90 MB. Suggest right-clicking and saving file to local computer

- First tab of spreadsheet includes detailed instructions

- Questions/comments about the tool can be sent to ankit.jain@cpuc.ca.gov

Questions for Stakeholders

- Any questions about how the tool works?
- Any suggestions for how to improve the tool from a usability standpoint?
- Any suggestions for improvements to the way the outputs are presented?
- Any additional outputs that would be useful?

Break

Resume at 3:15 pm

Implementation Recommendations

3:15 pm – 4:45 pm

Interpretation of Results

Energy Industry

Water Industry

Communications Industry

Implementation Recommendations

Interpretation of Results

3:15 pm – 3:45 pm

Ankit Jain, Energy Division

Energy Industry

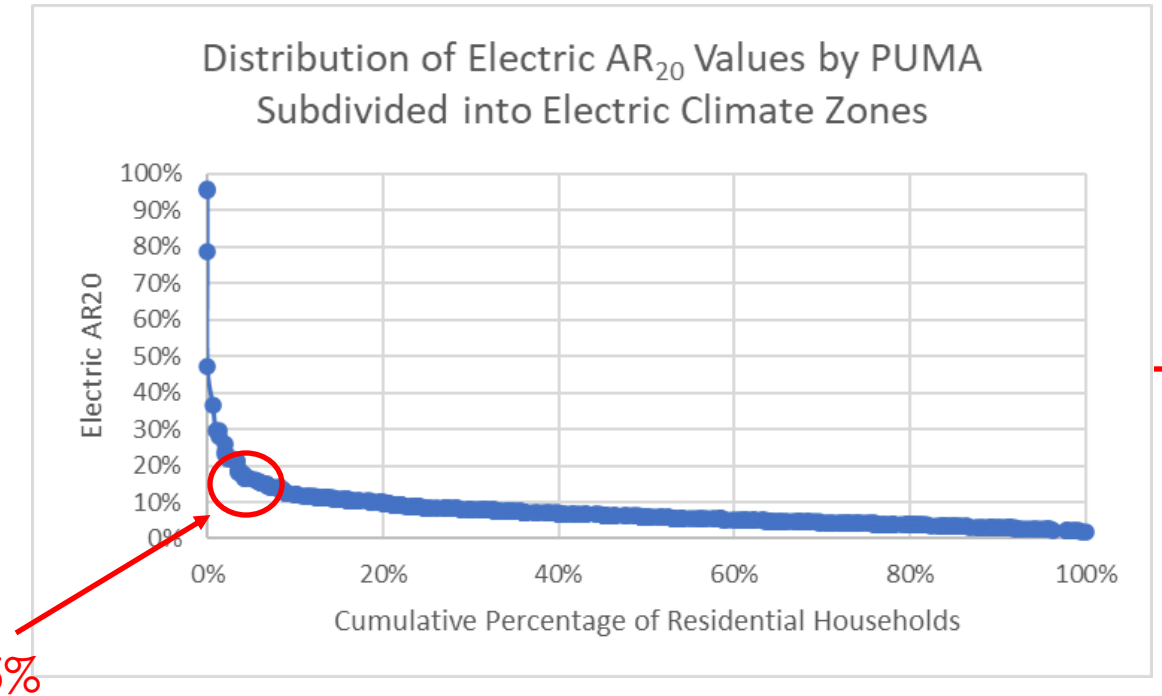
Water Industry

Communications Industry

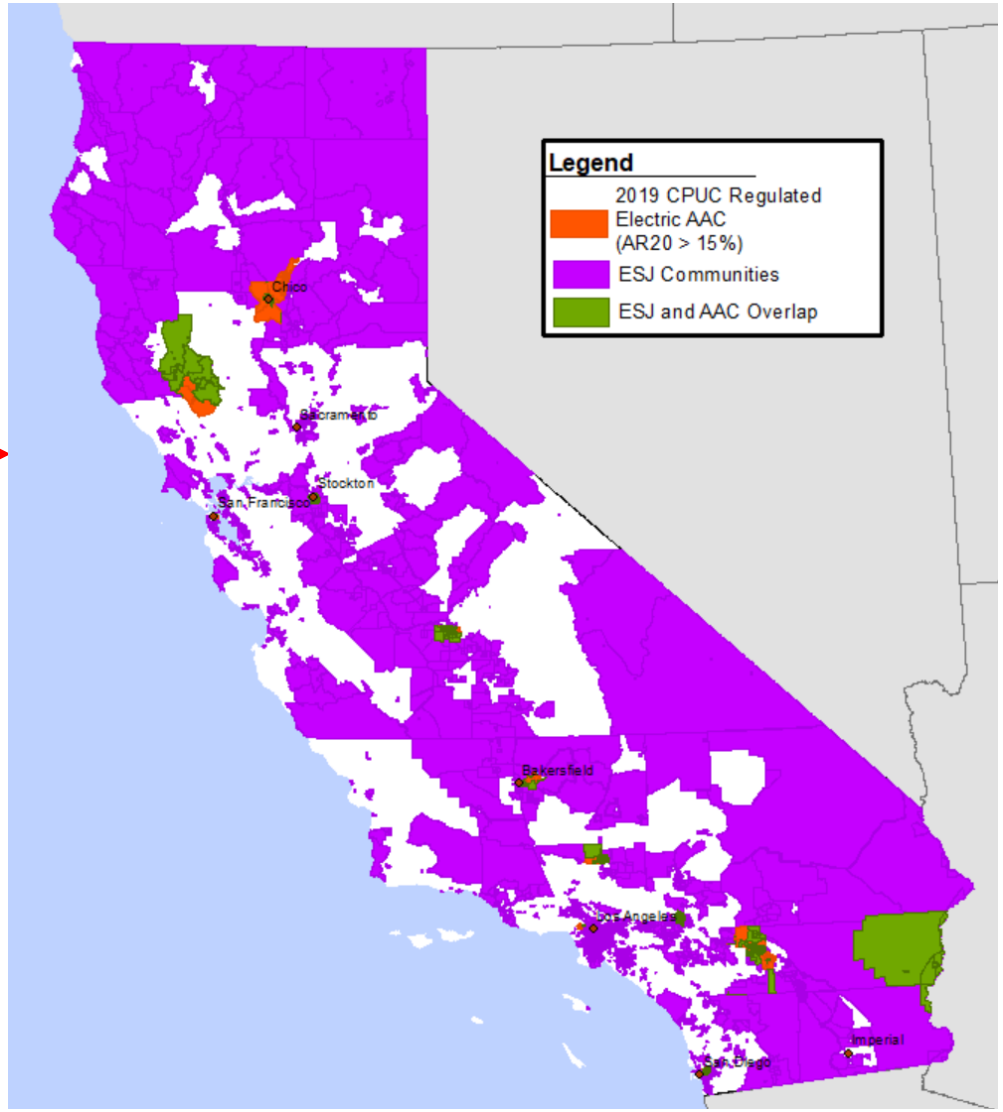
Identify Vulnerable Communities

- Developed concepts to help provide context for AR and SEVI metrics, as well as identify vulnerable communities:
  - Affordability Demarcations – Inflection points in industry-specific statewide AR_{20} distribution plots which are used to identify AR_{20} values that are relatively high
  - Areas of Affordability Concern (AAC) – areas where AR_{20} is higher than Affordability Demarcations (specific to each industry)
  - SEVI-DACs – census tracts with SEVI scores in the top 25%; variation of traditional DACs (census tracts with CalEnviroScreen scores in top 25%)
- List of census tracts that meet the definitions of AAC and SEVI-DACs will be published annually alongside Annual Affordability Report

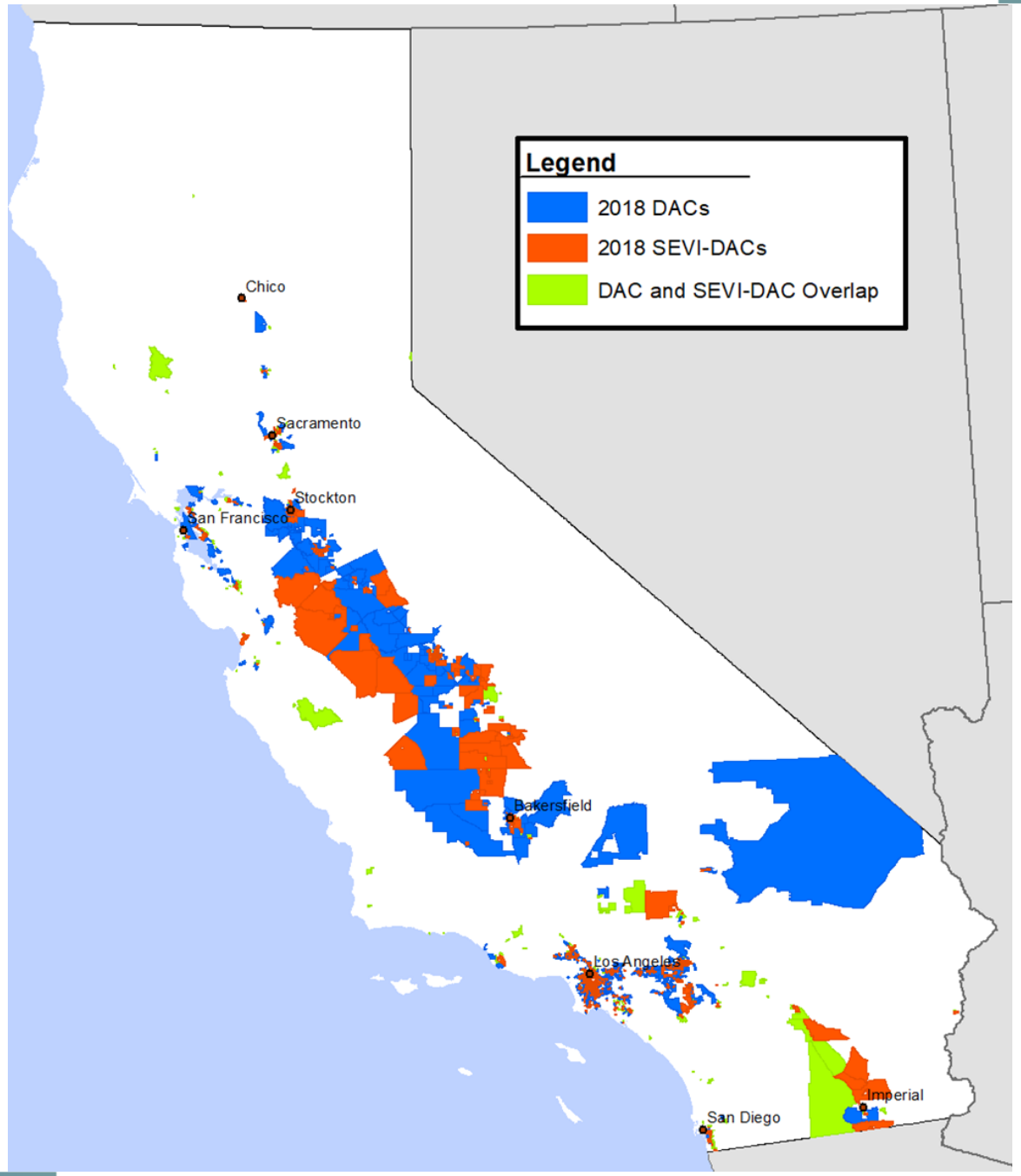
Areas of Affordability Concern (AAC)



Industry	Inflection Point %
Electric	15%
Gas	10%
Water	10%
Communications	15%



SEVI DACs


Legend
2018 DACs
2018 SEVI-DACs
DAC and SEVI-DAC Overlap
Chico
Sacramento
Stockton
San Francisco
Bakersfield
Los Angeles
Imperial
San Diego

Example Electric AAC Census Tracts in CPUC-Jurisdictional Areas

Census Tract ID	PUMA	County/City Associated with PUMA	Electric Climate Zone	PUMA/CZ Weighted Avg Electric AR20
06037185310	03735	Los Angeles County--LA City (Mount Washington, Highland Park & Glassell Park)	Los Angeles Dep of Water & Power	15.2%
06045010802	03300	Lake & Mendocino Counties	PG&E P	15.5%
06045011800	03300	Lake & Mendocino Counties	PG&E P	15.5%
06037460800	03718	Los Angeles County (Central)--Pasadena City	Los Angeles Dep of Water & Power	17.8%
06045011700	03300	Lake & Mendocino Counties	PG&E P	15.5%
06037101300	03708	Los Angeles County (North)--LA City (Northeast/Sunland, Sun Valley & Tujunga)	Los Angeles Dep of Water & Power	25.4%
06037103101	03708	Los Angeles County (North)--LA City (Northeast/Sunland, Sun Valley & Tujunga)	Los Angeles Dep of Water & Power	25.4%
06037103102	03708	Los Angeles County (North)--LA City (Northeast/Sunland, Sun Valley & Tujunga)	Los Angeles Dep of Water & Power	25.4%
06037103400	03708	Los Angeles County (North)--LA City (Northeast/Sunland, Sun Valley & Tujunga)	Los Angeles Dep of Water & Power	25.4%
06065044405	06502	Riverside County (Central)--Cathedral City, Palm Springs & Rancho Mirage Cities	SCE 15	15.0%

Implementation Recommendations

Interpretation of Results

Energy Industry

3:45 pm – 4:05 pm

Bridget Sieren-Smith, Energy Division

Water Industry

Communications Industry

Energy Division Implementation Proposal - Understanding Affordability of Proposed Rate Increases (Use Case #1)

- Implementation proposal centers on an **affordability analysis**
- What is an affordability analysis?
  - ➢calculation of the affordability metrics for a single proceeding only
  - ➢interpretation of the metrics calculated
- Who is responsible for presenting the affordability analysis?
  - ➢The large energy IOUs and the Small and Multi-Jurisdictional Utilities (SMJU) present calculations and interpretation
  - ➢other stakeholders, including intervenors in proceedings, may provide additional interpretation
- When is an affordability analysis required?
  - ➢all General Rate Cases (GRC) when application is filed
  - ➢other non-GRC utility ratesetting applications with a proposed revenue requirement increase greater than one percent
  - ➢updated affordability analysis may be required at other points during the proceeding

Affordability Analysis Reporting Requirements - Data

- Example uses SCE's Q1-2021 CRT and SCE's 2021 GRC Track 3 Request, which was used for the case example in the Staff Proposal.
  - Current and proposed illustrative Non-CARE and CARE residential monthly full usage bills on an annual basis by climate zone, by basic and all-electric service.
    Note: SCE CRT did not have full usage bills for all-electric service until Q3-2021 CRT.

Baseline Terr Code	Non-CARE				CARE			
	Basic		All-Electric		Basic		All-Electric	
	2021 Current Average Monthly Bill ($)	2022 Proposed Average Monthly Bill ($)	2021 Current Average Monthly Bill ($)	2022 Proposed Average Monthly Bill ($)	2021 Current Average Monthly Bill ($)	2022 Proposed Average Monthly Bill ($)	2021 Current Average Monthly Bill ($)	2022 Proposed Average Monthly Bill ($)
5	145.95	151.49	X.XX	X.XX	117.28	121.73	X.XX	X.XX
6	117.18	121.62	X.XX	X.XX	63.94	66.35	X.XX	X.XX
8	135.25	140.38	X.XX	X.XX	76.44	79.33	X.XX	X.XX
9	159.80	165.87	X.XX	X.XX	89.44	92.83	X.XX	X.XX
10	178.19	184.96	X.XX	X.XX	114.94	119.31	X.XX	X.XX
13	185.46	192.51	X.XX	X.XX	116.70	121.13	X.XX	X.XX
14	166.00	172.31	X.XX	X.XX	115.01	119.38	X.XX	X.XX
15	213.00	221.11	X.XX	X.XX	140.91	146.26	X.XX	X.XX
16	124.00	128.71	X.XX	X.XX	95.38	98.99	X.XX	X.XX

SCE 2021 GRC Track 3 Illustrative Bills

Affordability Analysis Reporting Requirements - Data

- Current and proposed illustrative Non-CARE residential monthly essential usage bills by climate zone, by basic and all-electric service.

Baseline Terr Code	Basic		All-Electric	
	2021 Current Average Monthly Essential Usage Bill ($)	2022 Proposed Average Monthly Essential Usage Bill ($)	2021 Current Average Monthly Essential Usage Bill ($)	2022 Proposed Average Monthly Essential Usage Bill ($)
5	129.48	134.39	180.10	186.95
6	80.99	84.04	82.87	86.00
8	80.51	83.55	83.81	86.98
9	97.70	101.40	97.47	101.15
10	104.29	108.24	118.18	122.66
13	112.06	116.31	173.27	179.86
14	101.47	105.31	144.32	149.79
15	156.79	162.75	143.37	148.82
16	94.17	97.73	141.49	146.86

SCE 2021 GRC Track 3 Illustrative Essential Usage Bills

- Calculation in the Affordability Ratio Calculator of current and proposed AR20 and AR50 by climate zone.

Climate Zone	AR20		AR50	
	2021 Current	2022 Proposed	2021 Current	2022 Proposed
5	15.5%	15.7%	3.2%	3.2%
6	6.9%	6.9%	1.6%	1.6%
8	7.9%	7.8%	1.9%	1.9%
9	9.6%	9.5%	2.1%	2.1%
10	8.6%	8.5%	2.4%	2.4%
13	12.9%	13.0%	3.7%	3.7%
14	14.8%	14.7%	3.1%	3.1%
15	19.0%	18.8%	4.6%	4.6%
16	8.9%	9.0%	2.6%	2.6%

SCE 2021 GRC Track 3 Illustrative AR_{20} and AR_{50}

Affordability Analysis Reporting Requirements - Data

- For climate zones with a current or proposed AR20 greater than the affordability demarcations in the most recent Annual Affordability Report, a breakdown by Public Use Microdata Areas (PUMA) of the AR20 values.

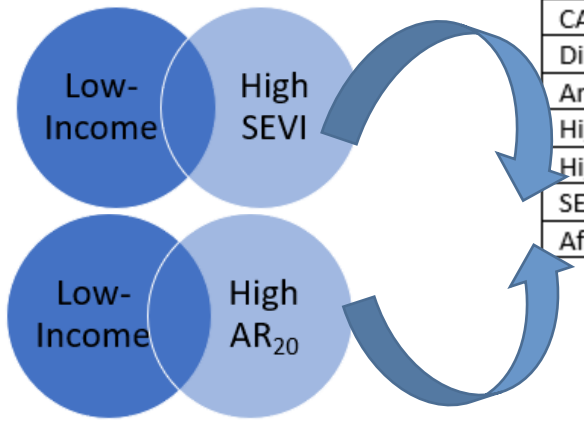
Climate Zone	PUMA	County/City	AR_{20}	
			2021 Current	2022 Proposed
5	08303	Santa Barbara County--South Coast Region PUMA	16.6%	16.8%
15	06501	Riverside County (East)--Indio, Coachella, Blythe & La Quinta (East) Cities PUMA	25.6%	25.5%
15	02500	Imperial County--El Centro City PUMA	21.3%	21.5%
15	06515	Riverside County--Palm Desert, La Quinta (West) & Desert Hot Springs Cities PUMA	19.5%	19.5%
15	06502	Riverside County (Central)--Cathedral City, Palm Springs & Rancho Mirage Cities PUMA	18.3%	18.2%
15	07101	San Bernardino County (Northeast)--Twentynine Palms & Barstow Cities PUMA	16.8%	16.8%

SCE 2021 GRC Track 3 Illustrative AR20 Greater than 15 Percent Climate Zones by PUMA

- Calculation of current and proposed HM, indicating the source of the minimum wage data.

Energy Division Implementation Proposal - Using affordability metrics to prioritize program resources for eligible customers (Use Case #2)

- Recent Energy Savings Assistance (ESA) Decision (D.21-06-015) serves as a model for how metrics can be used in proceedings for geographic targeting of resources:
  - Required IOUs to file a joint Tier 2 advice letter detailing what level of no-cost energy efficiency treatment measures (basic, enhanced, or advanced) would be offered to different low-income customer segments and provided a "menu" of customer segments to consider.



By Financials[53]	By Location	By Health Condition
CARE	DAC	Medical Baseline
Disconnected	Rural	Respiratory
Arrearages	Tribal	Disabled
High Usage	PSPS Zone	
High Energy Burden	Wildfire Zone	
SEVI	Climate Zone	
Affordability Ratio	CARB Communities	

  - The ESA Decision provides a new model for looking at the customer segmentation process and explicitly considers that this model may be enhanced by the affordability metrics.

Implementation Recommendations

Interpretation of Results

Energy Industry

Water Industry

4:05 pm – 4:25 pm

Jefferson Hancock, Water Division

Communications Industry

Affordability Metrics Calculations

- Affordability calculations in proceedings and advice letters
  - Class As – submit affordability calculations with revenue impact >1%
    - From Rules of Practice & Procedure 3.2
    - AR using AR Calculator, HM calculated by utilities
  - Required with application/AL submittal, with proposed Settlement Agreement, and before PD/draft resolution
  - "Final" calculations may be performed by WD staff if rates are confidential

Affordability Analysis

- In addition to calculation, formal proceedings should include discussion/interpretation of the metrics, including:
  - Discuss how affordability will change as a result of the request
  - Compare metrics for current rates to metrics after the proposed change
  - Justify the change in affordability in relation to the need for a rate increase
  - Discuss AR scores in relation to the median among all similar service territories (Class A ratemaking areas)
    - Median values to be provided in Annual Affordability Reports
  - Provide recommendations for improving affordability
    - Include actions by the utility & actions by the CPUC

Cost and Rate Tracker

- Template developed by Public Advocates as seen earlier
  - Included in Phase II scope by September 10, 2020 Motion to Amend
- Recommend each Class A submit in next GRC, and update with each rate increase thereafter
- "Current bills" input to CRT should match inputs to calculator tool

Implementation Recommendations

Interpretation of Results

Energy Industry

Water Industry

Communications Industry

4:25 pm – 4:45 pm

Wylen Lai, Communications Division

Communications Industry Recommendations

Apply the affordability framework to evaluate the cost of essential communications services.

$6 billion broadband initiative

- Apply affordability framework as an overarching filter for future projects

CPUC's public purpose programs

- CASF infrastructure grant applicants

Closing

4:45 pm – 5:00 pm

ALJ Camille Watts-Zagha

https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability