

# ORR Amendment to Expand Executive Committee Membership

Executive Committee  
March 24, 2023



## Membership and Purpose

- Appointed Annually in January of each year
- Consists of five primary Board members
- Members serve one-year terms, with no limit on number of terms
- Address policy, operational and organizational matters and perform such other responsibilities, tasks or activities as delegated to it by the Board



# Amendment Request

Amend Operating Rules and Regulations language to reflect the Executive Committee can consist of up to six Board members

- Allows flexibility for the Board to elect six members instead of limiting to five
- SVCE's other committees allow up to six members
- Adds an additional seat for another member of the Board to participate

# SVCE's Operating Rules and Regulations

- First adopted in 2016
- Amended previously to include/revise various administrative matters
- Last amended in January 2021
- Requires a multi-step process for amendment approval:
  - 1. Proposal at regular board meeting
  - 2. Action at next or later regular meeting of the Board for final adoption
    - Proposed amendment must be distributed with a written notice of the amendment at least 10 days prior to the date of the meeting at which final action on amendment is to be taken



## SILICON VALLEY CLEAN ENERGY AUTHORITY

### OPERATING RULES AND REGULATIONS

#### ARTICLE I

##### FORMATION

The Silicon Valley Clean Energy Authority (the "Authority") was established on March 31, 2016 pursuant to the execution of the Silicon Valley Clean Energy Authority Joint Powers Agreement (the "Agreement") by the County of Santa Clara, the Cities of Campbell, Cupertino, Gilroy, Los Altos, Monte Sereno, Morgan Hill, Mountain View, Saratoga and Sunnyvale and the Towns of Los Altos Hills and Los Gatos. The members of the Authority are referred to as Party or Parties in these Operating Rules and Regulations. As defined by the Agreement, these Operating Rules and Regulations consist of rules, regulations, policies, bylaws and procedures governing the operation of the Authority.

#### ARTICLE II

##### PURPOSES

The Authority is formed to study, promote, develop, conduct, operate, and manage energy and energy-related climate change programs, and to exercise all other powers necessary and incidental to accomplishing this purpose. These programs include but are not limited to the establishment of a Community Choice Aggregation Program known as Silicon Valley Clean Energy in accordance with the terms of the Agreement.

#### ARTICLE III

##### BOARD OF DIRECTORS

Section 1. Appointment of Chair and Vice-Chair. The Board shall appoint from among themselves by majority vote a Chair and Vice-Chair. The Chair and Vice-Chair shall be appointed for one-year terms expiring at the annual meeting held in January of each year. As provided by the Agreement, there are no limits on the number of terms that a Board member may serve as Chair or Vice-Chair.

Section 2. Appointment of Secretary and Treasurer. The Secretary and Treasurer shall be appointed by the Board for one-year terms expiring at the annual meeting held in January of each year.

Section 3. Extension of Term of Office. If for any reason, the appointment of a Board officer is not made in January of any year, such officer shall continue to serve in his or her position until an appointment is made at a meeting of the Board.

Section 4. Removal of Officers. An officer of the board shall be subject to removal as an officer of the board at any time for any reason by a majority vote of the entire Board. |



# Proposed ORR Change

## Article V, Section 2

Executive Committee. *There shall be an Executive Committee consisting of **up to six** Board members. The duties of the Executive Committee shall be to review and provide advice to the Chief Executive Officer and the entire Board on policy, operational and organizational matters and perform such other responsibilities, tasks or activities as delegated to it by the Board.*



Should the Executive Committee approve staff's recommendation, next steps would be:

1. Propose this amendment to the Board of Directors at the April 12, 2023 Board of Directors Meeting
2. Agendize the item on Consent at the May 10, 2023 Board of Directors meeting (will provide written notice of amendment 10 days prior)
3. Agendize an action item at the May 10, 2023 meeting to appoint a sixth member to the 2023 Executive Committee



# Recommendation

Executive Committee recommend the SVCE Board of Directors approve the proposed amendment to SVCE's Operating Rules and Regulations (ORR) to expand Executive Committee membership to up to six Board members.

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Thank you



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# Middle River Power – Hanford Hybrid Natural Gas Power Plant with New Battery Energy Storage System

SVCE Executive Committee Meeting

March 24, 2023





## Executive Committee recommend to Board:

1. Delegation of authority to CEO to finalize negotiations and execute a Power Purchase Agreement with Middle River Power for the Hanford Hybrid Natural Gas Power Plant to meet Resource Adequacy and Mid-term Reliability Procurement Order Requirements;
2. Approve an exception to Board-approved Energy Risk Management Policy to manage cost associated with the Hanford PPA; and
3. Direct staff to develop a proposal to establish a fund and guidelines to mitigate emissions associated with the Hanford PPA



# Overview

January 2023

Board discussion on  
California and SVCE's  
Clean Energy Goals  
and Progress

February 2023

Board discussion on  
Reliability and need  
for natural gas  
capacity

February 2023

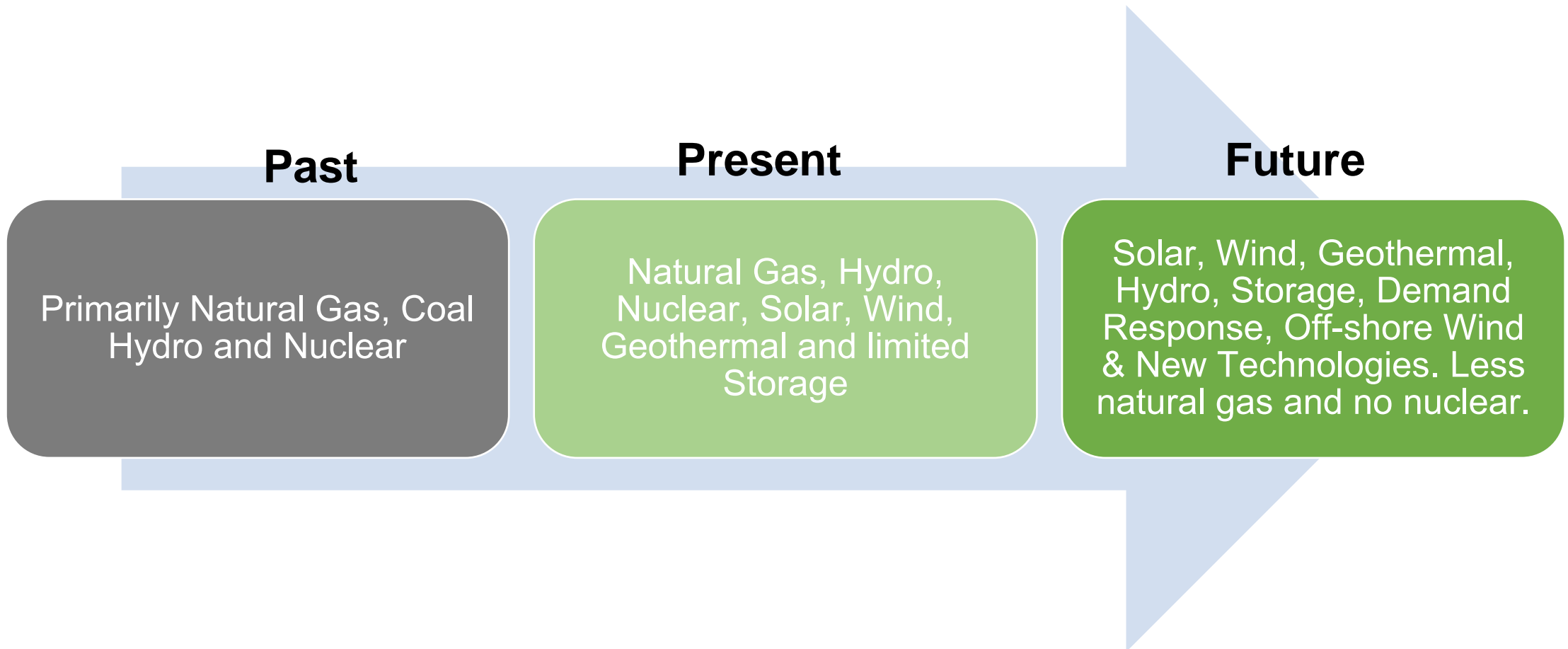
Executive Committee  
discussion on  
Resource Adequacy  
Program and  
Challenges

1. California's Clean Goals, Reliability Challenges and Requirements
2. SVCE's Energy and Capacity Portfolio, Procurement and Progress Efforts
3. Middle River Power's Hanford Hybrid Natural Gas Power Plant with Battery Energy Storage System
4. Recommendation



# California's Power Fleet in Transition

**To achieve aggressive greenhouse gas reduction goals, California must transition from a fossil based fleet to a clean source of electricity generation.**



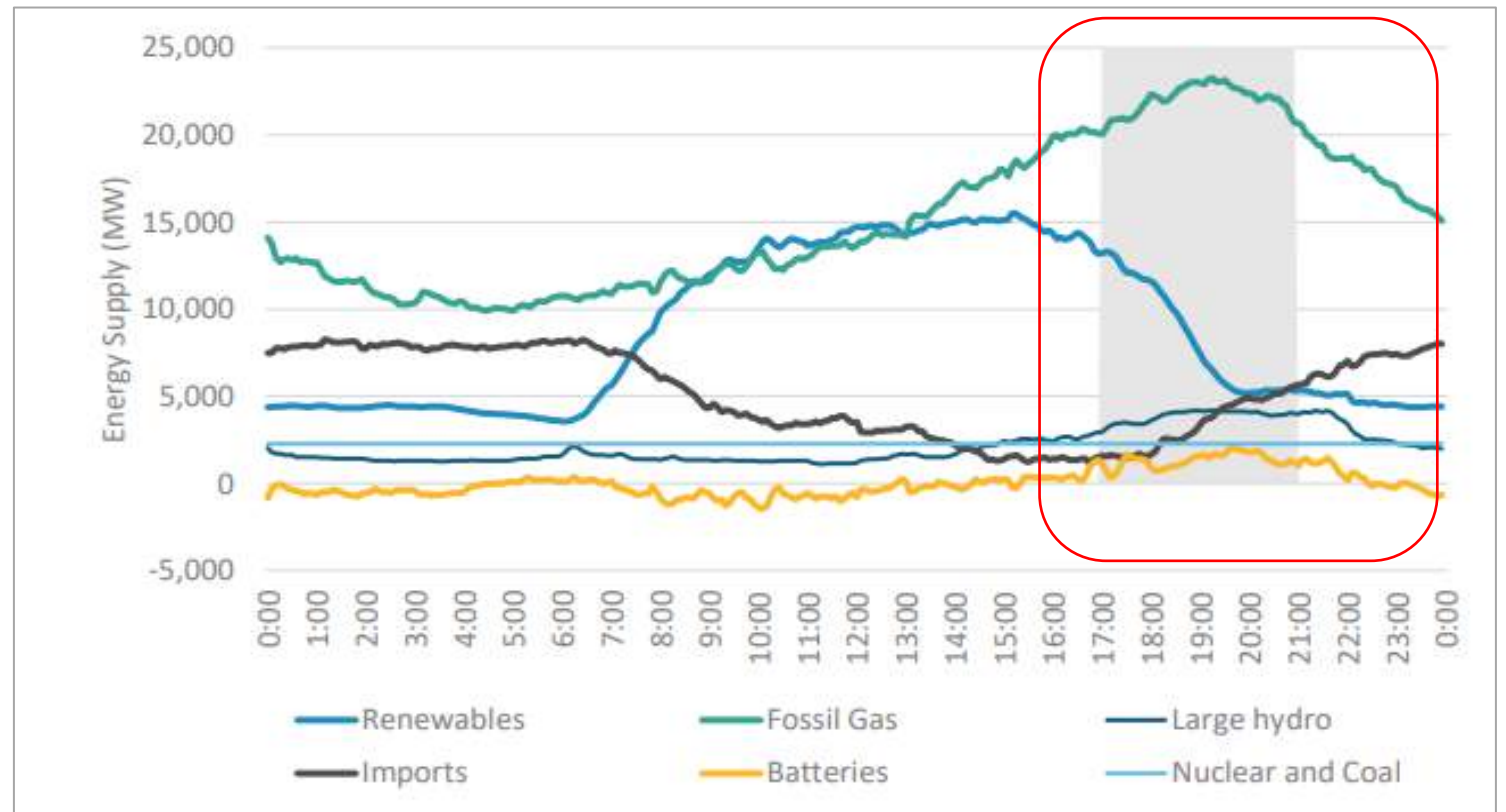




# September 6, 2022 – Gas Keeps Lights on in California

**Climate change, droughts, changes in load and resources have put a focus on how we will meet Reliability**

- The heatwave in September 2022, stressed the grid
- Load peaked in evening hours when Renewables ramped down
- Demand Response played a critical role in avoiding rolling blackouts
- Back-up generators were deployed



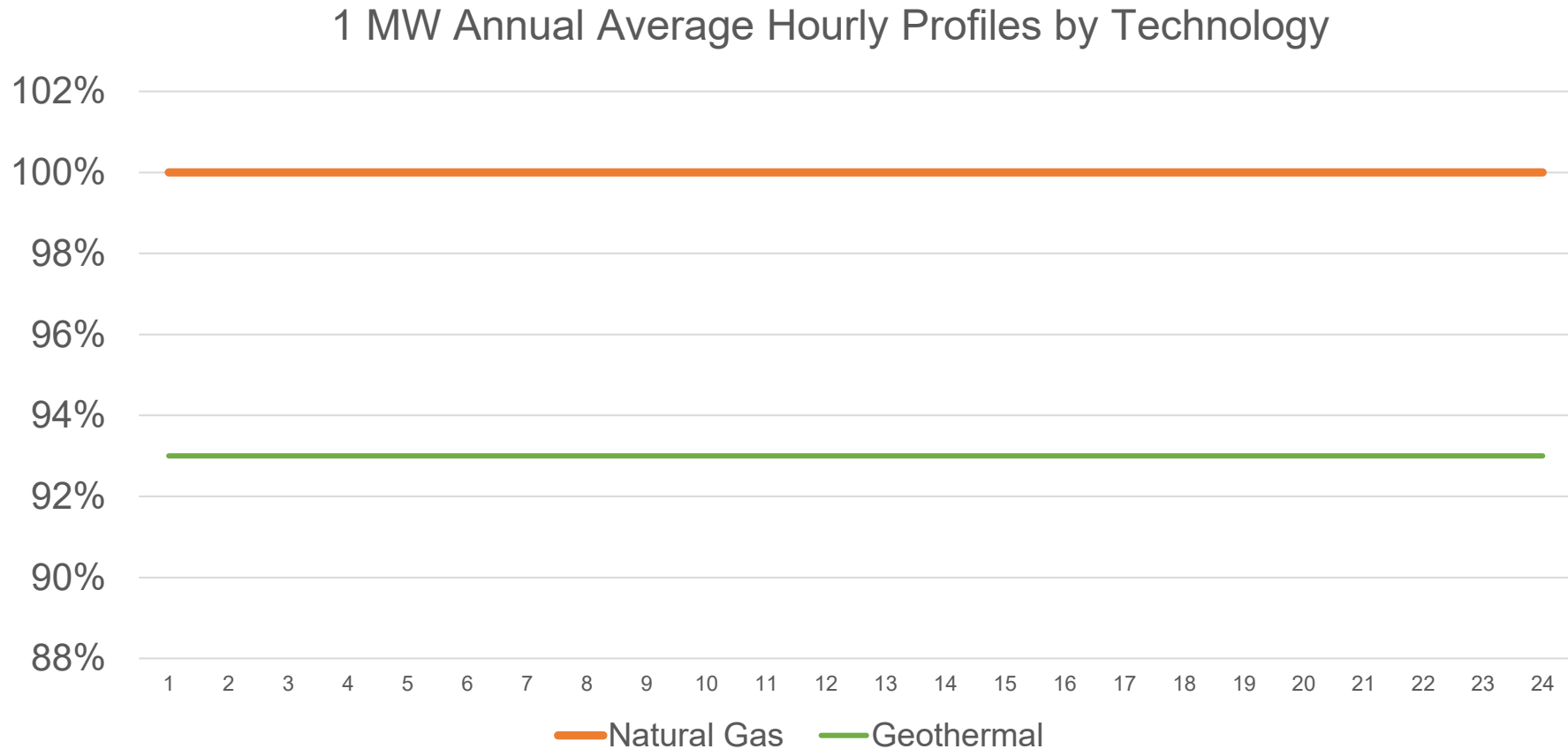
**Existing fossil gas generation continues to play a critical role in grid reliability on September 6, 2022**





# Clean Energy Generation Varies

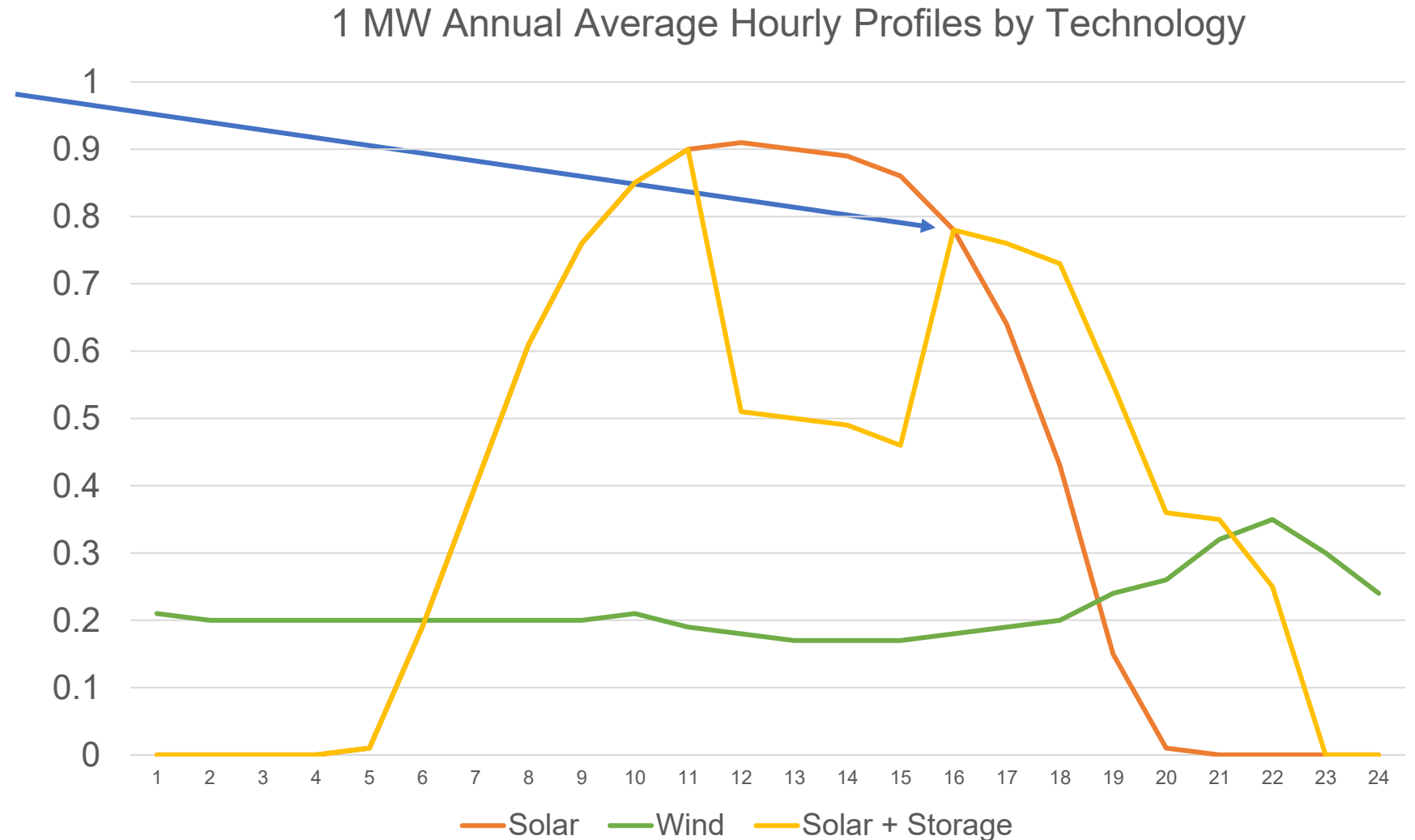
**Baseload and Quick Start Resources such as Natural Gas and Geothermal provide 24/7 reliability.**





# Clean Energy Generation Varies

Future Grid will increase reliance on optimal resource pairings such as solar and battery storage





# Resource Adequacy (RA) Program Overview

California must ensure there is sufficient Capacity to meet Demand under strained conditions

California Public Utilities Commission (CPUC) oversees RA Program

1. Determine Load Serving Entities (LSEs) obligation
2. Determine technology effectiveness
3. SVCE's RA Capacity Requirement is ~850 MWs
4. Calendar year 2023, SVCE expects to be deficient for a portion of its RA obligations and will likely face penalties
  1. Changes to obligation
  2. Changes to technology effectiveness
  3. Scarcity in market



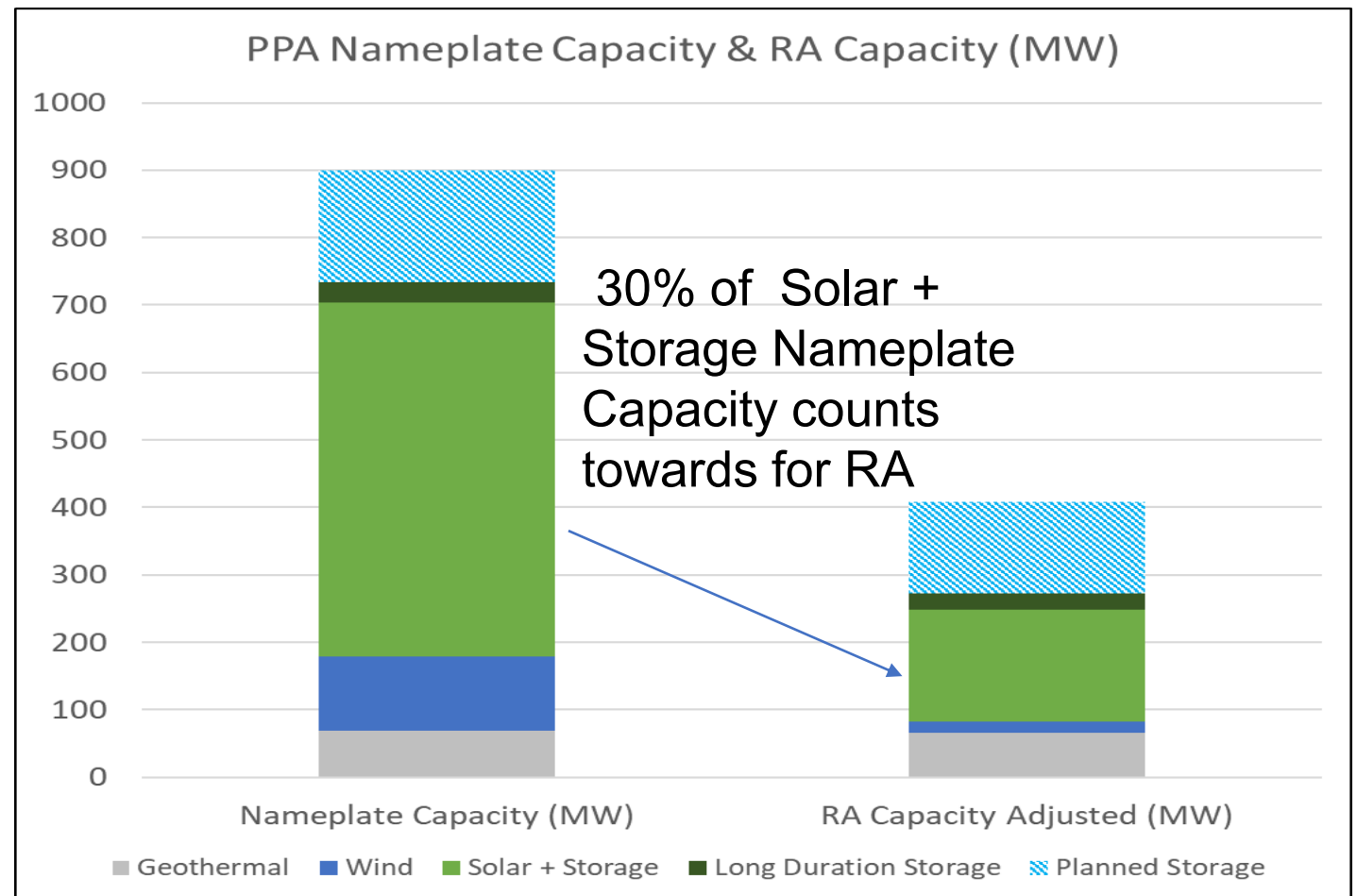
# SVCE's PPAs and their RA Capacity

**SVCE has over 900 MWs of Capacity from renewables that qualifies for about 408 MWs of RA Capacity**

To meet RA requirements with Clean capacity an additional 2000 to 2500 MW Nameplate Capacity of Solar + Storage resources are needed

Typical lead time to build new renewable resources is 3-5 years

Changes to CPUC's RA Program will continue to erode counting capacity for intermittent resources and require more nameplate capacity





# SVCE's Energy & Capacity Portfolio

- 100% of Energy needs are met by Clean resources – Renewable Portfolio Standard (RPS) and carbon-free such as Large Hydro
- By 2025 SVCE's PPAs achieve 65% RPS, 18% above California's RPS; but only meet 12% of RA requirements
- Storage capacity will meet 30% of RA Requirement but no energy
- Capacity to meet RA and reliability is met primarily through natural gas

Estimated for 2025	GWhs	Percent of Total Retail Sales	Percent of Total RA Requirement
Biomass	175	4.4%	2%
Geothermal	507	12.8%	7%
Solar	1,292	32.8%	1%
Wind	584	14.8%	2%
Large Hydroelectric	1,375	35.2%	0%
Battery Storage	0	0%	30%
Natural Gas	0	0%	58%
Total	3,933	100%	100%





# SVCE's Reliability Challenge

## **Status Quo:**

- 900 MWs of renewable projects under long-term contract to meet clean energy
- Renewable and storage capacity effectiveness is expected to decrease over time
- Natural gas power plants will continue to be needed for reliability over the next ten to 20 years
- SVCE relies primarily on short-term, natural gas RA-only capacity contracts to meet RA requirements, but market is tightening and cost are increasing

## **Adapt:**

- SVCE needs to layer in longer-term gas RA purchases to reduce sensitivities to price, supply, and compliance risk, while still planning for a clean energy transition.



# Possible Reliability Solutions

As we transition to a Clean grid, SVCE must look at all options to meet Resource Adequacy and reliability requirements

- Clean Alternatives

- New storage, stand-alone and paired with solar
- Out-of-state wind
- New and/or existing baseload renewables such as geothermal and biomass
- Distributed Energy Resources and Demand Response including Virtual Power Plants
- New Technologies

- Other Alternatives

- Long-term RA-only capacity contracts
- Natural Gas Peaker Power Plant with or without Hybridized Battery Energy Storage System (BESS)



# Clean Alternative Challenges

SVCE needs near term solutions to meet reliability requirements

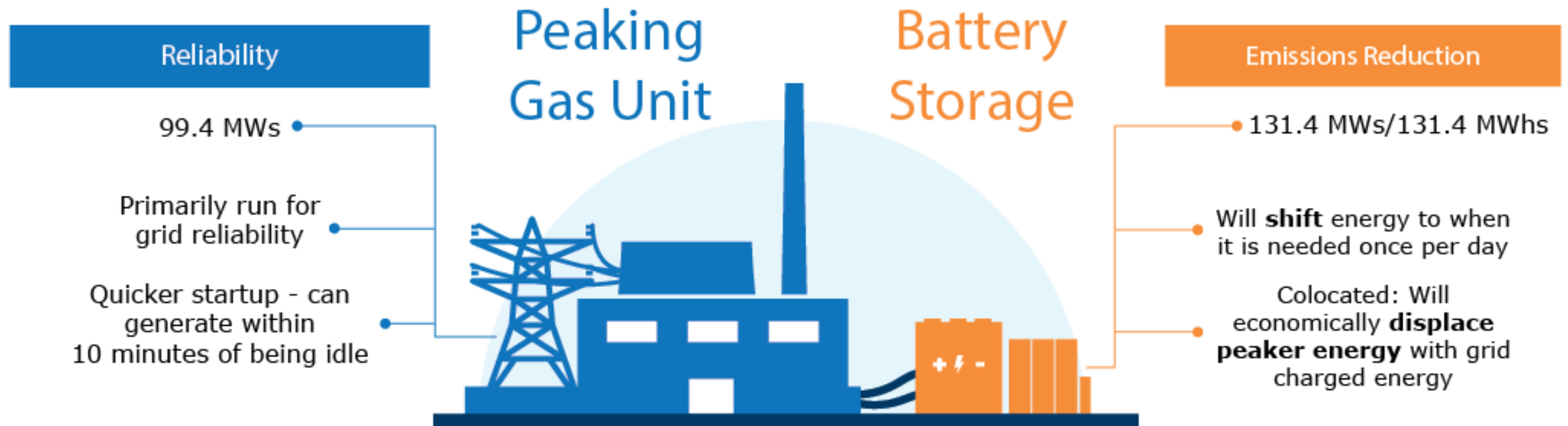
Technology Strategy	Challenges
New storage, stand-alone and paired with solar and/or wind	<ul style="list-style-type: none"><li>• Long-lead time to build (three to five years);</li><li>• Large development risk associated with supply chain, labor and interconnection</li><li>• Could result in sub-optimal portfolio if too much storage is added</li></ul>
Out-of-state wind	<ul style="list-style-type: none"><li>• Lead time</li><li>• Development risk</li><li>• Transmission to bring wind into California is expensive</li></ul>
Existing and/or new geothermal, biomass or other clean baseload renewable capacity	<ul style="list-style-type: none"><li>• Scarce resource</li><li>• Lead time</li><li>• Development risk</li><li>• Most likely to be built outside of CAISO requiring transmission.</li></ul>
Distributed Energy Resources and Demand Response including Virtual Power Plants	<ul style="list-style-type: none"><li>• Potential amount of capacity is limited</li><li>• Rules for counting towards RA are in-flux</li><li>• Long lead time</li></ul>

Additionally, SVCE faces regulatory uncertainty around future procurement orders and/or central procurement of clean capacity.



# Hanford Hybrid Natural Gas Power Plant with Battery Energy Storage System –Alternative

Middle River Power's (MRP) Hanford Natural Gas Peaker Power Plant ("Hanford") with grid-charging BESS



Over time, the BESS will compete for transmission capacity at the site and the Natural Gas Power Plant ("Peaking Gas Unit") will operate less and less, thus reducing emissions at the Hanford project location



# Hanford Project Attributes & Benefits

**Seller:** Middle River Power

**Project:**

1. **Existing** 99.4 MW Peaking Natural Gas Power Plant w/ Energy Toll and RA Capacity
2. **New BESS** 131.4 MW one-hour Lithium-ion

**Price:**

- RA Capacity fixed cost per month
- Energy Toll fixed cost per month plus Variable Operation and Maintenance adder
- Expected cost: \$280,000,000

**Expected Commercial Operation Date:** April 2024

**Term:** 12 Years

**Location:** Fresno, CA

## Resource Adequacy Capacity – 115.4 MW

- 99.4 MW from Existing Peaker Plant
- 16 MW from 131.4 MW of new BESS

## Mid-term Reliability Procurement – 16 MW

- From the new BESS

## Energy Toll

- Dispatchable energy from existing Peaker plant to be used during constrained market conditions for reliability and under limited operating constraints





# Hanford Portfolio Impacts & Benefits

Hanford will contribute significantly to SVCE's reliability and RA requirements:

- 131.4 MW of RA capacity for 12 years. ~16% of needs

Hanford will only generate energy when needed for grid stability. Estimated ~ 0.2% of load.

SVCE procures enough clean energy to meet its retail sales plus losses so that emissions associated with Hanford will be insignificant on the Power Content Label

Estimated 2025	GWhs	Percent of Total Retail Sales	Percent of Total RA Requirement
Biomass	175	4.4%	2%
Geothermal	507	11.2%	7%
Solar	1,292	11.4%	1%
Wind	584	21.6%	2%
Large Hydroelectric	1,375	35%	0%
Battery Storage	0	0%	32%
Natural Gas	0	0%	40%
Hanford – Natural Gas	Est. 8	.2%	16%
Total	3,933	100%	100%



# Environmental Impacts

- **Expected Annual Energy:** 8,000 MWh or 0.2% of SVCE's load
- **Emissions:** 0.6612 MT CO<sub>2</sub>e/MWh x 8000 MWhs = 5,289.6 MT CO<sub>2</sub>e per year
- Other types of emissions are generated at the site
- BESS will compete with gas power plant
- GHG emissions are expected to decrease over time
- Consider establishing a fund to mitigate impacts
- Fund details to be discussed with Board and other stakeholders



# Middle River ERM Policy Exception

Board-approved Energy Risk Management (ERM) Policy adopted Nov 2021, section 6.3

## 6.3 Approved Transactions

Authorized transactions which SVCE authorized traders can utilize must be consistent with this Policy. Transactions must be directly related to the procurement and/or administration of:

- electric energy,
- reserve capacity,
- transmission and distribution service,
- ancillary services,
- congestion revenue rights (CRRs),
- renewable energy,
- renewable energy certificates (RECs),
- basis transactions,
- greenhouse gas emissions allowances,
- **tolling agreements**, and
- bilateral purchases of energy products.

- ERM Policy allows for tolling agreements
- Not explicit for gas tolling agreements
- Staff will seek Board approval of the Hanford PPA with the gas toll
- An exception to the ERM Policy is needed to enable any gas transactions needed to manage the risks from the Hanford PPA



# SVCE's Reliability Near-term Solution

- The Hanford Hybrid Natural Gas Power Plant with BESS is a sustainable and affordable strategy to meet reliability.
- The Hanford PPA is primarily being sought for Resource Adequacy Capacity
- The new BESS helps meet Mid-term Reliability Procurement Order
- Emissions are low and will decrease over time with the inclusion of the BESS
- The project has little development risk
- Relative to alternative Clean Capacity resources, Hanford is competitively priced and adds portfolio value
- The term of the Hanford PPA aligns with California's transition to a Clean grid



# Request from Executive Committee

## Recommend the Board:

1. Delegate Authority to CEO to finalize and execute a Power Purchase Agreement with Middle River Power for its Hybrid Natural Gas Power Plant with Battery Energy Storage System, with the following parameters:
  - 99.4 MW of Resource Adequacy Capacity from Natural Gas Power Plant
  - New 131.4 MW, one-hour BESS at site for an additional 16 MW of Resource Adequacy and Mid-term Reliability Procurement Order compliant capacity
  - Option to utilize toll energy under certain conditions to meet reliability
  - 12-year term with an expected on-line date of April 2024
  - Not to exceed dollar amount: \$280,000,000
2. Approve exception to the Energy Risk Management Policy to enable gas transactions needed to manage Hanford PPA
3. Direct staff to develop a policy and/or guidelines to set aside funds to be used for programs and/or projects to mitigate emissions associated with energy produced by the Hanford project resulting from the Hanford PPA



- Back up





# Hanford – Tolling Agreement

**SVCE Pays a Fixed  
Monthly Price to use the  
Facility**



**SVCE procures Daily  
Natural Gas and delivers  
via pipeline it to the  
facility**



**SVCE submits offers to  
the CAISO Market and  
generates electricity**

Like a car lease, the purchaser, in this case SVCE, will pay a fixed price to the seller to use the facility and generate electricity.

- SVCE will be responsible for procuring natural gas fuel, measured in Metric Million British Thermal Units or “MMBtus”, for the power plant to operate.
- Hanford has an efficiency rating for converting natural gas to electricity, known as a “Heat Rate” that will be used as the basis for determining economic dispatch
  - Hanford’s Heat Rate is 10.2 MMBtus per MWh
- Because Hanford is a peaking facility, it will only generate electricity when market revenues exceed its cost to generate
- Hanford has a limit of 2000 hours that it can run each year
- SVCE may need to execute forward gas contracts to lock in price

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# Rio Bravo Fresno Biomass

SVCE Executive Committee Meeting  
March 24, 2023





# Request and Justification

Recommend Board delegate authority to CEO to execute a short-term power purchase agreement with Rio Bravo Fresno Biomass energy, with the following parameters:

- Capacity: 25 megawatts
- Est. Annual Generation: 175,000 MWhs
- Price: fixed dollar per megawatt hour
- Term: 2.75 years, May 1, 2023 through December 31, 2025
- Not-to-exceed dollar amount: \$60,000,000

Rio Bravo Fresno Biomass is needed to meet Renewable Portfolio Standard and Resource Adequacy requirements for calendar years 2023, 2024 and 2025

Rio Bravo Fresno is not an enabled counterparty with SVCE and therefore the Board-approval or delegation of authority to the CEO is necessary.



# Rio Bravo Fresno Biomass

Capacity: 25 megawatts  
Est. Annual Generation: 175,000  
MWhs  
Term: 2.75 years, May 1, 2023 through  
December 31, 2025

**Renewable Portfolio Standard (RPS)**  
**PCC1:** 4 to 5% per year

**Resource Adequacy Capacity:** 25 MW,  
24-hour RA which will be effective in  
meeting RA reform in 2025

## Background

Rio Bravo Fresno Biomass is located in California's agricultural region in the community of Malaga. RBF was built in 1988

## Fuel Source

Agricultural pruning's and urban wood

## Technology Used

The circulating fluidized bed (CFB) boiler technology used allows for a more complete and efficient burn of the biomass, thus air pollutants are dramatically reduced.

**Emissions Factor:** .04  
MTCO<sub>2</sub>e/MWh (equates to  
about 1lb of Emissions on  
SVCE's Power Content Label)





# Request and Next Steps

Recommend Board delegate authority to CEO to execute a short-term power purchase agreement (PPA) with Rio Bravo Fresno Biomass energy, with the following parameters:

- Capacity: 25 megawatts
- Est. Annual Generation: 175,000 MWhs
- Price: fixed dollar per megawatt hour
- Term: 2.75 years, May 1, 2023, through December 31, 2025
- Not-to-exceed dollar amount: \$60,000,000

## Next Steps:

- Seek Board approval on April 12, 2023
- Finalize and execute PPA
- Provide fully executed PPA to Board



# Electrification Discount Design – Executive Committee Discussion

March 24<sup>th</sup>, 2023





# Agenda

1. Background
2. Discount Design
3. Takeaways & Discussion

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# 1. Background



# Today we're exploring updating our residential electrification discount (E -ELEC rate)

The Board recently approved \$9.5M to fund a multi-year discount to the E -ELEC rate

- PG&E's new **E-ELEC** ("Electric Home") rate is available to residential customers with **a heat pump, HPWH, EV, and/or ESS**
- E-ELEC is currently **unavailable to NEM** customers
- A **flat 10% discount** is currently in place for SVCE's E-ELEC residential rate
- Staff informed Board we would **reevaluate discount design** in the coming months
- For **equitable access to electrification** , the Board simultaneously voted to approve \$9.5M in additional funding for a **multifamily direct -install program**



# There is opportunity to better align the discount with SVCE's decarbonization mission

The electrification discount was established to **support electrification** by **reducing on -bill impacts** of replacing gas appliances.

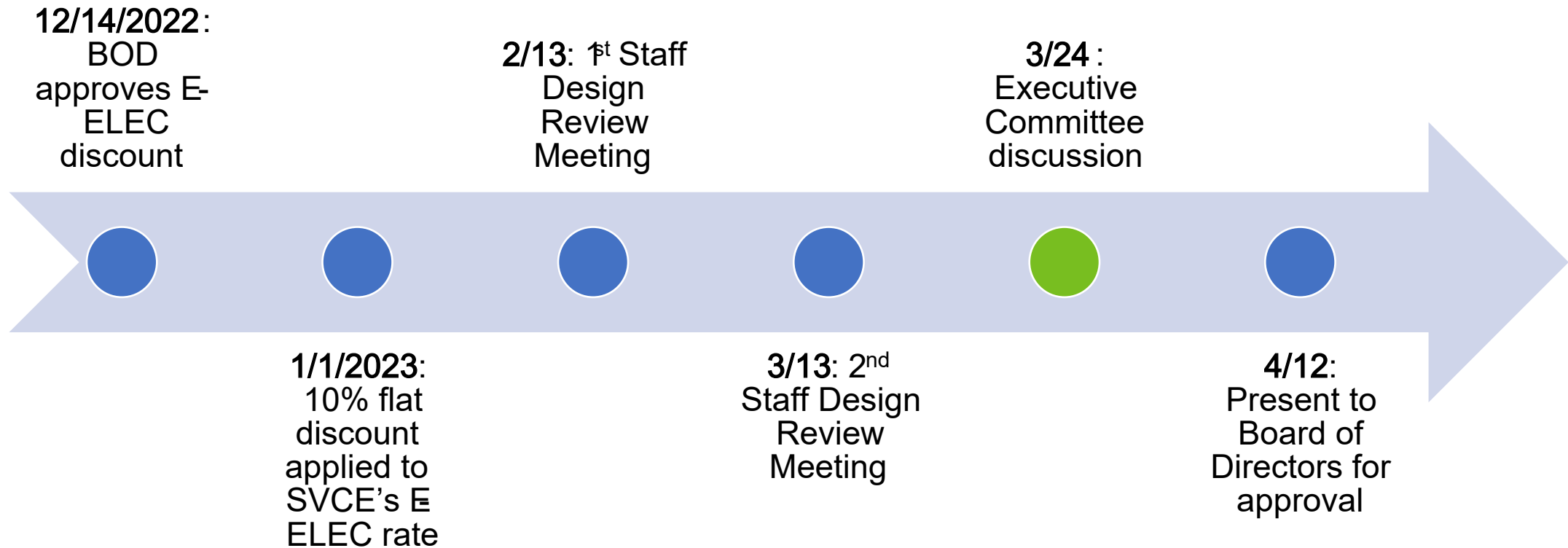
*However...*

We have the opportunity to go further by structuring our discount to promote **beneficial electrification** :

- Lower customer energy bills
- Reduce grid stress
- Better align electricity usage with solar and wind generation



# We've been working on the discount design update for several months, and plan to bring it to the BOD in April





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## 2. Discount Design



# We evaluated 4 different discount approaches based around TOU periods

1. **Flat 10%**– discount applied equally across all TOU periods
2. **TOU Standard** – discount applied only to Off-Peak period
3. **TOU Plus** – increased Peak rate, deeper discount for OffPeak
4. **TOU Super** – even more increased Peak, even deeper OffPeak discount



TOU = Timeof-Use





# Beneficial Electrification is supported by the cost difference between Peak and Off -Peak periods

## SVCE's EELEC Generation Discount Rates per TOU Period

		Flat 10%	TOU Std	TOU Plus	TOU Super
Winter	Off-Peak	-10%	-20%	-25%	-30%
	Partial-Peak	-10%	0%	0%	0%
	Peak	-10%	0%	+5%	+10%
Summer	Off-Peak	-10%	-20%	-25%	-30%
	Partial-Peak	-10%	0%	0%	0%
	Peak	-10%	0%	+5%	+10%

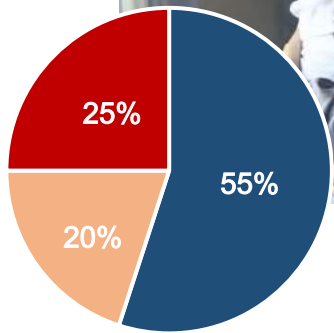


# We evaluated three different customer profiles to gauge the impact of discounts

## Average Customer



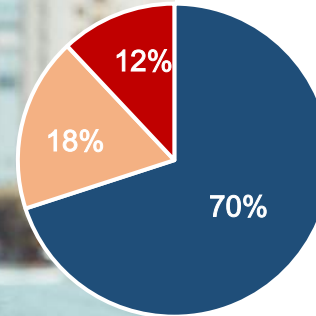
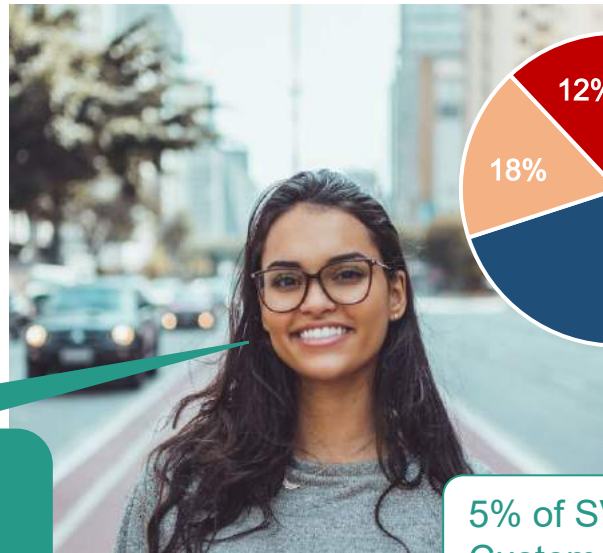
Sure, I care about my energy bills, but I'm busy.



90% of SVCE Customers

I've got all my appliances programmed to minimize my carbon footprint, it's awesome!

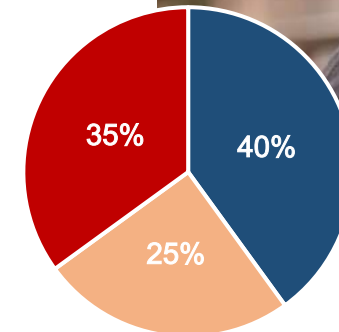
## Savvy Customer



5% of SVCE Customers

Since when is it a crime to love late-afternoon air conditioning?

## Heavy Peaker

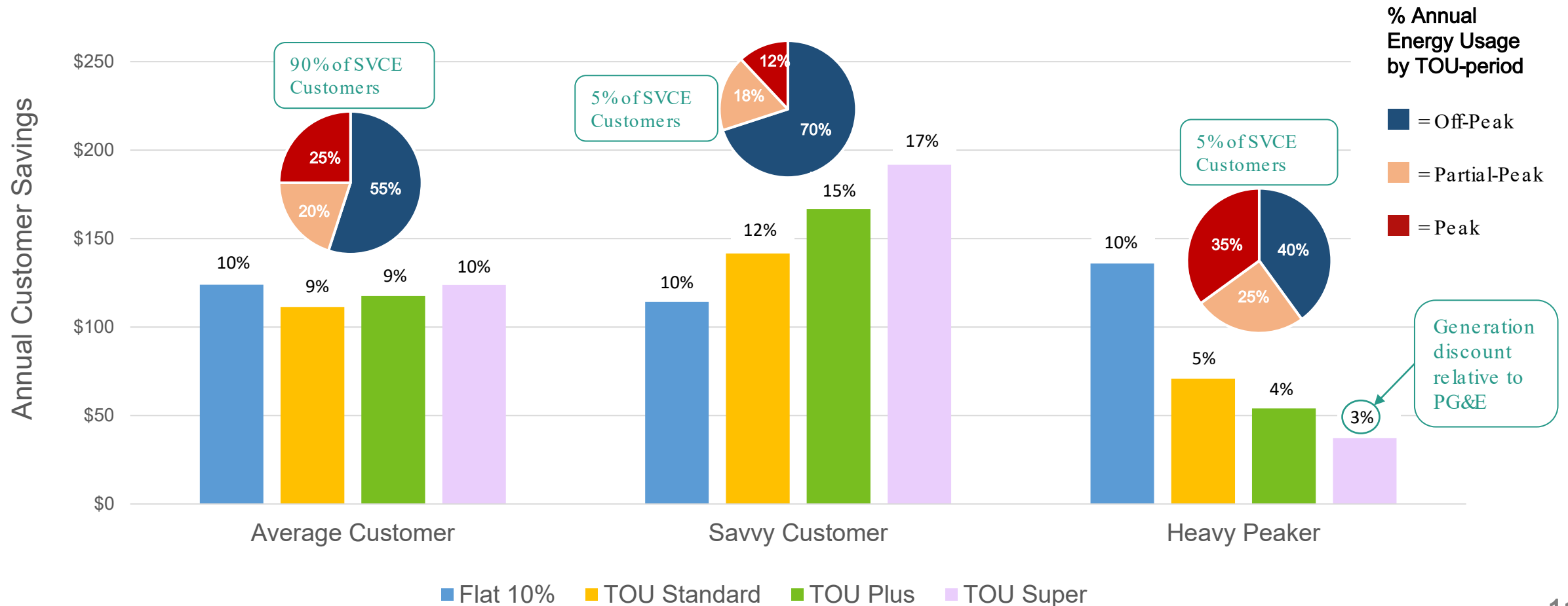


5% of SVCE Customers



# The average customer could ~2x their discount through behavioral changes on TOU Super

## Annual Customer Generation Discount vs PG&E's E-ELEC





# Customer Journey – Electrifying the typical Single-Family Home



## MEET AVERAGE CUSTOMER

Average Customer pays ~\$270/month for gas & electricity.



## RETROFITS TO HPWH

Average Customer saves an average \$6/month after retrofitting their heat pump water heater (HPWH).



## ENROLLS IN E-ELEC RATE

Average Customer saves an extra \$15/month (\$21/month total savings) after enrolling in E-ELEC rate with SVCE's TOU Discount.



## RETROFITS FURNACE TO HEAT PUMP

Average Customer saves an extra \$11/month (\$32/month total savings) after retrofitting their furnace to heat pump.



## SHIFTS ENERGY USAGE OFF-PEAK

Average Customer saves an extra \$16/month (\$48/month total savings) after shifting their energy usage off-peak.



## REDUCE YOUR BILLS, NOT YOUR LIFESTYLE

Be like Average Customer and save \$48/month while still enjoying the same level of comfort and convenience at home.



A background image of a wind farm on rolling green hills under a clear sky. Several wind turbines are visible, with one in the foreground on the left and others further back on the hills. The image has a teal/green color overlay.

## 3. Takeaways & Discussion



# Summary of Key Takeaways

- We can use our discount to **encourage beneficial electrification** to reduce customer bills and align with our decarb mission
- A flat discount structure promotes the **opposite** – the more Peak energy used, the bigger the reward
- This is a **low/no risk opportunity** to pilot a customized rate that promotes behavioral changes – the more a customer shifts their usage, the bigger their discount becomes
- We can **leverage findings** to inform future custom rates that support affordable electrification for our customers





# Staff Recommendation & Open Items

## Staff Recommendation to BOD:

- Update the E-ELEC discount to reflect the “TOU Super” design structure

## Open Items for Today’s Discussion:

1. Would you support the staff recommendation to adopt the “TOU Super” discount design?
2. Would you support the decision not to include bill-protection?
  - *Very unlikely* a customer would pay more than with PG&E (8 out of 240,000)
3. Should we guarantee the discount until 2027 to align with BAAQMD’s zero NOx appliance rulemaking?

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# APPENDIX SLIDES



# What is E-ELEC?

- E-ELEC (“Electric Home”) is **non-tiered, opt-in residential** rate schedule
- Intended to **incentivize residential electrification** by lowering volumetric charges on transmission and distribution (T&D) rate components
- Includes a **fixed monthly charge** of \$15 to recover PG&E’s fixed costs (meter reading, maintenance, service, O&M, etc.)
- Residential customers are eligible if the customer uses electricity for any of the following:
  - Heat pump space and/or water heating,
  - EV Charging, or
  - Energy storage charging

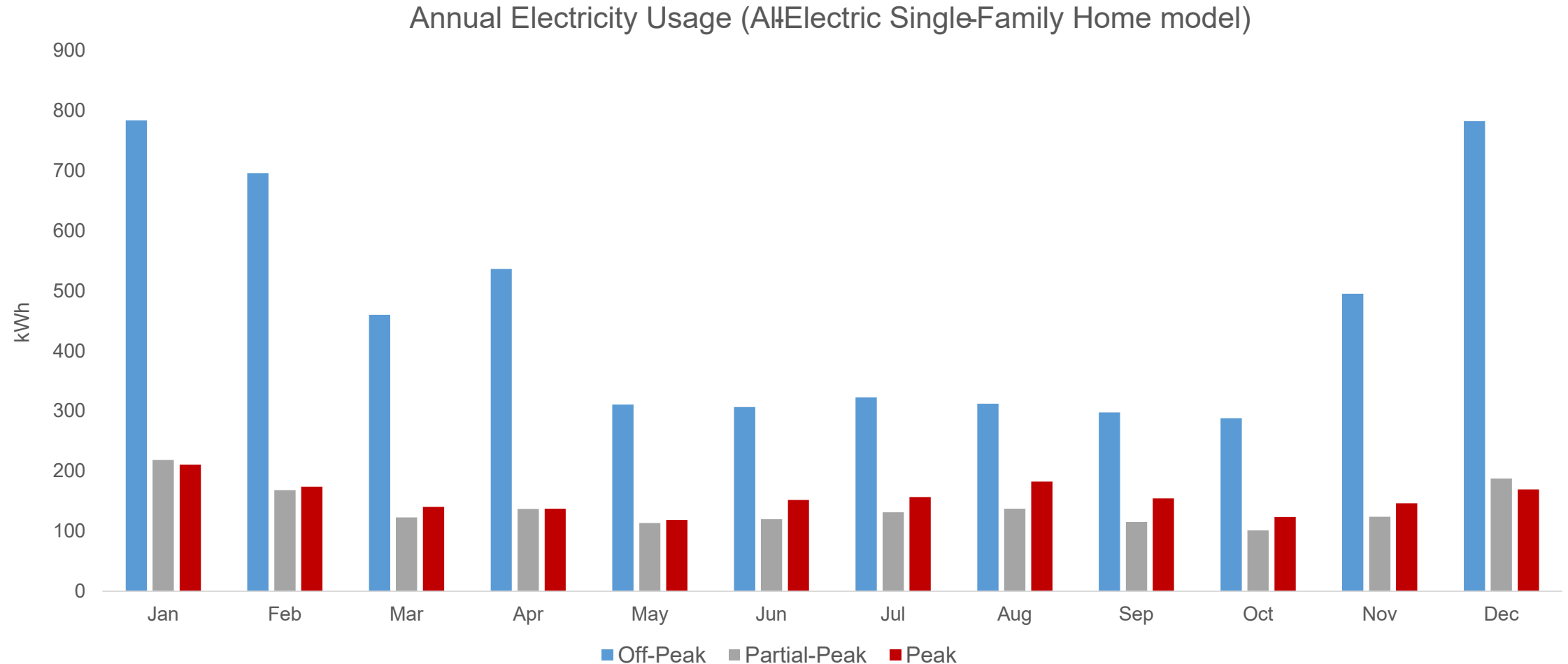


# Current E-ELEC Generation Rates

SVCE Rate Schedule	Time of Use Period	SVCE Generation Rates <sup>1</sup>	SVCE Generation Service <sup>2</sup>	PG&E Generation Service <sup>3</sup>	Discount Level
E-ELEC	<b>Summer (Jun-Sep)</b>				
	SUMMER PEAK	\$ 0.26126	\$ <b>0.26526</b>	\$ 0.29473	10%
	SUMMER PART-PEAK	\$ 0.17206	\$ <b>0.17606</b>	\$ 0.19562	10%
	SUMMER OFF-PEAK	\$ 0.13147	\$ <b>0.13547</b>	\$ 0.15052	10%
	<b>Winter (Oct-May)</b>				
	WINTER PEAK	\$ 0.11534	\$ <b>0.11934</b>	\$ 0.13260	10%
	WINTER PART-PEAK	\$ 0.09737	\$ <b>0.10137</b>	\$ 0.11263	10%
	WINTER OFF-PEAK	\$ 0.08535	\$ <b>0.08935</b>	\$ 0.09928	10%



# Over 60% of average usage occurs Off-Peak – we want to push this even higher





# Discount Options – Details

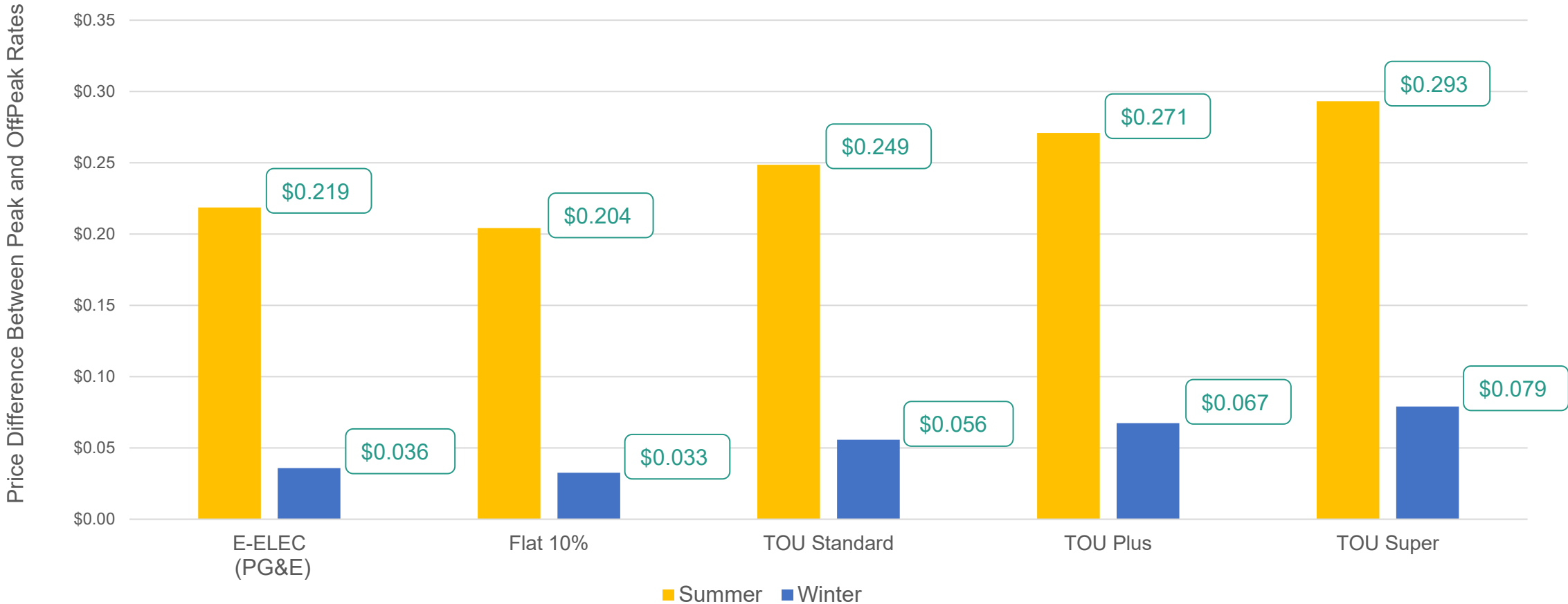
		PG&E Gen	Flat 10%	Discount	TOU Std	Discount	TOU Plus	Discount	TOU Super	Discount
Winter	Off-Peak	\$0.09928	\$0.08935	10%	\$0.07942	20%	\$0.07446	25%	\$0.06950	30%
	Partial-Peak	\$0.11263	\$0.10137	10%	\$0.11263	0%	\$0.11263	0%	\$0.11263	0%
	Peak	\$0.13260	\$0.11934	10%	\$0.13260	0%	\$0.13923	-5%	\$0.14586	-10%
Summer	Off-Peak	\$0.15052	\$0.13547	10%	\$0.12041	20%	\$0.11289	25%	\$0.10536	30%
	Partial-Peak	\$0.19562	\$0.17606	10%	\$0.19562	0%	\$0.19562	0%	\$0.19562	0%
	Peak	\$0.29473	\$0.26526	10%	\$0.29473	0%	\$0.30946	-5%	\$0.32420	-10%





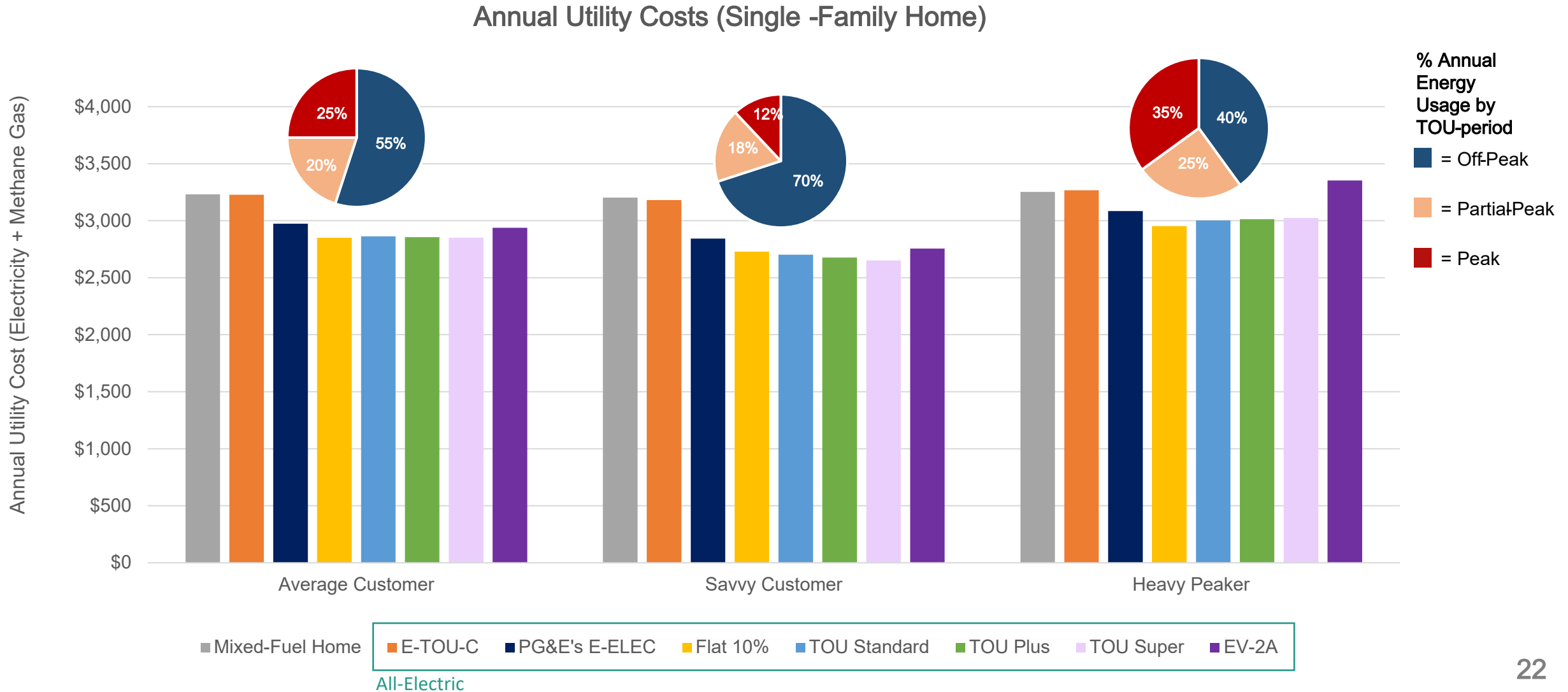
# Beneficial electrification is supported by the difference between Peak and Off -Peak prices

Peak vs. Off-Peak Price Delta (E-ELEC Bundled Rates)





# We anticipate the All -Electric single -family home on E-ELEC will save money compared to being Mixed -Fuel





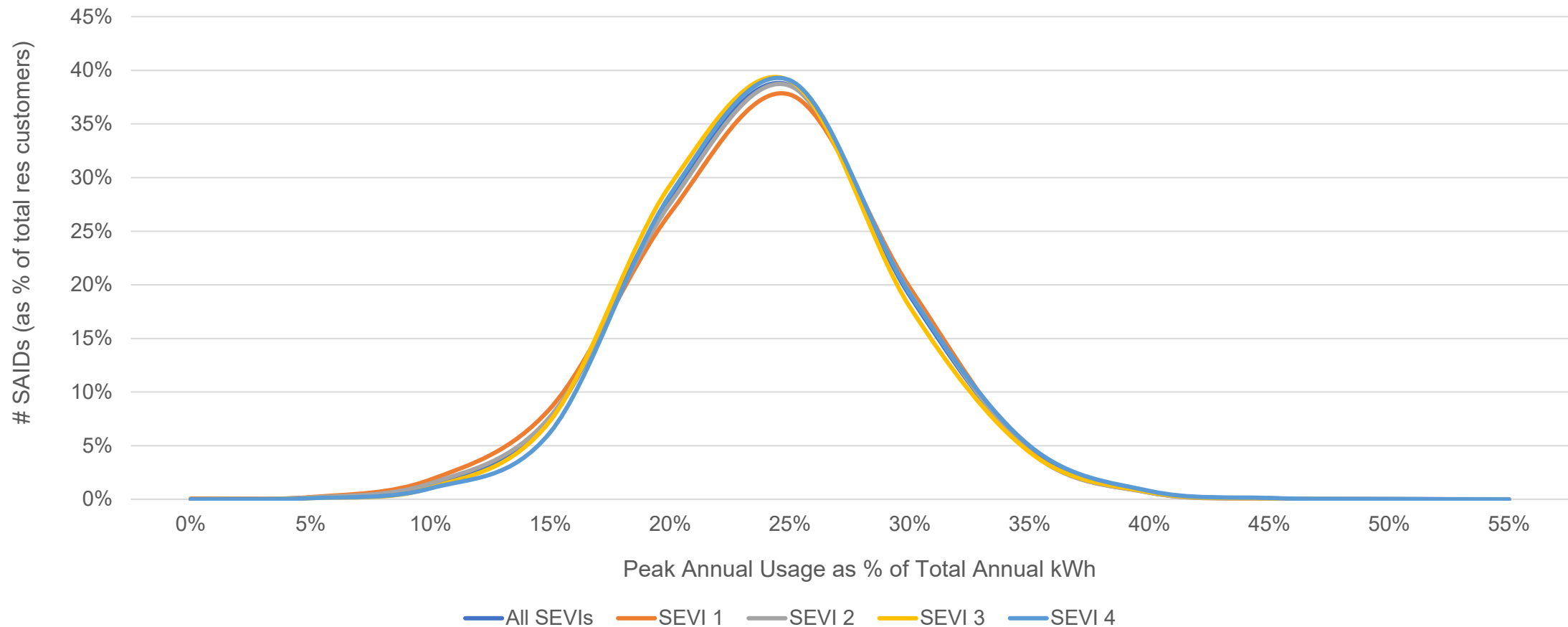
# Additional Takeaways from the Rate Analysis

- Peak usage would have to exceed 50% of total annual kWh while OffPeak was below 30% to lose money on TOU Super (0.004% of res customers)
- All three customer scenarios realize savings on E-ELEC compared to ETOU-C, regardless of the discount approach
- Based on PG&E's published 2023 methane gas price forecast, the average All-Electric single-family home saves money over MixedFuel by enrolling in E-ELEC (even without a discount)
- Rate participation is voluntary— customers can always select a different rate if their needs change (e.g., TOUC, EV-2A, etc.)



# Total Peak usage is consistent across all residential SEVI groups

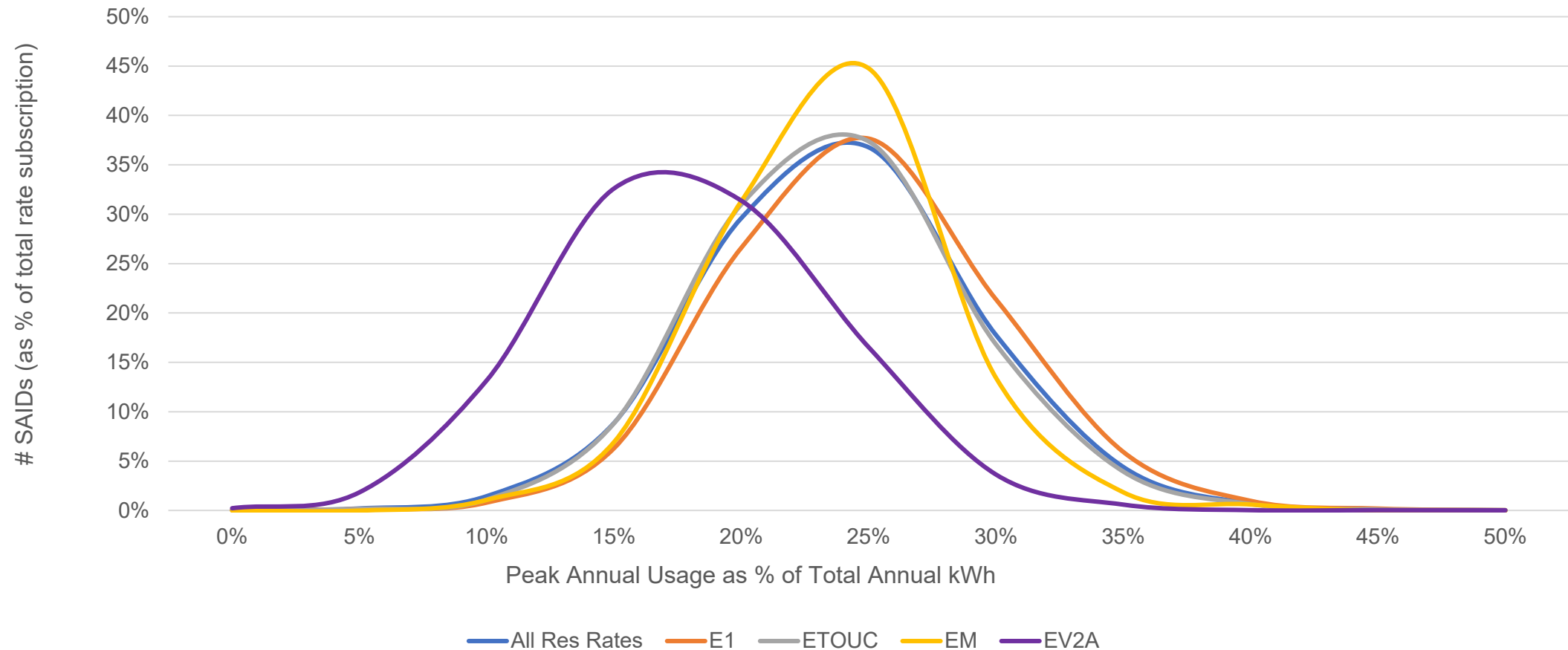
Residential Peak Usage Characteristics by SEVI





# The EV rate paints an idealized picture of what reduced Peak usage could look like

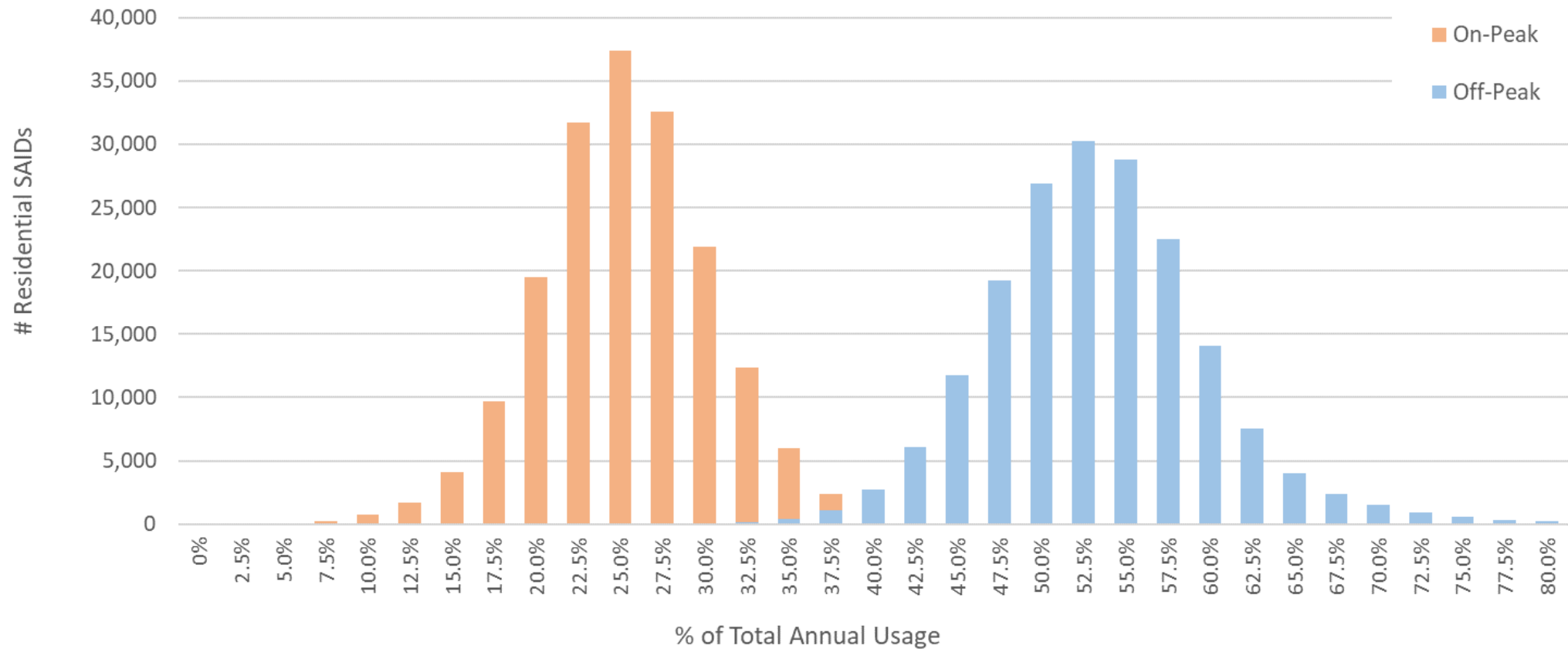
Peak Usage Profiles by Residential Rate Category





# For the average customer, peak usage represents 25% of total annual consumption, and Off -Peak ~53%

Distribution of Peak and Off-Peak Residential Usage as % Total Annual kWh







# Economics of the TOU Plus & Super discounts depend on the balance of Peak vs. Off-Peak energy usage

OFF-PEAK / PEAK	0.0%	2.5%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	22.5%	25.0%	27.5%	30.0%	32.5%	35.0%	37.5%	40.0%	42.5%	45.0%	47.5%	50.0%	52.5%	55.0%	57.5%	60.0%
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2.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5.0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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62.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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82.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
85.0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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100.0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

“Heavy Peakers”: 5%

“Average” customers: 90%

“Savvy” customers: 5%



# How do we market the discount to our customers?

- Targeted marketing to customers who already qualify for EELEC based on participation in HPWH, FFH, and/or GridShift programs
- General awareness campaign via email/newsletter
- Embed rate optimization into customer programs upon project completion (e.g., as part of a concierge service)
- Experiment with different messaging to groups of participating customers in order to evaluate impact on behavioral changes
- Explore engagement tools – how can we inform customers about TOU and make load shifting easy and accessible?



# SCE's "Appliance Energy Use Cost Estimator" for residential customers – a tool to encourage Off -Peak usage

## Appliance Energy Use Cost Estimator

See how much you can save by shifting energy use to off-peak hours



Whole House  
HVAC

Based on less than 1  
hour per day

**\$59.00**  
per month

Super Off-Peak  
8 a.m. - 4 p.m.

**\$64.00**  
per month

Off-Peak  
9 p.m. - 8 a.m.

**\$84.00**  
per month

Mid-Peak  
4 p.m. - 9 p.m.

<https://www.sce.com/residential/rates/Time-Of-Use-Residential-Rate-Plans/Appliance-Energy-Use-Cost-Estimator>

**Disclaimer:** These cost estimates are based on average monthly usage of each appliance and currently applicable Southern California Edison (SCE) rates and is provided to illustrate potential bill impacts to help you understand how Time-of-Use peak periods impact the price you pay. Appliances with 3+ hours of average daily usage may cross into other peak periods. Additional usage is calculated at the next lowest price and included in the cost in an effort to provide the most accurate estimate of total potential cost impacts. The costs above are estimates and cannot be guaranteed to reflect future potential costs that might be experienced under these rate plans. Actual costs will vary due to changes in usage patterns, weather variability, taxes, and/or pending and future rate changes. Changes to these numerous variables will affect actual costs. These estimates do not include baseline credit amounts, or rate discount programs like CARE, FERA or Summer Discount Plan (SDP). Unfortunately at this time the TOU-D-T rate plan is not factored into our appliance tool.





# Building Member Agency Capacity for Climate Action

March 24, 2023



# >\$10M to Support Your Agency

## Upgrading to Clean & Resilient Buildings



- \$5M Community Energy Resilience
- \$3.6M Electrification Demonstration

## Improving Planning, Policies & Permitting



- \$3M Permit Modernization
- \$1.9M Policy Experimentation
- \$400K Reach Codes
- \$300K EV Fleet Planning Grants

## Supporting Engagement & Collaboration



- \$3M Permit Modernization
- Member Agency Working Group
- SVTEC
- Grant Coordination



# Appendix







# Completed Resilience Projects





- MAWG includes staff from SVCE member agencies
- Monthly meetings via Zoom
- Weekly brief newsletter
- Purposes
  - Inform agency staff about SVCE programs
  - Get input from agency staff on SVCE programs in development
  - Share general information among entire group about other local, regional, state, and federal programs
  - Provide access to agency staff both to and from SVCE