



# Peninsula Clean Energy Board of Directors Regular Meeting

August 24, 2023

# Agenda

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- Call to Order / Roll Call
- Public Comment (for items not on the Agenda)
  - Please note, send any chats to Board Clerk, Nelly Wogberg
- Action to set the Agenda and Approve Consent Items 1-5
  - Consent - Public Comment
- Regular Agenda
- Adjournment

# Chair Report (Discussion)

# CEO Report (Discussion)

# CEO Topics For Tonight

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- Results of Board Survey
- Update on Surplus Funds Ad-Hoc Subcommittee Meeting 2
- Solar on Public Buildings "GovPV" Installations Update
- Open Positions
- September Meeting Dates

# Board Survey - Feedback

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# Surplus Funds Committee Update

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- Committee met on August 9th and made good progress
- Organized potential allocations around 4 funding categories
  1. Increase reserves/days cash on hand
  2. Increase customer savings through additional rate discount or rebate
  3. Additional funding for customer programs (resi/commerical/municipal)
  4. Funding for PCE sponsored local power projects
    - Also discussed potential for schools support

## Next steps

- Meeting #3 on September 7
- Consolidate committee ideas and continue discussions



# Solar on Public Buildings: Installations Begun

- Solar installations in our first "Gov PV" cohort have begun!
- Systems to begin coming online in November
- 1.7 MW across 12 sites
- Next up: RFP release for second cohort of projects spanning 35 sites



San Carlos Youth Center  
29.5 kW



# Currently Posted Positions

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*Please help us spread the word!*

- Chief Operating Officer (recruiter support)
- Chief Financial Officer (recruiter support)
- Energy Programs Analyst
- Regulatory Analyst
- Los Banos Community Relations Associate Manager



<https://www.peninsulacleanenergy.com/join-our-team/>

# September Meetings

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- Special Audit and Finance Committee:
  - Monday, September 11 at 8:30 a.m.
- Executive Committee:
  - Monday, September 11 at 10:00 a.m.
- Citizens Advisory Committee:
  - Thursday, September 14 at 6:30 p.m.
- Board of Directors:
  - Thursday, September 28 at 6:30 p.m.



# CAC Report

# Local Government Building Electrification Program (GovBE)

Board of Directors – August 24, 2023



# Recommendation

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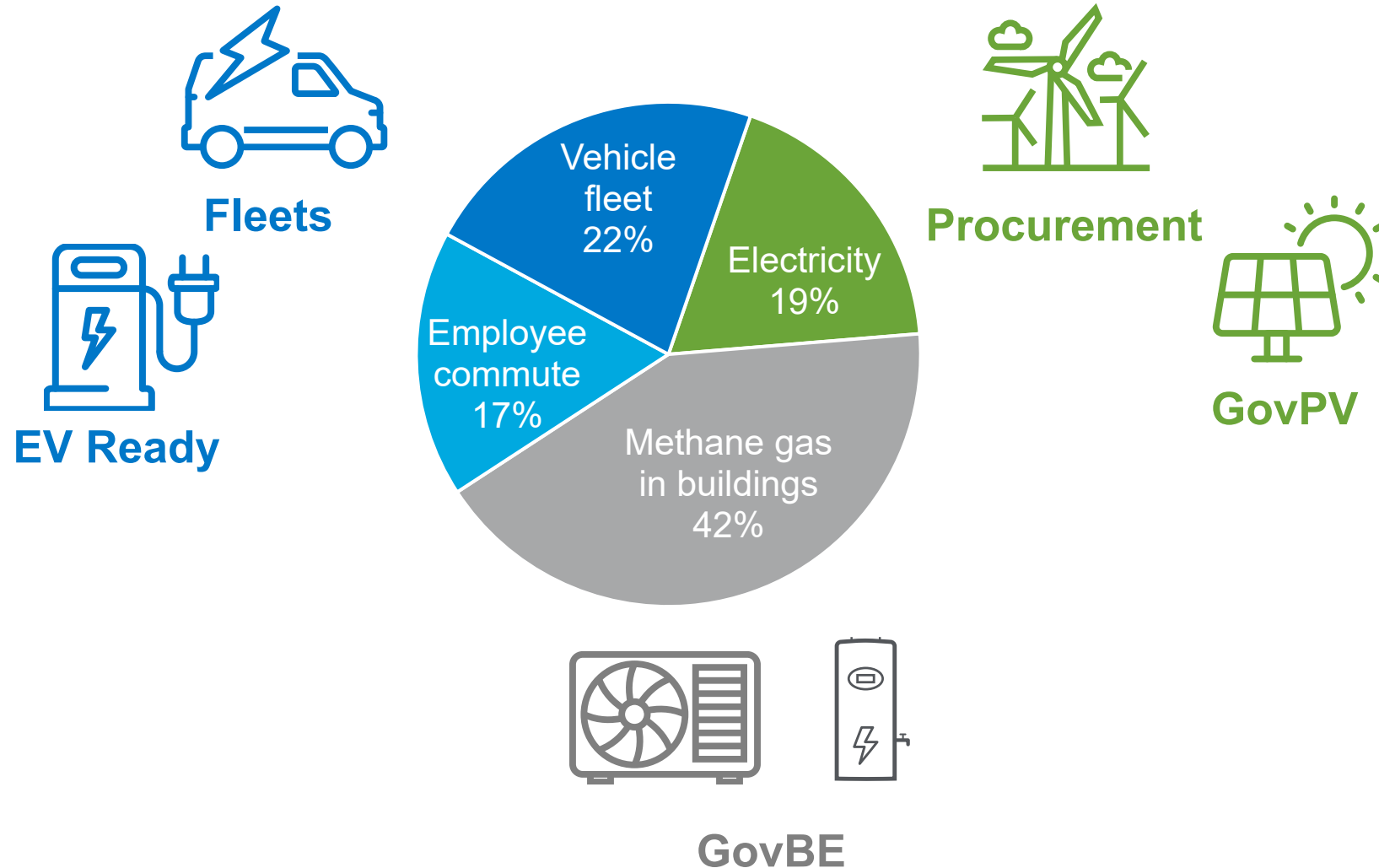
## **Program**

Board approval of Local Government Building Electrification Program, including new \$10 million revolving loan fund, and existing budgeted incentive funding to support electrification projects at local government facilities

# Background and Context



# Background: Govt Emissions and PCE Program





# CAP Goals to Decarbonize Government Buildings

## Municipal Green Building Policy and Electrification

City facilities will follow the CALGreen Code and consider having new municipal buildings certified for LEED Silver or Gold status or equivalent. The new Community Center will be built to green building standards; however, at this point it is unknown what level of LEED standard will be achieved. The City is also looking at opportunities for including PV solar panels for the new Community Center.

In order to lead by example, all new construction projects by the City will be all-electric based on adopted Reach Codes and will strive to be zero net energy via on-site solar. The Community Center currently under design is committed to these goals.

Excerpt from Millbrae 2020 Climate Action Plan



# BAAQMD Ruling Will Impact Govt Buildings

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**2027** - Rule 9-6 Boiler and Water Heaters

**2029** - Rule 9-4 Space Heating Furnaces

**2031** - Rule 9-6 Boiler and Water Heaters

# What Is Needed? Flexible Funding Solutions



East Palo Alto City Hall



San Mateo Animal Shelter



Menlo Park Burgess Pool



Brisbane Pool



Merced County Library, Los Banos



San Carlos Youth Center



# Proposed Program

Local Government Building Electrification

# Program Components

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Flexible  
Incentive



Revolving  
Loan

Match  
Funding



# Incentive Program

## Why local governments need access to incentives:

- Electrification does not always have a payback
- Governments cannot take out unlimited loans
- Cities have noted a need for a mix of both loan and incentive options

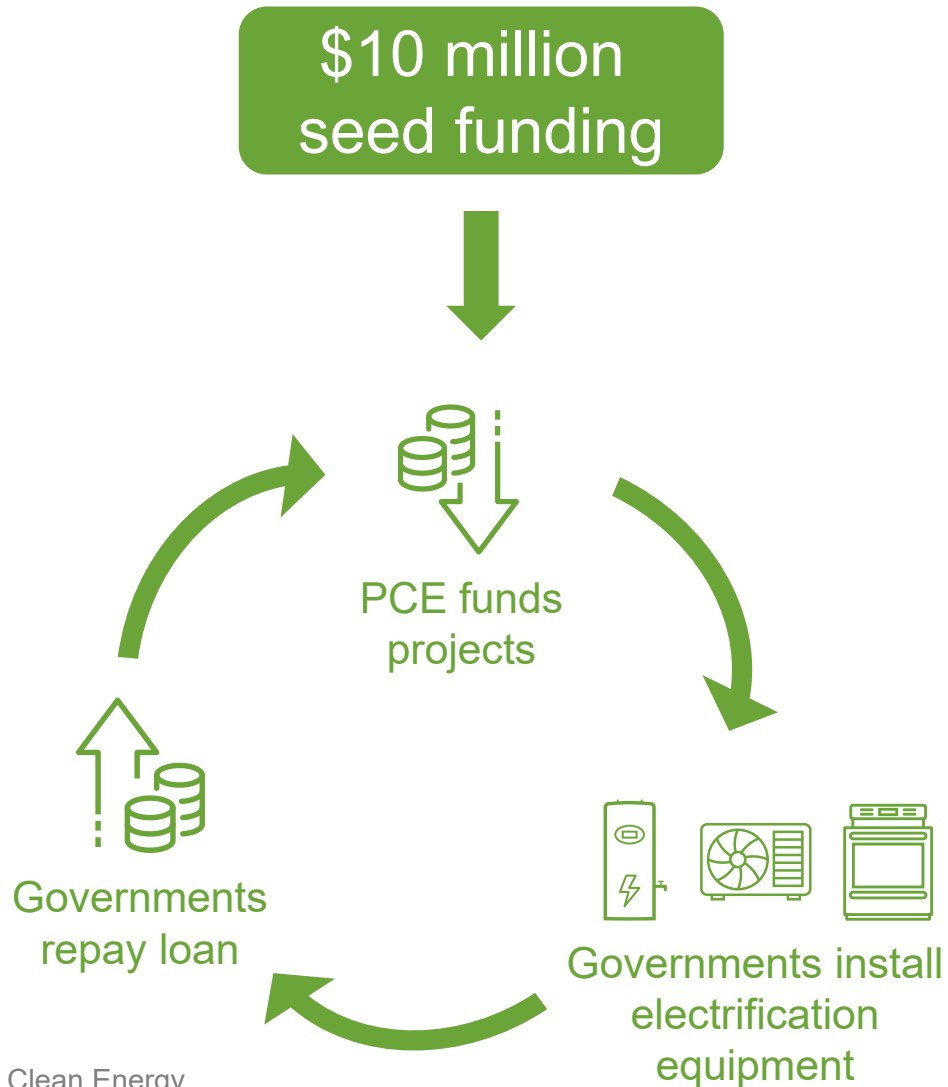
### Recommending:

- Flexible incentive based on gas usage, at an amount similar to residential incentives or **\$16/therm**.
- Each 1,000 therms of gas saved per year translates to ~5 MT CO<sub>2</sub>e/yr



A worker carefully places an old gas-fired, roof-top HVAC unit onto a truck bed at the Peninsula Conservation Center in Palo Alto on Jan. 25, 2023. Photo by Magali Gauthier.

# Electrification Revolving Loan Fund



Why local governments need access to loans:

- Budgets are limited
- Individual projects are the wrong size for one-off traditional finance, such as Power Purchase Agreements
- California Energy Commission loan is too restrictive
- Gas replacement programs in the capital improvement pipeline are typically under-funded to enable electrification



# Proposed Program Terms

## Incentive program

- \$1 million/yr in current budget (\$750k for FY24)
- Up to \$16 per therm per year gas reduction
- \$600k cap per project
- Max of \$600k per agency per year

## Revolving loan fund

- 7-year loan term
- 1% interest rate
- \$10 million seed funding
- Max loan of \$600k per project
- Max loan of \$600k per agency per year

## Match Requirement

- Minimum 25% cost-share by non-PCE funds

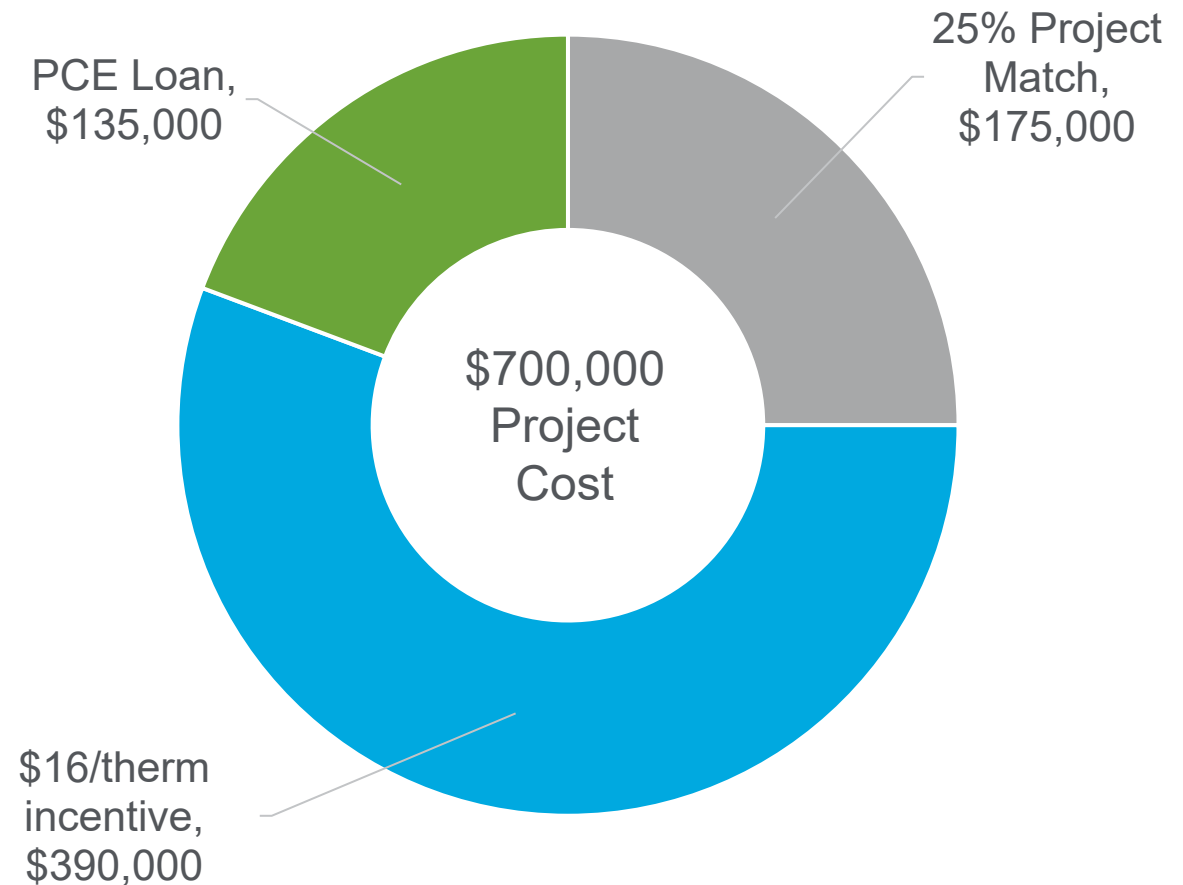
# Examples

# Local Government Pool Example

- Large municipal pool
- Aging gas water heater with \$100k+ replacement cost
- Partial electrification - Plans to keep gas water heater as backup system to avoid extra \$1M in electrical upgrade costs while saving 80%+ of gas use

<b>Total Installation Cost</b>	\$700,000
<b>Business as Usual Gas Cost</b>	\$180,000
<b>Incremental Cost to Electrify</b>	\$520,000

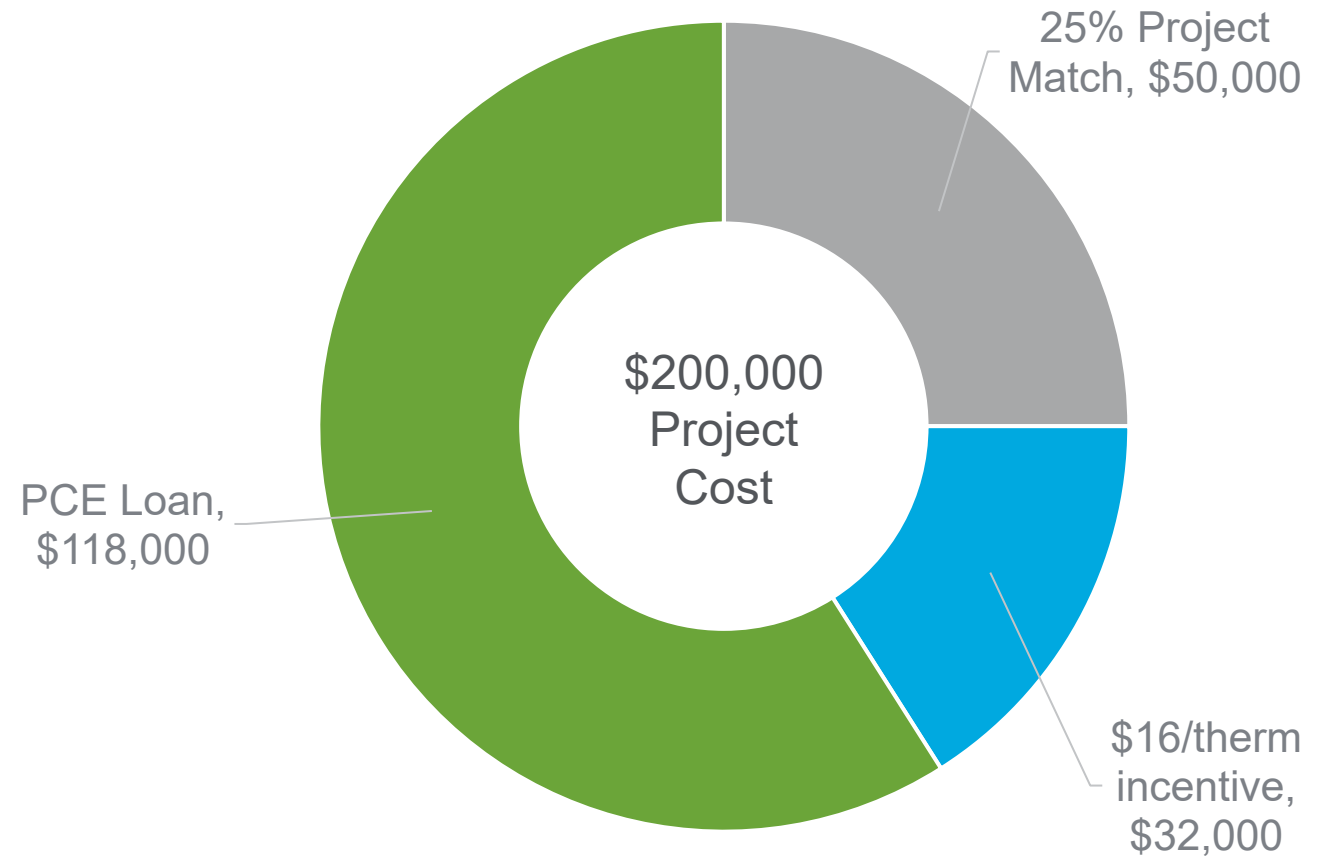
<b>Gas Savings per year</b>	\$60,000
<b>Electricity Increase per year</b>	\$34,000
<b>Energy Cost Savings (1st year)</b>	\$26,000
<b>Energy Cost Savings (12 years)</b>	\$312,000



# Hypothetical Community Center Example

Example community center electrification project:

- Eight HVAC gas units replaced with heat pumps
- Heat pump water heater installed
- 11 Metric Tons CO<sub>2</sub>e saved per year



# Project Selection Process

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- Annual, streamlined application process
- Prioritize projects based on:
  - Urgency (gas equipment aging out)
  - Shovel-readiness
  - Total therm savings
  - "Showcase project" or high community visibility
- Retaining existing gas system allowed

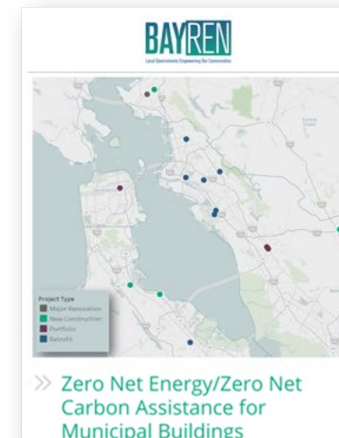
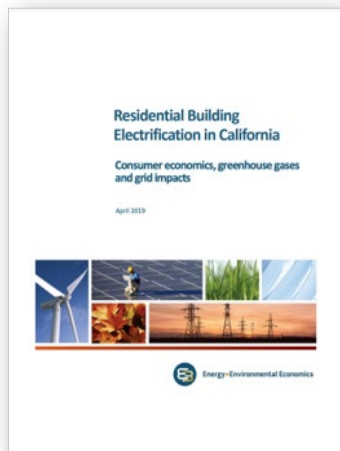
# Operating Cost Analysis

# Operating Cost Impact

- Multiple recent studies have found that conversion from gas to heat pumps **typically reduces operational costs**, but in some cases adds negligible cost
- The operational cost **savings is higher if paired with solar PV**



California  
Public Utilities  
Commission





# Project Cost Examples

- CPUC-funded Statewide Municipal / School efficiency program
- Includes electrification, but with strict requirements
- Calculations by Wildan, found cost savings of up to 30%, or a cost increase of up to 3%

	Project 1	Project 2	Project 3	Project 4
<b>Scope</b>	Swimming Pool Electrification	Pool + Hydronic Heating	Swimming Pool Electrification	HVAC City Hall
<b>Occupancy Type/Building Type</b>	Assembly/Office Small	Assembly/Education Secondary	Assembly	Office Small
<b>Location</b>	East Bay	East Bay	Central Coast	Central Coast
<b>Est . ROM - Capital Costs</b>	\$1,960,000	\$3,200,000	\$1,880,000	\$650,000
<b>Est. Incremental Costs</b>	Not Available	Not Available	\$1,375,000	Not Available
<b>Est. GK12 Program Incentive</b>	\$246,120.00	\$254,324.00	\$196,345.16	\$26,370.00
<b>Est. Therms Reduced</b>	42,000	43,400	33,506	4,500
<b>Est. Increased kWh/Yr</b>	230,000	241,000	172,766	24,988
<b>Est. Utility Savings 1st Year</b>	\$8,000	\$ 4,400	\$25,349	\$ (247)

# Potential Impacts

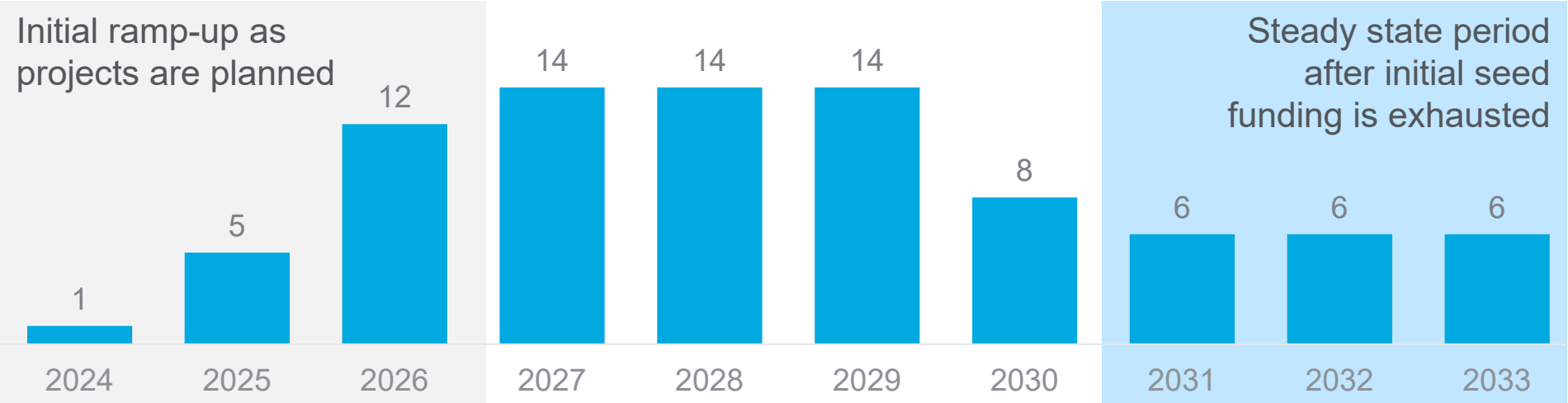
# Example Revolving Loan Scale Over Time

Chart based on:

- 1% interest rate
- Average project size of \$300,000
- \$10 million in seed funding fund 86 projects/10 yrs
- Includes forecasted incentive program

Seed Fund Size	Projects Funded over 10 years
\$5,000,000	49
\$10,000,000	86
\$20,000,000	151

Number of Projects Funded by Fiscal Year



# Program Benefits

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## 1. Energy cost savings for local governments

- Government buildings typically see cost savings from electrification
- Pools will save up to \$30,000 per year in energy costs
- Adding on-site PV plus battery increases cost savings

## 2. Funding building improvements

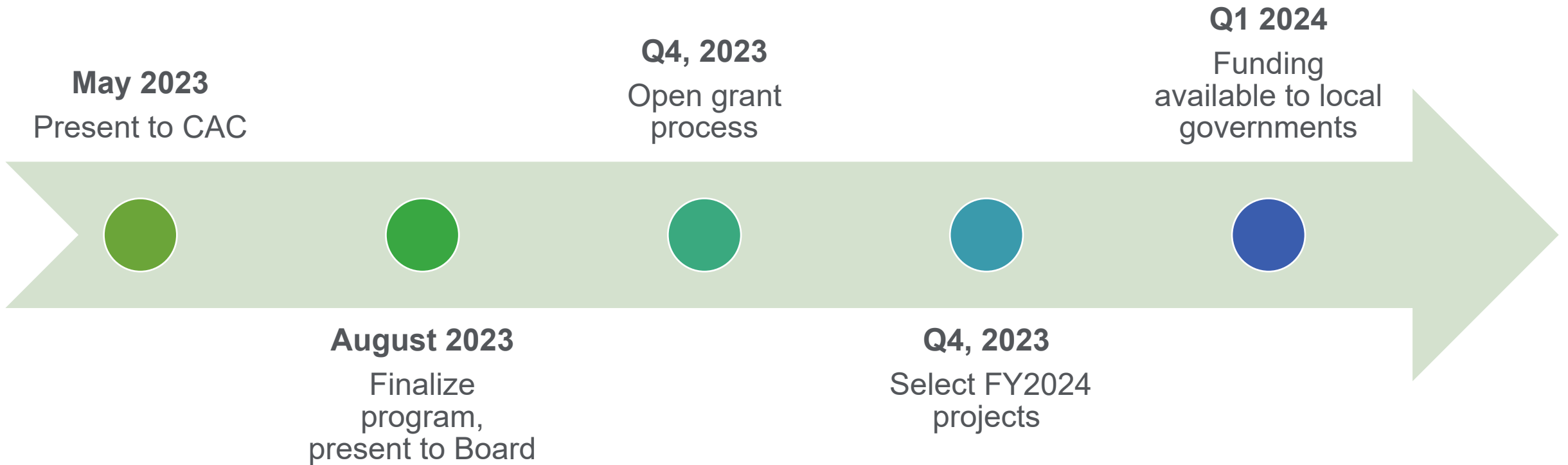
- Help with deferred maintenance and replacement of systems
- Electrification of difficult facilities

## 3. Emissions savings

- 500-3,000 MT per year
- A municipal pool heater has similar emission to 100 homes (100+ MT/yr)
- A small recreation center is similar to electrifying 4 homes (6 MT/yr)

# Proposed Timeline

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# Recommendation

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## **Program**

Board approval of Local Government Building Electrification Program, including new \$10 million revolving loan fund, and existing budgeted incentive funding to support electrification projects at local government facilities

# Net Billing Tariff (NBT) Update

Board of Directors – August 24, 2023





# Discussion Overview

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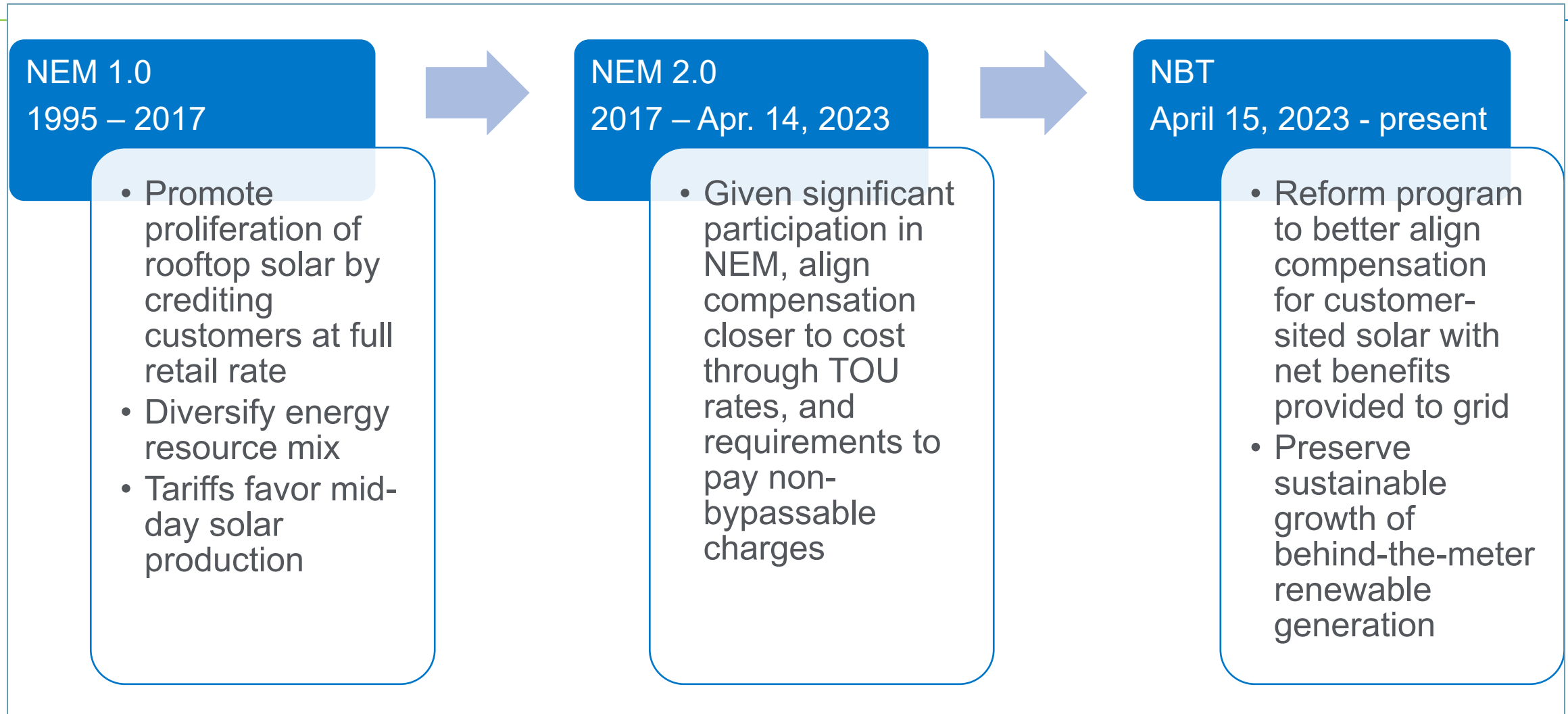
- Brief recap of NEM 2.0 sunset and NBT transition
- Major differences between NEM and NBT
- Customers impacted by NBT
- What are other CCA's doing?
- PCE policy considerations

# What is NBT?

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- New solar interconnection policy for new interconnection applications starting April 15, 2023
  - NEM 3.0 => Net Billing Tariff (NBT) => Solar Billing Plan (SBP)
- Per the CPUC the new policy changes are intended to:
  - Credit excess solar generation at its grid value (vs retail)
  - Charge NBT customers for grid electricity based on high differential TOU tariffs and encourage solar + storage installations
  - Discourage mid-day solar exports and encourage shifting exports to later in the day (duck curve mitigation)
  - Support sustainable growth of solar in CA

# NEM Evolution – CPUC Policy Objectives



# NEM => NBT Evolution

	NEM 1.0 1996-2017	NEM 2.0 2017-Apr.14, 2023	NBT Apr. 15, 2023 - present
Rate Schedule	Any	TOU rates (4-9 pm peak rates)	TOU Electrification Rates (E-ELEC for PG&E)
Value of solar used concurrently on-site	Offsets imports, so equivalent to retail rate	Unchanged	Unchanged
Value of solar exported to grid	Full retail rate	Retail rate minus non-bypassable charges and one-time interconnection fee	Avoided Cost Calculation (ACC) price per interval – no more retail credit
Net Surplus Compensation (NSC) payment at true-up	Net exports times NSC rate	Unchanged	Net exports time NSC rate, <b><i>minus ACC export value already granted</i></b>
Non-bypassable charges calculation basis	Net imports only	Net imports within each interval	All imports (separately metered)
Billing and true-up period	Annual billing, annual true-up (both charges and credits roll over for 12 months)	Unchanged	Monthly billing and payment; annual true-up (credits roll over for 12 months)

# NBT/SBP vs NEM Customer Solar Value

Did You Use It On-Site?	NEM 1.0 / 2.0	NBT
<b>Yes</b> <i>It avoided imports</i>	Retail rate value, through avoided import rates	Unchanged and worth full value!
<b>No</b> <i>It was exported to the grid</i>	Exports valued at retail rate-based bill credit (minus 10% for NEM 2.0)	Exports valued based on <b>Avoided Cost Calculator</b> values, significantly less

- Avoided Cost Calculator (ACC) is an established tool for evaluating Distributed Energy Resource and Energy Efficiency programs
  - ✓ ACC determines generation, capacity, distribution, transmission, environmental, etc. values with every hourly interval
  - ✓ Controversial among solar advocates as the duck curve has continued to devalue energy during solar generating hours

# Example: NBT Export Value in PG&E Territory (no storage)

PG&E E-TOU-C rate	Gen Value	Delivery Value	Total Value
NEM 1.0	14.6 c/kWh	26.8 c/kWh	41.3 c/kWh
NEM 2.0	14.6 c/kWh	23.6 c/kWh	38.1 c/kWh
NBT	2.9 c/kWh	0.5 c/kWh	3.3 c/kWh
<b>NBT Reduction in Value</b>	<b>-80%</b>	<b>-98%</b>	<b>-92%</b>

- **Generation values** = marginal energy value and resource adequacy
- **Delivery values** = T&D, public purpose programs, wildfire insurance, etc.
- **Exports must be coincident with system peaks to have high value**
- Abundance of solar is the main cause of solar devaluation

\*Analysis by Justin Kudo-MCE







# No Immediate Changes for Most NEM Customers

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- Existing NEM customers have 20 years from their original interconnection date before new policy applies
  - Changes and/or upgrades to an existing solar system can trigger an early transition to new program
- Processes for transitioning customers are still being developed
  - PG&E is proposing to transition NEM 1.0 customers whose original interconnection agreements have expired on their next true-up post Solar Billing Plan launch
  - We estimate that there are ~250 current PCE customers (~1% of all PCE NEM customers) that are eligible for NBT transition through December 2024

# What are other CCA's planning?

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- CPA (Clean Power Alliance) is the only CCA so far that has formally adopted an NBT policy.
  - Will follow SCE's compensation rates for generation but will evaluate separate programmatic opportunities to provide additional incentives for battery storage
- Informally other CCA's are likely planning to make similar decisions.
  - Follow the state plan for ACC compensation while looking for additional opportunities to support energy storage as well as low-income customer access/adoption

# PCE Policy Considerations

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- PCE will need to determine compensation rates for excess solar generation for NBT customers and staff is still developing our recommendation
  - ACC values will still apply to T&D exports regardless of CCA Generation export rates
  - Deviating from the ACC for Generation exports will likely cause confusion amongst solar installers and customers
  - Anecdotal comments from solar industry imply that they will be modeling based of standard ACC compensation
- More to come over the next couple of months as staff refines recommendations

# Customer Understanding Marketing Update

Board of Directors – August 24, 2023



# Overview

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- Customer research sources
- Brand awareness
- Customer priorities
- Next steps

# Sources of Customer Understanding

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- Annual perception survey
- Feedback from community workshops
- Focus groups
- Other online surveys

# Customer Verbatims

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*“I would love options to PG&E.”*

*“I am not sure who you are and what you want”*

*“You gave me a rebate... but I didn't realize you're also my electricity provider”*



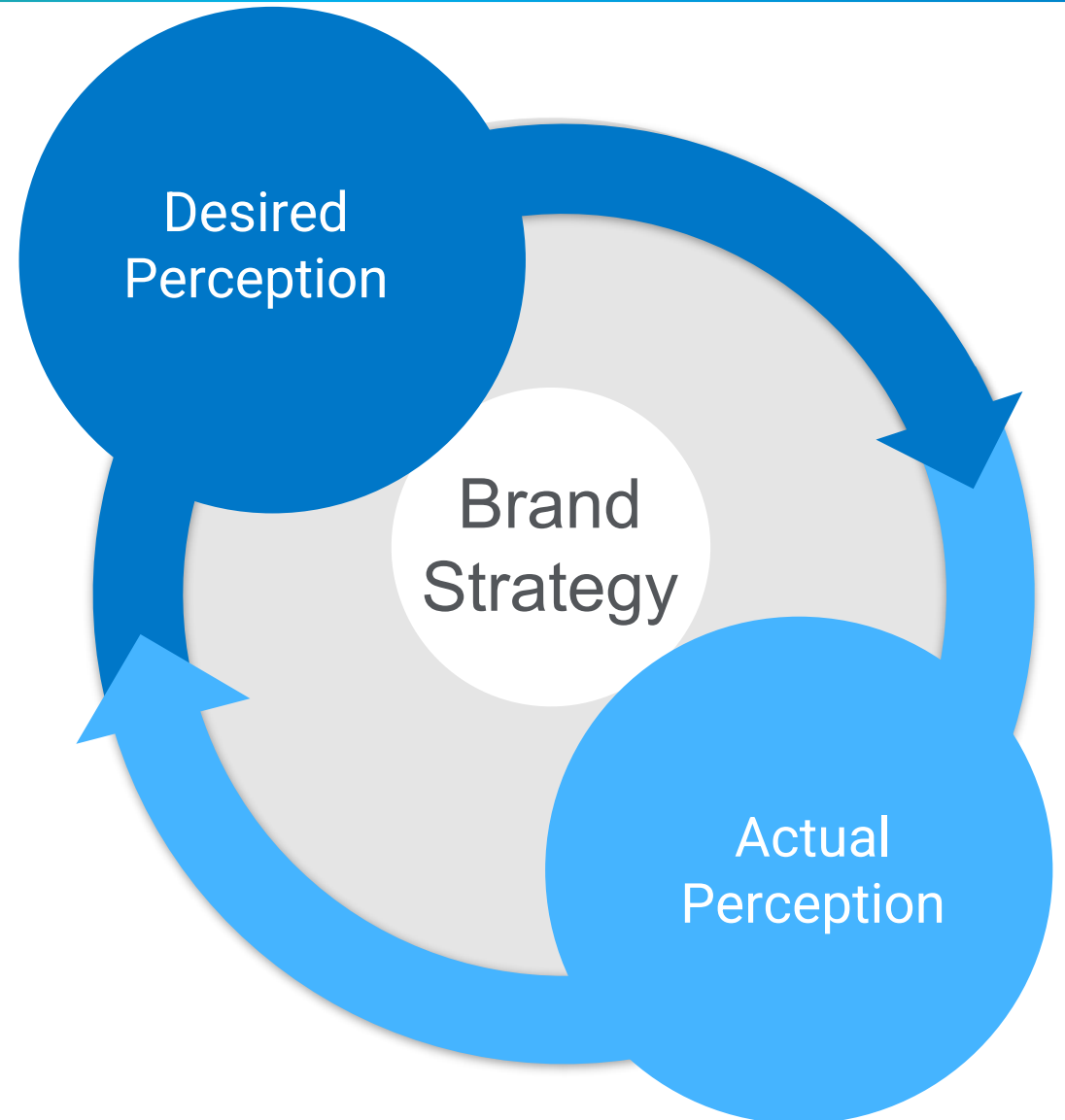
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# Customer Verbatims

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*“I just want safe, inexpensive power.”*

*“This year the price of gas and electricity has been unsustainable.”*

*“I am interested in learning more about what we can do personally in our own home.”*

*“I’m interested but won’t change appliances until mine are in need of replacement...”*

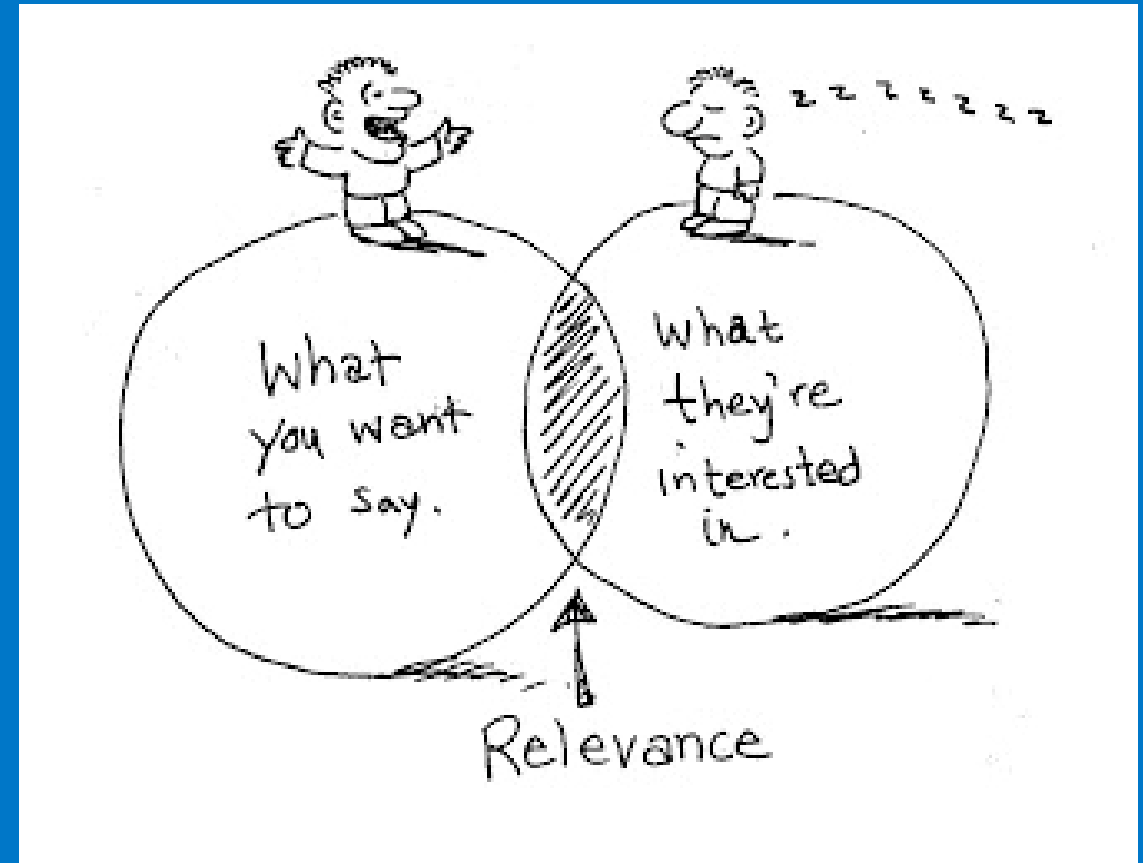
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*"This year the price of gas and electricity has been unsustainable."*

*"I am interested in learning more about what we can do personally in our own home."*

*"I'm interested but won't change appliances until mine are in need of replacement..."*



We can build relationships through relevant content and context

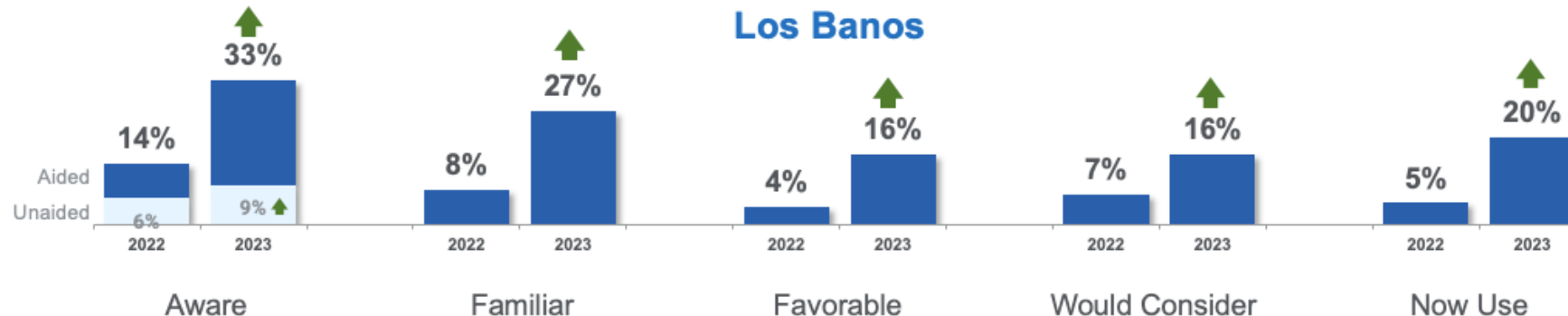
# Annual Perception Survey

# Brand Results – Persuasion Monitor™

San Mateo: Metrics were stable/flat



Los Banos: All metrics improved in 2<sup>nd</sup> year of service

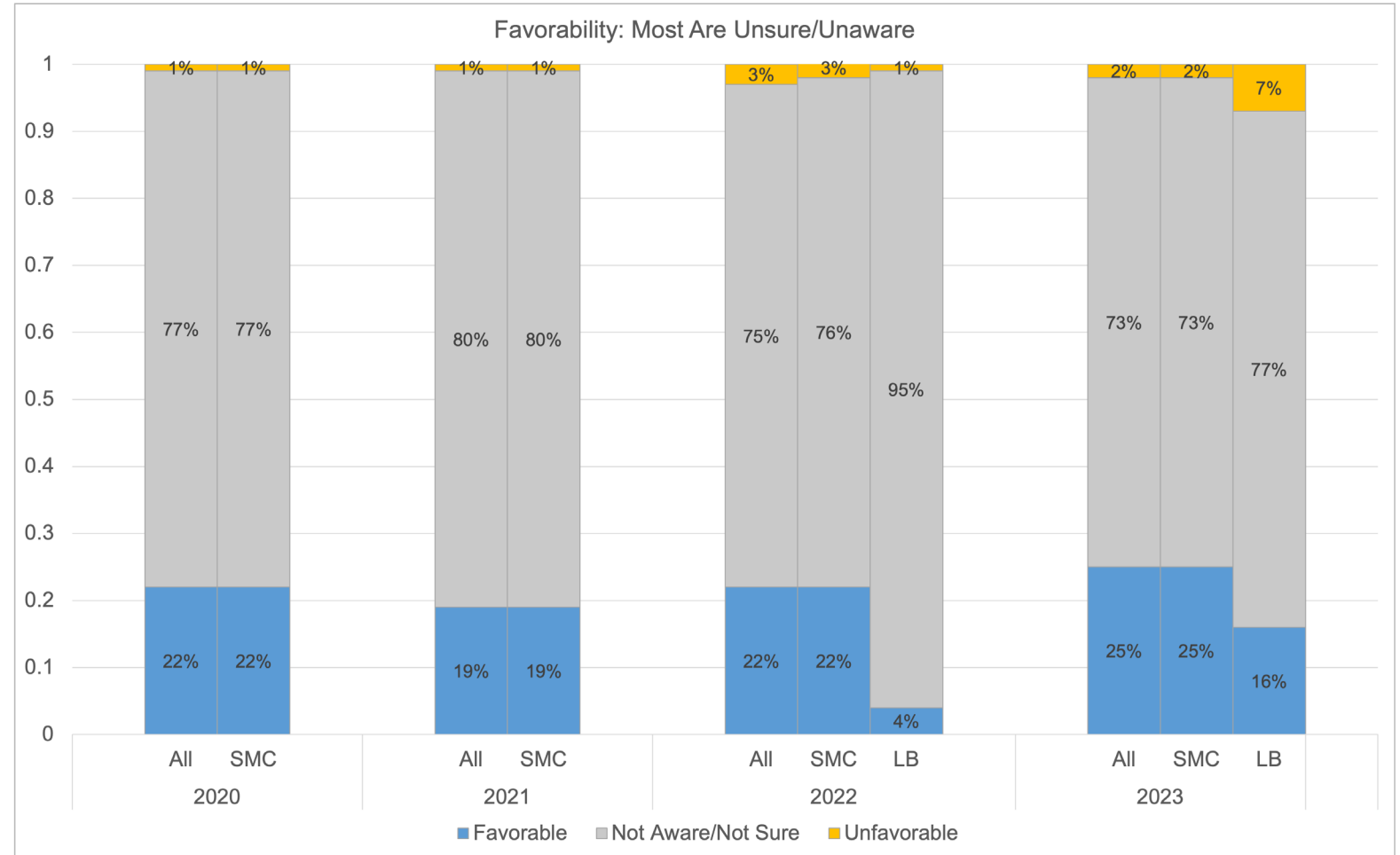


# A Closer Look at Favorability

Most are unaware or unsure.

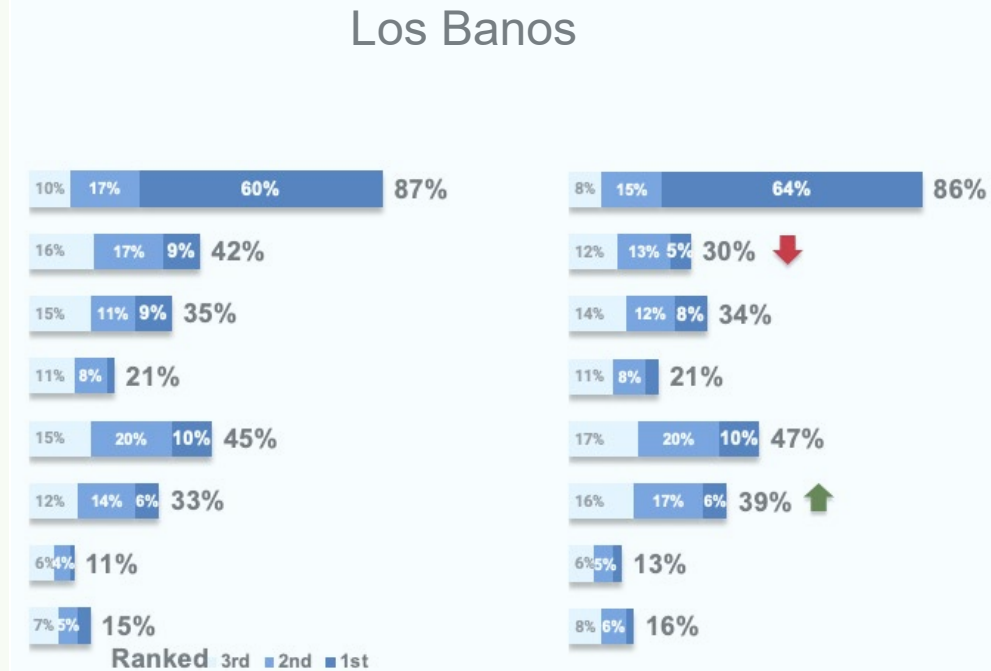
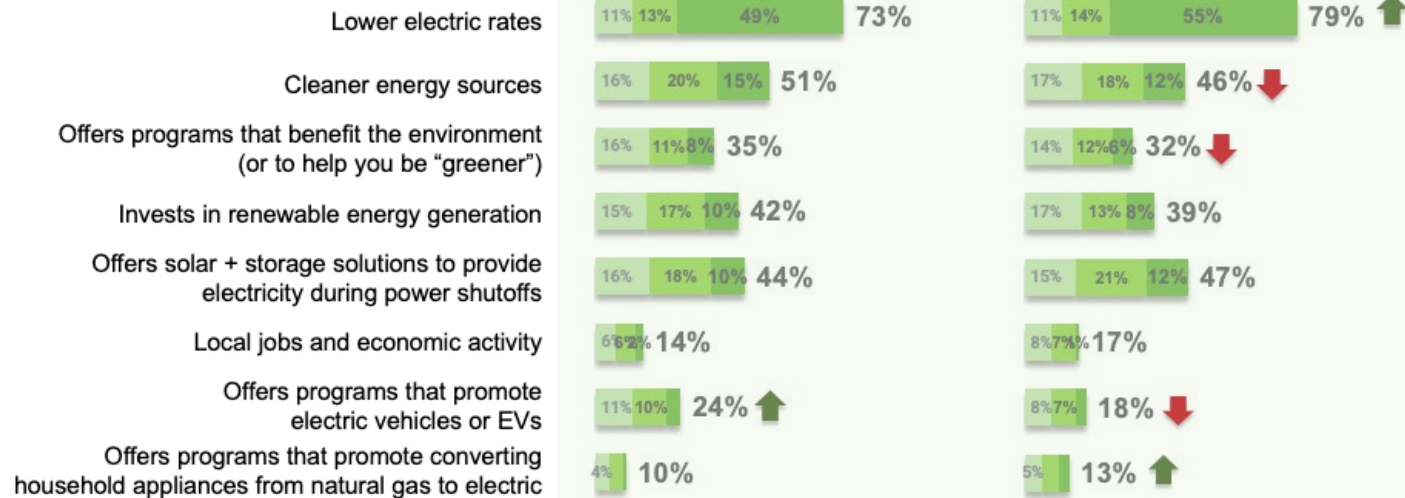
Where people are unfavorable, they tend to have higher rate of misperceptions:

- 1) They think we charge a higher rate than PG&E
- 2) They think we are a branch of PG&E
- 3) They think we are for-profit



# Resident Priorities

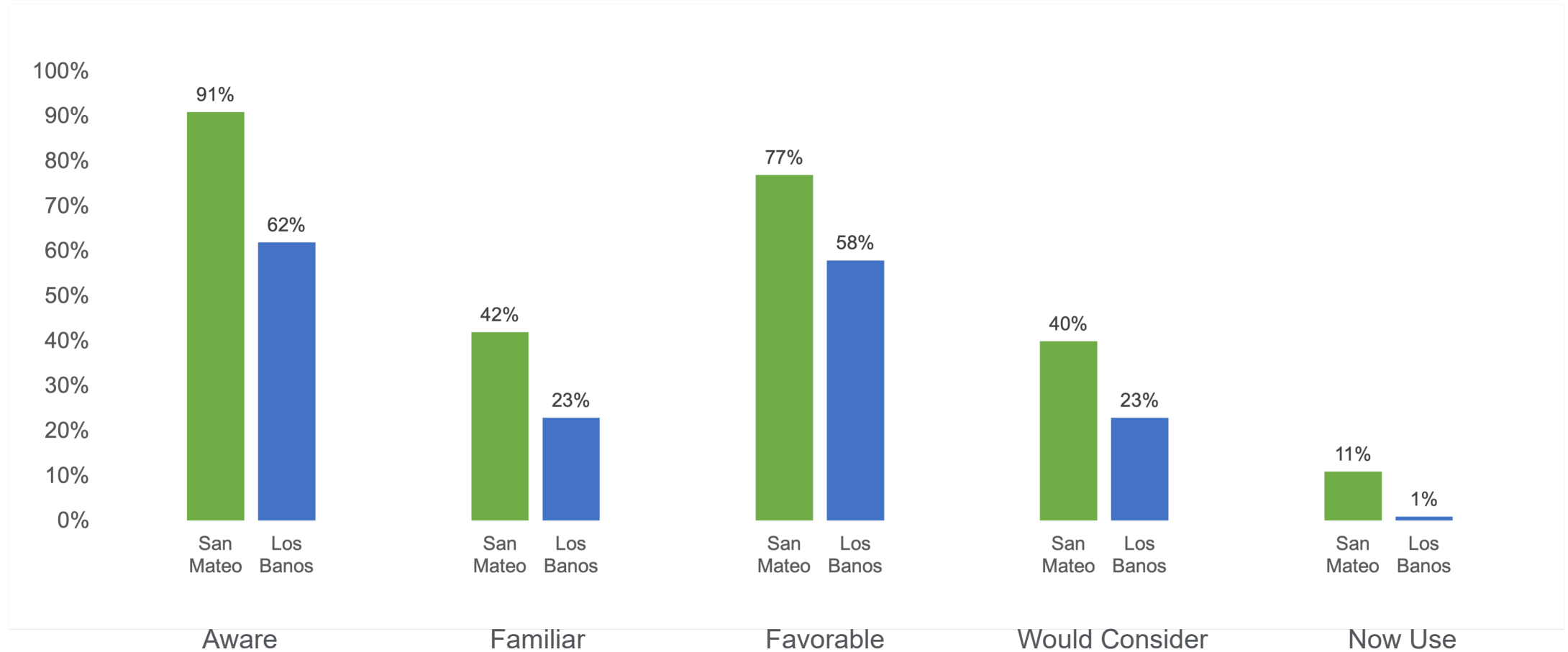
## Priorities



- Lower rates has increased in priority over the past few years
- Programs that improve reliability or control costs are gaining importance
- Programs aimed at environment or clean energy have declined in importance

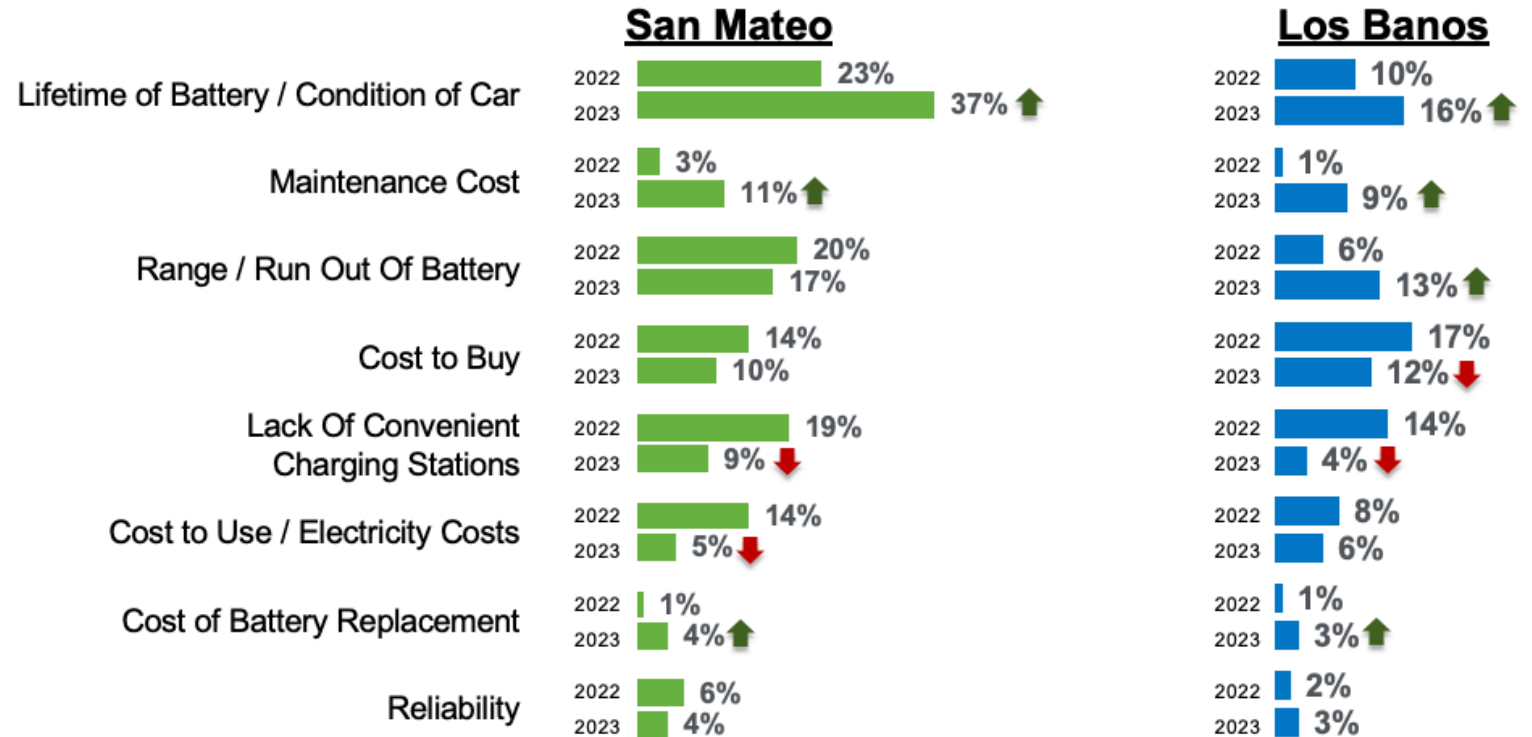


# Attitudes About EVs



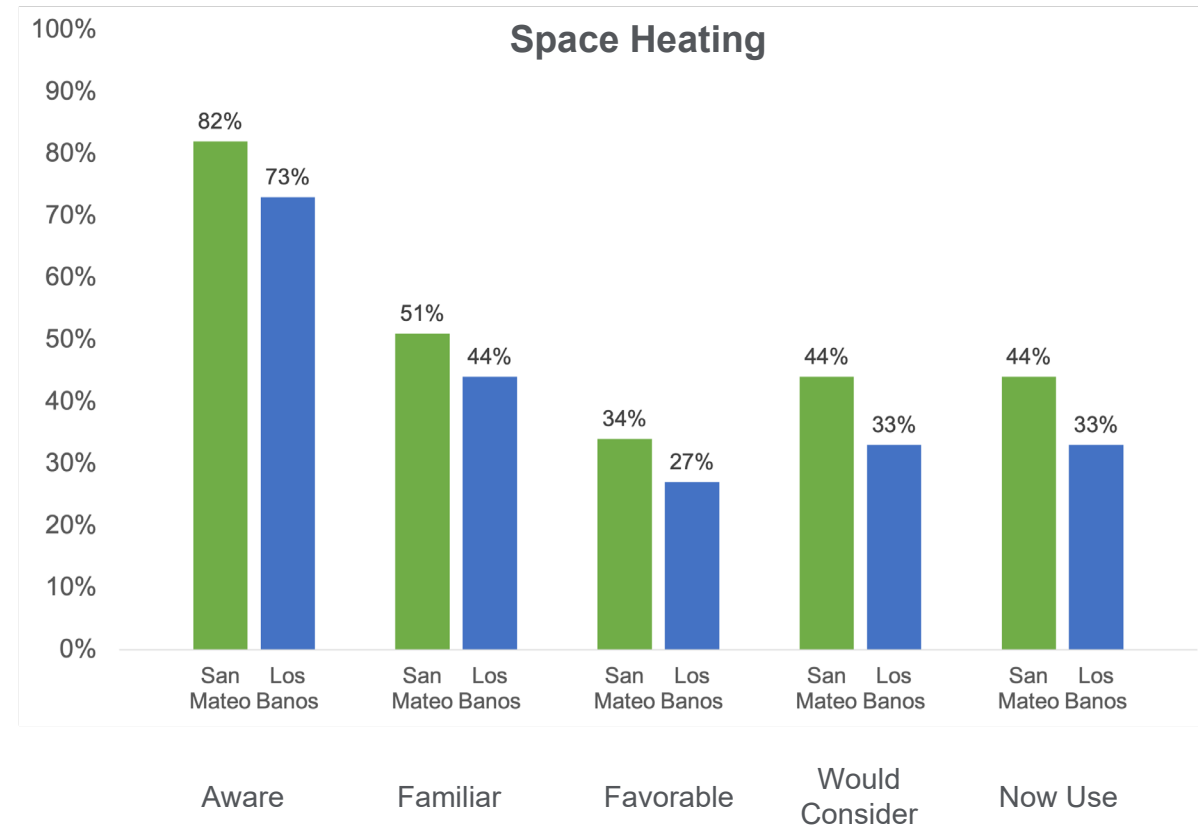
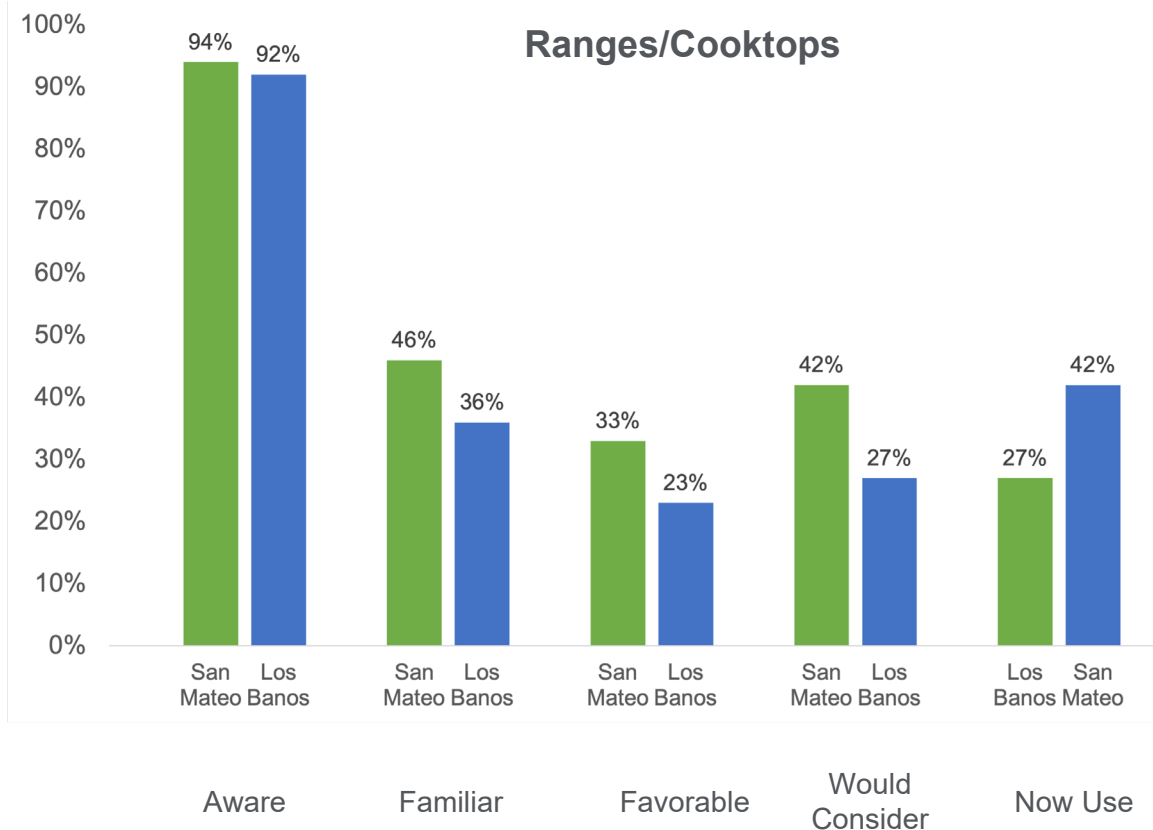
# Used EV Barriers

- Battery life has significantly increased as a barrier
- Range is still an issue
- Maintenance cost concerns have increased.
- Concerns about a lack of charging stations has dropped significantly



# Attitudes About Electric Appliances

- Persuasion metrics all increased from 2020 to 2023



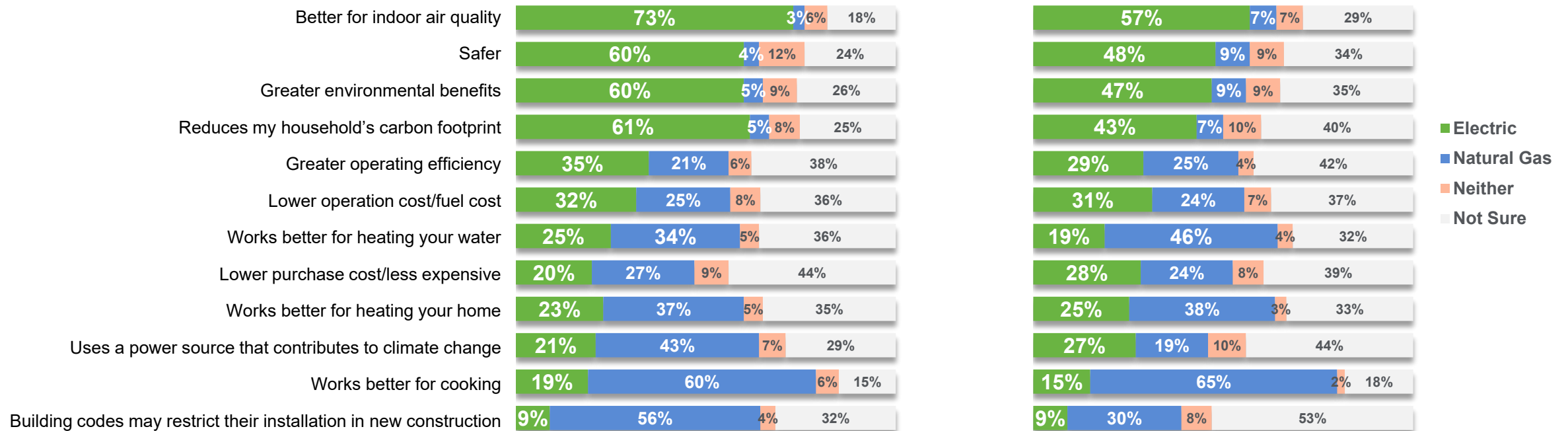
# Natural Gas vs Electric Appliances

- Electric seen as better for indoor air quality, safety, environmental benefits, carbon footprint
- Gas appliances are seen as better for cooking
- Residents are divided on which is best in efficiency, operating and upfront costs

## Electric vs Gas

### 2023 San Mateo

### 2023 Los Banos



















# Climate Change Attitudes

- Almost half of SMC residents (48%) believe their individual, household actions can have a meaningful impact but while (29%) would pay up to 10% more to purchase products that do so.
- Los Banos residents (39%) believe their individual, household actions can have a meaningful but fewer (24%) would pay up to 10% more to purchase products that do so.

## Statement Agreement

(% 8-10, Mean)

	2022 San Mateo	2023 San Mateo	2022 Los Banos	2023 Los Banos
The actions I take in my home can have a meaningful impact on climate change	 48%	 48%	 42%	 39%
I am willing to pay up to 10% more to purchase products that mitigate climate	 34%	 29% ↓	 21%	 24%
I am willing to replace my vehicle and/or appliances before the end of their useful life to help mitigate my impacts on climate change	 37%	 35%	 14%	 18% ↑
I am not willing to pay anything more to purchase products that mitigate climate change	 14%	 19% ↑	 24%	 25%

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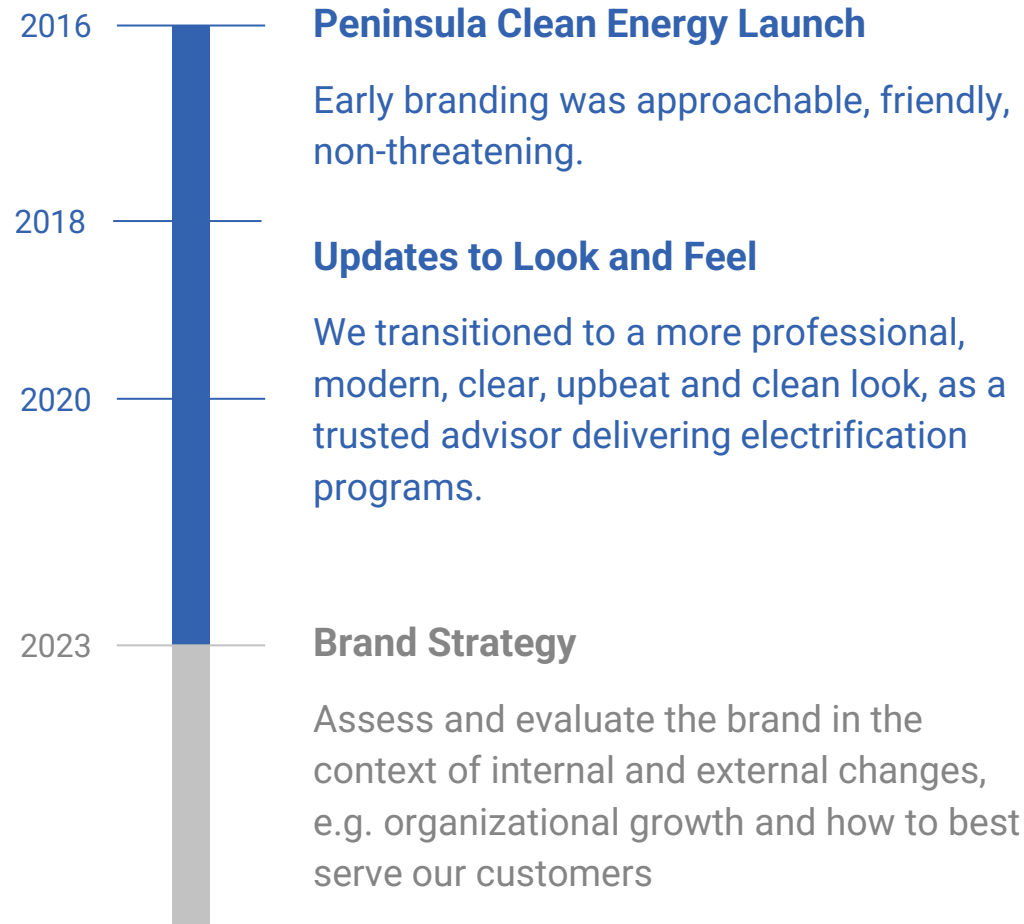
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# Next Steps



# Brand Strategy & Marketing Roadmap



Brand audit  
Q3 2023



Marketing RFP  
Q3 – Q4 2023



Execution  
Q1 - Q2 2024

Thank you!

# Adjournment