

# Building Electrification Application Update

January 2022

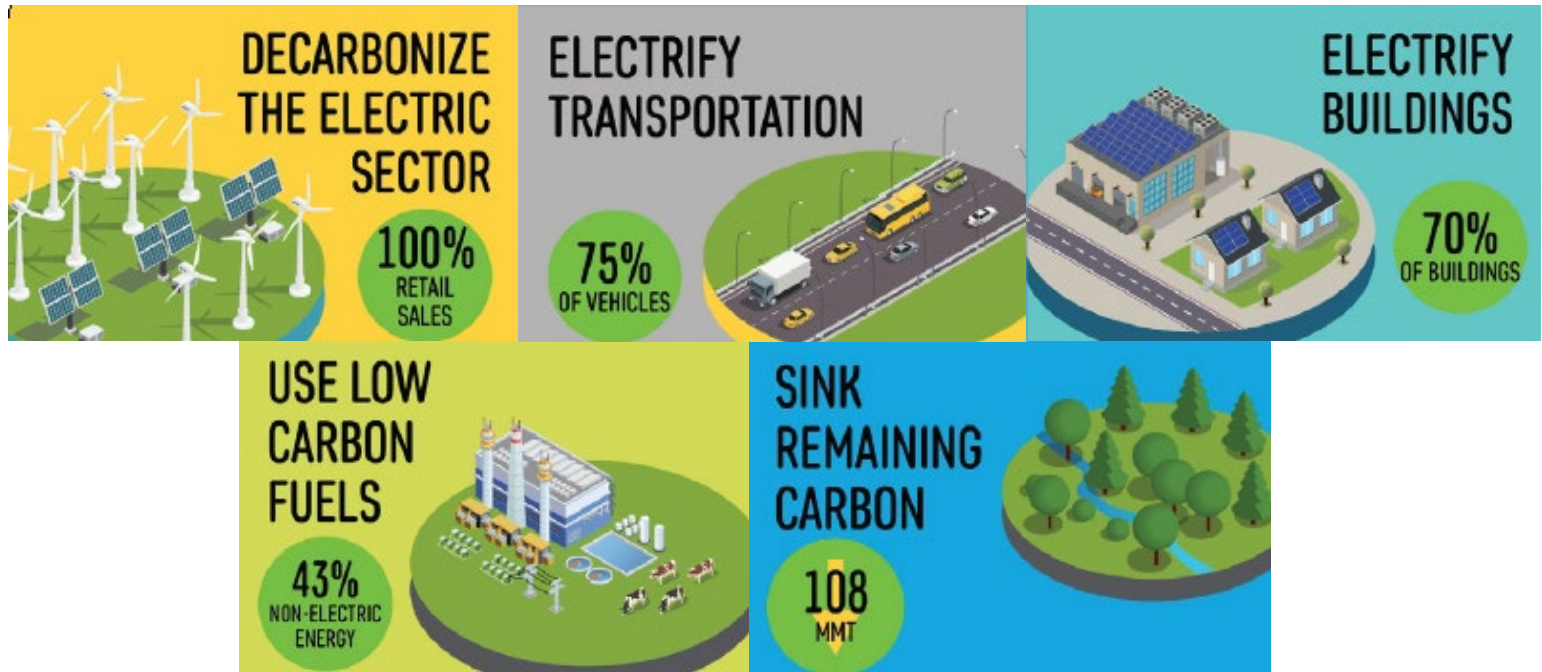


Energy for What's Ahead®



# Pathway 2045 – Blueprint for Decarbonization

Carbon neutrality is achieved through deep **decarbonization** of **electricity**, transportation and building **electrification**, and the use of **low-carbon fuels**



As the grid gets cleaner, so too does everything plugged into it

In December, SCE filed a \$677M application with the CPUC seeking approval for new Building Electrification (BE) Programs

## Motivation

### *The Building Gap*

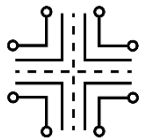


BE Critical to CA GHG Reduction



Urgent action needed to avoid missing goals

### *Equity and Affordability*



Prioritize vulnerable customers' adoption of future technology



Increased electrification improves overall affordability

## Application Highlights

### 4 Year Portfolio

- 2024-2027
- Retrofits:
  - 250k heat pumps
  - 65k electric panel and circuit upgrades

### Marketing and Outreach

- Cities and CBOs
- Equity communities
- Contractors and Installers



Residential  
Single and Low-rise MF

BE Ready<sup>SM</sup>  
Home  
Assessment

Home  
Readiness  
Bill  
Impacts

Upgrade  
Subsidies

- Kickers for ESJ customers

Heat  
Pumps  
Water  
Heaters  
Electric  
Panels &  
Circuits



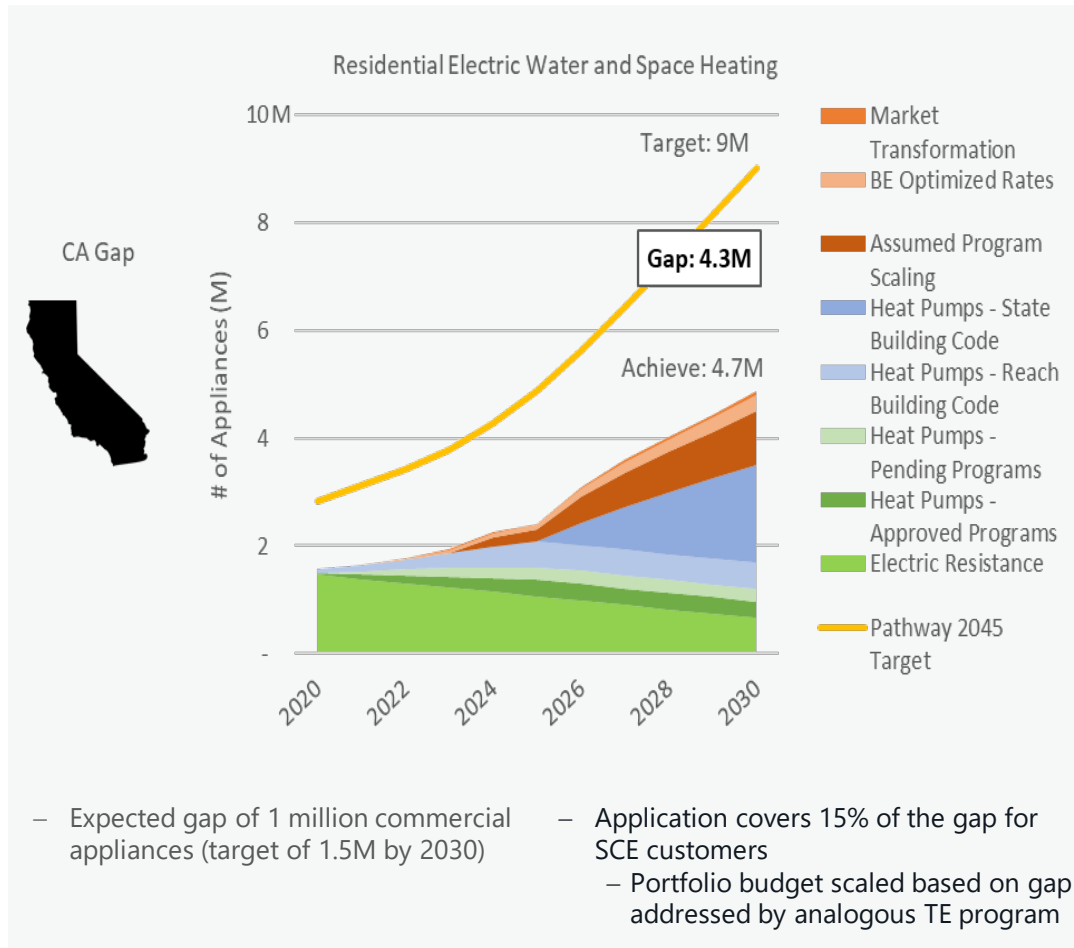
Non-Residential

HVAC/ Technical Assistance for  
small/medium/large enterprises

Additional incentives for businesses  
in equity communities

# Progress on Building Electrification is Too Slow and Needs to Accelerate

## Business as usual leaves significant gap



## Benefits of BE and this Application

Equity to Vulnerable Populations	<ul style="list-style-type: none"><li>• Ensure ESJ customers have access to BE benefits</li><li>• Carve-outs of funds set aside for low income and ESJ customers</li></ul>
Ready the Market	<ul style="list-style-type: none"><li>• Scale the market through incentives</li><li>• Enable maturation of the regional market</li></ul>
Reduction Local and Indoor Air Pollution	<ul style="list-style-type: none"><li>• Reduce NO<sub>x</sub> and PM<sub>2.5</sub> pollution from gas</li><li>• Enable in-home electrification health benefits</li></ul>
Consumer Savings	<ul style="list-style-type: none"><li>• Est. \$3/yr decrease for residential customers at program end</li><li>• Participating customers save combined \$510 million on energy bill</li></ul>
Economic Development	<ul style="list-style-type: none"><li>• Create incremental electrification jobs</li><li>• Significant share of jobs in disadvantaged communities per CEC analysis</li></ul>
Climate	<ul style="list-style-type: none"><li>• Reduce GHG emissions—est. 3.5 million metric tons</li></ul>
Energy System	<ul style="list-style-type: none"><li>• Reduce electric peak demand by 18 MW</li><li>• Reduce overall energy use by 665 million therms of natural gas</li></ul>

# Key Program Elements



RESIDENTIAL



NON-RESIDENTIAL

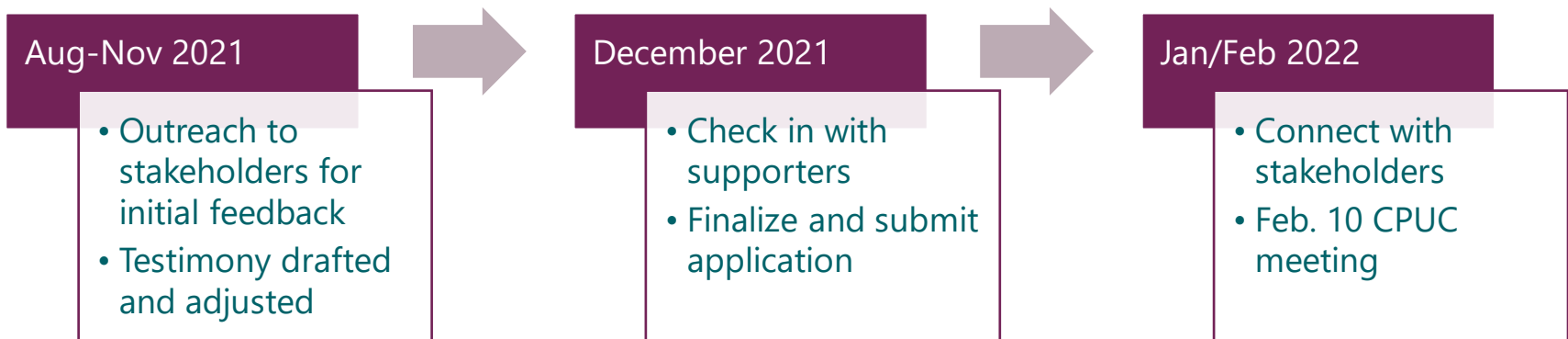
	RESIDENTIAL	NON-RESIDENTIAL
Volume Targets	<ul style="list-style-type: none"> <li>• 200k Heat Pumps</li> <li>• 65k Panel Upgrades</li> <li>• Approx. 88% of funding</li> </ul>	<ul style="list-style-type: none"> <li>• 49k Heat Pumps</li> <li>• Approx 12% of funding</li> </ul>
Incentives and Offerings	<ul style="list-style-type: none"> <li>• “BE Ready” electrification readiness assessments</li> <li>• Future proof-proof panel upgrades via rate smoothing asset treatment                             <ul style="list-style-type: none"> <li>➢ Low to no-cost for low-income customers</li> <li>➢ 50% of costs covered for market rate customers</li> </ul> </li> <li>• HPWH and HP HVAC incentives for normal replacement                             <ul style="list-style-type: none"> <li>➢ Up to \$1,500 per HPWH and \$700 per ton for HP HVAC for ESJ customers</li> <li>➢ Up to \$1,000 per HPWH and \$600 per ton for non-ESJ customers</li> </ul> </li> <li>• Service/line extension costs</li> <li>• Catalina Island program addressing geographic barriers and offering additional appliances</li> </ul>	<ul style="list-style-type: none"> <li>• Technical assistance and support for installers and customers</li> <li>• Simple, prescriptive incentives for high efficiency HP HVAC, amounts based on unity type and capacity</li> <li>• Streamlined, scalable, upfront distributor incentives</li> <li>• Higher incentives for businesses that reside in ESJ communities</li> </ul>
Marketing, Education, and Outreach	<ul style="list-style-type: none"> <li>• Energy bill and rate analysis</li> <li>• Customized assessment reports</li> <li>• Layering and coordination with other programs (e.g., ESA, TECH, SGIP)</li> <li>• Program-specific Marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Outreach and guidance</li> <li>• Energy bill and rate analysis</li> <li>• Technical/design assistance</li> <li>• Coordination with other midstream programs (e.g., EE)</li> <li>• Program-specific marketing</li> </ul>

## External Engagement–Updates and Process

### Key Feedback Addressed

- **Firmer Equity Floor:** Allocated a 40% minimum of the electric infrastructure upgrade budget and approximately one-third of the appliance incentives for equity customers to ensure widespread program access
- **Equity Customer Definition:** Considered several options and aligned with California state definition of Environmental and Social Justice Communities
- **Program Scale:** Increased scale of program to \$677 million to address more of the BE gap

### Timeline

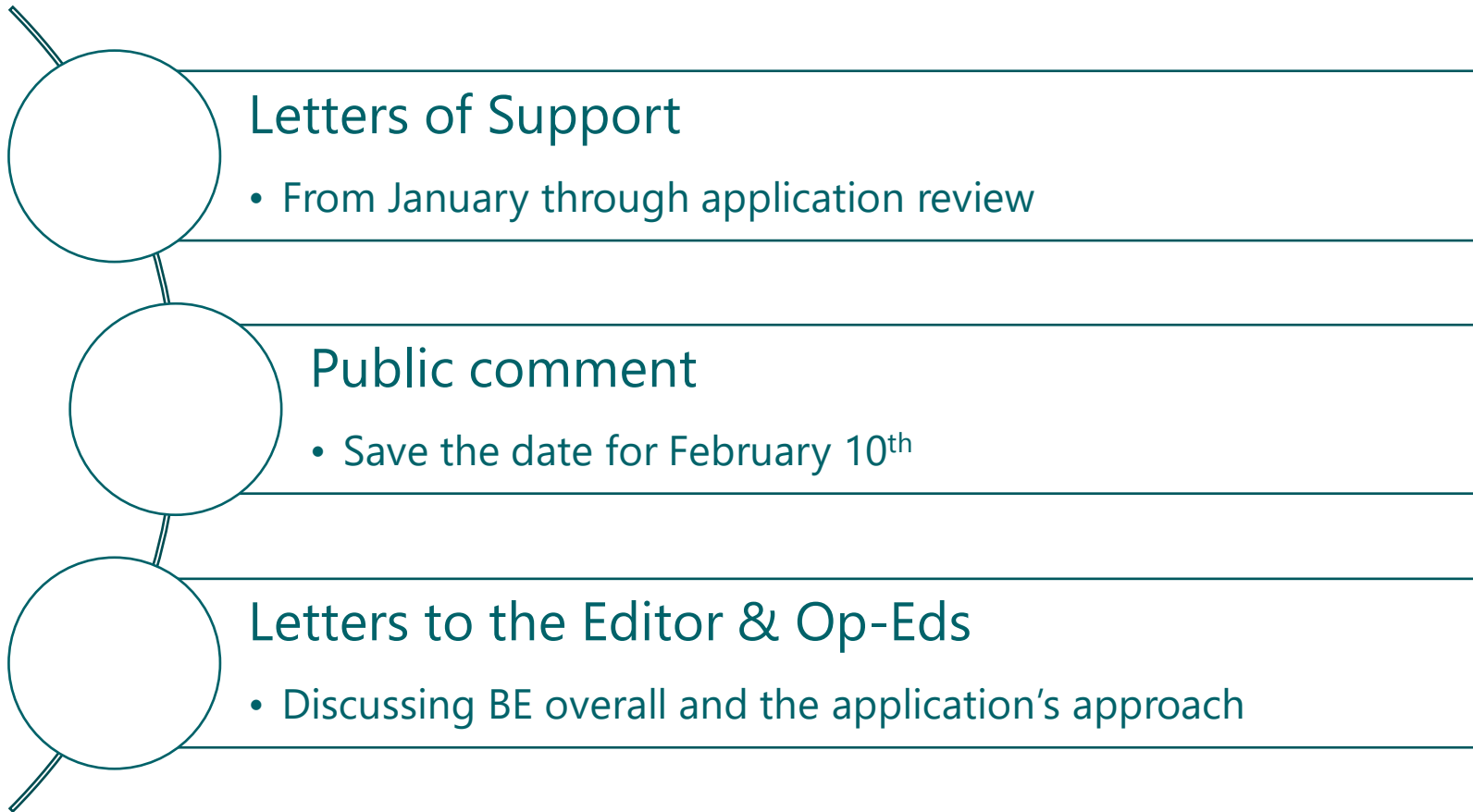




Questions?



# Ensuring a Successful BE Application



# Appendix

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# Portfolio Strategy– Drivers

## Barriers to Address



\*by Pineda Studio

### Lack of Knowledge

- Low awareness of heat pumps
- Performance of electrified appliances compared to gas



\*by P. P. Khorsanpour Project

### High Upfront Costs

- \$600-1,800 cost premia for residential appliances
- Up to \$4,200 for infrastructure upgrades in homes

## Targeted Technologies



\*by Pineda Studio Project

### Heat pumps and Water Heaters

- Lowest cost GHG reductions of all appliances
- Ancillary benefits of in-home air quality

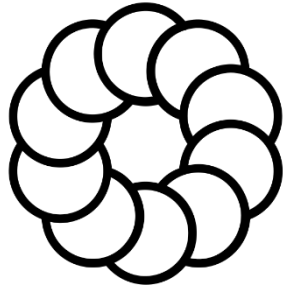


\*by Stamus Icon Project

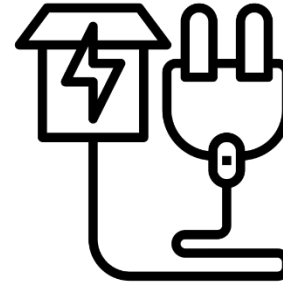
### Electric Panels

- Needed for initial upgrade for targeted appliances
- Enable future electrification when needed

# Equity as a Priority



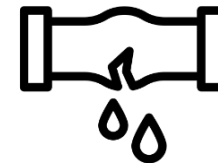
Equity concerns for vulnerable customers threaded throughout program design as a core value



Fully funded upgrades for low-income customers to broaden adoption



Long-term downward-rate pressure by spreading fixed costs over increased volumetric sales



Reduced stranded asset costs borne by those least able to afford electrification

# Customer Journeys



## Marketing and Outreach

- Partner with CBOs and local governments as trusted partners



## Assessment and Assistance

- BE Ready<sup>SM</sup> Assessment to value needs, rate impacts
- Seek synergies with other programs



## Installation Help

- Incremental costs covered (over new gas install)
- Panels
- Appliances
- Contractor referrals



## Benefits and Savings

- Fuel savings over life of assets
- Health and performance benefits of electrified appliances



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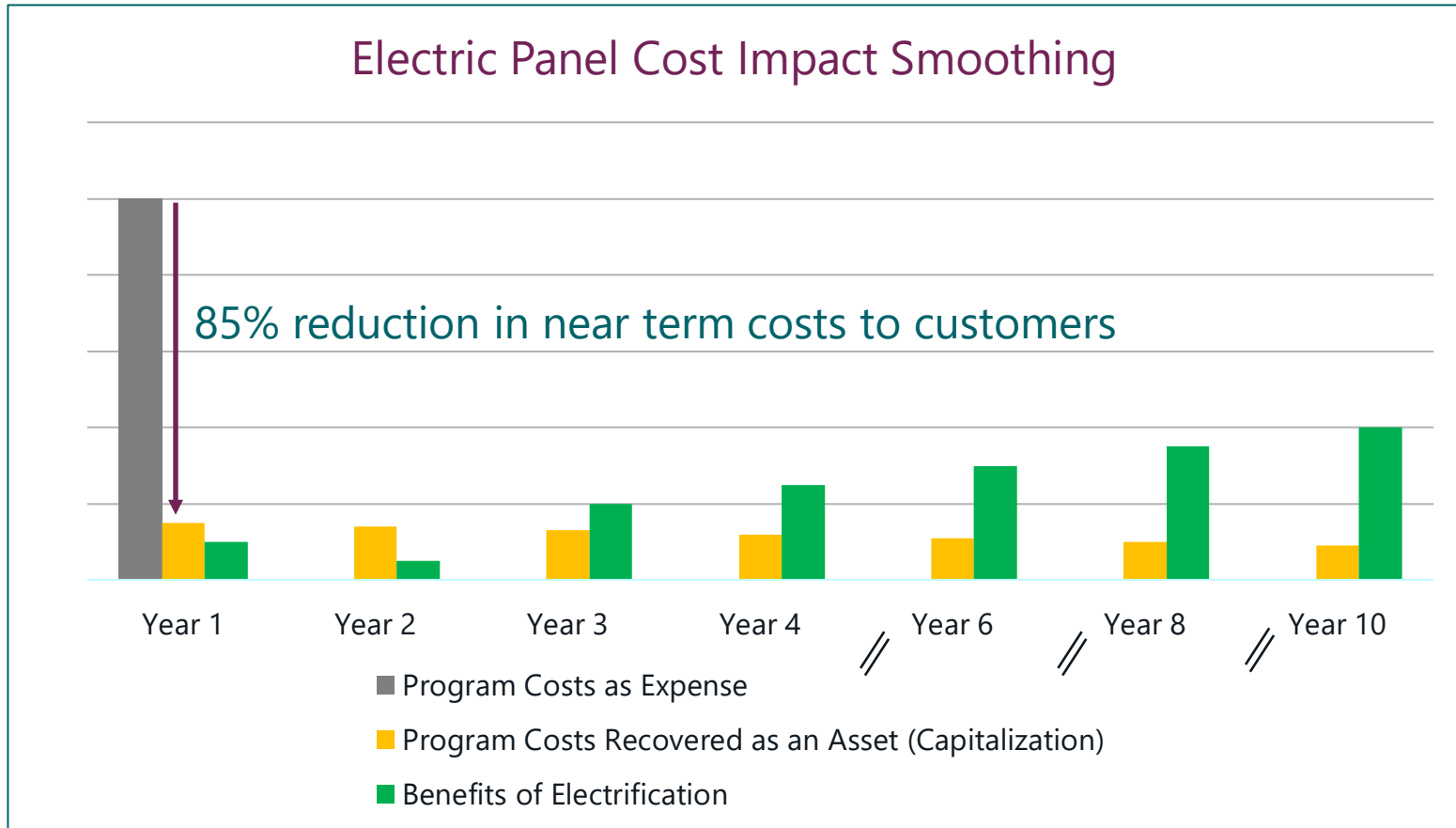
- Focus on key channels:
  - distributors
  - contractors
  - designers

- Educate customers, operators, and installers
- Large building HVAC system design assistance

- Upfront subsidy for small to mid sized businesses
- Contractor referrals

- Fuel savings over life of assets
- GHG PBI for large commercial
- Health and performance benefits

# Rate Smoothing and Affordability



For illustrative purposes only- not to scale