

# Joint IOU Public Workshop: EPIC 5 Investment Plans



June 23, 2026

1:00pm-4:10pm

Virtual Webinar



This program is funded by California utility customers under the auspices of the California Public Utilities Commission.



# Safety

## Reminders

- This is a long session. Remember to stretch, adjust your chair position, and take breaks as needed.

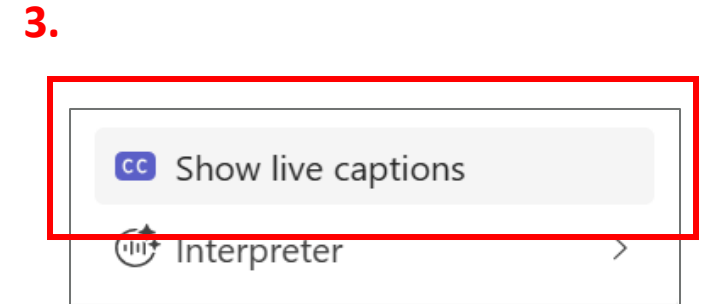
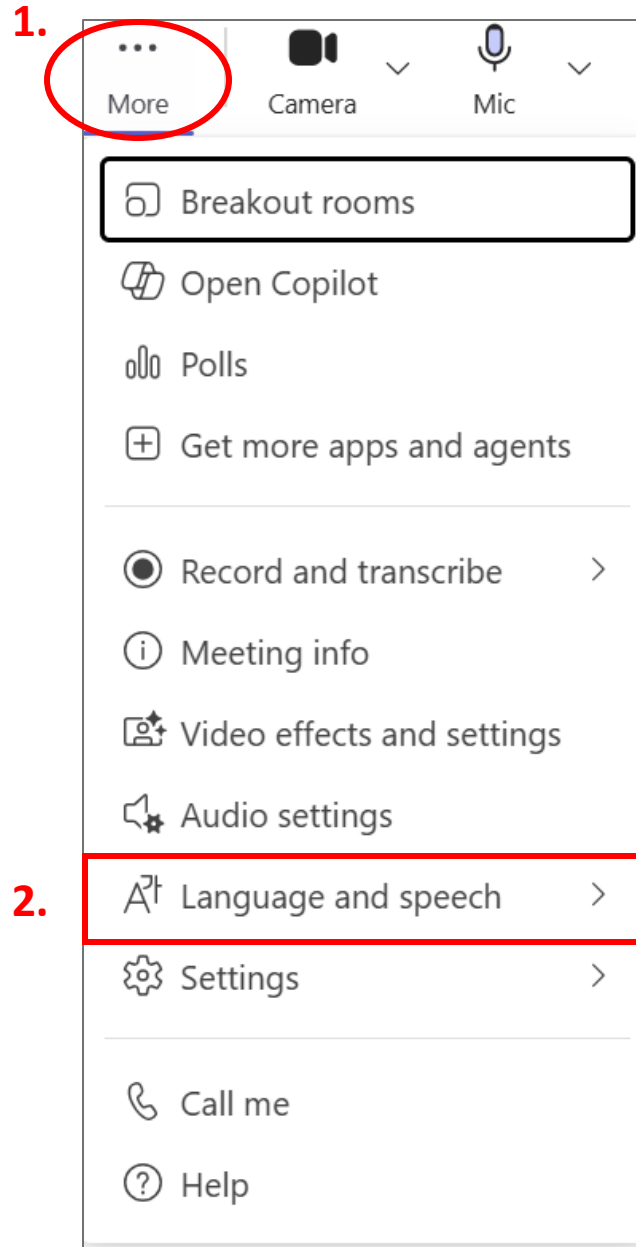
SAFETY CONSIDERATIONS	
<b>Earthquake:</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Know the safest places to duck, cover and hold, such as under sturdy desks and tables</li></ul>	<b>Active Shooter:</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Get out, hide out, take out</li><li><input type="checkbox"/> Call 911, if possible</li></ul>
<b>Fire:</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Know your exits and escape routes</li><li><input type="checkbox"/> Have a compliant fire extinguisher to be used only when safe to do so</li><li><input type="checkbox"/> Most importantly, get out of the building and call 911</li></ul>	<b>Medical Emergency:</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Are you alone or is someone else present to perform first aid/CPR as needed? If alone, be prepared to call 911</li><li><input type="checkbox"/> Do you have an AED? If so, ensure that your family or housemate knows where it is and how to use it.</li></ul>

# Workshop Agenda

Agenda Topics	Start Time	Minutes	Section Detail
Opening	1:00	5	Safety, Opening Remarks & Introduction to EPIC
	1:05	5	EPIC 5 Strategic Goals and Objectives
<i>PG&amp;E EPIC 5 Draft Investment Plan Approach</i>	1:10	50	PG&E will provide an overview of their draft EPIC 5 Investment Plan and spotlight several research topics with time for audience comment on each topic.
	2:00	5	Q&A, comments on PG&E's presentation
<b>BREAK</b>	2:05	5	Break for 5 minutes and return
<i>SDG&amp;E EPIC 5 Draft Investment Plan Approach</i>	2:10	40	SDG&E will provide an overview of their draft EPIC 5 Investment Plan and spotlight several research topics
	3:50	10	Q&A, comments on SDG&E's presentation
<b>BREAK</b>	3:05	5	<i>Break for 5 minutes and return</i>
<i>SCE EPIC 5 Draft Investment Plan Approach</i>	3:10	50	SCE will provide an overview of their draft EPIC 5 Investment Plan and spotlight several research topics with time for audience comment on each topic.
	4:00	5	Q&A, comments on SCE's presentation
Closing	4:05	5	Concluding Comments, Next Steps

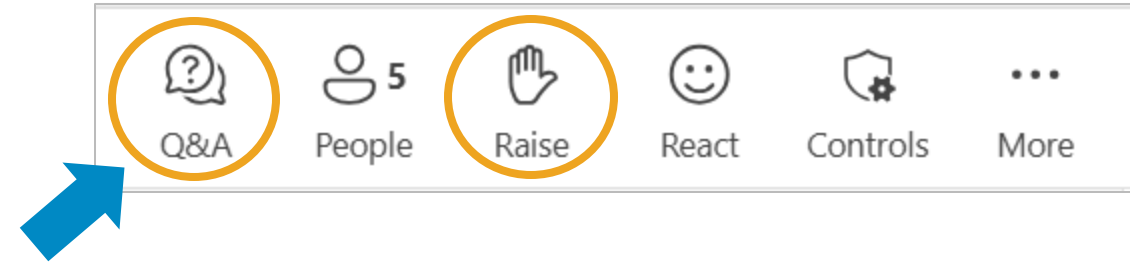
# Language Needs

- This webinar supports live closed captioning translated into languages other than English using AI.
- To turn on this feature:
  - **Step 1:** click "**More**" from the menu bar at the top of the page
  - **Step 2:** click "**Language and speech**"
  - **Step 3:** click "**Show live captions**" and choose your preferred language.

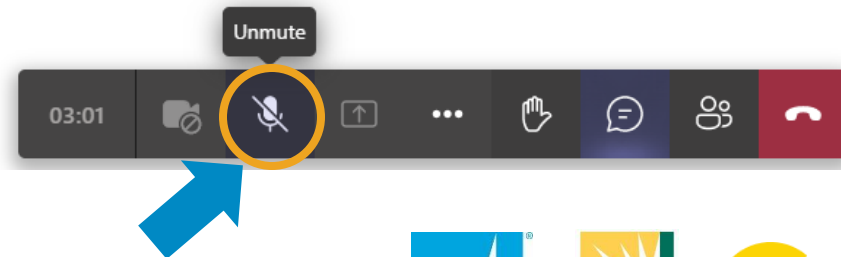


# To Participate

- Type your question in the Chat, or
- Raise your hand



- At an appropriate time the Moderators will read your question from the Chat, or request that you ask your question. When prompted please unmute and participate.
- Please mute yourself after you have completed your question or statement.



# Opening Remarks





# Dan Gilani

Director of Innovation Strategy & Programs



# Goals for this Workshop

1. Share our draft plans for EPIC 5 investments in future energy & climate projects through our proposed strategic initiatives and research topics;
2. Receive public input on our draft plans and hear about key research priorities of different stakeholders with respect to EPIC research topics under consideration;

Workshop audience feedback and submitted comments will be **documented and incorporated in the EPIC 5 Investment Plans to be filed August 26, 2026.**



# 1. Introduction to EPIC

Britt Shaw

EPIC Program Manager

Innovation Strategy & Programs, PG&E



# EPIC Overview

The **Electric Program Investment Charge (EPIC)** is a California statewide program that enables the IOUs and CEC to demonstrate and pursue new, novel emerging energy solutions to benefit electric ratepayers and support California's energy goals.

Five guiding principles have been formally established to guide all EPIC work:

**Increased Safety • Improved Affordability •  
Greater Reliability  
Environmental Sustainability • Equity**



This program is funded by California utility customers under the auspices of the CPUC.

# CPUC-Designated EPIC Work Categories

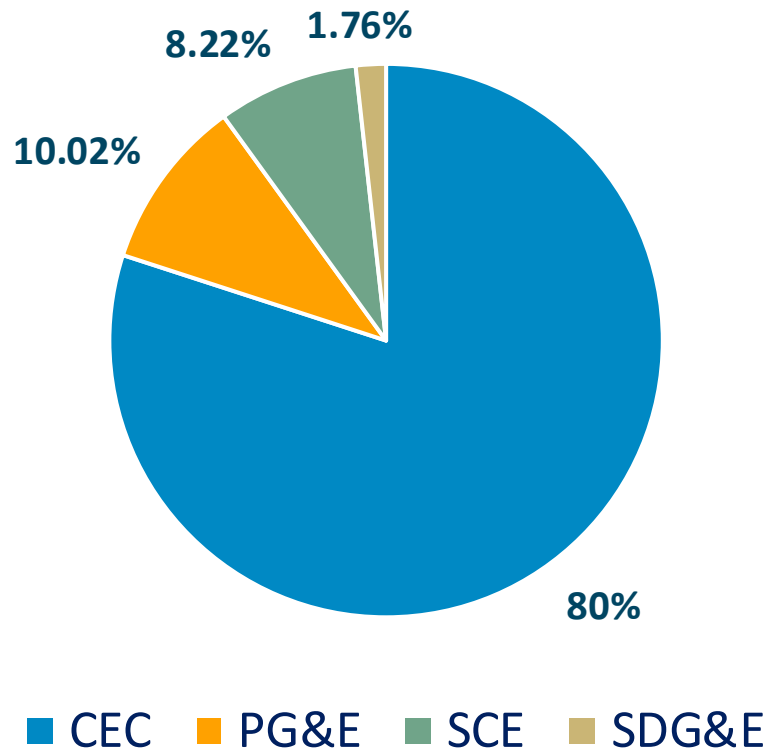
Applied Research and Development	Technology Demonstration & Deployment	Market Facilitation
Investment in applied energy science and technology that provides public benefit but for which there is no current deployment of private capital.	Investments in <b>technology demonstrations at real-world scales</b> and in real-world conditions to showcase emerging innovations and increase technology commercialization.	Investments in market research, regulatory permitting and streamlining, and workforce development activities to address non-price barriers to clean technology adoption.
CEC	CEC	CEC
	SCE SDG&E PG&E	



# EPIC Funding Allocation

The California Energy Commission (CEC) manages 80% of EPIC funds. The three utilities, PG&E, SCE and SDG&E, manage the remaining 20%, divided as shown below.

EPIC 5 Funding Allocation by Administrator (%)



Administrator	Program Funding for 5-Year EPIC-5 Cycle
CEC	\$662,300,000
PG&E	\$82,953,075
SCE	\$68,051,325
SDG&E	\$14,570,600

# 2. EPIC 5 Strategic Goals and Strategic Objectives

Cynthia Carter



# EPIC 5 Strategic Goals

CPUC's D.24-03-007 set the five EPIC 5 Strategic Goals that will guide our plans.



**Transportation  
Electrification**



**DER  
Integration**



**Building  
Decarbonization**



**Achieving  
100% Net  
Zero Carbon  
Emissions &  
Coordinated  
Role of Gas**



**Climate  
Adaptation**

# EPIC 5 Strategic Objectives

**CPUC's D.26-02-037 established more detailed and nearer-term Strategic Objectives for the EPIC 5 Investment Plan Cycle (2026-2030), listed below:**

1. Reducing Medium and Heavy-Duty Vehicle Charging Infrastructure Costs
2. Overcoming Barriers to EV Benefits in DVCs
3. Smart Planning Tools for New Load and Clean Resources
4. Reducing Cost of Whole Home Electrification
5. Innovative Approaches for Difficult-to-Decarbonize Sectors
6. Community-Scale Decarbonization
7. Impacts Research for New Generation and Storage
8. Increase Predictability of Weather Impact on, Intermittent Resources, Climate Risks, and Load
9. Leveraging DERs for Grid and Community Resiliency
10. Expediting and Streamlining Interconnection and Energization Processes
11. Providing Data Input into a Value of DER Framework
12. Optimizing Feeder / Circuit Operations
13. Cost-Effective Grid Hardening for Long-Term Climate Impacts

Source: [D. 26-02-037, Appendix A](#)

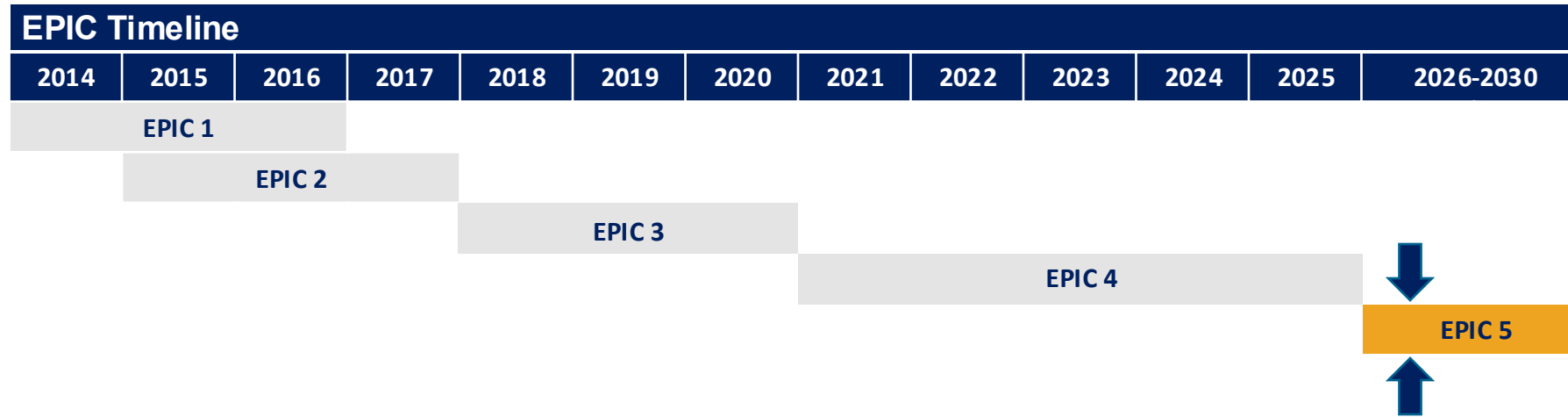
# Investment Plan Structure

Each utility will propose Strategic Initiatives that align to EPIC 5 goals and objectives, as well as research topics under each initiative. After investment plans are approved, specific projects will be selected. Expected results of the plan will be estimated and later measured for the near, mid, and long-term.



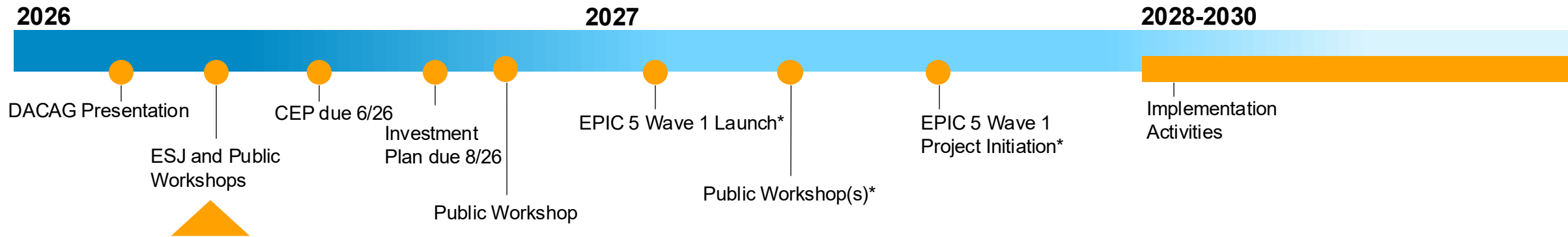
Source: CPUC Energy Division Staff, March 2026

# EPIC Timeline and EPIC 5 Investment Plans



- EPIC 3 and 4 cycle projects are continuing to completion
- Proceeding R.19-10-005 is ongoing (EPIC 4 & EPIC 5)
- Utilities will file Community Engagement Plans for EPIC 5 by June 26, 2026
- Administrators are developing EPIC 5 Investment Plan applications
  - Must be filed by August 26, 2026

# EPIC 5 Lifecycle & Engagement Opportunities



## Investment Plan Development

- Northern California ESJ Communities Workshop
- Southern California ESJ Communities Workshop
- Public Joint Admin Workshop
- Community Engagement Plan (CEP) submission
- Additional engagement to be detailed through each IOU's CEP

## Project Selection

- Public Workshops
- Additional engagement during project ideation & selection to be detailed in each IOU's CEP
- EPIC Program Admin Coordination

## Implementation

- CBO/ESJ Project Partners & feedback
- Metrics & Results Dissemination
- Sharing learnings, Industry engagement

*\*timing dependent on CPUC approval of Investment Plan*

# 3. PG&E EPIC 5 Investment Plan Approach

Britt Shaw

EPIC Program Manager

Innovation Strategy & Programs, PG&E





# EPIC 5 Draft Strategic Initiatives

PG&E has six (6) draft Strategic Initiatives for EPIC 5 which align with EPIC 5 Goals and multiple EPIC strategic objectives. We'll provide an overview for each of these today and dive deeper on five spotlight research topics.

Primary EPIC 5 Goal Served	PG&E Draft Proposed Initiatives
Transportation Electrification	1. Ensuring cost-effective and timely access to EV connection for the benefit of all Californians
DER Integration	2. Affordable load growth through advanced planning and operating capabilities 6. Exploring pathways to streamline interconnection for DERs and new load
Building Decarbonization Achieving 100% Net-Zero Carbon Emissions	3. Accelerating affordable electrification across customer groups to enable community-scale decarbonization
Climate Adaptation	4. Understanding and planning for climate and weather impacts on operations, assets & environment 5. Building community resilience from prevention through recovery



# EPIC 5 Draft Initiatives

## Initiative 1: Ensuring cost-effective and timely access to EV connection for the benefit of all Californians

*This initiative will test new ways to make connecting EV chargers easier, more predictable, and more affordable for homes, businesses, and fleets. By providing clearer upfront information and reducing the need for costly customer-side upgrades, it aims to help more people adopt EVs and expand access in disadvantaged communities.*

### Proposed Topics

SO1: Reducing M/HDV charging infrastructure costs  
SO2: Overcoming Barriers to EV Benefits in DVCs

#### 1.1 Accelerating non-residential & fleet electrification

- Lower costs for fleet and other commercial EV charging upgrades
- Provide clear, upfront cost estimates to support decision-making
- Help businesses plan and move forward with electrification more easily

#### 1.2 Advancing residential transportation electrification with specific emphasis on DVCs

- Reduce costs for home EV charging upgrades (single-family and multi-family)
- Give customers clear timelines and upgrade requirements upfront
- Expand access to EVs in DVCs, where shared infrastructure and costs are higher barriers



# EPIC 5 Draft Initiatives

## Initiative 2: Affordable load growth through advanced planning and operations capabilities

*This initiative will test new planning and operating approaches that help PG&E manage growing electricity demand while helping keep costs down. By planning earlier, making better use of existing infrastructure, and coordinating flexible resources, it aims to reduce how much new investment is needed and when it is needed to serve customers.*

### Proposed Topics

SO3: Smart systemwide planning tools for new load  
SO11: Providing data input into a Value of DER Framework  
SO12: Reducing feeder/circuit peaks

#### 2.1 Smart planning tools to holistically optimize upgrades across the system

- Bring system and device data together into one clear planning view
- Improve forecasts of electricity demand and flexible resources
- Use better data to identify system needs earlier and more accurately
- Speed up customer connections and energizations
- Target upgrades more precisely and efficiently

#### 2.2 Solutions to optimize the cost and scope of grid upgrades

- Use new solutions to delay or reduce the need for grid upgrades
- Get more value from existing equipment and infrastructure
- Increase how efficiently the system is used before building new assets
- Simplify design and cost estimating for required upgrades
- Make sure investments are right-sized and cost-effective

#### 2.3 Enabling orchestration of flexible resources and a framework for valuing flexibility

- Enable better coordination of DERs, EVs, and large customer loads
- Use flexibility to make better use of existing grid capacity
- Reduce the need for new and costly infrastructure upgrades
- Improve how grid flexibility is valued and compensated
- Expand participation and benefits for customers, including those in DVCs



# EPIC 5 Draft Initiatives

## Initiative 3: Accelerating affordable electrification across customer groups to enable community-scale decarbonization

*This initiative will develop capabilities that will enable PG&E to make whole-home electrification affordable and accessible for individual customers while improving grid visibility and planning so PG&E can scale from individual home upgrades to coordinated, neighborhood-level electrification.*

### Proposed Topics

SO4: Reducing the Cost of Whole Home Electrification  
SO5: Innovative Approaches for Difficult-to-Decarbonize Sectors  
SO6: Community-Scale Decarbonization

#### 3.1 Lowering the cost and complexity of whole-home electrification from assessment to installation

- Reduce the cost and complexity of whole-home electrification
- Address common barriers like panel upgrades, permitting delays, and added home repair costs
- Make it easier for customer to move from initial assessment to installation
- Simplify and automate assessments, permitting, and program navigation
- Lower barriers for low-income and historically underserved households

#### 3.2 Planning and detection tools for zonal electrification readiness

- Help PG&E see where electrification is happening at the neighborhood level
- Identify local barriers to electrification before they slow adoption
- Move from one-off customer responses to coordinated, area-based planning
- Forecast appliance changes and identify the right timing for upgrades
- Map neighborhood needs and assess capacity across multiple buildings
- Improve data to support long-term planning and decommissioning decisions

#### 3.3 Unlocking electrification pathways for hard-to-decarbonize end uses

- Focus on large commercial and industrial uses that are hardest to electrify
- Identify where electrification could work and where it may not yet be cost-effective
- Analyze building types and energy needs to understand electrification options
- Assess costs and feasibility for high-value manufacturing and industrial sectors
- Help define practical pathways to decarbonization where none are clear today



# EPIC 5 Draft Initiatives

## Initiative 4: Understanding and planning for climate and weather impacts on operations, assets & environment

*This initiative will enable PG&E to build better climate and weather data and tools to understand risk. These capabilities will support smarter planning and operations as extreme weather and climate impacts become more frequent and complex.*

### Proposed Topics

SO8: Increase Predictability of Weather Impact on, Intermittent Resources, Climate Risks, and Load  
SO13: Cost-Effective Grid Hardening for Long-Term Climate Impacts

### 4.1 Enhancing climate and weather analytics to reduce systemic risk

- Improve climate and weather data to better understand risk
- Use climate information more directly in planning and investment decisions
- Strengthen weather forecasting and wildfire modeling across short- and long-term timeframes
- Better understand how changing moisture, tree health, and vegetation increase risk
- Support smarter, long-term mitigation planning as climate risks intensify



# EPIC 5 Draft Initiatives

## Initiative 5: Building community resilience from prevention through recovery

*This initiative will enable PG&E to advance a full-cycle community resilience capability that spans the prevention and monitoring, response, and recovery innovations needed to reduce ignition and outage risk, minimize customer impact when disruptions occur, and shape climate-adapted landscapes in the aftermath.*

### Proposed Topics

SO8: Increase Predictability of Weather Impact on, Intermittent Resources, Climate Risks, and Load  
SO9: Leveraging DERs for Grid and Community Resiliency  
SO13: Cost-Effective Grid Hardening for Long-Term Climate Impacts

#### 5.1 Prevent: understanding & mitigating risk to communities & customers

- Reduce the risk that climate-drive hazards pose to communities and customers
- Build a more resilient and reliable grid
- Improve tools to detect, monitor, and prevent ignition risks
- Advance forest and vegetation management to reduce wildfire risk
- Apply smarter, long-term strategies to balance safety, reliability, and environmental health
- Reduce costs and customer impacts from system upgrades and hardening

#### 5.2 Withstand: minimize community & customer impact

- Reduce the length and impact of outages on customers
- Improve PG&E's ability to respond quickly and more precisely during events
- Speed up and improve restoration after outages or shutoffs
- Use solutions like microgrids and batteries to keep power on during disruptions
- Strengthen both customer resilience and overall grid performance

#### 5.3 Recover: rebound from catastrophic events

- Improve how PG&E recovers after major climate events
- Develop better tools to support faster and more effective recovery
- Use smarter approaches to remove fire-damaged vegetation
- Restore landscapes in ways that are better suited to future climate conditions
- Turn recovery efforts into opportunities to support long-term resilience and decarbonization



# EPIC 5 Draft Initiatives

## Initiative 6: Exploring pathways to streamline interconnection for DERs and new load

*Interconnection timelines are slowing PG&E's ability to meet growing electricity demand. This initiative will test new ways to make it faster and easier to connect DERs, EVs, and large loads, while using practical solutions to deliver power sooner before full infrastructure upgrades are complete.*

### Proposed Topics

### SO10: Expediting and Streamlining Interconnection and Permitting

#### 6.1 Streamlining Customer Interconnection

- Make it faster and easier to connect DERs, EVs, and large loads to the grid
- Improve tools and data to support more accurate and efficient interconnection planning
- Increase visibility into system capacity and constraints
- Provide faster, more predictable timelines for customers
- Support reliability, lower costs, and expanded access, especially in DVCs

#### 6.2 Accelerating speed-to-power

- Use bridging solutions to deliver power faster while full upgrades are still in progress
- Identify the best near-term options based on customer and grid needs
- Automate how options are evaluated and selected
- Help large customers get connected and powered more quickly
- Support economic development and electrification access, especially in DVCs

# Spotlight on select PG&E Research Topics



# Spotlight Topic: 2.2 Solutions to optimize the cost and scope of grid upgrades

**Under draft Initiative 2: *Affordable load growth through advanced planning and operations capabilities***

## SPOTLIGHT TOPIC

### 2.2 Solutions to optimize the cost and scope of grid upgrades

**Problems:** Anticipated load growth across PG&E's service area is straining the limits of the existing T&D system, necessitating significant investment in upgrades to accommodate the new load

**Target Solutions:** Enhance dynamic, real-time management of existing capacity, improve ability to accurately determine remaining useful life of existing assets, maximize use of existing rights-of-way

**Anticipated Outcomes and Benefits:** Reduce the cost of accommodating load growth and accelerate California's clean energy transition by maximizing utilization of the existing system and optimizing upgrades.

# Audience Comments or Questions on Topic 2.2

**5 Minutes**





# Spotlight Topic: 5.1 Prevent: understanding & mitigating risk to communities & customers

**Under draft Initiative 5: *Building community resilience from prevention through recovery***

## SPOTLIGHT TOPIC

### 5.1: Prevent: understanding & mitigating risk to communities & customers

**Problems:** Climate change is accelerating asset degradation, increasing ignition risk, and altering forest ecosystems faster than current infrastructure, monitoring practices, and forest management approaches can address. Per-mile costs of climate-resilient hardening remain prohibitive at the scale needed.

**Target Solutions:** Reduce the cost and complexity of undergrounding; advance asset diagnostics, protection schemes, and continuous fault monitoring to prevent ignitions; and improve forest management approaches to reduce hazard exposure.

**Anticipated Outcomes and Benefits:** More affordable and scalable climate-resilient hardening, reduced ignition risk, and improved forest resilience, with prevention investments prioritized to the communities most exposed to climate-driven hazards.

# Audience Comments or Questions on Topic 5.1

**5 Minutes**





# Spotlight Topic: 5.2 Withstand – Minimize community & customer Impact

**Under draft Initiative 5: *Building community resilience from prevention through recovery***

## SPOTLIGHT TOPIC

### 5.2: Withstand: Minimize community & customer impacts

**Problems:** Climate-driven hazard events disproportionately impact rural, Tribal, and other ESJ communities. PG&E's current PSPS workflows, microgrid designs, and resiliency assets were not built for today's multi-hazard environment.

**Target Solutions:** Faster and more targeted PSPS restoration; community-scale microgrid and battery solutions that deliver customer and grid value; ignition notification and rapid suppression technologies; and survivability-informed hardening and mitigation decisions.

**Anticipated Outcomes and Benefits:** Shorter outages affecting fewer customers, expanded resiliency coverage, and reduced life-safety risk during fast-moving hazards, with prevention and resiliency investments prioritized to the communities most exposed to climate-driven hazards.

# Audience Comments or Questions on Topic 5.2

**5 Minutes**





# Spotlight Topic: 6.1 Streamlining Customer Interconnection

**Under draft Initiative 6: *Exploring pathways to streamline interconnection for DERs and new load***

## SPOTLIGHT TOPIC

### 6.1: Streamlining Customer Interconnection

**Problems:** Unprecedented pace and scale of load growth in large loads, DERs, and EVs is driving a rapid change across PG&E's system. Current forecasting and planning tools are not optimized to evaluate and plan new interconnections, which can lead to delays, higher costs, and potential reliability risks as grid planning systems struggle to keep pace.

**Target Solutions:** Improved tools and data to support more accurate and efficient interconnection planning and visibility to the type of capacity upgrades required. Novel tech to enable enterprise-grade automation with appropriate safeguards.

**Anticipated Outcomes and Benefits:** better visibility to impact of a new interconnection on existing infrastructure, reduce cost and timeline for large loads interconnections and enable more rapid installation of DERs and V2X equipment through streamlined interconnection process.



# Spotlight Topic: 6.2 Accelerating speed to power

**Under draft Initiative 6: *Exploring pathways to streamline interconnection for DERs and new load***

## SPOTLIGHT TOPIC

### 6.2: Accelerating speed to power

**Problems:** Rapid load growth creates a persistent gap between when customers need power and when grid infrastructure can be upgraded. Interim or bridging solutions are limited, often fossil-fuel dependent, costly or too operationally complex to scale. Distribution bridging solutions are not orchestrated for max value, with customers self-serving through demand flexibility and/or DERs.

**Target Solutions:** Clean, firm bridging solutions and improved modeling tools that integrate planning outputs, real-time grid conditions, and the capabilities of new bridging technologies, including solid state transformers and DSO orchestration of DER capacity and load flexibility, among others.

**Anticipated Outcomes and Benefits:** Enabling faster, less expensive and more reliable energization for new customer loads while grid infrastructure upgrades take place. Co-benefits may also include local air quality benefits where clean bridging solutions can displace interim fossil generation as an alternative.

# Audience Comments or Questions on Initiative 6

**5 Minutes**



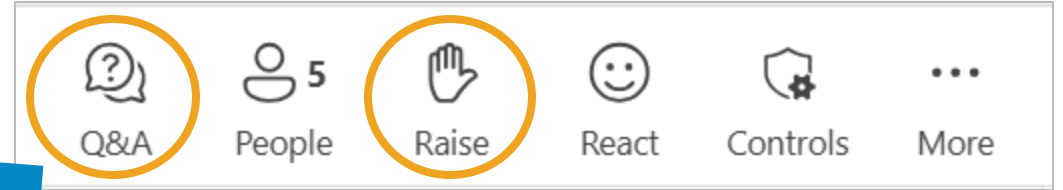
# Audience Comments or Questions on PG&E plan

**5 Minutes**

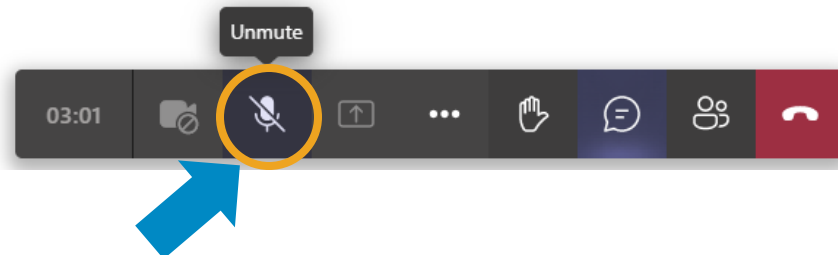


# To Share Comments or Ask Questions

- Type your question in the Q&A Chat, or Raise your hand



- At an appropriate time the Moderators will read your question from the Chat, or request that you ask your question. When prompted please unmute and participate.
- Please mute yourself after you have completed your question or statement.



# 5 Minute Break



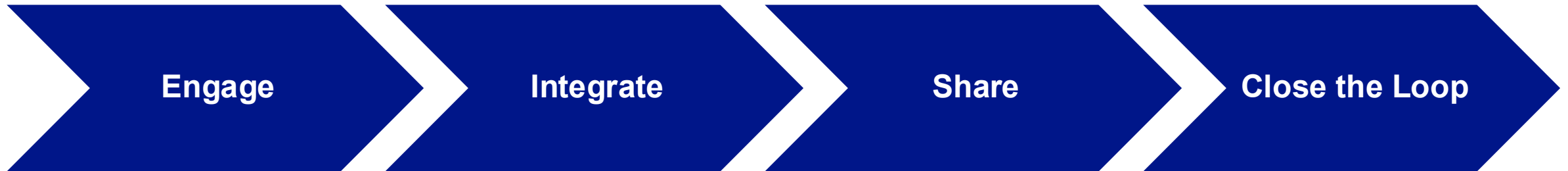


## EPIC-5 Joint IOU Workshop

June 23, 2026

For discussion purposes only

# EPIC Community Engagement Process



- Workshops
- Conferences
- Partnerships

- Goals & Initiatives
- Community Feedback
- Past Lessons

- Progress
- Challenges
- Successes

- Responding
- Addressing
- Moving Forward

# EPIC-5 Progress



# SDG&E's EPIC-5 Goals & Proposed Initiatives

**DER  
Integration**



**Advancing the Grid  
for Community  
Resilience**

**Climate  
Adaptation**



**Next-Generation  
Resilience and  
Response**

**Building  
Decarbonization**



**Guiding Customers to  
a Clean Energy Future**

**Achieving 100%  
Net-Zero Carbon  
& the Coordinated  
Role of Gas**



**Low Carbon Options  
for California's  
Economy**

# SDG&E EPIC-5: DER Integration

Advancing Grid and Community Resilience

	Advanced Storage Technologies	Connected Customer Resources & Resilient Grid Operations
Overview	Examine battery technologies and execute use-cases for a safe, clean, and resilient grid	Evaluate how customer-owned energy technologies can be optimized to deliver greater customer and grid value while preparing grid operators to manage increasingly complex operating conditions.
Expected Outcomes	<ul style="list-style-type: none"><li>• Improved grid reliability during peak demand, outages, and extreme weather events</li><li>• Reduced long-term infrastructure and operational costs</li></ul>	<ul style="list-style-type: none"><li>• Improved affordability via increased access to incentive opportunities</li><li>• Improved grid reliability</li><li>• Expanded access to savings opportunities in DACs communities</li></ul>
Gaps Filled	Evaluation of alternate technologies under real-world grid conditions for affordability, safety and performance improvements	Operational tools and framework for integrating customer-owned resources to improve reliability and deliver greater value to customers and the grid

# SDG&E EPIC-5: Climate Adaptation

## Next-Generation Resilience and Response

	AI for Utility Resilience & Adaptation	Mobile Field Operations Platform	Integrated Risk Analytics for Wildfire Mitigation	Preventive Grid Sensing
Overview	Use AI to integrate climate, grid, and community data to prioritize investments	Evaluate feasibility and operational value of a mobile field operations platform	Evaluate emerging technologies and advanced analytics that enhance wildfire mitigation and operational decision-making.	Use of smart meters and multi-sensors for early fault detection of assets
Expected Outcomes	<ul style="list-style-type: none"> <li>• Reduced risk/expenditure for stranded assets</li> <li>• Communities are served equitably</li> <li>• Enhanced safety</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced field inspection time</li> <li>• Improved engineering visibility into field</li> </ul>	<ul style="list-style-type: none"> <li>• Improved reliability/safety by enhancing risk identification</li> <li>• Improved affordability/equity</li> </ul>	<ul style="list-style-type: none"> <li>• Increased reliability during PSPS/outage events</li> <li>• Reduced risk of faults in HTR communities</li> </ul>
Gaps Filled	Transformative approach to grid planning with climate hazard mitigation in mind	All-in-one platform to identify assets, perform inspections, and document compliance that prepares for AI/AR future	Improved wildfire risk identification, prioritization, and operational response through advanced sensing, analytics, and decision-support technologies.	Enables stronger fault detection accuracy and supports real-time field decision-making

# SDG&E EPIC-5: Building Decarbonization

Guiding Customers to a Clean Energy Future



Customer-Centric Planning Tool to Accelerate Building Electrification	
<b>Overview</b>	<ul style="list-style-type: none"><li>• AI-powered end-to-end electrification concierge platform</li><li>• Builds personalized digital twin using utility and property data</li><li>• Generates step-by-step electrification roadmap</li><li>• Integrates incentives, contractors, financing in one experience</li><li>• Provides real-time guidance via conversational AI assistant</li></ul>
<b>Expected Outcomes</b>	<ul style="list-style-type: none"><li>• Increases electrification adoption across residential and SMB customers</li><li>• Reduces customer costs through optimized incentive stacking</li><li>• Improves customer trust with transparent pricing and vetted contractors</li><li>• Accelerates project timelines via streamlined workflows</li><li>• Drives load growth and supports grid planning insights</li></ul>
<b>Gaps Filled</b>	<ul style="list-style-type: none"><li>• Eliminates fragmented tools with unified customer experience</li><li>• Automates complex incentive eligibility and stacking</li><li>• Enables true personalization using actual usage data</li><li>• Bridges planning-to-installation workflow gap</li><li>• Adds project tracking from start to completion</li></ul>

# SDG&E EPIC-5: Difficult-to-Decarbonize Sectors

## Low Carbon Options for California's Economy



Decarbonizing Natural Gas for Multiple Use Cases	
<b>Overview</b>	Demonstrate an advanced methane conversion technology that produces low-emission hydrogen while creating flexible electric demand, reducing renewable curtailment, and lowering long-term costs for electric ratepayers
<b>Expected Outcomes</b>	<ul style="list-style-type: none"><li>• Successful decarbonization of hard-to-decarbonize sectors of the economy to achieve 100% Net-Zero Carbon</li><li>• Enable grid flexibility and customer resiliency via diverse energy resources</li><li>• Reduce high pollutants (i.e., NOx, PM) in vulnerable communities</li></ul>
<b>Gaps Filled</b>	High cost and lack of electrification solutions for difficult-to-decarbonize industries

# Audience Q&A and Comments

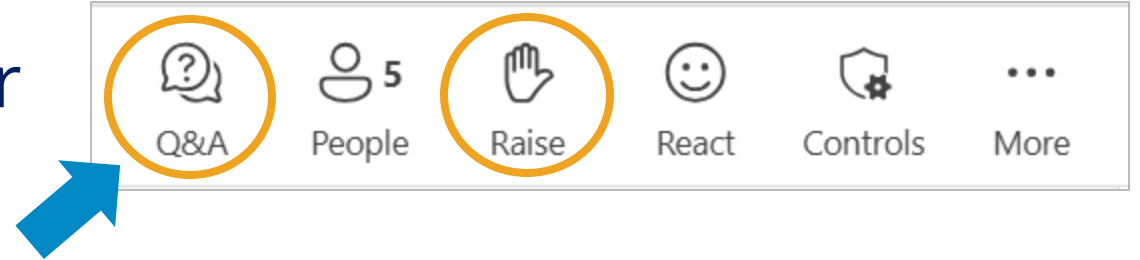


**Audience members can use the “hand raise” feature to ask a verbal question or enter written questions and comments in the Q&A chat for the Teams Webinar.**

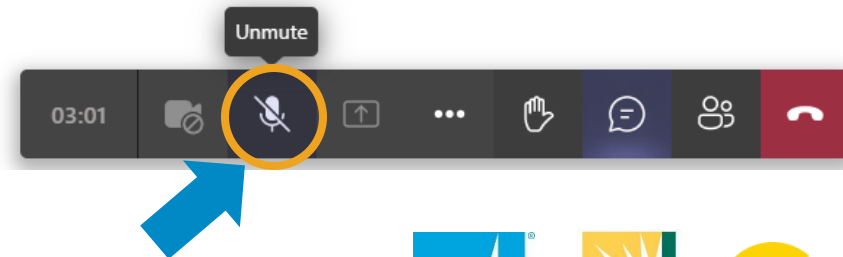
**Duration: 10 Minutes**

# To Participate

- Type your question in the Chat, or
- Raise your hand



- At an appropriate time the Moderators will read your question from the Chat, or request that you ask your question. When prompted please unmute and participate.
- Please mute yourself after you have completed your question or statement.



# 5 Minute Break



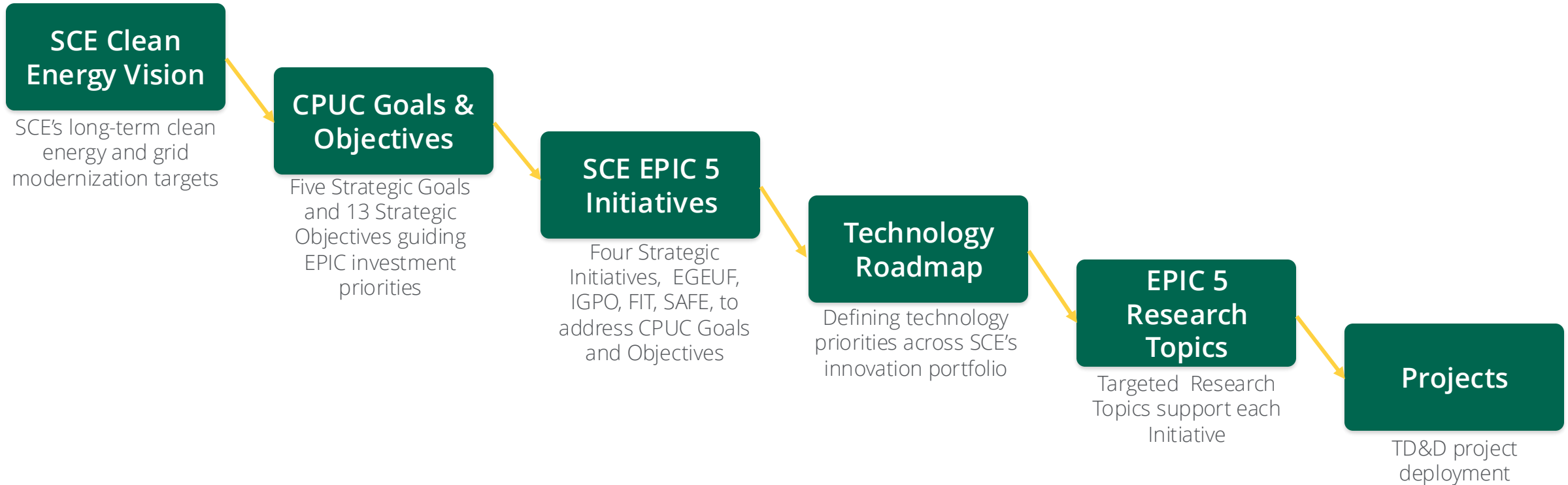
# **Southern California Edison's EPIC 5 Investment Plan**

---

# From Clean Energy Vision to Innovation Deployment

## Strategic Waterfall: SCE's Technology Strategy and EPIC

### STRATEGY TO EXECUTION WATERFALL



#### KEY ALIGNMENT

- SCE's strategic vision converges with CPUC's EPIC 5 Goals to shape each EPIC 5 initiative.
- The Technology Roadmap defines SCE technology priorities and shapes the EPIC 5 Research Topics.
- Every research topic and project traces back to this strategy, ensuring TD&D investments align with regulatory and grid modernization mandates.

# Driving Innovation Throughout the Grid

SCE's EPIC 5 Strategic Initiatives - Advance Technologies across the Grid

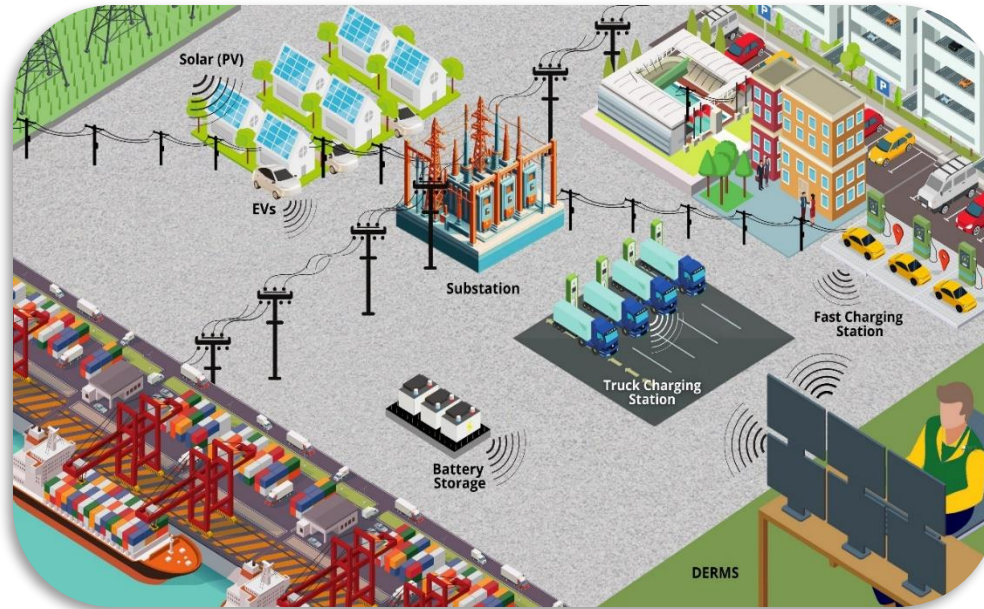
Technologies that  
Run the Grid\*

## Enhanced Grid Efficiency, Utilization and Flexibility (EGEUF):

Physical grid infrastructure with advanced equipment to increase usable capacity and flexibility

## Intelligent Grid Planning & Orchestration (IGPO):

Digital platforms to optimize grid operations and long-term planning



Technologies that  
Support the Grid\*

## Field Intelligent Technologies (FIT):

Proactively monitor grid assets with advanced sensing and inspection equipment

## Safe and Advanced Field Execution (SAFE):

Digital, real-time tools to improve safety, reduce field risk, and increase operational readiness

*\*Several technologies are cross cutting that both support and run the grid*

# Delivering on CPUC's EPIC 5 Goals

SCE's Initiatives Address CPUC's Strategic Goals

SCE EPIC 5 Strategic Initiatives	CPUC EPIC 5 Strategic Goals				
	Climate Adaptation	Transportation Electrification	DER Integration	Building Decarbonization	Achieving 100% Net Zero and the Coordinated Role of Gas
Enhanced Grid Efficiency, Utilization & Flexibility (EGEUF)	✓	✓	✓	✓	✓
Intelligent Grid Planning & Orchestration (IGPO)	✓	✓	✓	✓	✓
Field Intelligent Technologies (FIT)	✓		✓		✓
Safe and Advanced Field Execution (SAFE)	✓		✓		

# The Future of the Grid Starts Here

Turning Vision into CPUC-Aligned Innovation

## THE INITIATIVE

## WHY IT MATTERS

## POTENTIAL BENEFITS

## RESEARCH TOPICS



**Enhanced Grid Efficiency, Utilization and Flexibility (EGEUF)**

*Next-gen hardware that maximizes grid utilization — more power through existing infrastructure, responds to growing demands and climate-events*

**Defers new construction while meeting demand growth head-on**

- Next Generation Conductors
- Smart Grid Sensors
- DC Power Networks
- Flexible Energy & Load on Demand
- Adaptive Grid Protection
- Smart Meter Evolution
- Advanced Grid Upgrades



**Intelligent Grid Planning & Orchestration (IGPO)**

*Digital platforms, AI-driven analytics, and real-time orchestration systems that responds faster to energy demand and orchestrate the grid in real time*

**Decisions in minutes, not months. Smarter, faster, effective grid orchestration**

- Digital Substations
- Grid-Wide Connectivity
- Edge-to-Cloud Computing
- Enhanced Grid Ops



**Field Intelligent Technologies (FIT)**

*Cutting-edge sensors and inspection technologies that enable continuous, risk-based, and proactive asset management*

**Fewer outages, longer equipment life, lower maintenance costs**

- Advanced Fleet & Field Gear
- Intelligent Asset Sensors
- Rapid-Deploy Emergency Systems
- Real-Time Field Command



**Safe and Advanced Field Execution (SAFE)**

*Connected digital tools that improve safety and situational awareness*

**Quicker outage response, a future-ready environment**

- Connected Workforce Platform
- Advanced Drones & Robotics
- Next Generation Safety Innovation
- Smart Safety Wearables
- Augmented Field Operations

# Powering the Electricity Technology Ecosystem

SCE Technology Strategy is Informed by Stakeholders Across the Innovation Ecosystem



## How We Engage





**Questions?**

# SCE Research Topic Overview: Enhanced Grid-Ops

CPUC Goal: DER Integration | SCE Initiative: Intelligent Grid Planning & Orchestration

## Topic Description

This topic focuses on advanced planning and grid management tools that help the grid better anticipate changing energy needs, coordinated flexible resources, and operate an increasingly dynamic grid.

## Innovation Need

Advanced planning and grid management tools that improve visibility, coordination and response to changing grid conditions.

### Opportunity

- New loads and flexible resources
- More dynamic operating conditions
- Need for faster responses

### Research Objectives

- Demonstrate enhanced planning and grid management tools
- Better visibility and coordination
- Smarter deployment approaches

### Potential Benefits

- Supports timely and reliable integration of load growth
- Improve reliability and flexibility
- Better support for energy growth



**Questions?**

# SCE Research Topic Overview: Intelligent Asset Sensors

CPUC Goal: Climate Adaptation | SCE Initiative: Field Intelligent Technologies

## Topic Description

Explores the use of smart sensors across the grid to provide real-time visibility into system conditions, surrounding environments, equipment health, and emerging risks across the grid.

## Innovation Need

As climate and grid conditions place greater stress on equipment, improved visibility could help identify potential issues earlier and support safe, reliable service

### Opportunity

- Increased climate-related stress on the grid
- Growing system complexity with need for more visibility
- Greater need for resilient grid operations

### Research Objectives

- Sensors that monitor equipment health and environmental conditions
- Tools provide early and proactive identification of potential risks
- Use sensor insights to improve operations and maintenance

### Potential Benefits

- Improved visibility into equipment health
- Fewer service disruptions through earlier awareness
- Safer, more reliable service during changing climate conditions



**Questions?**

# SCE Research Topic Overview – Advanced Drones & Robotics

CPUC Goal: DER Integration | SCE Initiative: Safe and Advanced Field Execution

## Topic Description

Explores the use of drones and robotics to improve the speed, safety, and consistency of field operations, inspections, and assessments supporting energization activities

## Innovation Need

As the grid adopts more DERs in the face of climate change, drones and robotics can be advanced tools operators utilize to assess and conduct grid work more efficiently – reducing field delays and supporting faster connection of clean energy resources

### Opportunity

- Growing electrification and DER adoption increases the need for timely field assessments
- Manual processes can add time and complexity
- Information can be delayed and fragmented

### Project Objectives

- Demonstrate advanced technologies to improve speed, safety and consistency for energization
- Improve data capture and quality needed to evaluate grid readiness
- Prioritize safer and more efficient approaches

### Potential Benefits

- Streamlined processes for customers
- Reduce delays and outage durations through faster, more consistent assessments
- Improve safety and reliability of integration on the grid



**Questions?**

# Thank You!

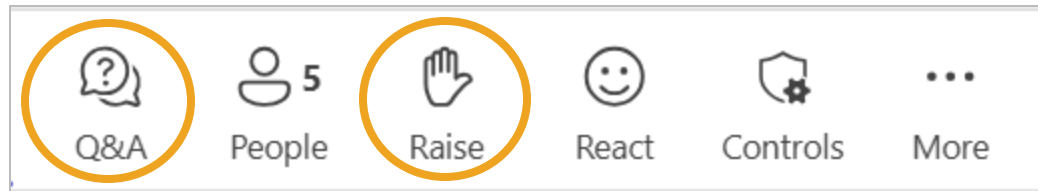


# Closing Remarks

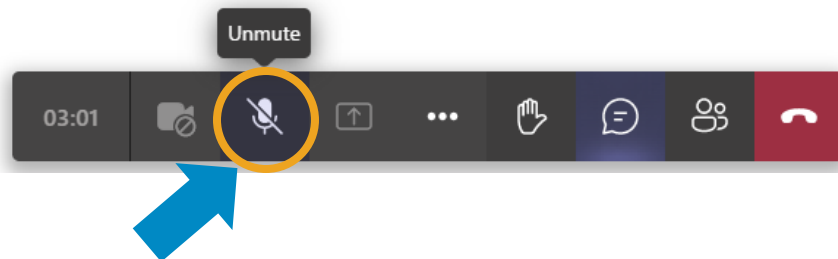


# Final Questions and Feedback Survey

- Type your question in the Chat, or Raise your hand



- At an appropriate time the Moderators will read your question from the Chat, or request that you ask your question. When prompted please unmute and participate.
- Please mute yourself after you have completed your question or statement.



## Joint IOU EPIC 5 Workshop – Feedback Survey



# Join the EPIC Proceeding

## Join the EPIC Proceeding

(Docket number R.19-10-005), by filing a motion for “party status” with the CPUC

## Receive updates and invitations:

Workshops, regulatory decisions, and ongoing program updates.

# Connect with us directly

## PG&E

- Britt Shaw ([EPIC\\_info@pge.com](mailto:EPIC_info@pge.com))
- Sign up for the PG&E Innovation Newsletter, by emailing [innovation@pge.com](mailto:innovation@pge.com) with subject line “Newsletter sign up”

**SCE:** Richard Kwee, [epic@sce.com](mailto:epic@sce.com)

**SDG&E:** Cynthia Carter, [ccarter5@sdge.com](mailto:ccarter5@sdge.com)



# Thank you!