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	
Earthquake: ❑ Know the safest places to duck, cover and hold, such as under sturdy desks and tables	**Active Shooter**: ❑ Get out, hide out, take out ❑ Call 911, if possible
Fire: ❑ Know your exits and escape routes ❑ Have a compliant fire extinguisher to be used only when safe to do so ❑ Most importantly, get out of the building and call 911	**Medical Emergency**: ❑ Are you alone or is someone else present to perform first aid/CPR as needed? If alone, be prepared to call 911 ❑ Do you have an AED? If so, ensure that your family or housemate knows where it is and how to use it.

Workshop Agenda

Agenda Topics	Start Time	Minutes	Section Detail
Opening	1:00	5	Safety, Welcome & Introduction
	1:05	5	EPIC 5 Strategic Goals and Objectives
PG&E EPIC 5 Draft Investment Plan Approach	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	Open Q&A, comments on PG&E's presentation
BREAK	2:05	5	Break for 5 minutes and return
SDG&E EPIC 5 Draft Investment Plan Approach	2:10	50	SDG&E will provide an overview of their draft EPIC 5 Investment Plan and spotlight several research topics
	3:00	5	Q&A, comments on SDG&E's presentation
BREAK	3:05	5	*Break for 5 minutes and return*
SCE EPIC 5 Draft Investment Plan Approach	3:10	50	SCE will provide an overview of their draft EPIC 5 Investment Plan and spotlight several research topics
	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.

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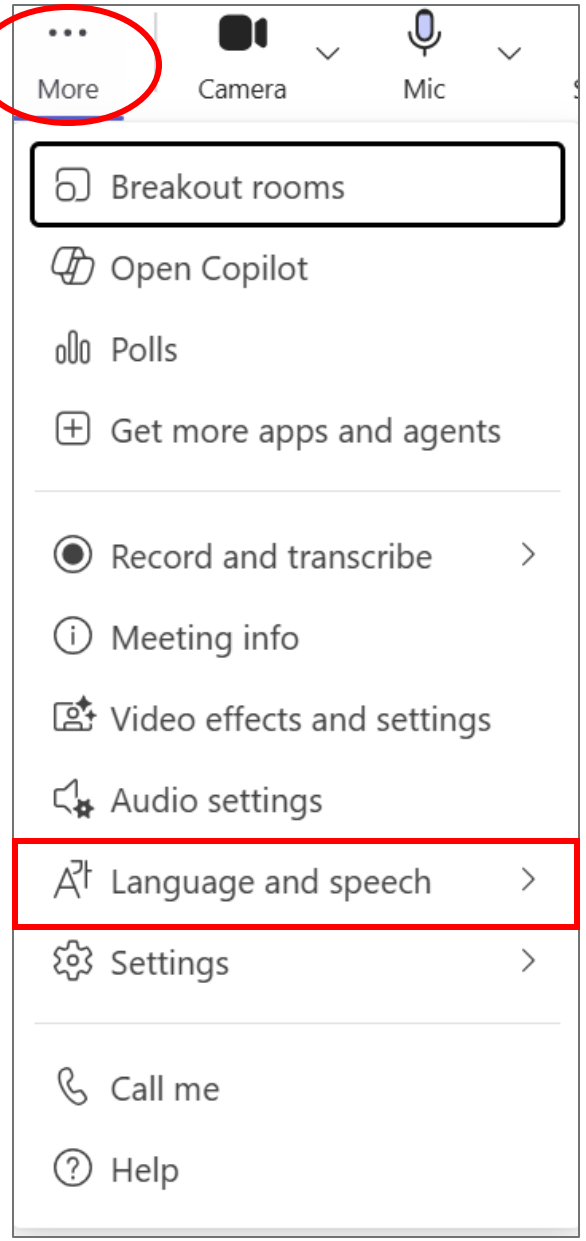

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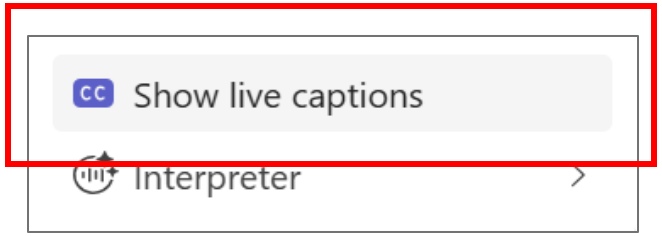
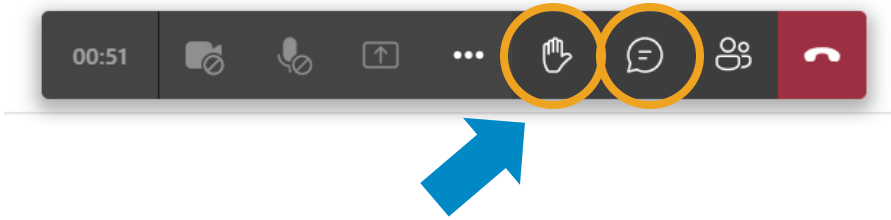


To Participate

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



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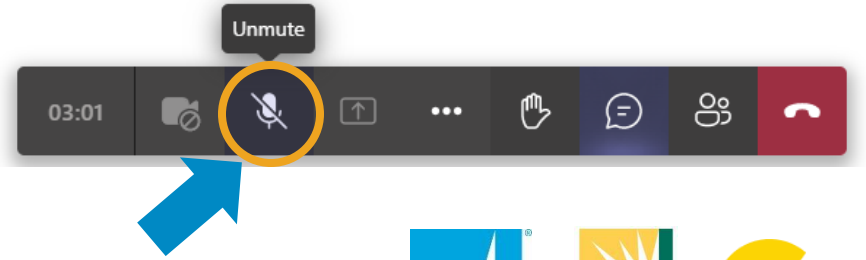


Abbreviation Glossary

EPIC	Electric Program Investment Charge
IOU	Investor-Owned Utility
ESJ	Environmental and Social Justice
CEC	California Energy Commission
CPUC	California Public Utilities Commission
DER	Distributed Energy Resource
DVC	Disadvantaged and Vulnerable Community
DACAG	Disadvantaged Communities Advisory Group
CEP	Community Engagement Plan
PSPS	Public Safety Power Shutoff
EPSS	Enhanced Powerline Safety Settings
DAC	Disadvantaged Community

1. Welcome & Introduction to EPIC

Goals for this Workshop

This presentation is shared as a pre-read to support audience understanding of the EPIC program. Presenters will spend less time during the 6/23 workshop covering general EPIC program slides and will focus on the following goals:

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**.

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

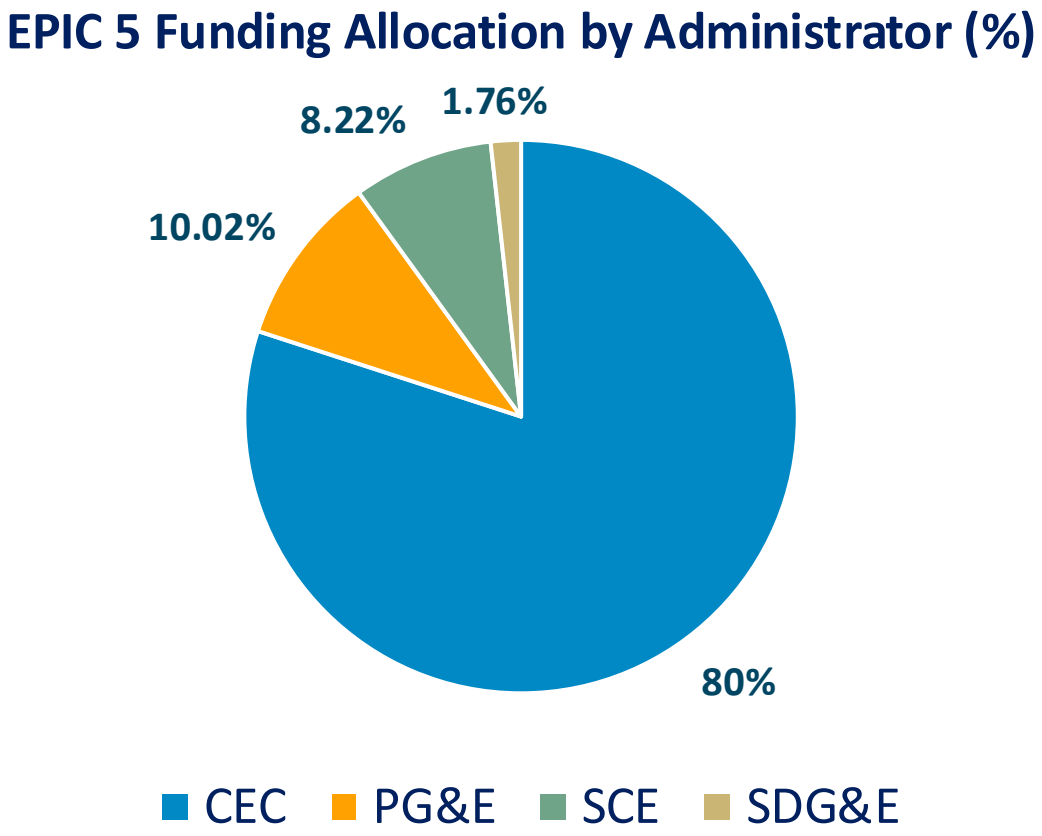
This program is funded by California utility customers under the auspices of the CPUC.

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 **technology demonstrations at real-world scales** 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.



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

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

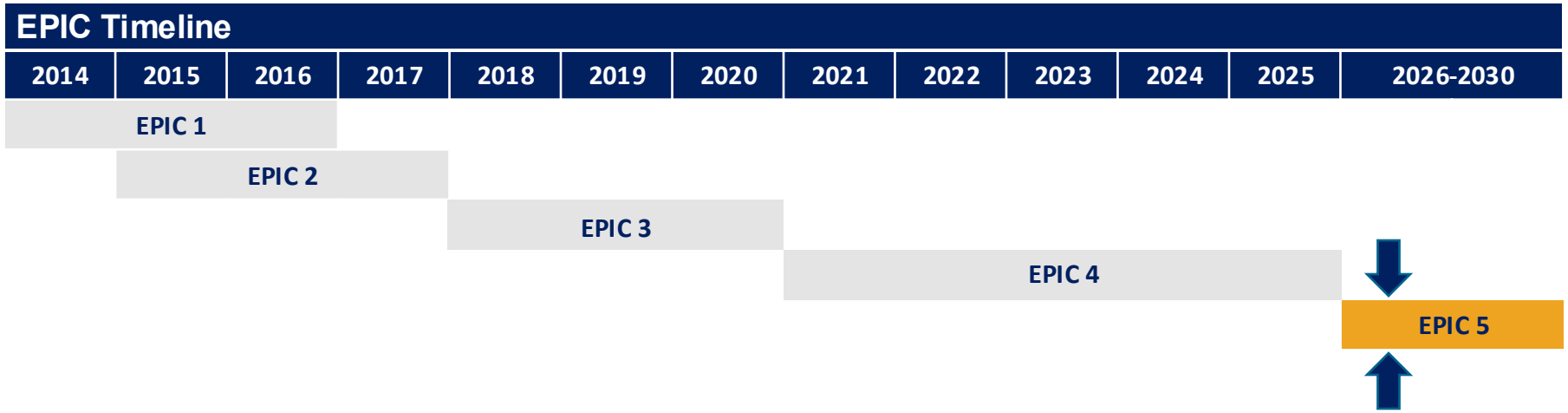
Source: D. 26-02-037, Appendix A

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.

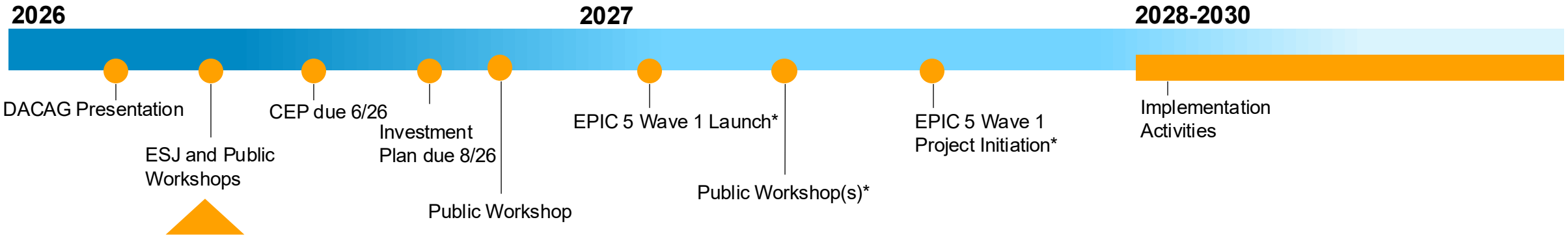
Source: CPUC Energy Division Staff, March 2026

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

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 four 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 Commercial & fleet electrification

- Lower costs for fleet and 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 Residential 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.

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

Proposed Topics

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 avoid the need for and reduce the cost of necessary 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 DER orchestration and 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 easer 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, on short-term to long-term timescales

- 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 deliver power sooner before full infrastructure upgrades are complete.

Proposed Topics

SO10: Expediting and Streamlining Interconnection and Permitting

6.1 Interconnecting / streamlining large loads, VGI, DERs, especially in DVCs

- 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 short-term 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 Interconnecting / streamlining large loads, VGI, DERs, especially in DVCs

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

SPOTLIGHT TOPIC

6.1: Interconnecting / streamlining large loads, VGI, DERs, especially in DVCs
Problems: Unprecedented pace and scale of load growth is driving a rapid change across PG&E's system. Current forecasting and planning tools are not optimized to evaluate and plan new interconnections. For V2X, customers must go through a complex, often lengthy interconnection process to ensure the system is safe to connect to the grid, and and this has additional costs.
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 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.

Audience Comments or Questions on Topic 6.1

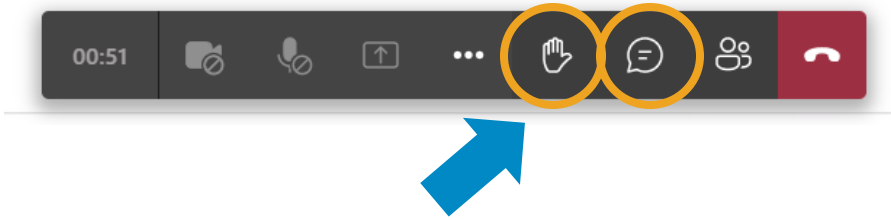
5 Minutes

Audience Comments or Questions on PG&E plan

5 Minutes

To Share Comments or Ask Questions

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



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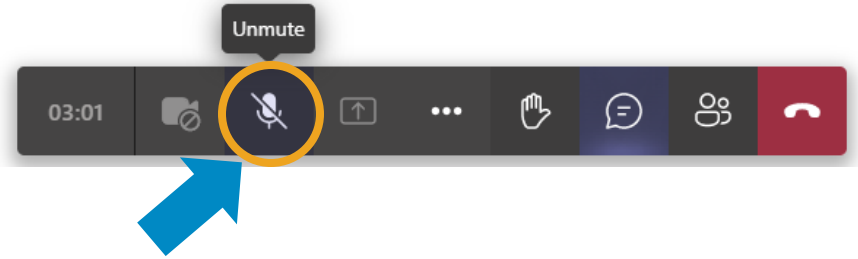
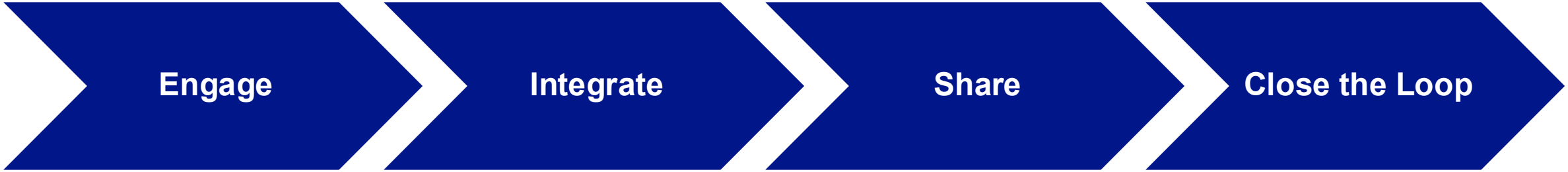


5 Minute Break

EPIC-5 Joint IOU Workshop

June 23, 2026

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

	Grid Value Solutions	Preventive Grid Sensing Initiative
Overview	Examine technologies, integrate training, and execute use-cases for safe, clean, and resilient grid	Use of smart meters and multi-sensors for early fault detection of assets
Expected Outcomes	• Improve grid reliability during peak demand, outages, and extreme weather events • Reduce long-term infrastructure and operational costs • Increase tailored solutions for DVCs	• Increases reliability during PSPS/outage events • Reduce risk of faults in HTR communities
Gaps Filled	Identify innovative sustainable DERs that enhance infrastructure and communities while providing learning moments	Strengthens fault detection accuracy and supports real-time field decision-making

SDG&E EPIC-5: Climate Adaptation

Next-Generation Resilience and Response

	AI for Utility Resilience & Adaptation	Mobile First Digital Field	Vegetation Management Risk-Based Decisions
Overview	Use AI to integrate climate, grid, and community data to prioritize investments	Creation of applications for Field Operations to enable a mobile-first digital field	Evaluate and operationalize emerging technologies in utility vegetation management
Expected Outcomes	• Reduces risk/expenditure for stranded assets • Ensures communities are served equitably • Enhances safety	• Reduces field inspection time • Improves engineering visibility into field • Analyses risk on assets	• Improves reliability/safety by enhancing risk identification • Drives affordability/equity increasing workforce productivity and prioritizing high impact work
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	Transition from broad, fixed work cycles to predictive, risk-informed inspection and maintenance approaches

SDG&E EPIC-5: Building Decarbonization

Guiding Customers to a Clean Energy Future

	Customer-Centric AI Tool to Accelerate Building Electrification
Overview	Develop and demonstrate an AI-powered electrification planning tool
Expected Outcomes	• Reduce upfront/lifecycle costs for electrification • Improve access for underserved communities • Enhance grid resilience
Gaps Filled	Personalized actionable plans of scale using AI

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

Low Carbon Options for California's Economy

	Decarbonizing Natural Gas for Multiple Use Cases
Overview	Demonstrate a decarbonization project utilizing advanced methane conversion approaches
Expected Outcomes	• Successful decarbonization of hard-to-decarbonize sectors of the economy to achieve 100 percent Net-Zero Carbon • Enable grid flexibility and customer resiliency via diverse energy resources • Reduce high pollutants (i.e., NOx, PM) in vulnerable communities
Gaps Filled	High cost and lack of electrification solutions for difficult-to-decarbonize industries

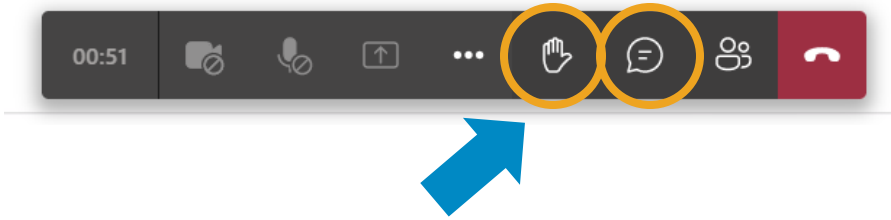
Audience Q&A and Comments

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: 5 Minutes

To Participate

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



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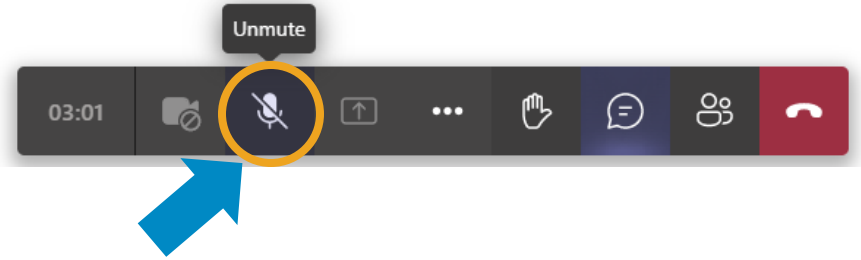


In addition, this event will have a follow-up survey form to submit additional written feedback within the 30-day period after this workshop event.

5 Minute Break

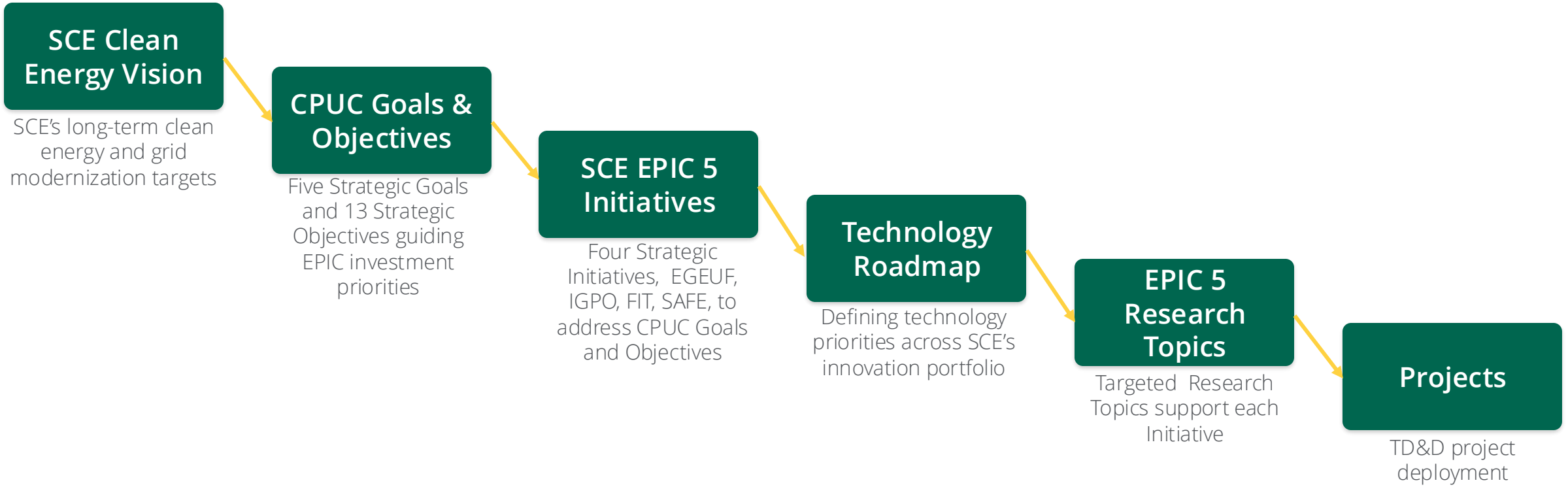
Southern California Edison's EPIC 5 Investment Plan

SOUTHERN CALIFORNIA EDISON®

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

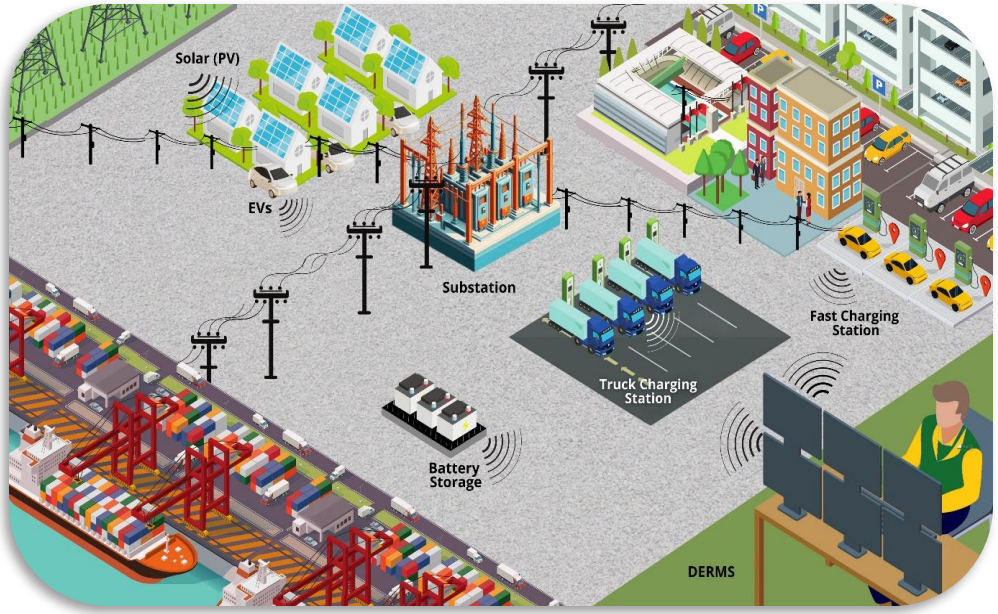
SCE's EPIC 5 Strategic Initiatives - Advance Technologies across the Grid

Technologies that Run the Grid*

Technologies that Support 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



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

	CPUC EPIC 5 Strategic Goals				
SCE EPIC 5 Strategic Initiatives	**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)	✓		✓		

**Information presented is subjected to change pending results of workshop feedback*

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

**Information presented is subjected to change pending results of workshop feedback*

Powering the Electricity Technology Ecosystem

SCE Technology Strategy is Informed by Stakeholders Across the Innovation Ecosystem

How We Engage

Customers	Customer feedback and technology demonstrations
Communities	Public workshops and community engagement
Industry	Technology summits and strategic partnerships
Academia	Research collaboration and technical validation
Policy	Regulatory engagement and policy alignment

**Information presented is subjected to change pending results of workshop feedback*

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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	Research Objectives	Potential Benefits
• New loads and flexible resources	• Demonstrate enhanced planning and grid management tools	• Supports timely and reliable integration of load growth
• More dynamic operating conditions	• Better visibility and coordination	• Improve reliability and flexibility
• Need for faster responses	• Smarter deployment approaches	• Better support for energy growth

**Information presented subjected to change pending results of workshop feedback*

SOUTHERN CALIFORNIA EDISON®

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	Research Objectives	Potential Benefits
• Increased climate-related stress on the grid • Growing system complexity with need for more visibility • Greater need for resilient grid operations	• 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	• Improved visibility into equipment health • Fewer service disruptions through earlier awareness • Safer, more reliable service during changing climate conditions

**Information presented subjected to change pending results of workshop feedback*

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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

*Information presented subjected to change pending results of workshop feedback

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Questions?

Thank You!

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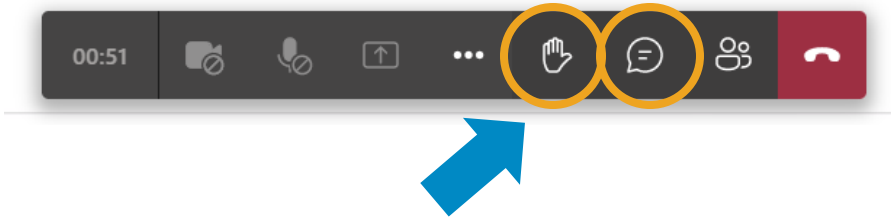
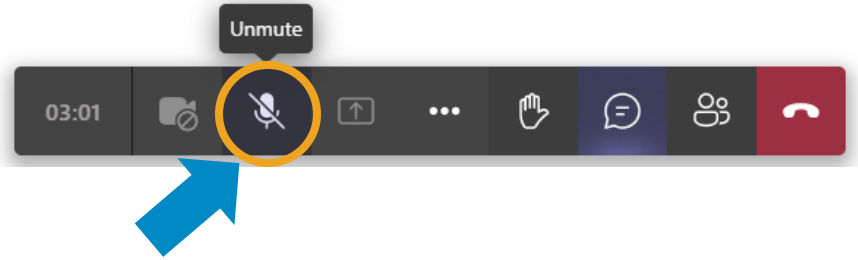
To Participate

- 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.



In addition, this event will have a follow-up survey form to submit additional written feedback within the 30-day period after this workshop event.

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

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- Sign up for the PG&E Innovation Newsletter, by emailing innovation@pge.com with subject line "Newsletter sign up"

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SDG&E: Cynthia Carter, ccarter5@sdge.com

Thank you!