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Electric Program Investment Charge (EPIC)

Proposed Decision Adopting Strategic Goals

(R.19-10-005)

Presentation to Disadvantaged Communities Advisory Group
February 16, 2024

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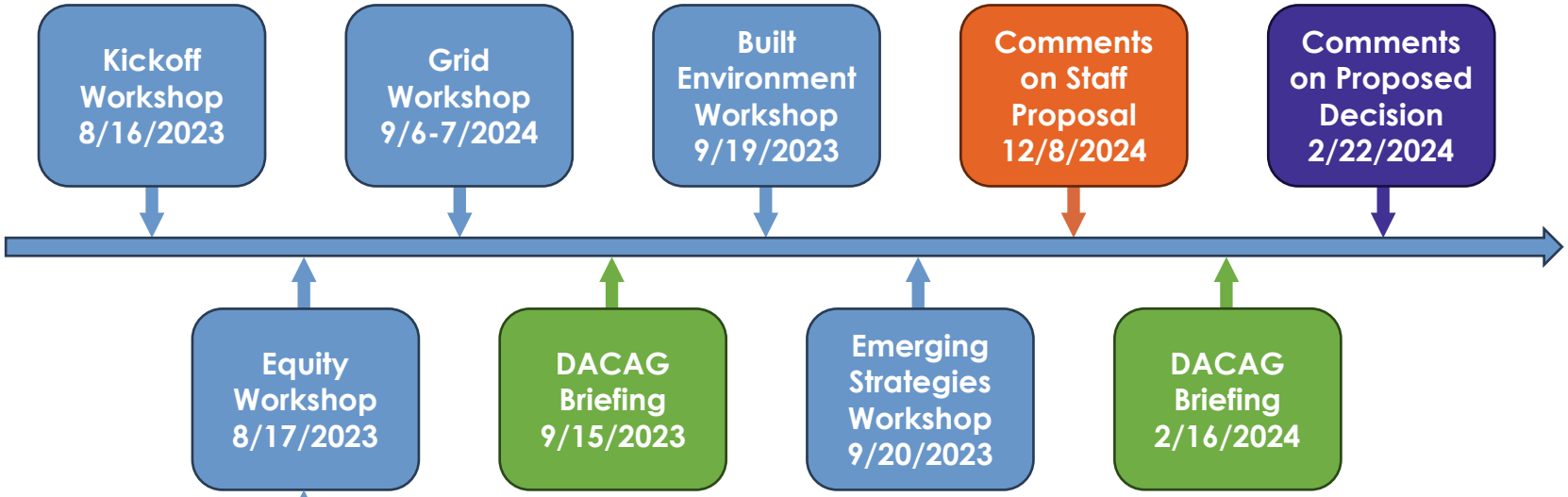
California Public Utilities Commission

The EPIC program is funded by California utility customers under the auspices of the California Public Utilities Commission

Significant Equity Input in Strategic Goals Development



- **Equity for Tribes** - Kenneth Holbrook, CPUC Tribal Advisor
- **Greenlining Equity Framework** - Sneha Ayyagari, Greenlining
- **DACAG Equity Framework** – Andres Ramirez, Mobility Justice
- **Justice40** - James Strange, U.S. DOE
- **Energy Justice & Metrics** - Daniel Coffee, UCLA
- **Community Perspective** - Eddie Price, S.D. Urban Sustainability Coalition
- **Measuring Equity Benefits** - Holmes Hummel, Stanford
- **Tribal Perspective** - Thomas Steirer, Alliance for Tribal Clean Energy

- Asian Pacific Environmental Network
- Association for Energy Affordability
- California Environmental Justice Alliance
- Communities for a Better Environment
- GRID Alternatives
- The Energy Coalition
- The Utility Reform Network

Strategic Goals Developed Through a Robust Public Process

- Five workshops held over six days in August-September 2023.
- Equity in RD&D Workshop laid the foundation for how equity should be considered and integrated into subsequent workshops.
- Broad stakeholder and expert input.
- 88 panelists and over 700 participants.
- Workshop reports and archived video part of proceeding record.
- Comments on staff proposal informed the proposed decision.

Summary of Strategic Goals Proposed Decision

- Adopts 5 Strategic Goals – based on 2023 workshops that considered eight innovation pathways to identifying goals.
- Designs Strategic Goals to be measurable to 2045.
- Informs development of measurable Strategic Objectives to guide EPIC 5 (2026-2030) planning and evaluation.
- Endorses six Cross-cutting Principles including Equity – to inform development of each Strategic Objective.
  - Targets Equity communities in EPIC defined as disadvantaged vulnerable California communities (DVCs)*

*D.20-08-046, Ordering Paragraph 1. Disadvantaged Vulnerable Communities consist of communities in the 25% highest scoring census tracts according to the most recent version of the California Communities Environmental Health Screening Tool (CalEnviroScreen), as well as all California tribal lands, census tracts with median household incomes less than 60% of state median income, and census tracts that score in the highest 5% of Pollution Burden within CalEnviroScreen, but do not receive an overall CalEnviroScreen score due to unreliable public health and socioeconomic data.

Five Strategic Goals

1. Transportation Electrification
2. Distributed Energy Resource Integration
3. Building Decarbonization
4. Achieving 100 Percent Net-Zero Carbon and the Coordinated Role of Gas
5. Climate Adaptation

Strategic Goal 1: Transportation Electrification

Measurable Goal: *Ensure 1) transition all medium- and heavy-duty vehicles in the State to zero-emission vehicles (ZEVs) by 2045; 2) realize 100% ZEV in-state new car sales by 2035; and 3) significantly reduce pollution from the transportation sector in DVCs.*

Example Gaps Identified

- Lack of opportunities for disadvantaged, low-income, ESJ, and tribal communities to directly benefit from electric vehicle adoption.
- High costs of infrastructure for electrifying public transit to benefit DVC and non-attainment communities by mitigating pollution.
- Additional innovations needed to ensure resilience during natural disasters and widespread power outages.

Strategic Goal 2: Distributed Energy Resource Integration

Measurable Goal: *Build on the State's goal to deploy 7,000 MW of flexible load by 2030, by addressing identified gaps for this goal.*

Example Gaps Identified

- Lack of opportunities for disadvantaged vulnerable communities (DVCs) to engage early in and directly benefit from deployment of flexible resources.
- Lack of recognition of the outsized burden that long-duration outages have on DVCs.
- Need for reliable and resilient power for communities and critical facilities during periods of power outages due to wildfire, extreme weather, and other emergency situations.

Strategic Goal 3: Building Decarbonization

Measurable Goal: *Achieve and sustain a 3% annual building electrification retrofit rate (3.6% for affordable housing) by and beyond 2030.*

Example Gaps Identified

- High upfront costs of electrification retrofits.
- High energy burden levels for low-income customers as compared to national and state averages and increasing electric rates.
- Inability of renters to make large-scale, permanent upgrades in tenant-occupied buildings, and risks of increased rent burdens and loss of affordable housing.

Strategic Goal 4: Achieving 100% Net-Zero Carbon and the Coordinated Role of Gas

Measurable Goal: *Identify cost-effective opportunities for reaching the "last 10%" of the State's goal to be carbon neutral by 2045 economy-wide, through investment in California-specific strategies for hard-to-decarbonize energy-consuming sectors that could be decarbonized through electrification and coordination with other California RD&D programs to align investments and activities for emerging strategies.*

Example Gaps Identified

- Lack of clear pathways to economically decarbonize 100% of hard-to-decarbonize activities through electrification with no increase in air, water, and land pollutants.
- Lack of opportunities for DVCs to be readily included in the discussions and decision-making process on emerging generation and storage technology adoption, including discussion of potential impacts on public health.
- Lack of information on high production and life-cycle costs of "green" electrolytic hydrogen.

Strategic Goal 5: Climate Adaptation

Measurable Goal TBD: *Identify cost-effective, targeted research opportunities for improving grid resiliency and stability, particularly for adaptability of and impacts on ESJ and tribal communities during severe weather events, including preventing and mitigating the effects of wildfires, floods, and other climate-driven events; hardening the grid and improving resiliency especially in the most remote grid edge locations; reducing the number of customers experiencing long-duration outages and reducing the duration of these outages.*

Example Gaps Identified

- Inability to ensure resilience during natural disasters and widespread power outages in DVCs at critical facilities and to ensure reliable and resilient power for critical facilities during periods of power outages due to wildfire, extreme weather, and other emergency situations.
- An outsized burden that long-duration outages have on DVCs.

Six EPIC Cross-Cutting Principles

These Principles will inform EPIC Strategic Objectives (measurable targets) technical working groups in 2024, framed by the adopted Strategic Goals.

- Equity
- Customer-focused solutions
- Reliability
- Resilience
- Emerging strategies
- Safety (including cybersecurity)

Equity Principle: Sample Criteria for Engagement

Informed by Public Stakeholder Workshops

1. Build trust.
2. Understand relevant ESJ needs.
3. Undertake targeted education and outreach on innovative technologies and processes.
4. Design research projects with community input to inform EPIC portfolio development.
5. Inform ESJ stakeholders how their feedback was or was not incorporated.
6. Engage communities in project planning and evaluation.
7. Develop sustainable continuous community partnerships.
8. Ensure access to innovation technologies and strategies.

Identifying Measurable Equity Impacts

Working Groups will Consider Progress Metrics

METRICS: ***Uniform Impact Analysis Framework*** will identify quantifiable metrics that may consider criteria for measurable outcomes such as:

- Energy burden
- Financial and economic impacts
- Pollution burden
- Program access and education

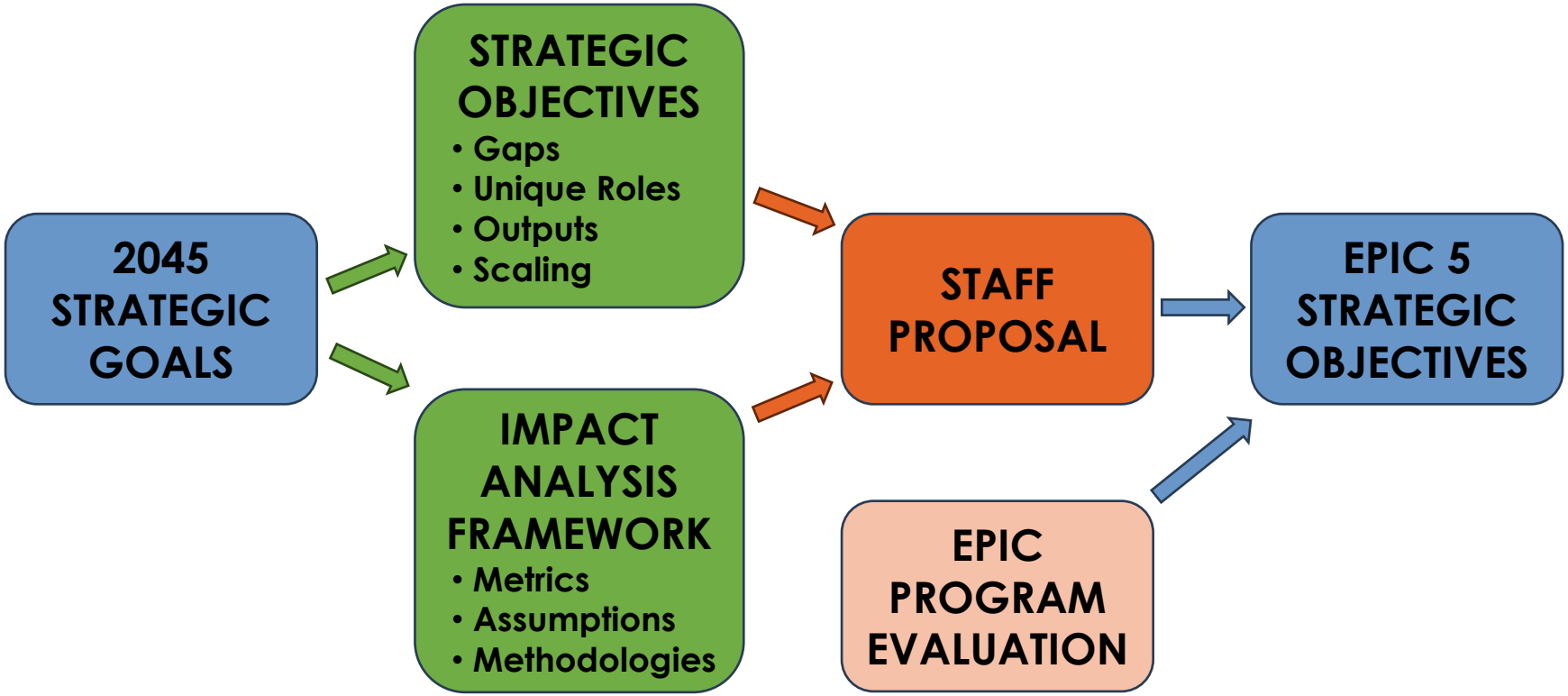
2024 Roadmap to EPIC 5 Guidance

March
Decision

March - June
Technical Working Groups

September
Reports

December
Decision



Next Steps

- Party Comments on Proposed Decision are due February 21.
- Proposed Decision on March 7 Commission agenda.
- Kick-Off Workshops on Strategic Objectives and Impact Analysis Framework – March 19 / April 2 (anticipated).
- Technical Working Groups – in-person for each Strategic Goal – April-June.
- Technical Working Group Reports – April - June.
- CPUC Staff Proposal – July - September.
- EPIC 5 guidance PD anticipated October – December 2024 to guide the development of EPIC 5 investment Plans expected in Oct 2025.

EPIC Contacts and Resources

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EPIC Webpage: www.cpuc.ca.gov/energyrdd

EPIC Partnership (database/workshops): www.epicpartnership.org

EPIC Workshop Resources: www.epicpartnership.org/strategicgoals.html

To participate in a CPUC proceeding, visit :
www.cpuc.ca.gov/proceedings-and-rulemaking

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APPENDIX

Goal Statement 1: Transportation Electrification

EPIC will invest in research, development, and demonstration (RD&D) that supports the planning, integration, scaling, and commercialization of innovation that promotes the State's climate goals to: 1) transition all medium- and heavy-duty vehicles in the State to zero-emission vehicles (ZEVs) by 2045; 2) realize 100% ZEV in-state new car sales by 2035; and 3) significantly reduce pollution from the transportation sector in disadvantaged, low-income, ESJ, and tribal communities and EPA non-attainment air districts as soon as possible, by addressing identified gaps for this goal.

Goal Statement 2: Distributed Energy Resource Integration

EPIC will invest in the cost-effective integration of high penetrations of distributed energy resources (DER) to support the State's goal to achieve a renewable and zero-carbon power sector by 2045, in part by building on the State's goal to deploy 7,000 MW of flexible load by 2030, by addressing identified gaps for this goal.

Goal Statement 3: Building Decarbonization

EPIC will invest in the rapid acceleration of comprehensive, cost-effective, and equitable building decarbonization technologies and strategies to help achieve the State's goal to be carbon neutral by 2045 economy-wide, including achieving and sustaining a 3% annual building electrification retrofit rate (3.6% for affordable housing) by and beyond 2030, by addressing identified gaps for this goal.

Goal Statement 4: Achieving 100% Net-Zero Carbon and the Coordinated Role of Gas

EPIC will seek to identify cost-effective opportunities for reaching the "last 10%" of the State's goal to be carbon neutral by 2045 economy-wide, through investment in California-specific strategies for hard-to-decarbonize energy-consuming sectors that could be decarbonized through electrification and coordination with other California RD&D programs to align investments and activities for emerging strategies, by addressing identified gaps for this goal.

Goal Statement 5: Climate Adaptation

EPIC Plans will seek to identify cost-effective, targeted research opportunities for improving grid resiliency and stability, particularly for adaptability of and impacts on ESJ and tribal communities during severe weather events, including preventing and mitigating the effects of wildfires, floods, and other climate-driven events; hardening the grid and improving resiliency especially in the most remote grid edge locations; reducing the number of customers experiencing long-duration outages and reducing the duration of these outages, by addressing identified gaps for this goal.