

Electric Program Investment Charge (EPIC) Defining A Uniform Impact Analysis Framework

Uniform Impact Analysis Framework Kickoff Workshop
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California Public Utilities Commission (CPUC)

Energy Division, Climate and Equity Initiatives Section
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**California Public
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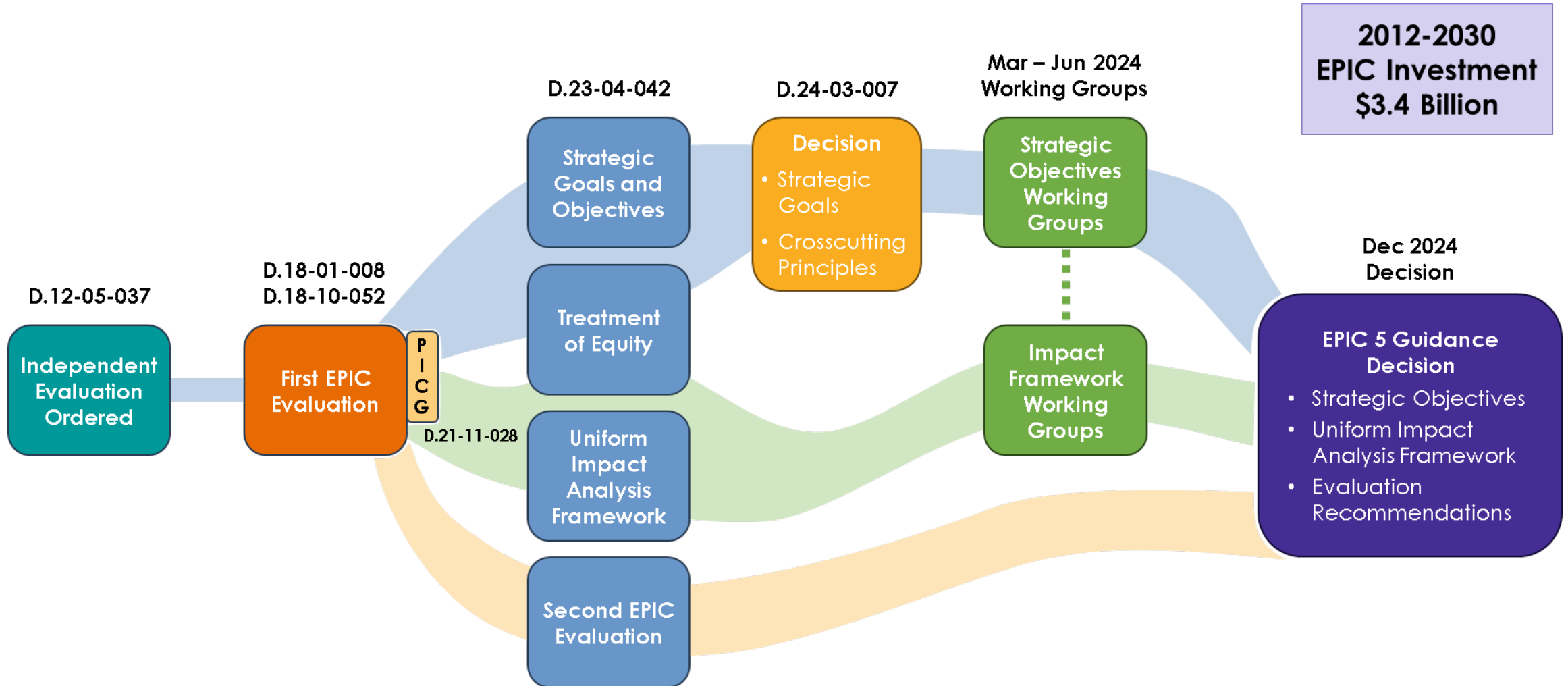
Commission Decisions Require Measurable Outcomes

Decision (D.)23-04-042 directs a process to inform CPUC guidance on a Uniform Impact Analysis Framework and Metrics to measure EPIC's progress in meeting its strategic goals and strategic objectives for achieving the State's climate, energy, and equity goals.

The Uniform Impact Analysis Framework provides a basis for measuring and tracking progress

Decision	Commission Action
D.18-10-052	Found the EPIC Program needed clearer direction on priorities that would generate an optimal mix of research projects that maximize ratepayer benefits, lead to energy innovation, and support California's key policy goals.
D.21-11-028	Required EPIC Administrators to coordinate with CPUC Energy Division staff to develop a single, uniform benefits analysis framework and set of metrics that enable the evaluation and tracking of the benefits of all EPIC projects.
D.23-04-042	Approved Principles for a Uniform Impact Analysis Framework to allow for improved EPIC program evaluation and oversight, as well as greater transparency for ratepayers.
D.24-03-007	Approved cross-cutting principles to provide guidelines for assessing proposed Strategic Objectives for EPIC 5 to ensure important cross-cutting issues identified in the Strategic Goals workshops are considered during the Strategic Objectives process.

Current Proceeding Activities Inform EPIC 5 Guidance



EPIC Requires Short-, Mid-, and Long-term Progress Measurement and Tracking

Outputs

- Results of EPIC initiatives and projects, the specific innovations accomplished, and insights gained.

Outcomes

- Observed results from actions taken, such as increased utility utilization and/or market deployment, i.e., outcomes are how outputs of EPIC investments have been put into practice on a wider scale.

Impacts

- Effects attributable to EPIC outputs and outcomes in meeting state goals. Impacts are reliant on other influences that are broader, deeper, and slower than those EPIC has direct influence over.

Short Term EPIC Initiative Execution

- Market Adoption Plan
- Project and Portfolio Performance

Mid-Term Deployment and Market Uptake

Long-Term Systemic Impacts

EPIC Provides Ratepayer Benefit in Pursuit of State Policy Goals

To bring greater focus to the EPIC Program and improve transparency, D.21-11-028 reiterates that EPIC Projects must show ratepayer benefit to prove they have met the guiding principle of EPIC. The decision adopts five ratepayer benefit definitions:

Ratepayer Benefit	Ratepayer Benefit Definition
Improve Safety	EPIC innovations should improve the safety of operation of California's electric system in the face of climate change, wildfire, and emerging challenges.
Increase Reliability	EPIC innovations should increase the reliability of California's electric system while continuing to decarbonize California's electric power supply.
Increase Affordability	EPIC innovations should fund electric sector technologies and approaches that lower California electric rates and ratepayer costs and help enable the equitable adoption of clean energy technologies.
Improve Environmental Sustainability	EPIC innovations should continue to reduce GHG emissions, criteria pollutant emissions, and the overall environmental impacts of California's electric system, including land and water use.
Improve Equity	EPIC innovations should increasingly support, benefit, and engage disadvantaged vulnerable California communities.

Foundational Principles for Development of a Uniform Impact Analysis Framework

- D.21-11-028 required EPIC administrators to coordinate with Energy Division staff to develop a single, uniform benefits analysis framework and set of metrics that enable the evaluation and tracking of the benefits of all EPIC projects.
- D.23-04-042 adopted foundational principles for development of a uniform impact analysis framework to comply with D.21-11-028. The principles include:
 - Purpose
 - Overarching Principles
 - Net Impacts
 - Attribution
 - Methods
 - Metrics
 - Assumptions
 - Impact Reporting
 - Iterative Process

Uniform Impact Analysis Framework to Demonstrate Ratepayer Benefit

- The mandatory guiding principle of EPIC is to provide ratepayer benefits as related to California's electric system.
- The EPIC impacts analysis framework should provide EPIC administrators with a uniform methodology to demonstrate with data the realized and potential impacts to ratepayers from EPIC research, development, and demonstration (RD&D) investment.

Uniform Impact Analysis Framework to Incorporate Overarching Principles

- In general, each EPIC project should offer a reasonable probability of providing benefits to ratepayers, expenditures on projects which have a low probability for success should be minimized, and the EPIC portfolio as a whole should demonstrably benefit ratepayers.
- While in some cases, a targeted group of ratepayers may benefit from an individual project's output, EPIC investments should result in scalable and replicable innovations that prioritize solutions to address California's energy and climate goals.
- Accurate and precise EPIC project and program impacts reporting is paramount to inform policy, decision-making, and formulating EPIC strategic goals. Therefore, impacts resulting from the analytical framework must be defensible and not overstated.
- Clear and transparent methods are necessary to calculate past, current, and future EPIC impacts based on published data and reasonable assumptions, such that any party can take the data and assumptions and apply the methodology to recreate the results. Without such a foundation, it will be difficult to calculate quantitative impacts of EPIC innovations that lack the market or deployment history to have readily available sufficient data for impacts analysis or project future impacts of pre-commercial innovations.

Uniform Impact Analysis Framework to Provide Net Impacts to Demonstrate EPIC's Added Value

- Realized ratepayer benefits must be demonstrated by the incremental, value-added impact of EPIC innovation.
- Net impacts are required to calculate project or program benefit-cost ratios and rates of return on ratepayer investment.

Uniform Impact Analysis Framework to Accurately and Precisely Attribute EPIC's Impact

- To understand the impact of EPIC accurately and precisely, and therefore, inform continuance or improvements in EPIC strategic goals and strategic objectives, administrators should demonstrate to the CPUC what impacts have or are forecasted to occur that would not have otherwise occurred without EPIC investment (i.e., only these impacts should be attributed to EPIC.)
- The portion of the observed change that is only due to EPIC investment must be documented with data, and a set of reasonable and acceptable rules for determining the share of credit attributed to EPIC developed, including attribution for the value of cost-shared, matching, or leveraged funding.
- Comparable scenarios should be used to estimate when the market would have produced an innovation had EPIC funding not been available. Where innovation would have eventually occurred without EPIC, impacts should be based on the acceleration in the time to market readiness of the innovation, rather than the lifetime of the technology itself.

Uniform Impact Analysis Framework to Employ Consistent and Transparent Methodology

- Administrators should use or adapt existing accepted methodologies where possible for efficiencies of resources, time, cost, and effort.
- The methodology used to calculate impacts should be grounded in theory (i.e., if funding certain small businesses is seen as beneficial, data documentation and impact demonstration of this strategy should be provided).
- Impacts evaluation may involve expert elicitation. Clearly and succinctly framing questions is required to guide experts in obtaining pertinent data.

Uniform Impact Analysis Framework to Build on Existing Metrics

- D.13-11-025, Attachment 4 provides a list of impacts (Metrics and Potential Areas of Measurement) proposed by the EPIC administrators and approved by the CPUC, which can serve as the basis for discussion of metrics. The list includes 10 impact metric categories and 59 potential areas of measurement. The decision allows creation of new, project-specific impact metrics to consider for revisions.
- Because units of measure have not been defined for many of these metrics, additional definitions are required for uniform impact reporting. This impact metrics list may be modified and updated based on new information and must be used consistently across all administrators.

Uniform Impact Analysis Framework to Employ Consistent Data and Assumptions

- To the extent possible, administrators should use the same core data set for basic assumptions, such as the emissions profile of peak power in each service area. If administrators do not use the same data set, they should provide rationale for why not.
- While market penetration assumptions may vary by innovation, the method by which these assumptions are arrived should be consistent.

Uniform Impact Analysis Framework to Clearly Report Economic Impacts

- For clarity of impacts on different economic sectors, direct, indirect, and induced impacts should be disaggregated in reporting.

Development of EPIC's Uniform Impact Analysis Framework will be an iterative process.

Guidelines may be revised and clarified as the Framework is developed to achieve the goals and principles outlined in the above slides.

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