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RESTRUCTURING ENERGY EFFICIENCY PORTFOLIOS TO MEET CALIFORNIA'S CARBON AND EQUITY GOALS

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Efficiency Portfolios Aim to Meet Multiple Objectives

- Meet load growth
- Research on emerging technologies
- Administer low- and middle-income
- Workforce training
- Long-term market transformation efforts
- Codes-and Standards
- Other recent policy requirements (SB350, SB100, AB793, AB802…)

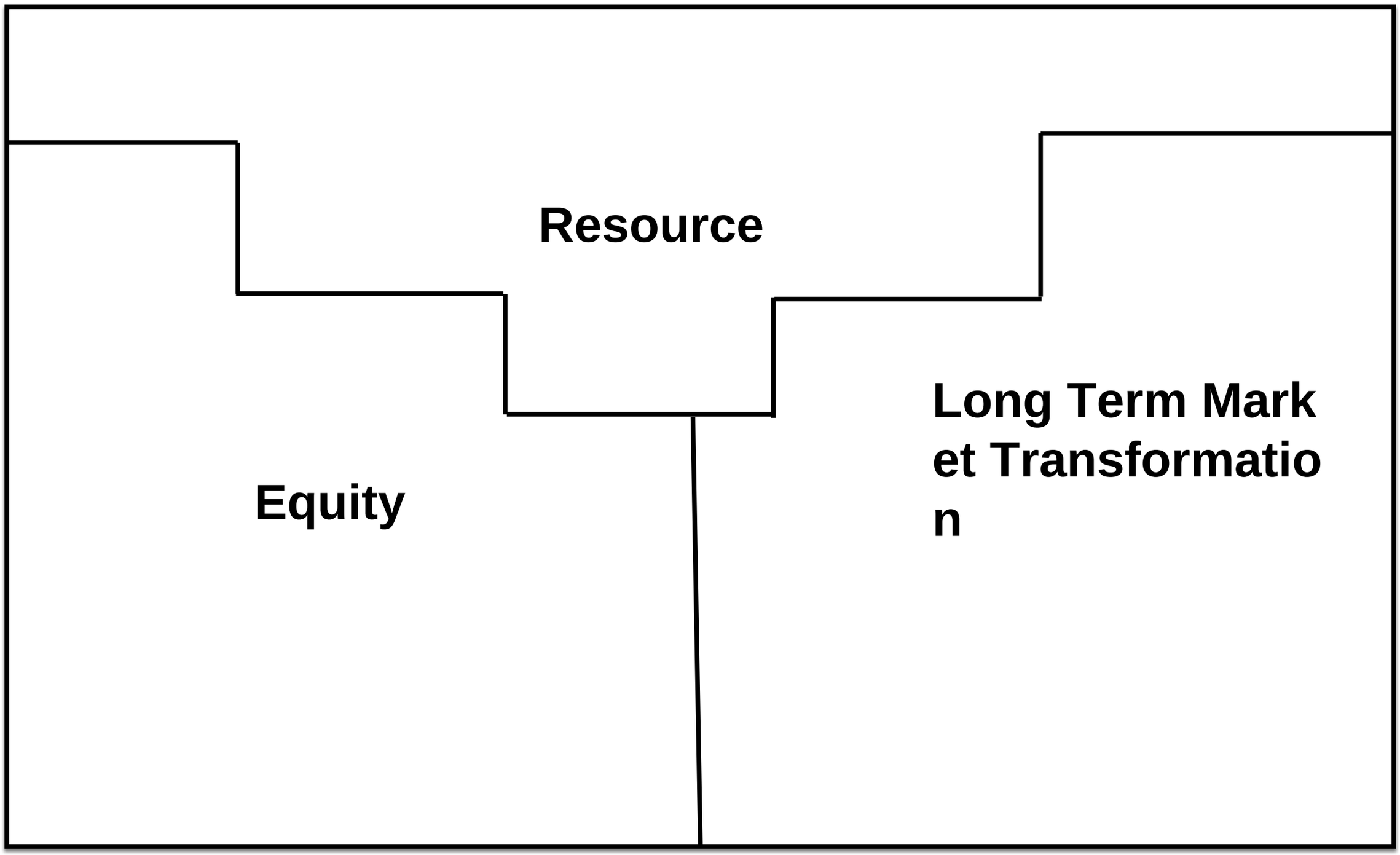
These Objectives have Different End-Goals

- Meet load growth → EE as a grid resource
- Research on emerging technologies → Market development
- Administer low- and middle-income → Equity
- Workforce training → Develop best practices in the market
- Long-term market transformation efforts → Market Transformation
- Codes-and Standards → Final Stage of Market Transformation
- Other recent policy requirements (SB350, SB100, AB793, AB802…)

Why Restructure?

- Balancing so many objectives, maximizing energy savings, and maintaining a cost-effective portfolio may not be feasible
  - Most highly cost-effective measures aren't available anymore (e.g., lighting)
  - Very low EE 2020 -2021 goals for investor owned utilities (IOU)
    - ~0.5% of electricity sales
- At the same time California's climate goals are getting more stringent
- Guiding Principle: What is the right EE investment to meet our climate goals in an equitable and cost-efficient manner?

NRDC's Proposed Restructure



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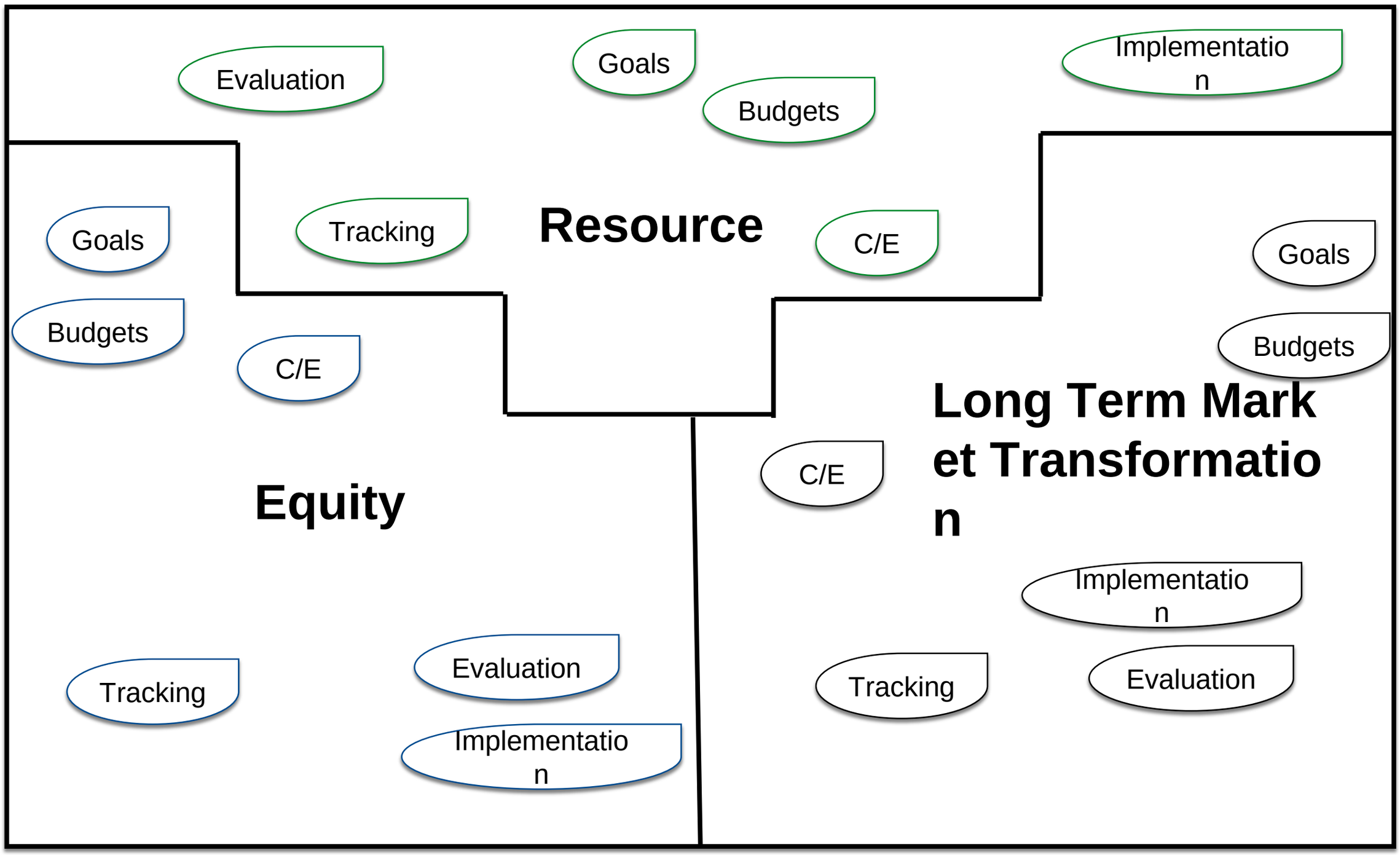

APPENDIX SLIDES

Efficiency Portfolios Aim to Meet Multiple Objectives

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- Others…

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- Others…

And Some More Recent State Requirements

- AB802: targeting stranded potential, energy-use benchmarking, metered data to estimate savings

- AB793: incentivize home energy management technologies for low-income households as feasible

- SB350: set targets for greenhouse gas reductions in the electric sector and recommends doubling* EE savings goals in existing buildings by 2030

- SB100: carbon neutrality by 2045; need to determine EE's role in this objective

* With conditions of cost-effectiveness and feasibility.

Balancing Multiple Objectives Is Hard

- Maximizing energy savings, balancing these multiple objectives, and maintaining a portfolio level cost-effectiveness (TRC > = 1.25) is hard
  - Highly cost-effective measures that portfolios relied on aren't available anymore (e.g., lighting)
  - A reaction to this challenge has been to shrink the size of EE portfolios; this ignores underlying issues with EE and results in unfulfilled policy objectives (e.g., achieving all cost-effective savings, reaching disadvantaged and hard-to-reach customers, etc.)

- Latest potential and goals study recommended very low EE goals for investor owned utilities (IOU)
  - ~0.5% of electricity sales

Understanding EE's Role in a Decarbonized, Equitable Grid

As California's carbon reduction goals increase in ambition (SB350, SB100's carbon neutrality goal), programmatic energy efficiency potential continues to decrease

- This is a counterintuitive trend
- Is EE being accurately valued as we plan for a carbon-neutral electric grid?
- How can EE make this transformation equitable?
- What is the right amount of investment in EE to address the above questions?

A Solution: Align EE Portfolio Structure with Policy Objectives to Truly Determine the *Right* Amount of EE Investments

Reorganize the EE portfolio into three separate sub-portfolios.

- Resource Energy Efficiency (e.g., those primarily intended to save energy and carbon)
- Long-term Market Transformation (e.g., research, emerging tech, programs to bring technologies to market, codes and standards, etc.)
- Equity (e.g., low/middle income, rural, hard-to-reach, multifamily, small business, etc.)

For each sub-portfolio, design a policy objective-aligned approach to develop goals & budgets, cost-effectiveness framework, tracking metrics, implementation strategies, and evaluation guidelines.

Note: this is NRDC's initial thinking. The intention is to outline the concept here, working with a wide variety of stakeholder to fully develop the proposal

Resource Energy Efficiency Sub Portfolio

Same constraints as supply side resources (i.e., meet future electric demand and comply with California's environmental goals)

- Goals and budget set through integrated resource planning (IRP)
  - CPUC IRP has co-equal goals of reliability, affordability, and emissions reduction; truly integrate EE into IRP for 2030 and 2045 alongside renewables
  - Provides analytical basis for determining right amount and type of EE we need to acquire
  - Truly determine marginal value of EE in an electric grid that meets SB350 and SB100's goals.
  - This can be done administratively during the next IRP cycle
- Re-think what costs and benefits of EE should be applied to be able to compare EE with supply side resources in the IRP
  - The TRC does not accomplish this
- Resource EE program implementation should be aligned with resources chosen in IRP
  - First step: Align avoided cost calculator with the IRP

Long Term Market Transformation

Create lasting change in market by removing barriers and/or exploiting opportunities to accelerate adoption of cost-effective EE

- Consistent framework to connect research development, emerging technologies, existing market intervention programs, and codes & standards initiatives
  - Currently disconnected from each other
- Long-term view of cost-effectiveness (e.g., what spending is cost-effectiveness over the lifetime of an initiative? Value to society? Other?)
  - Not suited for valuation through the IRP model
- The CPUC is working on a market transformation framework

Equity Programs

- Accomplish more than energy savings.
  - The non-energy benefits are critical to participants, such as affordability, health, comfort, resiliency.
- Work with CPUC to determine how to maximize energy savings and equity benefits for low- and middle-income residents
  - Help us define this part of the EE reorganization plan!

- Food for thought: given the importance of these programs' non-energy benefits, is there a need for additional programs funded from and implemented independent of the energy sector that focus on climate resiliency and adaption?

QUESTIONS?

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