



# CPUC Overview of EPIC



**California Public Utilities Commission**  
**Energy Division**

October 18, 2017



# Overview Topics

1. EPIC Program Background
2. California Energy Policy and R&D Focus Areas
3. EPIC 3 and EPIC Evaluation





# EPIC PROGRAM BACKGROUND





# Electric Program Investment Charge (EPIC)

- Triennial Program: funding from 2012-2020
  - Applied R&D; technology demonstration & deployment; market support/facilitation
  - 4 administrators: CEC (80%); PG&E, SCE, SDG&E (20%)
- CPUC's role
  - Conduct a public proceeding every 3 years to consider investment plans
  - Ensure compliance with primary and mandatory guiding principles (provide electricity ratepayer benefits):
    - Greater reliability; lower costs; increased safety; complementary guiding principles
    - Investment plans must map to the electricity system value chain:
      - Grid operations/market design
      - Generation (CEC only)
      - Transmission
      - Distribution
      - Demand-side management





# EPIC (continued)

- EPIC's guiding principles and requirements are broad
- EPIC administrators must coordinate with stakeholders
  - Must formally or informally consult with interested stakeholders no less than twice/year\*\*
  - Must file annual reports, which quantify budget and describe projects
- Administrators determine their own investment framework and proposals
  - CEC: “Strategic Initiatives”;
  - Renewables and DER Integration; Grid Modernization & Optimization; Customer Products & Services Enablement; Cross-Cutting





# EPIC Goals

- Provide ratepayer benefits: Reliability, safety, and lower costs
- Advance pre-commercial innovations and provide market facilitation for commercial-stage ones
- Symposium Goals:
  - Share progress, results and future plans;
  - Improve coordination and understanding amongst administrators, parties and Commission;
  - Raise awareness and visibility of EPIC investments; and
  - Promote program transparency





# EPIC Structure: The Innovation Pipeline

**APPLIED RESEARCH AND DEVELOPMENT**

Focuses on validating new ideas and technologies

**APPLIED R&D**

**TECHNOLOGY DEMONSTRATION AND DEPLOYMENT**

Demonstrates strategies at real-world scales

**TD&D**

**MARKET FACILITATION**

Overcomes non-technical hurdles to increase market adoption and expansion of emerging solutions

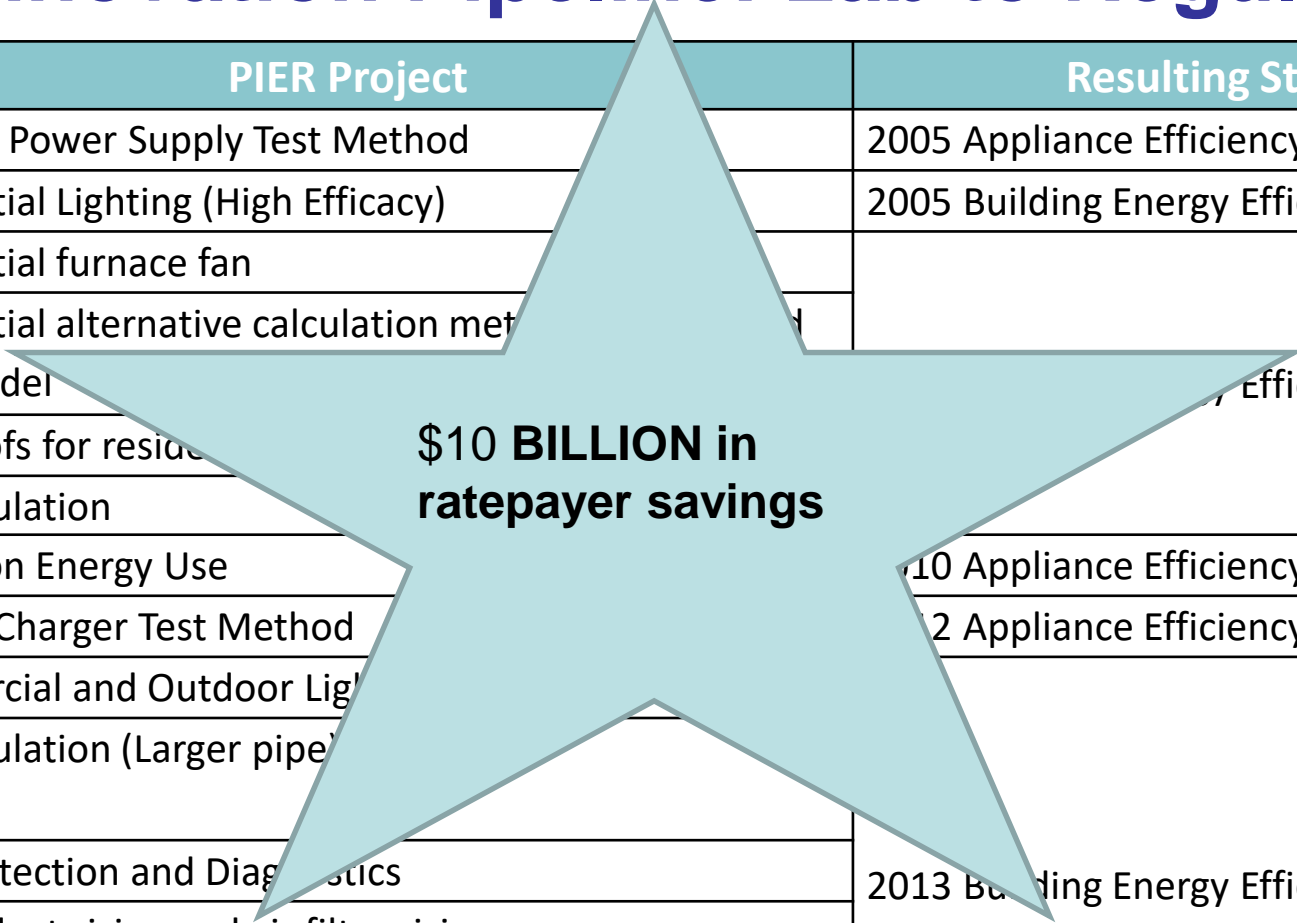






# Innovation Pipeline: Lab to Regulations

PIER Project	Resulting Standard
External Power Supply Test Method	2005 Appliance Efficiency Standards
Residential Lighting (High Efficacy)	2005 Building Energy Efficiency Standards
Residential furnace fan	
Residential alternative calculation method	
duct model	2005 Appliance Efficiency Standards
Cool roofs for residential	
Pipe insulation	
Television Energy Use	2010 Appliance Efficiency Standards
Battery Charger Test Method	2012 Appliance Efficiency Standards
Commercial and Outdoor Lighting	
Pipe insulation (Larger pipe)	
Fault Detection and Diagnostics	
Return duct sizing and air filter sizing	2013 Building Energy Efficiency Standards
Efficient functioning of zone ducted systems	







# CALIFORNIA POLICY AND R&D FOCUS AREAS





# SB 350: The Clean Energy and Pollution Reductions Act of 2015

- Goal: Reduce GHG emissions from 1990 levels 40% by 2030, and reduce other air pollutants through:
  - Encouraging resource optimization via an Integrated Resource Planning (IRP) process
  - Increasing Renewable Requirements from 33% by 2020 to 50% by 2030
  - Doubling of Energy Efficiency savings by 2030
  - Encouraging transportation electrification to reduce economy wide GHGs
- SB 350 places an early priority on disadvantaged communities





# EPIC is EPIC

EPIC 1: \$418 million

EPIC 2: \$509 million

EPIC 3: ~\$548 million requested

- 10% administrative costs

+ match funding

= EPIC investment in energy innovation





# EPIC 3 AND EVALUATION





# What's new in EPIC 3

- Recurring themes
  - Balancing flexibility with compliance with CPUC rules/priorities
  - Coordination and policy alignment—stronger feedback loops
- EPIC is poised for improvements
  - Disadvantaged Communities
  - IP Rules
  - CPI Index Rules
  - What comes after EPIC 3?
  - Contracting Requirements
  - Rollover of EPIC 1 funds
  - Projects between EPIC application cycles
- Integration of Evaluation Results
  - Evaluation Report





# EPIC Evaluation Report

- Purpose: comprehensive evaluation of EPIC to identify opportunities to improve program management and effectiveness
  - Completed and filed 9/8/17
  - Opening Comments received on 10/2/17
  - Reply comments due 10/23/17





# Questions?

David Huang, [david.huang@cpuc.ca.gov](mailto:david.huang@cpuc.ca.gov)

<http://cpuc.ca.gov/energyrdd/>

