



# Senate Utility and Commerce Committee

## **“The Negawatt”: Utility Energy Efficiency Programs & Progress**

March 16, 2010

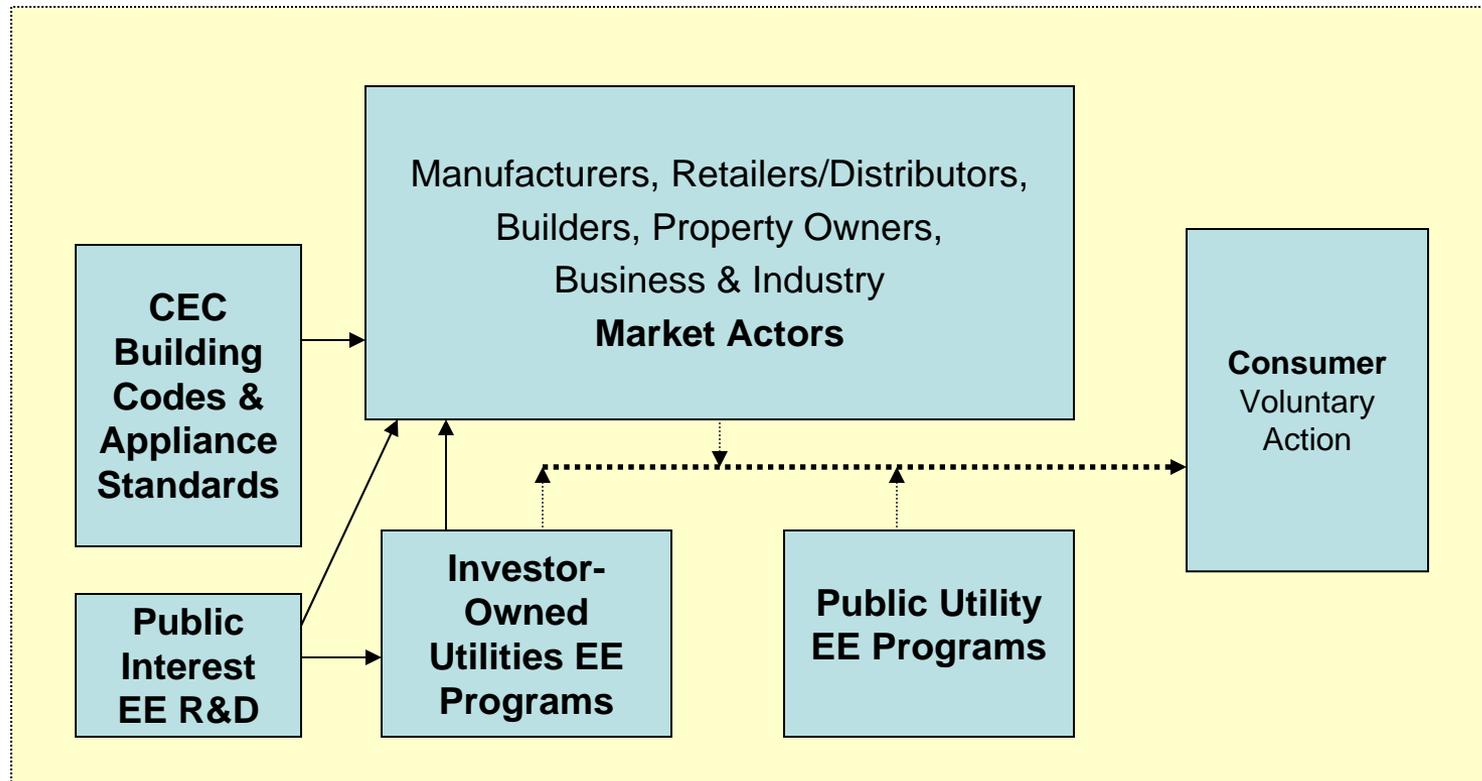
**Panel: *Lessons Learned & Being Applied***

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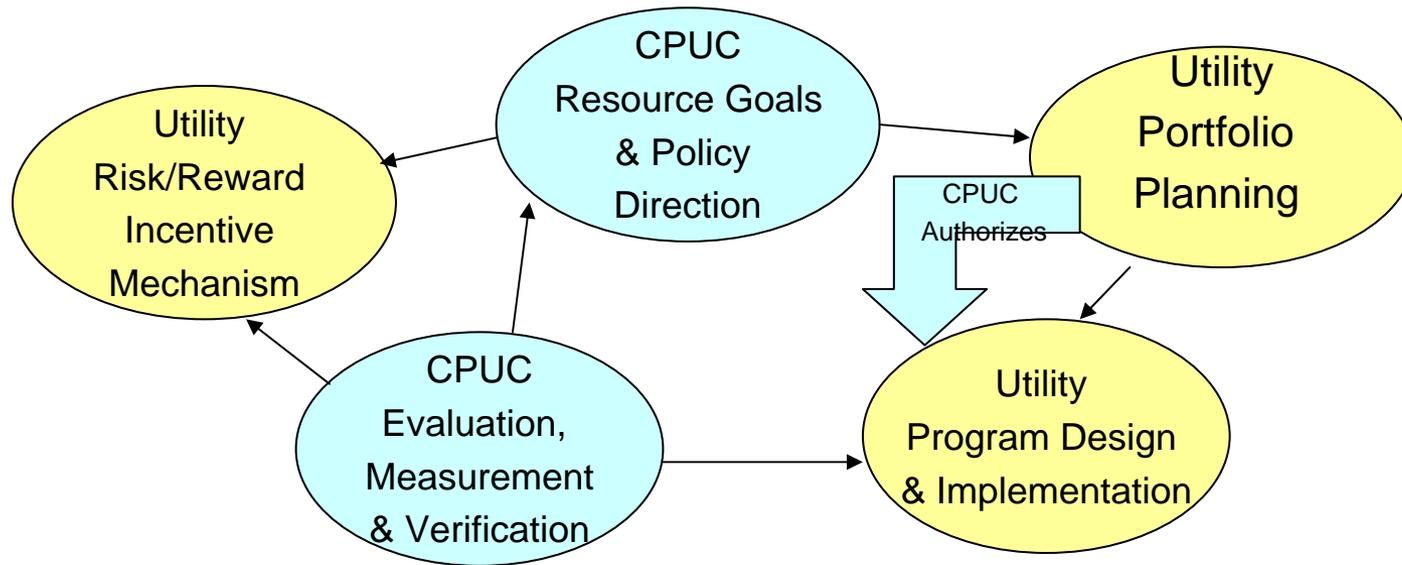


# The Canvas for Achieving “All Cost-Effective Energy Efficiency” Potential: *IOU Efficiency Programs in Context*





# How the CPUC Sets Direction and Measures Outcomes



- Efficiency goals set from best available information on efficiency potential
- Policy direction based on evaluation findings, stakeholder feedback, gap analysis
- Portfolio plans and design/implementation vetted w/ stakeholders; CPUC analyzes for policy consistency
- Program plans based on logic models & performance metrics. Progress tracked for expenditures, installations, estimated savings & key metrics
- Program savings verified by independent evaluators managed by CPUC staff
- Utility performance assessed & incentive paid via Risk Reward Incentive Mechanism





# Evaluation, Measurement and Verification (EM&V) “101”

- **Impact Evaluation** is used to verify energy savings through field research. Key aspects investigated are:
  - Installation Rates (*How many units got installed?*)
  - Unit Energy Savings (*What savings were achieved?*) –Factors include baseline, expected life, operating hours, peak time effects)
  - Program influence or Attribution (*To what extent did the program cause the action?*) -- Compared to other motivating factors, such as natural market changes, vendor advertising, price effects, environmental effects, etc.?)
- **Cost-Effectiveness Analysis** applies:
  - Impact findings,
  - Together with economic tools,
  - To determine the value and cost-effectiveness of efficiency programs compared to investment in supply-side resources.
- **Lessons Learned** are applied to future program designs & implementation strategies, including:
  - Updated energy savings expectations
  - Insight into customer segments with highest savings potential
  - Profiles of customers unlikely to take action without utility program facilitation





# Evaluation of 2006-08 Programs – A Complex Challenge

- **The Portfolio contained:**
  - 250 programs
  - About 1,000 efficiency technical measures in 9,000 variations
  - 4 utilities (two combined gas and electric, one electric only, one gas only)
- **The 4+ year evaluation effort involved:**
  - 23 technical evaluation contracts to evaluate samples from 4.5 million unique measure records in tracking database
  - 50,000+ customer or contractor surveys
  - 12,000+ site visits for verification purposes
  - Evaluation contractor budget of \$97 million
  - 60+ public meetings and 1,700+ public comments





# Four Lessons Being Applied via Policy Direction in 2010-12 Utility Efficiency Portfolios

## 1. Statewide Efforts

- Participation by all utilities in same programs
- Uniform program designs & messaging
- Entrepreneurial partner engagement

## 2. Capture Wide-Ranging Motivations of End Users

- Co-brand energy and climate change benefits
- Understand and appeal to varied motivations by demographics, ethnicity, social and political values





## Four Lessons Being Applied via Policy Direction in 2010-12 Utility Efficiency Portfolios (continued)

### 3. Comprehensive, Durable Savings

- Avoid simple, short-term aims; e.g. majority of recent utility energy savings came CFL light bulbs, leading to missed opportunities & higher costs to secure successive EE actions.
- Promote comprehensive one-stop & whole-house action plans, via a transformative approach harvesting deep, long-lasting savings.

### 4. California's End-to-End Strategic Plans

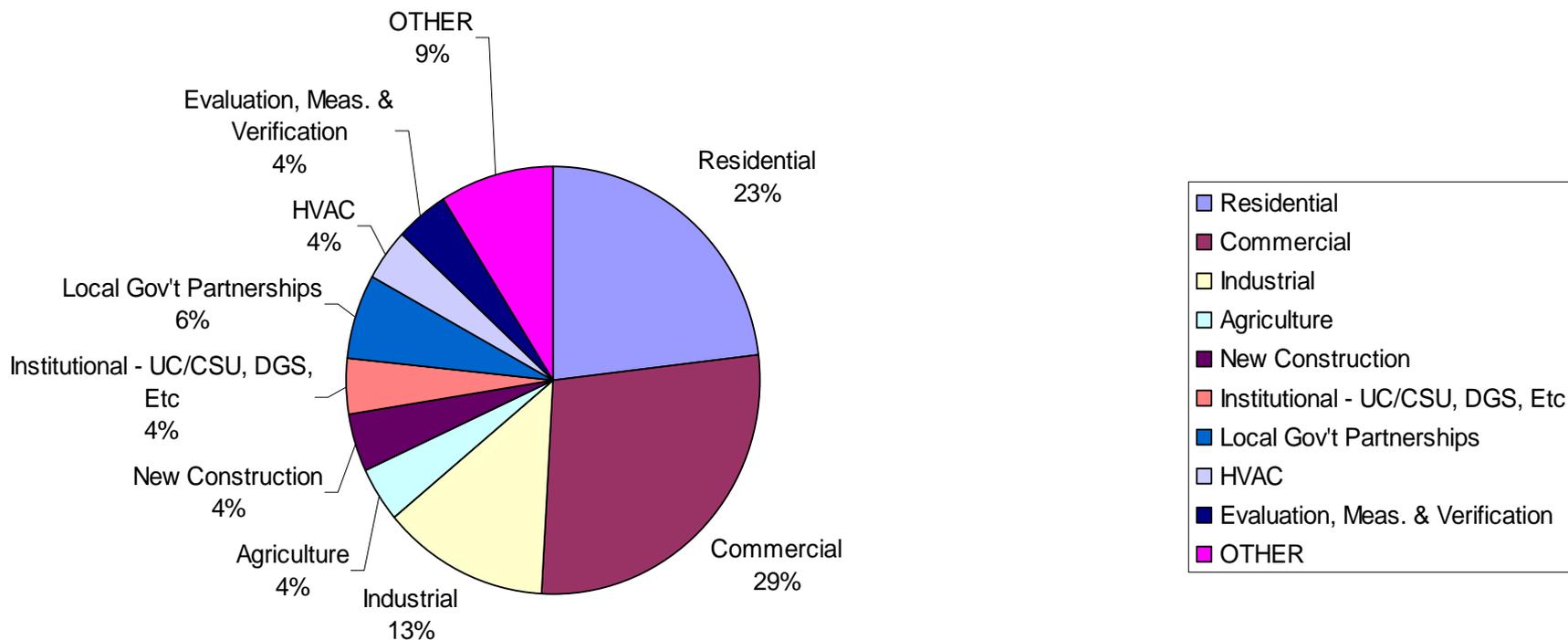
- Achieving ambitious goals needs outcome-oriented planning that links strategies “end-to-end”:
  - from RD&D and emerging technology,
  - financial incentive and technical assistance programs,
  - coordinating CEC/local government ARRA programs to
  - eventually permanent market transformation via statewide or national codes and standards.





# The Portfolio Outcome for Investor-Owned Utility 2010-12 Energy Efficiency Programs

## *\$3.1 Billion Main Portfolio by Program Areas*





# Policy Issues Ahead

- Coordination of CPUC efficiency goals and utility program savings projections with:
  - CEC statewide energy demand forecast
  - CARB AB 32 Scoping Plan implementation
  - Periodic updating of efficiency potential and goals for 2013-20
- Renewal of Public Goods Charge funding authority set to expire January 1, 2012, per PU Code Section 399.8
- Selecting venues to broker broad market transformation strategies, including issues of:
  - Statewide approaches & authority; venues for leadership
  - Choosing among continuum approaches of benchmarking, voluntary action, or minimum performance requirements
  - Integrating energy benefits with carbon reduction values and determining “who pays?” for programs and other mechanisms

