Evolving Utility Cost Effectiveness
Test Criteria

Brian Gitt - Principal

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BKi Overview & Innovative Services

- Stakeholder Engagement
- Market Research & Analysis
- Training & Technical Assistance
- Program Design & Implementation
- Strategic Marketing & Communications
- Research & Development
- Energy Modeling & Simulation
# Energy Efficiency Cost-Effectiveness Tests

<table>
<thead>
<tr>
<th>Energy Efficiency Program Benefits:</th>
<th>Participant Test</th>
<th>RIM Test</th>
<th>PAC Test</th>
<th>TRC Test</th>
<th>Societal Cost Test</th>
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<tbody>
<tr>
<td>Customer Bill Savings</td>
<td>X</td>
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<tr>
<td>Avoided Generation Costs</td>
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<tr>
<td>Avoided Transmission and Distribution Costs</td>
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<tr>
<td>Avoided Cost of Environmental Compliance</td>
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<tr>
<td>Non-Energy Benefits (utility perspective)</td>
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<tr>
<td>Non-Energy Benefits (participant perspective)</td>
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<tr>
<td>Non-Energy Benefits (societal perspective)</td>
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<tbody>
<tr>
<td>Program Administrator Costs</td>
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<td>EE Measure Cost: Program Financial Incentive</td>
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<td>EE Measure Cost: Participation Contribution</td>
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<tr>
<td>Non-Energy Costs</td>
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<td>Lost Revenues to the Utility</td>
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Primary Methodology Usage

- TRC (29 states): 15%
- Societal Cost Test (6 states): 2%
- PAC Test (5 states): 12%
- RIM Test (1 state): 2%
- Other: 71%
Nothing was wrong with the original idea... but it changed:

ALL costs are counted... but only ONE benefit (ΔkWh)

Not quite realistic...
Integrated Upgrades: Participant Benefits

It’s not just bill savings: The customer buys a whole BUNDLE!

...but all the non-energy benefits are typically ignored in evaluations.
Big Benefits for Broader Society Too

- Construction Jobs
- Secondary Jobs
- Productivity
- Housing Stock Value
- Emissions Reductions
- Local Tax Revenues
- Income Tax Revenue
- CARBON REDUCTION
- Public Safety
- Unemployment Savings

*But these benefits are typically not considered either.*
The Cost-Effectiveness Barrier

- Current goals are hard to reach
- Conventional “widget” programs inadequate
- Strategic Plan seeks innovative/comprehensive programs
- New emphasis on “market transformation” approaches for much deeper energy savings and market reach

BUT...

*Utility program portfolios must be “cost-effective”*

...and new approaches tend to fail the test
CPUC BIG BOLD GOALS

- Cumulative market penetration scenarios

<table>
<thead>
<tr>
<th>Year</th>
<th>Scenario A</th>
<th>Scenario B</th>
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<tbody>
<tr>
<td>2010-2012</td>
<td>7,500</td>
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<tr>
<td>2013-2014</td>
<td>250,000</td>
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<tr>
<td>2015-2016</td>
<td>1.7 million</td>
<td>350,000</td>
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<tr>
<td>2017-2018</td>
<td>2.2 million</td>
<td>1.6 million</td>
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<tr>
<td>2019-2020</td>
<td>600,000</td>
<td>2.8 million</td>
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</table>
A Strategic Dilemma

Catch-22: Big Needs, Outmoded Tools

- Huge energy savings goals
- Conventional “widget” programs don’t go deep
- Comprehensive approaches needed but expensive
- Current C-E tests disqualify such approaches

**SOLUTION: Broaden the C-E Tests**
A Total Resource Cost Test Fix

**COSTS:**
Program + ~20% participant costs (total ATTRIBUTED project costs)

**BENEFITS:**
Utility Avoided Power Cost (PLUS Societal NEBs)

TRC =

*Use only participant cost share for energy savings and expand benefits to include all societal NEBs*
But that’s not enough…

• **New innovative program designs are needed:**
  – Deliver savings at lower costs
  – Engage consumers and provide on-ramp to higher savings over time
  – Integrate behavior and improvement measure programs
  – Align with contractor existing business models & reduce admin barriers
  – Harness reach of all EE programs & eliminate silos
  – Achieve economies of scale
Contact

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