Savings Methodology & Keys to Market Acceptance

May 3, 2012
<table>
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<th>Panelists</th>
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<td>David Jump, Ph.D., P.E.</td>
<td>Jim Kelsey</td>
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<td>QuEST</td>
<td>kW Engineering</td>
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<td>Carmen Best</td>
<td>Joan Effinger</td>
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<td>Jon McHugh</td>
<td>Jessica Granderson</td>
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<td>McHugh Energy Consultants Inc.</td>
<td>Lawrence Berkeley National Laboratory</td>
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Agenda

• Introduction/Overview (David)
• Evaluation Perspectives (Carmen)
• Codes & Standards (Jon)
• Calculated Approach & Customer Perspective (Jim)
• Whole Building Approach Experiences (Joan)
• Commercial Tools: Capabilities and Requirements (Jessica)
• A Way Forward (David)
Savings Methodologies

• Engineering Savings Calculations
  • Calculators & tools
  • Spreadsheet based
  • Building/system simulations

• Whole Building Approach (M&V)
  • IPMVP Option C: Energy Modeling
  • Based on interval data
Whole Building M&V
Why Whole Building Approach?

• High frequency energy use metering

• Improved EIS Technology

• Enable widespread application
  • Commercial & industrial, large and small
  • Achieve deeper savings amounts
  • Accurate savings accounting
  • Improve savings persistence
Where does WB make sense?

- Stakeholder Needs
  - Regulatory
  - End user

- Project types
  - Retrofits
  - RCx
  - Behavioral
Perspectives

• Savings Calculations

• Whole Building M&V

• Tools: Capabilities & Requirements

• Where to from here?
Evaluation Objectives

• Energy savings and emissions impacts

• Success of program interventions

• Potential for future intervention