Using a technical reference manual to bridge planning, implementation, and evaluation

Kevin Grabner, Senior Consultant, Summit Blue Consulting LLC

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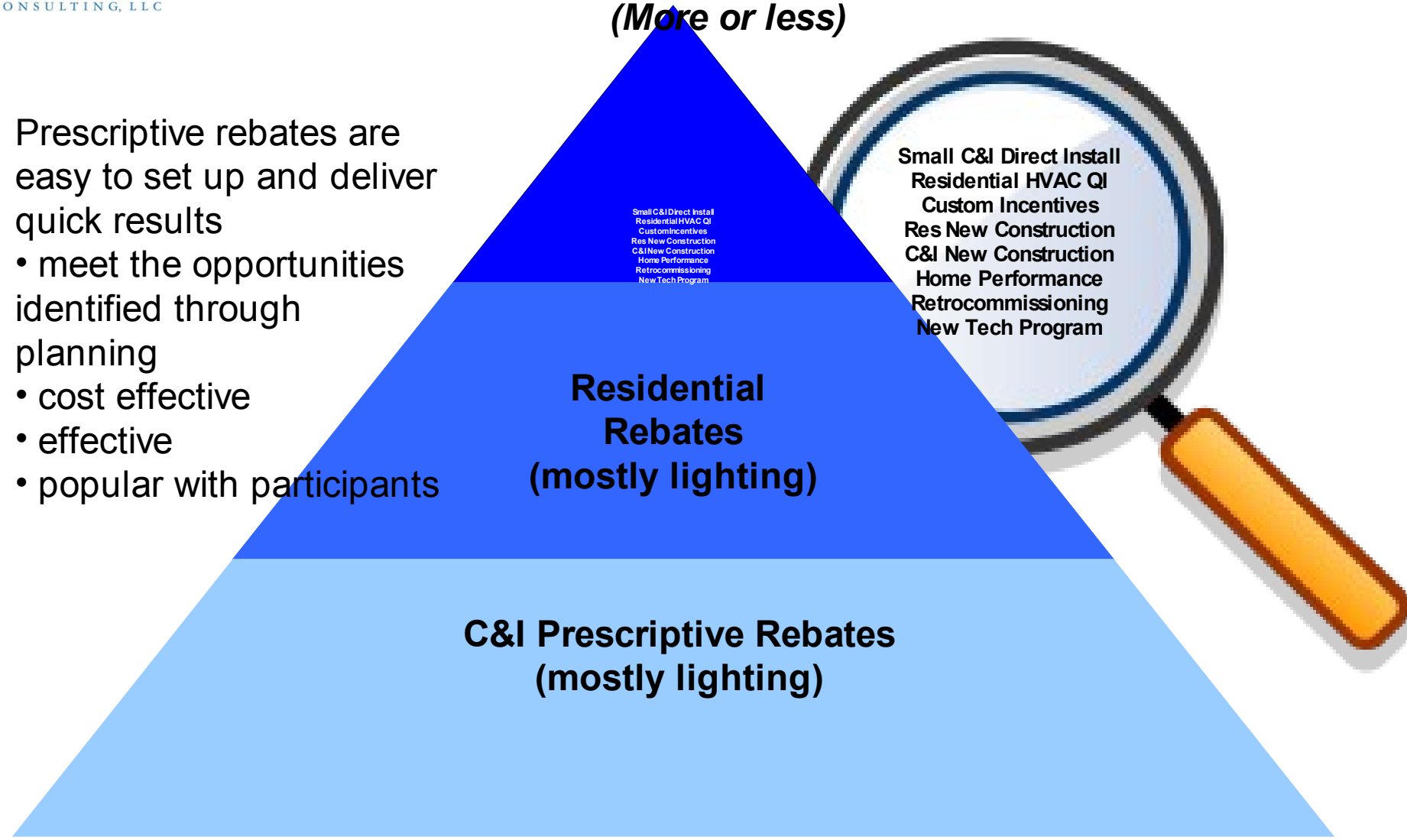
Typical Energy Efficiency Resource Program Portfolio
(More or less)

Prescriptive rebates are easy to set up and deliver quick results
- meet the opportunities identified through planning
- cost effective
- effective
- popular with participants



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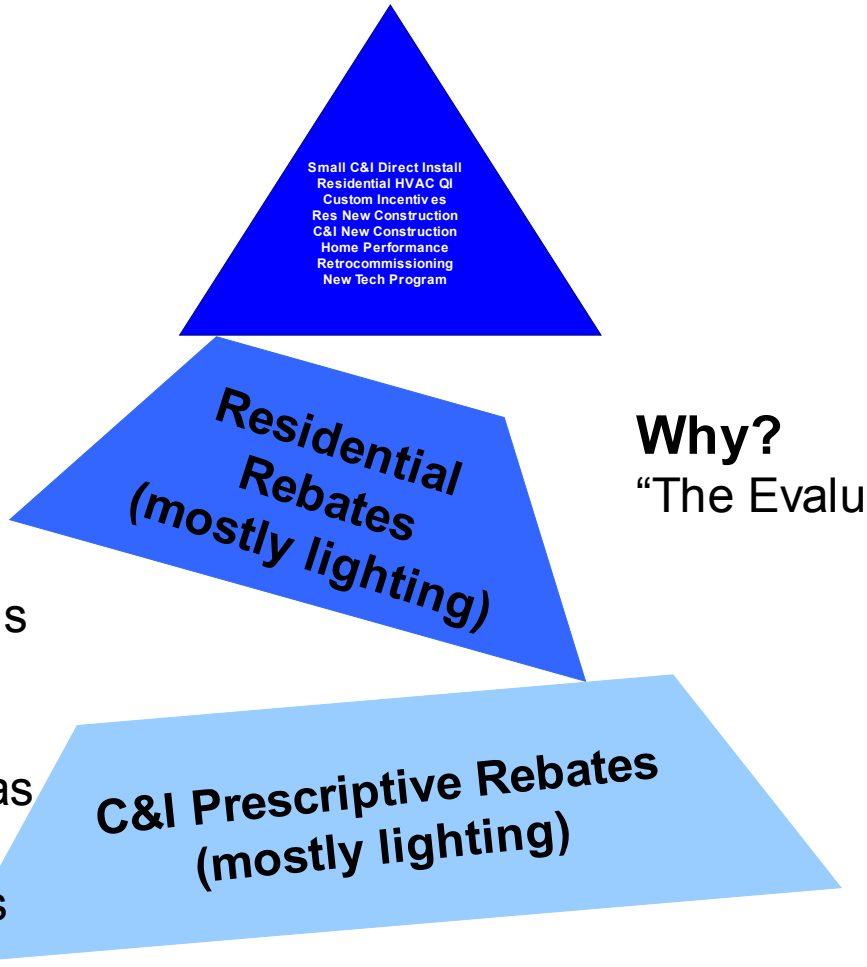
Typical Energy Efficiency Resource Program Portfolio
(After Evaluation Process Reduces Expected Savings)

Why? Maybe because

- Planning used an outdated baseline
- Program design assumed planning had good per unit impacts
- Implementers used unsupported assumptions
- Project documentation was not adequate
- Didn't realize market was changing so fast
- Didn't question success



Why?

"The Evaluators are wrong"

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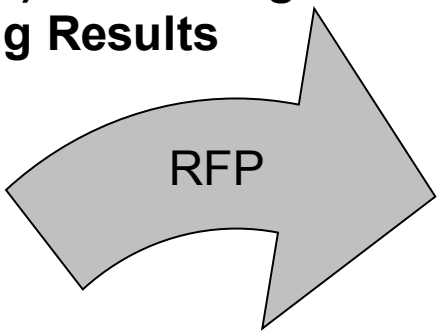
A (more or less) Chronological Process Contributes to these Upsetting Results



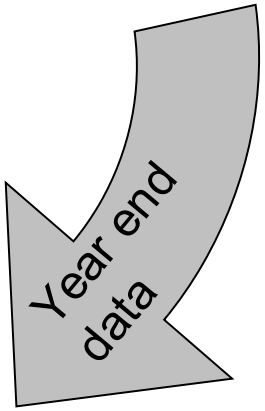
Program Design and Implementation

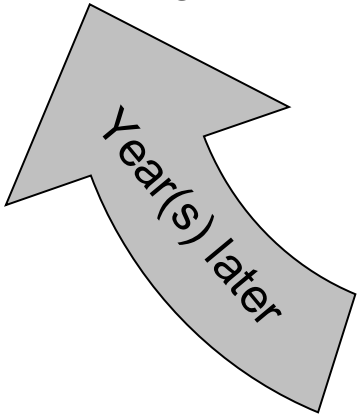
- Get up & running quickly
- Problems: use some faulty planning numbers & professional judgment for savings assumptions and technology characteristics

Program and Portfolio Planning

- Must set budgets & goals from hundreds of assumptions
- Problems: many data sources are not current, not based on local market or climate, and lack rigor

!#?&!





Evaluation

- Feedback is reactive even though they've seen these specific problems before

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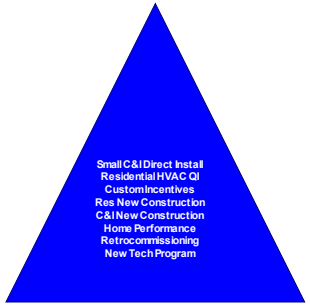
With shortcomings in the planning=>implementation=>evaluation chronological process….

- Realization rates and net savings are lower than they could have been
- Financial and staff resources are spent on acquiring savings that either weren't really there or would have happened without the program
- Corrective actions by planning, design, and implementation can be misguided
- A good program approach can be terminated rather than fixed
- Portfolio evolution does not keep pace with market changes
- Precious resources are not available to develop promising approaches (*Had we known, we would have allocated portfolio resources differently*)



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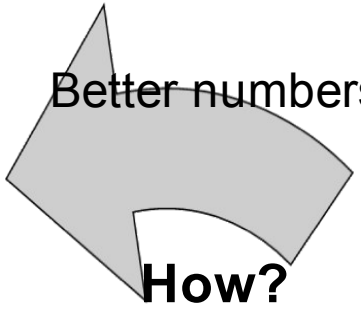
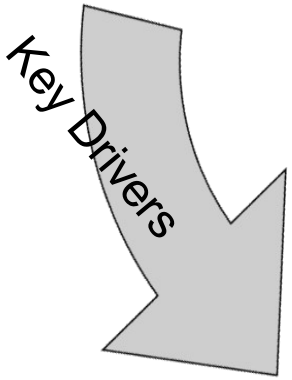
A Continuous and Collaborative feedback loop could help make better use of EE dollars and effort

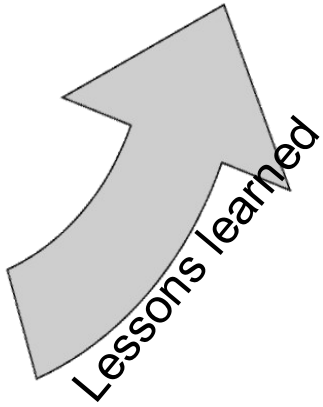
Portfolio Planning and Design
- Identify the subset of assumptions that drive portfolio performance and uncertainty – share with EM&V



Program Design & Implementation
- Provide current and local market characteristics to planners
- Improved methods and assumptions from EM&V

Use Portfolio and Program-Specific Technical Reference Manuals as a bridge for collaboration





Evaluation
- Proactive feedback on issues & assumptions
- Apply resources to reduce key uncertainties

Portfolio and Program Specific Technical Reference Manuals

They should:

• Be a high priority working document developed primarily by and for those directly responsible for planning, implementing, and evaluating the program

- ➢ Fully describe how demand and energy savings are estimated for program reporting
- ➢ Provide guidelines to implementers for documenting and inspecting completed projects

• Be specific to a portfolio and the programs offered by the delivery agent (utility, public benefits administrator, state energy office)

• If time allows, the TRM should be thoroughly vetted before program roll out but even if that is not possible plans should be in place for shoring up the TRM early in the program's first year.

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Portfolio and Program Specific Technical Reference Manuals

They should also:

- Use current, local market research for data sources when it is available
- Identify key assumptions that drive overall results and that need local market research to ensure that the savings assumptions are appropriate for the climate, geography, and population.
- Evolve through a collaborative process between planning, implementation, and evaluation teams after program planning and design create the initial draft
- Be maintained as working documents over time to capture the resolution of collaboration and evaluation cycles
- Draw upon state and regional TRMs and EM&V Protocols when required or helpful – but use relevant excerpts focused on the particular program

They are not intended to define how a program will be implemented or evaluated

Portfolio/program versus state/regional Technical Reference Manuals

State and Regional TRMs:

- Developed through official multi-party forums and comment processes
  - Comprehensive in scope
  - Perhaps more of a negotiation than a collaboration
  - Breadth may reproduce familiar problems: key assumptions not based on current, local market conditions and climate
- Mandated by regulators as the basis for standard assumptions and approaches that should be consistent throughout the state or region
  - Standard assumptions
  - EM&V protocols
  - Deemed savings: mandated kWh per unit

The portfolio and program TRM

- Less formal collaboration at the program level to produce concise, high quality information on the key drivers for individual programs
- Provides default savings – not official, not immune to revision through EM&V, but the agreed upon best currently available assumptions

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Portfolio and Program Specific Technical Reference Manuals

Basic structure

Examples and experiences where these did (or would have) helped

Planning	**Core Material for Implementation**	**Evaluation**
Basic assumptions and definitions that crosscut measures and programs • *Market & population data (e.g., HOU by customer type)* • *Regulatory requirements* • *"kW" defined* • *Source docs*	Details of how demand and energy savings are estimated for all measures • *Measure definition* • *Baseline definition* • *Calculation methodology* • *"Unit" derivation & definition* • *Per unit impacts* • *Per unit costs* • *Measure life*	Guidelines to help program planning & implementation • *Project documentation requirements* • *Inspection guidelines* • *Tracking database fields*

Contact Information

Kevin Grabner, P.E.
Summit Blue Consulting, LLC.
kgrabner@summitblue.com
608.807.0088