Measuring it Right

Best Practices in the Selection and Implementation of Cost-Effectiveness Tests

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National Home Performance Council

The National Home Performance Council

- National, non-profit organization
- Supports whole-house upgrade programs through research, convening, and communications projects
- Addresses problems that limit growth and development of whole-house programs

NHPC Stakeholders

- Federal agencies (DOE)
- State energy offices (NASEO, MD, NY, TX)
- Program implementers (CSG, ICF)
- Utility sector (EEI, LIPA, and currently reaching out to several others)
- Industry (NAIMA, ABM)
- Real estate (Eco-Brokers / AEEREP)
- Non-profit stakeholders (ACEEE, ASE, EPC)

NHPC Current Projects

- Cost-effectiveness testing
- Data collection and transfer standards
- Smart grid and whole house energy efficiency upgrades
- Incorporating energy efficiency data in MLS systems and appraisals

Cost-Effectiveness Test Stakeholder Group

- March 2011: A group of energy efficiency practitioners creates working group at the national Affordable Comfort Inc. (ACI) conference to address cost effectiveness tests
- Stakeholders include:
  - State officials
  - Program sponsors and implementers
  - Contractors
  - Evaluators

Stakeholder Concerns

- Stakeholder concern: cost-effectiveness tests are becoming a significant constraint on the growth of the energy efficiency industry, particularly whole-house programs

- Questions:
  - What exactly is the problem(s)
  - What can be done to solve it?

Problems

- RIM makes programs virtually impossible, but no longer used by any state
- Programs having difficult time clearing tests, with the TRC the most-discussed hurdle
  - Participant contributions
  - Other test features, such as application at measure level
- Excellent programs, some with strong track records, constrained or jeopardized by tests

Test Problems and Issues

- Tests preventing programs from getting off the ground
- Tests imposing significant constraints on existing programs
- Tests threaten longevity of existing programs

Public Policy Issues

- Makes achievement of EEPS goals more difficult
- Prevents consumers from taking advantage of opportunities to save energy and, potentially, lower bills over the long term
- Limits potential of energy efficiency to reduce energy costs within utility service territory

White Papers

- NHPC White Paper: “Measure it Right”
- Released in draft form in September 2011
- Final paper released June 2012
- http://www.nhpci.org/publications

- NHPC Commissioned Paper by Tim Woolf, Synapse to be released at NARUC July 2012

White Paper Recommendation

- Use Societal Cost Test applied at the program level with best practices

If not then…

- Total Resource Cost Test applied at the program level -- but *only* if best practices can be applied

If not then…

- Use Program Administrator Cost Test at the program level if practical/cost reasons prevent best practices

SCT/ TRC Best Practices

- Tremendous diversity in the way that tests are implemented
- Some variation desirable, but also important to consider best ways to do tests
- Best practices should be designed to achieve underlying intent of tests
- Initially identified nine best practices, but list can be expanded and refined

1) Best Practice: Apply at Test Appropriate level

- Tests at portfolio, program, project, or measure level all have uses, but should not be used equally to determine program approval
- Program and Portfolio-level testing are best, as they allow market transformation
- Use measure-level testing as advisory: causes problems if used to shape whole-house programs or approve individual jobs

2) Best Practice: Ensure that Avoided Costs Measured Accurately

- Avoided energy costs
- Avoided capacity costs
- Avoided T&D costs

3) Best Practice : Recognize Spillover / Market Transformation

- Spillover and market transformation effects need to be taken into account.
- Should be considered especially where free-riders are also calculated.

4) Best Practice : No Arbitrary Caps for EULs

- Some programs impose arbitrary caps on effective useful life (EUL) of energy efficiency measures

- For measures with long life-spans, no reason that measures should not be valued for the duration of their useful life

5) Best Practice: Evaluate Appropriate Time Frame

- More complex energy efficiency programs typically have long start-up periods;
- Costs front-loaded in first few years;
- Mature programs' experience demonstrates that costs fall over time
- Develop ways to ensure that costs spread over time

6) Best Practice: Use Appropriate Discount Rate

- Use Treasury bonds or similar rate to reflect cost to society as a whole rather than WACC so as to reflect the low-risk nature of energy efficiency investments

7) Best Practice : Recognize all Energy Savings

- All fuel savings should be captured, not just those provided by the utility sponsoring the program

- An issue when gas and electric services are provided by separate utilities

- Consideration of bulk fuels also an issue

8) Best Practice : Recognize Non-Energy Impacts

- Studies consistently find non-energy impacts important
  - Comfort and health issues particularly important for consumers
- Non-energy *costs* should be considered if relevant
- Significant impact on TRC

Application of Fixes Home Performance Example

	Scenario		TRC Today	TRC Cost Adjusted	TRC w/NEBs	PACT
Costs						
Measure Costs		$7,500				
Rebate	33%	$2,500	$2,500	$2,500	$2,500	$2,500
Participant	67%	$5,000	$5,000	$5,000	$5,000	
Administration		$1,500	$1,500	$1,500	$1,500	$1,500
Customer Attribution of Costs						
Energy Reasons		50%				
Non-Energy Reasons		50%				
Cost Adjustment		$ (3,750)		-$3,750		
Total Costs			$9,000	$5,250	$9,000	$4,000
Benefits						
Energy - Avoided Costs		$ 6,000	$6,000	$6,000	$6,000	$6,000
Non-Energy		$ 6,000			$6,000	
Total Benefts			$6,000	$6,000	$12,000	$6,000
Net Benefits			-$3,000	$750	$3,000	$2,000
			FAIL	**PASS**	**PASS**	**PASS**

9) Best Practice: Recognize Future Costs of Environmental Compliance

- Recognize future costs of environmental regulation if they are quantifiable and almost certain to occur

- Examples: EPA regulations

Use PAC if Best Practices Not Feasible

- Program Administrator Test has significant benefits:
  - Simpler and less expensive to administer
  - Compares the cost of efficiency to the cost of supply-side measures
  - Useful for considering bill impacts

Tests are Important Analytic Tools

- Testing is important and can help to ensure that programs have real benefits
- But tests should be used mindfully -- larger goals important
  - Reduce consumer bills
  - Reduce energy consumption
  - Meet EEPS goals

Key Issues: Rates and Bills

- Key public policy concern: rates and bills
- Energy efficiency can cause rates to rise
- But *bill* impact can be negligible for smaller programs
- Larger programs can keep bills down over the longer term by delaying or preventing creation of new generation, transmission and/or distribution costs

Comments / Questions
Please Contact Us

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Thank you!