

Ask The Wrong Question; Get the Wrong Answer

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USING TESTS TO SCREEN ENERGY EFFICIENCY PROGRAMS THAT CREATE THE WRONG RESULT

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The Problem



Design and receive approval for new furnace incentives; as the Efficiency Standards Increase to 90% AFUE on May 1, 2013.

Question: So Why Is this a Problem ?

Answer: Because many policy regulators apply Cost Benefit Analysis Tests, which will not enable new furnace incentive programs to pass.

Current Screening Approval Philosophy



- Utilize the “Tested and Proven” California Standard Practice Manual.
- Manual contained 5 well established Tests:
 - Participant Test
 - Ratepayer Impact Test (RIM)
 - Societal Test
 - Program Administrator Cost Test (PACT)
 - Total Resource Cost Test

Why Won't Those Tests Work?



- **Over time, markets transform due to many factors**
- **As markets transform, energy standards increase to promote greater efficiency.**
- **As energy standards increase, the qualifying program equipment savings is compared to the new higher efficiency standards, and not to the piece of equipment being replaced.**

Does It Matter?



- Yes! Here is the relationship:
 - As the “Savings Floor” rises , and the “Participant Cost Ceiling” remains constant or increases, but not in the same proportional amount as the “Savings Distance ” then the annual and life cycle benefit is squeezed tighter and tighter.
- It would be like trying to install an 8 foot wall, when the ceiling height from the floor is only 7 foot high! **-It just won't fit!**

Hitting the Ceiling



- Upon achieving efficiency standards that approach the physical boundaries of complete combustion, we “hit the ceiling” on efficiency programs for high efficiency furnaces.
- If savings credits shrink due to increased efficiency standards, and the application of current testing models remains constant, then there is **no** chance to achieve Cost Benefit scores ≥ 1.0 .

GAME OVER!



Maybe Not!



- **What if we changed the question?**
- **What if the screening tests used different approaches, that act as motivators to achieving greater efficiency?**
- **What if we look at the problem differently?**

Other Issues to Consider



- **Why not apply the same test to a high efficiency furnace program that is applied to Low Income Programs?**
- **Consider Customer Affordability.**
- **Consider Ways to Produce Static or Positive Cash Flows for Consumers.**

Change from This...



- $*[(C_{apyq} / AFUE_b) - (C_{apyq} / AFUE_q)] * EFLH / 100,000 \text{ BTUs} / \text{therm}$
- **AFUE_b = The Baseline Furnace or Boiler**
- **AFUE_q = The Qualifying Furnace or Boiler**

***Current NJ Savings Protocol; approved NJBPU Board Order July 2011.**

To This...



- $*[(C_{apyq} / AFUE_{LI}) - (C_{apyq} / AFUE_q)] * EFLH / 100,000 \text{ BTUs} / \text{therm}$
- **AFUE_{LI}** = The Replaced Furnace or Boiler
- **AFUE_q** = The Qualifying Furnace or Boiler

Said Another Way...



- Calculate the savings credit between the furnace being **removed**, and the new qualifying heater.

*Current NJ Savings Protocol; approved NJBPU Board Order July 2011 used for Low Income Programs.

Reframe the Cost Benefit Question



- Give credit for “total energy benefits”
 - For example; consider the value of all of the energy saved, not just the gas or electric saved by the particular appliance. This is especially important; given the Energy Star standard for 2%e ECM fan motors.

Finding More Savings Credits



- Apply credit for “non – energy” benefits.
 - What is the cost in terms of economic and human consequence? *
 - Turn those avoided costs into credits.

*Refer to Chris Neme’s article; Is It Time to Ditch the TRC; Presented at the ACEEE Summer Study 2010

Most Important



- Does the application of any Cost Benefit Test pass the “Common Sense Test”? (Larry Armanda). **Let's try inter-connective thinking!**
- If the use of a test is counterproductive because it will motivate poor buying decisions, and **cause destructive mechanical installation behaviors for people it is supposed to treat; then we have an obligation not to use it anymore!**

Another Approach



- **Foster the Creation of Net Zero, or Positive Cash Flow Financing programs over longer terms.**
- **Craft a design where the customer monthly finance payment is equal to, or greater than the actual cost of the energy saved by the customer.**

Alternative Financing Concepts



- **Loans should be Unsecured**
- **0% Rate**
- **10 year term, or longer if needed**
- **Start with \$10,000 max loan ceiling**

Potential Lenders



- **Utilities**
- **Private Lending Institutions backed by Government Entities**
- **Other creative models; that have been attempted through municipal financing, tax credits, etc.**

Let's Create Solutions Not Problems



- The savings to cost investment dilemma can be fixed.
- Resources exist today to provide the expertise to illustrate how more informative analytical tests can work in today's high efficiency standard environment.
 - provide balance to the TRC test
 - Create real value for non energy benefits
 - Consider the preservation of health and safety

Create Solutions Not Problems



- Assemble alliances which are committed to doing what needs to be done.
 - DOE
 - State Regulatory and Code Agencies
 - Industry Trade Associations (ACCA, ACEEE, NRDC, AGA)
 - Utilities

The Right Question Provides the Right Answers



WHAT IS THE REAL GOAL:

- **Produce Greater Comfort**
- **Produce Real Savings: Energy and Dollars**
- **Improve Quality of Life and Property**
- **Improve the Environment**

We're In It Together



- **Together; we have to work to ask The Right Questions to Get the Right Answers!**
- **We have no choice but to reframe the way in which we analyze energy efficiency programs in the coming 12 months.**
- **We have to “Get ER Done”!**

That's Better



Contact Information



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