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September 2010

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## Letter from the Chair



Carol White, AESP Chair

### Building Success — Refocusing Market Research and Evaluation Efforts

Similar to experienced craftsmen, we have a wide range of practical and effective tools to choose from as we develop and implement energy efficiency and renewable energy programs. Market research and evaluation should be two of our most reached-for tools as we ramp up efforts to support and sustain local and national energy policy objectives.

These tools help us identify and evaluate important market parameters. They help us understand how to motivate consumers to invest in efficient technologies and adopt efficient practices. They give us the data to help us determine what works and what needs to change, and how to modify program efforts to achieve goals. Evaluation also adds instant credibility to program results.

Why then do some program implementers view the market research and evaluation community as an enemy?

One reason is that, in some areas, the intention of market research and evaluation has shifted from playing a supportive role to taking on more of an audit function. Unfortunately, when the focus changes to an audit position, program shortcomings are highlighted, people may become defensive, and cooperation can come to a standstill. Efforts to guide program improvements disappear and the value of market research and evaluation results quickly diminishes.

While effective oversight is essential, we need to recognize that we need forward-looking market research and evaluation efforts if we are to be successful. Market research and evaluation professionals need to show that they can be partners with implementation colleagues and vice versa. Working together constructively will lead to improved benefits for consumers and society at large.



Meg Matt

### MEMBERSHIP MANIA CONTINUES!

By: Meg Matt, AESP

**iPad and \$250 gift cards are up for grabs!  
Are you in it to win it?**

## Upcoming Events

### Brown Bags

*September 9, 2010*  
Who Gets the Credit: A Framework for Determining Causality & Attribution for Energy Efficiency & Renewable Programs

*September 16, 2010*  
The Evolving Market Reality of Residential Electric Water Heating

*November 18, 2010*  
How Can Market Research and Evaluation Help the Smart Grid Succeed with Customers?

If you would like to organize a Brown Bag, please contact Kisha Gresham at [kisha@aesp.org](mailto:kisha@aesp.org).

### AESP Training Courses

*September 14-15, 2010*  
Introduction to the Principles of DSM  
Chicago, IL

*October 4, 2010*  
Principles of Demand Response  
Portland, OR

*October 4, 2010*

Are you going to win the iPad? Or maybe you have your eye on a \$250 gift card to Amazon, a \$250 gift card to the airline of your choice, or 250 Disney Dollars? It's easy to win. You are talking to your peers and colleagues anyway so why not tell them about AESP's annual membership drive? Tell them they can get 15 months for the price of a 12 month membership! That works out to be only \$.43 a day!

**For YOU...**

For every new, paid individual member that you refer to AESP, you'll receive a \$10 Target gift card. PLUS, you'll be entered into a special drawing with the winner receiving a choice of a \$250 airline gift card, a \$250 Amazon gift card, or 250 Disney Dollars. The one person who refers the highest number of individuals will receive an iPad!



**For NEW Members...**

New members will receive 15-months for the price of an annual membership — which is STILL only \$195.00!

Send your friends, colleagues and peers to [www.aesp.org/displaycommon.cfm?an=4](http://www.aesp.org/displaycommon.cfm?an=4) and encourage them to join today! Be sure they include your name as the person who referred them.

Notes: Membership drive ends December 15, 2010. Target gift cards are distributed monthly. The \$250 gift card drawings and award of the iPad will occur on December 16, 2010. Winners will be notified by phone or email. New memberships must be paid in full to receive gifts. Terms are subject to change without notice.

**\*\*\*\*\* REMINDER \*\*\*\*\***

**Have You Registered for AESP's Fall Conference?**

AESP's Fall Conference: Bridging the Gap Between Demand Response and Energy Efficiency: Policies, Technologies and the Smart Grid (October 4-7, 2010 in Portland, OR) is right around the corner. Information-packed sessions, unique networking events, training courses, and more are waiting for YOU! Registration closes on Sept 16! You can still save almost \$350 if you register 3 people for \$1,440!

For a detailed agenda and other information, [click here](#).

**Newsletter Sponsored By:**

**Headlines**

**Stimulus News**

"Edison to Offer Zero Interest on Energy Saving Equipment"  
"Federal Stimulus Grants for a Sacramento, Calif., Utility and Others Spur Smart Grid Activity"

**Industry News**

"To Cut Demand for Electricity, Some Customers Agree to Unplug"  
"TXU Pushing Web-Enabled Programmable Thermostats"  
"Next Year: Utilities Move Into Demand Response"  
"Bringing the Smart Grid Into the Home"

Principles of EM&V  
Portland, OR

October 6-7, 2010  
Overview of DSM  
Portland, OR

October 6-7, 2010  
E2 — Level II DSM:  
Evaluation & Economics  
Portland, OR

If you would like to schedule an onsite training please contact Suzanne Jones at (480) 704-5900 or [suzanne@aes.org](mailto:suzanne@aes.org). For more information about the AESP Institute, click [here](#).

**Conferences**

October 4-7, 2010  
Bridging the Gap  
Between Demand  
Response and Energy  
Efficiency: Policies,  
Technologies and the  
Smart Grid  
Portland, OR

January 17-21, 2011  
AESP's 21st National  
Conference & Expo  
Orlando, FL

May 16-19, 2011  
AESP's Spring  
Conference: Program  
Implementation and  
Marketing  
Atlanta, GA



AESP is a member-based association dedicated to improving the delivery and implementation of energy efficiency, energy management and distributed renewable resources. AESP provides

"Arizona Corporation Commission Requires 22 Percent Energy Use Cut by 2020"  
"Companies, Green Groups Push for Utility Efficiency Mandate"  
"Incentives for California Utility Energy Efficiency Performance Must Be Addressed"

## AESP News

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### Featured Article

Updates from AESP, Local Chapters, Topic Committees and Members  
AESP Welcomes...  
News Releases and Announcements

## Stimulus News

*The following executive summaries of current news items were written for Strategies after being compiled from various news sources.*

### Edison to Offer Zero Interest on Energy Saving Equipment

In its latest surge to offer energy efficiency incentives, Southern California Edison is offering a zero-interest financing plan for non-residential customers to purchase and install energy saving equipment. On-Bill Financing will bill customers for loan payments on their utility bills. Business customers can apply for up to \$100,000 with a five-year term. Lisa Cagnolatti, vice president for Edison's business customer division, expects a "gold rush" from applicants needing capital. "To ensure fairness in access we've partitioned the money into three segments" that break down to government and institutional, industrial and agricultural, and business customers, she says. "We reserved some for small businesses because they, of all our customers, are probably in the most dire need of this kind of support," adds Cagnolatti. Government and institutional customers, who have a limit of \$250,000 with a 10-year term, are expected to take up a large share of the program. Many local governments are already lining up, according to Marissa Creter, a staffer with the San Gabriel Valley Council of Governments who works on its Energy Wise Partnership. "I think it's a really good opportunity for the cities," says Creter, adding that it will help local governments leverage federal stimulus funds. "Between those, they can double the impact through municipal projects and save on their kilowatt usage," she states. Aided by a comprehensive marketing campaign, Cagnolatti anticipates enough interest from Edison's 300,000 non-residential customers over the summer to fully subscribe to the program. Gary Levingston, program manager for Edison's On-Bill Financing program, points out the fund is revolving. "As these projects are financed and paid off, it does allow us to loan additional money out to other customers as well," he says.

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From "Edison to Offer Zero Interest on Energy Saving Equipment"  
*Inland Valley Daily Bulletin (CA) (08/06/10) Luciano-Adams, Beige*

### Federal Stimulus Grants for a Sacramento, Calif., Utility and Others Spur Smart Grid Activity

Some \$3.4 billion in smart grid funds included in the American Recovery and Reinvestment Act (ARRA) will help speed up the transformation of electric utilities. The Sacramento Municipal Utility District (SMUD), which received \$128 million in ARRA funds, plans to use the money to equip about 600,000 homes and businesses with smart meters by December 2011. SMUD will also use the smart grid funds for dynamic pricing, electric vehicle charging stations and home energy management systems. The smart grid will enable electric utilities to deliver power more efficiently, should take a greater amount of its power from renewable energy and allow residents to track their power usage. The move to the smart grid also means that SMUD will no longer need workers to drive to meters and manually record data, and its customer service call-takers will be trained on new software that will allow them to troubleshoot billing questions. Still, there are some concerns over whether the smart grid will continue to expand beyond the projects that have been funded with stimulus money. Perry Wong, director of regional economics for the Milken Institute, a Santa Monica, Calif.-based economic think tank, says mandating price breaks for consumers with good conservation habits could drive demand for smart-grid tools; and regulations need to encourage residents and businesses to install renewable energy generators and sell excess power to the grid. Also, streamlined federal and state regulation would make it easier and less expensive to build renewable energy plants.

development programs, a network of energy practitioners, and promotes the transfer of knowledge and experience.

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Kisha Gresham,  
Strategies Managing Editor

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From "Federal Stimulus Grants for a Sacramento, Calif., Utility and Others Spur Smart Grid Activity"  
*Government Technology (08/01/10) Opsahl, Andy*

## Industry News

*The following executive summaries of current news items were written for Strategies after being compiled from various news sources.*

### **To Cut Demand for Electricity, Some Customers Agree to Unplug**

While electricity use in New York State is up sharply this summer, peak load is not increasing. Electricity experts compare July 2010 to August 2006, when New York State set its all-time peak demand, 33,939 megawatts. Energy consumption last month was 7.8 percent higher than in August 2006, but the peak demand was 1.4 percent lower. One reason that consumption grows while peak load does not is demand-side management, under which customers agree to unplug when controllers need them to. On the afternoon before an anticipated surge in demand, email, faxes and phone calls alert those who have agreed that it is time for them to unplug. Common steps include adjusting air-conditioning thermostats, turning off some elevators, switching off lobby lights or starting up emergency generators. "If it's nice and sunny enough, then the lobby is bright enough without artificial lighting," says Lewis Kwit of Energy Investment Systems, a company that serves as a demand response service provider. Kwit has lined up about 10 apartment buildings where superintendents will close the laundry room and post signs asking tenants to delay using their dishwashers until the early morning. "You can save 20 to 30 percent," he says. Companies that recruit buildings or property owners to participate are paid by the New York Independent System Operator or by the local utility, and prices have been running \$12 to \$13 per kilowatt of reduction. Alfonse Amore, senior vice president at Trinity Real Estate, a property management company, says it enrolled 13 office buildings in the program this summer. Building personnel go from door to door asking tenants to turn off nonessential equipment. Trinity's buildings have a collective load of 16 megawatts and can cut that by 2 megawatts, says Alec Salticov, manager of engineering.

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From "To Cut Demand for Electricity, Some Customers Agree to Unplug"  
*New York Times (08/13/10) Wald, Matthew*

### **TXU Pushing Web-Enabled Programmable Thermostats**

TXU Energy, citing strong customer demand for new energy efficiency devices, hopes to install 100,000 Internet-linked programmable thermostats and electricity monitors in homes and businesses by 2012. The utility has installed approximately 20,000 of its iThermostat and PowerMonitor devices in homes and businesses. TXU describes the iThermostat as "the first and only Web-enabled programmable thermostat in the Texas retail electric market that gives consumers the ability to monitor, remotely control and personally manage their home or business temperature over the Internet." The PowerMonitor allows customers "to manage your energy consumption and cost by displaying usage in near-real time," according to the electric provider. The device displays current energy usage in estimated dollars and kilowatt-hours and can monitor usage over time. It also can set alarms when a certain consumption or cost threshold is hit. The devices can be used by customers with either advanced digital smart meters or traditional electromechanical meters, says TXU spokesman Michael Patterson. The iThermostat costs \$75 for the first unit and \$50 for additional thermostats, or it can be leased for \$5.99 per month; the PowerMonitor costs \$4.99 per month. There is no installation charge for either device. Patterson says the iThermostat is being marketed to residential and business customers, but PowerMonitor is only for residences.

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From "TXU Pushing Web-Enabled Programmable Thermostats"  
*Fort Worth Star-Telegram (08/06/10) Smith, Jack*

## Next Year: Utilities Move Into Demand Response

The demand response industry is expected to open up to a lot of new players in 2011, as utilities put together and begin to market demand response and power curtailment programs, says Larsh Johnson, president of eMeter. Johnson's firm provides the software platform and applications that enable utilities to achieve large-scale Smart Grid deployments. Johnson says that by the middle of 2011, some of the initial utility-based programs will emerge, and by the end of the year, several eMeter customers such as CenterPoint and Alliant Energy will have fairly full portfolios of tools for power curtailment and efficiency. The software and tools for curbing power are becoming more sophisticated. Curtailment applications tied to building management systems could potentially permit utilities to dim lights or adjust thermostats only slightly over a larger pool of customers on an ongoing basis. Honeywell, Cisco, EnerNoc and others have begun to acquire companies to better connect grid controls with building management systems. Another factor prompting the anticipated expansion of demand response and power curtailment programs is increased regulatory interest. In California, utilities will have to provide near-real time power consumption information to consumers and third-party service providers by the end of 2011. "We want to use demand response and dynamic pricing to influence market pricing," says Albert Chiu, who runs demand management for PG&E. By 2011, approximately 650,000 commercial and industrial buildings in California will receive their power under dynamic pricing schemes. Using software to run their own demand response programs could ideally cut costs, advocates note, but such an approach also entails staffing up a support desk. Demand management programs would put utilities on the other side of the meter and ask them to function almost as energy consultants in some instances. Whether or not a public utility can advise a company on energy efficiency without running afoul of conflict of interest rules remains to be seen.

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From "Next Year: Utilities Move Into Demand Response"  
*GreentechMedia.com (08/02/10) Kanellos, Michael*

## Bringing the Smart Grid Into the Home

U.S. residential consumers have long been accustomed to having electricity be always available at a uniform price, irrespective of the costs involved in generating and delivering electricity at different times of the day. But early results indicate that household consumers modify their consumption patterns when they receive real-time, or direct, feedback on electricity usage via in-home displays. These displays communicate with a consumer's smart meter as part of a larger advanced metering infrastructure. A 2009 survey of North American pilot projects by the Brattle Group's Ahmad Faruqi found that consumers reduced their usage from 3 percent to 18 percent in response to direct feedback from an in-home display. A separate 2009 study of residential dynamic pricing programs by Faruqi and Sanem Sergici found that critical peak pricing led to a drop in peak demand of 13 percent to 20 percent. In December 2009, California state regulators issued an order requiring the state's investor-owned utilities to provide consumers served by a smart meter with access to usage data on a real-time or near-real-time basis by the end of 2011. Outside of utility pilot programs, less than 50,000 residential customers currently take part in variable rate programs, partially due to the absence of AMI in many areas and reluctance among state regulators and legislators who fear a backlash among consumers. In response, state regulators and legislators can remove restrictions on variable rates and require utilities to offer these tariffs on an "opt-in" basis for customers. Meanwhile, FERC's National Action Plan on Demand Response said one of its goals is to "provide broad-based customer education and support through coordinated national and local action."

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From "Bringing the Smart Grid Into the Home"  
*Connected Planet Online (08/04/10) McDonald, John ; Malkin, David ; McCoy, Elizabeth*

## Arizona Corporation Commission Requires 22 Percent Energy Use Cut by 2020

The Arizona Corporation Commission has declared that by 2020, utilities in the state must reduce their customers' energy use by 22 percent. The commission says that cutting energy consumption by 22 percent could save about \$9 billion in energy costs while creating 12,000 jobs through implementing energy efficiency programs. "It's effectively among the strongest energy efficiency standards in the country," says Jeff Schlegel, a

representative for the nonprofit Southwest Energy Efficiency Project. If the 22 percent goal is reached, the rules will save Arizona ratepayers nearly \$9 billion and save Tucson ratepayers \$1.4 billion in energy costs, while the rules will create an estimated 12,000 new jobs, Schlegel says. The rules require utilities to design programs that promote energy efficiency or reduce peak demand through mechanisms such as time-of-use electric rates. Examples of such demand-side management programs include weatherization, home energy audits and replacing home appliances with more efficient models. New energy efficiency programs would be funded through an existing demand-side management surcharge on monthly customer bills. Arizona Public Service Co., the state's largest utility, supports the standard. "We do think it's very aggressive," says Jim Wontor, energy efficiency manager at the utility. "It will not be easy to achieve, but we think it's the right strategy for our customers." Every other year on June 1, each utility will be required to file a plan describing how the firm will meet the energy efficiency standard for the next two calendar years. The energy efficiency standards may speed up an effort to restructure utility rates to encourage conservation by "decoupling" recovery of fixed costs from rates traditionally based on consumption.

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From "Arizona Corporation Commission Requires 22 Percent Energy Use Cut by 2020"  
*Arizona Daily Star (07/28/10) Wichner, David*

### **Companies, Green Groups Push for Utility Efficiency Mandate**

Fifty-seven businesses — including companies such as Starbucks, Target, and Nike — are teaming up with environmental organizations and other groups to promote an energy efficiency mandate for utilities that they say would create jobs and lower the nation's energy bill by \$100 billion, while reducing greenhouse gas emissions and the need for expanded electricity infrastructure. "The most affordable alternative to continued use of carbon-intensive fossil fuels is energy efficiency," the groups wrote to Senate Majority Leader Harry Reid (D-Nev.). They would like to see a standard that would lower energy use by at least 1 percent annually in 2012 and create a ramp to a higher standard by 2020. Utilities could meet the requirement by creating energy efficiency programs for customers and by providing incentives to those investing in high-efficiency heating and air conditioning systems, lighting, appliances, insulation, windows, building retrofits, and combined heat and power systems. Companies signing the letter also include Best Buy, eBay, and Levi Strauss. Organizations on the letter include ACEEE, Environment America, Sierra Club, and the Natural Resources Defense Council.

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From "Companies, Green Groups Push for Utility Efficiency Mandate"  
*The Hill (07/21/10) Goode, Darren*

### **Incentives for California Utility Energy Efficiency Performance Must Be Addressed**

The California Public Utilities Commission (CPUC) is analyzing the success of utilities' energy efficiency programs from 2006 to 2008. The programs helped customers install many more efficient measures than expected when the CPUC approved the programs in 2005. Based on two interim assessments of the utilities' performance, the CPUC has awarded the utilities a combined total of \$143.7 million in earnings to date. If the utilities had not invested in efficiency programs and had procured power instead, it is estimated they would have earned roughly \$700 million on those investments. The money awarded is about 7 percent of the amount the utilities invested in efficiency, whereas the CPUC routinely provides utilities profits of anywhere from 30 percent to 60 percent of the amount they spend to procure power. California has directed utilities to focus on providing the best energy services at the lowest overall cost to customers. Energy efficiency is the cheapest, cleanest, and fastest way for utilities to meet demand and lower bills, and the state has made cost-effective energy efficiency its top priority resource to meet customers' needs.

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From "Incentives for California Utility Energy Efficiency Performance Must Be Addressed"  
*Natural Resources Defense Council (07/14/10) Wang, Devra*

## Featured Article



Alison Williams

**Who's Afraid of Net-to-Gross?**

*By: Alison Williams and Olivia Patterson, Opinion Dynamics Corporation*

Millions of dollars often ride on one single net-to-gross (NTG) number, naturally making utilities rather afraid of it and sometimes wary of implementing innovative programs with high attribution risk. The single number also limits the value of evaluation efforts. Instead of focusing on a more comprehensive evaluation to identify opportunities to increase program savings and more thoroughly assess program value, one main evaluation outcome (i.e., NTG) is often used to penalize programs.



Olivia Patterson

**Challenges We Face**

We currently face several evaluation challenges in assessing NTG values:

- Increasingly, utilities are taking programs upstream — and in some cases end-users of a product may not even know they participated in the program — making the commonly used downstream self-report method difficult. Determining program effects using sales data is also difficult as non-program sales data is often impossible to obtain.
- There are currently so many players other than utilities offering some sort of incentive for purchasing energy efficient equipment or encouraging behavior change — utility programs, ARRA funding, block grants, etc. — that assessing attribution for a single player with a good degree of reliability may be difficult or simply not cost-effective.
- Programs are springing up all over the country, making it increasingly difficult to find true comparison groups for cross-sectional evaluation methods.
- Current regulatory frameworks often create disincentives for utilities to partner with others (which would allow more innovative delivery, economies of scale, and a reduction in transaction costs for vendors and manufacturers), as there is greater uncertainty in establishing attribution.
- As currently calculated, NTG can underestimate program impacts. There may be market effects that are not calculated that may penalize the program. If, for example, through various means such as supply increase and price reduction, non-participants purchase more of a measure than they would have in the absence of the program, a baseline created using nonparticipants would be artificially inflated, thereby reducing the net savings attributable to the program.

**Moving in the Right Direction**

In order to be more robust, energy-saving estimates should address market effects. A 2009 California assessment identified four primary methods of evaluating market effects: 1) self report, 2) cross-sectional approaches, 3) structured expert judging (Delphi), and 4) historical tracing (or preponderance of evidence).<sup>1</sup> These methods have provided valuable context such as measuring market effects indicators (e.g., decrease in price, increase in awareness). However, these findings have not been systematically incorporated into calculations of net energy savings. Challenges of market effects approaches include determining a counterfactual, making sure estimates are reasonable, and appropriately dealing with timing issues. Market effects are often cumulative, and stakeholders should consider which program year savings can be attributed to and make sure they are not double counted.

Other attribution methods are currently being contemplated that could address market effects and possibly allow for sharing of attribution, such as Structural Equation Modeling (SEM) and System Dynamics Modeling. The first method essentially uses statistical modeling to identify program effects by comparing an estimate of program-induced sales against estimated sales in the absence of the program. SEM can also separate the effects of programs from other programs or influences. System Dynamics Modeling utilizes a systems thinking approach and could also address an entire market structure, thereby determining how programs and other influences affect market indicators.

### Is a Single Number Necessary?

Given the many challenges and limitations of NTG and the difficulty of incorporating market effects into the NTG framework, the value of NTG estimates has become a hot topic in our industry. At the 2010 ACEEE Summer Study, there were multiple sessions that discussed the value of this number, its challenges and limitations, and alternative approaches such as those discussed below.

We believe there are two important considerations when rewarding utilities for energy efficiency: 1) that energy savings are achieved, thus limiting new supply needed, and 2) that energy efficiency funds are well spent. From the regulatory perspective, we must be able to answer: "What has the public gotten from this?" The answer to this question could come on two levels. First, determine whether gross savings (or possibly market share) meet targets. Next, determine whether programs have met agreed-upon indicators that demonstrate effectiveness and prudent use of ratepayer funds.

This approach would allow evaluation dollars to address poorly designed programs and make them better. As opposed to being ex-post focused, evaluators could be brought into the program development process earlier, with a focus on formative evaluation and assisting in the development of program and market indicators. This is not to say that NTG will not still be a valuable part of a process evaluation, as it can be used as a tool to understand how the market is operating and to identify whether adjustments should be made, such as assessing which customers should be targeted and which equipment levels should be incented, among other things. In this way, rather than being used to potentially reduce attributable energy savings and penalize utilities, evaluation efforts would be used to improve programs so that they can reach or exceed their energy saving goals in subsequent years.

In addition to potentially providing richer evaluation outcomes, shifting focus from relying upon a single NTG number could serve to foster development of innovative programs such as partnerships with major retailers for green initiatives, or partnerships among utilities that could allow vendors and manufacturers to compete for the attention of utilities' upstream programs rather than the other way around. In addition, utilities could explore non-traditional avenues for reducing energy use, such as promoting programs or policies that reduce the energy intensity of land, transportation, and water use.

<sup>1</sup> Rosenberg and Hoefgen, 2009. *Market effects and market transformation: Their role in energy efficiency program design and evaluation*. Prepared for CIEE Market Effects Program.



Hannah Arnold

#### After Resource Acquisition, What? The Savings Potential from Behavior Change Programs

By: Hannah Arnold, Opinion Dynamics Corporation and Bob Collins, Ontario Power Authority

While resource acquisition programs continue to serve as the foundation of energy efficiency program portfolios, there has been increased movement towards the implementation of programming that seeks to raise conservation awareness and change customer behavior related to energy use, without traditional incentives. As utilities and other energy efficiency groups face higher energy savings goals, the potential to attribute savings to these programs becomes more important. Although at present the goal of attributing savings remains relatively challenging and costly to achieve, some utilities have succeeded in measuring the energy impacts of their behavior-based programs. Taken together, these efforts can provide some guidance for those considering similar endeavors.



Bob Collins

There are a wide range of program options, some aimed at all ratepayers and others targeted at specific market segments, that aim to increase conservation awareness and, through this channel, behavior. These programs use a range of media, including television, newspapers, radio, Web, event promotions, door hanger messaging, and other channels to provide information about how customers can save energy.

In terms of evaluation, there are several challenges inherent in programs focused exclusively on behavior change. One is simply the presence of other messaging, which

makes it difficult for individuals to tell the difference between one message and another — a key attribution concern. Another challenge associated with these programs relates to timing. In contrast to many resource acquisition programs, evaluating behavior-change-only programs means dealing with the critical question: how long does it take for people to change their behavior?

Despite these obstacles, such programs ARE being evaluated and regulators are accepting the savings that result. While the industry's experience estimating savings from behavior-only programs has developed relatively recently, we have generally seen the successful evaluation of these programs achieved through the application of familiar and well-accepted tools.

A review of best practices reveals the following cases where jurisdictions completed evaluation successfully:

- A northeastern state used telephone surveys (pre-and post-campaign) to measure savings from a mass media program aimed at encouraging load reductions through time-shifting involving dishwashers and laundry appliances. A western state also used this methodology, combined with engineering analysis, to estimate load reduction from a voluntary demand reduction messaging campaign aimed at reducing residential lighting and air conditioning use.
- An online toolkit including a home energy audit tool, bill analyzer, and access to educational materials resulted in claimed savings in a Midwestern jurisdiction that regulators accepted. The evaluation was done using a mix of customer surveys and Web analytics.
- An educational behavior-change program for children in middle school produced savings distinct from the same program's resource acquisition component (provision of energy-saving lighting and other items). The evaluation utilized in-class and take-home surveys. Interestingly, in this case, regulators did not challenge the claimed savings from the behavioral program component because they were minor compared to the savings from the resource acquisition part of the program.

In general, the methods used to determine savings from conservation awareness programs are often engineering-based estimates informed by user survey data; or alternatively, a billing analysis is used to measure household energy use data. Customer surveys are usually used to collect information on energy efficiency actions taken as a result of the program, prior knowledge of the measures, future intentions to install measures, and satisfaction with the program effort. Thus, while the measurement of savings from conservation awareness programs is a new and growing trend, the data collection and analysis methods employed are often traditional. There are, however, specific parameters that should be followed to enhance data collection and analysis including:

- Develop program metrics prior to implementing the program.
- Isolate effects of the program from other in-market effects by using comparison groups and by including indicators of influence.
- Use a statistical power analysis test to ensure that sample size is adequate to find significant differences between groups or time periods according to the analysis plan.
- Use tracking or longitudinal surveys to collect data at regular (e.g., quarterly) intervals to enable the measurement of awareness or conservation behaviors that, unlike an installed measure, may wax or wane over time.
- Collect data on key indicators used to determine success of the program. These could include exposure, recall, awareness, knowledge, attitudes, action intent, behavior changes, perception of norms, and barriers, as well as data related to demand and energy saving analyses.
- Do not just ask about the persuasiveness of the messaging — include questions that measure customers' perceptions of norms, if space allows.
- Collect data on the share of the population exposed to messaging through surveys, media stats, or other available methods and on demographics of the population reached.

In addition, the following are some of the methods used to obtain energy savings:

- Rigorous statistical method (Structured Equation Modeling) of a single measure.

- Statistical comparison across different samples in time or between two samples, and applying a deemed value to actions taken (i.e., applying a specific savings value to number of installations or behavior change collected through a survey.)
- Engineering model based on survey data, interval data, or possibly other secondary information.

In sum, by applying traditional program evaluation methods to this relatively new class of programs, energy savings can be claimed and program impact demonstrated.

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**NOTE:** We will feature another evaluation article in the next issue of *Strategies*, "The Evaluation Quad-Fecta – Results of a Recent Comprehensive Review of Status, Gaps, and Next Steps in Impact, NTG, NEB, and Lifetimes." Look for it in your October issue!

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### **Updates from AESP, Local Chapters, Topic Committees and Members**

**AESP has initiated a new sub-committee to focus on the business issues around energy efficiency and DSM. Please help us spread the word!**

#### **DSM Business Issues and Models Committee**

*MISSION — This Committee will address issues associated with the changing business environment for DSM, including organizational and regulatory issues, and their implications for DSM providing entities.*

Included in this effort will be work on issues, concepts, and tools that are focused on making DSM a viable business activity for utilities and other providers of DSM services. One issue area that has been defined will involve addressing how DSM can be mainstreamed within a utility as an important line of business — just like distribution and generation. Ambitious goals have been set for DSM, making it an important component of resource plans. The long-standing paradigm of an industry that earns returns only on capital-intensive investments will be examined in the context of industry evolution, current practices to provide appropriate financial incentives for the successful delivery of DSM, and possible future business models for DSM. Utilities can now "earn" on investments in distribution and generation. Policies that will appropriately reward utilities and DSM providers (i.e., allow for earnings) for successful investments in DSM while balancing risks and returns to both shareholders and rate payers will be examined. This committee is being formed because there is a view that changes in the utility DSM business model are likely to be needed if DSM is to continue to evolve and provide resource benefits in electricity markets. The committee will not be an advocacy entity, but will collect information and develop issues papers on topics such as DSM incentives, decoupling, cost recovery, business processes, and other business and regulatory issues as identified by members of the committee.

Those interested in joining can contact Denise Richerson at [DRichersonSmith@Tep.com](mailto:DRichersonSmith@Tep.com) or Dan Violette at [Dan.Violette@NavigantConsulting.com](mailto:Dan.Violette@NavigantConsulting.com).

#### **Cascade Chapter Update**

Future of Energy is hosting its second Political Forum on Energy and Sustainability on Wednesday, October 8, 2010 at the Bagdad Theater in Portland, OR. This forum will feature candidates vying for some of the most contested political positions in the region. Candidates will meet their competitors at the Bagdad Theater to answer questions about energy and sustainability issues that are important to voters. Candidates will choose challenging questions in a gameshow style format in a relaxed environment featuring Livewire's very own Sean Mcgrath.

For more information, contact Phillip Kelsven at [Phillip.Kelsven@csggrp.com](mailto:Phillip.Kelsven@csggrp.com).

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#### **AESP Welcomes...**

##### ***New Individual Members***

[\*Click here to view a list of new members\*](#)

### ***New Group Members***

D&R International

### ***Renewing Group Members***

APS

Carrier

Enbridge

Integral Analytics

Mad Dash

Michaels Engineering

NSTAR Electric & Gas

Rheem Marathon

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### **News Releases and Announcements**

[AESP Announces its Annual Membership Drive](#)

[CLEAResult Named to Inc. 500 List of Fastest-Growing Private Companies](#)

[Michael Dieter Joins Conservation Services Group as Executive Vice President of Software and Technology](#)

Navigant recently completed a major smart meter evaluation project for Oncor, CenterPoint, and AEP in Texas. This evaluation included a detailed assessment of the three utilities' internal processes and controls for meter testing, meter installation, communications, and meter data management for the over 1 million smart meters currently installed. [Click here to view the full report.](#)

Northeast Energy Efficiency Partnerships (NEEP) will soon release a major new report on New England's economically-achievable efficiency potential. From Potential to Action will reveal that by 2018, energy efficiency could reduce the region's electricity needs by about 20 percent of forecasted load, or 31,800 gigaWatt-hours. In addition to showing where the efficiency potential lies, the report provides a set of recommendations and best practices for policymakers. To be notified when the potential study is released, please email Natalie Hildt at [nhildt@neep.org](mailto:nhildt@neep.org).

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