

**New Jersey's Clean Energy Program
Energy Efficiency Committee Meeting
April 8th, 2014, 9:30 am
New Jersey Board of Public Utilities, Trenton**

The meeting began with a presentation by Jeff Stanish (Director Client Services & I.T. Technology) and Brandi Colander (Director Marketing & Regulatory Affairs) of Opower. The purpose was to educate and share their success with utilizing Behavioral Science as it can be applied to energy efficiency. Jeff presented summary information about Opower's history, methodology, and successes, and Brandi presented more in depth on their data/methodology.

Opower Presentation:

- Jeff manages utility programs in PA, Ohio, MD, and NJ
 - Behavioral Programs have been around in residential applications for 7 years
 - Opower scientists did research studies on consumer messaging (Marriott) and began applying it to the utility industry in California. Opower is working with 90 utilities in 8 countries (20M consumers).
 - 6% reduction in energy reduction when messaging involved usage comparisons with neighbors.
 - Personalized communications to offer context with behavioral science mixed in.
 - 99% of Opower programs are opt-out.
 - Combine data analytics, behavioral analytics, and user-centric design.
 - Home Energy Report personalized with graphics and messages such as "tips" on conserving energy.

- Brandy – Opower Savings and Data Collection
 - Randomized control trial similar to FDA studies and endorsed by DOE.
 - Identify target households, match program size to desired impact, establish statistically equivalent groups (test/control), measure savings

- To date, resulting in \$400 Million in bill savings for consumers
- Savings have been verified by nearly 30 independent evaluations and counting

Question:

Janja Lupse (CSG): Are the savings on the evaluation slide for gas/electric? Answer: Yes, savings average 3.1%.

Question from Phone audience:

Are these results a snapshot or measured continually over time? Answer: A snapshot.

Jeff resumed: Utilities struggle with the marketing side of efficiency programs and educating the public on what is available to them. Roughly one third of the public claims that they save their energy reports that Opower provides.

Question: Does Opower work with the contractors in a utility program?

Answer: Yes, but through the utility not direct with the contractors.

Question by Betsy Ackerman: How do the programs get implemented? Literally, what happens when NJ Natural Gas says we will hire Opower. Does this mean a new thermostat for everyone? What does it require of the customers?

Answer: Opower signs up a utility. They tap into the utility data (bill data, consumer data). In the case of NJNG, they received the data for all of NJNG's residential customers. They also tap into 3rd party data providers and run analytics. The home energy report is generated and sent to the customer branded as NJNG, including a "welcome letter" that is sent with an option to Opt-out.

Betsy Ackerman: What % of Opt-out is there?

Answer: Less than 1% and in NJNG less than 0.5%. Gas customers will get 4 reports in a year and electric customers will get 6 reports in a year with more in the summer months (cooling season).

Question by M. Ambrosio: Who is selected to participate and how do the control groups get defined?

Answer: Utility selects it. Some target the higher usage customers while others select across their customer base.

M. Ambrosio remarked that he is more concerned about gaming the data.

Answer: Partnership with the utility on how they go about it. They typically want 2 years of utility history. Randomly will put customers in test and control groups. Data is vetted to select them.

Question: Are you working with commercial customers or just residential?

Answer: 4.5 million customers in the northeast and growing. Saved 611 GWWhs & 14 Million Therms. They have a residential, low income, small/medium businesses, etc.

For low income customers energy report will have low cost/no cost tips and phone numbers for local support lines. Utility companies have a tough time validating their low-income population and are doing a lot of work on the data side to cast a net broadly enough to target that segment. OPower has also recently created a small business solution that they are piloting with 8 utilities now.

Betsy Ackerman asked: What state do you have the deepest penetration in?

Answer: Rhode Island – they are doing the entire state. Massachusetts and California are the 2 largest markets.

Betsy question: Have you targeted schools?

Answer: Not particularly. Betsy commented that would be a tremendous opportunity to start at that level to penetrate a community and to educate the kids.

Anne – Marie Perachio presented on O-Power's NJNG's results

Relationship with Opower started at an EE Committee meeting 5 years ago with an idea from Honeywell. It was noted that you really need the utility data to make this work. NJNG targeted high usage households in spring 2011 with a three-year pilot, originally 25,000 customers but then grew to 43,000. Year 1 - six reports per recipient; Year 2 - four reports per recipient. Sandy impacted the study and adjustments had to be made. NJNG is under contract with Opower until June 2015. This aligns with NJNG corporate messaging in the wake of Sandy. Results include 305,000 therms saved in year one and 402,000 therms in year two. 683,000 therms presently.

Betsy Ackerman: What is the tie to the residential NJCEP programs?

Answer: Customer empowerment. Some customers offer a financial incentive during an "event". Trying to move away from that now to customer empowerment. T-stat app. 2 way communicating.

Discussion Topic

Carl Teter reviewed mixed fuel CHP (explanation, typical application, split between renewable/non-renewable fuel sources, degradation of capacity/output, etc.) which NJCEP may allow on a pilot basis.

Question from Carl to audience: Are there any projects out there that fall into this category currently?

Answer: Not aware of any CHP projects that run on bio-gas or a dual fuel. What typically ends up happening is that customers purchase bio-gas but it's not necessarily running on biogas. How does BPU want to incentivize this?

Carl: Yes, there was some discussion on this when designing the pilot. These would be handled in the CHP program and not offer a direct incentive.

Betsy Ackerman question: The program now is 100% natural gas or 100% bio gas?

Carl, yes 100% natural gas. Incentive levels are based on the traditional program.

Mike Ambrosio commented: We recently learned about units that run on a mix of gas. Net metering law states that it has to be 100% renewable. We began examining what changes needed to be made to the program to allow these in and address this gap. Depending on final design of Energy Bank, these units may be eligible for incentives in that program. TRC developing a proposal to address these units.

Question: Are there in-state bio gas resources in NJ?

Answer: Yes, but they are dirtier than natural gas from an emissions perspective.

Betsy Ackerman question: How do we verify the percentage of bio gas?

Carl – There will be ongoing reporting that will be required.

The issue is where these installations will be incentivized - through NJCEP or the Energy Bank. Current program design requires 5,000 minimum run-time hours unless you are a critical facility. This requirement may need to be re-examined for FY15.

Program Coordinator and Regulatory Updates

Betsy Ackerman, Sherri Jones, Mike Ambrosio

Updates on Filings, Board Orders and Regulatory Items

Betsy Ackerman:

- Liz Teng has been working on obtaining \$1.1M SEP grant for new funding. 2014 is the end of the 5 year funding cycle. We will not have budget carryover from 2014 to 2015. Market Managers have done a good job of exhausting almost all of the SEP funds.

Mike Ambrosio:

- For FY 15, the plan is to keep all the programs going. Next year's budget is proposed to be \$344M with \$30M allocated to the Energy Bank. Two separate CHP programs – one associated with the HUD funds and one as part of the Clean Energy program. Any project that is eligible for the Energy Bank will go straight to the Bank. Goal of the Bank is to be a "1 stop-shop" for rebate/grant/loan. There may be different rules to qualify than Clean Energy.

Betsy Ackerman:

- Excellent job of increasing participating every year over the last 4 years. Still not have exhausted all the Clean Energy funds. Best thing we can do is run right up to our budgets.

Discussion of NJCEP Program Administrator RFP / Transition Status

Betsy anticipates a one year extension will be authorized for the Market Managers and Program Coordinator at the BPU May meeting. There is no update on Program Administrator RFP.

FY15 Funding Levels

Betsy stated that Staff is very close to completing the draft CRA. One issue being discussed is the kind of SBC contribution to the Energy Resilience Bank. CRA/Energy Bank will be on June Board Agenda. Later this month, the CRA straw proposal will be distributed.

Energy Resiliency Bank update

Betsy shared that Staff is finalizing the details of the Energy Resiliency Bank. Those funds will be specifically designated to critical public facilities. The CRA will include a CHP budget that doesn't meet the Bank's criteria. Governor's plan has been submitted to HUD & anticipating a June opening. Executive Director job posting for Resiliency Bank has been posted and the Deputy Director will be posted next.

Residential Programs – Kevin Burke

Overview of proposed FY15 program changes

- HVAC - COOL
 - No changes to AC specification or incentive level.
- HVAC – WARM
 - Furnaces
 - Proposing to increase the eligibility criteria with 2 tiers.
 - Tier 1 >= 95% AFUE
 - Tier 2 ENERGY STAR V 4.0
 - Continue the Sandy incentives with the additional incentives on top

Comment by Joe Gennello – Honeywell adapted this strategy to have a tier below the ENERGY STAR standard today to assist the marketplace in adjusting.

- Expand extra incentive for combined space and water heating
 - Allow qualifying 90% AFUE combination units and indirect water heaters to qualify for the existing joint furnace-water heater incentive.
- Increase inspection efficiency through increased utility coordination.

Comment by Joe Gennello: As the competition for the funding grows, they are trying to leave the most money for the incentives by reducing the number of required inspections by the Market Manager.

- RNC
 - Tier 3 Climate Choice Homes to move to Open-Rater market
 - Remove pathway for 2006 IECC homes; no longer needed.

Betsy Ackerman question: Have the Open Rater meetings started yet? Kevin replied: No, within the next 3 weeks.

Mike Ambrosio question: Would this entail any contract modifications? No. Volume is less than 30 homes per year.

- EE Products –
 - ESTAR is adopting a new standard of Verion 5.0 Refrigerators
 - Shift from 25% better than 2001 Federal Standard to 20% better than 2014 Federal Standard.
 - ESTAR V7.0 Clotheswashers
 - Shift to new specification (March 2015).

Mike Ambrosio question: Where are we with heatpump clothes dryers? Honeywell is adding in an ENERGY STAR clothes dryers. Mail-in and Upstream incentives.

- Lighting
 - Continue increasing emphasis on LEDs

Mike Ambrosio question: Still primarily a CFL program. Given new Federal standards, when or is there a time to revisit this program, does it need to change direction? Joe stated that Honeywell feels that there is still opportunity and a tremendous amount of savings to be had.

Rebecca Foster (VEIC) commented: We are closely monitoring the lighting market and recommends continued support of CFLs. Manufacturing standards are also changing. Joe noted while LEDs are still becoming more available, there is a need for a softer transition in the marketplace.

Mike Ambrosio: Baseline studies should be looking at lighting.

Anne Marie Peracchio: Consumers need education on lighting (lumens, watts, etc.).

- Set-top Boxes
 - Increase eligibility criteria to ENERGY STAR 4.1 and increase participation and marketing
- HPwES
 - Maintain Tier 2 & 3 Incentive Levels & Program Requirements
 - Expand NJCUL Program
 - First year contractor support
 - Air sealing & insulation missed opportunity

Betsy Ackerman asked: What does this mean missed opportunity?

Joe Gennello: Feedback that we are hearing is that its equipment based. Also want to emphasize air sealing and insulation. We had a lower tier that addressed this specifically. We could emphasize that the air sealing is a greater component. Perception needs to be changed.

Fiscal Year 2014 Program Results & Hurricane Sandy Response Update

- **WARM & COOL Advantage Statewide Results**
 - Warm Completions - PTD 11,382 (99% of goal) up from 98%
 - Cool Completions - PTD 1,937 (77% of goal), down from 87%
 - Total HVAC Completions - PTD 13,319 (95% of goal), down from 96%

61% of budget spent, 39% of budget remaining

- **Residential New Construction**

- Enrollments- 2,387 (76% of goal) down from of 82%
- Completions-2,118 (79% of goal) down from 79%

Enrollments, completions and energy savings slightly down from last month, but still on target to program goals. Perhaps seasonal variation due to weather.

28% of available budget remaining.

- **ENERGY STAR Products**

- Washer Completions: 15,186 (145% of goal), up from 138%
- Refrigerator Completions: 6,458 (62% of goal) up from 64%
- Lighting Completions: 4,001,093 (121% of goal) up from 119%
- Fridge Recycling: 6,823 (62% of goal) up from 68%
- 37% of available budget remaining

Currently ahead of target to overall program goals.

- **Home Performance with ENERGY STAR (HPwES)**

- Through March 4,054 completions (136% of Program Goal) up from 134%
- On track to complete more than 5,000 projects – first time ever in one year.
- 22% of available budget remaining.
- 83% of all enrollments are taking advantage of the 0% HPwES financing
- cuGreenLoan Pilot Update – 24 enrollments; 6 completed
2 credit unions – 5 contractors. July 1st looking at expanding to more credit unions.

- As of end of March \$7.5M in commitments.
- SEP Funding: Funds have been exhausted
- Pipeline Summary – continues to be averaging 1,600.

- **Hurricane Sandy Response Update**

- WARMAdvantage- 4,272 rebates totaling \$970,000 paid out in relief incentives
- COOLAdvantage- 62 rebates totaling \$12,400 in relief incentives
758 Central A/C customers
- 3.1 million dollars in incentives paid (calculated with central air).
- Under \$2.8 million dollars in incentives paid (calculated without central air).

Commercial & Industrial Programs – Carl Teter

Overview of proposed FY 15 program changes

- Prevailing wage certification language added to all relevant program application and guidelines. This will be added to all the applications. This isn't new just being reinforced.
- Sandy Relief:
 - Prescriptive lighting incentives, T12 lighting and premium motor incentives no longer eligible.
- Discontinued Incentives:
 - Pulse start and ceramic metal halide fixtures/retrofits
- Incentive Revisions:
 - Incentives for LED screw-in/plug-in (integral lamps) only available for incandescent and halogen replacement. CFL or HID or LED will not be eligible.
 - LED R/BR/PAR 30, R/BR/PAR 38-40, A-lamp incentives reduced from \$20/lamp to \$15/lamp.
 - LED track or monopoint directional fixtures reduced from \$50/fixture to \$30/fixture.
 - Existing incentive for T8 to reduced wattage T8 and T8 delamping retrofits offered for new fixture replacements

- Food Service qualification requirement
 - ESTAR 2.0 – commercial dishwashers, fryers, large vat fryers (elec/gas).
 - ESTAR 2.1 – commercial oven/steamer (elec/gas), convection oven (elec/gas), rack oven (gas), and conveyor oven (gas)
- New Incentives
 - LED architectural flood and spot luminaires - \$50/fixture
 - LED linear ambient luminaires (indirect, indirect/direct, direct/indirect, direct)
 - Wireless lighting controls (occupancy based dimming and daylight) – incentive identical to hard wired units.

Mike Ambrosio: There was a wide range in cost. Did we address that? Carl: Yes, we modified the incentive levels.

- CHP Fuel/Cell
 - Consideration of mixed fuel (e.g. biogas and nat. gas) systems – per prior discussion.
 - Efforts to collect performance data after the 1st year of operation for 3-5 years
- LGEA
 - Inclusion of CHP feasibility within LGEA audit with consideration of surrounding public buildings (local, state, federal).

Fiscal Year 2014 Program Results

- **C&I Retrofit**
 - 1,516 projects completed vs. annual goal of 2,582 (59%)
 - 291 apps received
 - 10% of available budget remaining
- **C&I New Construction**
 - 16 projects completed vs. goal of 67 (24%)
 - 20 apps received
 - 5% of available budget remaining
- **C & I Direct Install**
 - 702 projects completed vs goal of 1,360 (52%)
 - 106 new apps received
 - 106 new approvals/commitments
 - 92 projects approved for payment
 - 12% available budget remaining
- **C&I Combined Heat & Power/Fuel Cells (CHP)**
 - 5 apps approved vs. goal of 7 (71%)
 - CHP (Small) – 1 app received, 12 approved
 - CHP (Large) – 1 app received, 6 approved
 - 83% of available budget remaining
- **C&I Pay for Performance Existing Buildings**
 - Spike in applications
 - 25 new applications received in March.
 - 6 new ERPs received
 - 34% available budget remaining

Betsy Ackerman question: What is the likelihood of converting these into commitments before fiscal year ends?

Mike Ambrosio: Not likely to make it this year as they require Board approval.

Mike Ambrosio: What drove that large jump, beginning of a trend? Carl: We will research and respond to that.
Betsy Ackerman: 6 months between approving the application and ERP submittal. Is there something that we can do to shorten the ERP timeline to say 3 months? TRC Team: Will take a look at it.

- **Pay for Performance New Construction**
 - 2 new applications received in March.
 - 1 new proposed ERPs received.
 - No ERP approved.
 - 1 As-built ERPs/installations approved.
 - 28% remaining of the current budget.

- **Local Government Energy Audit**
 - 11 applicants in March, representing 29 projects.
 - 5 approved RFPs in February, representing 35 projects.
 - 26 new project approvals/commitments
 - 13% remaining of the current budget.

- **Large Energy Users Program (LEUP)**
 - 6 enrollments in March.
 - 2 enrollment cancellations.
 - 3 FEEPs received and under review.
 - 50% remaining of the current budget.
 - **2011 LEUP**
 - 19 entities enrolled
 - 17 DEEPs approved
 - 18 FEEPs approved
 - 1 cancellation
 - 3 new completions submitted
 - 6 processed for payment

 - **2012 LEUP**
 - 16 entities enrolled
 - 12 DEEPs approved
 - 11 FEEPs approved
 - 5 cancellations
 - 2 processed for payment

- **SEP Non – IOU**
 - \$333K available funds
 - 6 Direct Install apps committed
 - 11 apps paid
 - Remaining funds \$1,137

- **C&I Sandy Relief**
 - As of March 31st, 2014:
 - 1,444 applications received.
 - 748 committed, total incentive value of \$6.9M
 - 467 applications approved for payment, \$3.9M

- **Environmental savings benefit:**
 - NJ Clean energy program has saved 2.1M metric tons of CO2.

**Energy Efficiency Committee Meeting
 Tuesday, April 8, 2014
 Hosted by Honeywell – NJBPU Trenton**

Name	Company	Please check off	
		In Person	By Phone
Ackerman, Elizabeth	BPU	X	
Ambrosio, Mike	AEG	X	
Bowen, Mark	Franklin Energy	X	
Burke, Kevin	Honeywell	X	
DeLuca, Brian	TRC	X	
Ellman, Susan	NJNG	X	
Foster, Rebecca	VEIC	X	
Georgi, Anthony	Honeywell	X	
Graham, Marianne	ICF working in support of EPA ENERGY STAR ®		X
Hendricks, Mahogany	BPU	X	
Lupse, Janja	CSG	X	
O'Donnell, Tony	Sustainable Jersey	X	
Perracchio, Anne-Marie	NJNG	X	
Tantillo, Cheryl	Elizabethtown	X	
Teng, Elizabeth	BPU	X	
Wong, Douglas	BC Express Inc		X
Barnes, Tony	EnergySavvy		X
Boyd, Mary Jo	CSG	X	
Donohue, John	On behalf of Fuel Merchants Assoc		X
Evans, Frank	Comverge	X	
Grossman, Bruce	SJG	X	
Brandi Colander/Jeff Stanish	Opower	X	
Hoff, Kim	CSG	X	
Marx, Rick	EAM Assoc.		X
Miller, Ashley	TRC		X
Palmer, Bill	Kamson Corp	X	
Rhode, Alan	Tristate Light and Energy		X
Ryan, Jerry	NJNG	X	
Sherwood, Robin	EFS		X
Stewart, Patrick	ACCA NJ	X	
Tesoriler, Steve	RRS	X	
Valora, Sam	SJG	X	
Ward, Lisa	Clearedge Power	X	
Dosunmu, Ade	Capacity Markets Partners	X	
McGinis, Eileen	CMC	X	
Adam, Ben		X	
Menhorn, Cynthia	Performance Solutions, LLC		X
Amasia, Danielle	Hancock Software		X
Wilson, Dennis	Renewable Power, Inc.		X
Schmidt, Edward	Performance Solutions, LLC		X
Goss, Matthew	CDM Smith		X
Aller, Larry	Next Step Living		X
Trumbetti, Michelle	T&M		X

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Name	Company	Please check off	
		In Person	By Phone
Badtke-Bernow, Mina	Environmental Defense Fund		X
Reichert, Tom	CSG		X
Bain, Richard	Cree		X
Holl, Ryan	Verity Energy Advisors		X