

## Mike Ambrosio

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**From:** Fred Hauber <Fred@EasternEnergyServices.com>  
**Sent:** Friday, November 11, 2011 1:39 PM  
**To:** 'Kliemisch, Roger (Woodbridge,NJ-US)'; Mike Ambrosio  
**Subject:** 2012 Lighting changes

Gentlemen:

I will be in the air travelling West during the time of the meeting and cannot participate, but need to weigh in on a critical issue.

We strongly object to the incentives for the 2 x4 and 1 x 4 LED fixtures.

Research has shown that the white LED's have a greatly reduced life span, a 30% Lumen maintenance rating and they are not yet ready to be used in standard general lighting.

We can arrange demonstrations at Philips Lighting in Somerset if you wish.

If we approve these incentives we are doing the client a huge disservice and we'll end up costing them more in the long run.

The expected life of a white LED in a general environment is about the same as a high quality T8 and the cost of the T8 is FAR less.

I will be available the week of the 21st if you wish to discuss.

Thanks for your attention.

Fred Hauber, President  
NALMCO



*Fred Hauber*, CLMC, CSLC, CLEP, CET, REP

President



**Eastern Energy Services, Inc.**  
Eastern Energy Solar, Inc.

**Linda Wetzel**

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**From:** Grant, Jeffrey <JGrant@mack-cali.com>  
**Sent:** Tuesday, November 08, 2011 12:18 PM  
**To:** 'publiccomments@njcleanenergy.com'  
**Subject:** 2011 Large Energy User Pilot Program - Suggested Program Improvements

Hi Everybody,

I represent a large energy user that is in the process of participating in the 2011 program.

One of the problems that we have encountered in the qualification criteria is contained in Section 2, Eligibility and Pre-Qualification in that it states "Only Facilities with an annual billed peak demand of 400 kW within the entity's portfolio will be considered for incentives." Although footnote 2 allows the aggregation of usage for smaller demand buildings provided they are on the same campus and allows those smaller buildings to then be included in the program as long as the total is at least 400 kW, such a "large energy user" may have a significant number of ancillary buildings that would not be entitled to the benefit of aggregation because they are not on the campus. Although I can understand the desire to prevent numerous tiny facilities from qualifying for the program, it does not make sense that a company who qualifies as a large energy user should lose the benefits of the program for its off campus facilities. To address the concern regarding very small users aggregating all of their facilities in order to qualify for the program, I would suggest that an entity would need to first independently qualify as a large energy user before stand-alone facilities be allowed to participate.

For this to work and to avoid small franchise chain operators from utilizing the program, the following change (see underline) to the definition of eligible entity would be needed for footnote (1):

1[1] Entity shall be defined as (1) Public: having distinct and separate budgetary authority; (2) Public Schools: having distinct and separate budgetary authority; (3) Private: Non-residential companies including all related subsidiaries and affiliates but excluding franchise affiliates, regardless of separate EIN numbers or locations within New Jersey. Consistent with DOCKET NO. E007030203.

Also to capture ancillary buildings, footnote (2) could be revised to:

[2] For campus facilities, the 400 kW threshold shall be met on a campus-wide level (i.e. total demand of campus). Any number of buildings may be included in the Energy Efficiency Plan. Once an Entity is first independently qualified as eligible, the remainder of its stand-alone facilities shall be permitted buildings/sites.

Hopefully this can be corrected in future program frameworks.

In addition I thought it worthwhile to share with you the practical reality of rolling out such a program in a company like Mack-Cali with numerous scattered sites : 1) the program release coincided with our annual budget cycle and put time pressure on property management personnel that have multiple responsibilities. 2) the program is new and no one is acclimated to the new information requests, 3) a lot of information needs to be assembled to comply with what is in essence a "custom" rebate application for each project.

Once vendors, in addition to large users, know this type of program exists, there will be a new motivation that will catalyze participation nicely.

As always, feel free to contact me if you have any questions.

**Jeffrey E. Grant, PE, CEM, CEP**  
**Senior Director of Corporate Energy**



VIA ELECTRONIC MAIL ([publiccomments@njcleanenergy.com](mailto:publiccomments@njcleanenergy.com))

November 10, 2011

Ms. Kristi Izzo, Secretary  
New Jersey Board of Public Utilities  
Two Gateway Center  
Newark, NJ 07102

IN THE MATTER OF THE COMPREHENSIVE  
ENERGY EFFICIENCY AND RENEWABLE  
ENERGY RESOURCE ANALYSIS FOR THE  
2009-2012: 2012 PROGRAMS AND BUDGETS  
COMPLIANCE FILINGS:  
DOCKET NO. EO11100631V

Dear Ms. Izzo:

New Jersey Natural Gas ("NJNG") has reviewed the October 11, 2011 release of the Draft Proposed 2012 Budget and related Compliance Filings for the 2012 New Jersey's Clean Energy Program ("NJCEP"). NJNG appreciates the Board of Public Utilities (Board) effort to obtain stakeholder input on plans for 2012 NJCEP spending and programming. NJNG recognizes that balancing the mix of clean energy programs and budgets to effectively serve the needs of New Jersey residents and businesses and align with policy priorities from the state's Draft Energy Master Plan ("Draft EMP") is a challenging task. We commend the BPU's Office of Clean Energy ("OCE") and the NJCEP Market Managers and Program Administrators for seeking preliminary stakeholder input throughout the summer through the energy efficiency and renewable energy committee. NJNG would like to submit comments on the following key areas.

### **Home Performance with Energy Star**

As a result of our own implementation efforts for energy efficiency programs managed through the SAVEGREEN™ Project, which complements both the NJCEP WARMAdvantage and Home Performance with Energy Star (“HPwES”) programs, we are very familiar with HPwES program details, as well as the customer and contractor feedback on the program. Given our direct experience, we strongly support the increase in HPwES incentive levels for Tier II improvements and the availability of statewide financing for this Tier. These modifications will draw more customers to a “whole house” approach for energy efficiency. Through the SAVEGREEN Project, our employees perform a HPwES audit for customers who have installed a WARMAdvantage furnace or boiler in an effort to encourage them to pursue further energy-efficiency upgrades to their home (seal-up, water heaters, air conditioning). Since many of these customers have already changed out their primary heating source, it is very difficult for them to attain the previously required energy savings of at least 20 percent in order to be eligible for the higher financial incentives. Increasing the level of incentive available, as proposed, coupled with the relatively recent policy change that allows water heating savings to count toward Tier II savings, should provide greater opportunity and stronger motivation for customers to take actions geared toward the whole house.

NJNG recognizes the need for robust quality control (QC) procedures but encourages the Board to consider implementing a relatively tight target timeframe for the completion of QC inspections if the proposal to shift to an all-or-nothing contractor incentive is approved. Timely review of installations will be less disruptive to customers, enable improved contractor cash flow, and mitigate the potential that conditions may have changed subsequent to the contractor’s departure from the project.

### **WARMAdvantage and Contractor Training**

In regard to the WARMAdvantage program, NJNG recognizes the need to shift the minimum efficiency level for HVAC equipment to align with the new regional ENERGYSTAR standard that will take effect in February 2012. These new ENERGYSTAR standards serve

as a lead to the mandatory increase in furnace efficiency dictated by the new Federal Department of Energy ("DOE") standards to be implemented in 2013. Those standards will require all new gas furnaces to be 90 percent AFUE, essentially a condensing furnace. For reference, a background fact sheet developed by the Appliance Standards Awareness Project is provided as Attachment A. NJNG encourages NJCEP to use this change in WARMAdvantage eligibility and the new DOE mandates for 2013 to engage in significantly more aggressive contractor outreach as part of the transition plan. We recognize that code compliance doesn't fall within the BPU's jurisdiction but this dramatic shift in standards can be the strongest opportunity to recruit more contractors to the whole house approach. The changes will affect thousands of small contractors statewide who may only occasionally perform high efficiency installs and an even broader population that are not used to installing or marketing high efficiency equipment. Sharing insights on how the whole house approach can help them serve customers AND grow their business is critical as these contractors consider how the new code mandates will affect their interactions with customers and their basic business model.

### **Comfort Partners Budget**

NJNG is pleased to see the proposed increase in budget for the Comfort Partners program. Since the utilities use this program to target low income customers with the highest energy burdens, it provides the opportunity to generate significant ongoing savings for all customers by reducing the level of recurring financial assistance needed by low income customers through the Universal Service Fund ("USF"), funded by the Societal Benefits Charge. That serves to reduce the overall USF costs that must be covered by New Jersey energy ratepayers.

### **Distributed Generation**

NJNG is also encouraged by the increase in the amount of funding available to service distribution generation ("DG") projects, including combined heat and power ("CHP"). The Draft EMP emphasizes the potential to use distributed generation, such as CHP and fuel cells, as part of the state's interest in a diverse portfolio of efficient generation resources. The

relatively sparse number of new DG installations over the past few years demonstrates that there needs to be both incentives and a clear and attainable program path to access those incentives to encourage customer investment. The initial cost of investing in CHP and emerging technologies like fuel cells presents a barrier for participation, preventing both individual customers and the state as a whole from receiving the benefits of lower energy costs, cleaner energy and reduced demand on the electric infrastructure. We believe that the approach proposed for 2012 which does not require participation in the NJCEP Pay for Performance program, is a significant improvement. Based on our experience, some of the stronger candidates for CHP installations would never have been able to meet the threshold 15 percent energy savings necessary to access the CHP incentives under the existing structure, in part because they had previously been diligent about investing in energy-efficiency upgrades through the years.

Further, we request that the BPU and Economic Development Authority ("EDA") consider expanding the eligibility for the EDA's Clean Energy Solutions Energy Efficiency Revolving Loan Fund to also allow DG projects participating in the new standalone NJCEP program paths to apply. This is especially important since NJNG believes that proposed structural changes and incentive levels may not be sufficient to encourage installations at the numbers envisioned in the Draft EMP.

NJNG suggests that OCE and the Market Manager staff review the list of equipment deemed ineligible for CHP incentives. We recognize that this basic list has been carried forward for several years and is, therefore, worthy of review. Further, recent advances in DG technologies and the Draft EMP's clear commitment to DG support the elimination of the restriction on "portable equipment." Specifically, NJNG believes that the state may have many strong candidates for systems generally characterized as "co-gen in a box."

Additionally, NJNG suggests that OCE and the Market Manager staffs solicit additional industry-specific feedback regarding the relationship between the designated incentives per watt and the maximum percentage of project cost cap. Based on experience with customer

studies, it would appear that, for some categories, the cap would limit the level of the incentive, effectively reducing the per watt incentive well below the stated target in Table 1 of the TRC filing. Accordingly, these project cost caps might push customers back into an unacceptable range, thus limiting customer installations and the ability to meet the state's targets.

### **Membership in Consortium for Energy Efficiency and Evaluations**

Since much of the dialogue in the process of refreshing the Draft EMP focused on achieving more "bang for the buck," NJNG suggests that the Board consider allowing NJCEP to rejoin the Consortium for Energy Efficiency (CEE). CEE, a leading non-profit advocate for advancing energy efficiency, focuses on lasting structural and behavioral changes in the marketplace, resulting in the increased adoption of energy-efficient technologies. CEE has more than 100 members including utilities, statewide and regional market transformation administrators, environmental groups, research organizations and state energy offices in the U.S. and Canada. Additionally, they welcome manufacturers, retailers and government agencies to join as collaborative partners. Across all market segments, CEE staff supports the exchange of information and research on program models and new technologies, measurement and verification issues, and trends in behavioral approach. We think the relatively small cost to invest in membership (based on 2010 dues levels, it doesn't even round to 1/10<sup>th</sup> of one percent of the NJCEP budget) is worthwhile. This organization provides a cost effective way to identify program models that New Jersey may want to consider and membership may help the state avoid pitfalls that others have faced. It is always cheaper to learn from the mistakes of others.

The combination of insights drawn from CEE and the commitment to pursue the NJCEP Evaluation Plan in 2012 should provide tremendous value as the BPU works through transition issues regarding the administration of the programs and alignment with the policy direction to be set by the final EMP. To the extent that the state is continuing to analyze NJCEP program data to determine our success in reducing greenhouse gas ("GHG")

emissions as legislatively mandated through the Global Warming Response Act (“GWRA”), it is important to ensure that future evaluations consider the full-fuel cycle impact. An August 18, 2011 policy statement of the Department of Energy noted their intention to work collaboratively with the Federal Trade Commission to ensure that full-fuel cycle energy and GHG emissions data are available to the public. In that way, cross-class comparisons of product energy usage and emissions are possible. Further, the September 15, 2011 National Petroleum Council Report also recommended reliance on a full-fuel cycle analysis. It is likely that the scope of previous NJCEP evaluations may not have considered the full-fuel impact and, instead, focused on the traditional site-measurement of emissions only. While NJNG is not suggesting that site-measurement be eliminated, future program evaluations must also consider full-fuel cycle impacts to properly assess GHG emission reductions.

#### **Transition to Clean Energy Manufacturing Incentive**

NJNG supports the planned transition of the NJCEP Renewable Energy Manufacturing Incentive (REMI) to the broader Clean Energy Manufacturing Incentive (CEMI). In fact, there may be a significant opportunity on the energy efficiency side. A February 2010 study issued by the Home Performance Resource Center noted that energy remodeling products exceeded the national average for domestic share of all manufactured products used in the United States, with many of these products having greater than a 90 percent share of the market. A copy of the referenced study is provided as Attachment B.

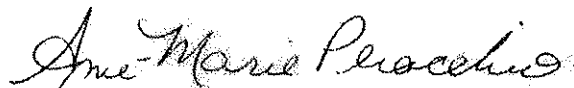
#### **Sustainable Jersey- Potential for Schools**

While not reflected in the posted compliance plans yet, Sustainable Jersey is considering the launch of a new schools program and has already engaged BPU Staff about the opportunity. NJNG supports those efforts to develop a new schools program and notes that other stakeholders in the EMP process encouraged the state to be doing more on this front, as well. Programs that can identify paths for schools to reduce their energy usage and teach our children about reducing energy usage at home will benefit a broad segment of the state’s residents and improve the long term chances for success in meeting GHG reduction goals.



NJNG looks forward to continuing work with the BPU, the NJCEP Market Managers and Program Administrator, other utilities, state agencies and stakeholder groups engaged in bringing clean energy programs and solutions to New Jersey residents and businesses. Please contact me if you have any questions or need additional information regarding our comments.

Sincerely,



Anne-Marie Peracchio  
Director- Conservation and Clean Energy Policy

Cc: Michael Winka, BPU  
Michael Ambrosio, AEG  
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**ASAP**APPLIANCE STANDARDS  
AWARENESS PROJECT

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**Q & A APPLIANCE STANDARDS  
QUESTIONS AND ANSWERS****AC, Heat Pump and Gas Furnace Standards****June 2011**

The new standards will save enough electricity to power 8.7 million U.S. homes for a year and enough gas to heat 62 million homes for a year.

**What is an efficiency standard?**

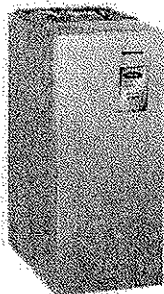
Congress established initial minimum efficiency standards for many residential and commercial products and charged the U.S. Department of Energy (DOE) with periodically updating them. These standards apply to new products manufactured for sale in the United States.

**The new standard covers which products?**

In June 2011, DOE issued updated standards for residential central air conditioners and heat pumps (CAC & HP) and residential gas furnaces (weatherized and non-weatherized).

**Have standards for these products been set before?**

Initially set by Congress in 1987, national standards for these products went into effect in 1992. Updated DOE standards for CAC & HP went into effect in 2006. A 2006 lawsuit settlement set a June 30, 2011 deadline for revised CAC & HP standards. DOE updated the residential furnace standards in 2007 but the standard was so weak that several states and efficiency advocates sued DOE. Another court settlement required DOE to issue new furnace standards by June 30, 2011.

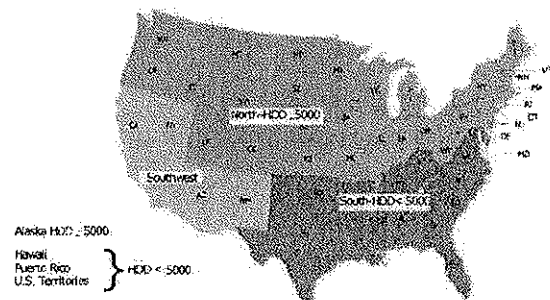
**How were the new standards determined?**

Source: Carrier

The new standards are based on levels agreed to by a coalition of energy efficiency proponents and air conditioner and furnace manufacturers, the latter represented by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). The groups agreed to jointly

support the first-ever regional standards for furnaces and central air conditioners, reflecting the differing needs for heating and cooling efficiency. [Link to Agreement](#)

AC-HP-Furnace Agreement Map

**What is the standard?**

DOE set standards which divide the country into three regions for central air conditioners and heat pumps and two regions for most furnaces. The criteria are based on the number of heating degree days and the climate (hot-dry vs. humid). For non-weatherized gas furnaces (i.e. the most common type), the standard in the South and Southwest is 80% annual fuel utilization efficiency (AFUE); in the North (states with greater than or equal to 5000 heating degree days) the standard is 90% AFUE, essentially requiring a condensing furnace. The current national standard is 78% AFUE.

Central air conditioners in the south will be required to have a SEER (Seasonal Energy Efficiency Ratio) of 14, up from the present value of 13 (the north will remain at 13). Additionally, a minimum EER (Energy Efficiency Ratio) is specified for air conditioners in the hot-dry states (AZ, CA, NM, NV), which helps to ensure efficiency under that region's conditions.



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Standards for heat pumps, which provide both heating and cooling, remain one level for the entire country. They increase from the current level of 13 SEER and 7.7 heating season performance factor (HSPF) to 14 SEER and 8.2 HSPF. Standards for weatherized furnaces (products typically installed in attics or elsewhere outside the conditioned space of a home) also remain a single level for the nation and increase from 78 to 81% AFUE. AFUE, SEER and HSPF are measures of heating or cooling output relative to energy input.

#### What are the national savings and benefits from the new standards?

According to DOE, the AC and heat pump standards will save about 156 billion kilowatt hours of electricity over 30 years, or roughly enough to power 8.7 million typical U.S. homes for one year. The furnace standards will save about 31 billion therms of natural gas over 32 years, or about enough to heat 62 million typical U.S. homes for one year. Global warming carbon dioxide emissions will be cut by up to 143 million metric tons over 30 years, an amount about equal to the annual emissions of 25 million passenger vehicles. Emissions of smog-forming nitrogen oxides will be reduced by 124 thousand tons and mercury emissions cut by 338 pounds. Net dollar savings for consumers will reach about \$18.7 billion.

#### What is the impact of this rulemaking on consumers?

Although the average installed cost of a new furnace, AC or heat pump is estimated to increase some as a result of the standards, this cost is more than outweighed by energy bill savings over the life of the product. According to DOE, the typical buyer will net about \$100 in savings over the life of a new air conditioner meeting the standard, a heat pump buyer will net about \$85 and a furnace buyer will net \$155. A typical northern furnace buyer will save about \$54 per year on heating bills, a typical southern air conditioner owner will save about \$22 per year and an average heat pump buyer will save \$29.

#### How prevalent are the products now?

According to DOE, about 20% of split system central air conditioners sold today are SEER 14 or above. About 30% of split system heat pumps sold today would meet the new standards. Nearly all furnaces sold today meet or exceed 80% AFUE. About one-half of current sales on a national basis are 90% AFUE or better. In just the past ten years alone about 7.5 million condensing furnaces went into replacement installations in the U.S.

#### What is the timeline for the new standards?

New standards for non-weatherized furnaces will take effect on May 1, 2013. Standards for air conditioners, heat pumps, and weatherized furnaces will take effect on January 1, 2015.

Link to DOE Air Conditioner and Heat Pump Page:

[http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/cac\\_heatpumps\\_new\\_rulemaking.html](http://www1.eere.energy.gov/buildings/appliance_standards/residential/cac_heatpumps_new_rulemaking.html)

Link to DOE Furnace Page:

[http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/furnaces\\_boilers.html](http://www1.eere.energy.gov/buildings/appliance_standards/residential/furnaces_boilers.html)



**DOMESTIC MANUFACTURING  
SHARES OF COMMON ENERGY  
REMODELING PRODUCTS**

**FEBRUARY 2010**

# DOMESTIC MANUFACTURING SHARES OF COMMON ENERGY REMODELING PRODUCTS

## DESCRIPTION OF METHODOLOGY AND DATA

The following data were gathered by using classification systems in two databases: the International Trade Commission's Harmonized Tariff System (HTS) within the U.S. International Trade Commission Dataweb; and the North American Industry Classification System (NAICS) within the 2007 Economic Census. The NAICS database classifies industries and is used to establish the overall production of an industry used in the United States. The HTS database identifies imported amounts of products. Using both databases to establish the imported share of products in an industry, the remaining share of products is produced in the United States.

The focus of this study was on a somewhat broader range of products than just those used in energy remodels, but the percentage should still apply. For example, HTS and NAICS do not distinguish between a code-minimum 13 SEER air conditioner and a 15 or 16 SEER unit that would commonly be used in an upgrade focused on saving energy. Likewise, manufacturers of products such as refrigerators or clothes washers usually have both standard and efficient units. The manufacturing locations will have the same distribution in most cases. However, products that would not usually be used at all in an energy remodel were not included. Vinyl windows, for example, were the only window category included, as the 2009 Buildings Energy Databook indicates that this product is used in the vast majority of window replacements.

In the table below, all domestic manufacturing percentages are included for each product category likely to be used in an energy remodeling job. In cases where a similar product will be used in multiple applications (different insulation applications), that product is repeated in each category.

Remodel Category	Subcategory	% Domestic
Air Sealing	Caulk	95.7%
	Spray Foam	90.4%
Attic Insulation	Fiberglass and Mineral Wool	93.7%
Duct Sealing and Replacement	Caulk (includes duct mastic)	95.7%
	Duct Sheet Metal	99.4%
Wall Insulation	Fiberglass and Mineral Wool	93.4%
	Spray Foam	90.4%
	Rigid Foam (Polystyrene)	95.9%
Replacement Windows	Vinyl Windows	98.4%
Furnaces	Gas furnaces and Other	94.2%
A/C and Heat Pump	Air and Ground Source	82.3%
Water Heaters	Electric, Gas, Solar (tank and tankless)	77.9%
Refrigerators	Household Refrigerators & Parts	62.3%
Clothes Washers	Household Clothes Washers & Parts	76.8%

## **AIR SEALING**

The products included in the air sealing category are caulking compounds and polyurethane-based expanding spray foams. Approximately 96% of caulking compounds in the country are manufactured domestically, while just over 90% of polyurethane-based foams used in construction in the country are manufactured domestically. For the purposes of this study, structural caulking compounds were eliminated. Any polyurethane foam other than foam used in the construction industry was eliminated.

## **ATTIC INSULATION**

Included in this analysis were fiberglass and mineral wool insulations. The overall domestic percentage of fiberglass and mineral wool insulation (classified together in the NAICS database) was almost 94%. It was not possible to identify another common attic insulation product (blown-in cellulose) in either database. However, staff at the Cellulose Industry Manufacturing Association estimated the domestic percentage to be above 95% ([www.cellulose.org](http://www.cellulose.org)). The data were not able to independently verify this, however.

## **DUCT SEALING AND REPLACEMENT**

Duct mastic and duct sheet metal materials were the focus of this section of the study. Although duct mastic was not itself classified in either database, it is likely included in the caulking compound classification. Along with the broader caulking industry, just under 96% is the share of domestic manufacturing. As in the air sealing section, structural and load-bearing caulking compounds were not included. For sheet metal, the overall industry was narrowed to sheet metal focused on ventilation and thermal distribution. The domestic share of duct sheet metal production was over 99%.

## **WALL INSULATION**

Wall insulation includes the largest variety of products of any category, including fiberglass and mineral wool insulation, rigid foam insulation, spray foam insulation and blown-in insulation. Fiberglass and mineral wool insulation has a domestic production share of over 93% and is most likely to be used in gut rehabs in which the walls are opened up. Rigid foam insulation only included polystyrene-based foams used in the construction industry. Neither database clearly identified polyisocyanurate foam insulation; however, polystyrene-based insulations represent the majority of the industry currently. The domestic production percentage of polystyrene foams was just under 96%. Spray foam insulation, as in the air sealing category, includes construction foams based in polyurethane. Just over 90% is the domestic share of this foam. As mentioned above, blown-in cellulose is estimated at above 95% domestic; however, the data could not confirm this.

## **CRAWL SPACE INSULATION**

Crawl space insulation includes all of the insulation categories used in wall insulation except blown-in cellulose. As mentioned above, fiberglass and mineral wool were over 93%

domestic, rigid polystyrene foam insulation was just under 96%, and polyurethane spray foam was just over 90% domestic.

## **REPLACEMENT WINDOWS**

As mentioned above, the vast majority of replacement windows (even more so in energy upgrades) are vinyl-framed windows. The domestic percentage for this industry is over 98%. One limit of this data is that in some cases, the databases did not separate window and door frames. Therefore this percentage is the domestic production of windows, doors and thresholds, including frames and profiles.

## **FURNACES**

Although the data did not isolate efficient furnaces, the same percentages should apply, as manufacturers will make a range from code minimum equipment up to high-efficiency furnaces. The heating equipment in this category includes gas furnaces, liquid fuel furnaces and boilers and some solar thermal technology. The domestic percentage of these products was over 94%.

## **AIR CONDITIONING AND HEAT PUMPS**

Air conditioning and heat pumps were not separated as categories because the data often grouped them together, especially in respect to parts. The data included compressing air conditioning and air source heat pumps, evaporative coolers, ground source heat pumps. The overall domestic production share of this industry was just over 82%. As mentioned above, the share of high-efficiency equipment was not identified in the data; however, the percentages should still apply.

## **WATER HEATERS**

The water heater category included both tank water heaters and tankless water heaters. It included water heaters powered by gas, electricity and solar. As mentioned above, the efficiencies were not identified in the data, but the percentage should still apply. The domestic share was just under 78%.

## **REFRIGERATORS**

The refrigerator category included a variety of household refrigerators and refrigerator parts. As mentioned above, it was not possible using the data available to separate out high-efficiency refrigerators, but the percentages should still apply. The domestic share was just over 62%.

## **CLOTHES WASHERS**

Clothes washers included a variety of household washers. However, it was impossible to completely eliminate drying equipment. In cases where drying equipment was specifically identified, it was eliminated. Using the data available, it was not possible to categorize by efficiency, but the percentages should still apply. The domestic share was almost 77%.

## CONCLUSIONS

In most cases, the products commonly used in home energy remodeling, as classified above, have domestic shares higher than 90%. More importantly, in all cases except refrigerators (62.3% domestic), the energy remodeling products significantly exceeded the national average for domestic share of all manufactured products used in the United States of 76.5%. This 76.5% includes all manufactured products, not only those used in home remodeling, highlighting the fact that energy remodeling has a stronger economic effect in the United States than other products with higher import percentages.

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### Major Data Sources:

U.S. International Trade Commission Dataweb

- [http://dataweb.usitc.gov/scripts/user\\_set.asp](http://dataweb.usitc.gov/scripts/user_set.asp)

U.S. Census Bureau 2007 Economic Census

- Entry Page  
[http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_program=ECN&\\_tabId=ECN1&\\_submenuId=datasets\\_4&\\_lang=en&\\_ts=246366688395](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ECN&_tabId=ECN1&_submenuId=datasets_4&_lang=en&_ts=246366688395)
- Sector 31: Manufacturing  
[http://factfinder.census.gov/servlet/EconSectorServlet?caller=dataset&sv\\_name=\\* &\\_SectorId=31&\\_ds\\_name=EC0700A1&\\_lang=en&\\_ts=278693672317](http://factfinder.census.gov/servlet/EconSectorServlet?caller=dataset&sv_name=* &_SectorId=31&_ds_name=EC0700A1&_lang=en&_ts=278693672317)

### Minor Source:

2009 Building Energy Databook

- <http://buildingsdatabook.eere.energy.gov>





The Home Performance Resource Center is a national 501(c)(3) nonprofit organization formed to conduct public policy and market research in support of the Home Performance industry. The Resource Center develops research materials for policymakers, energy program managers and industry stakeholders to promote job creation, economic recovery, lower household energy bills and deep reductions in residential carbon emissions through improved home energy efficiency.

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The Home Performance Resource Center is supported by Efficiency First, the Building Performance Institute (BPI) and the Energy Foundation.





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TO: President Solomon, Commissioners Asselta, Fiordaliso, and Fox

FR: Sara Bluhm, Vice President Energy, Environment and Federal Affairs

Date: November 10, 2011

RE: Clean Energy Program Budget 2012, Docket No EO11100631V

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On behalf of the 22, 000 members of the New Jersey Business & Industry Association (NJBIA) we appreciate the opportunity to share with you our comments on the proposed budget for the Clean Energy Program for 2012. NJBIA was honored to have recently served on the Board's Energy Master Plan Working group dedicated to this topic. The group produced a report with many recommendations that NJBIA feels that the Board needs to include in 2012 planning.

As was pointed out by CEEEP in materials prepared for the Energy Master Plan, 27 percent of the electric bill for commercial and industrial (C&I) customers is derived from government imposed taxes, surcharges and fees. One of these fees is the societal benefit charge (SBC), a portion of which funds the Clean Energy program. As was pointed out in the working group paper, there must be a better mechanism for coordinating utility programs so that ratepayers are only paying for complimentary not duplicative programs and improved budgeting is necessary to avoid over collection. NJBIA agrees that the budgeting process must begin with realistic estimates of funds necessary to support the programs and the SBC should be based on realistic estimates. This will reduce the chance of appropriation of ratepayer dollars for anything other than their intended purpose. Furthermore, it will help reduce administrative costs and keep money in ratepayers pockets. Similarly, utilities that have developed programs that complement the Clean Energy program and help customers should continue. The Board should not let utilities set up competing programs especially if Clean Energy programs are being underutilized.

NJBIA has advocated for several years the need for program evaluation before and after implementation by the Board. When hundreds of millions of dollars are being spent, ratepayers deserve to know how effective the programs are. Additionally when planning new programs, the Board needs to have a mechanism to determine what is effective, efficient or needs improvement. For example the

recent launch of the Large Energy Users pilot program that was under subscribed. Was the launch impeded by the August delivery when most people are on vacation? Was it the short time frame? Was it the competing benefits under Direct Install? Was it a lack of stakeholder knowledge? These are all questions that could be addressed in an evaluation pre/post program. Program evaluation would also allow for ratepayers to see where their dollars are having the biggest bang and why additional dollars may be channeled to one project over another. Developing metrics, baselines, and goals allows for each program to be monitored and evaluated on a consistent, transparent basis.

NJBIA would also like to encourage the Board to utilize focus groups when preparing to launch new programs. This has been successfully done by the Economic Development Authority (EDA) who administers several programs included in the Clean Energy Program. Before launching a new initiative, the EDA brings stakeholder in for an informal review and is able to solicit industry feedback. This has been helpful in determining market conditions, needs, and new technologies which may impact the program launch.

We appreciate the opportunity to provide feedback and look forward to working with the Board to reduce the cost and use of energy for New Jersey ratepayers.



## Draft NJCEP 2012 Budget and Programs Comments

November 10, 2011

Attn: President Lee Solomon

Board of Public Utilities  
44 South Clinton Avenue, 9th Floor  
Trenton, New Jersey 08625-0350

Dear President Solomon,

We thank all of the parties that engaged in spirited discussions regarding the 2012 Residential Program Incentives and Structure(s), particularly the HVAC and Home Performance with ENERGY STAR Programs. We have had the opportunity to discuss our ideas for successful residential programs with BPU & OCE Staff, the market manager team, and the gas utilities. We feel that consideration of how the various OCE and Utility Programs interact with one another is of vital importance to future program structuring.

We agree with many of the proposed changes put forth by the Market Manager following our discussions and we appreciate them taking some of our proposals into consideration. We, feel however, they fell short addressing several substantial issues that are negatively affecting the balance between the Residential Programs as well as the overall integrity of the NJ Clean Energy Program.

In particular, we feel the following three points need to be included in the 2012 Residential Program. First, ratepayers should be informed of all NJCEP Program offerings. Second, incentives should be structured based on energy savings achieved and considering all competing programs. Third, all programs should stand on equal ground as far as minimum technical standards to ensure the safety of program participants, such as ensuring work is performed by a licensed contractor and application was made for all required permit(s).

While we believe in BPI Certification and the BPI technical standards, we feel that the requirement for Home Performance contractors to also be BPI Accredited creates an extra financial and administrative burden on Home Performance contractors. More importantly it serves as a barrier to getting more contractors participating in the Home Performance Program.

These changes along with those detailed in our previously submitted proposal and follow up summary (both attached) will help to properly incentivize NJ ratepayers and the contractor community that delivers these programs. We ask you to strongly consider the ideas put forth in the attached.

Sincerely,  
Brian J. Bovio  
Efficiency First  
National Vice Chairman/ NJ Chapter Vice-Chair

Angela Hines  
Air Conditioning Contractors of America, NJ State Association  
2nd Vice President

Scott Needham  
Efficiency First  
NJ Chapter Chair

Fred Hutchinson  
Air Conditioning Contractors of America, NJ State Association  
Board Member



## 2012 Home Performance Contractor Coalition Program Changes Follow Up

September 14, 2011

- **2012 Incentives Recommendations**

Tier	\$ Incentive	Financing
2 – 10%+ TES	\$2,000	\$5k, 0%
3 – 20% TES	\$4,000*	\$10k, 0%
3 – 25% TES	\$5,000*	\$10K, 0%

\*For multiple system homes a bonus rebate equal to the total of WARM/COOL Advantage should be added as a bonus on tier 3 projects to keep HPwES competitive with WARM/COOL & Enhanced Rebate Programs total Incentives in multiple system homes. (See Original proposal for more detail and examples)

- **More Financing Options are Critical**

- Allow Incentives to buy down loan amounts greater than \$10k, or allow for blended rate loans above \$10k

- **Ensure basic quality and safety requirements across all NJOCE Programs and ensure ratepayers are aware of all NJOCE Offerings**

- License & Permit #'s on program applications for all programs.
- Ensure ratepayers are aware of all of the NJCE's program offerings.
  - Post "Decision Tree" on NJCEP Website & on back of below form.
  - Require contractors offering any NJCE program to inform/educate ratepayers on all of the BPU's NJCE residential offerings by using a "Homeowner Program Choice Application" (Draft Attached to original proposal)

- **Keep & Re-Engage Existing and Recruit New HPwES Contractors** – We agree with Rate Counsel that this is critical to HPwES success.

- **Why they left: (See original proposal for more detail)**

- Extra administrative costs over other programs, as compared to incentive levels.
- Increased administrative load in HPwES due to program changes over the last 2 years.
- Long payment, project approval, and project completion paperwork processing timelines.

- **What to do to get Contractors back/keep existing contractors active** – Several fundamental changes are required to re-energized and re-engaged contractors back to (in) the HPwES Program:

- Timelines – Assure payment and processing timelines do not become an issue when program volume picks back up.
- Decouple contractor loan payments from the QA/QC Process.
- Return Contractor Incentive to \$700 which is the actual administrative cost of a completed HPwES project, especially due to the increased administrative load described above, which isn't inclusive of the admin work dedicated to a sales effort where a homeowners elects not to move forward w/ a HPwES project.
- Education and Training – both by the programs and peer to peer contractor training in all aspects of programs both technical and administrative, we would also support training financial assistance for contractors.

- Incentivize contractors to increase participation in HPwES. During our discussion we heard the concerns that our original proposal to do this based off of strictly # of completions is unfair to smaller contractors. We would therefore suggest adding production bonuses based off of percentage of Tier 3 Completions as compared to WARM Advantage, or based off of increase in program volume in 2012 as compared to 2011. We would be happy to develop this thought further.
- Incentivize Contractor Technical Performance - Reward Contractors who have demonstrated technical knowhow and therefore having a reduced administrative load to the Program(s); correlate QA Penalties with overall failure rate. (See Original Proposal for more detail)
- We strongly disagree with the proposal to take away the entire production fee for a failure for all contractors. This will be little deterrent to contractors that currently have high failure rates, and show no signs of improvement, and will only serve to punish, and further alienate, other contractors trying to do things correctly.
- The only way to deal with contractors with chronic QC, and program procedural issues is to put them on probation and then remove them from the program if necessary. We supported the contractor remediation procedures, and also support actually using them.
- **Remove BPI Accreditation Requirement**
  - Contractors pay significant fees for BPI's services that are duplicative of the Market Manager team's role. We strongly believe in Quality Control and Quality Assurance which is the service BPI provides to contractors and the program, but we don't feel we need to pay for BPI to provide this service when the New Jersey rate payers are already paying for the program to do QA/QC.
  - It is a substantial additional administrative burden on participating HPwES Contractors, HPwES already has a substantially increased administrative burden over the other NJOCE/Utility Programs without the additional burden of also having to deal with BPI.
  - The majority of other HPwES Programs nationwide do not require BPI Company Accreditation, a fact we were ignorant to until recently as we were under the impression this was an EPA requirement, hence why we have never brought this up before.
  - We agree that NJ HPwES participating contractors should be required to employ BPI Certified staff members (# based on work volume), and abide by BPI's technical standards.
  - To ensure that participating contractors have certified staff members and liability & workmen's compensation insurance, contractors should submit their staff's BPI Certification certificates, Insurance Certificates, and Home Improvement Contractor License to the Market Manager (NJ requires insurance to get an HIC Lic#) with our annual participation agreement. Both of these pieces of info can be easily verified online as well.
  - We do understand that having another entity involved reduces liability for all parties, but we would suggest adding permit requirements to all projects, in all programs, thus ensuring DCA would be involved with all jobs and ensuring code compliance would be a much better option. This would also help HPwES remain competitive and on equal ground with other programs.
  - BPI Accreditation requirements and administrative procedures apply to all of a contractors business, not just what is done in the HPwES Program. This is intrusive to our businesses, and requiring something that affects our entire business model outside of the program seems a bit far reaching by the BPU.
  - Smaller contractors and even larger ones that have not been participating heavily with the HPwES Program for all the other reasons discussed are not likely to renew their BPI Accreditation and then will not participate in HPwES in the future, thus further reducing program volume.



## **2012 Home Performance Contractor Coalition Program Changes**

August 23, 2011

Michael Winka  
Director  
Office of Clean Energy - NJBPU

To Whom It May Concern,

The past year and a half the Home Performance with ENERGY STAR ("HPwES") Program along with the other NJCE programs has seen significant changes due to several reasons such as its oversubscription, budgetary restraints, and contractor community over-stimulation. All of these changes in New Jersey Clean Energy's ("NJCE") residential programs have created confusion in the marketplace and the contractor community. This has adversely affected the program(s) success. Additionally, changes in one program do affect the other residential programs, and how they interact with each other.

Keeping these items in mind, we have carefully considered what changes would help stabilize the marketplace, reorganize the programs in order of priority of energy savings, and re-entice contractors to participate in the program(s) with the highest energy savings. If contractors are enticed to participate, particularly in HPwES they will present *all* of the available options to NJ ratepayers, as well as the benefits of each program. Accordingly, if incentives are structured relative to energy savings, and homeowners are presented all options, we believe homeowners will make the right choice and NJ's energy reduction goals will be achieved. We do believe some progress has been made in 2011 to help contractors who have still been actively promoting HPwES to convert more sales to HPwES, specifically with the "Summer Promotion". However, the changes that have been made have not helped bring more contractors back to participate in the program, which we believe is the key to its future success. Several strategic modifications are necessary to achieve the "market transformation" goals of the Board and the Market Managers. While some of these modifications are new ideas, some of them are things that we have maintained are important for quite some time.

We have aligned our in depth analysis of what's required for contractors success utilizing the HPwES program with what we understand is available in the way of NJCE HPwES incentives. The following are our suggestions to create a Ratepayer and Contractor friendly, as well as and most importantly, a sustainable program for 2012 and beyond.

The following pages will serve as an Executive Summary of our recommendations. As our analysis is wide-ranging and several points may need follow-up clarifications as well as the fact that time is of the essence we feel it prudent that a sit down with OCE Staff, AEG, Utilities, and the Market Managers within the next couple of weeks to discuss our ideas further.

• **2012 Incentives Recommendations**

- a. The following NJCE Residential Incentive table lists the incentives, uses and benefits of HPwES, Warm & Cool Advantage & Hybrid version programs
- b. Added to HPwES Tier 3 are prescriptive elements, to align it with WARM/COOL while at the same time not making it less attractive than WARM/COOL and Enhanced Rebates, especially in multiple system homes, since WARM/COOL/Enhanced are all on a per system basis, vs. the per home approach of HPwES
- c. Model incentive levels across all programs commensurate with “Real Energy Savings”

Measure	Tier 3 - 25%	Tier 3 - 20%	Tier 2 - 10%	Warm/Cool Only	"Hybrid" Tier 2 / Warm/Cool
Furnace	6,000	6,000		6,000	6,000
AC	4,000	4,000		4,000	4,000
DWH	1,600	1,600	1,600		1,600
AS	1,500	1,500	1,500		1,500
Insulate	1,500	0	1,500		1,500
Misc. Health & Safety/Admin	800	800	800	**0	**800
<b>Project Cost Total</b>	<b>15,400</b>	<b>13,900</b>	<b>5,400</b>	<b>10,000</b>	<b>15,400</b>
Warm				(400)	(400)
Cool				(600)	(600)
Gas Utility Enhanced				(900)	(900)
<b>Warm/Cool Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,900</b>	<b>1,900</b>
25%	(4,000)				
20%		(3,000)			
10%			(2,000)		(2,000)
<b>Prescriptive Furnace</b>	<b>(400)***</b>	<b>(400)</b>			
<b>Prescriptive AC/HP</b>	<b>(600)***</b>	<b>(600)</b>			
<b>HPwES Total</b>	<b>(5,000)</b>	<b>(4,000)</b>	<b>(2,000)</b>	<b>0</b>	<b>(2,000)</b>
<b>Total OCE/Utility Incentives</b>	<b>(5,000)</b>	<b>(4,000)</b>	<b>(2,000)</b>	<b>(1,900)</b>	<b>(3,900)</b>
<b>Approx. Energy Savings</b>	<b>25%+ (modeled)</b>	<b>20-24.9% (modeled)</b>	<b>10-19.9% (modeled)</b>	<b>10% +/- (estimated)</b>	<b>20%* (estimated)</b>
<b>Net Project cost (after rebates)</b>	<b>10,400</b>	<b>9,900</b>	<b>3,400</b>	<b>8,100</b>	<b>11,500</b>
<b>Loan Amount/APR</b>	<b>\$10k, 0%</b>	<b>\$10k, 0%</b>	<b>\$5k, 0%0</b>		<b>\$5k, 0%</b>

\* While the similar measures are installed as in 25% Tier 3 HPwES Project, energy savings are less and are unsubstantiated. The current gas utility “Enhanced Rebate” model (Audit after HVAC installed) allows for like equipment replacement or equipment sizing before any shell measures are completed. Almost certainly the HVAC systems will be oversized since reduced building load from upgraded insulation and air sealing were not considered during the equipment sizing. The resulting effect is that the HVAC system upgrade will not achieve the optimal energy savings and misses the load shedding opportunity.

\*\* Addressing H&S issues are not required to be address unless the homeowner elects to engage in a HPwES Tier 2 project

\*\*\* It is recommended to add the prescriptive elements on a per Furnace and/or AC basis to keep the incentive to go the HPwES route over WARM/COOL/Enhanced equal in the case of multi system houses. (example attached)



- **More Financing Options are Critical**
  - Continue Tier 3 - 0%, \$10k Financing (Either using current delivery methods of EFS or Utility On-Bill Financing, and/or explore other delivery methods)
  - Tier 2 – 0%, \$5k Financing to align with NJNG Program –Explore additional financing options to allow flexibility for homeowners.
    - Loan amounts above \$10k with low APR to keep program costs the same.
    - Allow contractors to buy interest rate down for loan amounts greater than \$10k.
    - Or allow reduction of cash incentive to offset increase loan buy-down.
  - “On-Bill Financing” - Encourage and work with all utilities to offer On-Bill Financing in support of HPwES Program, this could allow greater flexibility as listed above, faster loan approval times, and allows for energy savings to offset the payment on the same bill.
  
- **Make All Programs Stand on Equal Ground and Ensure a Minimum Contractor Qualifications**
  - Ensure ratepayers are aware of all of the NJCE’s program offerings.
    - Post “Decision Tree” on NJCEP Website to help navigate customers through the programs to assist them in selecting the best program option.
    - Require contractors participating in any NJCE program to inform and educate ratepayers on all of the BPU’s NJCE residential offerings by using a “Homeowner Program Choice Application” (Draft Attached)
  - Require contractor’s to list all required state license number(s) that are required to complete a project on all Program(s) application forms (WARM/COOL/HPwES) in order to be eligible for incentives (i.e. Home Improvement Contractor License #, Plumbing Lic#, etc...)
  - Require permit numbers on all NJCEP Program Applications (WARM/COOL/HPwES). This will protect the BPU from liability of incentivizing work that is not done up to code or safely and will ensure all NJCEP Program projects are inspected by code officials.
    - Proof of inspection should not be required; Municipalities and DCA will ensure inspection after permits are applied for.
    - Ensuring DCA inspects ALL HPwES, WARM Advantage, and COOL Advantage projects puts all programs on equal ground, and alleviates liability from all parties.
  
- **Re-Engage Existing and Recruit New HPwES Contractors** – Due to many of the complications the HPwES Program experienced during its rapid growth in 2009/2010 that many contractors withdrew from and stop presenting the Program to homeowners. First we will note why they left or never came on board, then how it can be corrected:
  - **Why They Left:**
    - 160+ day payment timelines.
    - Program shutdowns.
    - Administrative Burden
    - Long Approval WSA Timelines (resolved by “Auto-Proceed)
    - BPI Accreditation Fees, Compliance, & Administrative Burden,
    - Training, Certification, and Tool Costs.

- Competing Programs came on line during HPwES Shutdown. Enhanced Rebate Programs coupled with WARM/COOL is:
  - Less difficult to use administratively
  - Have huge incentives requiring less technical requirements (Air Seal/Insulate)
  - Do not require addressing Health and Safety issues within the home.
  
- The Program transitioned from the Tier 3 “Heating Energy Savings” model to “Total Energy Savings” requiring “True-Up” with actual utility billing causing
  - More measures required in a project increasing the price point for a homeowner
  - 35% more data entry time
  
- Increased admin costs with a decreased Production Incentive – “Auto Proceed” while necessary for HPwES’s success and growth shifted admin costs from the Program manager to the contractor. These costs combined w/ the decreased production fee makes HPwES a much less attractive product offering for contractors to present to NJ Ratepayers.
  - Pre-shutdown most contractors experienced a closing rate of 90% with HPwES due to the high consumer incentives. This coupled with the production incentives at the time, and the programs structure made HPwES an attractive product offering for contractors.
  - Post-shutdown closing rates with the new incentives are now closer to 40%, with a 35 point decrease in the conversion rate from a straight HVAC project to a Home Performance project.
  
- The effort required pre-sale necessary to determine if a homeowner qualified for the program became more restrictive and tougher to determine. This significantly increases administrative burden for the contractor:
  - Change from Heating Energy Savings to Total Energy Savings (TES), making it harder to qualify.
  - Addition of “True-Up” requirement which *greatly* increases processing time: collecting bills, entering info, and the actual trueing up of the model to the billing data adds a considerable amount of processing time pre-sale.
  - True-Up makes it impossible to give a homeowner a reliable estimate nor is a contractor able to even tell them if they will even qualify for the program at the time of the audit/sales call until all the data is processed. This seriously reduces the attractiveness of the program to homeowners and to contractors since hours of administrative work are required to determine if a sales lead is a HPwES candidate. WARM/COOL/Enhanced require none of this pre-sale work.
  - Prior to TES & True-Up requirements, most HPwES contractors could tell a homeowner with relative certainty that they would qualify if they did “XYZ” Measures, now we cannot do that without hours of preliminary work.
  - Prior to “Auto Proceed” EFS pre-approval was acquired before any data was entered into “Home-Check” by a contractor to obtain a WSA. Currently all of the modeling is completed pre-sale and should a rate payer engage the contractor to deliver an HPwES project the contractor then submits their loan docs to EFS to secure a pre-approval. Currently EFS has a 20% +/- decline rate. And there is no longer HESP to fall back on, so the contractor bears the admin cost which isn’t experienced by those contractors unwilling to present or sell HPwES.

- **What to do to get Contractors (therefore homeowners) back** – Several fundamental changes are required to re-energized and re-engaged contractors back to (in) the HPwES Program:

- **Payment Timelines** – Assure contractor payment doesn't become an issue when HPwES regains traction by allowing more flexible utility pre-funding, and pre-funding by the Treasury for non-utility funded projects.
  - Decouple contractor loan payments from the QA/QC Process – Contractors not offering HPwES with the loan are paid for the project by the homeowner upon completion. The production incentive remains the motivation to correct any QC issues.
  
- **Incentivize Contractor Sales Performance**
  - Return Contractor Incentive to \$700 as this is representative of the actual administrative cost of a completed HPwES project, especially with the increased administrative load on contractors described above, which isn't inclusive of the admin work dedicated to a sales effort where homeowners elects not to move forward w/ a HPwES project.
  - Provide bonus production incentives to encourage contractors to promote and sell the HPwES actively rather than in response to a homeowner inquiry. This would be the stimulus for Contractors to invest in HPwES despite the added costs of generating a proposal in RHA for prospects with the realization there's 50% fall-off. (Example Below)

# of Completed Projects	Production Bonus (Per Project)
25-49	\$100
50-75	\$200
75+	\$300

- **Incentivize Contractor Technical Performance** - Reward Contractors who have demonstrated technical knowhow and therefore have been a lower administrative burden to the Program(s); correlate QA Penalties with overall failure rate.

QA Failure %	Penalty
0-10%	\$100
11-25%	\$250
Greater than 25%	\$500
Greater than 50%	\$500 and suspension from Program
Note: Remove contractors that have repeatedly abused program technical and procedure guidelines, these contractors, while few, give all of the Programs a bad name and soak up the majority of program administrative resources.	

- Reduce barriers to HPwES - Streamline software input: Automate the true up process, this will reduce the amount of time a contractor needs to spend in the software considerably. Work with EFS and/or any other current or potential financing administrator to streamline the financing application timeline and process as much as possible (i.e. more processing via the internet, allowing for digital signature, etc...)
  - Education and Training
    - RHA Training – On site and Webinars
    - Technical Training – On site and Webinars
    - EFS & Other Financing Options Process Training / Webinars
    - Sales Training (Including support materials, and contractor/consumer process “packets” that will walk them through the entire process)
    - Contractor “Best Practices” (We would be willing to help put together and share this)
  - Raise the bar on other programs where appropriate; i.e.:
    - Permit & Contractor licensing requirements
    - Minimum technical standards (i.e. passing combustion testing on Enhanced Rebate audits to ensure water heaters are not spilling)
  - Contractor Locator & CO-OP Advertising - Only list contractors that actively participate in any given program in that program’s dealer locator and provide them with CO-OP Advertising funds, especially HPwES, as some take leads from the website and then talk homeowners out of utilizing HPwES.
- **Drop BPI Accreditation Requirement**
  - A HPwES HVAC and/or Insulation Contractor is at a disadvantage over the non-HPwES contractors. This is due to the requirements BPI sets upon its businesses regardless of whether a project is HPwES or not. Some are reasonable, some are not, but in its entirety it places a financial and administrative burden to the HPwES contractor’s business. Additionally it creates a duplication of the Market Manager’s QA Process, and a burden to ratepayers because of the multiple QA Inspections.
    - Ensuring there’s Local Code inspections will achieve the same goal in reducing liability on 100% of delivered projects.
    - The majority of HPwES Programs across the nation do not require BPI Accreditation, merely Certification. We agree Certification should be required.
    - We do strongly feel QA/QC is a critical component to the success of HPwES, but with the Market Manager serving that role, we find the Accreditation requirement unnecessary in NJ.
- **More “Proactive” vs. “Reactive” Future Program Modifications** – At times, either to stimulate or cool down a program, unplanned program modifications are necessary. There needs to be flexibility to make incentive/procedural changes within a program (that does not affect the approved budget for that program) in a more expedient fashion than the current procedures allow.
  - Implement a mechanism that would allow the Market Managers to make adjustments to the program(s) without full board approval, on an interim basis, to be able to manage the program(s) effectively. These programs are all dependent on a variety of changing variables and the inability to make changes based on one of those variables fluctuating, adversely affects the success of any program modifications.
  - We would recommend any changes have a temporary pre-approval by a committee comprised of a representative from OCE Staff, each of the Market Managers, AEG, a utility representative, and a

contractor representative pending final Board approval. This would allow for flexibility while at the same time ensuring those changes make sense to all interested parties.

- Past changes would have been much more effective if they could be implemented in a faster fashion when it was first determined they were necessary (i.e. Incentive reductions in 2010 could have prevented program shutdown if enacted quicker, Incentive Changes that took effect in 2011 could have been enacted much sooner to reduce the “exodus” of contractors, and the “Summer Promotion” would have been more effective if it started a month sooner.
- Delayed program modifications were the root cause of the 2010 budget issues and resulting shutdown, and therefore most of the reasons contractors have left HPwES.

We would like to thank you for taking the time to read and consider our proposal. While some of these changes are significant, they will also have significant results in program participation both by contractors and homeowners, with minor budgetary implications. We look forward to discussing this further with all interested parties.

Sincerely,

Brian J. Bovio  
Efficiency First  
National Vice Chairman  
NJ Chapter Vice-Chair

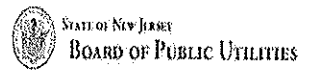
Angela Hines  
Air Conditioning Contractors of America, NJ State Association  
2<sup>nd</sup> Vice President

Scott Needham  
Efficiency First  
NJ Chapter Chair

Fred Hutchinson  
Air Conditioning Contractors of America, NJ State Association  
Board Member

## Attachments:

Dual-System Home Example							
	Proposed WARM/ COOL ONLY	Current 25% 2011 (Tier 3 - 25%)	Proposed 2012 (Tier 3 - 25%)	Proposed 2012 WARM/ COOL ONLY	Current 25% 2011 (Tier 3 - 25%)	25% Proposed 2012 (Tier 3 - 25%)	2012 Proposed Hybrid (WARM/COOL/ Enhanced/HPwES)
	1 System	1 System	1 System	2 System	2 System	2 System	2 System
Furnace	6,000	6,000	6,000	12,000	12,000	12,000	12,000
AC	4,000	4,000	4,000	8,000	8,000	8,000	8,000
DWH		1,600	1,600		1,600	1,600	1,600
AS		1,500	1,500		1,500	1,500	1,500
Insulate		1,500	1,500		1,500	1,500	1,500
Misc Health & Safety/Admin		800	800		800	800	800
<b>Project Cost Total</b>	<b>10,000</b>	<b>15,400</b>	<b>15,400</b>	<b>20,000</b>	<b>25,400</b>	<b>25,400</b>	<b>25,400</b>
Warm	(400)			(800)			(800)
Cool	(600)			(1,200)			(1,200)
Gas Utility Enhanced	(900)			(1,800)			(1,800)
<b>Warm/Cool Total</b>	<b>(1,900)</b>	<b>0</b>	<b>0</b>	<b>(3,800)</b>	<b>0</b>	<b>0</b>	<b>(3,800)</b>
HPwES (Tier 2 or 3)		(4,000)	(4,000)		(4,000)	(4,000)	(2,000)
HPwES Furnace			(400)			(800)	
HPwES AC/HP			(600)			(1,200)	
<b>HPwES Total</b>	<b>0</b>	<b>(4,000)</b>	<b>(5,000)</b>	<b>0</b>	<b>(4,000)</b>	<b>(6,000)</b>	<b>(2,000)</b>
<b>Total OCE/Utility Incentives</b>	<b>(1,900)</b>	<b>(4,000)</b>	<b>(5,000)</b>	<b>(3,800)</b>	<b>(4,000)</b>	<b>(6,000)</b>	<b>(5,800)</b>
<b>Approx Energy Savings</b>	<b>10% +/-</b>	<b>25%+</b>	<b>25%+</b>	<b>10% +/-</b>	<b>25%+</b>	<b>25%+</b>	<b>20% +/-</b>
<b>Net Project cost</b>	<b>8,100</b>	<b>11,400</b>	<b>10,400</b>	<b>16,200</b>	<b>21,400</b>	<b>19,400</b>	<b>19,600</b>
<b>Additional HPwES Cost</b>		<b>3,300</b>	<b>2,300</b>		<b>5,200</b>	<b>3,200</b>	<b>3,400</b>
<b>Loan Amount/APR</b>	<b>0 \$10k, 0%</b>	<b>0 \$10k, 0%</b>	<b>\$10k, 0%</b>	<b>0 \$10k, 0%</b>	<b>0 \$10k, 0%</b>	<b>\$10k, 0%</b>	<b>\$5K, 0%</b>
<b>Notes:</b>							
1. We Included a single system home example using the proposed HPwES Incentive levels, using our suggestion of prescriptive elements for HVAC equipment vs. a single home system using WARM/COOL/Enhanced, as a baseline, showing total incentives and customer cost difference.							
2. As you can see under the current structure, there is virtually no difference in incentives between HPwES and WARM/COOL/Enhanced Incentives in a 2 system house. While there is a significant difference in cost to the customer. So NJCE is paying essentially the same incentives for considerably less energy savings.							
3. With the proposed method, NJCE is paying the same additional amount in incentives to convert an HVAC only project to a HPwES and achieve the additional energy savings, while making HPwES more attractive to the homeowner.							
4. The proposed "hybrid" method using HPwES would offer approximately the same incentives as Tier 3 - 25%, so it makes sense to at least keep Tier 3 on equal footing as the hybrid approach.							



# New Jersey's Board of Public Utilities

## Working Hard to Help You to Save Energy

**CONGRATULATIONS**, on your decision to reduce your energy consumption. Your Board of Public Utilities is here to help you with your decision to reduce your utility bill by SAVING ENERGY. Your Board has created a variety of exciting programs, which are delivered by the Board's New Jersey Clean Energy that'll assist you with your purchase decision for ENERGY SAVINGS. Knowing no one Program will fit everyone the following outlines the options available to New Jersey Homeowners.

### Home Performance with ENERGY Star

HPwES- Home Performance with Energy Star offers comprehensive solutions to improve energy efficiency and home comfort, while helping to protect the environment. Homeowners enjoy benefits like, fewer drafts, consistent temperatures across rooms, better ventilation and humidity control, and lowering their heating and cooling utility bills up to 30%.

### WARMAdvantage

The WARMAdvantage Program provides rebates for high efficiency home heating systems and/or water heaters. You must purchase a heating system and/or water heater that meets all applicable efficiency requirements

### COOLAdvantage

The COOLAdvantage Program provides rebates for energy efficient central air conditioners or heat pumps as well as proper system sizing and installation "best practices" that affect operating efficiency.

Dear NJ Clean Energy Program – Thank for the information you provided and the fantastic ENERGY SAVING incentives to help us become ENERGY EFFICIENT. After a thorough explanation by our contractor of the benefits of each program I/we have decided to participate in:

<input type="checkbox"/> Home Performance with ENERGY STAR The Whole Home Approach	<input type="checkbox"/> WARMAdvantage Upgrading to a High Efficiency Heating System	<input type="checkbox"/> COOLAdvantage Upgrading to High Efficiency Cooling System
<input type="checkbox"/> – Tier 2 – 50% up to <b>\$1,000</b> . I/we're <b>reducing ENERGY</b> use between <b>10% to 19.9%</b> by: <input type="checkbox"/> Air Sealing <input type="checkbox"/> Enhanced insulation <input type="checkbox"/> New Hi-eff domestic water heater	<input type="checkbox"/> – WarmAdvantage option to save up to 10% of heating energy for \$400 rebate – System 1	<input type="checkbox"/> – CoolAdvantage option to save up to 5% cooling energy for \$500 rebate - System 1
<input type="checkbox"/> – Tier 3 – Option 1 – 50% up to <b>\$3,000</b> I/we're <b>reducing ENERGY</b> use by <b>20% to 24.9%</b> by: <input type="checkbox"/> Air Sealing <input type="checkbox"/> Enhanced insulation <input type="checkbox"/> Install hi-eff heating system(s) <input type="checkbox"/> Install hi-eff cooling system(s) <input type="checkbox"/> Install Hi-eff domestic water heater	<input type="checkbox"/> – WarmAdvantage option to save up to 10% of heating energy for \$400 rebate – System 2	<input type="checkbox"/> – CoolAdvantage option to save up to 5% cooling energy for \$500 rebate – System 2
<input type="checkbox"/> – Tier 3 – Option 2 – 50% up to <b>\$5,000</b> I/we're <b>reducing ENERGY</b> use by greater than <b>25%</b> by: <input type="checkbox"/> Air Sealing <input type="checkbox"/> Enhanced insulation <input type="checkbox"/> Install hi-eff heating system(s) <input type="checkbox"/> Install hi-eff cooling system(s) <input type="checkbox"/> Install Hi-eff domestic water heater	<input type="checkbox"/> – I/we will also be taking advantage of our Utility companies \$900 "Enhanced Incentive"	

#### Homeowner

#### Contractor

Name:	Name:
Address:	Address:
Town:	Town:
Zip Code:	Zip Code:
Date:	Date:
Phone:	Phone:
	HVAC Lic #:

## **COMMENTS OF OPOWER, INC. ON THE STATE'S DRAFT ENERGY MASTER PLAN**

Opower, Inc. ("Opower") would like to thank the State of New Jersey, Governor Christie, and the Board of Public Utilities for the opportunity to comment on the 2013-2016 NJ Clean Energy Program budget. Opower is a residential behavior-based energy efficiency and smart grid software company that operates in 24 states, including New Jersey, and the United Kingdom. By providing customers with better information on their energy use and personalized energy saving advice, Opower motivates customers to use less energy and save money on their monthly bills.

Opower applauds the State's emphasis on energy efficiency and demand response (EE-DR) resources as important contributors to delivering energy more cost-effectively to New Jersey's residences and businesses. To achieve the goals and initiatives of the 2011 draft EMP plan for energy efficiency and demand response, Opower recommends that the 2013-2016 NJCEP budget:

- (i) Prioritize customer education and outreach programs that result in measurable and verifiable energy savings.
- (ii) Retain its emphasis on the Total Resource Cost (TRC) test as the primary cost-benefit test for evaluating efficiency and demand response programs. However, a broader approach should be considered to evaluate low-income programs to increase their reach; and,
- (iii) Recognize the valuable role of behavior-based energy efficiency in delivering cost-effective savings to ratepayers.

Below find specific answers to three of the questions posed in the BPU order requesting comments:

### **EMP Questions**

1. Given the goals and initiatives of the 2011 Draft EMP (or Amended EMP), how should the current NJCEP goals and objectives, as discussed above, be modified or re-prioritized for the period 2013 to 2016?

The Clean Energy Program Initiative #3 is to "Promote Cost-Effective Conservation and Energy Efficiency," and the objectives suggest "expanding education and outreach" as a tactic for achieving that goal. Opower applauds New Jersey's plan to expand customer education and outreach. As a company with expertise in applied behavior science, Opower understands the difficulty in getting residential households to take energy efficient actions and the importance of engaging them through outreach and education. We also know that energy efficiency technologies are only as efficient as the people who use them. As Opower and other energy information companies have demonstrated, providing customers with better information through multiple delivery channels can help them reduce their energy use and save money.

Rather than allocate customer education spend on programs that either have no measurable impact or that support one-time events or advertisements that have no lasting effect on customer behavior, OCE should support behavioral programs that (i) provide information to customers that generate measurable and verifiable energy savings, and (ii) increase the rate of



participation in other energy efficiency programs. Opt-out behavioral efficiency programs like Opower have the proven ability to lift program participation an average of 33%, and up to 59% in some regions. Opt-out design does this by giving the program provider access to more households that could potentially participate in other efficiency programs, and by promoting specific programs to the customers most likely to take advantage of them using segmentation and targeting. This benefits the ratepayers by ensuring that outreach funds are used most effectively.

Opower encourages the Clean Energy Program to leverage behavior-based programs as a tactic for achieving the “improve customer education and outreach” objective for 2013-2016.

12. How should the Board improve existing programs to further support clean energy program goals and the goals of the draft EMP?

The Board should allow behavior-based programs as an acceptable program option for residential customers in New Jersey. The current absence of any references to “behavior” or “behavior-based” efficiency in the draft EMP and in the OCE’s objectives could reinforce the perception amongst some of the states’ utilities that New Jersey does not support these valuable programs. Many states are taking advantage of the energy savings from behavior-based efficiency – in Massachusetts, utilities are using behavioral programs to meet 24% of their annual residential efficiency goals, and in Arkansas and Illinois, utilities are using behavioral programs to achieve more than 20% of their targets.

Behavior-based efficiency programs can augment existing programs by helping to maximize the potential savings of installed efficiency programs, driving participation in other utility-run efficiency programs, and delivering savings to all residential ratepayers – including hard-to-reach households, such as low income, renters, and seniors. Opower therefore encourages the Clean Energy Program to allow behavior-based efficiency programs as an option for 2013-2016 programs.

### **Individual Energy Efficiency Program Questions**

2. What criteria should be established for choosing among competing energy efficiency programs and objectives, given funding constraints for periods 2013 through 2016?

There are robust benefit-cost tests like the Total Resource Cost (TRC) test that evaluate the overall benefits delivered to consumers, and Opower supports the 2011 Draft EMP’s commitment to prioritize the TRC when determining whether proposed investments will generate a sufficient return for ratepayers. As this is the metric for determining whether a program qualifies for the program, it follows that it would be an appropriate metric for choosing amongst competing energy efficiency programs. TRC is the primary cost-effectiveness test in the majority of states with efficiency programs, including most of the top states in energy efficiency savings.

Although the TRC is a useful tool for non-low-income residential programs, it may exclude valuable programs that could reach a greater number of ratepayers. For example, while behavioral-based programs can save energy and money for all classes of ratepayers, cost-

effectiveness decreases the more low-income households receive the program. Thus, there is often an inverse relationship between program cost-effectiveness as defined by the TRC and low-income participation. While the state should continue to prioritize low-income programs that pass the TRC test, there are a number of possible variations for evaluating cost-effectiveness that the state could consider to expand offerings available to low-income households.

In British Columbia, the TRC is used, but with a 30% adder for low-income energy efficiency programs to account for societal benefits<sup>1</sup>. A number of states, including Wisconsin, Massachusetts, California, and Rhode Island, use additional non-energy benefits in calculating cost-effectiveness for low-income programs<sup>2,3,4,5</sup>. These can include benefits for improved health and comfort, and can also include net benefits to the utility, like reduced arrears and costs from disconnection. The state should consider ways to factor in the societal benefits associated with delivering programs to more low-income residential households.

Respectfully submitted,

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<sup>1</sup> Utilities Commission Act – Demand Side Measures Regulation. November 7th, 2008. Accessible at: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_326\\_2008](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_326_2008)

<sup>2</sup> Low-income Public Benefits Evaluation: Interim Benefit-Cost Analysis. 2007. State of Wisconsin Department of Administration: Energy Division.

<sup>3</sup> Tetra Tech. 2011. Massachusetts Special and Cross-Sector Studies Area, Residential and Low-Income Non-Energy Impacts (NEI) Evaluation. Massachusetts Program Administrators.

<sup>4</sup> D07-12-051, Section 4.3.8 (Issued December 20, 2007 in Rulemaking 07-01-042) recommended refining existing rules, but instructed utilities to follow D.02-08-034 (Issued August 9, 2002 in R.01-08-027) in the interim.

<sup>5</sup> The Rhode Island Energy Efficiency and Resource Management Council. 2008. Proposed Standards for Energy Efficiency and Conservation Procurement and System Reliability.

## Draft NJCEP 2012 Budget and Programs

Our Company (New Millennium Lighting, Inc.) has been involved with providing energy efficiency improvements to customers in New Jersey since 1999. My partner and I attended the BPU's programs and budgets hearing on November 3, 2011. We found the hearing to be helpful and informative. We plan on attending more hearings in the future. The following are general comments that we hope will be helpful to your implementation of present and future energy efficiency programs.

There are three areas that I will address that I believe will be helpful to the State in meeting its objective of maximizing the number of cost effective energy efficient projects installed at the lowest cost possible. The first and I believe the most important area is the ability for **all** energy service companies to participate in the available programs. The present structure prevents most companies from competing. This results in projects not being performed at the lowest price and highest benefit to the customer.

A prime example of this is the Direct Install program. TRC selected five mechanical contractors to implement this program statewide. The vast majority of the projects for this program are normally lighting. Each of the mechanical contractors hired only a small, select number of lighting companies to perform this work. Initially, the customer received 80% of the cost of a project. The actual cost of the project was based on set parameters established between the successful bidders and TRC. The amount of money being given to the customer (80% of project cost) made it impossible to compete against the exclusive five contractors eligible to participate in this program. As an example, we had an existing customer who came to us to give them a proposal to upgrade the lighting at their facility. Our project cost was 30% lower than the one they received from the contractor in the direct install program. However, since we were only able to get a rebate from the New Jersey Smartstart Program that represented 25% of the total cost of the project the customer opted to not use us for the installation. If we had been able to offer the customer the 80% rebate, this customer would have definitely chosen us to do the work. The customer would have saved about \$6,000 and the State would have saved about \$24,000. By only having one company eligible to get the 80% rebate an unfair advantage is created. This eliminates the competition that will result in the best price to the customer and the State.

This leads me to my second area of concern. That is, having multiple programs that promote the same technologies but offer different incentives. I do not believe that there should be multiple programs promoting the same end use measure. That is, incorporate all the lighting incentive programs into one universal program for lighting. The incentive for this program could be based upon a set amount paid per watt saved. A table like the Luminaire Wattage Table could be established to determine the amount saved for the various end use measures. This program should

be open to all contractors and should be able to be easily modified to accommodate new equipment development or required incentive amounts.

The last area of concern is a culmination of the above two items. Rewarding contracts only to large companies and making the playing field unequal to smaller companies is placing smaller companies at a very unfair disadvantage. In times when unemployment is high and small companies are struggling to survive the State should be doing everything it can to help small businesses. The practices that have been adopted lately are doing the exact opposite. As was mentioned above, this stifles competition and results in higher costs for both the customer and State. In addition, it is jeopardizing the well being of faithful small companies that have been meeting the energy needs of customers for many years.

David Torres  
Vice-President  
New Millennium Lighting, Inc.

MURRAY E. BEVAN  
mbevan@bingzlaw.com

November 10, 2011

**VIA ELECTRONIC AND REGULAR MAIL**

Michael Winka  
Director, Office of Clean Energy  
44 South Clinton Avenue, 9<sup>th</sup> Floor  
Post Office Box 350  
Trenton, NJ 08625  
[publiccomments@njcleanenergy.com](mailto:publiccomments@njcleanenergy.com)

***Re: In the Matter of the Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for 2009-2012: 2012 Programs and Budgets Compliance Filings, Docket No. EO11100631V***

Dear Director Winka:

On behalf of our client, Bloom Energy Corporation (“Bloom”), we would like to comment on the Board of Public Utilities’ (“Board’s”) proposed clean energy budget for 2012 (“Budget”), as well as respond to some of the testimony presented at the Board’s Budget hearing on November 3, 2011 regarding the above-referenced matter.

Bloom’s energy server is a breakthrough solid oxide fuel cell technology that generates clean, highly-efficient power onsite. These fuel cells operate at a much higher temperature (800°-1000° C) than other distributed generation technologies, including traditional combined heat and power (“CHP”) systems. This temperature range enables Bloom’s technology to achieve extremely high electrical efficiencies – exceeding 50% efficiency (LHV net AC) — which requires capturing the waste heat generated from high temperature operation and recycling it back within the system (internally) to boost overall electrical efficiency.

As the manufacturer of such highly efficient energy servers, Bloom supports the Budget’s allocation of \$20 million in incentives towards CHP/fuel cell projects producing less than one (1)

megawatt (“MW”) of electricity. In particular, Bloom believes that the incentive level of up to \$3.00 per watt and \$2 million per project through a combination of Board funding and matching gas utility funding, should have a significant impact in assisting New Jersey to reach its energy efficiency and greenhouse gas reduction goals by encouraging consumers without a thermal load to engage in more efficient energy projects. Moreover, Bloom believes that the Board’s proposal to make the CHP/fuel cell program a stand-alone program, rather than tied to the Pay-for-Performance (“P4P”) program, will encourage more robust participation in the CHP/fuel cell program than has been seen in past Board programs aimed at encouraging CHP and/or fuel cell technologies.

In addition to supporting the Budget’s proposal to allocate \$20 million to CHP/fuel cell projects producing less than 1 MW, Bloom also supports the Board’s allocation of \$55 million<sup>1</sup> towards a “Large CHP Program.” Although Bloom believes that all-electric solid oxide fuel cells should already be included in this Large CHP Program pursuant to the limited public information made available about the program, Bloom encourages the Board to specifically include all-electric solid oxide fuel cells in this Large CHP Program. Without Bloom’s ability to participate in the Large CHP Program, Bloom’s energy servers will be inexplicably limited to smaller customer applications. Availing incentives to consumers using Bloom energy servers and other fuel cell technologies to produce over 1 MW of electricity will increase customer choice and encourage robust participation among the many customers, such as office buildings, grocery stores and warehouses, who desire reliable, environmentally-friendly distributed solutions, but have no utilization for the 24/7 waste heat. Moreover, it will promote New Jersey’s energy efficiency policy as expressed by the Board and the Energy Master Plan by encouraging greater participation in the Large CHP Program, which would lead to less consumption of power from dirty and non-renewable sources. Furthermore, if the \$20 million in incentives budgeted for CHP/fuel cell projects producing less than one (1) megawatt (“MW”) of electricity are exhausted, we encourage the Board to allow for the ability to transfer some of the \$55 million allocated for large CHP to fund additional, smaller, clean energy projects.

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<sup>1</sup> This \$55 million represents \$35 million in new funding and \$20 million in carryover funds from the 2011 clean energy budget.

At the Budget Hearing on November 3, 2011, Jeff Tittel, Director of the New Jersey Chapter of the Sierra Club, expressed concern that the Board was shifting funding from energy efficiency to CHP and fuel cells in the Budget proposal. What Mr. Tittel fails to recognize, however, is that CHP/fuel cell projects *are* energy efficient. Just like other types of energy efficient measures named by Mr. Tittel, such as demand response and weatherization, CHP/fuel cell projects promote energy efficiency and greenhouse gas reduction, by reducing consumption of power from dirty and non-renewable sources among consumers who can't employ or have already employed other energy efficiency measures to participate in the program. Furthermore, fuel cells use less natural gas to produce the same amount of electricity as traditional power sources, which is totally consistent with the intent of the Board's energy efficiency goals. Thus, the Board is not shifting money away from energy efficiency, as Mr. Tittel suggests, but actually supplementing its energy efficiency programs by widening the scope of participants.

Stefanie Brand, Director of the New Jersey Division of Rate Counsel ("Rate Counsel") expressed another concern at the Budget Hearing regarding lack of participation in some of the Board's programs, which leads to budget carryovers from year-to-year. Although some Board programs, including programs directed towards CHP and/or fuel cells, have been under-subscribed in the past, we saw a similar phenomenon recently in California. The California Public Utility Commission's ("CPUC") Distributed Generation Program was undersubscribed until experiencing a dramatic increase in customer participation over the course of the past few years. Bloom Energy just recently began actively marketing in the New Jersey market and is confident that the CHP/fuel cell incentives available in the proposed 2012 Budget will provide a clear market signal that will lead to robust customer participation, especially now that the incentives are no longer tied to P4P.

In addition, at the Budget Hearing, Director Brand asked the Board to take a hard look at whether providing matching incentives (either through participating utilities, or, in the case of non-participating utilities, the Board itself) would actually increase participation in the CHP/fuel cell program. Bloom respectfully submits that the provision of matching incentives, as opposed to just the Board incentive of \$1.50/watt, will dramatically increase participation in the CHP/fuel cell program. These matching incentives are critical in making the economics work for potential

customers who wish to make investment in CHP/fuel cell technologies, particularly in the current economy. As volumes increase, the Board should consider future decreases in the incentives paid to all technologies.

In conclusion, Bloom believes the Budget's allocation of incentives for CHP/fuel cell projects, producing both above and below 1 MW of electricity, will significantly advance the energy efficiency and greenhouse gas reduction goals of the Board and Energy Master Plan by encouraging more customers to employ such technologies. Bloom is confident that such incentives will lead to significantly more customer participation in this energy efficiency program, thereby alleviating Sierra Club's and Rate Counsel's expressed concerns. Please do not hesitate to contact me should you have any questions or concerns.

Very truly yours,

Murray E. Bevan