From:	Gabe Rissman
To:	publiccomments@njcleanenergy.com
Subject:	CRA Straw Proposal
Date:	Monday, May 11, 2015 10:30:28 PM

Dear NJ Clean Energy,

I read the CRA Straw Proposal. I was wondering if there is any way to incorporate nuclear energy as a carbon free energy source into the proposal, even though it is not currently defined as a class 1 renewable.

Best,
Gabe Rissman

MaGrann ASSOCIATES
Building Science for a Better Environment
701 East Gate Drive • Mount Laurel, NJ 08054 • 1-888-MAGRANN • www.magrann.com
New Jersey • Pennsylvania • New York • Kentucky • Ohio • Hawaii

May 21, 2015

Hon. Irene Kim Asbury, Secretary
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, New Jersey 08625-0350

Via Email: publiccomments@njcleanenergy.com

Re: Comments on NJCEP FY-16 Compliance Filings

Dear Secretary Asbury,

These comments are respectfully submitted by MaGrann Associates, a for-profit energy engineering and consulting small-business firm established in 1982 and based in Mt. Laurel, New Jersey. Throughout the life of New Jersey's Clean Energy Program, and the predecessor programs operated by New Jersey's electric and gas utilities, MaGrann Associates has provided energy rating, engineering design, verification, certification, training and program implementation services for New Jersey's builders, developers, contractors, design professionals, utility companies, building owners and managers. To date, MaGrann Associates has supported energy efficiency improvements in more than 100,000 homes and businesses.

We would like to take this opportunity to applaud the continued dedication of the NJ BPU, the Office of Clean Energy, and the program Market Managers, for their dedication to market adoption of cost effective and sustainable energy efficiency practices. In general, we believe the FY-16 program modifications continue to provide meaningful support for these objectives.

Our comments at this time are focused on one specific aspect of the Commercial & Industrial (C&I) program modifications offered by TRC. Specifically, the following modifications to the **Pay for Performance ("P4P")** program:

> "Increase minimum size to participate from 100kW peak demand to 200kW to align with Direct Install and eliminate the overlap."
>
> "Eliminate kW peak demand waiver currently in place for hospitals, public colleges/universities, 501(c) 3 non-profits, local governments and K-12 public schools, and affordable rate multifamily housing."

Our concern with this recommendation is related primarily to the multifamily market, and to its disproportionate impact on affordable multifamily housing. MaGrann Associates specializes in

optimizing comprehensive energy efficiency improvements in multifamily new construction and retrofit projects, with extensive and award-winning experience in this area.

We understand that the purpose of this modification is to shift smaller commercial buildings with peak demand of less than 200kW towards the Direct Install (DI) program. Our general concern is that the DI and Smart Start programs do not support the "whole building" approach that is crucial to encouraging building owners to make significant energy saving improvements, nor do they provide a comparable level of aggregate incentives, together resulting in missed opportunities for savings by the owner and the program when P4P could function as a more impactful alternative.

Multifamily buildings in particular present a unique challenge with respect to the demand criteria. We find that the multifamily buildings with the greatest potential to benefit from a comprehensive energy retrofit under P4P are those older buildings comprising central gas heating systems on a commercial account meter, with individual residential rate electric meters for the individual units. These buildings are ineligible for the Home Performance with ENERGY STAR program, which is unable to treat the central systems.

The P4P program currently assumes a demand of 2kW per individual unit, enabling central system **market rate** multifamily buildings of 50 units or more (100kW total) to participate in the P4P program (since they are not beneficiaries of the kW waiver for affordable housing). With the proposed modification, only market rate buildings with 100 units or more will now be eligible. This seems to be an unintended consequence and an unreasonable threshold that will eliminate a significant portion of the market rate multifamily sector.

Based on the same assumption, the elimination of the waiver will effectively disqualify all of the central system **affordable** multifamily buildings up to 100 units which were previously eligible, creating an even larger and presumably unintended impact on the affordable segment. Furthermore, DI and Smart Start do not provide a solution for affordable multifamily projects that are instructed by HMFA to find the appropriate program to show that they are ENERGY STAR equivalent, creating a catch-22 for those projects.

The existing waiver provisions appear to be maintained in the filing for the Local Government Energy Audit (LGEA) program:

> "Increase minimum size to participate from 150kW peak demand to 200kW to align with Direct Install and P4P to eliminate the overlap. **Existing waivers to remain**." [Emphasis added]

We believe the relevant waivers currently in place for the P4P program should also be maintained, consistent with this provision.

There are references under the LGEA and Large Energy Users programs to the potential for "custom" approaches and to the Market Manager having the ability to:

> "…grant exceptions to the kW threshold in cases where the entity… demonstrates interest in measures that are not available under the Direct Install Program, such as building shell measures and windows."

These provisions do not appear under P4P. Additionally, we are concerned that tying such exemptions to specific measures may impose unintended bounds on the ability of projects to seek the most comprehensive and cost effective whole-building solutions.

Please also note that similar concerns were voiced at a recent meeting of the NJCEP Energy Efficiency Committee, including comments by a multifamily developer who expressed the likelihood of significant impact on the ability of his projects to continue to participate.

Again, we believe that maintaining the existing waivers, at least as they relate to multifamily buildings, would be the most expeditious approach to avoiding the unintended consequences enumerated above. *Ideally, the kW qualification threshold would be waived entirely for all multifamily projects based on the unique characteristics of multifamily buildings as noted above.*

Thank you for your consideration and this opportunity to provide stakeholder input. I would be happy to provide any additional information or clarification that would be helpful in evaluation of these comments.

Sincerely,

Benjamin L. Adams
Vice President, Program Development

cc: Elizabeth Ackerman, BPU
Michael Ambrosio, AEG

100 years 1915 - 2015

New Jersey State League of Municipalities

222 West State Street, Trenton, New Jersey 08608
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EMAIL league@njslom.org • www.njslom.org

William G. Dressel, Jr., EXECUTIVE DIRECTOR | Michael J. Darcy, CAE, ASSISTANT EXECUTIVE DIRECTOR

May 21, 2015

Irene Kim Asbury, Secretary
NJ Board of Public Utilities
44 South Clinton Ave, 9th Floor
PO Box 350
Trenton, NJ 08625-0350

Re: Straw CRA Proposal FY16

Sent via electronic mail to publiccomments@njcleanenergy.com

Dear Ms. Asbury,

Please accept the following comments on behalf of the New Jersey State League of Municipalities (League) regarding the Office of Clean Energy (OCE) Staff Straw Proposal for New Jersey's Clean Energy Program Proposed Funding Levels FY16.

The League's comments focus on three distinct areas of this proposal: 1) the CEP's supplemental funding to the Energy Resiliency Bank (ERB); 2) Board Staff's stakeholder process for the promoting of microgrids; and 3) Sustainable Jersey's role in promoting and implementing sustainable practices.

The straw proposal provides for $150 million in supplemental funding to the ERB between FY 2015 and FY 2018. The League supports this measure. The upfront costs of adopting energy resilient technologies can be tremendous. This additional funding will allow the ERB to be more effective.

The straw proposal states that, "the Board is exploring policies and incentives to promote the development of micro-grids, which allow a facility to remain operational when utility systems experience outages...one of the main barriers to CHP/FC project development is large, upfront costs." The League agrees with this statement. We also believe that municipal facilities are good candidates for microgrid technology.

That is why the League suggests that any working group tasked with resolving these issues include a representative from the League of Municipalities. Issues related to municipal finance and franchise rights are both key issues which need to be resolved. With the help of municipal attorneys, bond attorneys, and chief financial officers, it is the League's intention that our representative will assist Board staff in formulating ways to overcome these issues.

Lastly, the League is pleased that Board staff recommends continuing Sustainable Jersey's grant in FY 2016. The League also sits on Sustainable Jersey's board. We work hand in hand with them on a variety of issues and have been very pleased with their effectiveness. We are certain that the effectiveness of their programs will continue to grow in FY 2016.

If you have any questions or comments regarding the League's comments, please contact Ed Purcell Esq. at (609) 695-3481 x 137.

Very Truly Yours,

William G. Dressel, Jr.
Executive Director

From: Keith Peltzman
To: publiccomments@njcleanenergy.com
Cc: Schwartz James
Subject: Public Comments - Proposed CRA FY 2016
Date: Tuesday, May 26, 2015 9:56:17 AM
Attachments: PastedGraphic-8.tiff

Dear Board-

Independence Solar is a Cherry Hill-based commercial PV installer since 2007. We have experienced the ups and downs of the NJ solar PV market and would like to express our extreme concern regarding a proposed prevision of the CRA for FY 2016.

More specifically, the proposal on Page 46 limiting commercial facilities to elect on either net metering or SRECs would likely force us out of business ("Staff recommends that facilities seeking to install large, customer-sited solar facilities be given the choice of participating in either the net metering program or the SREC program, but not both")

- Economics - Commercial solar PV in NJ is still very hard to develop and the economics are still marginal even with net metering and SRECs combined. The combination of both net metering and SREC value is absolutely essential to drive commercial development. We target economic returns of 8-12% for our target client businesses in NJ. Even if we can demonstrate this level of return for NJ businesses, it is still challenging for them to adopt solar. If we were to eliminate either of these benefits, then project returns would fall below 5% and almost no NJ company would make this investment. There are significant incremental costs to solar that do not factor into broad financial models - roofing costs, electrical equipment upgrades, transformer upgrades, equipment shortages/delays, monitoring, new safety/fire requirements. I guarantee you that it is very challenging to develop and build a commercial PV project in 2015 in NJ.
- Monthly Build Rates - Although year-end 2015 saw significant build rates, we have seen a tremendous slow down in early 2016. There is concern that there could be a shortfall of SRECs in 2015. Over the last 7 years, we have witnessed extreme volatility in the NJ SREC market. Policy should not be based around a 1-year short-term SREC trend, but should consider 5-10 year trends and long-term implications. This policy recommendation seems to be based around a short-term window of data.
- Allocation - Anecdotally, we are hearing of an explosion in residential build-out rates and a slowing of commercial rates. It would be interesting to see the break-out between new residential and commercial projects completed - based on MW. I might suspect that the current trend is heavily weighted towards residential solar. If so, this would a strange time to tilt the incentive balance further in favor of residential solar.
- Completed Applications - Many commercial projects submit applications, but never do move forward and are not completed. Residential projects tend to be less speculative. In analyzing data, it would be critical to focus on rates of completed projects and not just applications submitted.

In summary, it is very hard to sell commercial solar in NJ. This policy change would make it

nearly impossible for smaller local companies like Independence Solar to survive. Possibly, larger national solar companies would be able absorb this hit to commercial project economics, but we would eventually be forced to close shop or abandon NJ as a market. We would be happy to answer any questions or provide assumptions on financial returns and thank you for including our input into this process.

Best regards,

Keith Peltzman
President

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May 29, 2015

Hon. Irene Kim Asbury, Secretary
New Jersey Board of Public Utilities
44 S. Clinton Avenue
Trenton, NJ 08625

Via Electronic Mail

RE: Comprehensive Resource Analysis – Staff Straw Proposal

Dear Secretary Asbury:

The American Council for an Energy Efficient Economy (ACEEE), a non-profit research organization based in Washington, D.C., appreciates the opportunity to provide comments to the staff of the New Jersey Board of Public Utilities on the Comprehensive Resource Analysis (CRA) Staff Straw Proposal for Fiscal Year 2016. ACEEE commends the BPU staff's efforts to provide comprehensive energy efficiency programs in a streamlined fashion through the Clean Energy Program. We especially appreciate the Board's emphasis on the need for greater standardization of evaluation procedures. We also see opportunities to improve upon the Straw Proposal and offer our suggestions below.

Research by ACEEE finds that energy efficiency costs about one-half to one-third the cost of new electricity generation options.[1] As the least-cost resource, energy efficiency programs should play a larger role in meeting the state's energy needs over the next decade. New Jersey used to be among the leading states on energy efficiency savings, but in recent years New Jersey has slipped. In our *2014 State Energy Efficiency Scorecard*, New Jersey ranked 26th among the states in electricity savings achieved.[2] New Jersey has slowly slipped in this category, as other states have ramped up energy efficiency programs over time. In 2008, for example, New Jersey ranked 19th for electricity savings, but in recent years states like Arizona and Colorado have surpassed New Jersey's electricity savings as they have ramped up efficiency programs to meet energy savings goals. In fact, most of the states ahead of New Jersey have adopted an "Energy Efficiency Portfolio Standard." Under N.J.'s Global Warming Response Act of 2007, the New Jersey Legislature authorized the Board of Public Utilities ("Board") to implement an Energy Efficiency Portfolio Standard. ACEEE urges you to use this authority to set binding, long-term, fully-funded energy savings targets for New Jersey utilities, as contemplated by the Act. Doing so is consistent with the Board's mission to "ensure the provision of safe, adequate and proper utility services at reasonable rates while enhancing the quality of life for the citizens of New Jersey." Energy savings targets will help lower bills, create jobs, cut pollution, and support reliability in New Jersey.

Without targets, New Jersey has been under-investing in energy efficiency. Even the Board has acknowledged as much. Currently, twenty-four states[3] are implementing energy savings targets. Recent research finds that most states are meeting or surpassing their targets.[4] We urge the Board to consider ways to improve their current planning process to better emphasize long-term energy savings. In 2014, the Sierra Club petitioned the Board to

[1] See Molina, M. 2014. *The Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs*. ACEEE. http://aceee.org/sites/default/files/publications/researchreports/u1402.pdf.
[2] See ACEEE's *2014 State Energy Efficiency Scorecard*. http://aceee.org/research-report/u1408.
[3] http://aceee.org/policy-brief/state-energy-efficiency-resource-standard-activity
[4] See Downs, A. and C. Cui. 2014. *Energy Efficiency Resource Standards: A New Progress Report on State Experience*. ACEEE. http://aceee.org/research-report/u1403.

begin a proceeding to establish energy-saving targets for the state's utilities. The Board responded by noting that current efforts to streamline the Clean Energy Program would address long-term planning issues, and that no separate proceeding was necessary. While ACEEE applauds the Board's efforts to incorporate best practices into the planning process through working groups, we do not believe that the current single-year budgeting and target-setting process is conducive to long-term planning efforts. Furthermore, rolling working group findings into the CRA process makes it difficult for stakeholders to comment on specific working group findings in detail. ACEEE encourages the Board to consider a separate process to allow stakeholders to provide feedback on these recommendations.

We also note that efforts to streamline Clean Energy Program processes should be holistic, and to that end urge BPU to consider long-term goal setting, methods to better secure program funding, and modifications to the utility business model simultaneously. Specifically, we suggest the following:

- Rather than accept constraints placed upon the Clean Energy Program as SBC funds are diverted to pay state utility bills, the diversion of funds to state utility bills, BPU should consider mechanisms to maintain the totality of SBC funds within the Clean Energy Program.
- BPU should set long-term energy savings targets based on the availability of cost-effective energy efficiency. In the Straw Proposal, staff indicate that they have based targets upon past savings. Since these savings were constrained both by budgets and transitioning programs, we urge the Board to consider that more energy efficiency is likely available in the future.
- BPU should consider ways to better align the utility business model with energy efficiency efforts. Forthcoming research from ACEEE finds that a comprehensive approach that pairs long-term energy savings goals with decoupling and well-designed performance incentives is most effective in achieving high levels of energy savings. The Board notes that the Utility Working Group produced similar findings. We encourage the Board to consider ways to act upon these recommendations.

ACEEE appreciates the opportunity to provide comments on these issues. Please do not hesitate to reach out to us with any questions or comments.

Sincerely,

R. Neal Elliott, Ph.D., P.E.
Associate Director for Research

New Jersey Business & Industry Association

NJBIA

TO: President Mroz, Commissioners Chivukula, Fiordaliso, Holden and Solomon

FR: Sara Bluhm

RE: Office of Clean Energy Revised Comprehensive Resource Analysis-Staff Straw Proposal
New Jersey's Clean Energy Program Proposed Funding Levels FY16

On behalf of the 20,000 members of the New Jersey Business & Industry Association (NJBIA), we appreciate the opportunity to provide comments on the proposed Comprehensive Resource Analysis (CRA) Staff Straw Proposal for FY16. As the Board is aware, Commercial and Industrial Customers consume the largest percentage of energy and as a result have a vested interest in these proceedings.

The Association analyzes the issues facing our 20,000 member companies through the prism of taking all of the costs into account, prioritizing, and finding ways to keep the costs as low as possible so that additional burdens do not add to the already high cost of doing business in New Jersey.

One tool the Association uses to evaluate policy decisions is NJBIA's *Vision for a Better Business Climate*, created to lay out what NJBIA stands for in protecting business interests. Our *Vision* focuses on three main goals: reducing the cost of doing business; creating jobs and growing the economy; and streamlining government processes.

In recent years, NJBIA has advocated to reduce the burden imposed by government surcharges and fees. On the electric bill this had been 27 percent of the total bill until the successful elimination of the TEFA surcharge. However, this burden is now around 24 percent which is still high when compared to our neighboring states. One component of these charges is the Societal Benefits Charge (SBC) which funds the Clean Energy Program. NJBIA has advocated for the reduction of the SBC charge for close to a decade. During this time, we also advocated for increased limits on energy efficiency programs for C&I programs as these programs have returned a bigger "bang for the buck" in terms of reduced energy consumption, reduced greenhouse gas emissions, and reduced strain on the grid. NJBIA advocated for the BPU Ombudsman to help ratepayers understand their options and navigate through the shopping process. Unfortunately, ratepayers have not seen a reduction in the SBC, but instead have seen charges for utility as well as state programs. Yet NJBIA continues to advocate for a reduction to help manage energy costs for ratepayers in New Jersey, while also promoting programs to encourage efficiency.

To that end, NJBIA is concerned with the proposed FY 2016 budget for the Clean Energy Program which totals $344,650,000 with $216,376,000 for Clean Energy programs and the

remaining going to other state initiatives. While our members are hopeful for a new program structure in the future that will allow the Board to realize cost savings on administration, there needs to be signals to the business community that BPU is helping to streamline government process and lower the cost of doing business in New Jersey. If only $216 million is needed for Clean Energy, then the charge to ratepayers should be reduced to reflect this. This reduction can help offset the cost rebuilding of our infrastructure while not increasing customers' bills as we modernize the system.

NJBIA supports efforts to coordinate Clean Energy programs, utility run programs, and other state agencies in an effort to increase energy efficiency and reduce the burden for ratepayers. While there is a need for special programs and innovation, NJBIA feels it is necessary to try and coordinate programs so that Clean Energy is the program of first choice with other programs supplementing and complementing these efforts. We agree that there should be a consistent standardized method to determine the effectiveness and cost of programs that ratepayers are charged for. NJBIA appreciates staff recommendations to curtail costs to ratepayers/taxpayers while also streamlining programs.

NJBIA also recommends leveraging the BPU partnership with EPA Energy Star. While Clean Energy may not be a household brand, Energy Star is. Additionally, there are many resources available through Energy Star such as benchmarking for specific industries or fun ways to incentivize energy savings such as Battle of the Buildings. These tools should be publicized at a minimum on the website.

In regards to CHP, NJBIA has long been involved in the various iterations of incentives and program offerings. We look forward to a redesigned process that streamlines application, permit review and installation while providing necessary offsets to encourage these projects.

Furthermore, the Association is committed to working with the Board to find ways to retrofit our commercial and industrial office space in order to have a more efficient workplace. We see this as an area where great savings can be achieved in energy reduction and a reduced cost of doing business.

As always, NJBIA looks forward to working with Board staff and market managers to make the Clean Energy Program a robust tool to achieve efficiency for ratepayers.

Alexander C. Stern
Associate General Regulatory Counsel

Law Department
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PSEG Services Corporation

May 27, 2015

IN THE MATTER OF THE COMPREHENSIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE ANALYSIS FOR FISCAL YEAR 2016 CLEAN ENERGY PROGRAM -
DOCKET NO. QO15040476 and;

IN THE MATTER OF THE CLEAN ENERGY PROGRAMS AND BUDGET FOR THE FISCAL YEAR 2016 –
DOCKET NO. QO15040477

VIA ELECTRONIC MAIL
Irene Kim Asbury, Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, New Jersey 08625-0350
publiccomments@njcleanenergy.com

Re: "Straw CRA Proposal FY16"

Dear Secretary Asbury:

Pursuant to the Board's May 5, 2015 Notice in the above-referenced proceeding, enclosed on behalf of Public Service Electric and Gas Company please find the written comments provided by Jess Melanson, Director of Energy Services at the Board's May 22, 2015 public hearing on the New Jersey Clean Energy Program (NJCEP) Comprehensive Energy Efficiency and Renewable Energy Resource Analysis (CRA) for Fiscal Year (FY) 2016 and related programs and budgets for Fiscal Year 2016.

Respectfully submitted,

Alexander C. Stern

CRA Straw Proposal and Proposed Fiscal Year 2016 Budgets

IN THE MATTER OF THE COMPREHENSIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE ANALYSIS FOR FISCAL YEAR 2016 CLEAN ENERGY PROGRAM - DOCKET NO. QO15040476 and;

IN THE MATTER OF THE CLEAN ENERGY PROGRAMS AND BUDGET FOR THE FISCAL YEAR 2016 – DOCKET NO. QO15040477

Public Hearing Statement of
Jess Melanson, Director Energy Services, PSE&G
May 22, 2015

Good morning. My name is Jess Melanson, and I am Director of Energy Services at PSE&G. Thank you for the opportunity to speak this morning on the Comprehensive Resource Analysis Staff Straw Proposal for Fiscal Year 2016. PSE&G supports the work of the BPU's Office of Clean Energy in helping New Jersey achieve its energy policy goals, and believes developing a CRA is an important part of that process. The focus of my testimony this morning will not be on the details of Clean Energy Program funding, but more generally about the role utilities can play in helping deliver energy efficiency services to their customers, a topic that was addressed by the Utility Work Group referenced on page 29 of the straw proposal.

The usual introduction to PSE&G testimony describes our company as New Jersey's oldest and largest gas and electric utility serving nearly three quarters of the state's population, or the region's most reliable utility for 13 consecutive years. We take great pride in our performance in our core business; however, for today's

discussion, I would like to highlight the fact that PSE&G has also been delivering energy efficiency for over 25 years, helping hundreds of thousands of our customers lower their bills.

The basic takeaway of my testimony is that we would like to collaborate with the BPU and other stakeholders to expand upon this role and further help reduce bills, clean the environment and put more money back into New Jersey's economy.

The benefits of energy efficiency

Given the Clean Energy Program's commitment to delivering energy efficiency, I do not need to devote much time to why energy efficiency is good public policy; however, a few points are worth reinforcing.

The cheapest, cleanest energy is the energy you don't use. Nationally and in New Jersey EE has been achieved at a cost equivalent to 2 to 6 cents/kWh – significantly less than the cost of clean energy resources as well as traditional energy resources. Beyond its low cost, energy efficiency provides many other benefits – EE programs help customers fund new equipment that typically has lower operations and maintenance costs, is safer, is more reliable, and creates more comfort. In addition, energy efficiency is clean, it creates jobs, it increases New Jersey's economic competitiveness, and it puts money back into our economy.

Of course, we need a portfolio of resources to meet our reliability needs while continuing to reduce emissions, including efficiency, renewables and traditional generation. But given the benefits of energy efficiency, as well as pending federal clean power regulations, it makes sense to further increase the amount of energy efficiency in the State's portfolio.

Utilities can help drive energy efficiency

As New Jersey tries to rise up the state rankings for delivering energy efficiency, it is worth noting that of the top 15 states delivering energy efficiency, 13 have their utilities playing a prominent role. This makes sense because utilities have several natural advantages for delivering efficiency that can be leveraged:

- Brand and customer relationships: Utilities have strong, trusted relationships with their customers' and have conversations with them about energy every day.
- Access to energy usage data: Customer data can be used to better design, market and implement efficiency programs.
- Utility bill: Our bill is a convenient way to repay the costs of efficiency upgrades, and is particularly important for C&I customers to keep efficiency improvements off their balance sheets.
- Patient capital: Utilities and their investors are willing to deploy capital in this area and have a willingness to work with all customer segments.

- Universal access: Utility advantages are particularly powerful when accessing harder to reach customers, particularly those who are struggling to pay their bills.

Over the years, PSE&G has built a strong team dedicated to developing and delivering energy efficiency programs, while also creating jobs for a number of third party contractors and vendors. We have designed several award winning programs, including our recently extended Hospital and Multifamily programs. We are eager to build on these capabilities and expand our offerings. However, there are important policy issues that, if addressed, would allow utilities to better assist the state in meeting its energy efficiency goals.

For example, more clarity on utilities' role delivering energy efficiency would help all parties. Our utility programs have attempted to evolve along with changing state policy goals; however, the remaining uncertainty around the utility role means that our business only exists on a filing-to-filing basis. This makes it difficult to plan, staff, and more fully integrate the goal of saving customers energy into the day-to-day business of the utility.

We have some concern that language in the CRA could be interpreted as recommending that utilities play a more marginal role "deliver(ing) innovative programs that the State cannot." Many of PSE&G's programs have leveraged on-bill repayment, our call center for marketing, our Large Customer Service reps to facilitate implementation, our capital to reduce up-front costs, our data to improve

modeling and marketing, and our general experience working with all types of customers on energy issues to enhance our programs. Any of these approaches alone might not meet the definition of "innovative," but we believe they are a very effective way to leverage the utility's capabilities. In fact, Governor Christie's 2011 Energy Master Plan recognizes these advantages and the importance of EDCs leveraging them to help customers save energy.

Ultimately, we understand that there are pros and cons to both state-run and utility-run energy efficiency programs. And it is an option to have both, run in a complimentary fashion. However, in so doing, we urge you not to minimize the utility role and to take full advantage of our capabilities to drive a wide variety of impactful efficiency programs.

The continued involvement of utilities will also require that we address the lost sales disincentive that some utilities have to promote efficiency. We thank the BPU and Rate Counsel for working with us in our last filing on this issue, and would like to continue the dialogue. Simply put, any business would shy away from investing in a product that directly reduced its profits from another product. Until that issue is comprehensively addressed, utilities will earn less on efficiency than they do on other investments.

In closing, Public Service looks forward to continuing to work collaboratively with Board Staff, Rate Counsel, environmental partners, vendors, labor and other key stakeholders to expand the amount of energy efficiency we are

delivering in New Jersey. For over 110 years Public Service has succeeded by aligning its business success with the interests of our customers and the State's larger policy goals. We are eager to continue this tradition working together to drive greater efficiency in New Jersey.

Thank you for the opportunity to appear today and to provide these comments.

CRA Straw Proposal and Proposed Fiscal Year 2016 Budgets

IN THE MATTER OF THE COMPREHENSIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE ANALYSIS FOR FISCAL YEAR 2016 CLEAN ENERGY PROGRAM - DOCKET NO. QO15040476
and
IN THE MATTER OF THE CLEAN ENERGY PROGRAMS AND BUDGET FOR THE FISCAL YEAR 2016 - DOCKET NO. QO15040477

Comments of the Natural Resources Defense Council

The Natural Resources Defense Council (NRDC) respectfully submits these comments in connection with the above-referenced proceeding. NRDC is a not-for-profit organization with 2.4 million members and activists, over 60,000 of whom reside in New Jersey. NRDC's top priority is to help build a clean energy economy; state energy policy efforts such as these are a primary focus of our work. Thus, NRDC and our members have a keen interest in the outcome of the inquiry by the New Jersey Board of Public Utilities (the Board) into New Jersey's clean energy programs and investments. We also appreciate the efforts of the Board and staff to convene a robust dialogue among a wide variety of stakeholders through the Utility Working Group, in which we participated.

NRDC has deep expertise in the energy policy arena, including on utility regulatory issues and energy efficiency and renewable energy policies and programs. We have 40 years' experience working at the local, state, regional, national and international levels and have been involved in New Jersey since the late 1990s, during the run up to the Electric Discount and Energy Competition Act (EDECA) and the launch of the initial Comprehensive Resource Analysis (CRA) proceeding.

At that time New Jersey utilities offered a handful of fledgling, isolated energy efficiency programs, but in the ensuing years the utilities joined together to deliver a comprehensive package of statewide electric and gas efficiency programs, even before California was able to so. Working with top firms and advisors, the utility "collaborative" designed and implemented some of the best energy efficiency programs in the country; the US Environmental Protection Agency and others recognized their efforts with national awards and attention.

Unfortunately, over the years the programs have suffered numerous starts and stops, reinventions and shifts in program administration, which together have created gridlock and prevented the market managers from growing and improving the programs. Despite two decades of work and experience, program results are disappointing. New Jersey is meeting only ½% of load with energy efficiency. In comparison, Michigan and Arizona, two states that are relatively new to efficiency, are delivering three times the savings. National leaders such as Massachusetts and Rhode Island are delivering over 2% savings.

ACEEE 2015 State Spending and Savings Tables

Budgets for Electricity Efficiency Programs (2013)

State	2013 budget ($million)	% of statewide utility revenues
Alabama	10.8	0.14%
Alaska	0.0	0.00%
Arizona	143.2	1.86%
Arkansas	65.9	1.81%
California	1188.8	3.18%
Colorado	89.4	1.69%
Connecticut	102.4	3.28%
Delaware	2.4	0.19%
District of Columbia	14.0	1.06%
Florida	258.1	1.13%
Georgia	40.1	0.32%
Guam	0.0	0.00%
Hawaii	33.5	1.06%
Idaho	38.8	2.12%
Illinois	283.8	2.51%
Indiana	76.8	0.86%
Iowa	106.7	2.83%
Kansas	0.7	0.02%
Kentucky	44.0	0.70%
Louisiana	3.7	0.05%
Maine	34.2	2.43%
Maryland	205.9	2.85%
Massachusetts	507.7	6.42%
Michigan	165.5	1.43%
Minnesota	155.5	2.42%
Mississippi	7.5	0.17%
Missouri	48.2	0.65%
Montana	18.4	1.53%
Nebraska	13.8	0.53%
Nevada	50.5	1.59%
New Hampshire	27.4	2.24%
New Jersey	395.1	3.88%
New Mexico	23.1	1.08%
New York	593.9	2.65%
North Carolina	74.9	0.63%
North Dakota	0.0	0.00%
Ohio	212.8	1.56%
Oklahoma	38.7	0.84%
Oregon	171.3	4.32%
Pennsylvania	237.6	1.66%
Puerto Rico	0.0	0.00%
Rhode Island	77.5	8.55%
South Carolina	22.1	0.31%
South Dakota	5.1	0.48%
Tennessee	55.7	0.81%
Texas	181.4	0.56%
Utah	35.3	1.42%
Vermont	42.8	5.32%
Virgin Islands	0.0	0.00%
Virginia	0.8	0.01%
Washington	293.7	4.60%
West Virginia	9.0	0.37%
Wisconsin	79.9	1.09%
Wyoming	6.4	0.50%
US Total	6294.6	-
Median	43.4	1.09%

Net Incremental Savings* from Electricity Efficiency (2012)

State	2012 electric program savings (MWh)	Savings as % Retail Sales
Alabama	56045	0.06%
Alaska	1517	0.02%
Arizona	1244555	1.66%
Arkansas	142187	0.30%
California	3223733	1.25%
Colorado	419237	0.78%
Connecticut	322102	1.09%
Delaware	8450.1	0.07%
District of Columbia	24054	0.21%
Florida	587083	0.27%
Georgia	241261	0.18%
Guam	0	0.00%
Hawaii	120070	1.25%
Idaho	188245	0.80%
Illinois	1455652	1.02%
Indiana	615018	0.59%
Iowa	488279.52	1.07%
Kansas	8907	0.02%
Kentucky	401864	0.45%
Louisiana	20572.422	0.02%
Maine	136985	1.19%
Maryland	539640	0.87%
Massachusetts	980113	1.80%
Michigan	1198644	1.15%
Minnesota	662687.1	0.98%
Mississippi	36810	0.08%
Missouri	100644	0.12%
Montana	91474	0.66%
Nebraska	86527	0.29%
Nevada	188757	0.54%
New Hampshire	57938	0.53%
New Jersey	417493.8	0.55%
New Mexico	126195	0.54%
New York	1338060	0.94%
North Carolina	533404	0.42%
North Dakota	10330	0.07%
Ohio	1323498	0.87%
Oklahoma	99198	0.17%
Oregon	510993	1.10%
Pennsylvania	1533976	1.06%
Puerto Rico	0	0.00%
Rhode Island	119666	1.55%
South Carolina	273758	0.35%
South Dakota	29475	0.25%
Tennessee	302493	0.31%
Texas	686554	0.19%
Utah	219612	0.74%
Vermont	117649	2.14%
Virgin Islands	0	0.00%
Virginia	29923	0.03%
Washington	856137	0.92%
West Virginia	54105	0.18%
Wisconsin	460784	0.67%
Wyoming	23605	0.14%
US Total	22,715,959.9	
Median	219,612.0	0.54%

Net Incremental Savings from Electricity Efficiency (2013)

State	2013 electric program savings (MWh)**	Savings as % Retail Sales
Alabama	-	-
Alaska	-	-
Arizona	1317329	1.74%
Arkansas	227531	0.49%
California	1701601	0.66%
Colorado	472000	0.88%
Connecticut	285817	0.97%
Delaware	8809	0.08%
District of Columbia	52303	0.47%
Florida	-	-
Georgia	288140	0.22%
Guam	0	0.00%
Hawaii	159056	1.67%
Idaho	-	-
Illinois	1318916	0.99%
Indiana	-	-
Iowa	491543	1.06%
Kansas	-	-
Kentucky	437276	0.52%
Louisiana	-	-
Maine	92313	0.78%
Maryland	641322	0.97%
Massachusetts	1116442	2.05%
Michigan	1284863	1.51%
Minnesota	699998	1.04%
Mississippi	-	-
Missouri	406897	0.49%
Montana	-	-
Nebraska	53850	0.20%
Nevada	171369	0.81%
New Hampshire	58774	0.56%
New Jersey	418693	0.56%
New Mexico	126069	0.54%
New York	1617667	1.13%
North Carolina	718739	0.55%
North Dakota	-	-
Ohio	-	-
Oklahoma	156847	0.27%
Oregon	676046	1.43%
Pennsylvania	1410305	0.97%
Puerto Rico	0	0.00%
Rhode Island	161831	2.09%
South Carolina	298215	0.38%
South Dakota	21435	0.18%
Tennessee	273267	0.28%
Texas	693968	0.19%
Utah	264375	0.87%
Vermont	99074	1.78%
Virgin Islands	0	0.00%
Virginia	-	-
Washington	990143	1.35%
West Virginia	69241	0.22%
Wisconsin	619418	0.90%
Wyoming	-	-
US Total	19,901,483.6	
Median	352,556.0	0.79%

Available at: http://database.aceee.org/sites/default/files/docs/spending-savings-tables.pdf

This state of affairs is especially troubling in light of the fact that New Jersey has the most important ingredient needed for stellar performance: a brain trust of people with decades of experience designing, implementing, evaluating and improving programs, people who understand the technologies, the markets, the barriers to investment and the most effective strategies for overcoming them. It will not be very difficult to unleash that potential and catapult New Jersey to a position of national leadership if the Board commits to moving in this direction. Indeed, NRDC's Issue Paper *Scaling Up Energy Efficiency* illustrates how Michigan and Arizona have been able to do this even without that depth of experience by adopting supportive policies.

Stellar clean energy policies and programs will deliver a host of benefits to New Jersey:

- **Lower energy bills:**
  - By definition, cost-effective energy efficiency is cheaper than generating and delivering electricity or gas; greater reliance on the least-cost energy resource will lower energy bills statewide and in every segment of the market;
  - Energy efficiency reduces demand, putting downward pressure on wholesale prices and reducing energy costs for everyone;
  - Selling energy efficiency into the PJM capacity markets has already delivered huge cost savings and has the potential to reduce costs even further.
- **More jobs and economic development:**
  - Increasing investment in energy efficiency means sending fewer dollars out of state to import electricity and fuel, and instead using those dollars to employ local contractors, plumbers, electricians and architects to improve windows, insulation, appliances and equipment in every home, office, shop and factory in the state;
  - Reducing energy bills for residents and businesses frees up income to invest elsewhere in the economy, creating a second layer of economic benefits, especially for low-income customers who spend a disproportionate percentage of their income on energy.
- **Least-cost compliance**
  - Energy efficiency is the least-cost compliance strategy for the federal Carbon Pollution Standards and other Clean Air Act requirements.
- **Improved environmental quality and public health**
  - Delivering the same or better energy services with less power generation lowers pollution as well as cost, improving New Jersey's environment and quality of life for the state's residents.

New Jersey can realize these benefits by taking the following steps:

Adopt a regulatory framework that aligns consumer and utility interests – New Jersey should adopt a regulatory framework that rewards utilities for delivering reliable energy services to customers at least cost over the long-term with minimal environmental impact. Instead, for the most part, current regulations reward utilities for selling as much electricity or gas as possible, a system designed a hundred years ago to incent utilities to electrify the country. The Conservation Incentive Program (CIP) adopted by New Jersey

Natural Gas and South Jersey Gas, demonstrates the transformative power that an updated regulatory framework can bring to the utilities, but the CIP is restricted in ways that will limit its effectiveness if New Jersey substantially scales up energy efficiency investment, and it is not a model that is transferable to the electric sector. NRDC's issue paper, *Doing More and Using Less*, a copy of which accompanies these comments, sets out in detail the critical elements of a 21st Century regulatory framework that New Jersey should adopt in order to fully realize the benefits of energy efficiency. Regardless of whether or not the utilities administer energy efficiency programs themselves, it is critical that they be strong partners to the program administrator and support other efficiency efforts such as building energy codes and minimum performance standards for appliances and equipment.

- **Adopt long-term energy savings targets and performance incentives** – By definition, cost-effective energy efficiency is the least-cost resource. The Board should recognize this by directing utilities to invest in all cost-effective energy efficiency and by adopting long-term savings targets that ramp up to at least 2% of load per year over the next couple of years. The Board should also adopt performance incentives that reward program administrators for meeting or exceeding those targets and penalizing them when they fail to do so. This will drive investment in deep efficiency such as whole building retrofits rather than "cream skimming" programs that only target lighting. Such a directive will also remove the uncertainty that currently plagues utility investment in efficiency, preventing long-term planning and increasing costs.

- **Focus Board attention on policy and oversight.** The Board's strength is setting policy, not administering programs. It should focus its attention on articulating public policy goals (such as investing in all cost-effective energy efficiency), establishing the regulatory framework needed to achieve those goals (removing perverse utility incentives, setting savings targets and performance incentives) and ensuring that program administrators deliver high quality energy efficiency programs to all market segments, especially low-income households (measurement, evaluation and a continuous cycle of program improvement).

  The Utility Working Group met with top experts from all over the country including Lawrence Berkeley National Labs, the Regulatory Assistance Project and Vermont Energy Investment Corporation to learn about the pros and cons of different administrative structures and hear about what is and isn't working in a wide variety of states. Those conversations made very clear that the current structure in New Jersey is unworkable. State procurement rules are a major reason why; these rules are rigid for good reason, but they are not conducive to program administration, which requires the ability to execute contracts quickly and make adjustments in real time as market conditions and technologies change. The uncertainty and gridlock that results prevents long-term planning, which increases costs, hampers program effectiveness and hamstrings market managers, who have been unable to grow and improve programs over time. New Jersey's disappointing energy savings figures are the result.

- **Shift program administration to utilities.** The Utility Working Group was unable to complete its work and therefore did not make a recommendation regarding program administration. However we did identify objective criteria that are critical to success and determined that any administrator must be able to do the following:

    - procure and amend contracts in a timely fashion
    - plan over several years without stops and starts due to unstable funding or administrative barriers
    - adjust programs in real time as market conditions and technologies change
    - attract highly qualified personnel with technical and marketing experience
    - manage large amounts of data

  Utilities can do all of these things and have a very strong track record of success in New Jersey and many other states. In New Jersey, the utilities have already demonstrated that they can deliver a consistent package of programs statewide and work together efficiently to minimize administrative costs. Their knowledge of and access to customers is an enormous asset that no other administrator possesses, as are their brand names and the trust that customers have in them. The main concern that some Utility Working Group members raised is the conflict of interest caused by the current utility regulatory framework that rewards utilities for increasing sales, but as discussed above the Board has the power to address that conflict directly. Utilities respond to the regulatory framework in which they operate; if we reward good performance and penalize poor performance we can expect to see good performance. And we should reward performance (energy savings) not investment (dollars spent).

  Third party administrators can be very successful and have a great track record in Vermont and a few other states. But none of the experts that the Utility Working Group met with found New Jersey to be a good candidate for third party administration and several working group members believed that New Jersey could not move forward with third party administration absent enabling legislation.

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Doing More and Using Less:
Regulatory Reforms for Electricity and Natural Gas Utilities Can Spur Energy Efficiency

I. DELIVERING PERFORMANCE IMPROVEMENTS AND COST SAVINGS THROUGH EFFICIENCY

Using energy more efficiently in the nation's buildings, appliances, and equipment will allow us to achieve the same or better levels of comfort and performance while lowering energy bills, improving service reliability, creating jobs, and reducing pollution. However, progress toward these goals is being blocked by market barriers that hinder consumers' ability to make energy-efficient choices and regulatory barriers that discourage utilities from investing in efficiency—even though it typically costs less than half as much and carries less risk than competing energy investments.

Several tools are available for overcoming these barriers to realize the enormous benefits efficiency can provide for consumers. Chief among them are energy efficiency programs, minimum efficiency standards, and research and development. While all of these policies are critical to capture all cost-effective energy savings, this issue brief focuses specifically on the policies needed to support energy efficiency programs, one key element of an integrated effort to improve efficiency.

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Customers want energy services that are affordable, reliable, and environmentally sensitive. NRDC recommends that legislators, regulators, and governing boards of publicly owned and cooperatively owned utilities adopt the following policies to spur utilities to collaborate with their customers to take advantage of all cost-effective energy efficiency opportunities:

1. Make cost-effective energy efficiency the highest priority energy resource.

- Require utilities to procure all cost-effective energy efficiency before investing in other energy resources.
- Set aggressive energy saving and demand reduction targets to capture the full potential for cost-effective savings.

2. Align utility business models and financial incentives with customer interests in affordable energy services.

- Allow utilities to recover the prudently incurred costs of energy efficiency programs.
- Remove disincentives by breaking the link between recovery of authorized fixed costs and sales.
- Provide performance-based shareholder incentives for investor-owned utilities to ensure that investments in cost-effective energy efficiency opportunities are at least as attractive as alternative investments in generation and grid resources.

3. Conduct independent evaluation and measurement of energy savings, using processes and protocols that promote transparent decision making.

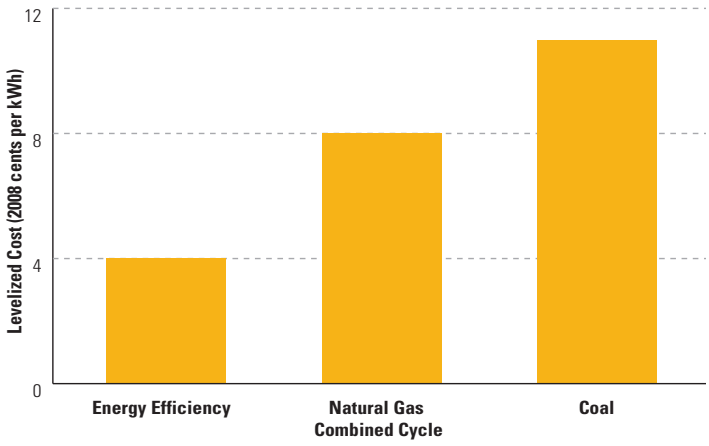
4. Ensure that energy efficiency program portfolios comprehensively address all major uses of energy by residential, business, and industrial customers and include programs targeted to assist lower-income households.

Energy efficiency provides the opportunity to do more by using less. We can jumpstart the clean energy economy, create jobs, save consumers and businesses money, improve air quality, and curb global warming by unlocking this enormous opportunity.

II. REALIZING THE ENERGY EFFICIENCY OPPORTUNITIES: LOWER ENERGY BILLS, MORE JOBS, AND LESS POLLUTION

A study by the global consulting firm McKinsey & Company found that investments in efficiency could realistically cut U.S. energy consumption by 23 percent by 2020. These efficiency gains could save consumers nearly $700 billion (net of the energy efficiency costs) and create as many as 900,000 direct jobs by 2020 and provide many more jobs as consumers reinvest their savings into the economy.[1] Other analyses have found an even larger potential for savings from efficiency nationwide.[2] In a typical household, efficiency improvements can save more than $700 per year, or one-third of the $2,200 average annual utility bill.[3]

Cost of Energy Efficiency Compared to New Generation in 2020



Sources: National Action Plan for Energy Efficiency (2006), U.S. Energy Information Administration (2010).

Energy efficiency is the cheapest resource utilities can use to meet their customers' needs and improve energy reliability and security. Efficiency programs around the nation generally cost less than 4 cents per kilowatt hour (kWh), which is less than half the cost of avoided supply-side resources.[4,5] And with every one dollar invested in efficiency programs usually providing customers with at least two dollars in benefits, efficiency makes a great investment.[6] Moreover, the full savings are even greater because energy efficiency also avoids the health and environmental costs of dirtier alternatives.

Energy efficiency is the least expensive and fastest way to cut pollution. The electricity and natural gas industries account for *more than half* of the nation's carbon dioxide emissions, the primary pollutant causing global warming.[7] Electricity generation is also responsible for a large portion of the nation's air and toxic pollution, including about two-thirds of sulfur dioxide emissions and 19 percent of nitrogen oxide emissions, which cause smog as well as respiratory and heart problems such as aggravating asthma and increasing the chance of heart attacks and strokes.[8] Electricity generation also contributes 72 percent of mercury air emissions,

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which is a potent neurotoxin that causes developmental problems.[9] The extraction of fossil fuels used to generate power and provide natural gas service causes additional global warming and air pollution, contaminates drinking water, and harms wildlife and their habitats.

Of the many important clean energy strategies needed to curb global warming, efficiency provides the single largest and most cost-effective opportunity to cut global warming pollution, all while providing enormous clean air, job creation, and economic benefits.[10]

III. BREAKING THROUGH THE BARRIERS TO ACHIEVE $700 BILLION IN POTENTIAL SAVINGS

As U.S. Secretary of Energy and Nobel Laureate Dr. Steven Chu put it, "Energy efficiency isn't just low-hanging fruit; it's fruit lying on the ground."[11] If $700 billion in savings are so easily within reach, one must wonder why households and businesses are not doing all they can to realize those savings. There is abundant evidence that market barriers are impeding consumers' ability to make energy-efficient choices and that outmoded regulatory barriers are discouraging utilities from making investments in efficiency even though they are generally cheaper and less risky than investments in power plants.[12]

Why Are Accurate Energy Prices Alone Not Sufficient to Spur Energy Efficiency?

Many studies show that non-price market barriers, such as inadequate information or time, are the reason abundant cost-effective savings are being left on the table. That means that even accounting for the very real health and environmental costs of our energy use (which energy prices do not do) would not be sufficient to ensure that customers take advantage of all cost-effective energy efficiency. Strong energy efficiency policies, programs, and standards are and will remain essential to capture all cost-effective efficiency savings.

Energy consumers face many barriers to improving efficiency, including inadequate information and—as everyone who has rushed to replace a broken water heater, furnace, or refrigerator knows—often insufficient time to make good efficiency decisions and a dearth of product options in local stores. Residential, business, and industrial customers may lack access to—or face competing demands for—the capital needed to make structural improvements or replace major pieces of equipment that will improve efficiency. Furthermore, decisions about efficiency are often made by people who do not pay the utility bills and therefore will neither reap the benefits of improved efficiency nor bear the cost of poor efficiency (landlords and renters provide a good example of this "split incentive"). These are just a few of the numerous and pervasive market barriers that stand in the way of adopting cost-effective energy efficiency. Experts and experience teach us that these barriers must be addressed by strong policies and effective, sustained programs to help customers capture the full benefits of energy efficiency.

Utilities can be crucial partners in the effort to overcome these barriers and help consumers increase energy efficiency, but most utilities around the country operate in a regulatory environment that provides unintended but powerful disincentives toward investing in energy efficiency. There are different types of utilities providing electricity and natural gas service to consumers around the country. Utilities can be privately owned by shareholders, publicly owned by federal, state, or local authorities, or cooperatively owned. In the electric utility industry, nearly 70 percent of customers are served by investor-owned utilities and nearly 30 percent are served by publicly owned or cooperatively owned utilities.[13] In some states, utilities own generation plants and transmission lines as well as the local power distribution system. In other states, utilities are distribution companies only. State regulators or governing boards, depending on the type of utility, set rates for electricity and natural gas and establish rules for service.

For most utilities, both public and private, the revenue they need to recover their authorized fixed costs for providing service (repaying debt is a good example) is linked to energy sales. Any reduction in sales from the levels assumed in setting rates threatens their financial health; conversely, any unpredicted increase in sales provides a windfall. Worse yet for investor-owned utilities, in most jurisdictions investments in efficiency offer no earnings opportunity and instead require utilities to forego potential earnings from new power plants, wires, or pipes that will no longer be needed.

Overcoming these barriers to align the best interests of customers and utilities and achieve all cost-effective efficiency opportunities is possible by implementing the proven policies and programs described in the following section.

The Power of Partnerships with Utilities to Achieve Energy Efficiency Goals

Utilities are responsible for making the day-to-day decisions and long-term investments needed to provide reliable and affordable service. Since helping customers use energy more efficiently is often the cheapest way to meet those goals, whether it be to keep the lights on in our homes or ensure the comfort of our offices, utilities should be investing in efficiency opportunities whenever doing so is cheaper than investing in new power plants, wires, or pipelines. Although consumers ultimately make the decisions about how efficiently they use energy in their homes and offices, utilities can be key efficiency partners—although by no means the only partner—since utilities reach every customer and have detailed knowledge of how energy is used.

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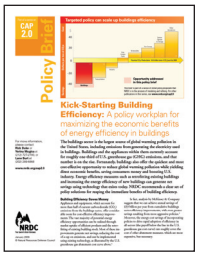
IV. ENCOURAGING STATE AND LOCAL POLICYMAKERS TO UNLOCK THE EFFICIENCY OPPORTUNITY

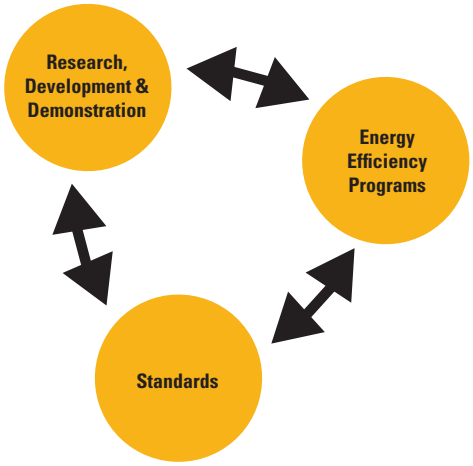
State legislators, regulators, and governing boards of publicly owned utilities have the tools necessary to unlock enormous savings from energy efficiency. (For federal policy recommendations see NRDC fact sheets *Unlocking the Power of Energy Efficiency in Buildings* and *Kick-Starting Building Efficiency.*)[14] While this issue brief focuses on the policies needed to support energy efficiency programs, capturing all cost-effective savings requires an integrated package of policies that includes:

Unlocking the Power of Energy Efficiency in Buildings



Kick-Starting Building Efficiency

Continually Improving Efficiency Through Integrated Policies



- sustained implementation of energy efficiency programs that provide information, assistance, and rebates to help consumers overcome the barriers they face;
- minimum efficiency standards to ensure that new buildings and appliances are not energy "guzzlers"; and
- research and development of new advanced technologies and practices.

Consumers want reliable energy services at the lowest reasonable cost and with the least possible environmental impact. Boosting energy efficiency is the best way to meet those objectives. Utilities, which reach every consumer, have intimate knowledge of how energy is used, and are the largest investors in the nation's energy infrastructure, must be partners in this endeavor. As part of their responsibility to maintain essential services that contribute to public health and safety, state and local policymakers are most often the ones to oversee utilities. These policymakers should update their policies and practices to enable utilities to become full partners with their customers and to invest in energy efficiency whenever it is the most cost-effective way to respond to consumer demand.

Many states have already implemented some or all of these policies, and they are reaping the benefits. The American Council for an Energy-Efficient Economy (ACEEE) regularly issues a "scorecard" analyzing states' progress on energy efficiency. Some states are on track to capture all cost-effective savings, but approximately half of the states in the nation are barely scratching the surface of the potential savings.[15]

Focusing Attention on Energy Services and Utility Bills Rather Than Energy Consumption and Rates

Energy services are essential to modern life and economies. Reliable energy services power everything from basics (e.g., light and heat) to modern electronics (e.g., computers and communication technologies), dramatically improving quality of life and driving our economic prosperity. Utility customers care about these energy services and how much they pay for them in their monthly bill, not the amount of energy they consume as measured in kilowatt-hours or therms. Adopting policies that encourage utilities to provide the best possible energy services at the lowest reasonable overall cost to customers is more important than focusing only on the lowest rate for each kWh or therm.

Energy efficiency offers a powerful tool to improve energy services, lower bills, and reduce pollution all at once.

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V. POLICY RECOMMENDATIONS FOR REFORMING UTILITY BUSINESS MODELS AND CAPTURING ALL COST-EFFECTIVE ENERGY EFFICIENCY

Policymakers, regulators, and utilities alike have recognized the enormous benefits of energy efficiency. But investments to provide the necessary information, assistance, and incentives to customers—even at $5.5 billion per year nationwide in 2010—are still only a fraction of those needed to reach the full potential.[16] Utilities need the right policy and regulatory signals to redirect investments away from more costly infrastructure and towards helping customers become more energy efficient.

While utilities are by no means the only important actor to achieve efficiency savings, their participation is critical. Without utilities as partners, any energy efficiency effort would be "swimming upstream" against the powerful incentives to increase sales faced by most utilities today.

Who Should Administer the Efficiency Program Portfolio?

Different states have enlisted different entities, including utilities, non-profit organizations, and state agencies, to administer their efficiency program portfolios. The best structure depends on the specific circumstances in a jurisdiction; different approaches have worked well in different states and regions. Regardless of whether or not the utilities themselves administer the efficiency programs, they must be full partners with the administrators—and bring their relationships, knowledge, and investments—to enable the programs to reach their full potential. All the policies discussed in this issue brief remain essential regardless of what entity administers the efficiency programs.[17]

How can regulators and public power governing boards change the framework within which utilities operate to enable utilities and their customers to take full advantage of energy efficiency and its benefits? NRDC recommends the following policies:

1. MAKE COST-EFFECTIVE ENERGY EFFICIENCY THE HIGHEST PRIORITY ENERGY RESOURCE.

As the cheapest, cleanest resource available to meet customers' energy service needs, legislators, regulators, and governing boards should adopt clear directives making cost-effective energy efficiency utilities' first-priority resource and should set aggressive energy savings targets.

A. Require utilities to procure all cost-effective energy efficiency before investing in other resources.

Utilities manage portfolios of resources to meet customers' energy needs, often including numerous sources such as energy efficiency, demand response, renewable energy, fossil-fuel-fired power plants, and transmission. Regulators and governing boards should require utilities to demonstrate that they are planning to invest in all cost-effective energy efficiency *before* authorizing investments in other more expensive and dirtier resources. By definition, cost-effective energy efficiency is cheaper than alternative investments, so making it the first priority can help ensure utilities take advantage of the cheapest resource first.

Assembling the most reliable, least risky, and lowest-cost portfolio requires integrated planning over time horizons that extend 10 to 20 years or longer. Energy efficiency can be a significant resource in such integrated portfolios, providing a resource equivalent to at least 10 to 20 percent of annual electricity sales within a decade and continuing to grow over time.[18] Efficiency lowers the cost of providing service, diversifies the portfolio, improves reliability, and reduces risk. As such, efficiency should not be considered just a social program operating on the sidelines and instead should be fully integrated into utilities' planning and procurement.[19]

B. Set aggressive energy saving and demand reduction targets to capture the full potential for cost-effective savings.

To ensure that utilities take advantage of all cost-effective energy efficiency, policymakers should set annual targets for energy savings and demand reduction. These targets should be based on rigorous analyses of the achievable cost-effective potential in each utility's service territory and should require utilities to aggressively ramp up their programs to capture the full potential.[20] Sustained efficiency programs steadily accumulate savings every year, growing to be a significant resource in short order. The steady growth in energy savings can make efficiency particularly valuable compared to "lumpy" investments in new power plants that may have a portion of their capacity sit idle for years until the full resource is needed.

Two important indicators to determine whether an efficiency program portfolio is adequately aggressive are: (1) the energy savings relative to the available cost-effective potential and (2) the energy savings and targets relative to achievements and targets in other jurisdictions. Aggressive efficiency programs around the country today typically achieve net annual first-year savings of at least 1 to 2 percent of annual electricity sales and 1 to 1.5 percent of annual natural gas sales.[21] Achieving these savings typically requires investments of at least 2 to 4 percent of electric utility revenues and 1 to 2 percent of natural gas utility revenues in efficiency programs.[22] Many leaders

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around the country are now aiming even higher, setting more aggressive targets, and realizing greater savings.[23] And since energy efficiency program savings are measured relative to minimum requirements established by building codes and appliance efficiency standards or standard market practice, savings from efficiency programs should be expected to be even higher in states that have not implemented stringent building codes or appliance efficiency standards. Upgrades to building codes and appliance efficiency standards should count towards achieving the energy saving targets, and targets should be set high enough to encompass savings that can be achieved through both efficiency programs and improvements in standards.

Taking a Comprehensive Look at Cost Effectiveness

A cost-effective portfolio of energy efficiency programs provides benefits that outweigh its costs, as measured by the Total Resource Cost (TRC) test. The TRC analysis takes a comprehensive view of these costs and benefits by including the total incremental costs of the energy-efficient measures that are installed (regardless of who pays for them) and the cost of implementing the efficiency programs and then compares that total with the benefits provided to the participant and all the utility's customers such as the avoided supply-side resource costs, including generation, transmission, distribution, and environmental costs.[24] A cost-effective portfolio of energy efficiency programs, as determined by the TRC test, helps meet the overarching objective of providing customers with reliable energy services at the lowest total cost.

NRDC recommends that regulators and governing boards require only that the portfolio of energy efficiency programs taken as a whole be cost-effective, with some flexibility to allow inclusion in the portfolio of individual programs or measures that when judged by cost alone might be less attractive, but enable program administrators to take comprehensive and innovative approaches to improving efficiency.

Regulators and governing boards should also avoid using cost-effectiveness tests that are too narrow in perspective. For example, the Ratepayer Impact Measure (RIM) test focuses only on short-term rate impacts for customers who do not participate in the efficiency programs. Because it uses such a narrow perspective, it often eliminates numerous highly cost-effective efficiency measures that, if adopted, will reduce customers' energy bills, lower overall energy costs, and put downward pressure on rates for all customers over the long term. Instead of only focusing on short-term rate impacts, regulators and governing boards should aim to minimize the total cost to all customers receiving reliable energy services. Just as investments in supply-side resources do not hinge on the impact on "non-participants" in load growth, investments in cost-effective demand-side resources should not depend on having no impact on any customer. Robust energy efficiency programs should ensure that all customers have an opportunity to participate and lower their bills.

2. ALIGN UTILITY BUSINESS MODELS AND FINANCIAL INCENTIVES WITH CUSTOMER INTERESTS IN AFFORDABLE ENERGY SERVICES.

All utilities have an obligation to maintain financial health. While public utilities only have debt investors, and private utilities have both debt and equity investors, both types of utilities have similar obligations to those who have provided capital to create and maintain their distribution, transmission, and/or generation systems. Under traditional policies and regulation, aggressive energy efficiency efforts can threaten both public and private utilities' ability to meet those financial obligations, creating unintended but powerful disincentives for investments in energy efficiency.

Regulators and governing boards should update these policies to ensure utilities' incentives are fully aligned with those of their customers in receiving reliable and affordable energy services, and to enable utilities to meet their financial obligations while taking advantage of the lowest-cost resource that efficiency provides for customers.

A. Allow utilities to recover the prudently incurred costs of energy efficiency programs.

Since energy efficiency programs are an important part of how utilities can cost-effectively meet their customers' energy service needs, regulators and governing boards should authorize utilities to recover the prudently incurred costs of implementing a well-designed portfolio of efficiency programs. Different jurisdictions use various ratemaking mechanisms to enable utilities to recover these costs, including authorizing efficiency program costs in general rate cases, as separate surcharges, or as part of general procurement costs. Since most of the costs relate to customer participation in programs, which can be hard to predict, cost recovery methods should allow the utility to meet all demand under the programs without providing the utility with excess revenue if participation is less than expected. Regardless of the specific mechanism used, regulators and governing boards should adopt mechanisms to assure utilities that they will recover prudently incurred costs on a timely basis.[25]

Regulators and boards can either authorize utilities to expense energy efficiency program costs as they are incurred or to capitalize them for amortization over some period of years (in a manner similar to capital investments in power plants, pipes, and wires). Expensing is generally preferable to capitalizing efficiency program costs for two key reasons: First, it minimizes rate impacts, since costs are recovered as they are incurred (just as many utilities are allowed to recover the costs of fuel and power in the same year they are incurred) and the costs

are not accumulated in unrecovered balances that get steadily bigger as additional programs are added over time. Second, capitalization requires that the private or public utility obtain cash from investors to fund the program, which requires a return to the investor in the form of interest and/or profit. If investor-owned utilities earn a rate of return on the capitalized costs, it provides an incentive to *spend* more money rather than to save more energy; expensing avoids this perverse incentive, and should be paired with performance-based incentives for investor-owned utilities to better align shareholder incentives with customer interests.

B. Remove disincentives by breaking the link between sales and recovery of authorized fixed costs.

For most utilities, both public and private, energy sales drive the revenues they need to recover authorized fixed costs of service; the more electricity and natural gas they sell, the higher their revenues to cover both their fixed and variable costs. Therefore, any reduction in sales from the levels assumed in setting rates threatens their financial health and any increase in sales has the opposite effect. This creates a powerful disincentive for investments and other utility involvement in energy efficiency efforts. Eliminating this disincentive is essential regardless of whether or not the utility itself administers the efficiency programs; efficiency efforts will be significantly impeded if they have to compete against utilities with powerful incentives to increase sales.[26]

Much of a typical utility's cost of serving customers is independent of energy use in the near term (e.g., paying for generation, transmission, and distribution equipment already installed).[27] But since customers pay bills based on how much energy they use, increases or decreases in consumption will affect *recovery* of these fixed costs, even though the costs themselves do not change. Although some may be tempted to respond by converting fixed costs into fixed charges, it would be counterproductive; higher fixed charges would significantly reduce customers' rewards for reducing energy use and have a regressive impact, making it even harder to provide affordable bills for low-income consumers. Fortunately, there is a straightforward and effective solution that makes the recovery of fixed costs independent of energy sales, while maintaining volumetric rates that give customers the incentive to conserve or use energy efficiently (i.e., continuing to have customers pay bills based on how much energy they use).[28]

Regulators and governing boards can use regular, small adjustments in rates (typically less than 3 percent up or down) to ensure that utilities recover their authorized fixed costs—no more and no less.[29] The small rate adjustments correct for differences between *actual* sales volumes and the *projected* sales that were used to set a utility's rates, either restoring to the utility or giving back to customers the money that was under- or over-collected as a result of fluctuations in retail sales. This ensures that utilities: (1) recover the prudently incurred fixed costs that were approved by their regulator or governing board; (2) do not make a windfall by encouraging higher sales; and (3) are not penalized when energy efficiency programs and other demand-side efforts reduce sales. Regulators around the country have adopted this policy at an accelerating pace over the last few years; half the states in the nation now have policies to break the link between recovery of fixed costs and sales for natural gas and/or electric utilities.

C. Provide performance-based shareholder incentives for investor-owned utilities to ensure that cost-effective energy efficiency opportunities are at least as attractive as investments in generation and grid resources.

Investor-owned utilities (IOU) have a fiduciary responsibility to their shareholders, and the financial incentives created by regulations guide their decision-making and investments. All regulation creates financial incentives for IOUs, so the question for regulators is not *whether* to adopt incentives but how to *align* them with the public interest. Regulators should make investing in the lowest cost, least risky, and most environmentally sensitive portfolio of resources the most profitable option for utilities. The National Association of Regulatory Utility Commissioners' recommendation to its members more than two decades ago to "ensure that the successful implementation of a utility's least-cost [investment and procurement] plan is its most profitable course of action" remains an urgent priority today.[30]

Investor-owned utilities already have incentives to invest in power plants, pipes, and wires. There must now be comparable incentives for cost-effective energy efficiency in order to "level the playing field." Policy directives alone can spur a modest level of efficiency programs, but to be aggressive in developing a long-term commitment to increasing customer energy efficiency, regulators must align those policy directives and financial incentives to encourage utilities to evolve their core business model.

For incentive mechanisms to be effective, they should: (1) be based on verified *performance*, not investments; (2) create a *win-win* opportunity for customers and shareholders; (3) provide a balance of potential *risks* and *rewards*; and (4) align with policy goals such as maximizing net benefits to customers. States have used different types of incentive mechanisms to spur energy efficiency.[31] Most either provide utilities an opportunity to earn a reward based on how much they spend on efficiency programs, or to share in the savings they provide customers through efficiency programs. The problem with the former approach, which treats efficiency investments similar to power plant investments, is that it rewards utilities for *spending* money, not *saving* customers money. NRDC recommends the latter performance-based "shared savings" mechanisms as they are the only type that meet all of the principles described above to align shareholder and customer interests.[32]

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A shared savings mechanism should provide investor-owned utilities an earnings opportunity by offering shareholders a portion of the net benefits customers receive (that is, the benefits from avoiding costlier energy sources less the cost of the efficiency programs) as a reward for excellent performance at saving energy and lowering customer bills, provided minimum performance thresholds are met. The utilities' performance should be measured based on verified savings that have been independently evaluated. Certain factors, such as estimates of "free riders" (program participants who would have made the efficiency upgrade even without the program) and "free drivers" (energy savings from customers who were influenced by the program but did not formally participate), should be determined upfront in the program design and planning process and fixed for the program cycle. Regulators should assess the utilities' performance and determine any rewards on a regular schedule and the total potential incentives should be capped to ensure that they stay within expectations for both shareholders and customers. With this type of mechanism, the more utilities help their customers save, the more they can earn.

3. CONDUCT INDEPENDENT EVALUATION AND MEASUREMENT OF ENERGY SAVINGS, USING PROCESSES AND PROTOCOLS THAT PROMOTE TRANSPARENT DECISION MAKING.

Regulators and governing boards should ensure that the efficiency programs' savings are measured and evaluated on a regular basis by independent, qualified experts. Professional evaluators use a variety of methods, including statistical billing analyses and engineering analyses using verified field data, to evaluate program energy and demand savings.[33] Regulators and governing boards should provide guidelines and evaluation protocols to ensure the evaluations are conducted in a transparent and collaborative manner and to ensure that methodologies and results are consistent with evaluations that are conducted in other jurisdictions. The results of these "impact evaluations" are critical to:

- ensure that utilities can use the savings as a reliable resource in place of supply-side generation, wires, and pipelines;
- properly account for the savings in utility planning and demand forecasting;
- measure the efficiency programs' performance relative to targets;
- confirm the efficiency programs' cost-effectiveness;
- improve program performance;
- assess investor-owned utilities' performance when implementing shared-savings performance-incentive mechanisms; and
- quantify emission reductions achieved by the programs.

Additional evaluations, such as "process evaluations" and "market assessments" are also essential to understand the many markets for energy efficiency products and services and to continually improve program designs.

4. ENSURE THAT ENERGY EFFICIENCY PROGRAM PORTFOLIOS COMPREHENSIVELY ADDRESS ALL MAJOR USES OF ENERGY BY RESIDENTIAL, BUSINESS, AND INDUSTRIAL CUSTOMERS, AND INCLUDE PROGRAMS TARGETED TO ASSIST LOWER-INCOME HOUSEHOLDS.

Given the many different ways consumers use energy, the opportunities to improve efficiency are numerous and varied, requiring a multifaceted approach to capture all cost-effective savings. A comprehensive program portfolio should address the needs of every customer class, overcome barriers in each market segment, and include a comprehensive set of efficiency measures.

For example, different programs should be targeted to help residential and various non-residential customers and to take advantage of the opportunities that arise when constructing new buildings and retrofitting existing buildings. Programs should help overcome market barriers standing in the way of all efficiency measures, ranging from residential appliances, consumer electronics, or industrial motors and processes, to name a few. In addition, program portfolios should take a comprehensive approach to capture efficiency opportunities, including validating new efficiency opportunities from emerging technologies, providing technical support to upgrade building and appliance efficiency standards, providing education and workforce training, working with key partners including local governments, exploring pilot programs, and offering competitive solicitations for innovative technologies and programs.

Specific programs should also be targeted to meet the needs of lower-income households, as energy efficiency is a powerful way to make energy bills more affordable for these families. Low-income efficiency programs provide large benefits by: (1) immediately lowering participating households' utility bills and improving the comfort of their homes and (2) reducing the amount other utility customers spend to fund bill payment assistance programs.

While the diverse program offerings to capture all cost-effective savings can appear daunting at first, there are numerous resources on best practices for efficiency programs and many expert consultants with decades of experience that regulators, boards, and efficiency portfolio administrators can look to for help starting or expanding their efficiency programs.[34]

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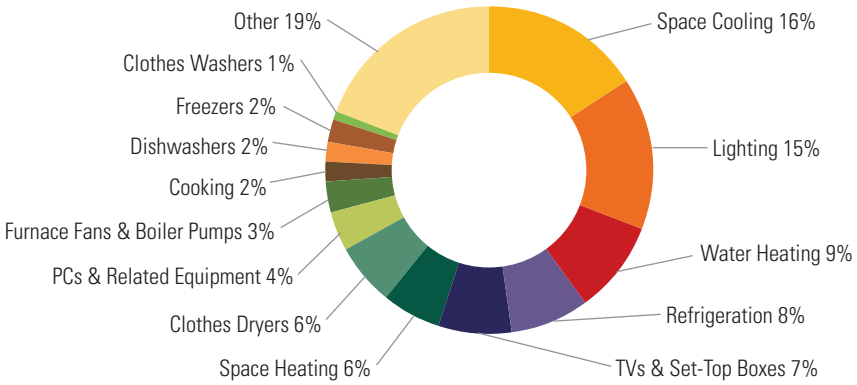
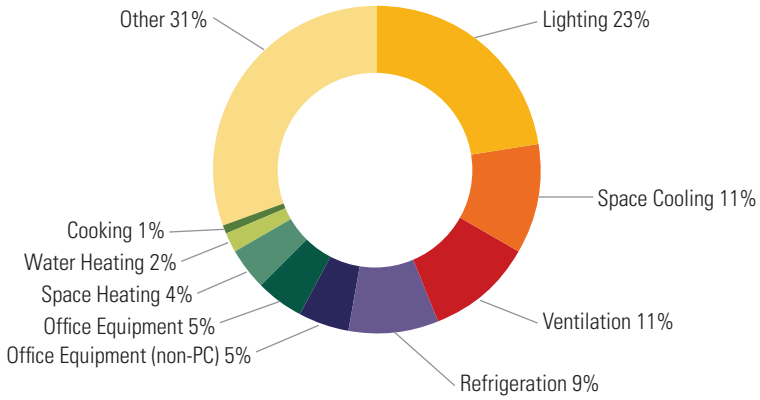
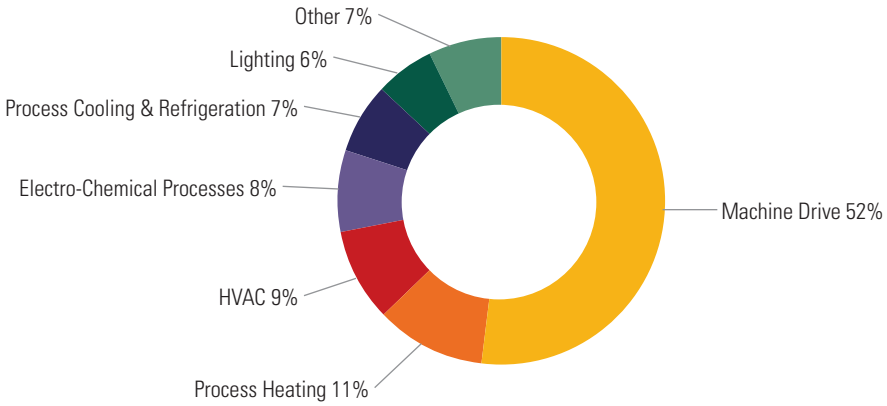
Residential Electricity Consumption, by End Use (2008)



Commercial Electricity Consumption, by End Use (2008)



Manufacturing Electricity Consumption, by End Use (2006)



Note: Percentages may add up to more than 100% due to rounding.
Source for all three graphics: U.S. Energy Information Administration[35]

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VI. CONCLUSION

Energy efficiency provides the opportunity to do more by using less. Efficiency is the smartest way to cut energy consumption, lower utility bills, create jobs, and jumpstart the transition to a clean energy economy. And efficiency is the most cost-effective way to improve air quality and curb global warming, with investments paying for themselves and yielding greater savings.

Exploring Further Resources for Boosting Energy Efficiency

The following are key resources to help legislators, regulators, and governing boards reform utilities' business models to unlock this enormous opportunity.

- *National Action Plan for Energy Efficiency*, July 2006, www.epa.gov/cleanenergy/documents/suca/napee_report.pdf.
- Granade H.C. et al, *Unlocking Energy Efficiency in the U.S. Economy*, McKinsey & Company, July 2009, www.mckinsey.com/clientservice/electricpowernaturalgas/US_energy_efficiency/.
- U.S. Department of Energy, *State and Regional Policies that Promote Energy Efficiency Programs Carried Out by Electric and Gas Utilities: A Report to the United States Congress Pursuant to Section 139 of the Energy Policy Act of 2005*, March 2007, www.oe.energy.gov/DocumentsandMedia/DOE_EPAct_Sec_139_Rpt_to_CongressFINAL_PUBLIC_RELEASE_VERSION.pdf.
- Creyts, J. et al, *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?* McKinsey & Company, December 2007, www.mckinsey.com/clientservice/ccsi/greenhousegas.asp.
- NRDC Policy Brief, "Cap 2.0: Policy Solutions for Curbing Global Warming and Building the Clean Energy Economy," April 2009, www.nrdc.org/globalWarming/cap2.0/synthesis.asp.
- Kushler, M., D. York, and P. White, *Meeting Aggressive New State Goals for Utility-Sector Energy Efficiency: Examining Key Factors Associated with High Savings*, American Council for an Energy-Efficient Economy, Report U091, March 2009, www.aceee.org/research-report/u091.
- Molina M. et al, *The 2010 State Energy Efficiency Scorecard*, American Council for an Energy-Efficient Economy, Report E107, October 2010, www.aceee.org/research-report/e107.
- Harrington, C. et al, *Energy Efficiency Policy Toolkit*, The Regulatory Assistance Project, January 2007, www.raponline.org/docs/RAP_Harrington_EEPolicyToolkit_2007_01_04.pdf.
- Consortium for Energy Efficiency, "Ask the Experts" series for program administrators, www.cee1.org/cee/mtg/ask-the-experts.

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[3] U.S. Environmental Protection Agency, ENERGY STAR, "Where Does My Money Go?" www.energystar.gov/index.cfm?c=products.pr_where_money, accessed April 2010.

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[5] U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2010*, DOE/EIA-0383(2010), April 2010, Figure 63, www.eia.doe.gov/oiaf/aeo/index.html. Levelized electricity costs for new power plants in 2020 include capital costs, fixed costs, variable costs including fuel, and incremental transmission costs.

[6] Friedrich, K. et al, *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved Through Utility-Sector Energy Efficiency Programs*, American Council for an Energy-Efficient Economy, Report U092, September 2009, www.aceee.org/research-report/u092.

[7] Electricity generation is responsible for about 40% of U.S. carbon dioxide emissions, and natural gas used in homes, businesses and industries is responsible for about 14%. In 2008, natural gas used in the residential, commercial, and industrial sectors emitted 265, 170, and 394 million metric tons of CO_2 (MMTCO2), respectively. In 2008, electricity generation emitted 2,364 MMTCO2. Total U.S. CO_2 emissions in 2008 were 5,921 MMTCO2. U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008*, April 15, 2010, Table ES-3 and Table 3-5, www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010_Report.pdf.

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[12] See, e.g., Golove, W.H. and J.H. Eto, *Market Barriers to Energy Efficiency: A Critical Reappraisal of the Rationale for Public Policies to Promote Energy Efficiency*, Lawrence Berkeley National Laboratory, LBL-38059, March 1996, http://eetd.lbl.gov/EA/emp/reports/38059.pdf. Western Governor's Association Clean and Diversified Energy Advisory Committee's Energy Efficiency Task Force, *The Potential for More Efficient Electricity Use in the Western United States*, December 19, 2005, www.naesco.org/resources/industry/documents/2005-11-18.pdf. Kushler M. and P. Witte, *Can We Just "Rely on the Market" to Provide Energy Efficiency? An Examination of the Role of Private Market Actors in an Era of Electric Utility Restructuring*, American Council for an Energy-Efficient Economy, Report U011, September 2001, www.aceee.org/research-report/u011. Cavanagh, R., "Energy Efficiency in Buildings and Equipment: Remedies for Pervasive Market Failures," for the National Commission on Energy Policy, December 1, 2004, www.energycommission.org/files/finalReport/III.1.a%20-%20Remedies%20for%20Failures.pdf. Brown, M.A. and S.J. Chandler, *Governing Confusion: How Statutes, Fiscal Policy, and Regulations Impede Clean Energy Technologies*, Georgia Institute of Technology, Working Paper #28, http://smartech.gatech.edu/bitstream/1853/23053/1/wp28.pdf. Goldstein, D.B., *Saving Energy, Growing Jobs: How Environmental Protection Promotes Economic Growth, Competition, Profitability and Innovation*, Bay Tree Publishing, April 25, 2007.

[13] American Public Power Association, *2009-10 Annual Directory & Statistical Report*, p. 18, www.APPAnet.org.

[14] Building energy efficiency standards are set by state or local authorities. While appliance efficiency standards are generally set by the federal government, states can set standards for appliances the federal government does not regulate or get a waiver from preemption to set their own stronger state standards for federally regulated products. Federal policy also plays important role in supporting state efforts to expand energy efficiency programs. For a brief discussion of NRDC's recommendations for federal energy efficiency policy, see, NRDC, "Unlocking the Power of Energy Efficiency in Buildings," December 2008, www.nrdc.org/energy/unlocking.pdf; and NRDC, "Kick-Starting Building Efficiency: A policy workplan for maximizing the economic benefits of energy efficiency in buildings," January 2009, www.nrdc.org/globalWarming/cap2.0/files/kick.pdf.

[15] Molina, M. et al, *The 2010 State Energy Efficiency Scorecard*, ACEEE Report E107, October 2010, www.aceee.org/research-report/e107.

[16] Caracino, J., *The State of the Efficiency Program Industry: 2009 Expenditures, Impacts and 2010 Budgets*, Consortium for Energy Efficiency, December 10, 2010, www.cee1.org/ee-pe/2010AIR.php3. Barbose, G. et al, *The Shifting Landscape of Ratepayer Funded Energy Efficiency in the U.S.*, Lawrence Berkeley National Laboratory, LBNL-2258E (July 2009). McKinsey & Company, Unlocking Energy Efficiency in the U.S. Economy, July 2009, www.mckinsey.com/clientservice/electricpowernaturalgas/US_energy_efficiency/.

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[18] Nadel, S., A. Shipley and R.N. Elliott, *The Technical, Economic and Achievable Potential for Energy-Efficiency in the U.S.– A Meta-Analysis of Recent Studies*, American Council for an Energy-Efficient Economy, in the proceedings of the 2004 ACEEE Summer Study on Energy Efficiency in Buildings, August 2004, www.aceee.org/conf/04ss/rnemeta.pdf. National Action Plan for Energy Efficiency, "Energy Efficiency: Reduce Energy Bills, Protect the Environment," www.epa.gov/cleanenergy/documents/suca/consumer_fact_sheet.pdf.

[19] For more information on integrating efficiency into utility resource planning and procurement, see National Action Plan for Energy Efficiency, *Guide to Resource Planning with Energy Efficiency*, prepared by S. Price et al., Energy and Environmental Economics, Inc., 2007, www.epa.gov/cleanenergy/energy-programs/suca/resources.html.

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[21,22] See, for example, Molina, M. et al, *The 2010 State Energy Efficiency Scorecard*, ACEEE Report E107, October 2010; Nadel, S., Energy Efficiency Resource Standards: Experience and Recommendations, ACEEE Report E063, March 2006; Sciortino, M., "State Energy Efficiency Resource Standard (EERS) Activity," December 2010, www.aceee.org/fact-sheet/state-energy-efficiency-resource-standard-eers-fact-sheet-u; Kushler, M. et al, *Meeting Aggressive New State Goals for Utility-Sector Energy Efficiency: Examining Key Factors Associated with High Savings*, ACEEE Report U091, March 2009; and Eldridge, M. et al, The 2009 State Energy Efficiency Scorecard, ACEEE Report E097, October 2009. Illinois law, for example, sets targets increasing to 1% of natural gas sales per year beginning in 2016 and increasing to 1.5% of sales by 2020 (220 ILCS 5/8-104(c)).

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[23] States are increasingly adopting goals and achieving electric savings of 2% to 3% of sales per year or higher and investing more than 4% of electric revenues. For example, Efficiency Vermont reports that it achieved electric savings of 2.5% of sales in 2008 (Efficiency Vermont, *Annual Report 2008*, www.efficiencyvermont.com/stella/filelib/2008_Efficiency_Vermont_Annual_Report.pdf, and personal communication with George Twigg, Efficiency Vermont, August 27, 2010), Massachusetts has a goal to save 2.4% of electric sales by 2012 ("Patrick-Murray Administration Announces Final Approval of Nation-Leading Energy Efficiency Plans," Press Release, January 29, 2010, www.mass.gov/?pageID=eoeeapressrelease&L=1&L0=Home&sid=Eoeea&b=pressrelease&f=100129_pr_nation_leading_ee&csid=Eoeea), Illinois law sets a target of 2% of electric sales per year beginning in 2015 (220 ILCS 5/8-103(b)), Arizona utilities have a goal to reach 22% of annual electric sales from energy efficiency in 2020 ("Commission Gives Final Approval to Energy Efficiency Rules," Arizona Corporation Commission, July 27, 2010, www.azcc.gov/Divisions/Administration/news/100727Energy%20Efficiency.pdf.), and Idaho Power Company and Rocky Mountain Power invest more than 4% of revenues in energy efficiency (Idaho Power Company, "Energy Efficiency Rider," I.P.U.C. No. 29, Tariff No. 101, Third Revised Sheet No. 91-1, June 1, 2009, www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0905/FINAL%20APPROVED%20SCHEDULE%2091.PDF; Rocky Mountain Power, Electric Service Schedule No. 193, P.S.C.U. No. 47, Sixth Revision of Sheet No. 193.2, "Demand Side Management (DSM) Cost Adjustment," June 8, 2010, www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/About_Us/Rates_and_Regulation/Utah/Approved_Tariffs/Rate_Schedules/Demand_Side_Management_%28DSM%29_Cost_Adjustment.pdf). For further discussion of aggressive state energy efficiency targets, see Furrey, L.A., S. Nadel, and J.A. Laitner, *Laying the Foundation for Implementing a Federal Energy Efficiency Standard*, ACEEE Report E091, March 2009, www.aceee.org/research-report/e091.

[24] For a general discussion of the TRC test and what costs and benefits are included in its calculation, see *National Action Plan for Energy Efficiency*, July 2006, pp. 6-22 and 6-23, www.epa.gov/cleanenergy/documents/suca/napee_report.pdf. For more detailed discussions of cost-effectiveness methodologies, see California Public Utilities Commission, *California Standard Practice Manual: Economic Analysis of Demand Side Programs and Projects*, October 2001, www.energy.ca.gov/greenbuilding/documents/background/07-J_CPUC_STANDARD_PRACTICE_MANUAL.PDF; National Action Plan for Energy Efficiency, *Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers*, Energy and Environmental Economics, Inc. and Regulatory Assistance Project, November 2008, www.epa.gov/cleanenergy/energy-programs/suca/resources.html.

[25] For more discussion of mechanisms for utilities to recover the cost of efficiency programs, see National Action Plan for Energy Efficiency, *Aligning Utility Incentives with Investments in Energy Efficiency*, November 2007, Chapter 4, www.epa.gov/cleanenergy/energy-programs/suca/resources.html.

[26] Regulatory Assistance Project Issue Letter, "The Role of Decoupling Where Energy Efficiency is Required by Law," September 2009, http://www.raponline.org/docs/RAP_Schwartz_IssuesletterSept09_2009_08_25.pdf

[27] Typically, more than three-fifths of the retail value of kilowatt-hours and one-fourth of the retail value of therms represent fixed costs.

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NRDC ISSUE BRIEF

MARCH 2013
IB: 13-02-B

http://www.nrdc.org/energy/scaling-up-energy-efficiency.asp

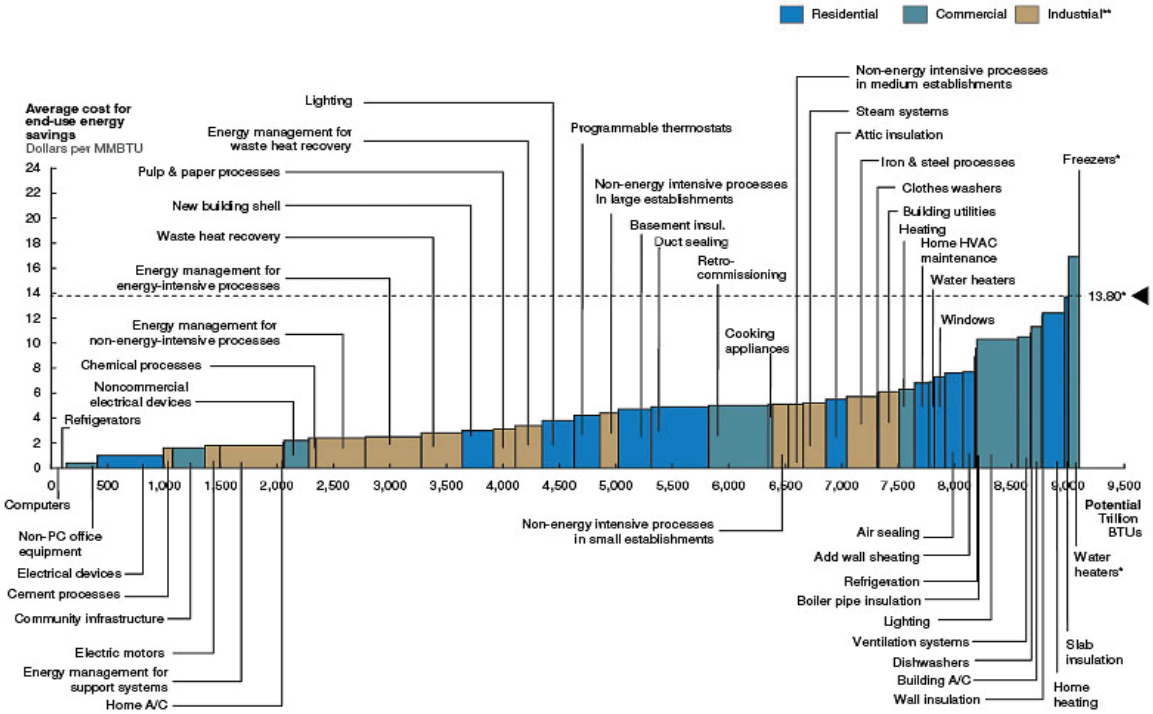
Scaling Up Energy Efficiency: Saving Money, Creating Jobs, and Slashing Emissions

Energy efficiency is a proven resource with significant potential to dramatically reduce power plant emissions and to do so at low cost. Power plants represent 40 percent of the nation's total climate-changing pollution. NRDC's innovative proposal to slash this pollution, *Closing the Power Plant Carbon Pollution Loophole*, illustrates this potential. Meanwhile, more than half of U.S. states have already made commitments to achieving aggressive levels of energy savings, and several have demonstrated it is possible to quickly ramp up the infrastructure necessary to cut carbon pollution on a large scale.

EFFICIENCY OFFERS HUGE POTENTIAL FOR ENERGY AND COST SAVINGS

Significant cost-effective energy efficiency remains untapped in every sector, and in every geographic region, despite the opportunities for enormous benefits. A McKinsey & Company study shows that investments in efficiency could cut U.S. energy consumption by 23 percent by 2020, save customers nearly $700 billion, and create up to 900,000 direct jobs (plus countless more when consumers spend their savings elsewhere).[1] Figure 1 illustrates the magnitude of options available to save energy (such as sealing leaky buildings and upgrading to more efficient appliances) and money if efficiency—our cheapest available resource—replaces conventional power sources.

Figure 1: U.S. Energy Efficiency Supply Curve — 2020



* Average price of avoided energy consumption at the industrial price; $35.60/MMBTU represents the highest regional electricity price used; new build cost based on AEO 2008 future construction costs

** Our 49th source of savings, refining processes, offers no NPV-positive savings

Source: EIA AEO 2008, McKinsey analysis

Several other studies show equal or greater promise for cost-effective savings. However, no one knows the upper limit because design biases found in most existing studies make even their sizeable projections low. In addition, as companies innovate and produce more advanced products, they will develop new cost-effective applications to improve energy.

To date, we have not come close to capturing the immense capacity for cost-saving efficiency. Market barriers impede the consumer's ability to make energy-efficient choices, and outmoded regulatory approaches in many states discourage utilities from investing in efficiency despite it being generally cheaper and less risky than financing power plants. Fortunately, we can overcome these obstacles with energy-saving programs, minimum-efficiency standards, research and development, and regulatory reform. Putting these policies and programs in place will allow the United States to reach the efficiency targets integral to the Natural Resources Defense Council's (NRDC) groundbreaking proposal, which calls for states and the federal government to partner in setting new carbon pollution standards to cut emissions from existing power plants by 26 percent from 2005 levels by 2020. The NRDC plan also provides a strong driver for states to require utilities to invest more in the low-cost, non-emitting efficiency resource.

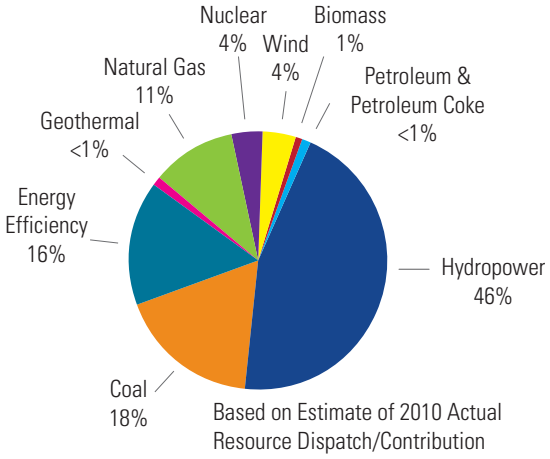
ENERGY EFFICIENCY IS A PROVEN RESOURCE

Energy efficiency can provide the equivalent of at least 10 to 20 percent of total electricity sales within a decade. Efficiency can also lower a utility's cost of providing service while diversifying its portfolio, improving service reliability, and reducing its risk. Several states and planning regions, including those cited in the following section, already treat efficiency as a resource by explicitly including it in their planning and procurement processes in a way that directly reduces the need for other dirtier power supplies.

The Northwest

Energy efficiency is at the core of the blueprint guiding the operation and procurement of electricity resources in the Pacific Northwest region of Washington, Oregon, Idaho, and Montana served by the Bonneville Power Administration (BPA) and individual utilities. Developed by the Northwest Power and Conservation Council (NWPCC), the plan finds

Figure 2: Energy Efficiency is the Northwest Region's Third-Largest Resource



Modified from: Northwest Power and Conservation Council

that cost-effective efficiency can meet 85 percent of new demand over the next 20 years and, combined with more renewable energy, could delay investments in future fossil-fuel power plants.[2] The NWPCC estimates energy efficiency is now one of the top three electricity resources in this region with some of the lowest electricity rates in the nation, having already avoided the construction of more than 10 to 12 large power plants (see figure 2).[3]

New England

The New England Independent System Operator's (ISO-NE) long-term forecast projects that because of anticipated savings from energy efficiency, there will be no growth in electricity consumption and low growth in peak demand over the coming decade. The region's six states invested $1.2 billion from 2008 to 2011 to boost efficiency, and they expect to leap to $5.7 billion between 2015 and 2021.[4] As a result, ISO-NE believes the region can defer 10 transmission upgrades once considered necessary to ensure reliability.

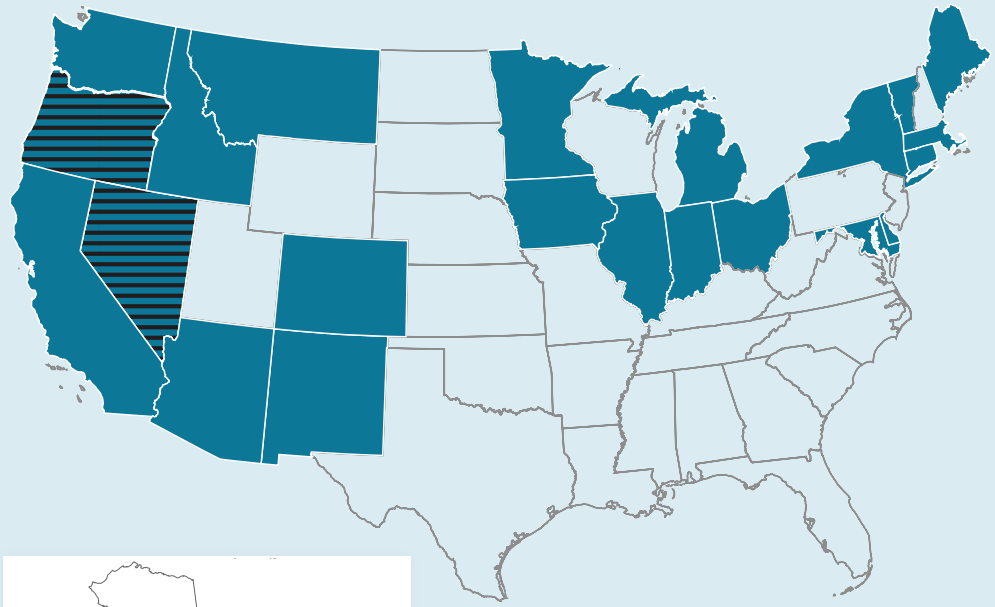
QUICK SCALE-UP IS POSSIBLE

The ability to scale up energy efficiency quickly and significantly has already been established by several states not historically active in this area, and many are so confident of continued success that they have established savings requirements at levels of, or exceeding, a 2 percent annual reduction in electricity consumption, which is the amount envisioned in NRDC's proposal to establish new carbon pollution standards for existing power plants. States can achieve this savings through efficiency programs *and* new appliance standards and building codes, so there is no need to achieve the full 2 percent from efficiency programs alone. Also:

- Utilities are scaling up customer-funded investments in electric efficiency programs nationwide, increasing from $2.7 billion in 2007 to nearly $7 billion in 2011, with a corresponding surge in energy savings.[5]
- More states are adopting significant energy-savings goals: 22 states have targets higher than a 1 percent annual total load reduction (six are above 2 percent) and/or a requirement to pursue all cost-effective energy efficiency (see figure 3).[6]
- Several states ramped up very quickly, going from zero or near zero to as much as 1 percent total annual load reduction in just three to four years. Some good examples are noted in figure 4.

Even better news is that we are in no danger of tapping out energy efficiency as a resource. For instance, states with a long history of achieving high levels of energy and cost savings continue to increase them and make progress. Two good examples are Vermont and California, which more than doubled energy-efficiency savings between 2006 and 2010, with Vermont reaching 2.32 percent in total annual reductions in consumption, and California achieving 1.79 percent.[7] Other regions and states, including the Pacific Northwest and New York, also have decades-long histories of significant cost-effective energy savings with ever-increasing targets.

Figure 3: State Energy-Efficiency Savings Targets



- States requiring that utilities implement all cost effective energy efficiency and/or that it be higher than 1 percent of their total annual electricity demand. National average in 2010 was 0.49 percent.
- Oregon and Nevada saved more than 1 percent of their total annual electricity demand in 2010 despite lower policy requirements.

Source: ACEEE 2012 Energy Efficiency Scorecard

Figure 4: Efficiency Program Savings as Percent of Total Annual Load

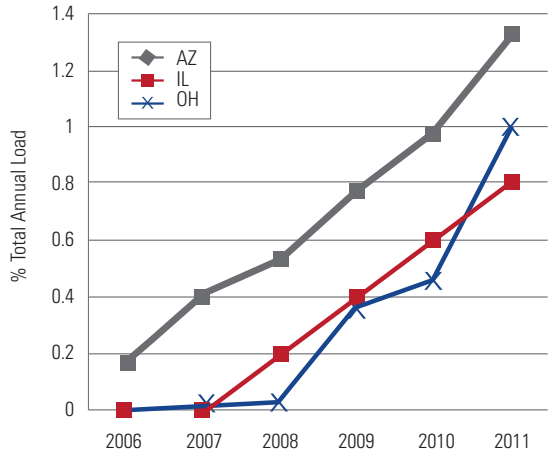
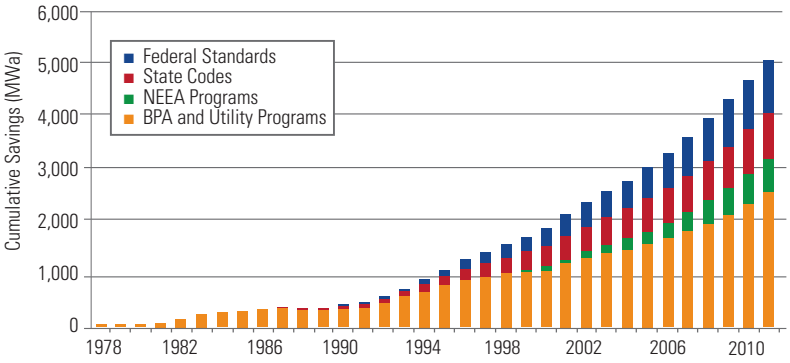


Figure 5: Since 1978 Utility and BPA Programs, Energy Codes and Federal Efficiency Standards Have Produced More than 5,000 MWa of Savings



Modified from: Northwest Power and Conservation Council

EFFICIENT BUILDING CODES AND APPLIANCE STANDARDS MAKE TARGETS EASIER TO REACH

The targets and reported savings discussed in this paper are primarily from customer-funded efficiency programs. However, implementing more stringent residential and commercial building codes and appliance standards could roughly double those levels over time, making it easier to meet the goal in NRDC's proposal to reduce emissions from existing power plants. Building codes are an important state policy for overcoming market barriers to greater efficiency in new buildings and those being renovated. Unfortunately, these codes are not evenly adopted or enforced nationwide. Meanwhile, America is seriously underinvesting in research and development that could help lay the foundation for more efficient building and appliance standards, even though standards are proven to be significant contributors to overall energy savings as has been demonstrated in the Northwest region (see figure 5) and in California.

REACHING OUR ENERGY-EFFICIENCY AND EMISSION-REDUCTION GOALS

Studies show the possibilities for reductions in electricity consumption are huge, available everywhere, and well within the range called for in NRDC's innovative proposal to cut emissions from existing power plants. Energy-efficiency investments already have avoided the need for hundreds of large plants, and several states have proven we can quickly expand the infrastructure needed to contribute to large-scale decreases in emissions. Serious commitments to more stringent building codes and appliance standards that are evenly adopted and enforced nationwide can roughly double those savings over time, proving that customer-funded efficiency programs are not the only available route to boosting energy efficiency in the immediate future.

These tools, combined with regulatory reform addressing investment barriers, can help us dramatically expand energy efficiency now to combat climate change, save money, create jobs, and clean the air we breathe.

Read more about NRDC's plan for using the Clean Air Act to sharply reduce carbon pollution from existing power plants: **http://www.nrdc.org/air/pollution-standards/**

For more information, please contact **Sheryl Carter** at **scarter@nrdc.org**
Natural Resources Defense Council, **www.nrdc.org**

Endnotes

1 McKinsey & Company, *Unlocking Energy Efficiency in the U.S. Economy*, July 2009, http://www.mckinsey.com/client_service/electric_power_and_natural_gas/latest_thinking/unlocking_energy_efficiency_in_the_us_economy.

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4 ISO New England, ISO on Background: Energy-Efficiency Forecast, December 12, 2012, http://www.iso-ne.com/nwsiss/pr/2012/ee_forecast_slides_final_12122012.pdf.

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May 28, 2015

Hon. Irene Kim Asbury, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625

Dear Secretary Asbury:

Energy Analysis Group (EAG) appreciates the opportunity to provide comments on thevarious, FY16 Programs Draft Compliance Filings, which are being reviewed. We have broken down the comments to Residential and Commercial programs.

Residential– Honeywell/CSG

Home Performance with Energy Star

- **Missing many opportunities**– Why not allow contractors to take credit and install;
    - **Bulbs** – LED will deliver tremendous savings. Presently the higher cost of LED is a barrier to many homeowners. As part of HPwES, it would be a good fit.
    - **Appliances** (such as refrigerator or washing machine) – If allowed, we could easily increase the energy savings on many homes. (Perhaps with a maximum dollar allowance on a refrigerator to stop paying for a sub-zero…)
- **Gas conversions** - Presently we can't help a customer that wants to upgrade to gas if he wants to change the water heater or electric heat. Commercial projects gives credit to source energy savings. Why not for residential?
- **Interest on Loan write down – if customer doesn't take the loan - perhaps increase the grant?**
    - Loan denied? Are we punishing bad credit/low income families?
    - Customer doesn't want/need the loan.
        - If perhaps $2500 - $3000 additional grant is offered, it could reduce the write down costs by 30-40%. Some customers may opt to go this way.
- **Interest loan at 4.99%.**- Why not take a home equity loan where we can get a tax write off on the interest?
- **Reduced performance payments to contractors**- should come at some reduced paper work. Over the past few years the paperwork requirements have become increasingly more detailed and time consuming. The squeeze from both ends make the sale of HPwES challenging.
- **PTAC units –** Through the wall HVAC systems do not qualify, nor can we take proper credit for energy reduced, if we remove it from the home. Why not allow this important sector?

Multifamily

- **Indoor/Outdoor Lighting** – P4P allows lighting upgrades in multi-family projects to be calculated into the savings. Why not here?
- **PTAC units –** Through the wall HVAC systems do not qualify, nor can we take proper credit if we remove it from the home. Why not?

Commercial - TRC

- In Direct Install there is a very nice idea that is being discussed to "identify additional/enhanced incentives for distressed communities." This idea would be very helpful in every program.

Direct Install

- Allowing additional contractors will open much more opportunity for participation.

Smart start

- **Lighting**
  - Residential energy star fixture isn't presently allowed.
  - G24/GX24 style 2/4 pin fixtures are not rated by DLC or ES. Losing a big market.

P4P NC

- By not allowing other programs at the same time, what incentive does a customer have to upgrade past 20%? Perhaps add additional incentive levels?
- There is presently a $2,000,000 cap in place. By allowing only one program, we are effectively eliminating the $4,000,000 entity cap. For larger buildings this will reduce the incentive for customers to commit to more savings.
  - Either increase the available incentive to the $4,000,000 entity cap or allow other programs to be pursued at the same time.

Thank you for the opportunity.

Sincerely,

Asher Hartman

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EAM
ASSOCIATES

New Jersey's Clean Energy Program
New Jersey Board of Public Utilities
Program Coordinator
Attn: Public Comments

Thanks you for this opportunity to provide comments on the FY 2016 Residential Program filing. EAM Associates is a high performance building consultant working within the Residential New Construction/Energy Star Homes Program since its inception in 2001. To date, we have certified over 13,000 single and multifamily homes to these standards.

EAM participated in the Working Group that was formed recently by the Market Manager (Honeywell) and we are glad to see that many of the recommendations from that group have been incorporated in this filing, in particular the eventual transition in New Jersey to the 2015 International Energy Conservation Code (IECC), which will be a difficult move for many builders. We also agree with the move to break out the Zero Energy Ready Home into a tier that does not require renewables, a change that we believe will encourage more builders to take the next step beyond Energy Star Homes.

Regarding the Multi Family High Rise Program (MFHR), we have a concern regarding the participation requirements, specifically the restriction to a maximum of six stories. Currently there is conflicting information in the marketplace, and on the NJCEP website, about this program.

In January of 2012, a Program Update letter was sent to builders and rating companies announcing the transition from the MFHR Pilot to the full EPA program. This letter can be found on the NJCEP website at http://www.njcleanenergy.com/files/file/Residential%20Programs/NJ%20ENERGY%20STAR%20Homes/2012ESHProgramChangeLetter.pdf . I have also attached a copy to this document.

The letter states that the EPA Program was being "fully adopted" along with revised protocols, with no mention of any modifications or NJ specific changes. On the NJCEP/RNC website

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today, a builder looking for information on the MFHR program is routed directly to the EPA website, another indication that the intent was to follow the EPA program guidelines and protocols completely. The program developed "decision trees" to guide builders, the earliest one we could find, attached to this letter, looks like it was put out late in 2013. I have also included the original EPA decision tree, which was on the website until recently. There have been several "decision trees" posted on the website since, including some recently changed, one of which direct buildings over six stories into Energy Star MFHR, and others that direct them to Pay for Performance. It seems like the six story limit may just a holdover from the pilot program, and should have been eliminated upon fully adopting the EPA version back in 2012. Certainly EAM, and several of our clients, took the January 2012 letter, and the directive to follow EPA guidelines and protocols, as full adoption of the EPA program with no restrictions.

The RNC MFHR Program should not be limited to six stories, and should follow the EPA program as it was clearly intended to do. By doing so, the Program will offer builders and developers the flexibility to choose the RNC pathway without sacrificing incentives if they feel that marketing the Energy Star label is important to their project's success.

Please feel free to contact me if you have any questions. We look forward to continue working with the NJCEP in developing programs that help push the levels of efficiency and sustainability in New Jersey homes.

Sincerely,

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January 20, 2012

Dear Program Participant,

Thank you for your commitment to the New Jersey ENERGY STAR® Homes Program. We appreciate your participation and your efforts to reduce New Jersey's energy dependence. This notice is to inform you of several important changes for 2012.

Please read the following details carefully. Honeywell will be scheduling several teleconferences in the next few weeks to expand on the changes for 2012.

To date, all levels of the New Jersey ENERGY STAR Homes Program have been linked to ENERGY STAR qualification. Beginning January 1st, 2012 the ENERGY STAR standard for new homes was updated to "Version 3.0" – raising the threshold for certification. Based on feedback from the builder community and consistent with the goal of promoting energy efficient new home construction in the marketplace, we are pleased to announce a new structure for the New Jersey ENERGY STAR Homes Program in 2012.

The program will continue to promote and support ENERGY STAR qualification as a premium tier of new home performance and will maintain ENERGY STAR as the marketing umbrella of the program. In 2012, the program is introducing "NJ *ENERGY*Efficient Homes" as an entry level of qualification for incentives. This level continues to be based on technical compliance elements of the previous ENERGY STAR Version 2.0 plus New Jersey specific requirements, but is not eligible to earn the ENERGY STAR label or be marketed as ENERGY STAR qualified.

Note that Tier 1 (NJ *ENERGY*Efficient Homes) supports the long term transition to ENERGY STAR Version 3, but does not carry the full inspection checklist requirements. Homes that enroll in Tier 2 (ENERGY STAR Homes) do carry the full checklist requirements of Version 3 consistent with EPA's published timelines. In addition, Tier 3 (Climate Choice Homes) is continuing in 2012. The ENERGY STAR Multi-family High-Rise Program is no longer an EPA pilot and has been fully adopted by EPA for 2012 with a revised baseline and new protocols, which have been adopted by NJCEP.

Additionally in 2012, the program is linking its incentives to energy performance – greater savings earning higher incentives based on the final HERS Index of each home. Incentives have been set based on recognition of the additional effort, cost and performance of reaching incremental HERS scores and program levels.

A cooperative marketing program for participating builders is also being offered to help drive homebuyer demand for qualifying homes. This co-op marketing offer will supplement a residential new construction component within the overall marketing campaign of New Jersey's Clean Energy Program in order to further raise consumer interest. These efforts will work together with the EPA's plans for an aggressive national campaign to promote ENERGY STAR Homes Version 3.

The effective date for all of these changes is January 1, 2012. As the program changes in general benefit program participants, the program selected January 1 as the earliest possible effective date to allow builders and raters to take advantage of the new program offerings. As an important benefit of this effective date, the introduction of the new Tier 1 provides a mechanism for Version 2.0 homes that did not complete by December 31, 2011 and Version 2.5 homes that do not complete by June 30, 2012 to continue to participate and receive incentives under the program.

PROGRAM CHANGES - HIGHLIGHTS

1. **Technical Requirements/Tiers**
   To qualify for the 2012 Program, a home must meet NJ *ENERGY*Efficient Home (Tier 1), ENERGY STAR Homes (Tier 2), Climate Choice Homes (Tier 3), or ENERGY STAR Multi-family High Rise requirements. The technical detail presented for each tier is a summary representing the majority of program requirements. The full technical specifications for ENERGY STAR and New Jersey compliance can be requested from the Market Manager. Complete ENERGY STAR New Homes program information is available at http://energystar.gov.

   Tier 1. NJ *ENERGY*Efficient Home Requirements:
   Meet all ENERGY STAR v2.0 requirements, including:
   - Comply with v2.0 Thermal Bypass check list
   - Duct leakage to outside: ≤ 6 CFM25 per 100ft^2 CFA (no maximum total leakage)
   - Up to 25% of Slab edge in CZ 4 & 5 may be un-insulated

   Meet all additional New Jersey requirements:
   - HERS index must not exceed 85 (2006 IECC base) or 75 (2009 IECC base)
   - House size capped at ≤ 4000 sq. ft. Homes over 4000 sq. ft. requires ≤ HERS 65
   - Comply with NJ program specific HVAC check list
   - Fully duct all HVAC supplies and returns and fully seal all duct system joints and seams with mastic compound (no tapes) as applicable
   - Install ENERGY STAR qualified HVAC equipment (or highest available alternative)
   - Install ENERGY STAR qualified mechanical ventilation with automatic 24-hour control, as required by American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 62.2 as applicable

- Install only direct or power vented space heating, water heating, and/or fireplace combustion appliances, when present
- Install ENERGY STAR lighting in 60% of all light sockets including interior and exterior, or EPA Advanced Lighting Package (ALP) for fixtures

Tier 2. ENERGY STAR Homes v 3.0 Requirements:

Meet all EPA ENERGY STAR Homes v 3.0 standards including:

- Meet a site specific (variable) HERS index target
- Comply with all EPA mandated checklists
- Install ENERGY STAR qualified HVAC equipment (or highest available alternative)
- Install ENERGY STAR qualified mechanical ventilation with automatic 24-hour control, as required by ASHRAE 62.2 as applicable
- Install only direct or power vented space heating, water heating, and/or fireplace combustion appliances, when present
- Duct leakage to outside: ≤ 4 CFM25 per 100ft^2 CFA
- Total Duct Leakage: ≤ 6 CFM25 per 100ft^2 CFA

Meet all additional New Jersey requirements:

- Fully duct all HVAC supplies and returns and fully seal all duct system joints and seams with mastic compound (no tapes) as applicable

Tier 3 Climate Choice Homes Requirements:

A set of requirements for meeting energy performance at least 50% better than IECC 2006 before the addition of on-site renewable energy generation, based on EPA's original "Climate Choice" guidelines. The requirements are anticipated to transition to EPA's new "Concept Home" guidelines, when released, as the underlying technical standard.

Multi-family High-Rise Program Requirements:

Requirements for applicable multi-family buildings over three stories will transition from the previous EPA ENERGY STAR Multi-family High Rise (MFHR) Pilot to the new EPA ENERGY STAR Multi-family High Rise (MFHR) Program standards released August 30, 2011, including:

- 15% more energy efficient than MFHR buildings built to the ASHRAE Standard 90.1-2007
- Follow Performance Path which utilizes ASHRAE approved energy modeling software to determine energy savings of a customized set of measures

2. Transition to ENERGY STAR New Homes Version 3.0

The EPA ENERGY STAR New Homes Version 2.0 was phased out in 2011. The transition to Version 3.0 officially began on January 1, 2012. Homes that were permitted prior to December 31, 2011 will be able to complete under Version 2.5 until June 30, 2012. Homes that are permitted in 2012 and all units completing after June 30, 2012 that wish to obtain the ENERGY STAR label must comply with Version 3.0 requirements. For more details, please see the attached EPA revised Version 3

implementation schedule. Note that if you wish to obtain the ENERGY STAR label, both the permit date and the completion date for your home must comply with EPA's schedule.

3. **Incentives: The program incentives are listed below.**

Table 1: 2012 Financial Incentives per Single Family Unit for NJ ENERGYEfficient Homes (Tier 1) and ENERGY STAR Homes (Tier 2)

Incentives by Tier, Code & Index				
	vs. IECC 2006		vs. IECC 2009	
HERS	Tier 1 NJ *ENERGY*Efficient Home	Tier 2 ENERGY STAR Home	Tier 1 NJ *ENERGY*Efficient Home	Tier 2 ENERGY STAR Home
85	$1,500	$2,500		
80	$1,750	$2,750		
75	$2,000	$3,000	$1,500	$2,500
70	$2,250	$3,250	$1,750	$2,750
65	$2,500	$3,500	$2,000	$3,000
60	$2,750	$3,750	$2,250	$3,250
55	$3,000	$4,000	$2,500	$3,500
50	$3,250	$4,250	$2,750	$3,750

Multi-single units receive 75% and low-rise multi-family units receive 50% of the incentive levels listed above.

Table 2: 2012 Financial Incentives for Climate Choice Homes (Tier 3)[1]

Building Type	2012 NJ Climate Choice Homes
Single Family	$10,000 to achieve 50 points, plus $800 per index point below 50 points (maximum incentive is $26,000/unit)
Multiple Single Family ("Townhouse")	$7,000 to achieve 50 points, plus $500 per index point below 50 points (maximum incentive is $17,000/unit)
Multiple-Family Building ("Multi-family")	$4,000 to achieve 50 points, plus $400 per index point below 50 points (maximum incentive is $12,000/unit)

[1] The per point incentives for HERS indices below 50 is for efficiency improvements only, not including renewables

Table 3: 2012 Climate Choice Homes Staged Incentive Payment Schedule

Building Type	At Completion of Enrollment (Sign-In)*	At Completion of Pre-Drywall Inspection(s)*	At Final Certification
Single Family	$3,000	$3,000	Balance
Multiple Single Family ("Townhouse")	$2,000	$2,000	Balance
Multiple-Family Building ("Multi-family")	$1,000	$1,000	Balance

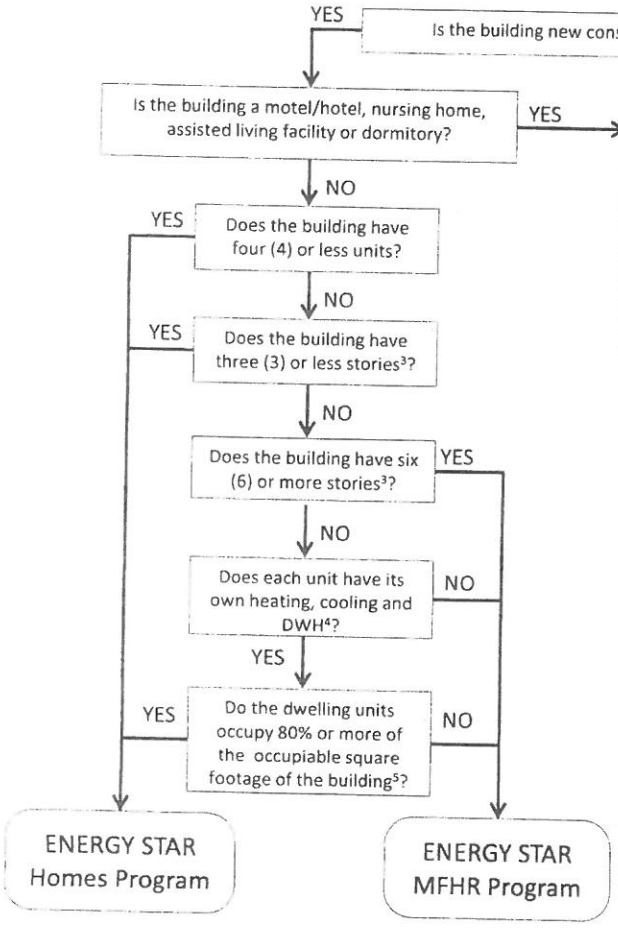
* Failure to complete the project, or to meet Tier 3 (NJ Climate Choice Homes) minimum specifications and/or performance goals, will result in repayment to the program of incentives paid, less any applicable incentives for meeting all lower tier (Tier 1 or 2) qualifying level requirements. In this circumstance, the Market Manager will generate a letter to the appropriate party requesting any monies due.

Table 4: 2012 Financial Incentives for ENERGY STAR Multi-family High-Rise

Multi-family High-Rise	Incentive
Incentive per Qualifying Unit	$1,000

Sincerely,
New Jersey's Clean Energy Program

EPA ENERGY STAR Multifamily New Construction Program Decision Tree



To learn more about how existing commercial buildings, including motels/hotels, skilled nursing*, nursing homes, supportive care , dementia and dormitory facilities can earn the ENERGY STAR, visit the Buildings and Plants section at www.energystar.gov/labeledbuildings. To learn more about the new construction program for commercial buildings visit www.energystar.gov/DesignToEarn.

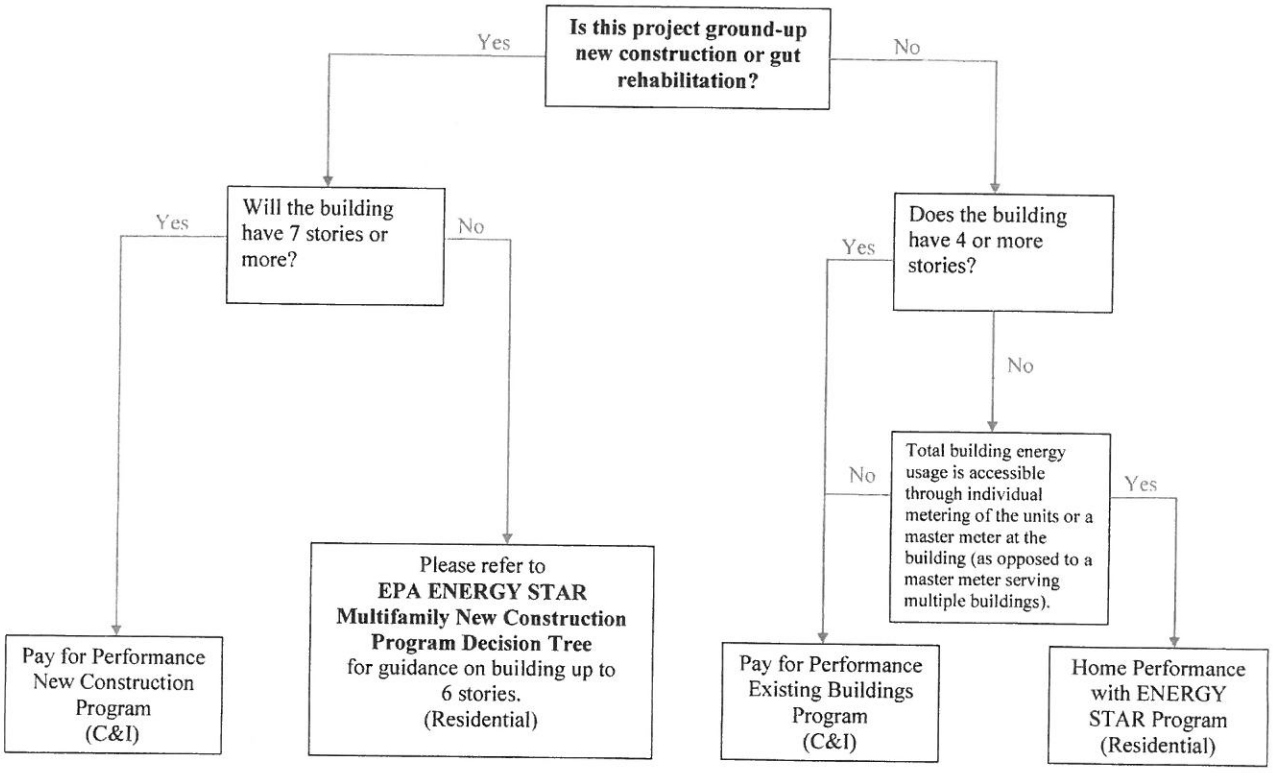
*As of March 2011, long term care facilities over 5,000 ft² and with at least 51% of units designated as assisted living and/or skilled nursing will be able to earn the ENERGY STAR using Portfolio Manager. All other long term care facilities, such as independent senior living and group homes, can earn the ENERGY STAR in the New Homes or MFHR program.

NOTES:

1. New construction can include significant gut rehabilitations when defined as a change of use, reconstruction of a vacant structure, or when construction work requires that the building be out of service for at least 30 consecutive days.
2. The primary use of the building must be for residential purpose, i.e. the residential and residential associated common area must occupy more than 50% of the building's occupiable square footage. A garage is not considered 'occupiable'. Common area includes any spaces within the building that serves a function in support of the residential part of the building that is not part of a dwelling unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, and residential recreation rooms. This also includes offices used by building management, administration or maintenance and all special use areas located in the building to serve and support the residents such as day-care facilities, gyms, dining halls, etc.
3. A story includes any above-grade floor with living or commercial space. An above-grade story is one for which more than half of the gross surface area of the exterior walls is above-grade. A floor that is 80% or more garage or other unoccupiable space is not considered a story for the purposes of this decision tree.
4. Four (4) and five (5) story buildings with in-unit heating and cooling and a central domestic hot water system where solar thermal delivers at least 50% of the building's domestic hot water needs, will qualify through the ENERGY STAR New Homes program as long as all other eligibility requirements of that program are met.
5. For mixed-use buildings, exclude the retail/commercial area when determining the square footage of the "building".

Multifamily Buildings

12/03/2013



Any multifamily building that is not eligible for residential programs above will automatically be considered for Pay for Performance under the C&I suite of programs.

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2015 Home Performance Contractor Coalition Program Changes

May 29, 2015

Ms. Elizabeth Ackerman
Director
Office of Clean Energy - NJBPU

To Whom It May Concern,

Our organizations have thoroughly the Home Performance with ENERGY STAR section of the New Jersey Board of Public Utilities New Jersey Clean Energy Program (NJCEP) Fiscal Year 2016 (FY16) filings. We share the proposal's opinion, outlined in the introduction, to increase homeowner awareness and education, while creating a robust contractor network. While we agree with parts of the proposed changes in the Straw Proposal, our concern is such that many of the recommended program changes will not accomplish the intended goals but will however have an inverse affect.

After careful collaboration and conscientious deliberation, we have created the below list of comments which we believe will best address the needs of the program: customer enlightenment; consumer's health and safety; State job growth; Program short-term viability and long-term sustainability; and, contractor participation growth.

Please accept the following suggestions which follow the Straw Proposals sequence:

- **Program Incentives:**

    a. **Insulation** (bullet 1) – The proposal to enforce a standard which dictates the inclusion of an insulation measure into every project appears to be in direct conflict with the core strength of our NJ HPwES program, stated in the last sentence of the first paragraph of "Program Implementation," to wit, "…. Program incentives and financing incentives based upon the total energy savings (TES). . ." This freedom of choice allows each individual homeowner, when properly educated by highly-trained and responsible contractors, to choose the project which is best for their family, their home, and their future.

    This requirement, along with the added financial burden, will force a negative economic shift in our market away from quality and towards commodity. Projects featuring "minimum standard" efficient equipment, as well as, an abandonment of focus on Indoor Air Quality ("IAQ") shall become the norm. This forces one to ask, "What is the true target?" Further, it is patently unfair to chastise projects which do not include insulation measures for missed opportunities while ignoring the missed opportunities on project which do not include any of the following:

        i. AIR CONDITIONER VS. HYBRID/HEAT PUMP – project with hybrid/heat pumps average a 3% TES increase over air conditioners (Carrier's "Greenspeed" as high as 8%). The added cost tends to be less than the financial burden of the insulation measure.
        ii. ON DEMAND VS "MINIMUM STANDARD" POWER VENT DWH – Once again, an examination of price difference versus efficiency versus longevity shows that an on-demand water heater provides a substantially higher ROI.
        iii. REAL HOME ANALYZER (RHA) – Limitations in formatting equipment efficiencies within the current Program software, Real Home Analyzer ("RHA") prevents an accurate accounting of TES opportunities. Specifically, furnaces and on-demand water heaters, if RHA accepted the AFUE as listed on AHRI the additional TES calculated in RHA could be up to 3% greater.

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iv. ECONOMIC SHIFT – To repeat, the enforcement of an artificial program demand will cause a homeowner shift away from quality to commodity. Single stage, 95% AFUE furnaces coupled with 12 EER/14.5 SEER with .67EF Domestic Water Heater ("DWH") will become the standard to accommodate the required insulation expense. Although this might appear good on paper (more measures > less measures) the actual effect may be to lower overall program TES. The money spent on insulation measures, even if it achieves the 3-4% you wish, could instead be used on the upgraded measures mentioned above which would yield 7-15% TES.

v. EQUIPMENT RATINGS AND FUNCTIONALITY – Industry data supports that, while posted rated efficiencies of both single-state and multi-stage furnaces, at full capacity, show similar rated efficiencies there does exist a substantial and recognizable efficiency and IAQ improvement associated with the multi-stage furnace. With potential increases to TES as great as 3.5%, failure to recognize this advancement in our industry gives credence to low-end providers and contractors who fail to properly inform and educate consumers. By effectively accounting for these additional savings opportunities the program will successfully achieve all three of their stated goals, namely: increase per project TES; increase ROI of individual project; and, increase customer education and enlightenment. Further, this will simultaneous reward the contractors who DO truly commit to the 'whole home approach' professed by this program.

When reading Honeywell's summary of the Straw Proposal, it suggests that near 30% of past projects did not include insulation measures. It has been previous purported, on several occasions the percentage is nearer to 10%. If the latter is truly the case then the suggestions recommended above will result in greater savings than this suggested change. Furthermore, if the number is nearer to 10% and caused by a handful of contractors who are manipulating the Tool for their personal benefit, the more prudent approach is to use the remediation process rather than penalize the rate-payer.

b. **Tier 3 Financial Incentives** (bullet 5) – New Jersey's Home Performance with Energy Star, following BPI standards, with their emphasis on health and safety, we believe, is the best pathway for most homeowners in the State. The reduction, however, of Tier 3, Level 1 and 2 incentives, particularly in multiple system homes, will drive a disproportionate number of homeowners to the Warm/Cool Advantage. This issue is compounded by the nature of many of the Straw Proposal comments regarding Customer's inability to differentiate value between good & poor HVAC installations. Indeed, by making the incentive levels close, without neither a thorough inspection process nor education policy whereas the homeowner must be presented with all available NJ OCE Residential offers before making their decision, will lead to a decline in the short-term viability of this program.

i. Financial Incentive – The following NJCE Residential Incentive table displays the varying incentives for users of HPwES and Warm & Cool Advantage programs

1. The "per system" rebates of WARM/COOL ADVANTAGE will force multi-system homes out of HPwES. This is doubly punitive because due to their size, it is these types of homes which can experience some of the largest gross energy reductions.
2. This issue becomes especially concerning when considering combing those changes from #1 coupled with a TIER 2 HPwES project. Not only will equipment now be excessively oversized but in SJG and NJNG territories the rebates will exceed a 20% TIER III HPwES job.

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Current FY15 vs. Proposed FY16 Dual System Home Example(s)						
	Warm/Cool Advantage - Dual System			Home Performance w/ ENERGY STAR		
	2016 w/ Utility Rebate Single System	2015 w/ Utility Rebate Single System	2016 Versus 2015	2016 (Tier 3 - 25%) Single System	2015 (Tier 3 - 25%) Single System	2016 Versus 2015
Furnace	12,000	12,000	-	12,000	12,000	-
AC	8,000	8,000	-	8,000	8,000	-
DWH	1,600	1,600	-	1,600	1,600	-
Air Sealing	-	-	-	1,500	1,500	-
Insulate	-	-	-	2,000	2,000	-
Misc Health & Safety/Admin	-	-	-	800	800	-
Project Cost Total	**21,600**	**21,600**	**-**	**25,900**	**25,900**	**-**
Warm	(1,000)	(800)	200	-	-	-
Cool	(1,000)	(600)	400	-	-	-
DWH (claimed separately)	(500)	(500)	-	-	-	-
Gas Utility Enhanced	(500)	(500)	-	-	-	-
Warm/Cool Total	**(3,000)**	**(2,400)**	600	**-**	**-**	-
HPwES (Tier 2 or 3)	-	-	-	(4,000)	(5,000)	(1,000)
HPwES Furnace	-	-	-	-	-	-
HPwES AC/HP	-	-	-	-	-	-
HPwES Total	-	-	**-**	(4,000)	(5,000)	**(1,000)**
Total OCE/Utility Incentives	**(3,000)**	**(2,400)**	**600**	**(4,000)**	**(5,000)**	**(1,000)**
Approx Energy Savings	**± 10%**	**± 10%**	**± 10%**	**≥ 25%**	**≥ 25%**	**± 10%**
Net Project cost	**18,600**	**19,200**	**600**	**21,900**	**20,900**	**(1,000)**
Additional HPwES Cost			**-**	**3,300**	**1,700**	
Loan Amount/APR	-	-	-	$10k, 0%	$10k, 0%	

s across all programs commensurate with "Real Energy Savings"

c. **Production Incentive** (bullet 6) – Lowering the production incentive while increasing contractor workload and simultaneously expecting increased contractor participation is, at best, axiomatically flawed. Despite the intent of some recommendations in the Straw Proposal to increase program marketing at the State level, contractor recommendations to consumers continue to be the lifeblood of this program; as such, if contractors do not believe it is in their best interest to participate in this program then consumers will not believe it is in their best interest. The program, therefore has an

Current FY15 vs. Proposed FY16 Single System Home Example(s)						
	Warm/Cool Advantage - Single System			Home Performance w/ ENERGY STAR		
	2016 w/ Utility Rebate Single System	2015 w/ Utility Rebate Single System	2016 Versus 2015	2016 (Tier 3 - 25%) Single System	2015 (Tier 3 - 25%) Single System	2016 Versus 2015
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	-
Air Sealing	-	-	-	1,500	1,500	-
Insulate	-	-	-	2,000	2,000	-
Misc Health & Safety/Admin	-	-	-	800	800	-
Project Cost Total	**11,600**	**11,600**	**-**	**15,900**	**15,900**	**-**
Warm	(500)	(400)	100	-	-	-
Cool	(500)	(300)	200	-	-	-
DWH (claimed separately)	(500)	(500)	-	-	-	-
Gas Utility Enhanced	(500)	(500)	-	-	-	-
Warm/Cool Total	**(2,000)**	**(1,700)**	300	**-**	**-**	-
HPwES (Tier 2 or 3)	-	-	-	(4,000)	(5,000)	(1,000)
HPwES Furnace	-	-	-	-	-	-
HPwES AC/HP	-	-	-	-	-	-
HPwES Total	-	-	**-**	(4,000)	(5,000)	**(1,000)**
Total OCE/Utility Incentives	**(2,000)**	**(1,700)**	**300**	**(4,000)**	**(5,000)**	**(1,000)**
Approx Energy Savings	**± 10%**	**± 10%**	**± 10%**	**≥ 25%**	**≥ 25%**	**± 10%**
Net Project cost	**9,600**	**9,900**	**300**	**11,900**	**10,900**	**(1,000)**
Additional HPwES Cost			**-**	**2,300**	**1,000**	
Loan Amount/APR	-	-	-	$10k, 0%	$10k, 0%	

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changes which will serve to re-energized and re-engaged Contractors back to (in) the HPwES Program:

i. Payment Timelines – For HPwES to regain traction with the contractors the timeline must get closer to the 30 day pay cycle, which is 30 days greater than a Warm/Cool project.
ii. 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 installation. The production incentive remains the motivation to correct any QC issues.
iii. Incentivize Contractor Sales Performance
    1. Increase Contractor Incentive to $837. This figure more accurately reflects the financial burden associated with banking finance charges and administration of an individual project within this program, which would not be borne with a non-Energy Star project.
    2. As program changes occur, increased training of administrative and individual sales forces are required to properly train and promote HPwES. As mentioned, contractor referrals are the main source of HPwES customers: as soon as the program loses its financial viability with contractors "the well will run dry."
    3. Create a production incentive bonus structure in order to encourage contractors to actively promote HPwES rather than passively respond to homeowner inquiry. This would be the stimulus required for Contractors to invest heavily in HPwES, despite the added costs associated with the program.

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

iv. QC Failure Penalty and Incentivize Contractor Technical Performance:
    1. 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.
    2. When initially introduced, Contractor's were informed the production penalty would not be assessed unless a return trip was required by the Market Manager. What happened?
    3. Consistency and Communication - There are occasions when a QC inspection resulted in failure, however, contractor supplies evidence to the contrary; a review and resolution process is required.
    4. Incentive should be revoked only for gross deficiencies, such as: incorrect equipment; insulation being >10% short; repetitive mistakes; or, when a picture will not provide clear evidence that the failures have been remediated. To quote W.S. Gilbert, "Let the punishment fit the crime."

QA Pass %	Fine
100-90%	$100
89-75%	$250
74-50%	$837
Greater than 50%	$837 and suspension from Program
Note: Remove contractors that continually abuse program technical and procedure guidelines, these contractors, while infinitesimal, give all of the Programs a bad name and require a disproportionate amount of program administrative resources.	

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v. Reduce barriers to HPwES – We must streamline software input to reduce administration data with program jobs. Work with financial institutions to streamline the financing application approval timeline and loan process: increased internet processing, allowing for digital signature, etc. Also, allow for increased modeling, including swimming pools (which could offset the above issues with multiple system homes).

d. <u>Financing Options</u> (bullet 7) –

i. One of the primary short falls of the existing Straw Proposal are the vagaries regarding changes to the state sponsored loans achieved thru HPwES. Given the existing 10 year 0%, $10,000 loan has become a key component of consumer's perceived value of our program, any changes must serve to further enhance the program, rather than detract. Regarding the ideas mentioned:

1. Additions to Loan Options: To that end, a 10 year, 2.99% or 4.99% loan offering with a cap of $15,000, would move us in the proper direction for the growth of our program as it would allow for more comprehensive projects. However, the challenge for the homeowner will be justifying the added $60.95 for 2.99% or $75.69 for the 4.99% interest rate payment on a $15,000 for a more comprehensive project. While this would be appealing for some, the fact is, during these uncertain economic times, homeowner have continually opted for minimum monthly payments. When considering the following table, it seems certain that a homeowner will continue to choose the 10 year, 0%, $10,000 loan and not to seek a more comprehensive project. Further, when considered in conjunction with the other proposed changes pushing o

Interest	0.00%	0.99%	1.99%	2.99%	3.99%	4.99%
Term	120	120	120	120	120	120
Loan Amount	10,000	10,000	10,000	15,000	15,000	15,000
Payment	83.33	87.56	91.97	144.77	151.80	159.02

rogram towards a "commodity" mentality, this addition would not enhance the Program.

ii. Reduction to Loan Option: The Straw Proposal is less clear on this end, however, it is our understanding that the HPwES loan may be reduced from the 0%, $10,000, 10 year term (120 months) financing to a 7 year term (84 months). Should that in fact occur there will be a negative impact to the homeowner buying decision. As the following chart demonstrates:

Interest	0.00%	0.99%	1.99%	2.99%	3.99%	4.99%
Term	84	120	120	120	120	120
Loan Amount	10,000	10,000	10,000	15,000	15,000	15,000
Payment	119.05	87.56	91.97	144.77	151.80	159.02

iii. Tier 2 TES Percentage and Loan: It has long been advocated that the last change to the Tier 2, which was to include a DWH, was to address homeowners who chose HVAC incentives, for one reason or another, and now wish to make further energy reductions. More importantly Tier 2 addresses the Health and Safety concern caused by orphaned water heaters. The contracting community is getting up to speed, implementing sales programs, with success that respond to these goals. While reducing the TES to 5% will significantly aid these efforts, lowering the current 10 year term (120

Interest	0.00%	0.00%
Term	120	60
Loan Amount	5,000	5,000
Payment	41.67	83.33
VS. 120 mnth		(41.67)

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months) to a 5 year term (60 months) will thwart these efforts as the following chart demonstrates:

The success in single family Tier 2 projects is when the energy savings is equal to less than the monthly payment. This typically has been $41 loan vs. $38 when using the average TES with the average utility as supplied to the contractor by OCE. It is suggested the variance between $38 and $83 will be too great to reap the desired goals, therefore leaving the orphaned DWHs in many WARM/COL ADVANTAGE projects"

iv. Addition Financing Recommendations
    1. Offer a cash incentive to homeowner to not take the financing option
    2. "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 financing approval times, and allows for energy savings to offset the payment on the same bill.

- **Tables 7 and 8 NJ HPwES Incentives and Requirements Notes:**

a. CO-OP Advertising (#8):
    i. Increase Co-Op
    ii. Reduce NJ OCE included language and logos
    iii. Digital ads should be excused from the above restraints entirely if the landing pages they are direct have required language and logos, if any

b. Contract expiration dates (#9) – There will be many projects that will be under contract and committed in FE15 that may, for very valid reasons exceed the 120 expiration date in FE16. In these cases the homeowner must be assured they will receive the incentives and be managed by Program FE15.

c. Contractor Incentive Fee (#10) – Please refer to our comments in section one "Program Incentives, letter "c".
Note: Contractor Locator - List only contractors that actively participate in any given 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.

- **Planned Program Implementation Activities for FY2016**

a. Education and Training – While there has been undisputed progress, training must be more frequent AND must be held during off-peak hours. Training must include:
    i. RHA Training – On-site and Webinars
    ii. Technical Training – On-site and Webinars
    iii. Financing Options Process Training / Webinars
    iv. Sales Training – State sponsored support materials, and contractor/consumer process "packets" that will walk consumers through the entire process.
    v. Contractor "Best Practices" - We are willing and available to assist.

- **Quality Control Provisions**

a. Raise the bar on other programs where appropriate; i.e.:
    i. Use the same criteria to approve Manual J, S & D as HPwES current method(s)
    ii. Permit & Contractor licensing requirements
    iii. Minimum technical standards - i.e. passing combustion testing on Enhanced Rebate audits to ensure water heaters are not spilling

- **Additional Comments Not Addressed in the Straw Proposal**

a. Make All Programs Stand on Equal Ground and Ensure a Minimum Contractor Qualifications
b. Ensure ratepayers are aware of all of the NJCE's program offerings.

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i. Post "Decision Tree" on NJCEP Website to help navigate customers through the programs to assist them in selecting the best program option.
ii. 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" **(Exhibit A)**

c. Require contractor's to list all required state license number(s) that are mandatory 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...)
d. 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, at a minimum.
    i. Proof of inspection should not be required; Municipalities and DCA will ensure inspection after permits are applied for.
    ii. Ensuring DCA inspects ALL HPwES, WARM Advantage, and COOL Advantage projects will place all programs on equal ground, as well as alleviating liability from all parties.

We would like to thank you for taking the time to read and consider our proposal. While some of these recommendations are significant, they will also have substantial 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,

Doug Wong
Owner
BC Express, Inc.

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Exhibit A:

New Jersey's Clean Energy PROGRAM
Your Power to Save
njcleanenergy.com

STATE OF NEW JERSEY BOARD OF PUBLIC UTILITIES

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 you 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:

☐ Home Performance with ENERGY STAR The Whole Home Approach	☐ WARMAdvantage Upgrading to a High Efficiency Heating System	☐ COOLAdvantage Upgrading to High Efficiency Cooling System
☐ – Tier 2 – 50% up to **$1,000**. I/we're **reducing ENERGY** use between **10% to 19.9%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ New Hi-eff domestic water heater	☐ – WarmAdvantage option to save up to 10% of heating energy for $400 rebate – System 1	☐ – CoolAdvantage option to save up to 5% cooling energy for $500 rebate - System 1
☐ – Tier 3 – Option 1 – 50% up to **$3,000** I/we're **reducing ENERGY** use by **20% to 24.9%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ Install hi-eff heating system(s) ☐ Install hi-eff cooling system(s) ☐ Install Hi-eff domestic water heater	☐ – WarmAdvantage option to save up to 10% of heating energy for $400 rebate – System 2	☐ – CoolAdvantage option to save up to 5% cooling energy for $500 rebate – System 2
☐ – Tier 3 – Option 2 – 50% up to **$5,000** I/we're **reducing ENERGY** use by greater than **25%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ Install hi-eff heating system(s) ☐ Install hi-eff cooling system(s) ☐ Install Hi-eff domestic water heater	☐ – 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 #:

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2015 Home Performance Contractor Coalition Program Changes

May 18, 2015

Ms. Elizabeth Ackerman
Director
Office of Clean Energy - NJBPU

To Whom It May Concern,

We have thoroughly reviewed the Home Performance with ENERGY STAR section of the New Jersey Board of Public Utilities New Jersey Clean Energy Program (NJCEP) Fiscal Year 2016 (FY16) filings. We share the proposal's opinion, outlined in the introduction, to increase homeowner awareness and education, while creating a robust contractor network. While we agree with parts of the proposed changes in the Straw Proposal, our concern is such that many of the recommended program changes will not accomplish the intended goals but will however have an inverse affect.

After careful collaboration and conscientious deliberation, we have created the below list of comments which we believe will best address the needs of the program: customer enlightenment; consumer's health and safety; State job growth; Program short-term viability and long-term sustainability; and, contractor participation growth.

Please accept the following suggestions which follow the Straw Proposals sequence:

- **Program Incentives:**

    a. **Insulation** (bullet 1) – The proposal to enforce a standard which dictates the inclusion of an insulation measure into every project appears to be in direct conflict with the core strength of our NJ HPwES program, stated in the last sentence of the first paragraph of "Program Implementation," to wit, "…. Program incentives and financing incentives based upon the total energy savings (TES). . ." This freedom of choice allows each individual homeowner, when properly educated by highly-trained and responsible contractors, to choose the project which is best for their family, their home, and their future.

    This requirement, along with the added financial burden, will force a negative economic shift in our market away from quality and towards commodity. Projects featuring "minimum standard" efficient equipment, as well as, an abandonment of focus on Indoor Air Quality ("IAQ") shall become the norm. This forces one to ask, "What is the true target?" Further, it is patently unfair to chastise projects which do not include insulation measures for missed opportunities while ignoring the missed opportunities on project which do not include any of the following:

    i. AIR CONDITIONER VS. HYBRID/HEAT PUMP – project with hybrid/heat pumps average a 3% TES increase over air conditioners (Carrier's "Greenspeed" as high as 8%). The added cost tends to be less than the financial burden of the insulation measure.
    ii. ON DEMAND VS "MINIMUM STANDARD" POWER VENT DWH – Once again, an examination of price difference versus efficiency versus longevity shows that an on-demand water heater provides a substantially higher ROI.
    iii. REAL HOME ANALYZER (RHA) – Limitations in formatting equipment efficiencies within the current Program software, Real Home Analyzer ("RHA") prevents an accurate accounting of TES opportunities. Specifically, furnaces and on-demand water heaters, if RHA accepted the AFUE as listed on AHRI the additional TES calculated in RHA could be up to 3% greater.
    iv. ECONOMIC SHIFT – To repeat, the enforcement of an artificial program demand will cause a homeowner shift away from quality to commodity. Single stage, 95% AFUE furnaces coupled with 12 EER/14.5 SEER with .67EF Domestic Water Heater ("DWH") will become the standard to accommodate the required insulation expense. Although this might appear good on paper (more measures > less measures) the actual effect may be to lower overall program TES. The money spent on insulation measures, even if it achieves the 3-4% you wish, could instead be used on the upgraded measures mentioned above which would yield 7-15% TES.

v. EQUIPMENT RATINGS AND FUNCTIONALITY – Industry data supports that, while posted rated efficiencies of both single-state and multi-stage furnaces, at full capacity, show similar rated efficiencies there does exist a substantial and recognizable efficiency and IAQ improvement associated with the multi-stage furnace. With potential increases to TES as great as 3.5%, failure to recognize this advancement in our industry gives credence to low-end providers and contractors who fail to properly inform and educate consumers. By effectively accounting for these additional savings opportunities the program will successfully achieve all three of their stated goals, namely: increase per project TES; increase ROI of individual project; and, increase customer education and enlightenment. Further, this will simultaneous reward the contractors who DO truly commit to the 'whole home approach' professed by this program.

When reading Honeywell's summary of the Straw Proposal, it suggests that near 30% of past projects did not include insulation measures. It has been previous purported, on several occasions the percentage is nearer to 10%. If the latter is truly the case then the suggestions recommended above will result in greater savings than this suggested change. Furthermore, if the number is nearer to 10% and caused by a handful of contractors who are manipulating the Tool for their personal benefit, the more prudent approach is to use the remediation process rather than penalize the rate-payer.

b. **Tier 3 Financial Incentives** (bullet 5) – New Jersey's Home Performance with Energy Star, following BPI standards, with their emphasis on health and safety, we believe, is the best pathway for most homeowners in the State. The reduction, however, of Tier 3, Level 1 and 2 incentives, particularly in multiple system homes, will drive a disproportionate number of homeowners to the Warm/Cool Advantage. This issue is compounded by the nature of many of the Straw Proposal comments regarding Customer's inability to differentiate value between good & poor HVAC installations. Indeed, by making the incentive levels close, without neither a thorough inspection process nor education policy whereas the homeowner must be presented with all available NJ OCE Residential offers before making their decision, will lead to a decline in the short-term viability of this program.

i. Financial Incentive – The following NJCE Residential Incentive table displays the varying incentives for users of HPwES and Warm & Cool Advantage programs

1. The "per system" rebates of WARM/COOL ADVANTAGE will force multi-system homes out of HPwES. This is doubly punitive because due to their size, it is these types of homes which can experience some of the largest gross energy reductions.
2. This issue becomes especially concerning when considering combing those changes from #1 coupled with a TIER 2 HPwES project. Not only will equipment now be excessively oversized but in SJG and NJNG territories the rebates will exceed a 20% TIER III HPwES job.

Current FY15 vs. Proposed FY16 Single System Home Example(s)						
	Warm/Cool Advantage - Single System			Home Performance w/ ENERGY STAR		
	2016 w/ Utility Rebate Single System	2015 w/ Utility Rebate Single System	2016 Versus 2015	2016 (Tier 3 - 25%) Single System	2015 (Tier 3 - 25%) Single System	2016 Versus 2015
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	-
Air Sealing	-	-	-	1,500	1,500	-
Insulate	-	-	-	2,000	2,000	-
Misc Health & Safety/Admin	-	-	-	800	800	-
Project Cost Total	**11,600**	**11,600**	**-**	**15,900**	**15,900**	**-**
Warm	(500)	(400)	100	-	-	-
Cool	(500)	(300)	200	-	-	-
DWH (claimed separately)	(500)	(500)	-	-	-	-
Gas Utility Enhanced	(500)	(500)	-	-	-	-
Warm/Cool Total	**(2,000)**	**(1,700)**	300	**-**	**-**	-
HPwES (Tier 2 or 3)	-	-	-	(4,000)	(5,000)	(1,000)
HPwES Furnace	-	-	-	-	-	-
HPwES AC/HP	-	-	-	-	-	-
HPwES Total	-	-	**-**	(4,000)	(5,000)	**(1,000)**
Total OCE/Utility Incentives	**(2,000)**	**(1,700)**	**300**	**(4,000)**	**(5,000)**	**(1,000)**
Approx Energy Savings	**± 10%**	**± 10%**	**± 10%**	**≥ 25%**	**≥ 25%**	**± 10%**
Net Project cost	**9,600**	**9,900**	**300**	**11,900**	**10,900**	**(1,000)**
Additional HPwES Cost			**-**	**2,300**	**1,000**	
Loan Amount/APR	-	-	-	$10k, 0%	$10k, 0%	

Current FY15 vs. Proposed FY16 Single System Home Example(s)						
	Warm/Cool Advantage - Single System			Home Performance w/ ENERGY STAR		
	2016 w/ Utility Rebate Single System	2015 w/ Utility Rebate Single System	2016 Versus 2015	2016 (Tier 3 - 25%) Single System	2015 (Tier 3 - 25%) Single System	2016 Versus 2015
Furnace	12,000	12,000	-	12,000	12,000	-
AC	8,000	8,000	-	8,000	8,000	-
DWH	1,600	1,600	-	1,600	1,600	-
Air Sealing	-	-	-	1,500	1,500	-
Insulate	-	-	-	2,000	2,000	-
Misc Health & Safety/Admin	-	-	-	800	800	-
Project Cost Total	**21,600**	**21,600**	**-**	**25,900**	**25,900**	**-**
Warm	(1,000)	(800)	200	-	-	-
Cool	(1,000)	(600)	400	-	-	-
DWH (claimed separately)	(500)	(500)	-	-	-	-
Gas Utility Enhanced	(500)	(500)	-	-	-	-
Warm/Cool Total	**(3,000)**	**(2,400)**	600	**-**	**-**	-
HPwES (Tier 2 or 3)	-	-	-	(4,000)	(5,000)	(1,000)
HPwES Furnace	-	-	-	-	-	-
HPwES AC/HP	-	-	-	-	-	-
HPwES Total	-	-	**-**	(4,000)	(5,000)	**(1,000)**
Total OCE/Utility Incentives	**(3,000)**	**(2,400)**	**600**	**(4,000)**	**(5,000)**	**(1,000)**
Approx Energy Savings	**± 10%**	**± 10%**	**± 10%**	**≥ 25%**	**≥ 25%**	**± 10%**
Net Project cost	**18,600**	**19,200**	**600**	**21,900**	**20,900**	**(1,000)**
Additional HPwES Cost			**-**	**3,300**	**1,700**	
Loan Amount/APR	-	-	-	$10k, 0%	$10k, 0%	

ii. Model incentive levels across all programs commensurate with "Real Energy Savings"

c. **<u>Production Incentive</u>** (bullet 6) – Lowering the production incentive while increasing contractor workload and simultaneously expecting increased contractor participation is, at best, axiomatically flawed. Despite the intent of some recommendations in the Straw Proposal to increase program marketing at the State level, contractor recommendations to consumers continue to be the lifeblood of this program; as such, if contractors do not believe it is in their best interest to participate in this program then consumers will not believe it is in their best interest. The program, therefore has an imperative to provide changes which will serve to re-energized and re-engaged Contractors back to (in) the HPwES Program:

i. Payment Timelines – For HPwES to regain traction with the contractors the timeline must get closer to the 30 day pay cycle, which is 30 days greater than a Warm/Cool project.

ii. 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 installation. The production incentive remains the motivation to correct any QC issues.

iii. Incentivize Contractor Sales Performance

1. Increase Contractor Incentive to $837. This figure more accurately reflects the financial burden associated with banking finance charges and administration of an individual project within this program, which would not be borne with a non-Energy Star project.
2. As program changes occur, increased training of administrative and individual sales forces are required to properly train and promote HPwES. As mentioned, contractor referrals are the main source of HPwES customers: as soon as the program loses its financial viability with contractors "the well will run dry."
3. Create a production incentive bonus structure in order to encourage contractors to actively promote HPwES rather than passively respond to homeowner inquiry. This would be the stimulus required for Contractors to invest heavily in HPwES, despite the added costs associated with the program.

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

iv. QC Failure Penalty and Incentivize Contractor Technical Performance:

1. 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.
2. When initially introduced, Contractor's were informed the production penalty would not be assessed unless a return trip was required by the Market Manager. What happened?
3. Consistency and Communication - There are occasions when a QC inspection resulted in failure, however, contractor supplies evidence to the contrary; a review and resolution process is required.
4. Incentive should be revoked only for gross deficiencies, such as: incorrect equipment; insulation being >10% short; repetitive mistakes; or, when a picture will not provide clear evidence that the failures have been remediated. To quote W.S. Gilbert, "Let the punishment fit the crime."

Success %	Fine
100-90%	$100
89-75%	$250
74-50%	$837
Greater than 50%	$837 and suspension from Program
Note: Remove contractors that continually abuse program technical and procedure guidelines, these contractors, while infinitesimal, give all of the Programs a bad name and require a disproportionate amount of program administrative resources.	

v. Reduce barriers to HPwES – We must streamline software input to reduce administration data with program jobs. Work with financial institutions to streamline the financing application approval timeline and loan process: increased internet processing, allowing for digital signature, etc. Also, allow for increased modeling, including swimming pools (which could offset the above issues with multiple system homes).

d. **<u>Financing Options</u>** (bullet 7) –

i. One of the primary short falls of the existing Straw Proposal are the vagaries regarding changes to the state sponsored loans achieved thru HPwES. Given the existing 10 year 0%, $10,000 loan has become a key component of consumer's perceived value of our program, any changes must serve to further enhance the program, rather than detract. Regarding the ideas mentioned:

1. Additions to Loan Options: To that end, a 10 year, 2.99% or 4.99% loan offering with a cap of $15,000, would move us in the proper direction for the growth of our program as it would allow for more comprehensive projects. However, the challenge for the homeowner will be justifying the added $60.95 for 2.99% or $75.69 for the 4.99% interest rate payment on a $15,000 for a more comprehensive project. While this would be appealing for some, the fact is, during these uncertain economic times, homeowner have continually opted for minimum monthly payments. When considering the following table, it seems certain that a homeowner will continue to choose the 10 year, 0%, $10,000 loan and not to seek a more comprehensive project. Further, when considered in conjunction with the other proposed changes pushing our program towards a "commodity" mentality, this addition would not enhance the Program.

Interest	**0.00%**	**0.99%**	**1.99%**	**2.99%**	**3.99%**	**4.99%**
Term	**120**	**120**	**120**	**120**	**120**	**120**
Loan Amount	**10,000**	**10,000**	**10,000**	**15,000**	**15,000**	**15,000**
Payment	83.33	87.56	91.97	144.77	151.80	159.02

ii. Reduction to Loan Option: The Straw Proposal is less clear on this end, however, it is our understanding that the HPwES loan may be reduced from the 0%, $10,000, 10 year term (120 months) financing to a 7 year term (84 months). Should that in fact occur there will be a negative impact to the homeowner buying decision. As the following chart demonstrates:

Interest	0.00%	0.99%	1.99%	2.99%	3.99%	4.99%
Term	84	120	120	120	120	120
Loan Amount	10,000	10,000	10,000	15,000	15,000	15,000
Payment	119.05	87.56	91.97	144.77	151.80	159.02

iii. Tier 2 TES Percentage and Loan: It has long been advocated that the last change to the Tier 2, which was to include a DWH, was to address homeowners who chose HVAC incentives, for one reason or another, and now wish to make further energy reductions. More importantly Tier 2 addresses the Health and Safety concern caused by orphaned water heaters. The contracting community is getting up to speed, implementing sales programs, with success that respond to these goals. While reducing the TES to 5% will significantly aid these efforts, lowering the current 10 year term (120 months) to a 5 year term (60 months) will thwart these efforts as the following chart demonstrates:

Interest	0.00%	0.00%
Term	120	60
Loan Amount	5,000	5,000
Payment	41.67	83.33
VS. 120 mnth		(41.67)

The success in single family Tier 2 projects is when the energy savings is equal to less than the monthly payment. This typically has been $41 loan vs. $38 when using the average TES with the average utility as supplied to the contractor by OCE. It is suggested the variance between $38 and $83 will be too great to reap the desired goals, therefore leaving the orphaned DWHs in many WARM/COL ADVANTAGE projects"

iv. Addition Financing Recommendations
   1. Offer a cash incentive to homeowner to not take the financing option
   2. "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 financing approval times, and allows for energy savings to offset the payment on the same bill.

- **Tables 7 and 8 NJ HPwES Incentives and Requirements Notes:**

a. CO-OP Advertising (#8):
   i. Increase Co-Op
   ii. Reduce NJ OCE included language and logos
   iii. Digital ads should be excused from the above restraints entirely if the landing pages they are direct have required language and logos, if any

b. Contract expiration dates (#9) – There will be many projects that will be under contract and committed in FE15 that may, for very valid reasons exceed the 120 expiration date in FE16. In these cases the homeowner must be assured they will receive the incentives and be managed by Program FE15.

c. Contractor Incentive Fee (#10) – Please refer to our comments in section one "Program Incentives, letter "c".
Note: Contractor Locator - List only contractors that actively participate in any given 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.

- **Planned Program Implementation Activities for FY2016**

a. **Education and Training** – While there has been undisputed progress, training must be more frequent AND must be held during off-peak hours. Training must include:
   i. RHA Training – On-site and Webinars
   ii. Technical Training – On-site and Webinars
   iii. Financing Options Process Training / Webinars
   iv. Sales Training – State sponsored support materials, and contractor/consumer process "packets" that will walk consumers through the entire process.
   v. Contractor "Best Practices" - We are willing and available to assist.

- **Quality Control Provisions**

    a. **<u>Raise the bar on other programs where appropriate; i.e.:</u>**
        i. Use the same criteria to approve Manual J, S & D as HPwES current method(s)
        ii. Permit & Contractor licensing requirements
        iii. Minimum technical standards - i.e. passing combustion testing on Enhanced Rebate audits to ensure water heaters are not spilling

- **Additional Comments Not Addressed in the Straw Proposal**

    a. Make All Programs Stand on Equal Ground and Ensure a Minimum Contractor Qualifications
    b. Ensure ratepayers are aware of all of the NJCE's program offerings.
        i. Post "Decision Tree" on NJCEP Website to help navigate customers through the programs to assist them in selecting the best program option.
        ii. 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" **(Exhibit A)**
    c. Require contractor's to list all required state license number(s) that are mandatory 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...)
    d. 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, at a minimum.
        i. Proof of inspection should not be required; Municipalities and DCA will ensure inspection after permits are applied for.
        ii. Ensuring DCA inspects ALL HPwES, WARM Advantage, and COOL Advantage projects will place all programs on equal ground, as well as alleviating liability from all parties.

We would like to thank you for taking the time to read and consider our proposal. While some of these recommendations are significant, they will also have substantial 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,

Fred Hutchinson

Exhibit A:

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 you 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:

☐ Home Performance with ENERGY STAR The Whole Home Approach	☐ WARMAdvantage Upgrading to a High Efficiency Heating System	☐ COOLAdvantage Upgrading to High Efficiency Cooling System
☐ – Tier 2 – 50% up to **$1,000**. I/we're **reducing ENERGY** use between **10% to 19.9%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ New Hi-eff domestic water heater	☐ – WarmAdvantage option to save up to 10% of heating energy for $400 rebate – System 1	☐ – CoolAdvantage option to save up to 5% cooling energy for $500 rebate - System 1
☐ – Tier 3 – Option 1 – 50% up to **$3,000** I/we're **reducing ENERGY** use by **20% to 24.9%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ Install hi-eff heating system(s) ☐ Install hi-eff cooling system(s) ☐ Install Hi-eff domestic water heater	☐ – WarmAdvantage option to save up to 10% of heating energy for $400 rebate – System 2	☐ – CoolAdvantage option to save up to 5% cooling energy for $500 rebate – System 2
☐ – Tier 3 – Option 2 – 50% up to **$5,000** I/we're **reducing ENERGY** use by greater than **25%** by: ☐ Air Sealing ☐ Enhanced insulation ☐ Install hi-eff heating system(s) ☐ Install hi-eff cooling system(s) ☐ Install Hi-eff domestic water heater	☐ – 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 #:

ENERACTIVE SOLUTIONS

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May 29, 2015

Mr. Rick Mroz
President
Board of Public Utilities of New Jersey
44 S. Clinton Avenue
Trenton, New Jersey 08625

Public Comment on the proposed changes to the New Jersey Clean Energy Programs (NJCEP) Pay for Performance (P4P) guidelines

Dear Mr. Solomon,

ENERActive Solutions would like to thank you and the commissioners of the Board for opening the proposed changes to the P4P program up for comments. We at ENERActive Solutions would like to support the effort to maximize the effectiveness for the NJCEP, specifically for the Pay for Performance (P4P) program. The P4P program is currently generating considerable of interest in the commercial markets and is proving to have a positive impact on the New Jersey economy.

ENERActive Solutions is an energy services and consulting and engineering firm focusing on the design build solutions for our clients in the energy efficiency marketplace. We are an approved P4P Partner for both existing building and new construction programs. Our company cares for commercial and industrial clients by providing services ranging from multi-grade energy audits, retro-commissioning, energy modeling, construction management of energy projects, and new construction commissioning. We have seen tremendous growth in business, particularly in the energy audit market, due largely to the NJCEP P4P Program. In our experience, the P4P program has seemingly taken the clients who are skeptical of the value of energy audits and energy conservation related projects and brought them to our door step as an approved partner of the program. The program has not only brought jobs that have helped to grow our company but it has also created numerous jobs in related energy construction projects for other NJ companies.

Our portfolio of approved P4P projects, as well as having a plethora of interest and proposals in the current marketplace, is a testament to both ENERActive Solutions' business commitment to being a valuable partner in the (P4P) Program and to the economic success of other NJ companies leveraging the benefits of the program. As an energy consulting and engineering company, we are often the primary source of energy related news and market conditions for our clients and potential customers. We have put forth a tremendous effort not only in the staffing and training of our company to efficiently become an approved P4P Partner, but we have also consistently sold this program to both our existing and potential customers alike. Below are our comments on potential improvements for consideration to the P4P program.

- Let the 10% apartment survey requirement be waived if no ECM's are occurring in living spaces. We feel this will help streamline the process of the program, reducing the timeline of start to finish and will also reduce unnecessary stress on building owners having to gather that information from the apartment occupants.

- Consider allowing a general plug load in the model to incorporate small/miscellaneous equipment within a building (e.g. removing itemizing every small motor / etc. in the ERP that does not affect an ECM). We feel this recommendation is both intuitive and pragmatic in nature, and will benefit the success of the program through a clearer approach to energy modeling.
- Affirmation of the proposed change to remove the IRR requirement. This recommendation will allow for the more expensive projects which owners are willing to do, take part in the program. We see the greatest benefit of this change as one that will greatly increase the energy savings in the portfolio due to the larger scale projects (which may have lower IRR) be applicable to the program.
- Affirmation of the proposed change to increase the lighting component to 70% of savings. This is a tremendous opportunity to allow for a greater number of projects to be let into the P4P program. There are a significant amount of opportunities in the marketplace that are projects where the HVAC and other non-lighting ECMs cannot equate in savings to the lighting savings. Modifying this percentage to 70% in lieu of 50% will greatly benefit theP4P portfolio at large to now include these potential projects.

In closing, ENERActive Solutions looks forward to further participating in this open forum process and is happy to offer any additional information and services that might be of value to the Board for its use in this matter.

Please feel free to contact us at the above referenced number any time if you have any questions

Sincerely,

Thomas P Szarawarski Jr

Thomas P. Szarawarski Jr., PE, CEM
Vice-President
ENERActive Solutions

Cc: Daniel K. Weeden – President of ENERActive Solutions
David S. Klockner – Chief Operating Officer of ENERActive Solutions

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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

STEFANIE A. BRAND
Director

May 29, 2015

By Hand Delivery and Electronic Mail
Honorable Irene Kim Asbury, Secretary
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

Re: I/M/O Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for Fiscal Year 2016 Clean Energy Program
BPU Docket No.: QO15040476

I/M/O the Clean Energy Programs and Budget for the Fiscal Year 2016
BPU Docket No.: QO15040477

Dear Secretary Asbury:

Please accept this original and ten copies of Comments submitted on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") in connection with the above-captioned matter. Copies of the comments are being provided to all parties on the e-service list by electronic mail and hard copies will be provided upon request to our office.

We are enclosing one additional copy of the comments. Please stamp and date the extra copy as "filed" and return it in our self-addressed stamped envelope.

Thank you for your consideration and assistance.

Respectfully submitted,

STEFANIE A. BRAND
Director, Division of Rate Counsel

By: Felicia Thomas-Friel
Felicia Thomas-Friel, Esq.
Deputy Rate Counsel

FTF/kf

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I/M/O the Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for Fiscal Year 2016 Clean Energy Program
BPU Docket No. QO15040476

and

I/M/O the Clean Energy Programs and Budget for the Fiscal Year 2016
BPU Docket No. QO15040477

Comments of the New Jersey Division of Rate Counsel

May 29, 2015

INTRODUCTION

The Division of Rate Counsel ("Rate Counsel") would like to thank the Board of Public Utilities ("BPU" or "Board") for the opportunity to present comments on Board Staff's Comprehensive Energy Efficiency and Renewable Energy Resource Analysis ("CRA") and proposed funding levels for Fiscal Year 2016, and the proposed New Jersey Clean Energy Program ("NJCEP" or "CEP") programs and budgets for Fiscal Year 2016. The proposed CRA and CEP funding levels are reflected in a Staff Straw Proposal ("CRA Straw Proposal") posted on OCE's website on May 5, 2015, with amendments posted on May 21, 2015. The proposed programs for Fiscal Year 2016 are reflected in four draft "compliance filings," prepared by the Board's Office of Clean Energy ("OCE"), the Board's two contracted Market Managers, Honeywell and TRC, and the State's electric and gas utilities. The draft compliance filings were posted on the OCE's website on May 7, 2015. In accordance with Public Notice issued by the Board on May 5, 2015, a public hearing was held on May 22, 2015. The deadline for written comments, originally May 22, 2015, was subsequently extended to May 29, 2015.

In the CRA Straw Proposal, Staff notes that the procurement process for retaining a new program administrator for the NJCEP is in progress.[1] In anticipation of a new strategic plan to be developed and implemented with the assistance of the new program administrator, OCE is proposing to maintain existing ratepayer funding levels, and focus on effective delivery of its existing energy efficiency and renewable energy programs, with limited changes, during Fiscal Year 2016.[2] OCE is proposing to collect the same amount from ratepayers as in Fiscal Year 2015, approximately $344.7 million. Of that amount, about $213.7 million is allocated to NJCEP programs, $2.7 million is allocated to the Temporary Relief for Utility Expenses ("TRUE") program, $118.3 million is anticipated to be appropriated by the New Jersey Legislature for state government energy initiatives and utility costs, and $10.0 million is allocated to the New Jersey Energy Resilience Bank ("ERB").[3] The total proposed Fiscal Year 2016 budget for NJCEP programs, including both new funding and estimated carryover amounts from Fiscal Year 2015, is approximately $351.5 million, a reduction from the approximately $379.6 million Fiscal Year 2015 budget.

GENERAL COMMENTS

As noted above, instead of a multi-year CRA, Staff is proposing to essentially maintain the status quo in anticipation of a strategic planning process to be conducted with the assistance of a new program administrator. Rate Counsel supports this approach.

Rate Counsel supports OCE's efforts to assure that the strategic planning process will be informed by adequate data and analyses. The CRA Straw Proposal describes the work of three work groups that were convened by Staff to consider issues including evaluation, data collection,

[1] CRA Straw Proposal, p. 10.
[2] CRA Straw Proposal, p. 4.
[3] CRA Straw Proposal, p. 59.

and coordination among the clean energy programs run by the utilities and OCE ("Utility Work Group"). The results of these work groups included a schedule of evaluation activities for the NJCEP programs, which is being implemented by OCE, recommendations for data collection for utility and state-run programs, and proposals for coordinating and improving clean energy activities within the State. Rate Counsel supports Staff's continuing efforts to develop information and analyses that will support the upcoming strategic planning process.

The recommended budget in the Straw Proposal for evaluation appears to be reduced from the Fiscal Year 2015 level, $5.2 million, to $4.2 million.[4] Rate Counsel would strongly suggest that, at minimum, the Fiscal Year 2015 budget level be maintained, and that other program adjustments be investigated to accommodate this level. Program evaluations are critical to properly measure the actual benefits and value of the State's clean energy programs.

In view of the limited changes being proposed by OCE, and the short time provided for comment, Rate Counsel is not providing comprehensive comments on the compliance filings posted for comment on May 7, 2015. However, Rate Counsel has identified some concerns relating to specific program elements, which are discussed below.

[4] CRA Straw Proposal, p. 54.

COMMENTS ON SPECIFIC PROGRAMS

I. ENERGY EFFICIENCY BUDGETS AND PROGRAMS

This section addresses the energy efficiency ("EE") programs and budgets found in the CRA Straw Proposal and the draft Fiscal Year 2016 compliance filings by Market Managers Honeywell and TRC, the OCE, and the investor-owned utilities (for the Comfort Partners EE program). Consultants retained by Rate Counsel have also reviewed several additional reports referenced in the CRA Straw Proposal, including Energy & Resource Solutions' ("ERS") *2015 Benchmarking Study of NJCEP* and NJCEP's *2014-2015 Evaluation and Research Plan.*

In addition, the CRA Straw Proposal indicates that Staff incorporated many of the recommendations provided by the four working groups on evaluation, data, utility coordination, and NJCEP programs as well as the ERS 2015 benchmarking study. For example, the CRA Straw Proposal indicated that NJCEP will conduct a new study to evaluate energy efficiency protocols in more detail than in previous years per a recommendation by the Evaluation working group and in response to a finding of the ERS benchmarking study that the protocols rely on a large amount of outdated data.[5] Further, the CRA Straw Proposal indicates that Staff will propose a pilot program to incorporate an investor confidence project, an initiative to develop alternative financing for energy efficiency services.[6] Finally, the CRA Straw Proposal adopted the draft compliance filings submitted by the Market Managers, which contain many recommendations found in the ERS 2015 benchmarking study.

[5] CRA Straw Proposal, p.44.
[6] CRA Straw Proposal, p.44.

While many of the proposed initiatives found in the CRA Straw Proposal are appropriate as described, Rate Counsel has specific recommendations for improvements in the following areas:

1. The overall budget for the NJCEP;
2. NJCEP budget lapses;
3. Evaluation budget and plans;
4. NJCEP and utility EE program coordination;
5. Comfort Partners Program; and
6. Bidding energy efficiency into PJM's capacity market.

The following subsection sets forth Rate Counsel's comments on these areas. Finally, the last subsection offers comments on changes proposed by the Market Managers for the Residential and Commercial and Industrial EE programs in their respective compliance filings.

A. Comments on Specific Issues in the CRA EE Straw Proposal

1. Overall budget for the Clean Energy Program

As presented at the May 22, 2015 public hearing, Staff proposes a slight reduction in the EE program budget, from $304 million in Fiscal Year 2015 to $282 million in Fiscal Year 2016. Rate Counsel supports this reduction, in anticipation of a strategic planning process to be conducted with the assistance of a new program administrator.

2. Budget Lapses

The CRA Straw Proposal discusses the history of NJ CEP funding lapses, which have resulted in collections from ratepayers which exceed program expenditures over the years:

> With unspent SBC funds came budget lapses. The NJCEP saw unencumbered funds lapsed every year of the planning cycle, over $600 million, which in turn impacted incentive levels. Individual program offerings and incentives fluctuated widely over this CRA; they were increased considerably with the influx of ARRA dollars and then cut drastically when SBC funds were lapsed.[7]

[7] CRA Straw Proposal, p. 21.

If the budgeted funds are not spent on EE programs, these lapsed funds do not produce the system benefits that energy efficiency provides to all users on the system. Budget lapses thus pose a threat to energy efficiency because energy efficiency investment requires stable, predictable funding streams over a long planning horizon, as acknowledged by the Utility Working Group.[8] Rate Counsel recommends that OCE continue to aggressively review its budgeting processes in coordination with the new program administrator to minimize this reoccurrence.

3. Evaluation Plan and Budget

The CRA Straw Proposal lists a significant number of new evaluation studies scheduled for Fiscal Year 2016 based on the latest evaluation plan, called the *2014 and 2015 Evaluation and Research Plan* prepared by the Rutgers Center for Energy, Economic and Environmental Policy ("CEEEP"). About 14 evaluation studies are scheduled for Fiscal Year 2016. While it is understood that NJCEP has historically lagged in conducting evaluation studies, the number of evaluation studies set for Fiscal Year 2016 is significantly higher than the number of studies scheduled in the past few years.[9]

It is not clear, however, whether the proposed evaluation budget is sufficient to cover the scheduled evaluation studies. The evaluation-related budget for Fiscal Year 2016 is $4.2 million according to OCE's compliance filing.[10] In contrast, the evaluation budget for Fiscal Year 2015 was $5.2 million. At a minimum, the OCE should provide a Fiscal Year 2016 CEP budget line for each of the studies listed in Table 7 of the CRA Straw Proposal and spend no less than the Fiscal Year 2015 budget for evaluation.

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[8] CRA Straw Proposal, p. 31.
[9] The number of proposed evaluation studies is found on page 14 of the CEEEP's *2014 and 2015 Evaluation and Research Plan.*
[10] OCE FY2016 Compliance Filing, Appendix A.

4. CEP and Utility EE Program Coordination and Other Program Delivery Issues

The CRA Straw Proposal provides a discussion and recommendations on CEP and utility program coordination issues as part of the summary of the Utility Work Group 9 ("UWG") activities.[11] Staff appropriately states that it is important to "review the filings of the Evaluation, Data and Utility work groups and work with the respective program administrators to implement uniform data, data-collection methods, evaluation and reporting requirements for all programs." However, Rate Counsel notes that the CRA Straw Proposal does not address similar programs offered by both utilities and the NJCEP. It is also important to note that the UWG comments on CEP and utility program coordination are confusing, and may be taken as a recommendation to restrict the ability of the state to deliver EE programs. For example, the CRA Straw Proposal recommends that "...[t]he State can deliver statewide programs in territories where a utility does not deliver EE programs," but also recommends that "...[u]tilities should be encouraged to leverage their ample resources and unique advantages to deliver innovative programs that the State cannot."[12] Rate Counsel recommends that innovative utility EE programs that fall outside the purview of NJCEP programs should be encouraged.

5. Comfort Partners Program

The program evaluation conducted by Apprise in December 2014 identified some significant issues with the *Comfort Partners* program.[13] Apprise found that *Comfort Partners* was not achieving expected savings and that there were weaknesses in the audit and installation

[11] CRA Straw Proposal, pages 29 to 32.
[12] CRA Straw Proposal, page 31.
[13] Apprise study, New Jersey Comfort Partners Final Evaluation Report, Dec. 2014 ("Apprise study").

procedures.[14] Apprise also found a high rate of job inspection failures: of the 18 percent of jobs in the treatment group that had a third party inspection, 33 percent failed the inspection, most commonly due to health and safety problems and missed opportunities.[15] Additionally, Apprise discovered many missed opportunities for installing the most cost-effective measures and concluded that "many of these missed opportunities would not result in greater expenditures, as they would require re-prioritizing or better quality work done" and that "in over 70 percent of the cases where there were missed opportunities, the contractors did not spend up to the seasonal guideline, and could have done a more thorough job."[16]

Rate Counsel is concerned with the findings of the Apprise study. With the significant barriers to and high administrative cost of reaching and serving a lower-income population, it is critical that all cost effective measures are installed once the contractor is in the home. In addition, contractors should be held to high quality standards, and the accuracy of energy savings reporting should be improved. However, the issues identified in the Apprise study are not addressed in either the CRA Straw Proposal or in the utilities' joint compliance filing.[17] While some of Apprise's recommendations pertain to specific contractors, most can and should be addressed by the whole program. For example, Apprise identified "a significant training opportunity" associated with the general lack of connection between the tests contractors were conducting and how the findings of the tests should guide the scope of work.[18] Moreover, the study included recommendations for changes to program procedures to address this disconnect

[14] Apprise study, page xv.
[15] Apprise study, page viii.
[16] Apprise study, page xv.
[17] New Jersey's Clean Energy Program FY 16 Program Descriptions and Budgets: Utility Residential Low Income Comfort Partners Program and Clean Power Choice Program. May 6, 2015.
[18] Apprise study, page xi.

and to better align savings opportunities with program spending.[19] The Apprise study also calls for changes to the energy savings protocols and requirements that contractors provide data quality control plans.[20] All of these recommendations should apply to all *Comfort Partners* contractors, statewide.

Rate Counsel recommends that the Board require the utilities to file a plan, including detailed changes to policies, proposed training, task assignments, and target completion dates for addressing the issues identified in the Apprise study.

6. Bidding EE into PJM Capacity Markets

Rate Counsel has repeatedly recommended that CEP offer its energy savings into PJM's capacity markets. The Straw Proposal also discusses this issue as part of the summaries of the Utility Work Group and the Data Work Group.[21] Rate Counsel recommends that the CRA Straw Proposal adopt the advice of the Data Work Group and bid its energy efficiency capacity into the PJM market. Furthermore, the CRA should call on the Market Managers and Staff to monitor any changes in the PJM rules to ensure that such participation is beneficial to ratepayers.

B. Program-Specific EE Issues

1. Home Performance with Energy Star

The residential program Market Manager, Honeywell, offers several recommendations in its compliance filing, some of which are based on recommendations found in the ERS benchmarking study:

- Reduce incentives and interest rate buy-downs;
- Increase savings through insulation and duct sealing; and

[19] Apprise study, pages xvi to xix.
[20] Apprise study, pages xv and xvi.
[21] CRA Straw Proposal, pages 28 to 30.

- Increase participation through more multi-family projects, a pilot for insulation and remodeling projects, and targeted marketing. [22]

Honeywell's proposal to reduce the maximum incentive from $5000 to $4000 per project is reasonable. This is a 20 percent reduction in incentives and the lowest end of the incentive reduction recommendation by the ERS benchmarking study. The Market Manager should revisit this issue next year and consider reducing the maximum incentive to $3000 per project, given that the benchmarking study recommended an incentive reduction of 20 to 40 percent.

One of the current financing options under this program is a 0 percent interest, 10-year loan of up to $10,000. The proposed change to this option is to offer a 0 percent interest, seven-year loan of up to $12,000, or a 2.99 percent interest, 10-year loan. This multi-option approach might help to address the diverse needs of participants, but it is possible that the proposed increase in interest to 2.99 percent may discourage many customers from implementing a larger project. The Market Manager should more fully examine the pros and cons of this option compared to a lower interest loan option with a 10-year term that offers up to $12,000.

2. Residential New Construction

Honeywell proposes major changes to the current incentive levels and structures for the Residential New Construction program. There are currently three tiers of incentives under this program (Tier 1 through Tier 3). Incentives are determined based on participants' Home Energy Rating System ("HERS") Index score. Tier 1 and Tier 2 incentives are currently capped once a participant reaches a certain level of efficiency as measured by the participant's HERS score; Tier 3 has no incentive cap before a participant reaches the highest possible HERS score.

[22] ERS 2015, Review and Benchmarking of New Jersey's Clean Energy Program, prepared for the New Jersey Board of Public Utilities, page 10.

The current maximum incentives for Tier 1 and Tier 2 are $2,500 and $3,500 for new homes, respectively, when the home achieves a HERS score of 50 (which indicates that the house uses 50 percent less energy than a house built to the current code).[23] These incentives are reduced by $250 for every five points that the home scores above 50 (a HERS score above 50 indicates that the home uses more energy than homes with a HERS score of 50). For example, if a home scores 60 on the HERS index, the residents' incentive will be reduced by $500. Incentives do not increase above the maximum amounts, even if HERS scores are reduced below 50.

Current Tier 3 incentives are provided to houses that meet the Department of Energy's Zero Energy Ready Homes' criteria. The incentive for Tier 3 starts at $10,000 for single-family houses when their HERS score reaches 50, and increases by $800 for each five points below a HERS score of 50. For example, the total incentive for Tier 3 for a single-family house with a HERS score of 20 would be $14,800.

Compared to these current structures, Honeywell's proposal includes an additional tier ("Tier 3 Plus") and proposes that incentives for all levels change based on the participant's HERS score. The proposed incentives increase significantly as HERS scores are reduced, and are significantly greater than the current incentives when new homes reach HERS scores of 50 or lower, as shown in the table below. The maximum proposed incentives for new single-family houses are $18,250 for Tier 1 (about seven times higher than the current maximum incentive level), $19,250 for Tier 2 (about 5.5 times higher than the current maximum incentive), and $21,250 for Tier 3 (about 1.5 times higher than the current maximum incentive).

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[23] NJCEP, *Notice of Changes New Jersey ENERGY STAR Homes Program*, available at http://www.njcleanenergy.com/files/file/Residential%20Programs/NJ%20ENERGY%20STAR%20Homes/2013/2013ESHProgramChangeLetter_11513.pdf

Proposed Incentives for New Residential Construction for Single Family[24]

	Tier 1	Tier 2	Tier 3	Tier 3 Plus
HERS (Before Renewables)	*ENERGY* Efficient Home	ENERGY STAR Home Version 3	Zero Energy Ready Home	Zero Energy Home 100% Renewables
65	$750	$1,750		
60	$1,000	$2,000		
55	$2,000	$3,000		
50	$3,500	$4,500	$6,500	$9,500
45	$6,250	$7,250	$9,250	$12,250
40	$9,250	$10,250	$12,250	$15,250
35	$12,750	$13,750	$15,750	$18,750
30	$16,250	$17,250	$19,250	$22,250
25	$17,250	$18,250	$20,250	$23,250
20	$18,250	$19,250	$21,250	$24,250

Incremental to the proposed Tier 1 incentives, the proposed Tier 2 and Tier 3 incentives add $1,000 and $2,000, respectively, at each HERS level. Essentially, participants are rewarded for fulfilling the requirements of the next strictest tier with an additional $1,000. Honeywell's proposed Tier 3 Plus would reward homes that meet all energy needs with renewable energy with an additional incentive of $3,000 incremental to Tier 3 incentives.

The proposal to modify incentive levels based on HERS scores is reasonable. However, the proposed levels of increased incentives are excessive, and are not supported by any evidence or any economic analysis. It is also notable that the maximum incentives available for new homes in other jurisdictions are lower than the proposed incentives by Honeywell. Per the ERS Benchmarking Study, the maximum incentives for homes with a HERS score of 20 are about

[24] Honeywell 2015. *Honeywell's Residential Energy Efficiency and Renewable Energy Program Plan Filing for Fiscal Year 2016*, Table 1, page 14.