

Comments on NJ CEP EE & RE 11/4/09

Submitted to:

Mike Winka, Director
c.c. Mike Ambrosio, Peg Gallos;
Randy Solomon

Submitted by:

Chelsea Albucher, AICP
Sustainability Officer, City of Newark
albucherc@ci.newark.nj.us
Tel: 973 733-6575
Cell: 201 396-3264

General Comments:

- Last minute or lack of distribution of materials for meetings makes it exceedingly difficult to participate / comment
- Please forward background information about programs for which materials were not distributed (revised EECBG, etc)
- Please distribute the Home Performance and DCA 11/4 presentations, particularly if these are to be decided at the 11/10 meeting.
- 11/11 Home Performance Workshop for contractors . . . mentioned during meeting. .. please send details to EE committee mailing list
- Discussion about ability of NJ to go after the recent DOE EECBG state funding opportunity . . . is this discussion occurring elsewhere?

Program comments:

Home Performance

- The Residential New Construction budget is disproportionately high relative to the Home Performance budget, which seems odd given market considerations. In general more outreach on Home Performance for existing homes is recommended.
- The process by which Home Performance reaches contractors needs to be more transparent.

Comfort Partners

- Considering the uptick/driving of customers to Comfort Partners (via Clean Power Community Partners and Utility programs, is there sufficient funding in Comfort Partners?

- Would very much like to participate in discussions in overhauling Comfort Partners. Localities with concentrations of eligible populations would benefit from being able to layer Comfort Partners with other local initiatives; e.g. code compliance and rehab assistance, lead abatement, and/or neighborhood stabilization . . . this would need to be implemented in a way that is easy on the client, and probably best to allow cities to layer into their local programs
- Would like to propose a Pilot whole neighborhood approach, layering Comfort Partners together with other programs to address discrete areas.
- There was comment about ‘duplication of programs,’ we now have duplication in many areas; e.g. with utility programs and NJCEP residential and C&I; in all cases, marketing and on-line tools need to better drive customers to the appropriate programs.
- For now, consider working more closely with localities to market Comfort Partners and give rewards to municipalities for referrals
- Consider scaling USF/LIHEAP with full assistance provided to Comfort Partner enrollees unless there are reasons prohibiting enrollment

Direct Install / CI Programs

- NJCEP and Utility Driven Direct Install should enroll in EPA Portfolio Manager and Energy Star. Pay for Performance as well.
- Clarity as to how oil heat is addressed via whole house and direct install should be provided.
- Utility multifamily housing program should NOT be restricted to HMFA, they already have other funding lines, and there is a paucity of programs for other multi-family
- There should be a program to develop capacity of multi-family, affordable housing property managers/developers and special needs/senior housing – broader than that delivered by HMFA, e.g. NYSERDA’s trainings delivered through partnerships with colleges.

LGEA

- Need clarification in regard to EECBG SEP and LGEA \$20k . . . is this for non-formula communities only? Why \$20k cap? Could this be scaled relative to building portfolio size?
- There was talk of raising the \$100k LGEA cap, is this moving forward?

RE

- RE move of budget to off shore wind study . . . to be equitable to other parts of the state, it is recommended that funds be made available for municipal RE feasibility studies including solar, small wind, CHP, geothermal
- Status of biodiesel rebate for local governments?
- Recommending provision for EDA Edison Fund financing of Class 2 Renewables in UEZs
- I like the REIP technical assistance recommendation for solar bundling opportunities for localities and nonprofits

Community Partners / Community Programs

- Does the Community Based Efficiency Program 2010 budget line now include the Community Partner grants? Is there budget for marketing assistance for Community Partners?
- Are there capacity building activities planned for Community Partners? This could be tied to capacity building for LGEA and EECBG funded entities.
- The Community Partner grants (awards for outreach) should be increased
- Community Partners should be eligible for funding for demonstration projects and assistance in attracting clean energy sector development
- Why has the budget for TEACH decreased so significantly?
- Why has the Cool Cities budget not increased, there is just a carry over. This program should be expanded to include grants for Cool Roof campaigns.
- Sustainable Jersey proposal: components of the rewards system are prejudiced against lower income areas (e.g. climate choice house); the reward for Home Performance should include referrals to Utility Whole House Program where such are being implemented; wind ordinance award is not applicable to most communities (consider expanding to clean power choice sign-ons and other); CFL distribution events should be a repeating award or award based on locally established targets with a floor based on population; reward Comfort Partner sign on; Clean power Choice sign on credit should not be limited to residential customers – expand to include commercial customers; add component that recognizes municipal outreach to contractors, developers and commercial sectors.
- What is the budget for the Whole Community Pilot described in the proposal? Is that the CPI budget line?

DCA / Code Official Training

- Use Code Official training as an opportunity to market programs and distribute information about Portfolio Manager and Energy Star
- The Code Official required ARRA training should not pose a cost to municipalities, an unexpected cost would make enrollment difficult and delay implementation

Marketing/Training Suggestions

- NJCEP Outreach at building supply centers
- More capacity building workshops for developers and contractors and property managers and property owners

THE E CUBED COMPANY, L.L.C.

E3

Providers of
Strategic Energy
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- Energy
- Economics and
- Environment

Ruben S. Brown,
M.A., M.A.L.D.,
President
Cell 917.974.3146

Arthur W. Pearson,
CEM
Director, Project
Operations
Cell 646.483.1415

November 5, 2009

Jeanne Fox, Chair
New Jersey Board of Public Utilities
One Gateway Center
Newark, NJ

Re: Comment on Proposed 2010 Energy Efficiency and Renewable Programs.

Dear Chair Fox:

We are writing to urge the Board of Public Utilities to approve incentives for 2010 for the residential and C&I EE and renewable programs as well as the carry over budgets from the 2009 program. We propose several modifications for the Board to adopt.

The Board should authorize incentives to accelerate the replacement of the State's aging residential heating systems by gradually introducing highly efficient household electricity production capability, e.g. micro-combined heat and power ("micro-CHP"). Such capability can significantly reduce society's carbon footprint, its overall energy consumption and the emissions tied to each home in New Jersey.

Overall, The E Cubed Company, LLC and the Joint Supporters, voluntary association¹, are greatly encouraged by the response to the Board's leadership and the implementation by the Office of Clean Energy and the Program Managers at TRC and Honeywell in a variety of programs. We welcome the opportunity to interact with the incoming Administration and with the Federal Administration to provide support for these endeavors.

¹ Joint Supporters are a twenty-year-old ad hoc voluntary association that participated in a number of proceedings before the Board and regulators and policy makers in other jurisdictions. It includes notably for the instant purpose, various manufacturers, distributors, and installers in the micro-Combined Heat and Power industry as well as manufacturers and service providers deploying larger combined heat and power systems, providing fuel and other requirements. Firms active in demand response are not participating in this proceeding. The E Cubed Company, LLC also represents the National Association of Energy Services Companies (NAESCO) in proceedings in New Jersey.

Operations Center: 1700 York Avenue, Suite B2, New York, New York 10128
Office (212) 987-1095 EFax (212) 937-3960

ruben.brown.ecubedllc@gmail.com

apearson@ecubedllc.com

Residential distributed generation is one of the State's untapped local electric resources. The State is to be commended for its renewable resource initiatives. While PV has received incentives for almost a decade only a few thousand homes have PV installations and approximately 65,000 kilowatts of capacity have been installed in New Jersey. There is clearly more to be done at the residential level.

Let us better utilize the heat sources in our own homes. Micro-combined heat and power technology (Micro-CHP) that is highly efficient is now available and can be deployed readily as boilers and furnaces are replaced. In short, electricity production can now be coupled to meeting household thermal loads. And it can be made available in peak periods, if encouraged to do so with the right incentives.

According to the Energy Master Plan, there are over 2.1 million NJ residences equipped with natural gas heating systems. Based upon analysis of analogous situations from Massachusetts, we estimate that approximately one-fourth of these homes have systems installed prior to 1980. Many older boilers operate at less than 60% efficiency. These are prime candidates for upgrading by encouraging electricity production.²

Let us speed up the rate of turnover and make significant gains in electric efficiency and in gas efficiency.

If the average turnover rate in New Jersey appears to be about 5-6% per year, say 100,000 to 110,000 gas boilers and furnaces and if each were to provide one to five kilowatts of capacity and approximately 4-5,000 kWh per year, then in one year's time the entire installed capacity of all the PV installations to date could be equaled (approximately 63,000 kW). The micro-CHP alternative at the same cost would annually produce 70 % more kWh than the solar option.

² Lacking a current baseline of NJ data on the vintage of this standing stock in the need of upgrading, we turned to data recently made available in Massachusetts. It was derived from over 20,000 MassSave energy audits during 2007 and 2008, including more than 10,000 natural gas systems. Conservation Services Group assembled the data. A table appears as Attachment A. The E Cubed Company, LLC has provided a cumulative column for age in years. If the percentages were to be truly representative of the larger population of natural gas boilers and furnaces, then it can be estimated that approximately one-fourth were more than 26% of NJ's gas heating systems may have been installed prior to the 1980s when efficiency stepped up to the 80% level.

Combining a small highly efficient combined heat and power system with a highly efficient boiler or furnace would significantly reduce the need to use fuel remotely for electricity generation purposes and could utilize approximately the same amount of fuel or less at the site to meet thermal needs and the displaced portion of delivered electricity. Approximately 65-70% of Btu input is lost in electricity production at grid facilities and in delivery to the residence. Emissions would be reduced dramatically.

The net result is both lower system operating costs and greater comfort. It makes sense to purchase high efficiency products. The payback is there.

On October 13 at the DEP office building, we offered a series of documents. The micro-CHP proposal could provide options for customers who cannot use or do not want a solar installation. We encourage you to support micro-CHP deployment in 2010, not wait until future years.

Such systems can be deployed to meet peak reliability needs, although the data shown on October 13 only showed systems that operate during the heating season.

Residential micro-CHP

- the Office of Clean Energy should fund an incentive program for micro-CHP in 2010.
- the incentives should be similar to what solar received in its earlier phases e.g. \$2.75/watt or higher.
- A higher incentive should be available for facilities that can meet peak needs, such as the \$0.50/watt adder that was discussed for the bio-power CHP combination.
- The Program should be large enough to deploy several hundred installations.

The Commercial and Industrial pay-for-performance advanced CHP program should not have a minimum size.

This would permit installations, such as several small units, to serve common facility areas in multi-family residential situations. For example we have a ten building complex that could be developed with smaller CHP systems.

- A higher incentive should be available for facilities that can meet peak needs, such as the \$0.50/watt adder that was discussed for the bio-power CHP combination.

We are encouraged by the State's energy efficiency programs and sincerely hope that the Board will approve dollar incentives for use in 2010.

We are encouraged by the State's energy efficiency programs and offer to be available on behalf of the micro-CHP Industry to State officials during and after the transition to the new Administration.

Very Truly Yours,

A handwritten signature in black ink that reads "Ruben S. Brown". The signature is written in a cursive style with a large, stylized "R" and "B".

Ruben S. Brown, M.A.L.D.
President, The E Cubed Company,
L.L.C.
On behalf of the Joint Supporters
voluntary association.

CC:

Janeen Lawlor, BPU
Lance Miller, BPU
Michael Winka, Director, Office of Clean Energy
Mona Moser, BPU
Michael Ambrosio, Applied Energy Systems
Linda Wetzel, Applied Energy Systems
Roger Kleimisch, C&I Program Manager, TRC
Joe Genello, TRC
David Wolk, Honeywell
Larry Barth, CSG
Nikki Kuhn, VEIC
Arthur Pearson, C.E.M., The E Cubed Company, LLC

MASS_Heating System Age by Fuel 2007-2008(cumulative_w/NJ households).xls

Fuel	Age of System	Sites	Percent of Total	Cumulative	Age of System	Number of NJ Households using NG (2004)	Cumulative NJ Households
GAS	<=1950	448	4.41%	4.41%	<=1950	95,544	95,544
GAS	1951-1955	87	0.86%		1951-1955	18,554	
GAS	1956-1960	216	2.13%	7.39%	1956-1960	46,066	160,164
GAS	1961-1965	183	1.80%		1961-1965	39,028	
GAS	1966-1970	645	6.35%	15.54%	1966-1970	137,558	336,750
GAS	1971-1975	348	3.42%		1971-1975	74,217	
GAS	1976-1980	754	7.42%	26.38%	1976-1980	160,804	571,771
GAS	1981-1985	619	6.09%		1981-1985	132,013	
GAS	1986-1990	1,366	13.44%	45.91%	1986-1990	291,324	995,108
GAS	1990-1995	1,084	10.67%		1990-1995	231,182	
GAS	1996-2000	1,928	18.97%	75.55%	1996-2000	411,181	1,637,471
GAS	2001-2005	2,007	19.75%		2001-2005	428,029	
GAS	2006-2008	926	9.11%		2006-2008	197,486	
Totals		10,163	100.00%			2,167,442	
Fuel	Age of System	Sites	Percent of Total	Cumulative	Age of System	Number of NJ Households using HO (2004)	Cumulative NJ Households
OIL	<=1950	1,313	8.39%	8.39%	<=1950	45,827	45,827
OIL	1951-1955	548	3.50%		1951-1955	19,127	
OIL	1956-1960	839	5.36%	17.26%	1956-1960	29,283	94,237
OIL	1961-1965	444	2.84%		1961-1965	15,497	
OIL	1966-1970	799	5.11%	25.20%	1966-1970	27,887	137,621
OIL	1971-1975	660	4.22%		1971-1975	23,036	
OIL	1976-1980	1,544	9.87%	39.29%	1976-1980	53,890	214,546
OIL	1981-1985	1,266	8.09%		1981-1985	44,187	
OIL	1986-1990	2,314	14.79%	62.17%	1986-1990	80,764	339,497
OIL	1991-1995	1,470	9.39%		1990-1995	51,307	
OIL	1996-2000	2,397	15.32%	86.88%	1996-2000	83,661	474,465
OIL	2001-2005	2,297	14.68%		2001-2005	80,171	
OIL	2006-2008	1,069	6.83%		2006-2008	37,311	
Totals		15,647	100.00%			546,120	

<p>This data is derived from MASSAVE audits performed on behalf of NStar and NGrid by CSG over a two year time period (2007 & 2008). The cumulative computations have been added by The E Cubed Company, LLC, Oct. 2009</p>		
<p>The numbers of NJ Households are taken from Energy Master Plan Document <emp_fuel_061013f.pdf> p6 of 19 They are multiplied by the cumulative percentages from the MASSAVE SAMPLE.</p>		
<p>It is estimated that over 570,000 gas heated homes have systems from 1980 or earlier.</p>		
<p>It is estimated that 215,000 oil heated homes have systems from 1980 or earlier.</p>		
<p>This sample is not scientific.</p>		



66 Witherspoon St., PMB 242  Princeton, New Jersey 08542

Via e-mail c/o Janeen Lawlor, janeen.lawlor@bpu.state.nj.us, oce@bpu.state.nj.us

November 6, 2009

Jeanne Fox, Chair
New Jersey Board of Public Utilities
One Gateway Center
Newark, NJ 07101

RE: Request for comments on 2010 Energy Efficiency and Renewable Programs

Dear Commissioners and Staff:

G⁴Better Living, Inc. (G⁴BL) a community organization in the State of New Jersey that promotes environmental awareness and economic access for individuals, businesses and communities. Our mission is to create sustainable communities by positively impacting the quality of life for individuals through education, advocacy and collaboration. We believe that sustainable, knowledgeable people form the basis for sustainable communities. Thus it is important that everyone understands how being “green” and sustainable is necessary for long term change, as well as have access to a diversity of “green” technology to promote economic parity, environmental justice and general health and well being. G⁴BL is aware of the Stakeholder meeting in Iselin on November 4, the Public Comment Meeting in Trenton on October 13, and other public meetings on green energy opportunities. It is our understanding that 2010 programs are now under consideration by the Office of Clean Energy and the Board of Public Utilities and that comments can be submitted until Friday, November 6.

In Massachusetts more than 50 low-income homes are using micro-combined heat and power (Micro-CHP); this is supported in part by the Massachusetts Renewable Technology Trust. We would like similar opportunities in New Jersey to benefit low-income residents, as well as small/women/minority business enterprises (S/W/MBEs) who have the desire and potential to explore this market.

The micro-CHP proposal is important because it provides an alternative to solar energy in cases when solar is not a viable option, either because of customer preference or physical restrictions. It also provides new areas of business opportunity for S/W/MBEs and other New Jersey businesses. ***Please support micro-CHP deployment in 2010 and do not postpone or table this item for the future. We see the deployment of the micro-CHP as a matter of environmental and economic empowerment for underrepresented communities and low-income residents.***

Thank you for your time and attention to this matter. I am available to provide additional information as necessary. We are advocating for positive, inclusive, and sustainable solutions.

Sincerely,

Vanessa M. Wilson

Vanessa M. Wilson, JD
Executive Director

cc: Lance Miller, BPU, Lance.Miller@bpu.state.nj.us
Michael Winka, Director, Office of Clean Energy, Michael.Winka@bpu.state.nj.us
Mona Moser, BPU, mona.moser@bpu.state.nj.us
Michael Ambrosio, Consultant to BPU, mambrosio@appliedenergygroup.com
Linda Wetzel, Applied Energy Systems, lwetzel@appliedenergygroup.com
Joe Genello, TRC, joe.a.genello@honeywell.com
David Wolk, Honeywell, David.Wolk@Honeywell.com
Barth, Larry, CSG, Larry.Barth@csggrp.com
Nikki Kuhn, VEIC, nkuhn@veic.org
Ruben Brown, ruben.brown.ecubedllc@gmail.com

Email: g4bl@g4bl.org  Voice mail: (641) 715-3900 ext 72876#

November 5, 2009

Jeanne Fox, Chair
New Jersey Board of Public Utilities
One Gateway Center
Newark, NJ

Re: Comment on Proposed 2010 Energy Efficiency and Renewable Programs.

Dear Chair Fox:

The National Association of Energy Service Companies (NAESCO) is submitting this letter to urge the Board of Public Utilities to approve the proposed incentives for the 2010 Clean Energy C&I program as well as the carry over budgets from the 2009 program. NAESCO is greatly encouraged by the reported response to the Board's leadership and the implementation by the Office of Clean Energy and the Program Managers at TRC and Honeywell in the Pay-for-Performance, the new construction and the direct install programs.

NAESCO's current membership of about 65 organizations includes firms involved in the design, manufacture, financing and installation of energy efficiency and renewable energy equipment and the provision of energy efficiency and renewable energy services in the private and public sectors. NAESCO members deliver about \$5 billion of energy efficiency, renewable energy and distributed generation projects each year – about equal to all of the energy efficiency projects delivered by all US utilities combined, according to a recent report by the Lawrence Berkeley National Laboratory.

NAESCO numbers among its members some of the most prominent companies in the world in the HVAC and energy control equipment business, including Honeywell, Johnson Controls, Siemens, Trane, Comfort Systems USA Energy Services, and Schneider. Our members also include many of the nation's largest utilities: Pacific Gas & Electric, Southern California Edison, New York Power Authority, and TU Electric & Gas. In addition, ESCO members include affiliates of several utilities including ConEdison Solutions, FPL Energy Services, Pepco Energy Services, Constellation Energy Products and Services and Energy Systems Group. Prominent national and regional independent members include Atlantic Energy, DMJM Harris, NORESKO, Onsite Energy, EnergySolve Companies, Ameresco, UCONS, Chevron Energy Solutions, Synergy Companies, Wendel Energy Services, Control Technologies and Solutions, CLT Energy Services, Clark Realty Capital, McClure, SAIC, and Lockheed Martin.

NAESCO member companies have delivered energy efficiency, renewable energy, demand response and distributed generation projects to New Jersey institutional, government, industrial, commercial and residential customers for two decades.

We are encouraged by the effort reported in the November 4 session to propose incremental incentives for bio-powered CHP projects that might bridge the interface between the Pay-for-Performance Program and the renewable program. The incremental unit of \$0.50/watt has been proposed. NAESCO members have experience with these kinds of projects and given the incremental expense, for example of piping from landfill sites at some distance, we recommend that a higher incremental incentive be offered and proposed that it be set at \$1.00/watt.

We recognize that the meshing the two program efforts (Pay-for-Performance and bio-power) will require improved coordination efforts by both TRC which manages the C&I program and Honeywell which manages the Renewable Program. We recommend that progress on the joint effort be reported periodically to both the EE and the Renewable Stakeholder groups.

We are encouraged by the State's energy efficiency programs and offer to be available on behalf of the Performance Contracting Industry to State officials during and after the transition to the new Administration.

Very truly yours



Donald Gilligan
President

CC:

Janeen Lawler, BPU
Lance Miller, BPU
Michael Winka, Director, Office of Clean Energy
Mona Moser, BPU
Michael Ambrosio, Applied Energy Systems
Linda Wetzel, Applied Energy Systems
Roger Kleimisch, C&I Program Manager, TRC
Ruben Brown, The E Cubed Company, LLC
Arthur Pearson, The E Cubed Company, LLC

INNOVATIVE CONCRETE SYSTEMS, LLC

Via e-mail c/o Janeen Lawlor, janeen.lawlor@bpu.state.nj.us, oce@bpu.state.nj.us

November 5, 2009

Jeanne Fox, Chair
New Jersey Board of Public Utilities
One Gateway Center
Newark, NJ 07101

RE: Request for comments on 2010 Energy Efficiency and Renewable Programs

Dear Commissioners and Staff:

Innovative Concrete Systems, LLC (ICS) is a minority owned business looking for green business opportunities in New Jersey. We understand that successful innovative green opportunities have been deployed in Massachusetts for more than 50 low-income homes utilizing micro-combined heat and power (Micro-CHP) supported in part by the Massachusetts Renewable Technology Trust. We would like similar opportunities in New Jersey.

I attended the Stakeholder meeting in Iselin on November 4 and other public meetings on green energy opportunities. I learned that 2010 programs are now under consideration by the Office of Clean Energy and the Board of Public Utilities and that comments can be submitted until Friday November 6.

We were also aware of the Public Comment Meeting in Trenton on October 13 at the DEP office building. The micro-CHP proposal got our attention as something that can provide opportunities for our business when customers cannot use or do not want a solar installation. We encourage you to support micro-CHP deployment in 2010. The time is now not later.

Such systems can be deployed to meet peak reliability needs, although the data shown on October 13 only showed systems that operate during the heating season.

An effective residential micro-CHP program should include:

- the OCE should fund an incentive program for micro-CHP in 2010;
- the incentives should be similar to what solar received in its earlier phases e.g. \$2.75/watt or higher;
- a higher incentive should be available for facilities that can meet peak needs, such as the \$0.50/watt adder that was discussed for the bio-power CHP combination; and
- the Program should be large enough to deploy several hundred installations.

The Commercial and Industrial pay-for-performance advanced CHP program should not have a minimum size. This would permit installations, such as several small units, to serve common

73 LAURENCE PARKWAY • LAURENCE HARBOR, NJ 08879
732-501-6096 VOICE • 732-970-5959 FAX • BOOKERICS@GMAIL.COM

INNOVATIVE CONCRETE SYSTEMS, LLC

facility areas in multi-family residential situations, such as ten detached garden apartment buildings sharing a common land parcel. A higher incentive should be available for facilities that can meet peak needs, such as the \$0.50/watt adder that was discussed for the bio-power CHP combination.

Feel free to contact me at the number or email address below with question or comments. Thank you for your time, attention of consideration of this very important matter.

Very truly yours

Adrian B. Booker

Adrian B. Booker
Principal

cc: Lance Miller, BPU, Lance.Miller@bpu.state.nj.us
Michael Winka, Director, Office of Clean Energy, Michael.Winka@bpu.state.nj.us
Mona Moser, BPU, mona.moser@bpu.state.nj.us
Michael Ambrosio, Consultant to BPU, mambrosio@appliedenergygroup.com
Linda Wetzels, Applied Energy Systems, lwetzels@appliedenergygroup.com
Joe Genello, TRC, joe.a.genello@honeywell.com
David Wolk, Honeywell, David.Wolk@Honeywell.com
Barth, Larry, CSG, Larry.Barth@csggrp.com
Nikki Kuhn, VEIC, nkuhn@veic.org
Ruben Brown, ruben.brown.ecubedllc@gmail.com

Department of Community Affairs

Division of Codes and Standards

TO: NJ Board of Public Utilities – NJ Clean Energy Program

RE: Request for CEP funds in support of Building Code requirements of:

- **The Economic Recovery and Reinvestment Act of 2009 and**
- **P.L. 2009 Chapter 106, Senate 702**

H.R. 1 the Economic Recovery and Reinvestment Act (ARRA) of 2009, enacted February 13, 2009, requires States to create a plan to adopt a building energy code for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, and for commercial buildings, a building code that meets or exceeds ASHRAE 90.1 – 2007 within eight years of the enactment of the ARRA. Adoption of such codes is a condition for qualifying for New Jersey's share of \$74 million in State Energy Program (SEP) funds and additional funds through Energy Efficiency Conservation Block Grants (EECBG).

Additionally, ARRA requires a plan for active training, enforcement, and annual measurement of the percent of compliance to reach 90% in new and renovated residential and commercial construction by 2017. The technology, construction methods, test methods, and some of the products are new, and builders, and contractors and code officials will need training to achieve full compliance.

We propose to conduct mandatory training for nearly 4000 licensed building and electrical inspectors and other interested parties such as architects and engineers. Attached is a budget for both the costs of adoption of the IECC 2009 and ASHRAE 90.1 – 2007 (staff time and purchase of 2009 code publications), training and other associated costs in order to comply with H.R. 1 the Economic Recovery and Reinvestment Act (ARRA) of 2009.

Secondly, we seek support for research associated with the development of rules, training and enforcement of **P.L. 2009 Chapter 106, Senate 702**. Senate 702 authorizes enhancement of the State Uniform Construction Code's energy Subcode based on anticipated energy savings.

Below is the anticipated budget for the mandatory Energy Code Instruction Seminars, the budget for implementation of Senate 702 will be under separate cover.

Thank for your consideration of this matter.

A. Participants

1. Licensed Building Inspectors		2377
2. Licensed Electrical Inspectors		1055
3. Interested parties including Architects and Engineers		<u>500</u>
Total to be trained		3932

Courses needed for Building Inspectors	2377/ up to 50 students per class	50
Courses needed for Electrical Inspectors	1055/ up to 50 students per class	25
Courses needed for Interested Parties	500/ up to 50 students per class	<u>15</u>
Total Courses Needed		90

B. Costs

1. Approximate Cost per course using ICC Instructor		\$2600
2. Cost for Handouts per class, ICC (\$8.50), Energy Code (\$25.50), ASHRAE (119.00)		\$7650
3. Average Cost for Facility per course		<u>\$800</u>
Total Cost per Course		\$11,050

Total for 90 courses and course materials: \$994,500.00

DRAFT