Office of Clean Energy

Revised CRA Straw Proposal
Proposed Funding Levels FY14 – FY17

March 28, 2013
(Revised April 17, 2013)

Table of Contents

1.0 Background/Context

1.1 EDECA

Procedural History

On February 9, 1999, the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq. (EDECA or the Act) was signed into law. The Act established requirements to advance energy efficiency and renewable energy in New Jersey through the societal benefits charge (SBC), at N.J.S.A. 48:3-60(a)(3). EDECA further empowered the Board to initiate a proceeding and to cause to be undertaken a Comprehensive Resource Analysis (CRA) of energy programs, currently referred to as the comprehensive energy efficiency (EE) and renewable energy (RE) resource analysis. After notice, opportunity for public comment, public hearing, and consultation with the New Jersey Department of Environmental Protection (NJDEP), within eight months of initiating the proceeding and every four years thereafter, the Board would determine the appropriate level of funding for EE and Class I RE programs (now called New Jersey's Clean Energy Program or NJCEP) that provide environmental benefits above and beyond those provided by standard offer or similar programs, in effect as of February 9, 1999.

As required by the Act, in 1999, the Board initiated its first comprehensive EE and RE resource analysis proceeding. At the conclusion of this proceeding, the Board issued its initial order, dated March 9, 2001, Docket Nos. EX99050347 et al. (March 9th Order). The March 9th Order set funding levels for the years 2001 through 2003, established the programs to be funded and budgets for those programs. By Order dated July 27, 2004, Docket No. EX03110945 et al., the Board finalized the funding level for 2004 and established the programs to be funded and budgets for those programs. The Board approved funding levels of $115 million for 2001, $119.326 million for 2002, $124.126 million for 2003 and $124.126 million for 2004.

By Order dated May 7, 2004, Docket Nos. EX03110946 and EX04040276, the Board initiated its second comprehensive EE and RE resource analysis proceeding and established a procedural schedule for the determination of the funding levels, allocations and programs for the years 2005 through 2008. By Order dated December 23, 2004, Docket No. EX04040276 (the December 23, 2004 Order), the Board concluded its second CRA proceeding, set funding levels for the years 2005 through 2008, and approved 2005 programs and budgets. The Board approved funding levels of $140 million for 2005, $165 million for 2006, $205 million for 2007 and $235 million for 2008.

On August 19, 2005, the New Jersey Department of the Treasury, Division of Purchase and Property (Treasury) issued, on behalf of the Board, Request for Proposal 06-X-38052 for New Jersey Clean Energy Program Management Services. The Board selected Honeywell International, Inc. (Honeywell) as the Market Manager for residential energy efficiency and renewable energy programs and TRC Energy Services (TRC) as the Market Manager for commercial and industrial energy efficiency programs. On October 19, 2006, Treasury issued a contract to Honeywell and to TRC to provide program management services.

On January 17, 2007, the Board approved the release of the Request for Proposal for the New Jersey Clean Energy Program - Program Coordinator - Docket No. EO05070640. After an extensive review of the proposals, the Board selected Applied Energy Group (AEG) to provide program coordinator services. A contract for these services was issued by Treasury on July 10, 2007.

By Order dated April 27, 2007, Docket No. EO07030203, the Board directed the Office of Clean Energy (OCE) to initiate a third comprehensive EE and RE resource analysis proceeding and to schedule public hearings on program funding and funding allocations for the years 2009 – 2012. By Order dated September 30, 2008, Docket No. EO07030203, the Board concluded its proceeding and set funding levels of $245 million for 2009, $269 million for 2010, $319.5 million for 2011 and $379.25 million for 2012.

In 2012, the Board desired to align CRA funding levels and NJCEP budgets, which have been established on a calendar year basis, with the State fiscal year, which runs from July 1st through June 30th each year. Therefore, by Order dated November 20, 2012, Docket Nos. EO07030203 and EO11100631V, the Board approved a six month funding level of $194,804,019 for the period from January 1 through June 30, 2013.

The table below summarizes the funding levels approved by the Board for the years 2001 – 2013 in the past three CRA proceedings:

Annual CRA Funding Levels

Year	BPU Approved Funding Level
2001	$115,000,000
2002	$119,326,000
2003	$124,126,000
2004	$124,126,000
2005	$140,000,000
2006	$165,000,000
2007	$205,000,000
2008	$235,000,000
2009	$245,000,000
2010	$269,000,000
2011	$319,500,000
2012	$379,250,000
2013 (first six months)	$194,804,019
Total	**$2,635,132,019**

Board approved funding levels set the level of new funding to be collected by the utilities from ratepayers each year. The funding levels are then allocated to program budgets, based on the new funding levels, plus any carry-over of unspent funds from the previous year. Carry over includes

both unexpended and uncommitted funds, as well as rebate commitments made in the previous years for projects that receive their rebate payment upon project completion.

As set forth at N.J.S.A. 48:3-60a(3), EDECA provides that after the eighth year, the Board shall make a determination as to the appropriate level of funding for energy efficiency and Class I renewable energy programs. Furthermore, EDECA provides that the Board shall determine, as a result of a comprehensive analysis, the programs to be funded by the SBC and the utilities level of cost recovery and performance incentives for existing and proposed programs.

Consistent with the requirements of EDECA, by Order dated October 7, 2011, Docket No. EO11050324V, (the October 11th Order), the Board directed the OCE to initiate a fourth CRA proceeding and to schedule public hearings on funding allocations for the energy efficiency and renewable energy programs for calendar years 2013-2016. Consistent with the November 20, 2012 Order discussed above, the Board is now developing funding levels for fiscal years 2014-2017.

On August 22, 2012, the Office of Clean Energy (OCE) issued a Draft Straw Proposal dated August 21, 2012 that set out proposed goals and funding levels for FY14-17 and requested comments on the proposal. By Order dated November 20, 2012, Docket No. EO11050324, (the November 20th Order), the Board established a procedural schedule for finalizing the fourth CRA proceeding. Specifically, the November 20th Order indicated that Staff would issue a final straw proposal by December 3, 2012, schedule a public hearing for January 14, 2013, and accept comments on the final straw proposal through the date of the hearing.

As a result of a unique set of implementation challenges since the issuance of the November 20th Order, and discussed below, Staff has requested and received additional time to develop the revise the Draft Straw Proposal. By Order dated February 28, 2013, the Board issued a revised procedural schedule. The revised procedural schedule rescheduled the public hearing for April 23, 2013, and accepts public comments on this revised Staff Straw Proposal through April 26, 2013.

1.2 Energy Master Plan Goals and Objectives

On December 6, 2011, Governor Christie released the New Jersey Energy Master Plan (EMP). The EMP included the following overarching goals (EMP, page 4):

1. Drive down the cost of energy for all customers.
2. Promote a diverse portfolio of new, clean, in-state generation.
3. Reward energy efficiency and energy conservation and reduce peak demand.
4. Capitalize on emerging technologies for transportation and power production.
5. Maintain support for the renewable energy portfolio standard of 22.5% of energy from renewable resources by 2021.

The EMP found that EE and CHP programs are the most cost effective way to reduce energy costs, and that the best way to lower individual energy bills and collective energy rates is to use less energy. However, the EMP also noted that the Administration is committed to a top-down reassessment of program efficacy. The EMP stated that the reduction in the cost of natural gas prices and the drop in electric usage due to the economy since the 2008 EMP required that the

20% energy reduction goal be modified, and that cost effective programs reduce the State's energy use, thereby fostering economic development and promoting the State's environmental goals.

The EMP included the following objectives regarding the promotion of cost-effective conservation and energy efficiency:

- Promote energy efficiency and demand reduction in State government buildings
- Incorporate aggressive energy efficiency in building codes
- Redesign the delivery and financing of State energy efficiency programs
- Monitor PJM's demand response initiatives
- Improve natural gas energy efficiency
- Expand education and outreach

The CRA funding can help the State achieve the goals set out in the EMP. However, the EMP goals cannot be met through CRA programs alone; the State must take other non-CRA related steps to achieve the EMP goals. To that end, Staff will coordinate with the State Energy Office, the Departments of Community Affairs and Environmental Protection, the new Program Administrator, Rate Counsel, utilities, program partners and others stakeholders to develop methods and/or programs aimed at achieving these objectives. As Staff proposes new CRA funding levels through this straw proposal, Staff will seek to reinforce, where possible, the goals established in the EMP, and compare these goals to results in other states.

In addition to the overarching goals and objectives, the EMP includes a number of findings and directives that will inform Staff's proposed funding levels. The following are excerpts from the EMP that Staff believes should be considered:

> "The most cost-effective way to reduce energy costs is to use less. Passive energy conservation, the use of energy-efficient appliances, equipment, building materials and practices, and active DR programs result in the reduction of total energy use. Reducing customer usage during on-peak hours to ensure reliable electricity during the hottest and most humid days of the year is less costly than expanding the supply chain infrastructure – new power plants, transmission lines, and both primary and secondary distribution facilities. Reduced on-peak demand also tends to reduce wholesale electricity prices by avoiding the utilization of the least efficient generation dispatched to meet the highest demand level. Thus, reducing peak demand results in benefits that are enjoyed by all ratepayers, even those who have not taken any actions to reduce their electricity use." (EMP page 110)
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> "The 2008 EMP proposed to reduce projected peak demand, energy use, and natural gas use by about 20% across the board, by 2020, relative to the BAU outlook. As discussed in Section 7.3.3, New Jersey's peak demand reduction target remains aggressive but has been adjusted to reflect PJM's outlook of more modest peak load growth over the forecast period." (EMP pages 110-111)
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> "While EE and conservation reduce overall electricity use, only a portion of the EE and conservation induced load reduction is coincident with on-peak demand. Thus, the goal

of reducing peak demand will require a substantial increased penetration rate of DR throughout New Jersey. While the cost savings to electric customers resulting from aggressive promotion of DR through 2020 may justify the effort, New Jersey must assess on a rigorous basis whether or not the resultant benefits associated with incremental DR are greater than the costs. Rival technology options to meet or avoid anticipated load growth must be evaluated. Hence, New Jersey's EDCs, DR program developers, and government bodies, in particular, the BPU and OCE, should conduct the required engineering economic analysis, as well as environmental assessment, in order to validate the merits of the goals set forth in this EMP. Likewise, performance benchmarks applicable to the benefits and costs, and environmental benefits ascribable to energy reduction targets should be developed by New Jersey's EDCs." (EMP page 111)

"The best way to lower individual energy bills and collective energy rates is to use less energy. Energy conservation results from consistent consumer behavior changes and actions, such as turning off lights and lowering thermostats. EE also results from technological measures, such as insulation for rooftops and installing more efficient lighting and heating systems, to replace less energy-efficient systems. Reducing energy costs through conservation and EE lessens the cost of doing business and enhances economic development. As collective energy use is lowered, New Jersey should realize a return on investment in the form of reduced energy bills." (EMP pages 111-112)

"EE measures implemented under the CEP Energy Efficiency Program between 2003 and 2010 saved approximately $4.29 for every $1 invested in the C&I sector, and $1.80 for every $1 in the Residential sector. These savings, however, are calculated on the basis of *total* customer load in each sector. As discussed in Section 4.11, only those customers who participate in the various EE program opportunities realize a direct reduction in their electricity or gas usage, and hence a direct reduction in their bills. The societal benefit charges in the EDC and LDC rates that socialize the cost of the EE investments and other subsidies are paid by *all* customers, including those who do not or cannot take advantage of the EE programs. To the extent that EE measures reduce peak demand and thereby drive down the cost of energy, *all* ratepayers will enjoy the indirect savings in the form of lower rates. For this reason, a TRC test should be performed to assess the net benefit of EE subsidies and investments." (EMP page112)

"A strong EE program should also offset other macroeconomic pressures, such as increased costs of other goods and services. According to CEEEP, a strong EE program should result in an estimated net increase of 1,850 jobs by 2020. Additional savings result from EE participation in RPM, the PJM capacity market." (EMP page112)

"Established under EDECA, New Jersey's RPS is one of the most aggressive in the U.S. The RPS requires each electricity supplier serving retail electricity customers in the State to procure 22.5% of the electricity it sells in New Jersey from qualified renewable energy resources by2021. New Jersey established the RPS to drive the market deployment of new clean energy technologies, recognizing that expansion of renewable energy generation would provide significant economic development and environmental benefits, thereby advancing New Jersey's greenhouse gas reduction goals…" (EMP page 59)

"The RPS for Class 1 renewable energy resources increases over time, reaching 20% by 2021 and includes carve-outs for solar and offshore wind," As of January 2010, the Solar Energy Advancement and Fair Competition Act (SEAFCA or the Solar Advancement Act) requires a separate obligation for solar energy that requires electricity suppliers to procure an increasing amount of electricity from in-state solar electric generators, reaching at least 2,518 GWh by 2021, and at least 5,316 GWh of electricity by 2026 and each year thereafter." (EMP page 46)

"OWEDA[1] was enacted August 19, 2010. OWEDA calls for at least 1,100 MW (installed capacity) of offshore wind generation on the outer continental shelf in the Atlantic Ocean. Like solar, the offshore wind provision is also defined as a carve-out from the total Class I requirement." (EMP page 46)

While the EMP does not set specific energy savings goals or specific goals for the NJCEP, Staff draws the following conclusions from the EMP excerpts above, and these conclusions will inform the proposed funding levels set out below:

- Energy efficiency is the most cost-effective way to lower energy costs.
- Energy efficiency programs should focus on reductions in peak demand in addition to reductions in energy usage, which can lower costs for all ratepayers.
- While energy efficiency programs are the cheapest source of energy, the impact of the level of funding collected from ratepayers on non-participating customers must be considered.
- Energy efficiency programs and renewable energy contribute to State's overall economic development and create in-state jobs.
- Energy efficiency and renewable energy programs deliver environmental and health benefits and lower peak energy costs, which benefit all ratepayers, including non-participating customers.
- Energy efficient and renewable energy programs must undergo regular and rigorous evaluation to confirm projected energy savings and economic benefits.
- The promotion of in-state renewable energy resources can reduce emissions while promoting economic development.
- Energy savings must be considered comprehensively, and those savings delivered by NJCEP programs should complement other non-NJCEP activities such as stricter building codes, higher appliance standards, utility programs and EE in state facilities.

1.3 Statewide Energy Efficiency and Renewable Energy

Utilities also manage programs that support the Board's renewable energy goals. The costs of the utility RE programs were recently assessed in a report prepared by CEEEP and will not be repeated herein. CEEEP's report can be found at:

http://policy.rutgers.edu/ceeep/publications/2012/EDCSolarLongTerm.pdf

[1] Offshore Wind Economic Development Act

Role of Utilities

Consistent with 2007 legislation known as the Regional Greenhouse Gas Initiative (RGGI), implementation amendments to the Global Warming Response Act, which sets out standards for cost-recovery related to utility-implemented programs, the EDCs have implemented various energy efficiency and renewable energy programs over the past several years. These programs are in addition to NJCEP and include:

- Four utilities, New Jersey Natural Gas, Elizabethtown Gas, South Jersey Gas and Rockland Electric Company have developed and implemented energy efficiency programs that generally supplement or complement the NJCEP, by providing additional incentives for certain measures or programs and/or have implemented new programs that address markets not covered by the NJCEP.
- One utility, Public Service Electric and Gas (PSE&G), has developed and implemented energy efficiency programs that overlap and compete with those offered through NJCEP, by offering similar efficiency options to customers in its service territory at greater incentive levels or in certain portions of its service territory, such as Urban Enterprise Zones.
- Two utilities, Atlantic City Electric Company and Jersey Central Power and Light Company do not offer any energy efficiency programs.
- Three utilities, Atlantic City Electric Company, Jersey Central Power and Light Company and Rockland Electric Company, have developed and implemented renewable energy programs that involve a competitive solicitation for the long-term purchase of SRECs at a fixed price and term.
- PSE&G has developed and implemented two solar programs including a solar loan program and a program whereby PSE&G owns and operates solar assets on its own property, and as well on projects owned by third parties, to whom it makes lease payments.

Utility Program Costs

A number of utilities offer EE programs that supplement the NJCEP. Because NJCEP and utility efficiency and renewable energy programs are both funded by ratepayers, Staff believes that the costs associated with such programs should inform the level of funding for the NJCEP.

The following table shows utility expenses on EE programs for the period 2010-2012:

Utility EE Program Costs

Utility	2010	2011	2012
New Jersey Natural Gas	$13,142,715	$17,164,001	$19,678,980
South Jersey Gas	$4,855,839	$6,278,245	$6,131,609
Elizabethtown Gas	$1,792,508	$3,289,492	$2,326,579
Rockland Electric	$189,932	$258,755	$221,330
Public Service Electric and Gas	$104,289,299	$65,917,553	$38,879,992
Total	$124,272,303	$92,910,057	$67,240,502

Note: Expense data provided by utilities.

Utility expenses related to EE programs have declined over the past three years, primarily due to a decline in spending by PSE&G.

Staff believes that the utilities have not reliably reported expenditure data for both EE and RE programs, as required by RGGI, making detailed evaluation of the effectiveness of the programs difficult, and that additional evaluation of and coordination between the utility programs and the NJCEP would result in less customer confusion, lower costs and improve the overall effectiveness of EE and RE programs. In Section 2.4, this Straw proposal includes Staff recommendations on ways to better coordinate the utility EE programs with the NJCEP.

RPS Costs

Suppliers comply with the Board's Renewable Portfolio Standards (RPS) regulations through the purchase of Renewable Energy Certificates (RECs) or Solar Renewable Energy Certificates (SRECs) or by making Alternative Compliance Payments (ACPs or Solar/SACPs). The OCE estimated the total cost of compliance with the RPS, which ranges from approximately $7.5 million in Reporting Year 2005 to $197 million in Energy Year 2011 (EY)[2]. The solar RPS requirement is estimated to have ranged in cost from a low of $1.4 million (RY05) to a high of $184 million (EY11). The BPU received a low of $48,900 SACPs in RY06 and a high of $38.9 million SACPs in RY09. The Class I requirements are estimated to have ranged in cost from $4 million to $37.5 million, and the Class II requirements have cost approximately $2 million per year during this time period. Electricity supplier/providers, who bear the obligation of RPS compliance, are presumed to pass through to their customers, the New Jersey electricity ratepayers, the majority of these costs.

[2] The RPS changes the nomenclature from reporting year to energy year in 2010 rule modification.

The following table summarizes the costs of complying with the Board's RPS regulations:

NJ RPS Compliance History

Compliance Period	RY 2005	RY 2006	RY 2007	RY 2008	RY 2009	RY 2010	EY 2011	EY 2012
Notes:	*#@+	+	^					Preliminary
Total Retail Sales of Regulated LSEs (MWh)	73,674,845	84,353,329	83,314,518	80,028,793	81,416,156	77,418,756	81,349,339	76,935,091
Class I RPS Percentage Requirement	0.74%	0.983%	2.037%	2.037%	2.92%	4.685%	5.492%	6.320%
Class I REC Obligation (MWh)	545,194	834,832	1,697,117	2,340,042	3,126,380	3,627,069	4,467,706	4,862,298
Class I RECs Retired for RPS (MWh)	527,160	845,702	1,697,364	2,341,702	3,127,491	3,627,074	4,468,399	4,866,522
Estimated Year End Weighted Average Price	$8.00	$8.00	$8.00	$15.00	$12.00	$2.00	$2.38	$4.14
Estimated Dollar Value of Class I RECs Retired	$4,217,280	$6,765,616	$13,578,912	$35,125,530	$37,529,892	$7,254,148	$10,634,790	$20,147,401
Class I ACPs Submitted (MWh)	0	19	539	200	0	3	6	27
ACP Level ($ per MWh)	$50	$50	$50	$50	$50	$50	$50	$50
Cost of Class I ACPs ($)	$0	$950	$26,950	$10,000	$0	$150	$300	$1,350
Retail Sales Obligated by RPS for solar (+)	57,140,000	61,470,091	83,314,518	80,028,793	81,416,156	77,418,756	81,349,339	76,935,091
SREC Obligation (MWh)	5,714	10,450	32,743	65,384	130,266	171,095	306,000	442,000
SRECs Retired for RPS (MWh)	3,329	10,723	31,541	49,617	75,532	123,717	289,021	438,900
Percentage of Obligation met via SRECs	58.26%	102.61%	96.33%	75.89%	57.98%	72.31%	94.45%	99.30%
Year End Cumulative Weighted Average Price	$200.59	$215.09	$220.28	$246.15	$544.85	$615.50	$602.99	$287.71
Estimated Dollar Value of SRECs Retired	$667,764	$2,306,410	$6,947,851	$12,213,225	$41,153,610	$76,147,814	$174,276,773	$126,275,919
SACPs Submitted (MWh)	2,653	163	1,232	15,768	54,738	47,373	15,344	4
SACP Level ($ per MWH)	$300	$300	$300	$300	$711	$693	$675	$658
Percentage of Obligation met via SACPs	46.43%	1.56%	3.76%	24.12%	42.02%	27.69%	5.01%	0.00%
SACPs Submitted($)	$792,132	$48,900	$369,600	$4,730,400	$38,918,718	$32,828,160	$10,357,301	$2,632
Compliance on a Percentage Basis	104.69%	104.17%	100.09%	100.00%	100.00%	100.00%	99.47%	99.30%
Estimated Solar RPS Expenditures (SACP + SREC)	$1,459,896	$2,355,310	$7,317,451	$16,943,625	$80,072,328	$108,975,974	$184,634,073	$126,278,551
Estimated Class I RPS Expenditures (ACP + CI-REC)	$4,217,280	$6,766,566	$13,605,862	$35,135,530	$37,529,892	$7,254,298	$10,635,090	$20,148,751
Estimated Class II RPS Expenditures (ACP + CII-REC)	$1,800,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Estimated Total RPS Expenditures (REC + SREC + ACP + SACP)	$7,477,176	$11,121,876	$22,923,313	$54,079,155	$119,602,220	$118,230,272	$197,269,163	$148,427,302

Explanatory Notes on Compliance Reporting, Results and Data Issues

1. NJ's RPS rules have evolved from legislation signed 02/01/99 with rule revisions to N.J.A.C. 14:8-2 made in 2004, 2006, 2008, 2009 and legislation 1/17/10.
2. (*) The RPS compliance period classification has changed three times with compliance originally based on a Calendar Year. A Reporting Year classification was proposed
3. The RPS rule changes proposed October 2003 also treated the gap from 01/01/04 to 5/31/04 which resulted from the transition from a Calendar Year to a Reporting Year
4. (#) Eligibility to create SRECs from solar MWhs for use in NJ's RPS began 03/01/04 with RY05 (via Board Order dated 1/26/04).
5. (@) No aggregated compliance reports were produced for the NJ RPS prior to RY05.
6. (+) The Board grandfathered BGS auction winners with pre-existing contracts by exempting their load from the new solar carve-out requirements.
7. (^) Reporting Year 2007 Compliance Reports, ACP and REC requirements were deferred by Board Action from 09/01/07 until 02/29/08.
8. With the period beginning June 1, 2010, NJ RPS compliance

Economic Development Authority

The New Jersey Economic Development Authority (EDA) currently manages three NJCEP programs:

- The Edison Innovation Clean Energy Manufacturing Fund (CEMF), which offers financial assistance in the form of low-interest loans and non-recoverable grants to companies that manufacture renewable energy or clean and energy efficient products in New Jersey.

- The Edison Innovation Green Growth Fund (GGF), which offers financial assistance to clean technology companies seeking funding to grow and support their businesses. The program is intended to spur innovation and fund emerging technologies in New Jersey.
- The Large Scale CHP/Fuel Cell program, which provides rebates to large scale (>1 MW) CHP and fuel cell projects.

The EDA also managed a revolving loan program that was suspended in 2012, due to budget constraints and lack of participation.

The CEMF and GGF programs are designed to attract firms that manufacture clean energy technologies and/or are developing new RE and EE innovative technologies to New Jesey. The secondary goals of the programs are to create jobs and to develop a local manufacturing base. Staff believes the NJCEP should continue to support these types of programs going forward, assuming they continue to support energy efficiency or NJ Class I renewable technologies.

Role of Third Party Suppliers and Curtailment Service Providers

Third party electric suppliers (TSPs) and curtailment service providers (CSPs) are playing an increasing role in the delivery of electric power and demand response services. Based on information provided in the EMP, in April 2010, less than 1% of residential customers were served by TPSs. By September 2011, about 9% of residential customers were served by TPSs. In the C&I market, customers served by TPSs grew from less than 1% in 2007 to over 21% by December 2011. The C&I customers served by TPSs represent about 61% of the total C&I MW load (EMP pages 41- 42). The number of customers and the proportion of load served by TPSs have continued to grow since the release of the EMP.

CSPs work with customers to curtail load during times of peak electric demand through the control of existing equipment. Typically, this requires new equipment and/or increased on-site generation. CSPs aggregate the load reductions and sell the aggregated load reductions into the PJM capacity market.

Some TPSs are beginning to offer their customers services other than commodity supply, which are intended to assist customers in reducing their energy costs. For example, one TPS active in New Jersey is now offering on-bill financing to its customers for energy efficiency measures.

As the role of TPSs and CSPs continues to grow, and TPSs and CSPs become a point of contact with customers, the NJCEP should explore ways to work with both groups to deliver energy efficiency and demand response programs to customers. This might entail additional incentives or could simply involve having TPSs and CSPs assist in providing program information to customers or having them assist with marketing the NJCEP. Staff recommends that the selected Program Administrator convene working groups to identify potential opportunities for TPSs and CSPs to assist in the delivery of the NJCEP.

State Energy Office

While New Jersey's Clean Energy Program promotes energy efficiency improvements for businesses, residents and local governments, the State Energy Office was established in June

2011 by Governor Christie to demonstrate his commitment to "leading by example" and to determine where the greatest opportunities exist for state facilities to save energy and money. In order to achieve these objectives, the State Energy Office is leveraging state, federal, and private-sector resources to deliver the greatest energy, environmental, and cost reduction benefits to all citizens.

Since its inception, the SEO has updated prior energy audits or conducted new audits at the State's largest energy users – e.g. prisons, developmental centers, and state hospitals - and created a prioritized list of state facilities. Based on the findings of these audits, the SEO implements energy conservation measures (ECMs) in these facilities, such as lighting upgrades, new HVAC and mechanical equipment, fuel conversions (oil to natural gas). Over the next 3-5 years the SEO's efforts will focus on the state's 30 largest energy-consuming facilities, which consume nearly 54% of the total energy of all state facilities.

This first phase of retrofits includes a total of 7 facilities, and is projected to reduce annual energy usage by approximately 20% and save approximately $14 million annually. As with all Clean Energy programs, the SEO will measure and publish the State's progress, tracking reduced demand, reduced energy costs, reduced greenhouse emissions, and jobs created.

Energy Savings Improvement Program (ESIP)

Legislation enacted in 2009 (P.L. 2009 c.4) and revised in 2012 (P.L. 2012 c.55) provides a funding opportunity for the State's entities (i.e. agencies and authorities, public institutions of higher education, county colleges, local boards of education, counties and municipalities) to install high efficiency systems and other ECMs to significantly reduce energy consumption and associated costs. The savings achieved through these upgrades is then used to pay for the ECMs, through a refunding bond mechanism. These ECM's include, but are not limited to, lighting, occupancy sensors, chillers, boilers, HVAC equipment, demand management controls and even renewables, as long as the combined payback period is less than 15 years. Some districts are now considering incorporating CHP, focusing on a regional approach, which can extend the payback period to 20 years.

Boards of Education (K-12 school districts) have the greatest potential for participation, since the bonds to fund their projects are not new obligations, as defined by the legislation, and therefore do not require bond referendums. Aging structures requiring high maintenance and operations costs should be able to realize 20% or more in energy related cost reductions. There is potential for in this sector alone for well over $1 billion in projects[3], which can produce significant reduction in grid demand, as well as substantial job creation.

The BPU's Ombudsman's office has partnered with Sustainable Jersey (BPU provides funding through a grant) to capitalize on its existing relationship with school districts, to educate school districts on the ESIP's process and its funding advantages. The result has been a significant interest level from this sector.

[3] Project potential based up a 50% district participation rate with an average of 3 facilities per district and $3.5 million / dist. project

1.4 Critical Facilities

Distributed Generation/CHP for critical facilities

At approximately 8:00 PM on October 29, 2012 Hurricane Sandy slammed into the New Jersey coast near Atlantic City and wreaked havoc with over 70% of New Jersey's electric distribution grid. Over 68% of New Jersey's electric utility customers were without power at the peak of this storm.

However, there were locations in the impacted areas that had power during this outage; entities that had combined heat and power (CHP) units, sometimes referred to as co-generation, were able to operate by isolating their CHP unit from the grid when the power went down. The College of New Jersey, Rutgers University, Princeton University and dozens of businesses, industries and public facilities continued to operate while the grid was down.

Staff believes there are valuable lessons to be learned from the aftermath of Sandy and specifically, about the role of CHP as a means of hardening infrastructure for critical facilities and the use of micro-grids to enhance system reliability.

Currently, New Jersey has approximately 209 CHP facilities serving universities, hospitals, multifamily buildings, waste treatment facilities, office buildings and industrial facilities, that generate over 3,000 MW. The 2011 Energy Master Plan established a goal of securing 70% off the State's energy needs from 'clean' energy sources by 2050 (EMP page 3), including CHP and fuel cells (FC). It also committed the State to developing 1,500 MW of CHP over the next 10 years (150 MW per year), including 1,400 MW for commercial and industrial applications and 100 MW through district energy systems. This goal will not be accomplished through NJCEP incentive programs alone.

Through 2012, the NJCEP provided over $50M in incentives to help fund the installation of over 70 MW of CHP. In January 2013, with a budget of $25 M, EDA issued a second solicitation for Large Scale CHP-FC Program. Based on past results, the solicitation is expected to attract approximately 15 projects with a total of 50 MW of capacity, and to leverage additional funds, for a total capital cost of approximately $160 M.

The NJCEP 2012/2013 budget for the Small Scale CHP-FC Program (less than or equal to 1 MW) was $17M. Since January 2012, the program has approved 7 projects for a total of 2.3 MW, with an additional five projects under review for a total of 2.8 MW.

Staff recommends that CHP-FC play an expanded role in emergency response and continue to be promoted as an energy efficient measure. To that end, the BPU has convened a CHP-FC work group tasked with evaluating the costs and benefits of CHP and with determining how to best implement this technology. The findings of this work group will inform the development of future CHP-FC programs and budgets, as well as the development of appropriate funding mechanisms. For example, the working group is currently exploring the costs and benefits of utilizing an Energy Efficiency Portfolio Standard (EEPS) as a means of financing CHP-FC.

1.5 Costs versus Rates

Cost effective energy efficiency, by definition, means that the total cost of procuring energy efficiency is less than the cost that would be incurred to generate and deliver the energy that is saved. Thus, achieving all cost effective energy efficiency would lower the State's overall energy costs.

The EMP notes that reducing customer usage during on-peak hours to ensure reliable electricity during peak electric demand days is less costly than expanding the electric supply chain infrastructure including generation, transmission and distribution facilities. The EMP also notes that reduced on-peak demand tends to reduce wholesale electric prices which results in benefits enjoyed by all ratepayers, even those that do not take action to reduce their usage.

Funding for the CRA programs is included in utility rates. Thus, rates could be reduced for all customers if the Board chose not fund the CRA programs or to lower the amount collected from ratepayers. However, taking this path would forgo the benefits that result from the programs including lowering the overall cost of energy.

Specifically, the EMP found that EE measures implemented under the CEP Energy Efficiency Program between 2003 and 2010 saved approximately $4.29 for every $1 invested in the C&I sector, and $1.80 for every $1 in the residential sector. That is, for every $100 million spent on EE projects in the C&I sector overall energy costs are reduced by $429 million and for every $100 million spent on EE projects in the Residential sector overall energy costs are reduced by $189 million. In addition to reducing energy costs and usage, EE program result in environmental benefits that result from lower emissions, create local jobs and keep energy dollars in the State that would otherwise flow out of state.

Customers that participate in the NJCEP reduce their electric or natural gas costs by using less energy. These are referred to as participating customers. For participating customers, utility rates are higher with CRA funding than without, however, their energy costs/bills would be lower since they are using less energy. For example, in the 2008 CRA Order the Board estimated that in 2012 the average residential electric customer would contribute $26.85 to the CRA funding. If the customer participated in a NJCEP program that led to an investment in energy efficiency that reduced the customer's energy costs by more than this amount, then the customer was better off with than without the NJCEP; that is, while the customers rates went up, its bill went down. Something as simple as installing 3 CFLs would result in a net customer benefit.

For non-participating customers, their rates go up to support the CRA funding but they do not enjoy the direct benefits associated will less usage. This creates a subsidy between participating and non-participating customers since non-participating customer's rates and costs are higher if they do not reduce energy usage. However, non-participating customers do receive some benefits such as lower wholesale costs that result from lower peak demands, as well as the environmental, health and economic/job benefits that result from the programs.

The Board has historically attempted to balance these competing interests in two ways. First, the Board has limited the level of CRA funding to an amount less than the amount needed to achieve all cost effective energy efficiency. This minimizes the impact on rates. For example, in the last

CRA proceeding the Board approved a funding level that resulted in rates going up by approximately 1% over the 4 year cycle (or 0.25% per year). This level of funding would result in the State achieving some but not all of the cost effective energy efficiency potential and overall energy costs to the State being higher since not all cost effective EE was achieved.

The second method used to balance these competing objectives is to develop programs that provide an opportunity for all customers and customer classes to participate in a program. As noted above, if all customers participate in a program and reduce their energy usage, then energy costs would go down for all customers as well as for the State, even if rates go up.

2.0 Implementation Challenges

2.1 Status of RFP for Program Administrator

On June 22, 2012, Treasury issued Request for Proposal 13-X-22546. The RFP sought bids to manage the full suite of NJCEP EE and RE programs. A primary objective of this RFP was to condense the team of program administration consultants from three (AEG, Honeywell and TRC) to a single Program Administrator, with a goal of streamlining and reducing administrative costs.

All bids were received on June 22, 2012. On August 31, 2012, six (6) bids were opened and all were deemed responsive by Treasury. At its February 20, 2013, agenda meeting, the Board voted to concur with Treasury's Recommendation Report dated January 11, 2013. On February 22, 2013, Treasury issued the Letters of Intent to Award, making the results of the RFP public, and commencing the protest period. As of March 8, 2013, when the protest period closed, Treasury had received two formal protests, and the process for resolution is ongoing.

2.2 Transition to Financing

The EMP states that "There are several innovative alternatives to optimize existing EE programs, including revolving loan programs and improving the mechanisms for delivering the programs in a more efficient manner. These alternatives should be implemented if they are cost-effective and benefit all ratepayers." (EMP, page 8) The EMP also states that "increased use of revolving loan programs would eventually allow the programs they support to become self-sustaining. SBC funds could then be re-directed and/or the charges to ratepayers could be reduced." (EMP, page 119)

While financing programs, in theory, provide an opportunity to reduce reliance on SBC funding to promote energy efficiency, in practice, questions remain regarding whether financing without rebates is sufficient to overcome barriers to investing in energy efficiency, about the costs of implementing financing programs, and about the types of financing programs that can best serve the needs of customers. In short, whether or not revolving loan programs can deliver the theoretical benefits remains untested.

Another requirement of the RFP was that bidders submit a Strategic Plan to guide the NJCEP as it moves from rebate and incentive-based programs to market-driven programs. The RFP states that the Strategic Plan shall "identify opportunities and pathways to achieve continuous administrative improvements, efficient resource acquisition and market transformation, including the use of innovative financing and alternative funding sources…and shall include a timetable for the transition to long term financing and reduction of SBC funding."

That Strategic Plan was intended to inform this CRA process. Staff anticipates that development of the Strategic Plan will be delayed beyond the CRA process, and therefore, in this revised Straw proposal, Staff is altering its approach to financing by eliminating a specific proposed allocation of funding to financing programs and replacing it with a process for testing the potential benefits of financing programs through pilots and evaluation and other research, prior to committing a specific level of funding to financing programs.

2.3 Securing SBC Funds

Management of Funds

The NJCEP has been criticized over the past several years for not fully spending or committing its full budget. As a result, the unspent funds have been appropriated to the State's general operating budget through the annual State appropriations process.

A number of factors exist that led to under spending the budget. The following discusses some of the causes of the under spending and suggests potential solutions.

Program Implementation Delays

The current program implementation process involves significant delays between when the Board approves a budget for a new program and when the new program is implemented. Over the past several years, the process utilized for developing new programs is as follows:

1. The OCE, in coordination with the Market Managers and other stakeholders, develops proposed programs and budgets for consideration by the Board.
2. Upon approval by the Board, the Market Manager develops applications, marketing materials, program procedures and guidelines and systems for managing the programs.
3. Upon approval by the Board, the Market Manager develops proposed contract modifications required to implement a new program and submits the proposed contract modification to Treasury, through the OCE, for review and approval.
4. Upon completion of the above three steps, which in some cases can take up to six months, the Market Manager advertises that the program is open to accepting applications.

Staff recommends that the program implementation process be reviewed and better coordinated with Treasury's funding requirements. Staff recommends that funds be committed to a program after all guidelines, procedures, applications and marketing materials are completed. This may require waiting until the following budget cycle to commit funds.

Staff recommends that Treasury allow administrative costs associated with new program implementation to be debited against current NJCEP budgets and then billed to the new program when funded.

Commitments and Timing of Fund Collection to Match Cash Needs

In general, the NJCEP has programs with two differing types of spending patterns. Programs, like the Residential HVAC and the C&I lighting and custom measures programs, incentive energy efficient product purchases. These programs have a short program cycle, and typically require about six months from application to payment of the incentive. These programs experience a high volume of projects, require less investment and produce immediate, but less comprehensive, energy savings.

The second class of programs encourages a more comprehensive approach to energy efficiency and requires more extensive technical planning and capital investment, such as the Large Energy User's Pilot and Large Combined Heat and Power program. Other programs, like Pay for

Performance, pay incentives based on a performance period once the energy conservation measures are installed. This class of programs often experiences a lapse of several years between when the NJCEP must commit funds to the program and when funds are committed to individual projects and/or spent.

Based on historic scrub rates, program managers know that not all projects for which commitments are made, will be completed. However, current practice is that 100% of every commitment is "reserved" until a project is completed and paid, or cancelled.

Different programs have different completion rates. For example, based on past history, approximately 70-80% of homes enrolled in the Residential New Construction program are ultimately built (although some projects expire and re-enroll).

Staff recommends that program commitment procedures be reviewed and to allow programs to "reserve" less than 100% of commitments, based on historic completion rates. The intended results are two- fold. The amount of committed funds is reduced, making fewer NJCEP funds vulnerable to general appropriation and, because program budgets could be lower, less money would need to be collected from ratepayers.

Furthermore, to better match the collection of funds from ratepayers to the needs of the program, Staff will work with Treasury to determine if funds can be collected from ratepayers in the year an incentive is expected to be paid, rather than the current practice of collecting all funding before commitments are even made.

Staff will continue to track program spending on a monthly basis and will develop contingency spending plans, i.e. plans for accelerating spending if programs are spending less than anticipated.

2.4 Coordination with Utility Programs

The utility programs, as implemented in the past and/or as currently implemented, raise a number of concerns that Staff will consider as it develops the funding levels and program budgets as part of the CRA and program budgeting processes. These concerns include:

In addition to the piecemeal approach to submitting, reviewing and approving utility programs Staff's main concern is that these programs confuse customers and increase administrative burden. Because utilities individually develop a portfolio of proposed programs and submit such proposals to the Board for approval, there is minimal coordination amongst the utilities. Furthermore, the timing of the submittal of proposed programs has been disjointed, with each utility submitting its filing whenever it is ready to do so, which does not allow for a global review of utility programs.

As a result, utilities have developed programs with differing approaches, programs and incentive levels across the state, depending on in which service territory a customer resides. This has led to customer and contractor confusion, an issue that led to the Board moving to statewide program administration in 2007.

For example, several utilities offered different levels of incentives over and above those provided by the NJCEP for installation of furnaces, boilers, hot water heaters and CHP systems. Contractors working in different utility service territories needed to familiarize themselves with multiple incentive levels and application processes. Staff believes that additional evaluation is required to determine if the enhanced utility incentives have led to any additional savings or benefits that offset the additional costs.

PSE&G has implemented certain programs in its service territory that overlap with and duplicate those offered by the NJCEP, including the Home Performance with Energy Star and Direct Install programs. Questions arose regarding whether customers were eligible for either the PSE&G program or the statewide NJCEP, or both. Further, given that PSE&G offers higher incentives than the NJCEP does for these programs, the PSE&G programs effectively remove a significant portion of the marketplace for NJCEP programs, which can adversely impact effectiveness and cost of delivering NJCEP programs.

Going forward, Staff recommends the following changes to address these issues:

The RFP for the new Program Administrator requires the selected contractor to develop a Strategic Plan. Staff recommends that the Strategic Plan, with input from interested stakeholders, address the following:

1. The types of programs utilities should or should not implement.
    a. Should a utility be permitted to implement a program in its service territory that directly competes with one offered by the NJCEP?
    b. Should rebates be higher in certain service territories than in others due to utility-specific programs or should rebate levels be consistent across the State?
2. A process for developing utility programs.
    a. The current process involves utilities developing programs and submitting them to the Board for approval. Staff recommends that, prior to doing so, the utilities participate in a collaborative process with other utilities, the OCE Staff, Rate Counsel and other stakeholders, to identify the types of programs that Staff would support, and promote consistency across utility programs and funding levels.
3. A schedule for utility filings.
    a. Staff believes it is important to review and coordinate utility programs. This cannot be done when utility filings are submitted randomly.
4. Develop a methodology for review of total program costs and total incentives when utility programs or incentives supplement a NJCEP program or incentive, i.e. is the combined program still cost effective?
5. Develop a process for review of total EE or RE expenditures (i.e. NJCEP and utility programs) to determine the overall impact on rates and overall benefits.

The process set out above would require utilities to coordinate collaboratively with other utilities, the OCE, the NJCEP, Rate Counsel and other stakeholders in developing proposed EE and RE programs, prior to submitting such programs to the Board for review.

3.0 New Jersey's Clean Energy Program

3.1 Policy Goals

Both the proposed funding levels and specific programs and budgets that result from the proposed funding levels should be guided by policy goals and objectives approved by the Board. To this end, Staff has reviewed historic Board policy and the policy goals and the objectives of the 2011 EMP, and has taken into consideration comments previously made as part of this proceeding. Based on the above, Staff recommends the following objectives for the Board's clean energy and renewable energy programs:

1. Maintain New Jersey's leadership position in the promotion and use of energy efficiency and renewable energy, so the state remains attractive to new residents and business investment.
2. Reduce the total cost of energy to customers, both residential and business, thereby enhancing the competitiveness of New Jersey's economy.
3. Promote the goals of Governor Christie's 2011 Energy Master Plan.
4. Spur opportunities for creative financing and that leverage private investment, thereby reducing reliance on the SBC.
5. Promote affordable energy and access to NJCEP programs for all ratepayer classes.
6. Balance spending between programs that create immediate economic stimulus and job creation with more comprehensive programs that require longer term investment.
7. Promote market transformation in EE and RE technologies.
8. Coordinate and promote a comprehensive, state-wide EE and RE effort by reducing or eliminating duplicative or competing programs and by promoting programs that foster market competition.
9. Recognize the value of spending for regular program evaluation.
10. Recognize the opportunity to motivate behavioral change through outreach and education.
11. Create jobs.

3.2 NJCEP Program Budget

The Board has established seven budget categories for reporting expenses including:

- Administration & Program Development
- Sales, Call Centers, Marketing and Web site
- Training
- Rebates, Grants and Other Direct Incentives
- Rebate Processing, Inspections and Quality Control
- Evaluation and Related Research, and
- Performance Incentives

In the annual budget process, each program manager assigns expenses to one of these budget categories. For example, Administration & Program Development expenses totaled approximately $13.3 million in 2011. Of this amount, approximately $10 million was expended by Honeywell and TRC, the EE and RE Market Managers, and $2.1 million was expended by the OCE. The remainder was expended by EDA and the True Grant. Approximately $3.1 million was spent on Sales and Marketing, $1.6 million on Training, $14.1 million on Rebate Processing, Inspections and Quality Control and $1.2 million on Evaluation and Related Research. No performance incentives were approved for 2011.

3.3 NJCEP Administration

The NJCEP administration budget, currently indicated as OCE Oversight in the Board approved budget, includes four subcategories:

- OCE Administration and Overhead, including Program Coordinator services
- Memberships and Dues
- Evaluation and Related Research, and
- Marketing and Communications

Staff strives to keep program administration costs at a minimum, thereby allowing the vast majority of program spending to be made available as incentives to customers. As shown in the table below, in 2011, 82.6% of total program expenses were for rebates, grants and other direct incentives.

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New Jersey's Clean Energy Program

Detailed Expenses Data for Reporting Year 2011

Statewide Summary: New Jersey's Clean Energy Program Reporting Period: YTD thru 4th Quarter 2011 Program	Total Actual NJCEP Expenditures	Administration & Program Development	Sales, Call Centers, Marketing and Website	Training	Rebates, Grants, and Other Direct Incentives	Rebate Processing, Inspections, and Other Quality Control	Evaluation and Related Research	Performance Incentives
Energy Efficiency Programs	$139,035,801.19	$8,588,099.75	$2,585,603.84	$1,649,450.39	$115,175,122.81	$10,808,309.16	$229,215.24	$0.00
Renewable Energy Programs	$38,963,321.60	$1,378,416.32	$27,000.00	$0.00	$35,102,913.05	$2,454,992.23	$0.00	$0.00
EDA Programs	$6,335,017.00	$660,000.00	$0.00	$0.00	$5,675,017.00	$0.00	$0.00	$0.00
Office of Clean Energy	$4,331,674.86	$2,082,530.80	$534,936.00	$0.00	$0.00	$765,240.00	$948,968.06	$0.00
TRUE Grant	$3,210,125.71	$627,339.94	$1,044.42	$0.00	$2,531,931.35	$49,810.00	$0.00	$0.00
TOTAL	***$191,875,940.36***	***$13,336,386.81***	***$3,148,584.26***	***$1,649,450.39***	***$158,484,984.21***	***$14,078,351.39***	***$1,178,183.30***	***$0.00***
Percent of Total	***100.00%***	***6.95%***	***1.64%***	***0.86%***	***82.60%***	***7.34%***	***0.61%***	***0.00%***

As indicated in the EnerNOC market potential study discussed below, at 83%, compared to similar state-wide programs which average 55%, NJCEP is delivering a particularly high proportion of spending as a direct benefit to its participants. This indicates that there is room for NJCEP to reconsider what is spends on administrative costs and the value it delivers, while remaining a national leader.

OCE Administration and Overhead

The OCE Administration and Overhead budget included two subcategories: OCE Staff and Overhead and Program Coordinator. Each plays an integral role in implementing New Jersey's clean energy programs. The program budget funds OCE staff salaries and related overhead. Going forward, Staff's responsibilities will also include quality assurance and control, as Staff will be tasked with monitoring the services of the new Program Administrator. While these costs have been in the $1.5-$2 million per year range, Staff anticipates that OCE Staff costs will increase to cover the cost of the additional staff required to perform this function. A budget for Program Coordinator services will no longer be required once the new PA is brought on board

Memberships and Dues

Historically, the Membership and Dues budget line item has been used to fund memberships in national trade associations that support the EE and RE programs, such as the Consortium for Energy for Energy Efficiency, the National Association of State Energy Offices and the Clean Energy States Alliance. Some of these membership costs will be included in the new Program Administrator's contract. Staff believes approximately $100,000 per year will be sufficient to cover memberships and dues not included in the new Program Administrator contract.

Evaluation and Related Research

The EMP places a great deal of emphasis on the importance of evaluation noting that "going forward, New Jersey should implement more rigorous cost/benefit analyses to determine the cost-effectiveness of its energy policy options." (EMP page75)

Over the years, program funds dedicated to Evaluation have paid for the following services:

- Planning and cost-benefit analyses provided by Rutgers Center for Energy, Economic and Environmental Policy (CEEEP)
- Financial audits of the program and funding reconciliations
- Market assessments, process and impact evaluations and market potential studies performed by outside contractors
- Offshore wind studies to evaluate the costs and benefits offshore wind resources

Through on-going research and evaluation, CEEEP has supported the NJCEP by performing cost-benefit analyses, developing program evaluation plans, developing RFPs for evaluation services, procuring third party evaluation contracts, evaluating the costs of utility and renewable energy programs, and evaluating pilot programs. Going forward, Staff recommends that the program continue to utilize the services currently provided by CEEEP and expand some evaluation services to meet the goals of the EMP. In 2013 CEEEP will launch its Energy Data Center and EMP performance indicators to measure and track progress towards EMP goals. CEEEP will also be instrumental in working with the Program Administrator and other contractors to provide a more rigorous framework for program evaluations, which will inform future policy and program decisions.

In 2013, CEEEP will also work with the Rutgers Institute of Marine and Coastal Sciences (IMCS) to provide a "total picture" of the cost-effectiveness of offshore wind energy installations and subsequent operations. IMCS has been working with the BPU to develop a

dynamic multi-spatial model of New Jersey offshore wind resources, including an analysis of the sea breeze circulation and other local wind patterns that determine wind power production during periods of peak energy demand. CEEEP will incorporate the results of the IMCS studies into their energy and economic evaluations to help determine the economic viability of New Jersey's proposed offshore wind energy projects. These evaluations and analyses will provide information relevant to the OREC Application requirements, established under NJBPU OSW Rules (N.J.A.C. 14:8-6.5(a)3, 6, 8, 9,and 11).

The costs associated with program evaluation can vary widely both in total dollar amount and as a percentage of revenues, as well as from year to year, depending on the types of evaluations being performed in any year. For example, in New Jersey, market potential studies are generally performed every four years, and Staff recommends that impact evaluations be performed every three to four years. In other states, typical evaluation budgets are in the range of 2% to 5% of program costs. Applied to the NJCEP, this average would result in a program evaluation budget of $6 - $15 million per year.

Staff supports a review of CEEEP's most recent program evaluation plan and recommends that, in conjunction with evaluations to be provided by the new Program Administer, the NJCEP fund an increased level of evaluation, as compared to past years.

Marketing and Communications

In 2007, when the NJCEP program delivery initially transitioned from the utilities to the Market Managers, the Board directly engaged contractors to develop and deliver an umbrella marketing campaign aimed at promoting the NJCEP brand. This effort was in place from 2007 through 2009, after which the responsibility for all marketing activities was transferred to the Market Managers.

Included in the OCE Administration Budget is OCE Marketing and Communications, which currently consists of Outreach and Education/Community Partner Grants and the Clean Energy Business Website, both of which fund remaining balances of past grants. Staff recommends the elimination of Marketing and Communications budget line within the OCE Oversight budget to avoid confusion.

When the PA contract is awarded, fees for marketing, communications, and outreach and education will be managed by the new Program Administrator and will be included within program budgets. The new Program Administrator will be responsible for developing a comprehensive marketing plan that continues to build awareness of the NJCEP programs and to drive direct participation to each program. The marketing plan will also develop a process for tracking the effectiveness of all marketing campaigns.

Outreach and Education

In 2008, the Board issued a solicitation for Outreach and Education services and awarded several grants. While the Board recognizes the value of outreach and education to improve program participation, encourage market transformation and to effectuate broad behavioral change, at this time, Staff does not recommend funding for additional grants of this type.

Staff recommends that NJCEP continue to fund a grant for Sustainable Jersey, a nonprofit, nonpartisan organization that supports community efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity. Working closely with Staff, Sustainable Jersey will continue to promote NJCEP programs through its extensive municipal network.

3.4 Program Administrator

The new Program Administrator's primary responsibility will be to ensure that the funds collected from the State's ratepayers are spent wisely and efficiently on EE and RE programs. The PA should strive to minimize administrative and other non-incentive costs, including implementation costs, while ensuring sufficient resources for functions such as developing appropriate financial and data management systems, implementing QA/QC procedures, employing market assessment tools, and working with evaluation contractors to assess the programs and make necessary changes to the programs.

The PA should share the BPU's goal of delivering the maximum level of savings per program dollar spent by NJCEP programs. While short-term resource acquisition will maximize the savings delivered per program dollar expended, the NJCEP must balance short-term resource acquisition efforts with longer-term market transformation objectives, so that market transformation will continue to the point when energy efficiency becomes common practice, without the need for market intervention.

3.5 Historic NJCEP Program Budgets

The following table shows annual NJCEP budgets, expenditures, and commitments as a percentage of the total budget for the period 2001-2011:

NJCEP Budgets and Expenditures 2001 - 2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Budgets	$114,882,000	$132,686,000	$137,138,000	$197,340,000	$243,855,000	$309,114,000	$349,555,000	$419,491,000	$525,380,811	$460,728,352	$506,323,547
Expenditures	$57,555,000	$99,904,000	$97,786,000	$107,502,000	$124,592,542	$171,197,000	$176,811,000	$147,550,000	$178,164,200	$219,585,204	$191,875,940
Commitments	$22,207,000	$51,454,000	$79,453,000	$165,230,000	$210,020,000	$164,134,000	$115,348,000	$155,425,000	$167,687,938	$141,768,354	$124,590,089
Expenditures plus Commitments	$79,762,000	$151,358,000	$177,239,000	$272,732,000	$334,612,542	$335,331,000	$292,159,000	$302,975,000	$345,852,138	$361,353,559	$316,466,029
Expenditures plus Commitments as % of Budget	69.43%	114.07%	129.24%	138.20%	137.22%	108.48%	83.58%	72.22%	65.83%	78.43%	62.50%

In the most recent four year CRA period, 2009-2012, the Board ordered funding levels totaling $1,212,750,000. Based on preliminary 2012 expense reports, expenses for this period totaled $770,102,983 and averaged approximately $193 million per year. In addition, at the end of 2012, there was approximately $141 million in outstanding commitments, to be paid upon project completion. The difference between the level of funding collected from ratepayers and the amount expended and committed was either carried forward into the 2012-2013 budget or lapsed to the State's general fund. Recent program results demonstrate that the NJCEP needs to do a better job of aligning program expenses with available funds. Ideas on how to accomplish this goal are discussed in this Straw Proposal.

3.6 Historic NJCEP Performance

The initial Staff Straw Proposal dated August 21, 2012 included information regarding budgets, expenditures, energy savings and other information related to NJCEP performance since 2001. This information will not be repeated herein. For this information, Staff advises interested parties to reference the previous draft, which can be found at:

http://www.njcleanenergy.com/files/file/program_updates/OCE%20draft%20Straw%20Proposal%202013%20-2016%208-22-12.pdf

In addition, Staff has developed a spreadsheet that shows in detail, historic program results. This spreadsheet as well as other program information can be found at:

http://www.njcleanenergy.com/main/public-reports-and-library/financial-reports/clean-energy-program-financial-reports

The first step in developing the Straw Proposal is to review historical NJCEP program results. The following tables depict the most recent two years of available data. The tables are provided with and without the low-income program, because low-income programs typically have very high costs relative to their savings, and can skew comparisons to other state/utility programs, which generally track low-income program results separate from other EE programs.

Energy efficiency program data, including expenditures and energy savings, were taken from the 2010 and 2011 fourth quarter New Jersey Clean Energy Program Reports submitted to the New Jersey Board of Public Utilities. Energy sales data were taken from the United Stated Energy Information Administration.[4]

[4] U.S. EIA. Natural Gas Annual Respondent Query System. http://www.eia.gov/cfapps/ngqs/ngqs.cfm?f_report=RP1; U.S. EIA. Form EIA 861. www.eia.gov/electricity/data/eia861/index.html

NJCEP Actual Results Excluding Low-Income

NJCEP Actual Results excluding Low-Income			
	2010	2011	Notes
MWh Sales			
Residential	29,656,481	28,738,386	Retail electric sales by market sector from US EIA data.
Non-Residential	47,672,912	46,298,052	
Total	77,329,393	75,036,438	
Dtherm Sales			
Residential	224,181,002	218,543,891	Retail gas sales by market sector from US EIA data.
Non-Residential	235,028,659	246,514,625	
Total	459,209,661	465,058,516	
EE Expenditures Electric			
Residential	$46,831,745	$36,882,205	EE expenditures from NJCEP 4Q reports, allocated to electric and gas by AEG.
Non-Residential	$29,293,143	$40,055,092	
Total	$76,124,888	$76,937,298	
EE Expenditures Gas			
Residential	$38,588,609	$23,102,924	EE expenditures from NJCEP 4Q reports, allocated to electric and gas by AEG.
Non-Residential	$7,323,286	$10,013,773	
Total	$45,911,895	$33,116,697	
EE MWh Savings			
Residential	204,548	266,279	Annual energy savings included in 4Q NJCEP reports.
Non-Residential	134,365	177,333	
Total	338,912	443,612	
EE Dtherm Savings			
Residential	438,789	526,846	Annual energy savings included in 4Q NJCEP reports.
Non-Residential	430,395	167,433	
Total	869,184	694,278	
EE Cost per kWh Saved			
Residential	$0.23	$0.14	EE Expenditures Electric/EE MWh Savings (converted to kWh); i.e. $/kWh saved
Non-Residential	$0.22	$0.23	
Total	$0.22	$0.17	
EE Cost per therm Saved			
Residential	$8.79	$4.39	EE Expenditures Gas/EE Dtherm Savings(converted to therms); i.e. $/therm saved
Non-Residential	$1.70	$5.98	
Total	$5.28	$4.77	
EE % of Annual Electric Sales Saved			
Residential	0.7%	0.9%	EE MWh Savings/MWh sales = electric savings as a % of retail electric sales
Non-Residential	0.3%	0.4%	
Total	0.4%	0.6%	
EE % of Annual Gas Sales Saved			
Residential	0.2%	0.2%	EE Dtherm Savings/Dtherm sales= gas savings as a % of retail gas sales.
Non-Residential	0.2%	0.1%	
Total	0.2%	0.1%	

NJCEP Actual Results Including Low Income

NJCEP Actual Results (with Low Income)			
	2010	2011	Notes
MWh Sales			
Residential	29,656,481	28,738,386	Retail electric sales by market sector from US EIA data.
Non-Residential	47,672,912	46,298,052	
Total	77,329,393	75,036,438	
Dtherm Sales			
Residential	224,181,002	218,543,891	Retail gas sales by market sector from US EIA data.
Non-Residential	235,028,659	246,514,625	
Total	459,209,661	465,058,516	
EE Expenditures Electric			
Residential	$59,068,849	$47,960,452	EE expenditures from NJCEP 4Q reports, allocated to electric and gas by AEG.
Non-Residential	$29,293,143	$40,055,092	
Total	$88,361,992	$88,015,545	
EE Expenditures Gas			
Residential	$57,728,695	$40,430,439	EE expenditures from NJCEP 4Q reports, allocated to electric and gas by AEG.
Non-Residential	$7,323,286	$10,013,773	
Total	$65,051,980	$50,444,212	
EE MWh Savings			
Residential	213,542	276,348	Annual energy savings included in 4Q NJCEP reports.
Non-Residential	134,365	177,333	
Total	347,906	453,681	
EE Dtherm Savings			
Residential	504,431	615,124	Annual energy savings included in 4Q NJCEP reports.
Non-Residential	430,395	167,433	
Total	934,826	782,556	
EE Cost per kWh Saved			
Residential	$0.28	$0.17	EE Expenditures Electric/EE MWh Savings (converted to kWh); i.e. $/kWh saved
Non-Residential	$0.22	$0.23	
Total	$0.25	$0.19	
EE Cost per therm Saved			
Residential	$11.44	$6.57	EE Expenditures Gas/EE Dtherm Savings(converted to therms); i.e. $/therm saved
Non-Residential	$1.70	$5.98	
Total	$6.96	$6.45	
EE % of Annual Electric Sales Saved			
Residential	0.7%	1.0%	EE MWh Savings/MWh sales = electric savings as a % of retail electric sales
Non-Residential	0.3%	0.4%	
Total	0.4%	0.6%	
EE % of Annual Gas Sales Saved			
Residential	0.2%	0.3%	EE Dtherm Savings/Dtherm sales= gas savings as a % of retail gas sales.
Non-Residential	0.2%	0.1%	
Total	0.2%	0.2%	

In a following section, the above program results are compared to the results of the EnerNOC study and benchmarked against results in other states, to inform funding levels and identify potential opportunities for program improvements.

3.7 Jobs Created

While jobs creation is not a primary goal of the NJCEP, New Jersey's clean energy industry remains robust and the NJCEP creates steady jobs, particularly in construction. CEEP prepared the following job creation estimates in 2011 for the EMP:

NJCEP Jobs Created

Year	Expenditures plus Commitments	Direct	Direct + Indirect + Induced	Direct + Indirect + Induced Using RECON Multiplier of 1.3
2007	$292,159,000.00	2,311	2,378	3,004
2008	$302,975,000.00	2,397	2,466	3,116
2009	$345,852,137.53	2,736	2,815	3557
2010	$361,353,558.83	2,858	2,941	3715
2011	$316,466,028.95	2,503	2,576	3,254
	NOTES	7.91 Job-Years/$1 million	$122,867/job	

It is evident from the table above that the NJCEP has generated more than 12,800 jobs over the past five years and continues to support the construction industry in New Jersey, an industry slow to recover since the recession of 2008. When the impact of these jobs is extended to account for both indirect and induced jobs, the NJCEP is generating or maintaining approximately 3,500 jobs annually, while indirectly creating jobs as a result of energy-related cost savings.

As an example, in 2012, the Viking Yacht Company, a major luxury yacht manufacturer located in New Gretna, completed a project to install six 65 kW micro turbines with integral heat recovery modules and absorption chillers for cooling. By generating a total of 390 kW, this system is expected to offset nearly 85% of the facility's electrical load and 100% of the heating and cooling loads.

Viking Yacht received a total of $877,500 from the NJCEP Pay-4-Performance program, including incentives for a CHP system, and anticipates saving $111,902 annually in energy costs. Viking has chosen to reinvest these savings, to add a new line of manufacturing to their facility, which in turn has created 200 new jobs. Furthermore, Viking anticipates that it will need 175 additional workers by the end of 2013. This success story demonstrates how NJCEP programs can induce businesses to create additional jobs.

4.0 Methodology and Approach

4.1 Development of Proposed EE Funding Levels and Savings Goals

By starting with a detailed overview of how energy is being consumed in New Jersey, by screening new technologies for cost-effectiveness, and by prioritizing programs based upon the funding needed to achieve the targets, the NJCEP contributes to the EMP goals of lowering energy use, lowering customer prices and costs, and ensuring New Jersey has a diverse mix of clean resources sufficient to ensure reliable supply.

In this section, Staff builds upon the disaggregated data and analysis presented previously and compares the NJCEP to other programs across the country. This is followed by a summary of the findings of the EnerNOC Market Potential study and the AEG Benchmarking Analysis. Staff then compares NJCEP historic results to the results of the EnerNOC study and the AEG Benchmarking Analysis, and combined with generic cost estimates, develops proposed EE funding levels and associated energy savings goals.

ACEEE Scorecard

This section compares EE spending and savings in New Jersey to other state and utility programs. The American Council for an Energy-Efficient Economy (ACEEE) issued its *2012 State Energy Efficiency Scorecard* (the "Scorecard") in October, 2012. The Scorecard included numerous statistics regarding program spending levels, program goals and energy savings from across the country.

The Scorecard documented a rapid increase over the past six years in spending on energy efficiency programs. Nationally, spending on electric energy efficiency programs increased from $1.6 billion in 2006, to $3.4 billion in 2009 and to $5.9 billion in 2011, an increase of about 370%. Spending on natural gas energy efficiency programs increased from $300 million in 2006 to $900 million in 2009 and to $1.1 billion by 2011, an increase of 366%. (Scorecard page 18) The increase in spending for both electric and natural gas programs resulted from both increased spending in states that had existing programs, as well as the creation of many new state/utility programs.

Budget as a Percentage of Revenues: Electric

One way to look at the relative size of energy efficiency programs is to compare efficiency program budgets as a percentage of total utility revenues, which is the total amount paid by ratepayers for electricity or natural gas. Using this metric, the top 20 program budgets in the country range in size from Massachusetts with an EE program budget equal to 5.77% of electric revenues, to Michigan with a budget equal to 1.5% of revenues. At 2.05%, New Jersey is ranked fourteenth based on its EE budget as a percentage of revenues

The following table compares electric efficiency program budgets as a percentage of electric revenues for several key states. Key states are defined as states in the region (New York, Connecticut, Pennsylvania, and Maryland) and states with large programs (Massachusetts, California, Michigan, Ohio and Illinois).

Electric Efficiency Program Budgets

State	2011 Budget ($000)	Budget as % of Statewide Electric Revenues
Massachusetts	$453	5.77%
New York	$1,073	4.69%
California	$1,162	3.35%
Connecticut	$138	2.83%
Maryland	$156	2.05%
New Jersey	**$225**	**2.05%**
Michigan	$127	1.50%
Pennsylvania	$225	1.44%
Ohio	$134	0.96%
Illinois	$116	0.91%

Source: ACEEE Scorecard page 26

As shown in the table above, in 201, New Jersey's electric EE program budget is in the mid-range of the key states and is significantly below New York and Massachusetts.

Budget as a Percentage of Revenues: Natural Gas

Rather than indicating budget as a percentage of revenues (as was done for electric programs), the ACEEE Scorecard for natural gas records EE program budgets on a per residential customer basis. Using this metric, the top 20 states for natural gas efficiency programs range from Massachusetts at $84.92 per residential customer to Ohio at $13.14 per residential customer. New Jersey is ranked sixth for natural gas programs, spending $40.03 per residential customer.

The following table compares budgets and budget per residential customer for natural gas efficiency programs for the same ten states indicated above:

Natural Gas Efficiency Program Budgets

State	2011 Budget ($000)	$ per Residential Customer
Massachusetts	$118	$84.92
Connecticut	$20	$40.77
New Jersey	**$106**	**$40.03**
New York	$119	$27.55
California	$268	$25.43
Michigan	$80	$25.22
Illinois	$52	$13.44
Ohio	$43	$13.14
Pennsylvania	$22	$8.18
Maryland	$4.6	$4.29

Source: ACEEE Scorecard page 28

As indicated above, Massachusetts is the only key state that budgets more per customer on residential gas programs than New Jersey.

Of note, the tables above show *budgets* as a percent of revenue (natural gas) or budgets per residential customer, not actual spending, which is different than what was budgeted. Further, budgets should not be confused with funding levels, as in New Jersey, budgets include carry-over from previous years.

As a point of comparison, the 2011 funding level for the entire NJCEP was $325 million, and the EE budgets were $225 million for electric programs and $106 million for gas programs, while actual 2011 spending was $220 million for all efficiency programs. (New Jersey does not have specific electric and gas programs, i.e. some programs provide incentives for both. Therefore, certain assumptions were used to allocate expenses and budgets to electric and natural gas programs).

Electric Savings as a Percentage of Retail Sales

The next point of comparison is electric savings as a percentage of retail sales. The following table shows New Jersey's rank compared to the same ten states:

Incremental Electric Savings by State

State	2010 Net Savings (MWh)	Savings as a % of Retail Sales
California	4,617,000	1.79%
Connecticut	422,097	1.39%
Massachusetts	628,709	1.10%
New York	1,215,844	0.84%
Michigan	714,110	0.72%
Maryland	330,678	0.48%
Ohio	722,929	0.47%
New Jersey	**313,116**	**0.40%**
Pennsylvania	344,256	0.23%

Source: ACEEE Scorecard page 31

As indicated above, compared to other key states, New Jersey ranks near the bottom in electric savings as a percentage of retail sales. When Staff compares New Jersey's performance to Ohio and Michigan, it is evident that it would be beneficial to evaluate the electric EE programs of these states, as New Jersey spends more as a percentage of retail sales, but does not realize the same level of savings as a percentage of retail sales.

At the same time, it is important to note that different states use different baselines and assumptions to estimate energy savings. Therefore, while the numbers above are of some relative value, additional research is needed to determine why NJCEP savings lag behind the levels achieved in other states and to compare the baselines utilized in New Jersey's Protocols for Measuring Resource Savings to those utilized by other states.

Several states have also established specific goals for energy savings as a percentage of sales. The table below compares goals in other states and/or utilities:

State	Year	Mandate
Colorado	2007	Public Service Company of Colorado electric savings goals of 1.14% of 2006 sales in 2012, increasing to 1.68% in 2020. Goals may be revisited to account various factors.
Illinois	2007	Annual incremental savings goal of 0.2% prior year sales in 2009, increasing to 2% electric sales in 2015 and 1.5% natural gas sales in 2019.
Maryland	2008	Statewide goal to reduce per capita energy consumption and peak demand by 15% by the end of 2015 (based on a 2007 baseline).
Massachusetts	2010	Statewide 3-year savings goals in 2010 are 1.4% electric retail sales and 0.6% natural gas retail sales, increasing to 2012 with 2.5% electric and 1.15% natural gas. Utility goals vary. Goals accounted for outside influences, such as economic conditions.
Minnesota	2007	1.5% average weather-normalized sales for 3 prior years, beginning in 2010. Interim 2010-2012 natural gas savings goal is 0.75%. Utilities may request to adjust the goal.
New York	2008	Statewide electricity savings goal of 15% forecasted usage by 2015 and natural gas savings goal of 14.7% estimated usage by 2020.
Oregon	2010	Energy Trust 2010-2014 savings goals of 256 MW and 22.5 million therms.
Vermont	2008	Efficiency Vermont has a 3-year (2012-2014) cumulative electric savings performance goal of 320 GWh, based on forecasted retail sales.
Wisconsin	2010	2011-2014 savings goals set at 1,816 GWh and 73 million therms. Previous goals were a percentage of forecasted sales (average sales for 3 prior years with 1% annual growth rate) accounting for outside influences, such as economic conditions. Electric goal of 0.75% in 2011, increasing to 1.5% in 2014. Natural gas goal of 0.5% in 2011, increasing to 1% in 2014.

According to ACEEE, "best in class" public benefit programs target savings of 1.2% of sales per year, set specific measurable goals, conduct rigorous measurement and verification, and evaluate the benefit/cost ratios for programs.

4.2 EnerNOC Potential Study

Overview & Sales Forecast

In 2012, EnerNOC conducted an EE market potential study for the State of New Jersey. In this study, EnerNOC performed a detailed, bottom-up assessment of the New Jersey market, in order to estimate achievable energy savings based on specific energy efficiency measures. The potential study segmented its results by sector – residential, commercial and industrial - and by fuel type - natural gas and electricity. The full details of the study will not be repeated in this

document; only the high level results will be used to develop proposed EE funding levels. The full EnerNOC study is available at:

http://www.njcleanenergy.com/main/public-reports-and-library/market-analysis-protocols/market-analysis-baseline-studies/market-po

In the study, EnerNOC provides estimates for three types of potential: technical potential, economic potential, and achievable potential. Technical and economic potential are both theoretical limits to efficiency savings and are not relevant to the development of the Straw Proposal.

However, achievable potential considers actual market conditions (barriers) and thus is an appropriate basis upon which to develop funding levels and energy savings goals. To account for the inherent uncertainty in predicting market conditions, EnerNOC developed a low and high scenario for achievable potential. Staff then performed a "results verification" (benchmark) by comparing the EnerNOC results to broader industry results.

There are a number of metrics that are used to benchmark against industry experience. One of these is the percent of total sales saved by the energy efficiency portfolio. A sales forecast is required to determine this value. The tables below indicate EnerNOC electric and gas sales forecasts for 2013 – 2016.

Electricity Baseline Forecast Summary (GWh)

Sector	2013	2014	2015	2016	% Change	Avg. Growth Rate
Residential	30,442	29,793	29,515	29,502	-2.70%	-0.40%
Commercial	36,511	35,964	35,699	35,797	-10.80%	-1.90%
Industrial	7,822	7,858	7,937	7,732	-8.30%	-1.40%
Total	**74,776**	**73,615**	**73,151**	**73,031**	**-7.40%**	**-1.30%**

Natural Gas Baseline Forecast Summary (million therms)

Sector	2013	2014	2015	2016	% Change	Avg. Growth Rate
Residential	2,300	2,319	2,333	2,352	4.30%	0.70%
Commercial	1,771	1,753	1,748	1,756	-6.00%	-1.00%
Industrial	489	487	487	481	-3.20%	-0.50%
Total	**4,560**	**4,559**	**4,568**	**4,589**	**-0.70%**	**-0.10%**

It should be noted that while EnerNOC has forecast a decrease in electricity usage through 2016, this result contradicts a recent electricity forecast issued by the Regional Transmission Operator, PJM. While the PJM report noted a downward revision to the economic outlook, especially in 2013 and 2014, which resulted in lower peak and energy forecasts in its report, PJM forecasted a significant rebound in energy use over the period 2013-2016, and a net increase in New Jersey's electric energy use from 2013 to 2016. In fact, PJM forecasted a total gain of 10.1% in New Jersey's energy usage by 2016, compared to estimated 2012 usage levels.

It may be that EnerNOC's growth rates are conservative and its forecast may be overstating the rate at which the impact of new efficiency standards will be adopted. Similar observations can be made in regard to the EnerNOC natural gas forecast. To reflect uncertainty in assumptions,

including the sales forecast, EnerNOC developed high and low potential scenarios. By weighting these two scenarios, we are able to capture the uncertainty in assumptions including sales growth.

Potential Savings Estimates

In a bottom-up potential study, estimates for energy use are made by customer class and then by appliance/end use (measure). These measure estimates are then forecasted into the future based upon projected changes in measure saturations, customer growth, new construction activity, codes and standards, competing fuel costs, new technology adoption, etc. A total of 700 measures (equipment and non-equipment) were evaluated in the EnerNOC study. For the most part, EnerNOC did not project any significant changes in major end use shares by appliances/end uses within each customer class. However, based on its declining sales forecast for the commercial and industrial sectors, Enernoc did project a shift in overall energy use to the residential sector. Staff notes this since it will affect the savings potential within each sector.

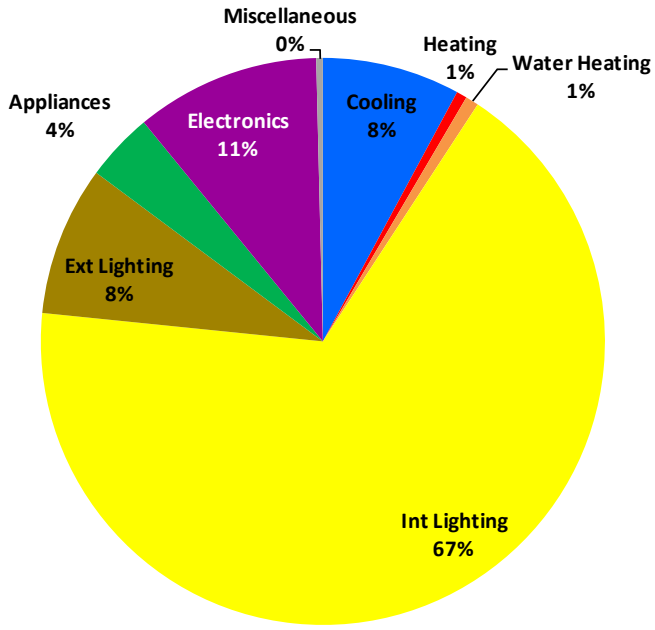
The estimated achievable high and achievable low electric and gas savings are shown below. AEG created a third estimate, a 50/50 weighting, which represents the midpoint between the achievable high and low potential scenarios. The energy savings have also been expressed as a percent of total sales.

Electric Energy Efficiency Potential Savings

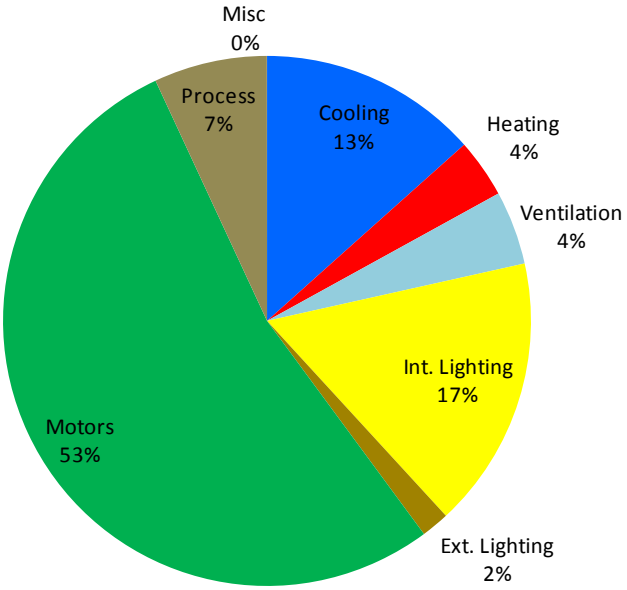
	2013	2014	2015	2016
Achievable Low Potential (GWH)				
Residential	263	238	242	248
Non-Residential	285	319	405	488
Total	548	558	647	736
Achievable High Potential				
Residential	504	452	452	456
Non-Residential	598	631	765	877
Total	1,102	1,083	1,217	1,333
50/50 Weighting				
Residential	384	345	347	352
Non-Residential	441	475	585	682
Total	825	820	932	1,034
EE % of Annual Sales Saved				
Achievable Low Potential				
Residential	0.87%	0.80%	0.82%	0.84%
Non-Residential	0.64%	0.73%	0.93%	1.12%
Total	0.73%	0.76%	0.88%	1.01%
Achievable High Potential				
Residential	1.66%	1.52%	1.53%	1.55%
Non-Residential	1.35%	1.44%	1.75%	2.01%
Total	1.47%	1.47%	1.66%	1.83%
50/50 Weighting				
Residential	1.26%	1.16%	1.18%	1.19%
Non-Residential	1.00%	1.08%	1.34%	1.57%
Total	1.10%	1.11%	1.27%	1.42%

As noted above, the savings from the electric achievable potential study are comprised of hundreds of measures, building types, technologies, etc. The electric savings estimates can be better understood by looking at their end-use components.

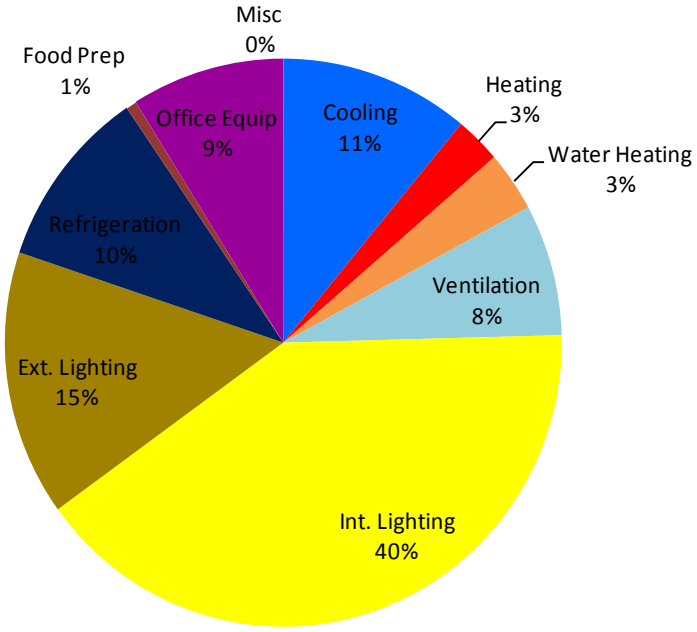
The following graph illustrates the end-use components for the residential l achievable low scenario:



The following graph illustrates the end-use components for the industrial achievable low scenario:



The following graph illustrates the end-use components for the commercial achievable low scenario:



The following table summarizes the achievable low and high potential gas energy efficiency savings results.

Natural Gas Energy Efficiency Potential Savings

	2013	2014	2015	2016
Achievable Low Potential (Mcf)				
Residential	138,335	212,891	275,535	276,635
Non-Residential	538,965	646,237	971,500	1,422,691
Total	677,300	859,127	1,247,036	1,699,326
Achievable High Potential				
Residential	225,905	376,739	460,978	412,330
Non-Residential	1,240,470	1,364,489	1,937,962	2,680,265
Total	1,466,374	1,741,228	2,398,940	3,092,595
50/50 Weighting				
Residential	182,120	294,815	368,257	344,482
Non-Residential	889,717	1,005,363	1,454,731	2,051,478
Total	1,071,837	1,300,177	1,822,988	2,395,961
EE % of Annual Sales Saved				
Achievable Low Potential				
Residential	0.06%	0.09%	0.12%	0.12%
Non-Residential	0.24%	0.29%	0.43%	0.64%
Total	0.15%	0.19%	0.27%	0.37%
Achievable High Potential				
Residential	0.10%	0.16%	0.20%	0.18%
Non-Residential	0.55%	0.61%	0.87%	1.20%
Total	0.32%	0.38%	0.53%	0.67%
50/50 Weighting				
Residential	0.08%	0.13%	0.16%	0.15%
Non-Residential	0.39%	0.45%	0.65%	0.92%
Total	0.24%	0.29%	0.40%	0.52%

No pie charts are shown for natural gas since the end use components are straight forward - heating, water heating, cooking/laundry (residential) and process (industrial).

Sensitivity Analysis

EnerNOC reviewed the sensitivity of their results to variation in some key assumptions. One of those key assumptions is the fuel cost of electricity and natural gas. The lower the price, the lower the number of measures that will pass the cost benefit screening, and thus lower the overall potential. EnerNOC modeled a scenario in which the fuel cost for each year of the study was increased by 20%, with all other variables held constant. The impact on the electric results was relatively small. Although Staff did not consider the effect significant, the effect of the changes was more pronounced for natural gas measures.

Cost Estimates

The Straw Proposal requires measure costs to calculate projected energy savings. While the initial EnerNOC study did not contain the costs associated with the achievable potential, it has

since provided these costs in a follow-up analysis, and these costs will be presented and discussed in this section.

Estimating costs associated with measures requires many different assumptions. Incentive levels are generally based upon a combination of incremental costs, customer payback and cost per unit of energy saved. For electric measures, peak coincident summer savings can also be factored into the determination of incentive levels. Non-incentive costs can generally be determined as a percent of total spending. These costs include administration, rebate processing, quality control, etc. Costs to deliver energy efficiency programs will also vary between sectors. All things being equal, it is generally more expensive to deliver residential programs than non-residential programs, with residential interior lighting and behavior change being the exceptions.

The following tables contain the EnerNOC's costs associated with their achievable savings potential. As was done for the energy savings tables, AEG created a 50/50 weighting to represent a mid-point between the achievable high and low potential scenarios. The cost is expressed on a dollar per unit of energy saved basis. This metric will be used to benchmark the EnerNOC results to industry experience, which Staff does in the next section.

Electric Energy Efficiency Potential Cost

	2013	2014	2015	2016
Total Program Costs ($000)				
Achievable Low Potential				
Residential	$27,918	$32,512	$37,685	$35,496
Non-Residential	$60,054	$59,806	$68,424	$85,841
Total	$87,972	$92,319	$106,109	$121,338
Achievable High Potential				
Residential	$65,782	$74,670	$85,021	$78,129
Non-Residential	$152,316	$145,202	$162,498	$198,599
Total	$218,097	$219,873	$247,519	$276,728
50/50 Weighting				
Residential	$46,850	$53,591	$61,353	$56,813
Non-Residential	$106,185	$102,504	$115,461	$142,220
Total	$153,035	$156,096	$176,814	$199,033
Cost per kWh Saved				
Achievable Low Potential				
Residential	$0.11	$0.14	$0.16	$0.14
Non-Residential	$0.21	$0.19	$0.17	$0.18
Total	$0.16	$0.17	$0.16	$0.16
Achievable High Potential				
Residential	$0.13	$0.17	$0.19	$0.17
Non-Residential	$0.25	$0.23	$0.21	$0.23
Total	$0.20	$0.20	$0.20	$0.21
50/50 Weighting				
Residential	$0.12	$0.16	$0.18	$0.16
Non-Residential	$0.24	$0.22	$0.20	$0.21
Total	$0.19	$0.19	$0.19	$0.19

4.3 AEG Benchmarking Analysis

A Benchmarking Analysis serves two purposes. First, it serves as a "results verification" of the EnerNOC Potential Study. While the EnerNOC study was detailed and comprehensive, it did require thousands of assumptions and should be verified for the reasonableness of its results. This can be accomplished through a comparison with a benchmarking analysis.

The second purpose of a Benchmarking Analysis is to provide independent and standalone saving and cost projections that will serve as an alternative approach to developing funding levels. This approach takes into consideration industry experience and employs a top-down approach, rather than the bottom-up approach employed by the EnerNOC study. It is a widely accepted approach to develop high level estimates for total portfolio saving and cost goals by comparing two models employing different methodologies.

Industry Benchmark Analysis

Many states mandate a percent of sales as a goal for utilities and state agencies. For example, Illinois has a 6-year target that increases 0.2% per year for 6 years (goal is 1.2% of sales by year 6 with 2% revenue cap). New York State has employed various initiatives, including "15 by 15", which means saving 15% by 2015. This required saving almost 2% per year, a target that will not be reached. Minnesota had a spending goal for many years and then switched to a savings goal of 1.5% of sales. However, they later lowered this goal for gas utilities to a 1% level.

Actual savings and expenditures were gathered for various jurisdictions (utilities and statewide agencies) in the Northeast, Mid-Atlantic and Midwest with mature DSM programs. The tables below present these results on a unit of energy saved basis ($/kWh or $/therm):

Total DSM Portfolio $/kWh

DSM Program	State	2010	2011
Northern States Power (Xcel)	MN	$0.11	$0.11
Potomac Electric Power Co	MD	$0.14	$0.16
Public Service Company of Colorado	CO	$0.15	$0.15
Interstate Power & Light	IA	$0.18	$0.17
MidAmerican	IA	$0.19	$0.25
NJCEP	NJ	$0.22	$0.17
Baltimore Gas & Electric	MD	$0.22	$0.31
LIPA	NY	$0.25	

Total DSM Portfolio $/Therm

DSM Program	State	2010	2011
Northern States Power (Xcel)	MN	$1.07	$1.24
Centerpoint	MN	$1.19	$1.18
MERC	MN	$1.45	$1.54
Public Service Company of Colorado	CO	$2.58	$2.75
Interstate Power & Light	IA	$2.65	$2.67
Columbia Gas	MA	$3.40	
MidAmerican	IA	$3.85	$4.49
National Grid	MA	$3.87	
NJCEP	NJ	$5.28	$4.77

Benchmark metrics for expenditures per unit of energy saved and savings as a percentage of sales were developed from this data. Note that these are the same two metrics developed from the EnerNOC study. The following tables present these metrics. NJCEP is not included in the metrics, but is presented for comparison purposes.

Residential Sector Metrics

	$/kWh	$/therm	Electric Savings as a % of Sales	Gas Savings as a % of Sales
Minimum	$0.08	$1.64	0.6%	0.3%
Median	$0.18	$3.44	1.1%	0.8%
Average	$0.25	$3.55	1.1%	0.8%
Maximum	$0.62	$5.80	1.7%	1.6%
NJCEP	**$0.18**	**$6.59**	**0.8%**	**0.2%**

Non-Residential Sector Metrics

	$/kWh	$/therm	Electric Savings as a % of Sales	Gas Savings as a % of Sales
Minimum	$0.11	$0.52	0.3%	0.1%
Median	$0.19	$1.89	0.9%	0.4%
Average	$0.20	$1.87	0.9%	0.6%
Maximum	$0.33	$4.19	1.5%	1.2%
NJCEP	**$0.22**	**$3.84**	**0.3%**	**0.1%**

Total Portfolio Metrics

	$/kWh	$/therm	Electric Savings as a % of Sales	Gas Savings as a % of Sales
Minimum	$0.11	$1.07	0.4%	0.2%
Median	$0.17	$2.62	0.9%	0.6%
Average	$0.18	$2.42	0.9%	0.6%
Maximum	$0.31	$4.49	1.3%	1.0%
NJCEP	**$0.20**	**$5.03**	**0.5%**	**0.2%**

By applying values to the total projected sales by sector (residential and non-residential) and by fuel type (electric and gas), these metrics can be used to develop expenditure and savings goals The approach is straight forward. Total projected sales are multiplied by savings as a percent of

sales to generate the savings goal. The resultant savings goal is multiplied by the cost per unit of energy (kWh or therms) metric to generate the funding level. The result of this exercise is shown in the next section.

4.4 Comparison between NJCEP Historic Performance versus the EnerNOC Potential Study and AEG Benchmarking Analysis

The tables below compare the historic NJCEP performance to the EnerNOC Potential Study and AEG Benchmarking Analysis. It should be noted that these results do not include energy savings or costs associated with CHP programs.

Comparison of Actual NJCEP, AEG Benchmarking & EnerNOC Potential Study

Sector	NJCEP (1)	Benchmark Analysis (2)	EnerNOC Potential Study (3)	Benchmark Analysis (2013)	EnerNOC Potential Study (2013)
Electricity Savings (MWh)					
Residential	235,413	326,229	356,901	333,112	383,739
Non-Residential	155,849	398,246	545,872	402,816	441,155
Total	**391,262**	**724,475**	**902,773**	**735,928**	**824,894**
Natural Gas Savings (Dtherm)					
Residential	482,817	1,758,638	297,418	1,738,980	182,120
Non-Residential	298,914	909,596	1,350,322	916,490	889,717
Total	**781,731**	**2,668,233**	**1,647,741**	**2,655,469**	**1,071,837**

Sector	NJCEP (1)	Benchmark Analysis (2)	EnerNOC Potential Study (3)	Benchmark Analysis (2013)	EnerNOC Potential Study (2013)
Electricity Expenditures					
Residential	$41,856,975	$60,143,998	$54,651,694	$61,412,927	$46,849,755
Non-Residential	$34,674,118	$75,825,159	$116,592,441	$76,695,340	$106,184,788
Total	**$76,531,093**	**$135,969,157**	**$171,244,135**	**$138,108,267**	**$153,034,543**
Natural Gas Expenditures					
Residential	$30,845,767	$60,488,554	$33,212,073	$59,812,413	$59,812,413
Non-Residential	$8,668,529	$17,219,633	$18,351,650	$17,350,143	$13,596,063
Total	**$39,514,296**	**$77,708,187**	**$51,563,723**	**$77,162,556**	**$73,408,477**
Total Portfolio Expenditures					
Residential	$72,702,742	$120,632,552	$87,863,767	$121,225,340	$106,662,168
Non-Residential	$43,342,647	$93,044,792	$134,944,091	$94,045,483	$119,780,852
Total	**$116,045,389**	**$213,677,343**	**$222,807,858**	**$215,270,823**	**$226,443,020**

Notes: (1) Average of actual 2011 and 2012 results
(2) Based on average of 2013 to 2016 estimates
(3) Based on average of 2013 to 2016 study results assuming 50/50 weighting

Comparison of Actual NJCEP, AEG Benchmarking & EnerNOC Potential Study

Sector	NJCEP (1)	Benchmark Analysis (2)	EnerNOC Potential Study (3)
EE Cost per kWh			
Residential	$0.18	$0.18	$0.15
Non-Residential	$0.22	$0.19	$0.22
Total	**$0.20**	**$0.19**	**$0.19**
EE Cost per therm			
Residential	$6.59	$3.44	$11.40
Non-Residential	$3.84	$1.89	$1.35
Total	**$5.03**	**$2.67**	**$3.22**

Sector	NJCEP (1)	Benchmark Analysis (2)	EnerNOC Potential Study (3)
EE % of Annual Electric Sales Saved			
Residential	0.8%	1.1%	1.2%
Non-Residential	0.3%	0.9%	1.2%
Total	**0.5%**	**1.0%**	**1.2%**
EE % of Annual Gas Sales Saved			
Residential	0.2%	0.8%	0.1%
Non-Residential	0.1%	0.4%	0.6%
Total	**0.2%**	**0.6%**	**0.4%**

Notes: (1) Average of actual 2011 and 2012 results
(2) Based on average of 2013 to 2016 estimates
(3) Based on average of 2013 to 2016 study results assuming 50/50 weighting

A number of conclusions can be drawn from the comparison of actual NJCEP savings and expenditures to the EnerNOC study and the AEG Benchmarking Analysis.

For the electric portfolio, the key conclusions are:

1. NJCEP historical Residential expenditures per kWh are within industry norms ($0.18) and total savings delivered by the Residential programs (as a percentage of total sales) are within industry norms (0.8% compared to 1.1%).

2. NJCEP historical Non-Residential expenditures per kWh are within industry norms ($0.22 compared to $0.19), but total savings delivered by the Non-Residential programs (as a percentage of total sales) are well below industry norms (0.3% compared to 0.9%).

For the gas portfolio, the key conclusions are:

3. NJCEP historical Residential expenditures per therm are well above industry norms ($6.59 compared to $3.44), but total savings delivered by the Residential programs as (a percentage of total sales) are well below industry norms (0.2% compared to 0.8%).

4. NJCEP historical Non-Residential expenditures per therm are well above industry norms ($3.84 compared to $1.89), but total savings delivered by the Non-Residential programs (as a percentage of total sales) are well below industry norms (0.1% compared to 0.4%).

These findings indicate that the recommended savings goals and associated expenditures for electricity will be significantly higher for the C&I electric portfolio and that Staff must further evaluate the performance of NJCEP programs in the gas portfolio.

The comparison above demonstrates that New Jersey's savings, on a dollar spent per kilowatt basis, are lower than its peer states. There could be many factors (or a combination of factors) causing this. Possible factors include:

a. Differing methodologies and data sets were used to calculate savings
b. NJCEP incentive levels may be too low, given the current low cost of natural gas
b. Customer awareness needs to be increased
c. NJCEP program designs need to be improved and funding levels need to remain consistent
d. Cost allocation between gas and electric is not accurate
e. Codes and standards are eroding savings potential

Staff recommends that a thorough review of the electric and gas portfolio of programs be conducted to ascertain the reasons for this apparent under-performance.

4.5 Proposed EE Funding Levels and Associated Energy Savings Goals

There is no magic number for either sales-based savings or revenue-based spending goals. However, based on experience in states around the country, averages can be determined for these goals. For electric utilities, "typical goals" for annual savings are in the 1.0% of retail sales range and a $0.20 per kWh cost is typical. For gas portfolios, annual savings in the 0.6% of retail sales range and a cost $2.5 per therm is typical. These are for mature portfolios, not startup programs. Costs can be reduced when programs can be jointly delivered between electric and gas.

AEG has direct experience with portfolios in many states and utilities in New York, Illinois, Colorado, Missouri, and Minnesota and has direct knowledge of activities in Massachusetts, Vermont, Wisconsin, Pennsylvania, Ohio, Indiana, and Michigan. The Benchmark Analysis does not include all of these states, but AEG can provide the aggregated information that supports these "typical goals".

As discussed in the prior section, New Jersey is lagging in a number of categories. The two scenarios presented in this section ignore, to some degree, historic NJCEP experience and instead assume a level of performance based upon industry norms.

In developing the Straw Proposals from the AEG Benchmark Analysis, Staff made some basic assumptions:

1. While it is clear that saving goals can be increased without increasing the average cost associated with those savings, this can only be done up to a certain level. Beyond that point, the cost to achieve the incremental growth in savings increases the average cost.

Any EE supply curve will depict this behavior. The so called "sweet spot" or point at which electric savings can no longer be obtained at equivalent cost levels is in the 1% of sales range. For gas savings, the percent value is lower, primarily due to the low cost of natural gas and the resulting lack of incentive for customers to invest in more efficient gas technology.

2. Using cost per unit of energy saved as a basis for developing a portfolio budget only works when the portfolio is assumed to be balanced. For example, a residential portfolio that is heavily dependent upon behavior change and CFL replacements can be accomplished at a very low annual cost. However, on a life cycle basis, it will not compare well to more comprehensive options. In a similar fashion, a commercial portfolio that only focuses on lighting will also have a lower annual cost. In both these examples, unbalanced portfolios can be delivered at lower costs, but are not sustainable in the long term, as they capitalize the low hanging fruit and leave the more expensive measures for the future.

The Straw Proposal scenarios were developed based on the AEG Benchmark Analysis, specifically the median metrics for electric and natural gas.

Proposed Portfolio Expenditure Metrics

	$/kWh	% of Sales
Residential	$0.18	1.1%
Non-Residential	$0.19	0.9%
Total	$0.19	1.0%

	$/therm	% of Sales
Residential	$3.44	0.8%
Non-Residential	$1.89	0.4%
Total	$2.67	0.6%

The first scenario presents the funding levels and associated savings if they were based solely on AEG's benchmarking analysis. However, as discussed below, Staff also took other factors into consideration in developing its proposed EE funding levels.

Expenditure Forecast based on Benchmarking Metrics

Sector	2013	2014	2015	2016
Electricity				
Residential	$61,412,927	$60,103,650	$59,542,820	$59,516,594
Commercial	$63,163,413	$62,217,112	$61,758,666	$61,928,205
Industrial	$13,531,928	$13,594,207	$13,730,876	$13,376,229
Total	**$138,108,267**	**$135,914,969**	**$135,032,362**	**$134,821,028**
Natural Gas				
Residential	$59,812,413	$60,306,516	$60,670,592	$61,164,694
Commercial	$13,596,063	$13,457,876	$13,419,491	$13,480,907
Industrial	$3,754,080	$3,738,725	$3,738,725	$3,692,663
Total	**$77,162,556**	**$77,503,118**	**$77,828,808**	**$78,338,265**
Total Portfolio				
Residential	$121,225,340	$120,410,166	$120,213,412	$120,681,288
Commercial	$76,759,476	$75,674,988	$75,178,157	$75,409,112
Industrial	$17,286,007	$17,332,933	$17,469,601	$17,068,892
Total	**$215,270,823**	**$213,418,087**	**$212,861,170**	**$213,159,293**

Savings Goal based on Benchmarking Metrics

Sector	2013	2014	2015	2016
Electricity Savings (MWh)				
Residential	333,112	326,010	322,968	322,826
Commercial	331,745	326,774	324,367	325,257
Industrial	71,072	71,399	72,117	70,254
Total	**735,928**	**724,183**	**719,451**	**718,337**
Natural Gas Savings (Dtherm)				
Residential	1,738,980	1,753,345	1,763,930	1,778,296
Commercial	718,187	710,888	708,860	712,104
Industrial	198,302	197,491	197,491	195,058
Total	**2,655,469**	**2,661,724**	**2,670,282**	**2,685,458**

A second scenario is based upon the EnerNOC study. As noted previously, the EnerNOC study contains literally thousands of assumptions. It is a model that looks at savings at the measure level and builds up to a sector, fuel type and portfolio. The EnerNOC study represents the opposite of the AEG Benchmark Analysis, which uses gross estimates of performance without getting into any details regarding how the savings or costs are actually generated. Developing funding proposals from these two totally different models is an effective way to triangulate towards a recommended savings and expenditure goal.

Based on a review of the results of the EnerNOC study, AEG's benchmarking analysis and historic spending and results, Staff believes that the proposed funding level should approximate a scenario half way between EnerNOC's Achievable Potential High and Achievable Potential low scenarios. The following table shows the results assuming a 50/50 weighting of these two scenarios:

Expenditure Forecast based on 50/50 Weighting

Sector	2013	2014	2015	2016
Electricity				
Residential	$46,849,755	$53,591,254	$61,353,083	$56,812,685
Non-Residential	$106,184,788	$102,504,307	$115,460,654	$142,220,015
Total	**$153,034,543**	**$156,095,561**	**$176,813,737**	**$199,032,700**
Natural Gas				
Residential	$23,652,965	$34,653,915	$40,622,762	$33,918,651
Non-Residential	$11,002,277	$13,948,987	$19,794,247	$28,661,088
Total	**$34,655,243**	**$48,602,902**	**$60,417,009**	**$62,579,740**
Total Portfolio				
Residential	$70,502,720	$88,245,169	$101,975,844	$90,731,337
Non-Residential	$117,187,066	$116,453,294	$135,254,901	$170,881,103
Total	**$187,689,786**	**$204,698,463**	**$237,230,746**	**$261,612,440**

Savings Goal based on EnerNOC 50/50 Weighting

Sector	2013	2014	2015	2016
Electricity Savings (MWh)				
Residential	383,739	345,102	346,829	351,933
Non-Residential	441,155	475,044	584,944	682,346
Total	**824,894**	**820,146**	**931,773**	**1,034,279**
Natural Gas Savings (Dtherm)				
Residential	182,120	294,815	368,257	344,482
Non-Residential	889,717	1,005,363	1,454,731	2,051,478
Total	**1,071,837**	**1,300,177**	**1,822,988**	**2,395,961**

When the Benchmark Analysis-based proposal is compared to the EnerNOC Study-based proposal, there is consistency in the early years, 2013 & 2104.

EnerNOC's study and the benchmarking study prepared by AEG were based on calendar years. However, since EnerNOC completed its study, the Board has shifted from a calendar year budget to a fiscal year budget. Staff has discussed both the effort required to replicate the studies based on a fiscal year and the potential impact on the results, and Staff believes the impact would be nominal. Therefore, Staff has determined that the calendar year projections prepared by EnerNOC and AEG be used as a reasonable proxy for the fiscal years being considered herein, with 2013 being used as a proxy for FY14.

5.0 Proposed Funding Levels

The Board's October 11, 2011 Order which established a procedural schedule for the 2014-17 CRA anticipated that Staff would propose funding levels for four years. However, based on current circumstances, Staff has reconsidered the wisdom of doing so at this time.

In December 201, Governor Christie released the State's EMP. The EMP sets out numerous goals and objectives, such as "Redesigning the delivery and financing of State energy efficiency programs" that requires additional evaluation. In addition, the Board is in the process of engaging a new Program Administrator, who is charged with developing a Strategic Plan that for transitioning the NJCEP programs and developing performance based metrics.

Staff believes that both the Board and ratepayers will benefit by awaiting the development of the Strategic Plan and from additional research into financing options prior to setting funding levels. Therefore, Staff proposes that the Board establish funding levels for FY14 only and defer a decision on the funding levels for FY15-17 until the Strategic Plan is developed and as the result of additional evaluation.

Staff took numerous factors into consideration in developing a proposed FY14 funding level including:

1. The goals and objectives of the EMP
2. The NJCEP policy objectives set out above
3. The results of the EnerNOC study and AEG's benchmarking study
4. Historic state/utility spending levels
5. Current levels of funding and the impact on rates of such funding
6. SBC funds proposed to be lapsed to the State's general fund in FY14

The funding scenarios discussed above compare historic spending on EE in New Jersey to the spending levels and anticipated results set out by the EnerNOC study, and to spending and results in other states based on the benchmarking study. Given NJCEP's history of under-spending, Staff's goal is to propose a FY14 funding level that can be fully expended/committed.

Staff developed a proposed funding level for each of the following major budget categories:

- Energy Efficiency
- CHP/Fuel Cells
- Renewable Energy and Energy Storage
- EDA
- NJCEP Administration including program evaluation

The following section discusses each of these activities and summarizes the factors Staff took into account in developing a proposed funding level for each.

5.1 Energy Efficiency

Staff's proposed funding level for the EE programs is guided by several key factors:

1. The NJCEP policy objectives
2. The costs associated with achieving different levels of savings

3. The impact on rates of the proposed funding levels
4. Historic spending levels and the ability to fully expend/commit proposed funding levels
5. Recognition that the programs will be transitioning to a new Program Administrator in the near future, and
6. Potential impacts of alternative financing mechanisms

The costs associated with achieving different savings levels and the historic spending levels were discussed in Section 4.

In developing the proposed EE funding levels, Staff attempts to balance what are sometimes competing objectives. For example, based on the Achievable High scenario in the EnerNOC study, the cost of all achievable, cost-effective EE savings which would result in the lowest overall cost of energy in the State, requires a funding level of $266 million in 2013, and grows to $332 million in 2016. This represents a significant increase to current funding level and rates.

The results of the Benchmarking Analysis were based on an EE funding level of $187,689,786, which is the half-way point between EnerNOC's High and Low Achievable potential scenarios. In 2012, NJCEP expended $154,966,793 on EE programs, including the small CHP program. Given the anticipated transition to a new Program Administrator and the anticipated a slowdown in activity during the transition, Staff is concerned that the program may not be able to fully expend $187 million in FY14. Therefore, and for the reasons discussed further below, Staff recommends a FY14 funding level of $177,665,000 for the EE programs.

5.2 Combined Heat & Power

The EMP set a goal of 1,500 MW of CHP generation by 2021, with 1,400 MW coming from C&I applications and 100 MW from district energy systems. To date, existing programs have delivered 42 MW of CHP. Therefore, 1,358 MW of new CHP and 100 MW of new district heating is needed to meet the goal.

Additionally, as discussed in Section 1.4 - Critical Facilities, in response to Superstorm Sandy, the BPU has initiated an informal working group to explore the role of CHP as a source of backup generation for critical facilities, such as hospitals and sewage treatment plants and to explore the level of funding required to meet the State's goals, as well as alternative financing mechanisms for funding CHP.

The NJCEP currently includes three programs that provide incentives for the installation of CHP and fuel cell systems. The Small CHP program provides incentives for systems with a capacity of up to 1 MW. The Renewable Energy Incentive Program (REIP) provides incentives for CHP and fuel cell systems that utilize renewable energy as a source of fuel and EDA manages a program for systems greater than 1 MW.

Incentives vary by program, technology, source of fuel and system size. Incentives range from over $4,000 per kW for fuel cells that utilize waste heat, to $2,000 per kW for small natural gas-fired CHP systems and $350 per kW for large systems greater than 3 MW. The level of capacity delivered by these programs therefore depends on the mix of system sizes, technologies and fuel source.

Based on applications received to date and projects in the pipeline, the Small CHP program is expected to deliver about 14 MW, utilizing a budget of $20 million, which averages approximately $1,429 per kW. REIP has approved 7 projects with a capacity of 3.26 MW and incentives of $6.78 million, or an average incentive of $2,080 per kW. EDA's first Large CHP solicitation resulted in awards to 6 projects totaling 24.84 MW, with incentives of $11.11 million, or an average incentive of $447 per kW. Combined, the three programs are expected to deliver 42 MW, based on total incentives of approximately $38 million, and with an average incentive of $900 per kW.

Using the average incentive levels calculated in the paragraph above and based on existing programs, approximately $607 million (1,358 MW * $447,000/MW) in incentives is required to achieve the EMP's CHP goal, if all of the capacity was procured using the current EDA large scale CHP solicitation. Incentives totaling $1.94 billion are required (1,358 MW * $1,429,000/MW) if the capacity is produced by small systems, and $1.22 billion is required based on the current mix of programs and an average incentive of $900 per kW. The required funding level will be higher if a higher percentage of projects come from small systems, fuel cells or from renewably fueled CHP systems.

Staff does not believe that current funding levels and programs will be sufficient to meet the State's goal of 1,500 MW of CHP by 2021. Therefore, in its Straw Proposal, Staff is recommending a level of funding that demonstrates the State's commitment to developing CHP long-term, while the BPU explores alternative financing mechanisms. Staff also believes that given the limited amount of funding required to meet this goal, CHP funding should emphasize larger systems and those technologies that generate electricity a lower cost per kW.

Staff also considered current participation in the existing CHP programs. In 2012, the Small CHP program had a budget of $17 million, but through December 2012, it has only issued rebate approvals for a little over $2 million. The large CHP program managed by EDA received a little over $11 million in applications for it first solicitation, and as of this writing, it has received only one application for the second solicitation, which offers up to $25 million in incentives. Staff recommends that any unspent/uncommitted funding related to the current EDA solicitation be carried forward into the FY14 CHP program budget.

Staff understands the need for funding stability, in order to encourage businesses to invest in CHP, and urges the industry to increase program participation. At the same time, Staff must balance this concern must be balanced against the need to ensure that all funds can be expended or committed, so as to secure future SBC funds.

Based on the above, Staff recommends a FY14 funding level of $30 million for CHP and fuel cells, including large and small projects and renewably-fueled projects. Staff believes that funding should focus on projects that deliver the highest level of electric generation and/or savings per rebate dollar expended. However, should demand for CHP incentives exceed the proposed funding level, Staff will recommend budget reallocations from other underperforming EE programs.

5.3 Renewable Energy

New Jersey's solar energy programs have been extremely successful in achieving a rapid increase in the number and capacity of solar energy installations. The original Renewable Portfolio Standards (RPS) in 1999 required competitive suppliers and BGS providers to provide Renewable Energy Certificates (RECs) for specified percentages of their sales (or to pay an Alternative Compliance Payment, ACP, the levels of which were set by the BPU).

While the 2005 Energy Master Plan goal (supported by 2006 legislation) of achieving 22.5% of sales from renewable energy by 2020/2021 was at the time regarded as very ambitious, the 2010 RPS Annual Report noted that the great majority of suppliers/providers were able to obtain and retire sufficient RECs and SRECs, with relatively few subject to ACP. In 2010, 4.7% of sales were from Class I and 2.5% were from Class II renewable energy systems. Due to the fact that Class I resources can be sourced from anywhere within PJM, and a great deal of wind has been installed in Pennsylvania and Indiana, Staff does not anticipate any issues with an adequate supply, even as the Class I requirement increases to 17.88% by 2020/2021. Furthermore, due to the abundant supply and low price of RECs, Staff estimates the EY12 compliance costs (passed on to customers in BGS bids or TPS prices) to be $20 million and that the amount spent by ratepayers on SRECs in EY12 was $126 million.

Solar energy has experienced an explosion of installed capacity in the last 3 years. In 2009/2010 the RPS requirement was 0.22% of sales, which was set to reach 2.12% by 2020/2021. In 2010, the Legislature adjusted the requirement to a fixed total of 5,316 GWH by 2026 (remaining at that level thereafter). In July 2012, the targets were further adjusted to increase near term requirements, while lowering the ACP to minimize compliance costs. As of February 2013, installed solar capacity 1,000 MW, almost a ten-fold increase from the 93 MW installed in October 2009. By any measure, New Jersey's solar initiatives have been extremely successful.

SRECs are now the principal state incentive available to motivate developers and to process compliance costs passed along to electricity customers. As required by the Solar Act of 2012, the Board has initiated a proceeding to explore potential methods of stabilizing solar market development, which some developers claim has become volatile over the past several years. Staff will not address this issue herein.

Outside of solar, New Jersey now has a total of 42 MW of Class I renewables: 9.5 MW of wind, 31 MW of bio-power, and 1.5 MW of fuel cell capacity. The EMP also calls for a carve out for a minimum of 1,100 MW of offshore wind, which would reduce other Class I resource requirements.

Proposed Funding Level: Renewable Energy

Staff recommends funding for several activities that will support the continued development of renewable energy systems in New Jersey including:

- Administrative support for the SREC market
- Incentives for biomass facilities
- Incentives for large wind systems
- Evaluation of off-shore wind systems, and energy storage
- Incentives for hydro-kinetic systems

Solar

Due to the past success of the solar program, Staff does not believe NJCEP funding for solar incentives is required over the next four years. The Solar Act of 2012 requires the Board to develop a financial incentive for solar on landfill, brownfields, and areas of historic fill, pursuant to N.J.S.A. 48:3-87t (i). While several commenters have recommended that NJCEP funding be utilized for additional incentives for solar systems built on landfills, due to the current oversupply in the SREC market and since the Board provided 180 MW to EDC finance programs, Staff does not support this recommendation at this time. Staff will continue to explore funding mechanisms for any additional solar incentives that may be required by the Solar Act of 2012.

Staff believes funding is required for processing SREC applications, including quality assurance reviews and inspections, tracking and reporting SREC activities and prices, verification in coordinating with PJM GATS, and coordinating with industry representatives. Staff recommends a FY14 funding level of $2.5 million for these activities.

Biomass

The EMP has a goal of 900 MW of biopower facilities by 2021. Since 2009, the NJCEP has paid incentives or approved applications for 9 biomass projects, with a total capacity of 7 MW and incentives totaling $8.3 million. This equates to an average incentive of $1,187/kW.

The biomass market has recently begun to expand, and 6 new projects were approved with a total capacity of 3.26 MW since August of 2012. Based on this recent activity, Staff recommends that the four year funding level for biomass be set about 25% above the level of rebates and commitments made since 2009. The level of rebates paid and/or commitments made since 2009 is $8.3 million. Increasing this amount by approximately 25% would result in a four year funding level of approximately $10 million. Therefore, Staff recommends a FY14 funding level of $2.5 million for biomass projects.

Based on an assumed average incentive level of $1,200 per watt, the FY14 funding level is expected to result in 2.1 MW of biomass projects. Staff will also explore additional strategies for achieving the EMP goal of 900 MW generated by bio-power facilities by 2021.

Off-shore Wind

The Offshore Wind Economic Development Act, P.L. 2010, Chapter 57 directs the BPU to develop an OREC program to support at least 1,100 MW of generation from qualified offshore wind projects. OWEDA also: (i) authorizes the BPU to accept applications for qualified offshore wind projects; (ii) sets forth the criteria to be used by the BPU in reviewing the projects' applications; and (iii) authorizes EDA to provide up to $100 million in tax credits for qualified wind energy facilities in wind energy zones.

During the next four years (2013-2017), the BPU will be engaged in developing and launching the OREC Program, which will provide incentives for project developers. In 2011, the BPU engaged Boston Pacific to assist with the evaluation of OREC applications and is finalizing rules, in order to open an application window. Application fees paid by the developers will

cover the costs for the evaluation. Staff is not recommending any additional direct incentives for off-shore wind projects.

However, Staff believes there will be an ongoing need for characterizing wind resource potential, including studying the proposals expected from developers seeking ORECs. The cost of these offshore wind evaluations is embedded in Staff's recommended evaluation budget discussed below.

On-shore Wind

In the past, the NJCEP has provided incentives for small and large-scale on-shore wind systems. The program has been suspended since March 2011, due to concerns with the safety of small-scale wind systems. The Board has engaged the National Renewable Energy Laboratory (NREL) to examine the safety of these systems and to make a recommendation on potential program changes.

The renewable energy market potential study performed by Navigant concludes that New Jersey has about 132 MW of technical potential for on-shore wind development, mostly located near the coast, and that there are limited potential sites located inland. The report states that the majority of on-shore wind development is likely to be at sites ranging from 1-10 MW in potential capacity. The report notes that power output and reliability issues have been a challenge in New Jersey, largely as a result of the intermittent nature of the wind resource most common in New Jersey. Given the extensive destruction caused by hurricane Sandy, particularly along the coast, many of the potential sites for small-scale wind energy are now facing massive rebuilding efforts. Based on the above, Staff recommends that funding for on-shore wind projects be limited to projects 1 MW or greater.

Navigant found that the cost of wind power is expected to decline in the near term. The report also noted the existence of the federal Production tax Credit of 2.2 cents per kWh and 30% Investment Tax Credit, both of which were extended through the end of 2013.

Since its inception, the NJCEP awarded rebates to two on-shore wind projects greater than 1 MW. One of the two projects received an incentive of $548 per kW and the other $693 per kW, with an average incentive for the two projects of $620/kW. Going forward, given the extension of the federal tax incentives and expected decline in costs, Staff believes an incentive in the range of $500 to $600 per kW should be sufficient to stimulate development of on-shore wind projects greater than 1 MW. Incentive levels would need to be re-evaluated if the federal tax credits expire. Furthermore, Staff will explore alternatives to making incentive levels competitively determined.

Staff anticipates developing a new on-shore wind program during FY14 for consideration by the Board. However, given the time required to develop a program and obtain all required approvals to implement the program, and time required for developers to develop a project to the point it is ready to apply for incentives, Staff is not recommending FY14 funding for on-shore wind at this time. However, as details regarding the proposed new program evolve, Staff anticipates a proposed funding level for on-shore wind for FY15.

Marine Hydrokinetic

On July 23, 2012, the Governor signed the Solar Act of 2012, which amended the definition of NJ Class I to include hydropower less than 30 MW. While Staff is not proposing a FY14 funding level for these technologies, Staff will explore potential program options to promote marine hydrokinetic projects.

Energy Storage

Based on the amount of intermittent renewable energy installed in New Jersey, Navigant identified two potential opportunities for energy storage in the near term (2012 – 2016):

- Shifting renewable generation to more optimal times of day
- Providing some of the additional frequency regulation that may be required with higher levels of intermittent renewable energy.

Staff believes that energy storage holds much promise as a tool that can address problems and opportunities associated with the intermittent nature of many renewable energy systems, including wind and solar. Therefore, Staff recommends a funding level of $5 to $10 million over the next four years to fund energy storage pilot projects or programs.

The following table summarizes Staff's proposed funding level for renewable energy discussed above:

Proposed Renewable Energy FY14 Funding Level

Technology	Proposed Funding Level	4 Year Total: Low-Range	4 Year Total: High Range	Proposed FY14 Funding Level
Solar	$2 to $3 million per year	$8 million	$12 million	$2,500,000
Biomass	$2 to $3 million per year	$8 million	$12 million	$2,500,000
On-shore Wind	$5 to $10 million over 4 years	$5 million	$10 million	
Energy Storage	$5 to $10 million over 4 years	$5 million	$10 million	$2,500,000
Hydrokinetics	$2 to $3 million per year	$8 million	$12 million	
Total				**$7,500,000**

Based on the above, Staff recommends a FY14 funding level of $7.5 million for RE.

5.4 Economic Development Authority

The New Jersey Economic Development Authority (EDA) currently manages three NJCEP programs:

- The Edison Innovation Clean Energy Manufacturing Fund (CEMF) which offers financial assistance in the form of low-interest loans and non-recoverable grants to companies that manufacture renewable energy or clean and energy efficient products in New Jersey.
- The Edison Innovation Green Growth Fund (GGF), which offers financial assistance to clean technology companies seeking funding to grow and support their business. The program is intended to spur innovation and fund emerging technologies in New Jersey.
- The Large Scale CHP/Fuel Cell program, which provides rebates to large scale (>1 MW) CHP and fuel cell projects.

The EDA also managed a revolving loan program that was suspending due to budget constraints and lack of participation.

EDA's initial involvement in the Large Scale CHP/Fuel Cell program was based on its ability to provide a financing mechanism for the program. EDA does not possess in-house, technical expertise regarding CHP or fuel cell systems, and relies on Staff and the Market Managers to assess the technical merits of proposed projects.

As previously noted, TRC currently manages a Small Scale CHP/Fuel cell program for systems up to 1 MW. Staff believes several benefits can result from combining the large and small CHP/fuel cell programs, as well as the CHP component of the REIP, into a single program including:

- Lower administrative costs that would result from eliminating duplicative administrative structures
- Elimination of the need to design, implement and coordinate three separate but related programs
- Greater budget flexibility that would result from a single program budget.

Staff recommends awaiting the results of the Strategic Plan and further direction from the Board regarding how and when to implement CHP financing programs, prior to determining the future role of EDA in any CHP program. As with CHP, Staff believes the proposed funding levels for EDA should reflect historic participation levels, so that proposed budgets can reasonably be expected to be expended or committed.

The CEMF program currently has an 18 month budget of $8.4 million. Through December 2012, the program has expended $1.2 million and committed $4.5 million, for a total of $5.7 million. The GGF fund currently has an 18 month budget of $3.4 million. Through December 2012, the program has expended $867,542 and committed $1.7 million for a total of $2.6 million.

Based on the above, Staff recommends a FY14 funding level of $7.5 million for the CEMF and GGF programs managed by EDA and believes EDA should play an active role in exploring alternative financing mechanisms for CHP.

5.5 NJCEP Administration

The EMP places a great deal of emphasis on the importance of evaluation, noting that "going forward, New Jersey should implement more rigorous cost/benefit analyses to determine the cost-effectiveness of its energy policy options." To this end, Staff recommends that CEEEP develop an evaluation plan that identifies specific studies to be performed and the anticipated cost of such studies, which will inform the funding levels for evaluation activities in years 2 through 4.

Based on the considerations outlined in Sections 3.2 - 3.9 and historic expenditures, Staff recommends a FY14 budget for NJCEP Administration of $5,000,000, which includes funding for OCE Staff salaries and overhead, memberships, program evaluation, and Sustainable Jersey.

5.6 NJCEP Proposed Funding Levels

After performing the assessments discussed above and the bottom-up assessment of the level of funding needed for each program sub-sector, Staff established the required level of funding and compared it to the current level of funding. The required funding level, assuming the $187 million for EE that resulted from the 50/50 split of the EnerNOC high and low study, when added to the funding levels proposed for the other categories above and the anticipated funding lapse, results in a funding level approximately $10 million above the current funding level. Given the current program circumstances, Staff's desire to fully expend funding in FY14, and in the interest of keeping customer rates stable, Staff proposes extending the current funding level of $379,250,000, which results in an EE funding level of approximately $177 million.

The following table summarizes the funding levels proposed by Staff:

Proposed FY14 Funding Level

	FY14
EE	**$177,665,000**
RE	**$7,500,000**
CHP	**$30,000,000**
EDA	**$7,500,000**
NJCEP Administration	**$5,000,000**
Total	**$227,665,000**

When required to account for an anticipated budget lapse of $151,585,000, Staff is proposing a total funding level of $379,250,000.

6.0 Rate Impacts

Staff is proposing to keep the FY14 funding level at the same level approved by the Board for calendar year 2012. Staff is proposing to utilize the same allocation factors used in the 2008 CRA Order such that the level of funding collected from each utility in FY14 will remain unchanged from the level collected in 2012. This will result in no incremental change in rates to customers.

The following table shows the resultant cost to an average size residential customer and to a mid-sized and large commercial customer:

Electric Customer Cost

	Residential		Midsized C&I		Larger C&I	
Year	Average Annul Usage per Household * (kWh)	Average Annual Bill Impact	Average Annul Usage per Business * (kWh)	Average Annual Bill Impact	Average Annul KWh Usage per Business * (kWh)	Average Annual Bill Impact
FY14	8,737	$27.15	1,651,194	$5,130.39	11,690,434	$36,323.07

Natural Gas Customer Cost

	Residential		Midsized C&I		Larger C&I	
Year	Average Annul Usage per Household * (Therms)	Average Annual Bill Impact	Average Annul Usage per Business* (Therms)	Average Annual Bill Impact	Average Annul KWh Usage per Business * (Therms)	Average Annual Bill Impact
FY14	736	$21.77	47,205	$1,395.98	931,739	$27,554.12

The table that follows shows the proposed level of funding to be collected from the ratepayers of each utility in FY14:

Monthly Utility Funding Levels for Board Order

FY14	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
ACE	$3,267,026	$3,636,418	$3,462,676	$2,785,611	$2,314,418	$2,486,407	$2,642,572	$2,680,833	$2,700,068	$2,428,087	$2,447,292	$2,757,545	$33,608,955
JCP&L	$7,076,810	$7,577,277	$6,889,621	$6,007,608	$5,562,841	$5,808,531	$5,914,365	$6,000,659	$6,447,282	$5,561,839	$5,416,934	$6,334,092	$74,597,858
PS-Electric	$14,725,814	$14,973,866	$12,371,520	$12,292,678	$11,290,205	$11,988,708	$11,974,398	$11,239,282	$11,649,423	$10,859,443	$11,540,798	$12,935,173	$147,841,308
RECO	$559,558	$587,595	$540,161	$474,197	$427,752	$450,067	$445,204	$442,799	$429,409	$397,764	$390,288	$489,585	$5,634,379
NJN	$437,880	$468,257	$454,055	$915,390	$1,352,747	$2,428,916	$2,374,681	$2,682,086	$1,960,255	$1,445,803	$835,250	$541,046	$15,896,367
ETown	$874,190	$870,289	$801,924	$1,000,406	$1,221,440	$1,797,929	$1,522,090	$2,327,320	$2,033,259	$1,498,540	$1,099,719	$937,393	$15,984,499
PS-Gas	$3,129,044	$2,547,053	$2,752,703	$4,304,688	$6,071,381	$9,976,116	$9,670,040	$10,754,629	$10,474,638	$5,987,560	$4,511,579	$2,528,870	$72,708,302
SJG	$613,003	$678,181	$493,115	$894,647	$1,066,869	$1,738,389	$1,697,118	$1,881,590	$1,410,598	$1,103,501	$804,968	$596,352	$12,978,332
Total	$30,683,325	$31,338,936	$27,765,775	$28,675,227	$29,307,652	$36,675,064	$36,240,468	$38,009,198	$37,104,932	$29,282,537	$27,046,828	$27,120,057	$379,250,000

7.0 Summary of Staff Recommendations

The FY14-17 CRA comes at a unique time for the NJCEP. As recommended in the 2011 Energy Master Plan, the NJCEP has begun the process of transitioning from multi-manager contracts to a single Program Administrator and towards more market driven programs.

At the same time, the award for the new Program Administrator has been challenged, and the associated Strategic Plan is on hold. The NJCEP has experienced a pattern of budget lapses, as SBC funds are appropriated into the general fund, and is only beginning to evaluate the impacts of Superstorm Sandy on its budgets and future program design. Staff continues to review the role of utility EE and RE programs, and Staff recognizes the NJCEP's contribution to the state's economy, and the construction industry in particular.

In response to current circumstances and the various open issues discussed in this Straw Proposal, Staff recommends a number of processes/working groups and evaluations that will inform proposed changes to the programs, processes and structure of the NJCEP. Staff believes that the results of the additional assessments recommended in the Straw Proposal will assist the Board in making a more informed decision regarding the funding levels, especially in the outer years of this proceeding.

However, given that the current Board approved funding levels for the NJCEP expire at the end of June 2013, at this time, the Board must determine funding levels for FY14 to enable the continuation of the NJCEP. Based on the above, Staff is proposing a funding level for FY14 and will defer to 2014 its recommendation to the Board regarding the funding levels for the remaining three years.

While continuing to administer a comprehensive set of programs, Staff will reevaluate the suite of existing programs, considering which programs are most beneficial to ratepayers, the State and the environment, prior to recommending specific FY14 programs and budgets to the Board.

Staff recommends the following goals for the NJCEP for FY14:

1. **In coordination with Treasury, finalize the Program Administrator contract, develop the Strategic Plan and complete the transition to a single Program Administrator.** The Strategic Plan will inform the direction of the NJCEP over the next several years. Staff will focus its efforts on completing the transition to the new Program Administrator and will work closely with the Program Administrator and other stakeholders to develop the NJCEP Strategic Plan.

2. **Perform Key Evaluations:** Staff has emphasized throughout the Straw Proposal its support of the need for a higher level of program evaluation than has been conducted historically and as recommended in the EMP. To this end, Staff recommends formulation of a Working Group, chaired by Board Staff and CEEEP, to coordinate with interested stakeholders and develop a three year evaluation plan that identifies specific program evaluation activities that should be performed in the years 2014 through 2016. Staff recommends that the evaluation plan be completed by the end of 2013.

Staff notes that it is in the process of preparing an RFP for an audit of the utility EE and RE programs and for an audit of the IMS system. These activities will be funded through the FY14 evaluation budget.

3. **Promote the role of the NJCEP in storm response, so that New Jersey can rebuild stronger, more energy efficiently and in a manner that provides long-term benefits to ratepayers and the environment.**

4. **Promote Distributed Generation, including CHP and Energy Storage, as a means of hardening infrastructure for critical facilities:** The EMP recommends an increased role for CHP systems and the Board is currently exploring the role of CHP and other types of distributed generation and energy storage as means of ensuring the operation of critical facilities during power outages. Staff has created a Work Group that is currently providing input and exploring alternative methods of financing CHP and fuel cell systems, including the development of an Energy Efficiency Portfolio Standard.

5. **Convene a Work Group to evaluate Utility programs:** The Straw Proposal identifies a number of concerns regarding the existing procedures for review and approval of utility EE and RE filings, the coordination of the utility programs with the NJCEP, and issues related to reporting utility program results. Staff will convene a Work Group to discuss these issues and develop recommendations for consideration by the Board.

6. **Assess the Impact of all EE and RE Programs:** It is important to understand the State's capacity to spend on clean and renewable energy, in order to both secure the SBC funds, and to enable a smooth transition to more market-based funding for EE and RE programs. The Straw Proposal identifies some of the challenges that Staff faces in gathering the information required to assess the full impact of all of the EE and RE programs.

   Staff will coordinate with the Board's Division of Energy, Rate Counsel, the utilities, CEEEP and other interested stakeholders to identify information needs, develop systems for collecting and reporting such information, and to develop standardized reports that will make this information more readily accessible to the Board and other interested parties.

7. **Identify and track additional metrics such funds leveraged, jobs created, and marketing impacts:** As the BPU evaluates the benefits of market-based financing and other mechanisms for leveraging ratepayer funds, it is necessary to understand the opportunities and the extent to which existing programs lend themselves to related goals, such as job creation and reducing reliance on SBC funds.

As a national leader in energy efficiency and renewable energy, New Jersey's clean energy economy creates steady jobs. It is important to understand how and where those jobs are being created.

While Staff is recommending increased marketing activities, Staff believes it is important to measure the impacts of additional marketing and recommends the development of specific metrics for tracking its marketing activities.

8. **Promote Emerging Technologies such as Hydrokinetic Power and Energy Storage:** The Navigant market potential study identifies several emerging technologies such as hydrokinetic power and energy storage that could contribute to achieving the State's energy goals. In FY14, Staff will hold discussions with interested stakeholders and develop solicitations to provide incentives for the development of these technologies.

9. **Coordinate with Treasury to develop appropriate procedures to better match the collection of funds from ratepayers to actual program needs:** The Straw Proposal identifies a number of issues associated with the current budgeting and funding procedures that have resulted in the appropriation of NJCEP funding to the State's general budget. Staff will work with Treasury to better align the collection of funds from ratepayers with the needs of the program.