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To: ee@njcleanenergy.com; renewables@njcleanenergy.com
Subject: FY 15 True-Up Budget
Date: Monday, November 17, 2014 1:53:36 PM
Attachments: [Request for Comments FY15 True UpBudget and Program Changes 11-17-14.pdf](#)
[FY15 Detailed Budgets 111714.pdf](#)
[FY15 True Up Budget 111714.pdf](#)
[ATT00001.txt](#)

Attached are staff's proposed revisions to the Fiscal Year 2015 NJCEP budget, along with the proposed program changes. The true-up budget and changes were discussed at the November 13, 2014 Energy Efficiency and Renewable Energy Committee meetings.

Staff is requesting comments on the proposed revisions to the FY15 budget and program changes by COB Monday, December 1, 2014. Comments should be submitted to: publiccomments@njcleanenergy.com and reference: "Proposed changes to FY15 NJCEP programs and budget."

Thank you,

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Request for Comments
Proposed Revisions to FY15 NJCEP Programs and Budget
November 17, 2014

Staff is requesting comments on the proposed revisions to the FY15 NJCEP budget and programs summarized below by COB, December 1, 2014. Comments should be submitted to: publiccomments@njcleanenergy.com

and reference: “Proposed changes to FY15 NJCEP programs and budget”

True-Up Budget

The FY15 NJCEP budget that was approved by the Board of Public Utilities (“the Board”) at its June 18, 2014 agenda meeting was established based in part upon estimated FY14 expenses. The Board has historically revised the NJCEP budget to reflect actual expenses, once known, which is typically referred to as the “True-Up” budget.

The True Up budget spreadsheet included with this notice includes a tab for each budget category such as EE and RE that shows the final FY14 NJCEP budget and actual expenses for each program. Expenses are deducted from the budget to calculate “Actual Carry Over”. Actual Carry Over is then compared to the “Estimated Carry Over” which was used to establish the initial FY15 NJCEP budget. The difference between Actual and Estimated Carry Over is calculated and shown as “Additional Carry Over”. These funds are available to add to the FY15 budget. It is important to note that as of July 1, 2014, over \$118 million of the Additional Carry Over was committed to projects that will be completed in FY15 or FY16.

The proposed revised budgets also reflect several additional adjustments as follows:

The State FY15 Appropriations Act and FY14 Supplemental Appropriations Act lapsed an additional \$58,000,000 from the NJCEP Trust Fund to the State’s General Fund. The NJCEP budget must be reduced by this amount to reflect the additional lapse.

The initial FY15 budget included estimated revenues related to the programs managed by the NJ Economic Development Authority (EDA). The funds held by EDA earn interest and EDA has issued loans and repayable grants. As these are repaid, the funds become available to reallocate to programs. The difference between the estimated revenues used in the development of the initial FY15 budget and actual EDA revenues is (\$42,747.59), i.e. actual revenues were \$42,747.59 less than estimated revenues. EDA’s budget was reduced by this amount to reflect this adjustment.

One of the key objectives of switching the NJCEP budget from a calendar year to a fiscal year basis was to align the budget process with the State’s financial reporting system. FY14 represents the first full year of alignment, which enabled a reconciliation of the NJCEP budget with total funding available to the program on a fiscal year basis. The True Up budget spreadsheet includes a calculation of this adjustment which reduces the budget by \$5,391,707.55.

As part of the Christie Administration's continuing efforts to minimize the impact of future major power outages and increase energy resiliency, the State recently announced the launch of the New Jersey Energy Resilience Bank (ERB), the first public infrastructure bank in the nation to focus on energy resiliency. Utilizing \$200 million through New Jersey's second Community Development Block Grant-Disaster Recovery (CDBG-DR) allocation, the ERB will support the development of distributed energy resources at critical facilities throughout the State that will enable them to remain operational during future outages. The Block Grant requires that all funds be expended within two years of the date of execution of the grant agreement.

The initial NJCEP FY15 budget included \$30 million for the ERB that was to be used to supplement the Block Grant. However, the federal Block Grant funds have a limited term; therefore, these funds will be expended before tapping NJCEP funds. In FY15, SBC funds of \$1.25 million will support the ERB.

Working with the Market Managers and the Program Coordinator, Staff developed proposed revisions to the NJCEP FY15 budget that incorporate the required changes discussed above. Staff reviewed FY14 program spending and activity levels, actual spending through the first quarter of FY15¹, the current level of commitments, and considered other factors such as recent trends in spending. The True-Up budget spreadsheet sets out Staff's proposed revised budgets that reflect these factors.

These changes were discussed at the November 13, 2014 meetings of the EE and RE committees. Of note, no changes to the NJCEP FY15 programs or incentive levels previously approved by the Board are required, current projections indicate that there are sufficient funds remaining in the budget to accommodate anticipated program activity.

Revised Detailed Budgets and Program Goals

The compliance filings approved by the Board include a description of each program, detailed budgets that break down the overall budget for each program into various budget categories such as administration, sales and marketing, rebates and other incentives, rebate processing, etc., and program goals. Included with this notice are proposed revisions to the detailed budgets that are required to align the detailed budgets with the revised overall budgets, and proposed goals that reflect the changes to the program budgets.

Proposed Program Changes

On September 25, 2014 a notice to add LED linear lamps as a prescriptive measure to the C&I Retrofit and C&I New Construction Programs was circulated for public comment. As a result of that process, new information was presented to Office of Clean Energy Staff which demonstrated that the cost for these lamps has dropped significantly since TRC presented its proposal.

TRC initially recommended a new prescriptive rebate of \$5/lamp for 2' LED linear lamps and \$10/lamp for 4' LED linear lamps. The attached document sets out TRC's revised analysis that included the updated cost information and supports the revised proposed rebate level. TRC is now proposing a new prescriptive rebate of \$5/lamp for both the 2' and the 4' LED linear

¹ The final FY14 and 1Q FY15 expense reports are included with this notice.

lamps. All LED linear lamps must be listed either on the current DLC or ENERGY STAR® qualified products list to be considered for incentives. These lamps are intended to replace existing fluorescent technology resulting in significant energy savings and reduced maintenance costs to the customer.

OCE Detailed FY15 RE Budget

Renewable Energy Programs	Total	Administration and 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
Offshore Wind Solicitation	\$450,433.41						\$450,433.41
Renewable Energy Program: Grid Connected	\$203,720.00				\$203,720.00		
Edison Innovation Clean Energy Fund (formerly CST)	\$59,124.57				\$59,124.57		
TOTAL Renewables	\$713,277.98	\$0.00	\$0.00	\$0.00	\$262,844.57	\$0.00	\$450,433.41

EDA Detailed FY15 Budget

EDA Programs	Total	Administration and Program Development	Sales, Call Centers, Marketing and Website	Training	Rebates, Grants, and Other Direct Incentives	Rebate Processing, Inspections, and Other Quality Control
Edison Innovation Clean Energy Manufacturing Fund	\$8,536,276.49	\$207,863.08			\$8,328,413.41	
Edison Innovation Green Growth Fund	\$5,237,408.95	\$207,863.08			\$5,029,545.87	
Large CHP Solicitation	\$10,921,624.67	\$207,863.08			\$10,713,761.59	
TOTAL EDA Programs	\$24,695,310.11	\$623,589.24	\$0.00	\$0.00	\$24,071,720.87	\$0.00

OCE Detailed FY15 NJCEP Administration Budget

	Total	Administration and 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
Administration and Overhead							
OCE Staff and Overhead	\$2,350,622.67	\$2,350,622.67					
Program Coordinator	\$2,200,000.00	\$687,802.88	\$599,128.32			\$857,068.80	\$56,000.00
Sub-Total: OCE Administration and Overhead	\$4,550,622.67	\$3,038,425.55	\$599,128.32	\$0.00	\$0.00	\$857,068.80	\$56,000.00
Memberships-Dues							
<i>2012 Sponsorships</i>	\$200,000.00				\$200,000.00		
Sub-Total: Memberships-Dues	\$200,000.00	\$0.00	\$0.00	\$0.00	\$200,000.00	\$0.00	\$0.00
Evaluation and Related Research							
<i>Rutgers-CEEEP</i>	\$2,140,227.35						\$2,140,227.35
<i>Funding Reconciliation</i>	\$52,545.00						\$52,545.00
<i>Program Evaluation</i>	\$3,323,634.10						\$3,323,634.10
Sub-Total: Evaluation and Related Research	\$5,516,406.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,516,406.45
Marketing and Communications							
<i>Clean Energy Business Web Site</i>	\$120,000.00		\$120,000.00				
<i>Sustainable Jersey</i>	\$677,674.35				\$677,674.35		
Sub-Total: Marketing and Communications	\$797,674.35	\$0.00	\$120,000.00	\$0.00	\$677,674.35	\$0.00	\$0.00
TOTAL: Administration	\$11,064,703.47	\$3,038,425.55	\$719,128.32	\$0.00	\$877,674.35	\$857,068.80	\$5,572,406.45

Table 1: FY 2015 Renewable Energy Programs Budget

Program	Total	Administration, IT and Program Development	Sales & Marketing	Training	Rebates, Grants, and Other Direct Incentives	Rebate Processing, Inspections and Other Quality Control	Performance Incentives	Evaluation and Related Research
REIP	\$17,522,245.87	\$1,376,206.92	\$0.00	\$0.00	\$13,741,185.93	\$2,404,853.02	\$0.00	\$0.00
Marketing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Sub Total RE Programs	\$17,522,245.87	\$1,376,206.92	\$0.00	\$0.00	\$13,741,185.93	\$2,404,853.02	\$0.00	\$0.00

Table 2: FY 2015 Residential Efficiency Programs Budget

Program	Total	Administration, IT and Program Development	Sales & Marketing	Training	Rebates, Grants, and Other Direct Incentives	Rebate Processing, Inspections and Other Quality Control	Performance Incentives	Evaluation and Related Research
Residential HVAC - Electric & Gas	\$13,665,469.42	\$1,306,764.00	\$0.00	\$755,203.84	\$10,185,420.00	\$1,418,081.58	\$0.00	\$0.00
Residential New Construction	\$19,275,897.29	\$1,249,392.00	\$0.00	\$0.00	\$17,426,820.00	\$599,685.29	\$0.00	\$0.00
Energy Efficient Products	\$19,468,939.09	\$2,001,756.59	\$0.00	\$0.00	\$17,021,300.00	\$445,882.50	\$0.00	\$0.00
Home Performance with Energy Star	\$43,364,475.16	\$1,044,421.08	\$0.00	\$0.00	\$40,420,768.07	\$1,899,286.01	\$0.00	\$0.00
Marketing	\$1,309,984.00	\$0.00	\$1,309,984.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Sub Total Residential Programs	\$97,084,764.96	\$5,602,333.67	\$1,309,984.00	\$755,203.84	\$85,054,308.07	\$4,362,935.38	\$0.00	\$0.00

FY 2015 Revised C&I Energy Efficiency & CHP/Fuel Cell Program Budget

11/12/2014

	Total Proposed FY 2015 Budget	Admin.and Program Development	Sales, Marketing, Call Centers, Web Site	Training and Technical Support	Rebates, Grants and Other Direct Incentives	Rebate Processing, Inspections, Other Quality Control	Performance Incentives	Evaluation & Related Research
COMMERCIAL & INDUSTRIAL EE PROGRAMS								
C&I New Construction	\$ 3,405,210.99	\$ 237,454.00	\$ -	\$ 393,591.00	\$ 2,650,521.75	\$ 123,644.24	\$ -	\$ -
C&I Retrofit	\$ 55,468,738.87	\$ 747,550.80	\$ -	\$ 425,078.28	\$ 49,875,194.19	\$ 4,420,915.60	\$ -	\$ -
Pay for Performance New Construction	\$ 13,579,268.58	\$ 149,600.00	\$ -	\$ 399,860.08	\$ 12,864,808.50	\$ 165,000.00	\$ -	\$ -
Pay for Performance	\$ 31,091,851.98	\$ 579,800.00	\$ -	\$ 547,334.64	\$ 29,327,737.42	\$ 636,979.92	\$ -	\$ -
Local Government Energy Audit	\$ 2,416,980.50	\$ 220,000.00	\$ -	\$ -	\$ 1,380,320.50	\$ 816,660.00	\$ -	\$ -
Direct Install	\$ 42,881,360.42	\$ 501,551.80	\$ -	\$ 10,000.00	\$ 41,939,640.42	\$ 430,168.20	\$ -	\$ -
Marketing	\$ 1,075,000.00	\$ -	\$ 1,075,000.00	\$ -	\$ -	\$ -	\$ -	\$ -
Large Energy Users Program	\$ 17,314,758.89	\$ 147,916.00		\$ -	\$ 16,948,782.69	\$ 218,060.20	\$ -	\$ -
Subtotal C&I EE Programs	\$ 167,233,170.23	\$ 2,583,872.60	\$ 1,075,000.00	\$ 1,775,864.00	\$ 154,987,005.47	\$ 6,811,428.16	\$ -	0.00
COMMERCIAL & INDUSTRIAL CHP PROGRAM								
CHP and Fuel Cell	\$ 24,451,062.18	\$ 65,000.00	\$ -	\$ -	\$ 24,192,873.47	\$ 193,188.71	\$ -	\$ -
Subtotal CHP Program	\$ 24,451,062.18	\$ 65,000.00	\$ -	\$ -	\$ 24,192,873.47	\$ 193,188.71	\$ -	\$ -
TOTAL C&I PROGRAM	\$ 191,684,232.41	\$ 2,648,872.60	\$ 1,075,000.00	\$ 1,775,864.00	\$ 179,179,878.94	\$ 7,004,616.87	\$ -	\$ -

Projections for FY 2015 - Committed

Program	FY 2015 New Applications	Annual Electric Savings - Committed		Lifetime Electric Savings - Committed		Gas Savings - Committed		Committed Generation		
		kW	MWh	kW	MWh	Annual DTh	Lifetime DTh	Annual kW	Annual MWh	Lifetime MWh
New Construction	121	2,043	8,674	2,043	156,135	3,502	63,041	0	0	0
Retrofit	2,936	29,259	132,172	29,259	1,982,583	48,312	724,678	0	0	0
CHP & Fuel Cell *	9	0	0	0	0	37,613	451,354	1,845	14,022	168,264
Direct Install	1,393	9,614	41,715	9,614	625,727	72,209	1,083,128	0	0	0
Large Energy Users	20	9,533	41,347	9,533	620,206	470,447	7,056,709	0	0	0
Pay for Performance EB	47	3,544	17,960	3,544	269,407	213,608	3,204,120	0	0	0
Pay for Performance NC	32	10,673	14,150	10,673	254,698	10,377	186,778	0	0	0
Local Government Energy Audit	133	0	0	0	0	0	0	0	0	0
TOTALS	4,690	64,666	256,019	64,666	3,908,756	856,067	12,769,809	1,845	14,022	168,264

Projections for FY 2015 - Installed

Program		Annual Electric Savings - Installed		Lifetime Electric Savings - Installed		Gas Savings - Installed		Installed Generation		
		kW	MWh	kW	MWh	Annual DTh	Lifetime DTh	Annual kW	Annual MWh	Lifetime MWh
New Construction	121	732	5,559	732	100,057	4,651	83,714	0	0	0
Retrofit	2,936	28,847	159,063	28,847	2,385,946	96,503	1,447,538	0	0	0
CHP & Fuel Cell *	9	0	0	0	0	25,829	309,944	1,213	9,218	110,615
Direct Install	1,393	7,316	28,804	7,316	432,060	69,198	1,037,968	0	0	0
Large Energy Users	20	758	11,441	758	171,622	25,900	388,498	0	0	0
Pay for Performance EB	47	3,976	16,504	3,976	247,558	129,819	1,947,291	0	0	0
Pay for Performance NC	32	191	505	191	9,089	247	4,440	0	0	0
Local Government Energy Audit	133	0	0	0	0	0	0	0	0	0
TOTALS	4,690	41,820	221,876	41,820	3,346,332	352,146	5,219,393	1,213	9,218	110,615

Projections for FY 2015 - Emissions Reductions

Program	Annual Emissions Savings - Committed				Lifetime Emission Savings - Committed				Annual Emission Savings - Installed				Lifetime Emission Savings - Installed					
	Tons CO2	Tons Nox	Tons SO2	Lbs Hg	Tons CO2	Tons Nox	Tons SO2	Lbs Hg	Tons CO2	Tons Nox	Tons SO2	Lbs Hg	Tons Nox	Lbs Hg	Tons CO2	Tons Nox	Tons SO2	Lbs Hg
New Construction	6,094.88	11.16	25.52	0.31	109,700.90	200.90	460.26	5.56	4,033.27	7.25	16.39	0.20	130.24	3.56	72,599.12	130.24	294.80	3.56
Retrofit	92,596.40	169.85	390.00	4.71	1,388,946.33	2,547.80	5,844.35	70.58	113,470.99	206.01	468.89	5.66	3,089.84	84.94	1,702,065.04	3,089.84	7,033.52	84.94
CHP & Fuel Cell *	1,995.60	1.57	-	-	23,949.37	18.83	-	-	1,370.50	1.08	-	-	13.20	-	16,446.00	13.20	-	-
Direct Install	32,247.27	55.98	122.76	1.49	483,704.10	839.77	1,844.55	22.28	23,292.41	39.46	84.91	1.03	592.02	15.38	349,385.85	592.02	1,274.13	15.38
Large Energy Users	53,127.18	72.13	121.83	1.47	796,908.85	1,081.99	1,828.27	22.08	9,167.98	15.61	33.73	0.41	234.36	6.11	137,520.03	234.36	505.92	6.11
Pay for Performance EB	23,568.80	31.72	52.70	0.64	353,529.09	475.79	794.17	9.59	18,130.45	26.37	48.65	0.59	395.25	8.81	271,956.65	395.25	730.15	8.81
Pay for Performance NC	10,189.06	18.40	42.14	0.50	183,405.92	331.22	750.81	9.07	357.03	0.65	1.49	0.02	11.76	0.32	6,426.84	11.76	26.46	0.32
Local Government Energy Audit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	219,819	361	755	9	3,340,145	5,496	11,522	139	169,823	296	654	8	4,467	119	2,556,400	4,467	9,865	119

*CHP and Fuel Cell Program goals are strictly related to the small scale program managed by TRC

Efficiency Savings By Program and Category				100% of Budgeted Goal					
				Annual		Lifetime			
All Programs				Measures	MWh	DTh	MWh	DTh	
Energy Efficient Products				3,761,000	172,408	22,950	966,666	252,450	
Residential New Construction				10,028	15,379	178,297	307,585	3,565,948	
Heating, Ventilation and Air Conditioning				25,513	7,119	205,694	136,066	4,001,823	
Home Performance with ENERGY STAR				5,680	1,988	96,560	39,760	1,931,200	
Total FY2015 NJCEP Energy Efficiency:				Annual kWh	Annual Therms	Measure Lives	Lifetime MWh Saved	Lifetime MMBtu Saved	
Total FY2015 NJCEP Energy Efficiency at use							1,450,077	9,751,421	
T&D Loss adjustment factor							1.11	1.00	
Net to Gross Ratios							1.00	1.00	
Total Adjustments							1.11	1.00	
Total FY2015 NJCEP Energy Efficiency at Gen.							1,609,585	9,751,421	
Efficiency Savings By Program and Category		Participants	Energy Efficiency Units	Annual		Measure Lifetimes	Lifetime		
				MWh	DTh		MWh	DTh	
Energy Efficient Products	2015 EE Lighting markdowns (CFL & LED)*	1,505,000	3,500,000	143,500	0	5	717,500	0	
	2015 EE Lighting Fixture & SSL markdowns	50,000	50,000	2,200	0	20	44,000	0	
	Creative (Lighting)	97,500	120,000	4,920	0	5	24,600	0	
	Refrigerators CEE Tier 2	9,500	9,500	1,245	0	12	14,934	0	
	Clotheswasher Tier 2 (MEF 2.2)	19,500	19,500	2,496	17,550	11	27,456	193,050	
	Refrigerator/Freezer Early Retirement Program (JACO)	13,500	13,500	12,825	0	8	102,600	0	
	Other Upstream Incentives - Clothes Washers	6,000	6,000	768	5,400	11	8,448	59,400	
	Other Upstream Incentives - HP Estar V1 Dryers (Pilot)	1,000	1,000	183	0	12	2,196	0	
	Other Upstream Incentives - HP SEDI Award Dryers (Pilot)	500	500	195	0	12	2,340	0	
	Other Upstream Incentives - CEE Tier 2 Refrigerators	5,100	6,000	786	0	12	9,432	0	
Energy Efficient Set-Top Box (ENERGY STAR 1&2)	35,000	35,000	3,290	0	4	13,160	0		
Subtotal		1,742,600	3,761,000	172,408	22,950		966,666	252,450	
Contingency Savings									
Grand Total		1,742,600	3,761,000	172,408	22,950		966,666	252,450	
Residential New Construction	Tier 1 (ENERGY Advantage)	2,324	2,324	3,135	30,228	20	62,703	604,554	
	Tier 2 ENERGY STAR v3.0	2,324	2,324	4,301	46,051	20	86,028	921,028	
	Tier 3	7	7	18	224	20	358	4,477	
	MFHR	870	870	942	22,504	20	18,832	450,080	
	2014 Commitments (carried forward)		5,525	5,525	8,396	99,007		167,921	1,980,139
	Tier 1 (ENERGY Advantage)	1,980	1,980	2,671	25,753	20	53,422	515,067	
	Tier 2 ENERGY STAR v3.0	1,979	1,979	3,663	39,215	20	73,257	784,300	
	Tier 3	41	41	105	1,311	20	2,097	26,223	
	MFHR	503	503	544	13,011	20	10,888	260,219	
	2015 Enrollments/Commitments		4,503	4,503	6,983	79,290		139,664	1,585,809
Subtotal		10,028	10,028	15,379	178,297		307,585	3,565,948	
Contingency Savings									
Grand Total		10,028	10,028	15,379	178,297		307,585	3,565,948	
Heating, Ventilation and Air Conditioning	A/C SEER 17 (with proper sizing)	1,600	1,600	522	0	15	7,824	0	
	A/C SEER 16 (with proper sizing)	500	500	130	0	15	1,950	0	
	Mini-Split SEER 16	665	665	173	0	15	2,594	0	
	ASHP 16 (with proper sizing)	279	279	187	0	15	2,801	0	
	GSHP ENERGY STAR	29	29	54	0	30	1,631	0	
	HP Water Heater	100	100	169	0	10	1,687	0	
	Solar Domestic Hot Water for Electric Applications	5	5	12	0	10	123	0	
	Electric Applications		3,178	3,178	1,247	0		18,610	0
	Gas Furnace: 95% AFUE	8,800	8,800	3,485	89,760	20	69,696	1,795,200	
	Gas Furnace: 95% AFUE; 2% ECM (New E*); 2% Cabinet Le	6,000	6,000	2,388	69,000	20	47,760	1,380,000	
	Gas Furnace/Boiler & .82EF or 90%TE Combo or 0.67 PV	2,225	2,225	0	28,480	20	0	569,600	
	Boiler: 85% AFUE (Hydronic)	2,225	2,225	0	5,340	20	0	106,800	
	Boiler: 82% AFUE (Steam)	710	710	0	1,917	20	0	38,340	
	Power Vented .67 EF (to support orphan WH issue)	625	625	0	1,625	10	0	16,250	
	Water Heater: 0.82 EF or 90% TE w/sealed combustion	1,725	1,725	0	9,315	10	0	93,150	
Solar Domestic Hot Water for Gas Applications	10	10	0	170	10	0	1,700		
Gas Applications		22,320	22,320	5,873	205,607		117,456	4,001,040	
Pilot new measures (boiler controls)	15	15	0	87	9	0	783		
HVAC Financing Pilot	0	0	0	0	10	0	0		
Other		15	15	0	87		0	783	
Subtotal		25,513	25,513	7,119	205,694		136,066	4,001,823	
Contingency Savings									
Grand Total		25,513	25,513	7,119	205,694		136,066	4,001,823	
Home Performance with ENERGY STAR	Tier 3: Insulation, HVAC, DHW, other eligible measures	5,530	5,530	1,936	94,010	20	38,710	1,880,200	
	Tier 3: Multi-family	150	150	53	2,550	20	1,050	51,000	
	Subtotal	5,680	5,680	1,988	96,560		39,760	1,931,200	
	Contingency Savings								
Grand Total		5,680	5,680	1,988	96,560		39,760	1,931,200	
Total Emissions Savings (lbs reduction)				Annual Lbs Reduction			Lifetime Lbs Reduction		
				Electric	Gas		Electric	Gas	
CO2 (Carbon Dioxide)				299,279,085	58,909,663		2,204,116,695	1,140,916,234	
NOx (Nitric Oxide)				551,304	46,322		4,060,215	897,131	
SO2 (Sulphur Dioxide)				1,279,812			9,425,499		
Hg (Mercury)				7			52		
Total Program Savings		1,783,821	3,802,221	196,894	503,501	<i>lifetime</i>	1,450,077	9,751,421	

FY15 True Up Budget

Revised FY15 Funding Levels

	FY15 Budget From 6/30/14 Board Order	Additional Carryover	Additional Funding	Funding Adjustments	Revised FY15 Budget	Committed Expenses as of 6/30/14	Revised FY15 Budget Less Commitments
	(a)	(b)	(c)	(d)	(e)=(a)+(b)+(c)+(d)	(f)	(g)=(e)-(f)
Energy Efficiency Programs	\$306,966,366.31	\$2,466,344.11		(\$10,114,775.23)	\$299,317,935.19	\$95,187,313.75	\$204,130,621.44
CHP-Fuel Cells *	\$40,358,499.36	\$1,981,120.10		(\$17,888,557.28)	\$24,451,062.18	\$6,050,795.10	\$18,400,267.08
Renewable Energy Programs	\$18,651,189.24	\$2,066,058.34		(\$2,481,101.06)	\$18,236,146.52	\$7,768,467.24	\$10,467,679.28
EDA Programs	\$24,252,978.84	\$3,272,771.04	(\$42,747.59)	(\$2,787,692.18)	\$24,695,310.11	\$8,106,179.38	\$16,589,130.73
NJCEP Administration	\$10,796,781.87	\$1,636,880.73		(\$1,369,581.80)	\$11,064,080.80	\$0.00	\$11,064,080.80
TRUE Grant	\$0.00	\$1,874,500.00			\$1,874,500.00	\$1,874,500.00	\$0.00
Funding Reconciliation Adjustment				\$5,391,707.55			
Total NJCEP	\$401,025,815.62	\$13,297,674.32	(\$42,747.59)	(\$29,250,000.00)	\$379,639,034.80	\$118,987,255.47	\$260,651,779.33
Offset to State Spending	\$68,289,000.00			\$30,000,000.00	\$98,289,000.00		
Energy Resilience Bank	\$30,000,000.00			(\$28,750,000.00)	\$1,250,000.00		
Additional FY14 Lapse	\$0.00			\$28,000,000.00	\$28,000,000.00		
Total	\$499,314,815.62			(\$0.00)	\$507,178,034.80		

Revised FY15 Budget based on Actual FY14 Expenditures

	Final FY14 Budget	Actual FY14 Expenses	Actual FY14 Carry Over	New FY15 Funding from 6/30/14 Order	Line Item Transfers from FY15 Budget Order	Additional Funding	Funding Adjustments	Revised FY15 Budget
	(a)	(b)	(c)=(a)-(b)	(d)	(e)	(f)	(g)	(h)=(c)+(d)+(e)+(f)+(g)
Energy Efficiency	\$304,264,392.03	\$178,097,681.61	\$126,166,710.42	\$195,266,000.00	(\$12,000,000.00)		(\$10,114,775.23)	\$299,317,935.19
CHP-Fuel Cells	\$37,964,525.92	\$1,474,906.46	\$36,489,619.46	\$25,000,000.00	(\$19,150,000.00)		(\$17,888,557.28)	\$24,451,062.18
Renewable Energy	\$20,311,137.42	\$4,193,889.84	\$16,117,247.58	\$9,600,000.00	(\$5,000,000.00)		(\$2,481,101.06)	\$18,236,146.52
EDA Programs	\$31,367,385.35	\$5,524,016.06	\$25,843,369.29	\$7,500,000.00	(\$7,000,000.00)	\$1,139,633.00	(\$2,787,692.18)	\$24,695,310.11
NJCEP Administration	\$11,385,232.71	\$5,511,570.11	\$5,873,662.60	\$9,010,000.00	(\$2,450,000.00)		(\$1,369,581.80)	\$11,064,080.80
TRUE Grant	\$12,793,600.21	\$7,419,100.21	\$5,374,500.00	\$0.00	(\$3,500,000.00)		\$0.00	\$1,874,500.00
Total NJCEP	\$418,086,273.64	\$202,221,164.29	\$215,865,109.35	\$246,376,000.00	(\$49,100,000.00)	\$1,139,633.00	(\$34,641,707.55)	\$379,639,034.80

FY14 Additional Carry Over

	Final FY14 Budget	Actual FY14 Expenses	Actual FY14 Carry Over	Estimated Carry Over from FY15 Budget Order	Difference = Additional Carry Over
	(a)	(b)	(c) = (a) - (b)	(d)	(e) = (c) - (d)
Energy Efficiency Programs	\$304,264,392.03	\$178,097,681.61	\$126,166,710.42	\$123,700,366.31	\$2,466,344.11
CHP-Fuel Cells	\$37,964,525.92	\$1,474,906.46	\$36,489,619.46	\$34,508,499.36	\$1,981,120.10
Renewable Energy Programs	\$20,311,137.42	\$4,193,889.84	\$16,117,247.58	\$14,051,189.24	\$2,066,058.34
EDA Programs	\$31,367,385.35	\$5,524,016.06	\$25,843,369.29	\$22,570,598.25	\$3,272,771.04
NJCEP Administration	\$11,385,232.71	\$5,511,570.11	\$5,873,662.60	\$4,236,781.87	\$1,636,880.73
TRUE Grant	\$12,793,600.21	\$7,419,100.21	\$5,374,500.00	\$3,500,000.00	\$1,874,500.00
FY14 Supplemental Lapse	\$0.00	\$49,100,000.00	(\$49,100,000.00)	(\$49,100,000.00)	\$0.00
Total	\$418,086,273.64	\$251,321,164.29	\$166,765,109.35	\$153,467,435.03	\$13,297,674.32

FY15 True Up Budget

FY15 Legislative Action

Total from NJCEP	\$98,289,000.00
FY15 Lapse accounted for in initial FY15 Budget	\$68,289,000.00
Difference = required FY15 budget reduction	\$30,000,000.00

(a)

FY14 Supplemental Lapse

	\$77,100,000.00
FY14 Supplemental Lapse accounted for in FY15 Budget	\$49,100,000.00
Difference = required FY15 budget reduction	\$28,000,000.00

(b)

Total additional required budget reduction	\$58,000,000.00	(a) + (b)
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Reconcile Budget with Available Funds

FY15 NJCEP New Funding	\$344,665,000.00
FY15 State Budget Offsets	<u>(\$98,289,000.00)</u>
New Funds Available for NJCEP	\$246,376,000.00
FY14 carry over in CEP Trust Fund	\$102,896,354.00
FY15 carry over held at EDA	\$31,607,893.11
Total Available Funds = maximum budget	\$380,880,247.11

FY15 True Up Budget

Revised FY15 Energy Efficiency and CHP-FC Program Budget

	Board Approved FY15 Budget	Additional Carry Over	Line Item Transfers/Funding Adjustments	Revised FY15 Budget	Committed Expenses as of 6/30/14
Programs	(a)	(b)	(c)	(d)=(a)+(b)+(c)	(e)
Residential EE Programs					
Residential HVAC - Electric & Gas	\$14,918,261.75	(\$722,215.81)	(\$530,576.52)	\$13,665,469.42	
Residential New Construction	\$19,945,445.33	(\$1,700,143.21)	\$1,030,595.17	\$19,275,897.29	\$7,788,141.40
Energy Efficient Products	\$20,101,711.09	\$1,171,270.88	(\$1,804,042.88)	\$19,468,939.09	
Home Performance with Energy Star	\$43,222,934.12	\$2,398,516.80	(\$2,256,975.76)	\$43,364,475.16	\$8,805,425.01
Residential Marketing	\$1,309,984.00	\$12,456.22	(\$12,456.22)	\$1,309,984.00	
Sub Total Residential	\$99,498,336.29	\$1,159,884.88	(\$3,573,456.21)	\$97,084,764.96	\$16,593,566.41
Residential Low Income					
Comfort Partners	\$35,000,000.00	\$3,362,936.51	(\$3,362,936.51)	\$35,000,000.00	\$0.00
C&I EE Programs					
C&I New Construction	\$3,776,426.65	(\$371,215.66)		\$3,405,210.99	\$1,575,864.69
C&I Retrofit	\$53,360,534.76	(\$891,795.89)	\$3,000,000.00	\$55,468,738.87	\$27,434,236.05
Pay-for-Performance New Construction	\$13,818,138.08	(\$238,869.50)		\$13,579,268.58	\$7,153,125.90
Pay-for-Performance	\$36,091,851.98	\$1,743,622.77	(\$6,743,622.77)	\$31,091,851.98	\$20,344,379.75
Local Government Energy Audit	\$2,416,980.50	\$168,299.00	(\$168,299.00)	\$2,416,980.50	\$561,092.50
Direct Install	\$43,341,994.35	(\$2,460,633.93)	\$2,000,000.00	\$42,881,360.42	\$13,633,307.92
Marketing	\$1,075,000.00	\$16,460.74	(\$16,460.74)	\$1,075,000.00	\$0.00
Large Energy Users Program	\$18,587,103.70	(\$22,344.81)	(\$1,250,000.00)	\$17,314,758.89	\$7,891,740.53
Sub Total C&I	\$172,468,030.02	(\$2,056,477.28)	(\$3,178,382.51)	\$167,233,170.23	\$78,593,747.34
Total Energy Efficiency	\$306,966,366.31	\$2,466,344.11	(\$10,114,775.23)	\$299,317,935.19	\$95,187,313.75
CHP-Fuel Cell Program					
CHP-Fuel Cell Program	\$40,358,499.36	\$1,981,120.10	(\$17,888,557.28)	\$24,451,062.18	\$6,050,795.10

FY15 True Up Budget

Revised FY15 Energy Efficiency Program Budget by Program Manager

Energy Efficiency Programs	Honeywell	TRC	Utilities	OCE	Total
Programs					
Residential EE Programs					
Residential HVAC - Electric & Gas	\$13,665,469.42				\$13,665,469.42
Residential New Construction	\$19,275,897.29				\$19,275,897.29
Energy Efficient Products	\$19,468,939.09				\$19,468,939.09
Home Performance with Energy Star	\$43,364,475.16				\$43,364,475.16
Residential Marketing	\$1,309,984.00				\$1,309,984.00
Sub Total Residential	\$97,084,764.96	\$0.00	\$0.00	\$0.00	\$97,084,764.96
Residential Low Income					
Comfort Partners			\$35,000,000.00		\$35,000,000.00
C&I EE Programs					
C&I New Construction		\$3,405,210.99			\$3,405,210.99
C&I Retrofit		\$55,468,738.87			\$55,468,738.87
Pay-for-Performance New Construction		\$13,579,268.58			\$13,579,268.58
Pay-for-Performance		\$31,091,851.98			\$31,091,851.98
Local Government Energy Audit		\$2,416,980.50			\$2,416,980.50
Direct Install		\$42,881,360.42			\$42,881,360.42
Marketing		\$1,075,000.00			\$1,075,000.00
Large Energy Users Pilot		\$17,314,758.89			\$17,314,758.89
Sub Total C&I	\$0.00	\$167,233,170.23	\$0.00	\$0.00	\$167,233,170.23
Total Energy Efficiency	\$97,084,764.96	\$167,233,170.23	\$35,000,000.00	\$0.00	\$299,317,935.19

CHP-Fuel Cell Program

CHP-Fuel Cell Program		\$24,451,062.18			\$24,451,062.18
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FY15 True Up Budget

Revised FY15 Renewable Energy Program Budget

	Board Approved FY15 Budget	Additional Carry Over	Line Item Transfers/Funding Adjustments	Revised FY15 Budget	Committed Expenses as of 6/30/14
Programs	(a)	(b)	(c)	(d)=(a)+(b)+(c)	(e)
Offshore Wind	\$450,433.41	\$0.00		\$450,433.41	\$0.00
Renewable Energy Program: Grid Connected (Formerly REDI)	\$244,640.00	(\$40,920.00)		\$203,720.00	\$203,720.00
Renewable Energy Incentive Program	\$17,786,240.68	\$2,060,655.07	(\$2,324,649.88)	\$17,522,245.87	\$7,505,000.00
Edison Innovation Clean Energy Fund (formerly CST)	\$169,875.15	\$46,323.27	(\$156,451.18)	\$59,747.24	\$59,747.24
SUB-TOTAL Renewables	\$18,651,189.24	\$2,066,058.34	(\$2,481,101.06)	\$18,236,146.52	\$7,768,467.24

FY15 True Up Budget

Revised FY15 Renewable Energy Program Budget by Program Manager

Renewable Energy Programs				
	Honeywell	OCE	Utilities	Total
Programs				
Offshore Wind		\$450,433.41		\$450,433.41
Renewable Energy Program: Grid Connected (Formerly REDI)		\$203,720.00		\$203,720.00
Renewable Energy Incentive Program	\$17,522,245.87			\$17,522,245.87
Edison Innovation Clean Energy Fund (formerly CST)		\$59,747.24		\$59,747.24
SUB-TOTAL Renewables	\$17,522,245.87	\$713,900.65	\$0.00	\$18,236,146.52

FY15 True Up Budget

Revised FY15 EDA Program Budget

	Board Approved FY15 Budget	Additional Carry Over	Additional Funding	Line Item Transfers/Funding Adjustments	Revised FY15 Budget	Committed Expenses as of 6/30/14
Programs	(a)	(b)	(c)	(d)	(e)=(a)+(b)+(c)+(d)	(f)
EDA PROGRAMS						
Clean Energy Manufacturing Fund	\$8,579,024.08	\$2,787,692.18	(\$42,747.59)	(\$2,787,692.18)	\$8,536,276.49	\$2,687,219.38
Edison Innovation Green Growth Fund	\$4,953,900.77	\$283,508.18		\$0.00	\$5,237,408.95	\$270,000.00
Large CHP Solicitation	\$10,720,053.99	\$201,570.68		\$0.00	\$10,921,624.67	\$5,148,960.00
Total EDA Programs	\$24,252,978.84	\$3,272,771.04	(\$42,747.59)	(\$2,787,692.18)	\$24,695,310.11	\$8,106,179.38

	Estimated FY14 Revenues	Actual FY14 Revenues	Difference
EDA Interest and Loan Repayments			
Total: RE Revenues	\$1,182,380.59	\$1,139,633.00	(\$42,747.59)

EDA Actual FY14 Revenues

Loans-Principle	\$969,708.84
Loans-Interest	\$32,513.43
Loans-Late Fees	\$3,354.62
Grant Repayment	\$99,999.96
Investment Income on Investments	\$34,056.15
Total	\$1,139,633.00

FY15 True Up Budget

Revised FY15 NJCEP Administration Budget

	Board Approved FY15 Budget	Additional Carry Over	Line Item Transfers/Funding Adjustments	Revised FY15 Budget
	(a)	(b)	(c)	(d)=(a)+(b)+(c)
Administration and Overhead				
OCE Staff and Overhead	\$2,350,000.00	\$967,296.88	(\$967,296.88)	\$2,350,000.00
Program Coordinator	\$2,200,000.00	\$5,993.58	(\$5,993.58)	\$2,200,000.00
Sub-Total: Administration and Overhead	\$4,550,000.00	\$973,290.46	(\$973,290.46)	\$4,550,000.00
Memberships-Dues				
<i>FY14 Sponsorships</i>	\$200,000.00	\$16,820.62	(\$16,820.62)	\$200,000.00
Sub-Total: Memberships-Dues	\$200,000.00	\$16,820.62	(\$16,820.62)	\$200,000.00
Evaluation and Related Research				
<i>Rutgers-CEEEP</i>	\$1,843,236.87	\$596,990.48	(\$300,000.00)	\$2,140,227.35
<i>Funding Reconciliation</i>	\$52,545.00	\$0.00		\$52,545.00
<i>Program Evaluation</i>	\$3,341,000.00	(\$17,365.90)		\$3,323,634.10
Sub-Total: Evaluation and Related Research	\$5,236,781.87	\$579,624.58	(\$300,000.00)	\$5,516,406.45
Miscellaneous				
<i>Outreach and Education/Community Partner Grants</i>	\$0.00	\$62,562.78	(\$62,562.78)	\$0.00
<i>Clean Energy Business Web Site</i>	\$60,000.00	\$60,000.00		\$120,000.00
<i>Sustainable Jersey</i>	\$750,000.00	(\$55,417.71)	(\$16,907.94)	\$677,674.35
<i>DCA RE Firefighter Training</i>	\$0.00	\$0.00		\$0.00
<i>Program Transition</i>	\$0.00	\$0.00		\$0.00
Sub-Total: Miscellaneous	\$810,000.00	\$67,145.07	(\$79,470.72)	\$797,674.35
TOTAL: NJCEP Administration	\$10,796,781.87	\$1,636,880.73	(\$1,369,581.80)	\$11,064,080.80

FY15 True Up Budget

FY14 Energy Efficiency Program Budget

	Actual	Actual	Estimated FY14	Difference =	
	FY14	FY14	Carryover from	Additional	
	Expenses	Carry Over	FY15 Budget Order	Carryover	
Programs	(a)	(b)	(d)	(e) = (c) - (d)	
Residential EE Programs					
Residential HVAC - Electric & Gas	\$12,357,692.08	\$12,254,577.02	\$103,115.06	\$825,330.87	(\$722,215.81)
Residential New Construction	\$16,389,083.61	\$7,046,596.57	\$9,342,487.04	\$11,042,630.25	(\$1,700,143.21)
Energy Efficient Products	\$20,033,816.93	\$19,892,048.66	\$141,768.27	(\$1,029,502.61)	\$1,171,270.88
Home Performance with Energy Star	\$41,478,594.09	\$31,922,364.90	\$9,556,229.19	\$7,157,712.39	\$2,398,516.80
Residential Marketing	\$1,309,984.00	\$1,295,362.39	\$14,621.61	\$2,165.39	\$12,456.22
Sub Total Residential	\$91,569,170.71	\$72,410,949.54	\$19,158,221.17	\$17,998,336.29	\$1,159,884.88
Residential Low Income					
Comfort Partners	\$35,102,473.20	\$31,739,536.69	\$3,362,936.51	\$0.00	\$3,362,936.51
C&I EE Programs					
Commercial/Industrial Construction					
C&I New Construction	\$2,692,226.30	\$887,015.31	\$1,805,210.99	\$2,176,426.65	(\$371,215.66)
C&I Retrofit	\$51,739,678.21	\$23,161,939.34	\$28,577,738.87	\$29,469,534.76	(\$891,795.89)
Pay-for-Performance New Construction	\$10,265,275.46	\$1,686,006.88	\$8,579,268.58	\$8,818,138.08	(\$238,869.50)
Pay-for-Performance	\$40,879,563.75	\$12,244,089.00	\$28,635,474.75	\$26,891,851.98	\$1,743,622.77
Local Government Energy Audit	\$3,370,759.50	\$2,585,480.00	\$785,279.50	\$616,980.50	\$168,299.00
Direct Install	\$42,569,603.07	\$26,688,242.65	\$15,881,360.42	\$18,341,994.35	(\$2,460,633.93)
Marketing	\$1,075,000.00	\$1,058,539.26	\$16,460.74	\$0.00	\$16,460.74
Large Energy Users Pilot	\$25,000,641.83	\$5,635,882.94	\$19,364,758.89	\$19,387,103.70	(\$22,344.81)
Sub Total C&I	\$177,592,748.12	\$73,947,195.38	\$103,645,552.74	\$105,702,030.02	(\$2,056,477.28)
Total Energy Efficiency	\$304,264,392.03	\$178,097,681.61	\$126,166,710.42	\$123,700,366.31	\$2,466,344.11

CHP-Fuel Cell Program

CHP-Fuel Cell Program	\$37,964,525.92	\$1,474,906.46	\$36,489,619.46	\$34,508,499.36	\$1,981,120.10
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FY15 True Up Budget

FY14 Renewable Energy Program Budget

Renewable Energy Programs	Final FY14 Budget	Actual FY14 Expenses	Actual FY14 Carry Over	Estimated FY14 Carryover from FY15 Budget Order	Difference = Additional Carryover
Existing Programs	(a)	(b)	(c) = (a) - (b)	(d)	(e) = (c) - (d)
Offshore Wind	\$350,800.70	\$100,367.29	\$250,433.41	\$250,433.41	\$0.00
Renewable Energy Program: Grid Connected (Formerly REDI)	\$256,320.00	\$52,600.00	\$203,720.00	\$244,640.00	(\$40,920.00)
Renewable Energy Incentive Program	\$19,487,818.30	\$4,040,922.55	\$15,446,895.75	\$13,386,240.68	\$2,060,655.07
Edison Innovation Clean Energy Fund (formerly CST)	\$216,198.42	\$0.00	\$216,198.42	\$169,875.15	\$46,323.27
SUB-TOTAL Renewables	\$20,311,137.42	\$4,193,889.84	\$16,117,247.58	\$14,051,189.24	\$2,066,058.34

FY15 True Up Budget

FY14 EDA Program Budget

		Actual	Actual	Estimated FY14	Difference =
EDA PROGRAMS	Final	FY14	FY14	Carryover from	Additional
	FY14 Budget	Expenses	Carry Over	FY15 Budget Order	Carryover
	(a)	(b)	(c) = (a) - (b)	(d)	(e) = (c) - (d)
Clean Energy Manufacturing Fund	\$9,268,556.05	\$384,220.38	\$8,884,335.67	\$6,096,643.49	\$2,787,692.18
Edison Innovation Green Growth Fund	\$5,696,319.29	\$2,658,910.34	\$3,037,408.95	\$2,753,900.77	\$283,508.18
Large CHP Solicitation	\$16,402,510.01	\$2,480,885.34	\$13,921,624.67	\$13,720,053.99	\$201,570.68
SUB-TOTAL EDA Programs	\$31,367,385.35	\$5,524,016.06	\$25,843,369.29	\$22,570,598.25	\$3,272,771.04

FY15 True Up Budget

FY14 OCE Oversight Budget

	Final FY14 Budget (a)	Actual FY14 Expenses (b)	Actual FY14 Carry Over (c) = (a) - (b)	Estimated FY14 Carryover from FY15 Budget Order (d)	Difference = Additional Carryover (e) = (c) - (d)
Administration and Overhead					
OCE Staff and Overhead	\$3,042,926.54	\$2,075,629.66	\$967,296.88	\$0.00	\$967,296.88
Program Coordinator	\$1,896,603.58	\$1,890,610.00	\$5,993.58	\$0.00	\$5,993.58
Sub-Total: Administration and Overhead	\$4,939,530.12	\$3,966,239.66	\$973,290.46	\$0.00	\$973,290.46
Memberships-Dues					
<i>FY14 Sponsorships</i>	\$100,000.00	\$83,179.38	\$16,820.62	\$0.00	\$16,820.62
Sub-Total: Memberships-Dues	\$100,000.00	\$83,179.38	\$16,820.62	\$0.00	\$16,820.62
Evaluation and Related Research					
<i>Rutgers-CEEEP</i>	\$1,884,236.87	\$603,009.52	\$1,281,227.35	\$684,236.87	\$596,990.48
<i>Funding Reconciliation</i>	\$52,545.00	\$0.00	\$52,545.00	\$52,545.00	\$0.00
<i>Program Evaluation</i>	\$2,000,000.00	\$17,365.90	\$1,982,634.10	\$2,000,000.00	(\$17,365.90)
Sub-Total: Evaluation and Related Research	\$3,936,781.87	\$620,375.42	\$3,316,406.45	\$2,736,781.87	\$579,624.58
Miscellaneous					
<i>Outreach and Education/Community Partner Grants</i>	\$62,562.78	\$0.00	\$62,562.78	\$0.00	\$62,562.78
<i>Clean Energy Business Web Site</i>	\$60,000.00	\$0.00	\$60,000.00	\$0.00	\$60,000.00
<i>Sustainable Jersey</i>	\$1,001,357.94	\$806,775.65	\$194,582.29	\$250,000.00	(\$55,417.71)
<i>DCA RE Firefighter Training</i>	\$35,000.00	\$35,000.00	\$0.00	\$0.00	\$0.00
<i>Program Transition</i>	\$1,250,000.00	\$0.00	\$1,250,000.00	\$1,250,000.00	\$0.00
Sub-Total: Miscellaneous	\$2,408,920.72	\$841,775.65	\$1,567,145.07	\$1,500,000.00	\$67,145.07
TOTAL: NJCEP Administration	\$11,385,232.71	\$5,511,570.11	\$5,873,662.60	\$4,236,781.87	\$1,636,880.73
True Grant	\$12,793,600.21	\$7,419,100.21	\$5,374,500.00	\$3,500,000.00	\$1,874,500.00

*Note: Actual Expenditures for the True Grant reflects FY14 disbursement of \$3 M and a change from reporting AHA reported expenses to reporting actual disbursements from the NJCEP Trust Fund to AHA.

Custom to Prescriptive Recommendation

Prescriptive Lighting – LED Tubes (Two and Four Foot)

Background:

In 2010, the NJ Clean Energy Program introduced prescriptive incentives for Solid State Lighting (SSL or LED) Technologies. The first incentives were provided for refrigerated casework LED lighting as a replacement or alternative to T12 and T8 systems. In 2011, the LED incentive offering expanded to include incentives for a number of other LED lighting defined by Energy Star and the Design Lights Consortium (DLC) for commercial use.

LED retrofit products, as defined by Energy Star and DLC, are considered for incentives through the custom measures program. Among the various LED retrofit products available in the market, the program has seen a significant surge in applications requesting incentives for LED Linear Lamps (fluorescent tube replacements) defined by DLC. Per the NJ Clean Energy C&I compliance filing, once three (3) custom projects have been received for the same custom technology; the recommendation should be made to create a prescriptive incentive when possible. The technologies recommended for inclusion on the Prescriptive Lighting application and worksheets have predictable savings and approved standards by NEEP/Design Lights Consortium (DLC).

Definition – Standard Practice:

Fluorescent lighting, most notably T8 technology, has dominated the lighting market for interior and exterior space applications. The most common lamp lengths include the two and four foot lamp found in most interior spaces including offices, warehouses, schools, etc. Lamp and system life is based on hours of use and number of starts per day (on/off switching). For T8's and T5's, lamp life is commonly in the 24,000-36,000 hour range depending on the manufacturer. Lower wattage T8 and T5 lamps are available increasing system efficacy with a marginal impact on light output.

Definition – Proposed Prescriptive Technology:

LED lighting is still a relatively new technology to the commercial lighting arena. It uses light-emitting diodes (LEDs) as sources of illumination rather than electrical filaments (incandescent) or gas (fluorescent). An LED is a semi-conducting device that produces light when an electrical current flows through it. LEDs were first developed in the 1960s but were used only in indicator applications until recently. The visible light is produced with reduced heat generation and parasitic energy use when compared to fluorescent technology. High power LEDs come in 1-3 watt packages and are driven at

much higher current, typically 350, 700, or 1000 mA, and—with current technology—can produce 85-145 lumens per 1-watt package.

LED linear lamps were first introduced to the market around 2009-2010 and while the products appeared promising, reports from the US Department of Energy (US DOE) indicated otherwise. Manufacturers' performance claims were many times inaccurate. In-situ performance of the product in a fluorescent fixture did not provide the same quality of light when compared with a standard T8 system. Since that time, the DLC created a category for the LED linear lamps effectively setting a performance benchmark for the products. Only 2' and 4' LED linear lamp categories are provided by the DLC at this time. Initially, very few manufacturers were able to meet the qualification requirements however at this time, there are over 6,000 qualified LED linear products (2' and 4').

Lamp Types

LED Linear Lamps are available in two main configurations which include Direct Line Voltage Lamps and 'Plug and Play' Lamps. Both LED lamp configurations fall under the Linear Replacement Lamps categories in the DLC. However, UL and other nationally recognized testing facilities consider Direct Line Voltage Lamps as LED retrofit kits due to the need to perform electrical or mechanical alterations to the existing fixture.

- Direct Line Voltage
 - These tubes run directly off the line voltage of the lighting system. These tubes require modifications to the existing fluorescent fixture which usually involves removing or bypassing the fluorescent ballast.
 - Direct Line Voltage LED tubes will carry an UL Certified label and will be covered under the UL category (IFAR). UL approves retrofit kits in this category only when they are supplied with compliant installation instructions. In order for the luminaires to keep their UL listing, the LED lamps must be installed according to the manufacturer installation instructions provided to UL. These installation instructions should be required along with the specifications when evaluating Direct Line Voltage LED tubes.
- Plug and Play
 - The tubes are referred to as 'Plug and Play' due to how they are installed. These tubes do not require any modifications to the existing fluorescent fixture and are installed the same way a fluorescent tube replacement would be. These tubes usually are more expensive to purchase but are less expensive to install. There is also potential for a lower efficiency depending on what type of ballast was in the existing fluorescent system.
 - Plug and Play led tubes will carry an UL Listed label and will fall under the UL category (OOLV). Unlike the Direct Line Voltage LED tube the UL-Listed Led tubes are intended for use only in luminaires that do not need to be modified to accommodate the replacement.

Eligible Certification Requirements

Revision to UL requirement for all prescriptive lighting technology

- For all prescriptive lighting, fixture or lamp must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards

For Linear LED lighting

- For incentive eligibility LED tube must be listed on the Design Lights Consortium qualified products list.
- Direct Line Voltage Linear LED's must carry the UL certified label, while Plug and Play LED lamps must carry the UL Listed label. All installations must be in accord with the UL approved installation instructions. For plug and play lamps, it is the responsibility of the customer to verify that the existing ballasts are compatible with the proposed lamps.

Existing Manufacturers

There are currently close to 300 manufacturers with products approved by the DLC. Below is a brief list of the manufacturers:

Beson	James Industry	Philips
Cardinal LED Tube Lights	Jaykal	Samsung
Cree	LG	Splendor
FY Lighting	Lights of America	
GE Lighting Solutions	Osram Sylvania	

Market Potential

LED linear tubes represent a very large market including T12 and T8 fluorescents (two and four foot lamps), as well as T5 fluorescents. Linear fluorescent lamps account for roughly 80% of the lighting used in commercial buildings today.

Energy Savings Calculations – Protocols

For SSL (LED) technologies, existing prescriptive protocol calculations would be developed based on type of lighting replaced and existing wattage. Protocol calculation format would be consistent with other prescriptive lighting technologies.

Prescriptive Incentive Recommendation:

TRC recommends incentives for SSL (LED) linear tubes technology consistent with commercial lighting product categories defined by the Design Lights Consortium:

Lighting by Building Type			
Building Type	EFLH	CF	IF
Education – Primary School	1,440	0.57	0.15
Education – Secondary School	2,305	0.57	0.15
Education – Community College	3,792	0.64	0.15
Education – University	3,073	0.64	0.15
Grocery	5,824	0.88	0.13
Medical – Hospital	8,736	0.72	0.18
Medical – Clinic	4,212	0.72	0.18
Lodging Hotel (Guest Rooms)	1,145	0.67	0.14
Lodging Motel	8,736	1	0.14
Manufacturing – Light Industrial	4,290	0.63	0.04
Office- Large	2,808	0.68	0.17
Office-Small	2,808	0.68	0.17
Restaurant – Sit-Down	4,368	0.76	0.15
Restaurant – Fast-Food	6,188	0.76	0.15
Retail – 3-Story Large	4,259	0.78	0.11
Retail – Single-Story Large	4,368	0.78	0.11
Retail – Small	4,004	0.78	0.11
Storage Conditioned	4,290	0.69	0.06
Storage Heated or Unconditioned	4,290	0.69	0
Warehouse	3,900	0.69	0.06
Average = Miscellaneous	4,242	0.72	0.13
Signifies the most common segments in the prescriptive program			
Source = NJCEP Program Protocols Manual			

Table 1 – Lighting by Building Type from the Program Protocols Manual

Table 1 above is an excerpt from the New Jersey program protocols manual which outlines different market segments and the estimated annual operating hours (EFLH) associated with each. There are highlighted rows which represent the most common segments currently participating in other areas of the prescriptive program. Each segment also has a corresponding Coincidence factor (CF) and Interactive Factor (IF) as shown in the table.

Algorithms and Assumptions

Algorithms
Demand Savings = $(\Delta kW) \times (CF) \times (1 + IF)$
Energy Savings = $(\Delta kW) \times (1 + IF) \times (EFLH)$

These are the algorithms used to determine the demand savings as well as the energy savings for the proposed tubes.

There were assumptions made for each case which are shown to the right. TRC assumed a base case (kW_{Base4} and kW_{Base2})

Assumptions	
kW_{Base4}	1(Bulb) x 32w(T8) = 32w = .032kW
kW_{Base2}	1(Bulb) x 17w(T8) = 17w = .017kW
kW_{Prop4}	1(Tube) x 18.5w(LED Tube) = 18.5w = .0185kW
kW_{Prop2}	1(Tube) x 9.5w(LED Tube) = 9.5w = .0095kW
ΔkW_4	32w - 18.5w = 13.5w = .0135kW
ΔkW_2	17w - 9.5w = 7.5w = .0075kW

of 32w T8 bulbs for four foot tubes and 17w T8 bulbs for two foot tubes. For the proposed LED tubes (kW_{Prop4} and kW_{Prop2}) we took an average of all tubes currently listed on the DLC list to establish a realistic proposed case. For four foot tubes, the average wattage was 18.5w and for two foot tubes the average wattage was 9.5w. Finally we used the base case and proposed cases to determine the demand savings. The demand savings (ΔkW_4 and ΔkW_2) for four foot tubes is 13.5w/tube and for two foot tubes is 7.5w/tube.

Four Foot Tubes			Two Foot Tubes		
ΔkW_4^*	Demand Savings (kW)	Energy Savings (kWh)	ΔkW_2^*	Demand Savings (kW)	Energy Savings (kWh)
0.0135	0.0088	22.36	0.0075	0.0049	12.42
0.0135	0.0088	35.79	0.0075	0.0049	19.88
0.0135	0.0099	58.87	0.0075	0.0055	32.71
0.0135	0.0099	47.71	0.0075	0.0055	26.50
0.0135	0.0134	88.85	0.0075	0.0075	49.36
0.0135	0.0115	139.16	0.0075	0.0064	77.31
0.0135	0.0115	67.10	0.0075	0.0064	37.28
0.0135	0.0103	17.62	0.0075	0.0057	9.79
0.0135	0.0154	134.45	0.0075	0.0086	74.69
0.0135	0.0088	60.23	0.0075	0.0049	33.46
0.0135	0.0107	44.35	0.0075	0.0060	24.64
0.0135	0.0107	44.35	0.0075	0.0060	24.64
0.0135	0.0118	67.81	0.0075	0.0066	37.67
0.0135	0.0118	96.07	0.0075	0.0066	53.37
0.0135	0.0117	63.82	0.0075	0.0065	35.46
0.0135	0.0117	65.45	0.0075	0.0065	36.36
0.0135	0.0117	60.00	0.0075	0.0065	33.33
0.0135	0.0099	61.39	0.0075	0.0055	34.11
0.0135	0.0093	57.92	0.0075	0.0052	32.18
0.0135	0.0099	55.81	0.0075	0.0055	31.01
0.0135	0.0110	64.71	0.0075	0.0061	35.95
Average	0.0109	64.47	Average	0.0060	35.82
ΔkW_4^*	Value is from Algorithms and Assumptions Tab		ΔkW_2^*	Value is from Algorithms and Assumptions Tab	
Common Segments			Common Segments		
Average	0.0110	53.12	Average	0.0061	29.51

Table 2 – Estimated annual Demand and Energy savings by market segment for two and four foot tubes.

Table 2 shows the demand (kW) and the energy (kWh) savings associated with each market segment shown in Table 1. Similarly to Table 1, the highlighted rows represent the most common segments currently participating in other areas of the prescriptive program. The ΔkW , demand, and energy savings were calculated using the algorithms and assumptions explained above Table 2.

Avg. Across all Segments			
Four Foot Tubes		Two Foot Tubes	
kW	kWh	kW	kWh
0.0109	64.47	0.0060	35.82
\$0.16/kWh*		\$0.16/kWh*	
\$10.31		\$5.73	

*Max incentive level per custom guidelines

\$10.31/tube and \$5.73/tube respectively.

Since there are several market segments which are not common participants in the current programs, an average of only the commonly participating segments was established. The same approach outlined above for the average demand and energy savings across all segments was used to determine the average demand and energy savings for the common segments and is represented by the graphic to the right. Again, the energy savings values were multiplied by \$0.16/kWh in order to determine a potential incentive. The potential incentive levels for four foot and two foot tubes are \$8.50/tube and \$4.72/tube respectively for the common segments.

Avg. Across Common Segments			
Four Foot Tubes		Two Foot Tubes	
kW	kWh	kW	kWh
0.0110	53.12	0.0061	29.51
\$0.16/kWh*		\$0.16/kWh*	
\$8.50		\$4.72	

*Max incentive level per custom guidelines

Average material costs per tube are summarized below based on approved custom projects.

Material Cost (4ft)	Material Cost (2ft)	\$/ 4ft tube	\$/ 2ft tube
\$ 97,686.00	\$ -	\$ 54.00	
\$ 80,012.00	\$ -	\$ 41.50	
\$ 47,535.00	\$ 1,530.00	\$ 67.14	\$ 49.35
\$ 883,142.02	\$ -	\$ 34.28	
\$ 70,852.00	\$ 7,248.00	\$ 64.41	\$ 50.33
	Average material Cost	\$ 52.27	\$ 49.84

Within the past few months, material pricing for LED linear lamps has dropped considerably from the values summarized in the table above. TRC obtained material pricing from various sources including manufacturers, suppliers and contractors. Excluding clear outliers, the material pricing for 2' LED linear lamps ranged from \$24.00 to \$26.99 and \$21.99 to \$49.95 for 4' lamps respectively. Average material costs for 2' lamps is \$25.25 and \$30.56 for 4' LED linear lamps. The pricing reflects a mix of direct line voltage and plug and play lamp types.

Labor costs for plug and play lamps would be estimated at \$3/lamp and \$8-10/lamp for direct line voltage lamps respectively.¹

Recommendation

To finalize the recommendation, TRC evaluated the potential incentive values based on anticipated energy savings, historic percentage of project costs and incentive provided by other programs. To provide a marketable and cost effective incentive value to participants and the program, we recommend an incentive of **\$5.00 per four foot and two foot tubes**. The recommended incentive value represents roughly 15-20% of material costs provided by manufacturers, suppliers and contractors and is consistent with other LED prescriptive measure evaluations. Basing the recommended incentive on anticipated energy savings was considered however the calculated incentive for four foot tubes would have represented nearly 30-40% of material cost. The recommended incentive is at the low end to what other utilities around the country are offering however these values are subject to change with further reduction in pricing. We feel these numbers are both attractive to customers and conservative to ensure program cost effectiveness.

Other State Program Incentives:

<u>State</u>	<u>Program</u>	<u>Incentive Per 2 ft Lamp</u>	<u>Incentive Per 4 ft Lamp</u>
Massachusetts	MASSSAVE	\$15.00	\$25.00
New York	PSEGLI	Custom	\$15.00
New York	CONED	\$4.00	\$8.00
Vermont	Efficiency Vermont	None	\$5.00

¹ Estimates based on ~\$80/hr labor at prevailing wage. Direct line voltage lamp installation requires removal of the existing ballast and rewiring the fixture. This cost is spread across the lamps within a fixture (assuming 2-3 lamps per fixture).