

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Berlin Borough

TRC Energy Services

May 6, 2019

Introductions



Berlin Borough

- Debra DiMattia - CFO
- William Behnke – Borough Administrator
- Mike Buchanan – Councilman
- Len Badolato – Councilman

NJ Clean Energy Program

- Brian DeLuca, CEM – TRC Program Manager
- Sarah Walters – TRC Account Manager
- Gary Finger – TRC Outreach Account Manager
- Mike Thulen – ESIP Coordinator

Agenda



- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Berlin Borough

LGEA Process



- Application Approval
- Scheduling Call
- Audit
- Benchmarking & Analysis
- Draft Report
- Exit Meeting Presentation
- Final Report



Site Visit and Utility Analysis

Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment


Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Borough Hall/Police
- Fire Department
- Community Center
- Library
- Senior Center
- DPW Office & Well #9
- DPW Plant #2 & Well #11
- Well #12, Well #14, & Water Tank

Benchmarking

 **ENERGY STAR® Statement of Energy Performance**
LEARN MORE AT energystar.gov

N/A Well 12
Primary Property Type: Other
Gross Floor Area (ft²): 1,600
Built: 1990
For Year Ending: June 30, 2017
Date Generated: February 06, 2019

ENERGY STAR®
Score¹

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address	Property Owner	Primary Contact
Well 12 Chestnut Ave Berlin, New Jersey 08011	BERLIN BOROUGH 59 SOUTH WHITE HORSE PIKE BERLIN, NJ 08009 () -	Michael Kwasizur 59 SO White Horse Pike BERLIN, NJ 08009 856-787-7777 mkwasizur@berlinnj.org

Property ID: 6882461

Energy Consumption and Energy Use Intensity (EUI)

Site EUI	Annual Energy by Fuel	National Median Comparison
169.5 kBtu/ft ²	Natural Gas (kBtu) 121,788 (45%) Electric - Grid (kBtu) 149,338 (55%)	National Median Site EUI (kBtu/ft ²) 44.3 National Median Source EUI (kBtu/ft ²) 89.3 % Diff from National Median Source EUI 282%
Source EUI 341.3 kBtu/ft ²		Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2/year) 22

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Licensed Professional

() -

Professional Engineer Stamp
(if applicable)

ENERGY STAR® Scores are percentile ranking from 1 (least efficient) to 100 (most efficient). It compares your building's energy performance to similar buildings nationwide.

Site EUI
169.5 kBtu/ft²

While your facilities don't qualify for an ENERGY STAR® score, you can still track energy consumption using the Energy Use Intensity (EUI).

All Opportunities



Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades	119,899	31.7	-21.0	\$20,938	\$55,218	\$9,878	\$45,340	2.2	118,273
Install LED Fixtures	18,208	2.7	0.0	\$3,323	\$15,258	\$1,300	\$13,958	4.2	18,335
Retrofit Fluorescent Fixtures with LED Lamps and Drivers	9,302	2.2	-2.0	\$1,465	\$3,559	\$545	\$3,014	2.1	9,131
Retrofit Fixtures with LED Lamps	92,112	26.8	-19.0	\$16,103	\$36,257	\$8,033	\$28,224	1.8	90,535
Install LED Exit Signs	277	0.0	-0.1	\$47	\$145	\$0	\$145	3.1	272
Lighting Control Measures	23,102	5.7	-4.9	\$3,955	\$17,200	\$1,552	\$15,648	4.0	22,687
Install Occupancy Sensor Lighting Controls	16,508	4.6	-3.5	\$2,814	\$12,990	\$1,552	\$11,438	4.1	16,212
Install High/Low Lighting Controls	6,594	1.1	-1.4	\$1,141	\$4,210	\$0	\$4,210	3.7	6,475
Motor Upgrades	705	0.2	0.0	\$125	\$3,913	\$0	\$3,913	31.3	710
Premium Efficiency Motors	705	0.2	0.0	\$125	\$3,913	\$0	\$3,913	31.3	710
Variable Frequency Drive (VFD) Measures	5,485	0.6	0.0	\$942	\$6,015	\$0	\$6,015	6.4	5,523
Install VFDs on Heating Water Pumps	5,485	0.6	0.0	\$942	\$6,015	\$0	\$6,015	6.4	5,523
Electric Unitary HVAC Measures	3,026	4.4	0.0	\$524	\$42,642	\$2,622	\$40,020	76.4	3,047
Install High Efficiency Air Conditioning Units	3,026	4.4	0.0	\$524	\$42,642	\$2,622	\$40,020	76.4	3,047
Gas Heating (HVAC/Process) Replacement	0	0.0	45.5	\$491	\$16,265	\$1,492	\$14,773	30.1	5,332
Install High Efficiency Hot Water Boilers	0	0.0	36.3	\$362	\$14,000	\$1,092	\$12,908	35.7	4,245
Install High Efficiency Furnaces	0	0.0	9.3	\$129	\$2,266	\$400	\$1,866	14.5	1,087
HVAC System Improvements	124	0.0	6.9	\$107	\$330	\$0	\$330	3.1	933
Install Programmable Thermostats	124	0.0	6.9	\$107	\$330	\$0	\$330	3.1	933
Domestic Water Heating Upgrade	2,012	0.0	23.4	\$634	\$72	\$0	\$72	0.1	4,771
Install Low-Flow DHW Devices	2,012	0.0	23.4	\$634	\$72	\$0	\$72	0.1	4,771
Plug Load Equipment Control - Vending Machine	1,612	0.2	0.0	\$284	\$230	\$0	\$230	0.8	1,623
Vending Machine Control	1,612	0.2	0.0	\$284	\$230	\$0	\$230	0.8	1,623
TOTALS	155,964	42.8	49.9	\$28,001	\$141,885	\$15,544	\$126,341	4.5	162,900

Cost Effective Opportunities*



* Opportunities considered cost effective have a payback period less than 2/3rds of the useful life of the measure

Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		119,899	31.7	-21.0	\$20,938	\$55,218	\$9,878	\$45,340	2.2	118,273
ECM 1	Install LED Fixtures	18,208	2.7	0.0	\$3,323	\$15,258	\$1,300	\$13,958	4.2	18,335
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	9,302	2.2	-2.0	\$1,465	\$3,559	\$545	\$3,014	2.1	9,131
ECM 3	Retrofit Fixtures with LED Lamps	92,112	26.8	-19.0	\$16,103	\$36,257	\$8,033	\$28,224	1.8	90,535
ECM 4	Install LED Exit Signs	277	0.0	-0.1	\$47	\$145	\$0	\$145	3.1	272
Lighting Control Measures		22,930	5.5	-4.9	\$3,923	\$15,530	\$1,517	\$14,013	3.6	22,519
ECM 5	Install Occupancy Sensor Lighting Controls	16,468	4.6	-3.5	\$2,806	\$12,520	\$1,517	\$11,003	3.9	16,173
ECM 6	Install High/Low Lighting Controls	6,462	1.0	-1.4	\$1,117	\$3,010	\$0	\$3,010	2.7	6,346
Variable Frequency Drive (VFD) Measures		5,485	0.6	0.0	\$942	\$6,015	\$0	\$6,015	6.4	5,523
ECM 7	Install VFDs on Heating Water Pumps	5,485	0.6	0.0	\$942	\$6,015	\$0	\$6,015	6.4	5,523
HVAC System Improvements		124	0.0	6.9	\$107	\$330	\$0	\$330	3.1	933
ECM 8	Install Programmable Thermostats	124	0.0	6.9	\$107	\$330	\$0	\$330	3.1	933
Domestic Water Heating Upgrade		2,012	0.0	23.4	\$634	\$72	\$0	\$72	0.1	4,771
ECM 9	Install Low-Flow DHW Devices	2,012	0.0	23.4	\$634	\$72	\$0	\$72	0.1	4,771
Plug Load Equipment Control - Vending Machine		1,612	0.2	0.0	\$284	\$230	\$0	\$230	0.8	1,623
ECM 10	Vending Machine Control	1,612	0.2	0.0	\$284	\$230	\$0	\$230	0.8	1,623
TOTALS		152,061	38.0	4.4	\$26,829	\$77,395	\$11,395	\$66,000	2.5	153,643

Borough Hall & Police



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		63,510	10.3	-13	\$10,786	\$161,787	\$21,525	\$3,935	\$17,590	1.6	62,487
ECM 1	Install LED Fixtures	3,672	0.6	0	\$631	\$9,463	\$3,864	\$400	\$3,464	5.5	3,698
ECM 2	Retrofit Fixtures with LED Lamps	59,561	9.7	-12	\$10,108	\$151,619	\$17,516	\$3,535	\$13,981	1.4	58,517
ECM 3	Install LED Exit Signs	277	0.0	0	\$47	\$705	\$145	\$0	\$145	3.1	272
Lighting Control Measures		15,688	2.5	-3	\$2,662	\$21,295	\$8,324	\$840	\$7,484	2.8	15,407
ECM 4	Install Occupancy Sensor Lighting Controls	10,086	2.0	-2	\$1,711	\$13,690	\$6,524	\$840	\$5,684	3.3	9,905
ECM 5	Install High/Low Lighting Controls	5,602	0.5	-1	\$951	\$7,605	\$1,800	\$0	\$1,800	1.9	5,502
Motor Upgrades		607	0.2	0	\$104	\$1,564	\$1,610	\$0	\$1,610	15.4	611
	Premium Efficiency Motors	607	0.2	0	\$104	\$1,564	\$1,610	\$0	\$1,610	15.4	611
Variable Frequency Drive (VFD) Measures		5,485	0.6	0	\$942	\$14,135	\$6,015	\$0	\$6,015	6.4	5,523
ECM 6	Install VFDs on Heating Water Pumps	5,485	0.6	0	\$942	\$14,135	\$6,015	\$0	\$6,015	6.4	5,523
Gas Heating (HVAC/Process) Replacement		0	0.0	36	\$362	\$7,241	\$14,000	\$1,092	\$12,908	35.7	4,245
	Install High Efficiency Hot Water Boilers	0	0.0	36	\$362	\$7,241	\$14,000	\$1,092	\$12,908	35.7	4,245
TOTALS		85,291	13.6	20	\$14,856	\$206,021	\$51,473	\$5,867	\$45,606	3.1	88,273

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Fire Department



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		11,855	5.4	-2	\$2,479	\$37,190	\$7,862	\$1,818	\$6,044	2.4	11,667
ECM 1	Install LED Fixtures	964	0.1	0	\$203	\$3,050	\$966	\$100	\$866	4.3	970
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	314	0.4	0	\$66	\$986	\$599	\$90	\$509	7.7	309
ECM 3	Retrofit Fixtures with LED Lamps	10,577	4.9	-2	\$2,210	\$33,154	\$6,297	\$1,628	\$4,669	2.1	10,388
Lighting Control Measures		1,807	1.2	0	\$378	\$3,021	\$3,642	\$315	\$3,327	8.8	1,775
ECM 4	Install Occupancy Sensor Lighting Controls	1,597	1.2	0	\$334	\$2,669	\$3,242	\$315	\$2,927	8.8	1,568
ECM 5	Install High/Low Lighting Controls	211	0.0	0	\$44	\$352	\$400	\$0	\$400	9.1	207
Motor Upgrades		98	0.1	0	\$21	\$311	\$2,303	\$0	\$2,303	111.2	99
	Premium Efficiency Motors	98	0.1	0	\$21	\$311	\$2,303	\$0	\$2,303	111.2	99
Domestic Water Heating Upgrade		0	0.0	23	\$223	\$2,227	\$50	\$0	\$50	0.2	2,745
ECM 6	Install Low-Flow DHW Devices	0	0.0	23	\$223	\$2,227	\$50	\$0	\$50	0.2	2,745
TOTALS		13,760	6.7	21	\$3,100	\$42,749	\$13,857	\$2,133	\$11,724	3.8	16,286

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Community Center



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		18,421	8.6	-2	\$3,228	\$48,420	\$7,955	\$1,428	\$6,527	2.0	18,335
ECM 1	Install LED Fixtures	8,918	1.3	0	\$1,574	\$23,606	\$2,700	\$0	\$2,700	1.7	8,980
ECM 2	Retrofit Fixtures with LED Lamps	9,503	7.2	-2	\$1,654	\$24,814	\$5,255	\$1,428	\$3,827	2.3	9,354
Lighting Control Measures		922	0.7	0	\$160	\$1,282	\$1,440	\$117	\$1,323	8.3	905
ECM 3	Install Occupancy Sensor Lighting Controls	614	0.5	0	\$107	\$855	\$900	\$117	\$783	7.3	603
ECM 4	Install High/Low Lighting Controls	307	0.2	0	\$53	\$427	\$540	\$0	\$540	10.1	302
Electric Unitary HVAC Measures		1,114	0.9	0	\$197	\$2,950	\$19,451	\$1,196	\$18,255	92.8	1,122
	Install High Efficiency Air Conditioning Units	1,114	0.9	0	\$197	\$2,950	\$19,451	\$1,196	\$18,255	92.8	1,122
Food Service & Refrigeration Measures		1,612	0.2	0	\$284	\$1,422	\$230	\$0	\$230	0.8	1,623
ECM 5	Vending Machine Control	1,612	0.2	0	\$284	\$1,422	\$230	\$0	\$230	0.8	1,623
TOTALS		22,069	10.4	-2	\$3,869	\$54,074	\$29,076	\$2,741	\$26,335	6.8	21,985

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** - Simple Payback Period is based on net measure costs (i.e. after incentives).



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		2,815	2.6	-1	\$516	\$7,737	\$3,878	\$678	\$3,200	6.2	2,769
ECM 1	Retrofit Fixtures with LED Lamps	2,815	2.6	-1	\$516	\$7,737	\$3,878	\$678	\$3,200	6.2	2,769
Lighting Control Measures		171	0.2	0	\$31	\$251	\$1,670	\$35	\$1,635	52.1	168
	Install Occupancy Sensor Lighting Controls	40	0.1	0	\$7	\$58	\$470	\$35	\$435	59.7	39
	Install High/Low Lighting Controls	132	0.1	0	\$24	\$193	\$1,200	\$0	\$1,200	49.8	129
Electric Unitary HVAC Measures		1,029	2.9	0	\$191	\$2,862	\$17,955	\$1,104	\$16,851	88.3	1,036
	Install High Efficiency Air Conditioning Units	1,029	2.9	0	\$191	\$2,862	\$17,955	\$1,104	\$16,851	88.3	1,036
TOTALS		4,015	5.6	-1	\$738	\$10,849	\$23,502	\$1,817	\$21,685	29.4	3,973

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Senior Center



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		2,228	1.1	0	\$450	\$6,749	\$1,362	\$347	\$1,015	2.3	2,193
ECM 1	Retrofit Fixtures with LED Lamps	2,228	1.1	0	\$450	\$6,749	\$1,362	\$347	\$1,015	2.3	2,193
Lighting Control Measures		342	0.2	0	\$69	\$551	\$270	\$0	\$270	3.9	336
ECM 2	Install High/Low Lighting Controls	342	0.2	0	\$69	\$551	\$270	\$0	\$270	3.9	336
Gas Heating (HVAC/Process) Replacement		0	0.0	9	\$129	\$2,580	\$2,266	\$400	\$1,866	14.5	1,087
	Install High Efficiency Furnaces	0	0.0	9	\$129	\$2,580	\$2,266	\$400	\$1,866	14.5	1,087
Domestic Water Heating Upgrade		2,012	0.0	0	\$412	\$4,116	\$22	\$0	\$22	0.1	2,026
ECM 3	Install Low-Flow DHW Devices	2,012	0.0	0	\$412	\$4,116	\$22	\$0	\$22	0.1	2,026
TOTALS		4,582	1.2	9	\$1,059	\$13,997	\$3,919	\$747	\$3,172	3.0	5,642

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DPW Office & Well #9



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		13,735	1.3	-3	\$2,079	\$31,181	\$2,063	\$381	\$1,682	0.8	13,490
ECM 1	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	7,647	0.7	-2	\$1,157	\$17,359	\$1,158	\$175	\$983	0.8	7,510
ECM 2	Retrofit Fixtures with LED Lamps	6,089	0.6	-1	\$922	\$13,823	\$906	\$206	\$700	0.8	5,980
Lighting Control Measures		3,045	0.3	-1	\$461	\$3,686	\$966	\$155	\$811	1.8	2,990
ECM 3	Install Occupancy Sensor Lighting Controls	3,045	0.3	-1	\$461	\$3,686	\$966	\$155	\$811	1.8	2,990
Electric Unitary HVAC Measures		883	0.6	0	\$137	\$2,049	\$5,237	\$322	\$4,915	36.0	889
	Install High Efficiency Air Conditioning Units	883	0.6	0	\$137	\$2,049	\$5,237	\$322	\$4,915	36.0	889
TOTALS		17,663	2.2	-4	\$2,676	\$36,917	\$8,266	\$858	\$7,408	2.8	17,369

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** - Simple Payback Period is based on net measure costs (i.e. after incentives).

DPW Plant #2 & Well #11



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		3,274	1.4	0	\$692	\$10,377	\$4,621	\$626	\$3,995	5.8	3,276
ECM 1	Install LED Fixtures	2,707	0.4	0	\$574	\$8,606	\$2,898	\$300	\$2,598	4.5	2,726
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	306	0.5	0	\$64	\$955	\$839	\$140	\$699	11.0	297
ECM 3	Retrofit Fixtures with LED Lamps	261	0.4	0	\$54	\$816	\$885	\$186	\$699	12.8	254
HVAC System Improvements		124	0.0	7	\$107	\$1,177	\$330	\$0	\$330	3.1	933
ECM 4	Install Programmable Thermostats	124	0.0	7	\$107	\$1,177	\$330	\$0	\$330	3.1	933
TOTALS		3,398	1.4	7	\$799	\$11,555	\$4,951	\$626	\$4,325	5.4	4,209

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** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Well #12, Well #14, & Water Tank



#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		4,060	1.1	0	\$708	\$10,624	\$5,952	\$665	\$5,287	7.5	4,058
ECM 1	Install LED Fixtures	1,947	0.3	0	\$342	\$5,125	\$4,830	\$500	\$4,330	12.7	1,961
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	1,035	0.6	0	\$178	\$2,672	\$963	\$140	\$823	4.6	1,016
ECM 3	Retrofit Fixtures with LED Lamps	1,078	0.2	0	\$188	\$2,827	\$159	\$25	\$134	0.7	1,080
Lighting Control Measures		1,127	0.6	0	\$194	\$1,552	\$888	\$90	\$798	4.1	1,106
ECM 4	Install Occupancy Sensor Lighting Controls	1,127	0.6	0	\$194	\$1,552	\$888	\$90	\$798	4.1	1,106
TOTALS		5,186	1.7	0	\$902	\$12,176	\$6,840	\$755	\$6,085	6.7	5,164

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Solar Energy Generation Potential



Borough Hall / Police	
<i>Potential:</i>	HIGH
<i>System Potential: (kW)</i>	52
<i>Electric Generation: (kWh per year)</i>	61,951
<i>Displaced Cost: (per year)</i>	\$10,640

For more information on the SREC Registration Program (SRP) please visit:

<http://www.njcleanenergy.com/renewable-energy/programs/solar-renewable-energy-certificates-srec/new-jersey-solar-renewable-energy>



Energy Efficient Best Practices

- Reduce Air Leakage
- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Use Fans to Reduce Cooling Load
- Use Window Treatments/Coverings
- Clean and/or Replace HVAC filters
- Check and Seal Duct Leakage
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Plug Load Controls
- Water Conservation

See individual reports for specific EE practices by building

Clean Energy Program Portfolio



ELIGIBLE SECTORS →

Commercial, Industrial, Government, Non-Profit, Institutional and Multifamily

INCENTIVE PROGRAMS →

Equipment Rebates:

- SmartStart
- CTEEP
(Customer Tailored Energy Efficiency Pilot)
- Direct Install
- Large Energy Users

Whole Buildings:

- Pay for Performance

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS →

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

Recommended NJCEP Incentives per Building



Berlin Borough	Direct Install	SmartStart	CTEEP
Borough Hall/Police	X	X	X
Fire Department	X	X	X
Community Center	X	X	X
Library	X	X	X
Senior Center	X	X	X
DPW Office & Well #9	X	X	X
DPW Plant #2 & Well #11	X	X	X
Well #12, Well #14, & Water Tank	X	X	X

* Some sites with only lighting upgrades will need further assessment for DI eligibility. They are eligible for a full free assessment with the DI Participating Contractor to submit the waiver or to identify other measure/s to enable participation

Direct Install: Overview



- Turn-key retrofit program to replace outdated and inefficient equipment, including lighting, HVAC, refrigeration, etc.
- Open to Small to Mid-Sized Commercial and Industrial facilities with an average electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - Customer only pays remaining 30% of installed cost
 - \$125,000 project/building cap
 - \$250,000 per entity cap
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

www.NJCleanEnergy/DI

Direct Install:



Participating Contractor

Hutchinson Mechanical Services

Pete Hatton

856-429-5828 x259

petehatton@hutchbiz.com

Direct Install: Financing Option



The State of NJ pays:

- 70% of all qualified upgrades
- Up to \$125,000

South Jersey Gas will finance:

- Remaining 30%
- 0% financing
- For 3 years
- Up to \$53,571



SmartStart: Overview



- Two types of incentives for high efficiency equipment installation:
 - Prescriptive
 - Custom
- Project Categories:
 - New Construction
 - Renovation
 - Remodeling
 - Equipment Replacement
- Project pre-approval required for lighting and custom measures
- Incentives up to \$500,000 per electric account & \$500,000 per natural gas account
- Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more!

www.NJCleanEnergy/SSB

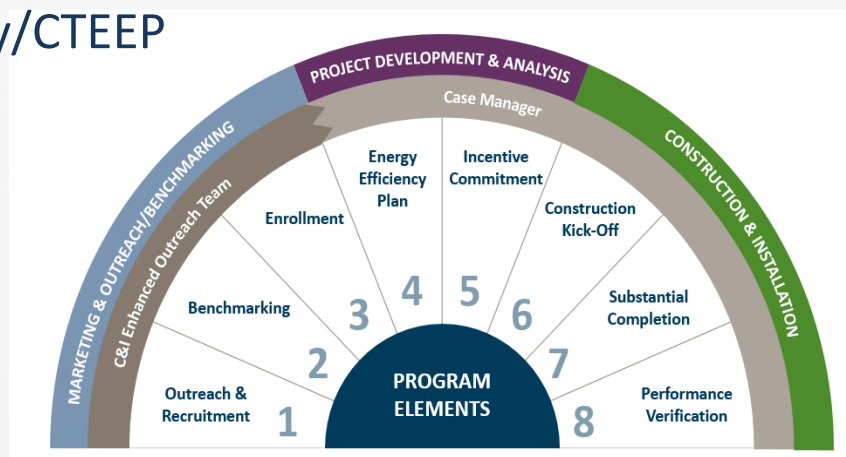
CTEEP: Overview



Customer Tailored Energy Efficiency Pilot (CTEEP)

- Provide customers with **on-site assistance** to discuss project opportunities and program incentives.
- A **single application** submission streamlines multiple prescriptive and custom measures.
- Provide **technical assistance incentives** to help offset soft costs associated with developing and planning an energy efficiency project.
- Incentives up to \$250,000 entity cap.

www.NJCleanEnergy/CTEEP



SmartStart & CTEEP:



Financing Option

- 0% Financing
- Up to \$130,000 for 10 years
- SJG can help guide you through the process

Contact:

Bruce Grossman – Program Manager

South Jersey Gas

#1 South Jersey Plaza

Folsom, NJ 08037

Phone: 609-561-9000, ext. 4271



Energy Savings Improvement Program (ESIP)

- Provides alternative financing for energy savings projects at public institutions. Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract. Does not count as debt/require voter approval.
- Requires an audit as 1st step (LGEA satisfies requirement)
- ESIP participation question on LGEA application
- Program administered directly by BPU

ESIP Process

New Jersey's Clean Energy Program Interaction

Initial Energy Audit completed
for entity building(s)

Local Government Energy Audit
(LGEA) may be used to meet
this requirement

Entity issues ESIP RFP (previously
approved by BPU) and selects ESCO
or DIY approach

Investment Grade Energy Audit completed
and Energy Savings Plan (ESP)
developed

P4P Energy Reduction Plan (ERP),
Direct Install, or SmartStart application
recommended submittal time frame

Third party review of ESP

Review and approval of ESP
by Board of Public Utilities (BPU)

Entity adopts ESP,
determines guarantee



FOR MORE INFORMATION

ESIP

Mike Thulen

ESIP Coordinator

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Questions



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FOR MORE INFORMATION

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