

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Asbury Park Board of Education

TRC Energy Services

July 31, 2018

Introductions



- *Asbury Park Board of Education*
 - Scott Mihalick – Chief Operating Officer
 - Geof Hastings – Business Administrator
 - Walter Sosa – Supervisor of Buildings & Grounds
- *NJ Clean Energy Program*
 - Brian DeLuca – Program Manager
 - Vish Nimbalkar, P.E. – Auditor
 - Elizabeth Ebinger – 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 Asbury Park BOE

Process



Site Visit and Utility Analysis



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

- Asbury Park High School
- Martin Luther King Jr. Middle School
- Bradley Elementary School
- Barack Obama Elementary School
- Thurgood Marshall Elementary School
- Administration Building
- Buildings & Grounds Facility
- Information Technology Center
- Dorothy McNish Parent Center

All Opportunities



Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	Annual Fuel 2 Savings (MMBtu)	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	753,547	194.2	0.0	0.0	0.0	\$91,590.82	\$507,101.95	\$93,285.00	\$413,816.95	4.5	758,816
Install LED Fixtures	220,976	48.9	0.0	0.0	0.0	\$27,058.05	\$137,857.11	\$28,465.00	\$109,392.11	4.0	222,521
Retrofit Fluorescent Fixtures with LED Lamps and Drivers	3,353	0.9	0.0	0.0	0.0	\$433.85	\$2,956.00	\$80.00	\$2,876.00	6.6	3,376
Retrofit Fixtures with LED Lamps	523,124	144.0	0.0	0.0	0.0	\$63,368.50	\$356,931.55	\$64,740.00	\$292,191.55	4.6	526,781
Install LED Exit Signs	6,095	0.4	0.0	0.0	0.0	\$730.42	\$9,357.29	\$0.00	\$9,357.29	12.8	6,137
Lighting Control Measures	113,197	29.8	0.0	0.0	0.0	\$13,729.18	\$157,868.00	\$17,750.00	\$140,118.00	10.2	113,989
Install Occupancy Sensor Lighting Controls	109,379	29.4	0.0	0.0	0.0	\$13,254.73	\$152,278.00	\$17,540.00	\$134,738.00	10.2	110,144
Install High/Low Lighting Controls	3,818	0.4	0.0	0.0	0.0	\$474.45	\$5,590.00	\$210.00	\$5,380.00	11.3	3,845
Motor Upgrades	1,553	0.3	0.0	0.0	0.0	\$182.32	\$4,429.15	\$0.00	\$4,429.15	24.3	1,564
Premium Efficiency Motors	1,553	0.3	0.0	0.0	0.0	\$182.32	\$4,429.15	\$0.00	\$4,429.15	24.3	1,564
Variable Frequency Drive (VFD) Measures	92,756	7.7	0.0	0.0	0.0	\$11,021.62	\$30,211.70	\$900.00	\$29,311.70	2.7	93,405
Install VFDs on Hot Water Pumps	74,892	7.7	0.0	0.0	0.0	\$8,913.52	\$25,017.25	\$0.00	\$25,017.25	2.8	75,416
Install VFDs on Cooling Tower Fans	17,864	0.0	0.0	0.0	0.0	\$2,108.10	\$5,194.45	\$900.00	\$4,294.45	2.0	17,989
Electric Unitary HVAC Measures	54,005	27.2	0.0	0.0	0.0	\$6,588.76	\$144,940.65	\$7,330.50	\$137,610.15	20.9	54,383
Install High Efficiency Electric AC	54,005	27.2	0.0	0.0	0.0	\$6,588.76	\$144,940.65	\$7,330.50	\$137,610.15	20.9	54,383
Gas Heating (HVAC/Process) Replacement	0	0.0	1,532.6	13.0	1,545.6	\$15,354.34	\$437,649.50	\$44,100.00	\$393,549.50	25.6	181,574
Install High Efficiency Hot Water Boilers	0	0.0	1,450.9	13.0	1,463.9	\$14,494.61	\$427,094.02	\$43,300.00	\$383,794.02	26.5	172,006
Install High Efficiency Furnaces	0	0.0	41.0	0.0	41.0	\$399.65	\$4,712.73	\$800.00	\$3,912.73	9.8	4,797
Install High Efficiency Unit Heaters	0	0.0	40.7	0.0	40.7	\$460.08	\$5,842.75	\$0.00	\$5,842.75	12.7	4,771
HVAC System Improvements	65,146	3.3	202.7	0.0	202.7	\$9,564.83	\$26,840.90	\$1,000.00	\$25,840.90	2.7	89,340
Install Programmable Thermostats	50,457	0.0	161.4	0.0	161.4	\$7,370.23	\$23,090.90	\$0.00	\$23,090.90	3.1	69,709
Install Dual Enthalpy Outside Economizer Control	14,688	3.3	0.0	0.0	0.0	\$1,741.54	\$3,150.00	\$1,000.00	\$2,150.00	1.2	14,791
Install Pipe Insulation	0	0.0	41.3	0.0	41.3	\$453.06	\$600.00	\$0.00	\$600.00	1.3	4,840
Domestic Water Heating Upgrade	1,665	0.0	473.3	0.0	473.3	\$5,009.90	\$1,664.07	\$0.00	\$1,664.07	0.3	57,097
Install Low-Flow Domestic Hot Water Devices	1,665	0.0	473.3	0.0	473.3	\$5,009.90	\$1,664.07	\$0.00	\$1,664.07	0.3	57,097
Plug Load Equipment Control - Vending Machine	8,402	0.0	0.0	0.0	0.0	\$1,032.03	\$1,380.00	\$0.00	\$1,380.00	1.3	8,460
Vending Machine Control	8,402	0.0	0.0	0.0	0.0	\$1,032.03	\$1,380.00	\$0.00	\$1,380.00	1.3	8,460
TOTALS	1,090,272	262.5	2,208.7	13.0	2,221.7	\$154,073.80	\$1,312,085.92	\$164,365.50	\$1,147,720.42	7.4	1,358,628

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Asbury Park High School



Energy Conservation Measure		Recommend?	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			140,312	49.0	0.0	\$17,352.96	\$140,307.47	\$19,060.00	\$121,247.47	7.0	141,293
ECM 1	Install LED Fixtures	Yes	49,394	21.5	0.0	\$6,108.69	\$65,101.32	\$6,455.00	\$58,646.32	9.6	49,739
	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	No	217	0.3	0.0	\$26.85	\$936.00	\$80.00	\$856.00	31.9	219
ECM 2	Retrofit Fixtures with LED Lamps	Yes	88,727	27.1	0.0	\$10,973.22	\$71,258.61	\$12,525.00	\$58,733.61	5.4	89,347
ECM 3	Install LED Exit Signs	Yes	1,975	0.1	0.0	\$244.19	\$3,011.54	\$0.00	\$3,011.54	12.3	1,988
Lighting Control Measures			20,719	6.3	0.0	\$2,562.36	\$36,836.00	\$3,205.00	\$33,631.00	13.1	20,864
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	20,032	6.1	0.0	\$2,477.48	\$34,676.00	\$3,205.00	\$31,471.00	12.7	20,172
	Install High/Low Lighting Controls	No	686	0.2	0.0	\$84.88	\$2,160.00	\$0.00	\$2,160.00	25.4	691
Electric Unitary HVAC Measures			3,698	2.2	0.0	\$457.36	\$8,728.28	\$547.50	\$8,180.78	17.9	3,724
	Install High Efficiency Electric AC	No	3,698	2.2	0.0	\$457.36	\$8,728.28	\$547.50	\$8,180.78	17.9	3,724
HVAC System Improvements			0	0.0	41.3	\$453.06	\$600.00	\$0.00	\$600.00	1.3	4,840
ECM 5	Install DHW Tank Insulation	Yes	0	0.0	41.3	\$453.06	\$600.00	\$0.00	\$600.00	1.3	4,840
Domestic Water Heating Upgrade			0	0.0	233.9	\$2,110.28	\$583.44	\$0.00	\$583.44	0.3	22,546
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	192.6	\$2,110.28	\$583.44	\$0.00	\$583.44	0.3	22,546
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$199.34	\$230.00	\$0.00	\$230.00	1.2	1,623
ECM 7	Vending Machine Control	Yes	1,612	0.0	0.0	\$199.34	\$230.00	\$0.00	\$230.00	1.2	1,623
TOTALS			166,341	57.5	275.2	\$23,135.37	\$187,285.18	\$22,812.50	\$164,472.68	7.1	194,890

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Asbury Park High School - Benchmarking



ENERGY STAR® Statement of Energy Performance

92

ENERGY STAR® Score¹

Asbury Park High School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 171,260
Built: 1927

For Year Ending: October 31, 2016
Date Generated: October 27, 2017

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 Asbury Park High School 1003 Sunset Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6048136

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 48.8 kBtu/ft ²	Annual Energy by Fuel Electric - Grid (kBtu) 3,024,585 (36%) Natural Gas (kBtu) 5,333,231 (64%)	National Median Comparison National Median Site EUI (kBtu/ft ²) 83.2 National Median Source EUI (kBtu/ft ²) 150.2 % Diff from National Median Source EUI -41%
Source EUI 88.2 kBtu/ft ²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO ₂ e/year) 619	

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)

MLK Jr. Middle School



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	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			154,546	34.5	0.0	0.0	\$18,108.91	\$88,720.68	\$17,845.00	\$70,875.68	3.9	155,627
ECM 1	Install LED Fixtures	Yes	48,443	7.0	0.0	0.0	\$5,676.32	\$14,668.21	\$5,150.00	\$9,518.21	1.7	48,782
ECM 2	Retrofit Fixtures with LED Lamps	Yes	106,103	27.5	0.0	0.0	\$12,432.60	\$74,052.48	\$12,695.00	\$61,357.48	4.9	106,845
Lighting Control Measures			22,053	5.5	0.0	0.0	\$2,584.07	\$19,710.00	\$2,555.00	\$17,155.00	6.6	22,207
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	22,053	5.5	0.0	0.0	\$2,584.07	\$19,710.00	\$2,555.00	\$17,155.00	6.6	22,207
Motor Upgrades			1,095	0.2	0.0	0.0	\$128.30	\$3,085.60	\$0.00	\$3,085.60	24.0	1,103
	Premium Efficiency Motors	No	1,095	0.2	0.0	0.0	\$128.30	\$3,085.60	\$0.00	\$3,085.60	24.0	1,103
Variable Frequency Drive (VFD) Measures			18,069	1.8	0.0	0.0	\$2,117.28	\$7,213.60	\$0.00	\$7,213.60	3.4	18,196
ECM 4	Install VFDs on Hot Water Pumps	Yes	18,069	1.8	0.0	0.0	\$2,117.28	\$7,213.60	\$0.00	\$7,213.60	3.4	18,196
Electric Unitary HVAC Measures			15,490	9.2	0.0	0.0	\$1,815.01	\$53,463.17	\$2,190.00	\$51,273.17	28.2	15,598
	Install High Efficiency Electric AC	No	15,490	9.2	0.0	0.0	\$1,815.01	\$53,463.17	\$2,190.00	\$51,273.17	28.2	15,598
Gas Heating (HVAC/Process) Replacement			0	0.0	845.7	845.7	\$8,598.53	\$181,443.56	\$20,900.00	\$160,543.56	18.7	99,026
	Install High Efficiency Hot Water Boilers	No	0	0.0	845.7	845.7	\$8,598.53	\$181,443.56	\$20,900.00	\$160,543.56	18.7	99,026
HVAC System Improvements			8,656	2.0	0.0	0.0	\$1,014.22	\$2,250.00	\$750.00	\$1,500.00	1.5	8,716
ECM 5	Install Dual Enthalpy Outside Economizer Control	Yes	8,656	2.0	0.0	0.0	\$1,014.22	\$2,250.00	\$750.00	\$1,500.00	1.5	8,716
Domestic Water Heating Upgrade			0	0.0	128.0	128.0	\$1,301.09	\$394.56	\$0.00	\$394.56	0.3	14,984
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	128.0	128.0	\$1,301.09	\$394.56	\$0.00	\$394.56	0.3	14,984
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	0.0	\$188.87	\$230.00	\$0.00	\$230.00	1.2	1,623
ECM 7	Vending Machine Control	Yes	1,612	0.0	0.0	0.0	\$188.87	\$230.00	\$0.00	\$230.00	1.2	1,623
TOTALS			221,521	53.2	973.7	973.7	\$35,856.29	\$356,511.18	\$44,240.00	\$312,271.18	8.7	337,080

* - All incentives presented in this table are based on NJ Smart Start Building 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).

MLK Jr. Middle School - Benchmarking



ENERGY STAR® Statement of Energy Performance

80

ENERGY STAR® Score¹

Martin Luther King Jr. Middle School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 87,250
Built: 1971

For Year Ending: October 31, 2016
Date Generated: October 13, 2017

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 Martin Luther King Jr. Middle School 1200 Bangs Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6049330

Energy Consumption and Energy Use Intensity (EUI)

Site EUI	Annual Energy by Fuel		National Median Comparison	
73.8 kBtu/ft ²	Natural Gas (kBtu)	4,354,364 (68%)	National Median Site EUI (kBtu/ft ²)	101.1
	Electric - Grid (kBtu)	2,080,380 (32%)	National Median Source EUI (kBtu/ft ²)	174.4
			% Diff from National Median Source EUI	-27%
Source EUI			Annual Emissions	
127.3 kBtu/ft ²			Greenhouse Gas Emissions (Metric Tons CO ₂ e/year)	462

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)

Bradley Elementary School



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			130,633	33.5	\$15,749.40	\$83,398.06	\$19,425.00	\$63,973.06	4.1	131,547
ECM 1	Install LED Fixtures	Yes	55,196	10.5	\$6,654.56	\$25,526.24	\$8,960.00	\$16,566.24	2.5	55,582
ECM 2	Retrofit Fixtures with LED Lamps	Yes	75,437	23.1	\$9,094.84	\$57,871.82	\$10,465.00	\$47,406.82	5.2	75,965
Lighting Control Measures			12,158	3.4	\$1,465.77	\$16,126.00	\$2,065.00	\$14,061.00	9.6	12,243
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	12,158	3.4	\$1,465.77	\$16,126.00	\$2,065.00	\$14,061.00	9.6	12,243
Variable Frequency Drive (VFD) Measures			35,497	3.6	\$4,279.61	\$10,388.90	\$0.00	\$10,388.90	2.4	35,745
ECM 4	Install VFDs on Hot Water Pumps	Yes	35,497	3.6	\$4,279.61	\$10,388.90	\$0.00	\$10,388.90	2.4	35,745
Electric Unitary HVAC Measures			16,277	4.9	\$1,962.44	\$50,580.46	\$2,615.00	\$47,965.46	24.4	16,391
	Install High Efficiency Electric AC	No	16,277	4.9	\$1,962.44	\$50,580.46	\$2,615.00	\$47,965.46	24.4	16,391
HVAC System Improvements			27,912	1.4	\$3,365.09	\$7,497.40	\$250.00	\$7,247.40	2.2	28,107
ECM 5	Install Programmable Thermostats	Yes	21,879	0.0	\$2,637.77	\$6,597.40	\$0.00	\$6,597.40	2.5	22,032
ECM 6	Install Dual Enthalpy Outside Economizer Control	Yes	6,033	1.4	\$727.32	\$900.00	\$250.00	\$650.00	0.9	6,075
TOTALS			222,477	46.8	\$26,822.31	\$167,990.82	\$24,355.00	\$143,635.82	5.4	224,033

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Bradley Elementary School - Benchmarking



ENERGY STAR® Statement of Energy Performance

40

ENERGY STAR® Score¹

Bradley Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 82,305
Built: 1989

For Year Ending: October 31, 2016
Date Generated: October 13, 2017

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 Bradley Elementary School 1100 Third Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6057954

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 63.3 kBtu/ft²	Annual Energy by Fuel Natural Gas (kBtu) 2,227,637 (43%) Electric - Grid (kBtu) 2,981,457 (57%)	National Median Comparison National Median Site EUI (kBtu/ft²) 58.2 National Median Source EUI (kBtu/ft²) 130.8 % Diff from National Median Source EUI 9%
Source EUI 142.2 kBtu/ft²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 449	

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)**

Barack Obama Elementary School



Energy Conservation Measure		Recommend?	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			78,256	20.3	0.0	\$9,563.21	\$52,085.80	\$9,880.00	\$42,205.80	4.4	78,803
ECM 1	Install LED Fixtures	Yes	13,842	1.8	0.0	\$1,691.51	\$5,078.80	\$1,300.00	\$3,778.80	2.2	13,938
ECM 2	Retrofit Fixtures with LED Lamps	Yes	64,414	18.5	0.0	\$7,871.69	\$47,007.00	\$8,580.00	\$38,427.00	4.9	64,865
Lighting Control Measures			14,491	4.0	0.0	\$1,770.86	\$21,990.00	\$2,605.00	\$19,385.00	10.9	14,592
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	14,491	4.0	0.0	\$1,770.86	\$21,990.00	\$2,605.00	\$19,385.00	10.9	14,592
Gas Heating (HVAC/Process) Replacement			0	0.0	229.2	\$2,326.12	\$179,481.85	\$14,000.00	\$165,481.85	71.1	26,833
	Install High Efficiency Hot Water Boilers	No	0	0.0	229.2	\$2,326.12	\$179,481.85	\$14,000.00	\$165,481.85	71.1	26,833
Domestic Water Heating Upgrade			0	0.0	43.2	\$438.76	\$153.03	\$0.00	\$153.03	0.3	5,061
ECM 4	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	43.2	\$438.76	\$153.03	\$0.00	\$153.03	0.3	5,061
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	\$196.97	\$230.00	\$0.00	\$230.00	1.2	1,623
ECM 5	Vending Machine Control	Yes	1,612	0.0	0.0	\$196.97	\$230.00	\$0.00	\$230.00	1.2	1,623
TOTALS			94,359	24.2	272.4	\$14,295.92	\$253,940.68	\$26,485.00	\$227,455.68	15.9	126,912

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

Barack Obama Elementary School - Benchmarking



ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

78

ENERGY STAR® Score¹

Barack Obama Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 68,400
Built: 1900

For Year Ending: October 31, 2016
Date Generated: October 13, 2017

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 Barack Obama Elementary School 1300 Bangs Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6060566

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 58.5 kBtu/ft²	Annual Energy by Fuel Natural Gas (kBtu) 2,896,357 (72%) Electric - Grid (kBtu) 1,102,248 (28%)	National Median Comparison National Median Site EUI (kBtu/ft²) 78.3 National Median Source EUI (kBtu/ft²) 127.3 % Diff from National Median Source EUI -25%	
Source EUI 95.1 kBtu/ft²		Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 276	

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)

Thurgood Marshall Elementary School



Energy Conservation Measure		Recommend?	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			176,761	37.9	0.0	\$20,859.46	\$102,892.39	\$18,595.00	\$84,297.39	4.0	177,997
ECM 1	Install LED Fixtures	Yes	27,244	3.7	0.0	\$3,215.07	\$16,556.76	\$3,200.00	\$13,356.76	4.2	27,435
ECM 2	Retrofit Fixtures with LED Lamps	Yes	145,397	33.9	0.0	\$17,158.16	\$79,989.88	\$15,395.00	\$64,594.88	3.8	146,413
	Install LED Exit Signs	No	4,120	0.3	0.0	\$486.23	\$6,345.75	\$0.00	\$6,345.75	13.1	4,149
Lighting Control Measures			33,763	7.8	0.0	\$3,984.29	\$44,758.00	\$5,070.00	\$39,688.00	10.0	33,999
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	31,396	7.6	0.0	\$3,705.03	\$42,328.00	\$5,070.00	\$37,258.00	10.1	31,616
ECM 4	Install High/Low Lighting Controls	Yes	2,366	0.2	0.0	\$279.25	\$2,430.00	\$0.00	\$2,430.00	8.7	2,383
Motor Upgrades			458	0.1	0.0	\$54.02	\$1,343.55	\$0.00	\$1,343.55	24.9	461
	Premium Efficiency Motors	No	458	0.1	0.0	\$54.02	\$1,343.55	\$0.00	\$1,343.55	24.9	461
Variable Frequency Drive (VFD) Measures			39,190	2.2	0.0	\$4,624.72	\$12,609.20	\$900.00	\$11,709.20	2.5	39,464
ECM 5	Install VFDs on Hot Water Pumps	Yes	21,326	2.2	0.0	\$2,516.63	\$7,414.75	\$0.00	\$7,414.75	2.9	21,475
ECM 6	Install VFDs on Cooling Tower Fans	Yes	17,864	0.0	0.0	\$2,108.10	\$5,194.45	\$900.00	\$4,294.45	2.0	17,989
Electric Unitary HVAC Measures			2,228	1.2	0.0	\$262.87	\$7,107.05	\$437.00	\$6,670.05	25.4	2,243
	Install High Efficiency Electric AC	No	2,228	1.2	0.0	\$262.87	\$7,107.05	\$437.00	\$6,670.05	25.4	2,243
Gas Heating (HVAC/Process) Replacement			0	0.0	376.0	\$3,167.95	\$57,608.21	\$8,000.00	\$49,608.21	15.7	44,023
ECM 7	Install High Efficiency Hot Water Boilers	Yes	0	0.0	376.0	\$3,167.95	\$57,608.21	\$8,000.00	\$49,608.21	15.7	44,023
HVAC System Improvements			28,578	0.0	161.4	\$4,732.46	\$16,493.50	\$0.00	\$16,493.50	3.5	47,677
ECM 8	Install Programmable Thermostats	Yes	28,578	0.0	161.4	\$4,732.46	\$16,493.50	\$0.00	\$16,493.50	3.5	47,677
Domestic Water Heating Upgrade			0	0.0	109.6	\$923.18	\$468.51	\$0.00	\$468.51	0.5	12,829
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	109.6	\$923.18	\$468.51	\$0.00	\$468.51	0.5	12,829
Plug Load Equipment Control - Vending Machine			1,954	0.0	0.0	\$230.63	\$460.00	\$0.00	\$460.00	2.0	1,968
ECM 10	Vending Machine Control	Yes	1,954	0.0	0.0	\$230.63	\$460.00	\$0.00	\$460.00	2.0	1,968
TOTALS			282,931	49.2	647.0	\$38,839.56	\$243,740.40	\$33,002.00	\$210,738.40	5.4	360,660

* - All incentives presented in this table are based on NJ Smart Start Building 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).



ENERGY STAR® Statement of Energy Performance

47

ENERGY STAR®
Score¹

Thurgood Marshall Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 94,025
Built: 1996

For Year Ending: October 31, 2016
Date Generated: October 13, 2017

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 Thurgood Marshall Elementary School 600 Monroe Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6050036

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 88.4 kBtu/ft²	Annual Energy by Fuel Electric - Grid (kBtu) 3,934,256 (47%) Natural Gas (kBtu) 4,378,750 (53%)	National Median Comparison National Median Site EUI (kBtu/ft²) 86.2 National Median Source EUI (kBtu/ft²) 175.9 % Diff from National Median Source EUI 2%	
Source EUI 180.3 kBtu/ft²		Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 669	

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

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() - _____

Professional Engineer Stamp
(if applicable)

Administration Building



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades			28,703	7.6	\$4,258.61	\$17,298.95	\$3,855.00	\$13,443.95	3.2	28,904
ECM 1	Install LED Fixtures	Yes	9,589	1.5	\$1,422.70	\$5,139.44	\$1,500.00	\$3,639.44	2.6	9,656
ECM 2	Retrofit Fixtures with LED Lamps	Yes	19,114	6.2	\$2,835.91	\$12,159.51	\$2,355.00	\$9,804.51	3.5	19,248
Lighting Control Measures			4,658	1.4	\$691.01	\$8,746.00	\$1,165.00	\$7,581.00	11.0	4,690
	Install Occupancy Sensor Lighting Controls	No	4,122	1.3	\$611.64	\$8,146.00	\$1,025.00	\$7,121.00	11.6	4,151
ECM 3	Install High/Low Lighting Controls	Yes	535	0.0	\$79.38	\$600.00	\$140.00	\$460.00	5.8	539
Domestic Water Heating Upgrade			1,304	0.0	\$193.41	\$43.02	\$0.00	\$43.02	0.2	1,313
ECM 4	Install Low-Flow Domestic Hot Water Devices	Yes	1,304	0.0	\$193.41	\$43.02	\$0.00	\$43.02	0.2	1,313
TOTALS			34,665	9.0	\$5,143.04	\$26,087.97	\$5,020.00	\$21,067.97	4.1	34,907

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Administration Building - Benchmarking



ENERGY STAR® Statement of Energy Performance

94

ENERGY STAR®
Score¹

Asbury Park BOE Administration Building

Primary Property Type: Office
Gross Floor Area (ft²): 13,934
Built: 1900

For Year Ending: October 31, 2016
Date Generated: October 27, 2017

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 Asbury Park BOE Administration Building 910 4th Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
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Property ID: 6049371

Energy Consumption and Energy Use Intensity (EUI)

Site EUI 36.2 kBtu/ft²	Annual Energy by Fuel Natural Gas (kBtu) 170,186 (34%) Electric - Grid (kBtu) 333,747 (66%)	National Median Comparison National Median Site EUI (kBtu/ft²) 72.4 National Median Source EUI (kBtu/ft²) 176.4 % Diff from National Median Source EUI -50%
Source EUI 88 kBtu/ft²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 46	

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

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() _____

Professional Engineer Stamp
(if applicable)

Buildings & Grounds Facility



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	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			21,248	6.0	0.0	0.0	\$2,757.74	\$10,317.72	\$2,175.00	\$8,142.72	3.0	21,396
ECM 1	Install LED Fixtures	Yes	6,245	1.2	0.0	0.0	\$810.50	\$1,862.07	\$900.00	\$962.07	1.2	6,288
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	3,136	0.6	0.0	0.0	\$407.00	\$2,020.00	\$0.00	\$2,020.00	5.0	3,158
ECM 3	Retrofit Fixtures with LED Lamps	Yes	11,867	4.2	0.0	0.0	\$1,540.23	\$6,435.65	\$1,275.00	\$5,160.65	3.4	11,950
Lighting Control Measures			2,454	0.7	0.0	0.0	\$318.48	\$3,318.00	\$265.00	\$3,053.00	9.6	2,471
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	2,454	0.7	0.0	0.0	\$318.48	\$3,318.00	\$265.00	\$3,053.00	9.6	2,471
Gas Heating (HVAC/Process) Replacement			0	0.0	40.7	40.7	\$460.08	\$5,842.75	\$0.00	\$5,842.75	12.7	4,771
	Install High Efficiency Unit Heaters	No	0	0.0	40.7	40.7	\$460.08	\$5,842.75	\$0.00	\$5,842.75	12.7	4,771
Domestic Water Heating Upgrade			108	0.0	0.0	0.0	\$14.07	\$7.17	\$0.00	\$7.17	0.5	109
ECM 5	Install Low-Flow Domestic Hot Water Devices	Yes	108	0.0	0.0	0.0	\$14.07	\$7.17	\$0.00	\$7.17	0.5	109
TOTALS			23,810	6.7	40.7	40.7	\$3,550.36	\$19,485.63	\$2,440.00	\$17,045.63	4.8	28,747

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Buildings & Grounds Facility - Benchmarking



ENERGY STAR® Statement of Energy Performance

N/A **Asbury Park BOE Buildings & Grounds Facility**

Primary Property Type: Repair Services (Vehicle, Shoe, Locksmith, etc.)
Gross Floor Area (ft²): 13,740
Built: 1930

For Year Ending: October 31, 2016
Date Generated: October 13, 2017

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 Asbury Park BOE Buildings & Grounds Facility 914 2nd Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us
Property ID: 6049947		

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI 83.4 kBtu/ft²	Annual Energy by Fuel		National Median Comparison
	Natural Gas (kBtu)	1,000,375 (87%)	National Median Site EUI (kBtu/ft²) 76.3
	Electric - Grid (kBtu)	146,005 (13%)	National Median Source EUI (kBtu/ft²) 100.4
			% Diff from National Median Source EUI 9%
Source EUI 109.8 kBtu/ft²			Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 69

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)

Information Technology Building



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual No. 2 Fuel Oil Savings (MMBtu)	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			8,156	2.4	0.0	0.0	\$937.58	\$5,180.20	\$915.00	\$4,265.20	4.5	8,213
ECM 1	Retrofit Fixtures with LED Lamps	Yes	8,156	2.4	0.0	0.0	\$937.58	\$5,180.20	\$915.00	\$4,265.20	4.5	8,213
Lighting Control Measures			1,934	0.5	0.0	0.0	\$222.33	\$3,590.00	\$475.00	\$3,115.00	14.0	1,948
	Install Occupancy Sensor Lighting Controls	No	1,934	0.5	0.0	0.0	\$222.33	\$3,590.00	\$475.00	\$3,115.00	14.0	1,948
Electric Unitary HVAC Measures			5,066	3.0	0.0	0.0	\$582.38	\$8,977.32	\$552.00	\$8,425.32	14.5	5,101
	Install High Efficiency Electric AC	No	5,066	3.0	0.0	0.0	\$582.38	\$8,977.32	\$552.00	\$8,425.32	14.5	5,101
Gas Heating (HVAC/Process) Replacement			0	0.0	13.0	13.0	\$402.01	\$8,560.40	\$400.00	\$8,160.40	20.3	2,125
	Install High Efficiency Hot Water Boilers	No	0	0.0	13.0	13.0	\$402.01	\$8,560.40	\$400.00	\$8,160.40	20.3	2,125
Domestic Water Heating Upgrade			253	0.0	0.0	0.0	\$29.11	\$14.34	\$0.00	\$14.34	0.5	255
ECM 2	Install Low-Flow Domestic Hot Water Devices	Yes	253	0.0	0.0	0.0	\$29.11	\$14.34	\$0.00	\$14.34	0.5	255
TOTALS			15,409	5.9	13.0	13.0	\$2,173.41	\$26,322.26	\$2,342.00	\$23,980.26	11.0	17,641

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Information Technology Building



ENERGY STAR[®] Statement of Energy Performance

42

ENERGY STAR[®]
Score¹

Asbury Park BOE Information Technology Center

Primary Property Type: Data Center
Gross Floor Area (ft²): 5,400
Built: 1910

For Year Ending: October 31, 2016
Date Generated: November 20, 2017

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
Asbury Park BOE Information Technology Center 1506 Park Avenue Asbury Park, New Jersey 07712	Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2808 x 2428	Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2808 x 2428 hastingsg@asburypark.k12.nj.us

Property ID: 6049982

Energy Consumption and Energy Use Intensity (EUI)

Site EUI	Annual Energy by Fuel	National Median Comparison
133.1 kBtu/ft ²	Electric - Grid (kBtu) 444,023 (62%)	National Median Site EUI (kBtu/ft ²) 129.6
	Fuel Oil (No. 2) (kBtu) 274,786 (38%)	National Median Source EUI (kBtu/ft ²) 301.4
		% Diff from National Median Source EUI 3%
Source EUI		Annual Emissions
309.6 kBtu/ft ²		Greenhouse Gas Emissions (Metric Tons CO ₂ e/year) 70

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)

Dorothy McNish Parent Center



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	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			14,931	2.9	0.0	0.0	\$2,002.96	\$6,900.67	\$1,535.00	\$5,365.67	2.7	15,036
ECM 1	Install LED Fixtures	Yes	11,023	1.7	0.0	0.0	\$1,478.70	\$3,924.27	\$1,000.00	\$2,924.27	2.0	11,100
ECM 2	Retrofit Fixtures with LED Lamps	Yes	3,908	1.2	0.0	0.0	\$524.27	\$2,976.40	\$535.00	\$2,441.40	4.7	3,936
Lighting Control Measures			969	0.3	0.0	0.0	\$130.00	\$2,794.00	\$345.00	\$2,449.00	18.8	976
	Install Occupancy Sensor Lighting Controls	No	739	0.3	0.0	0.0	\$99.07	\$2,394.00	\$275.00	\$2,119.00	21.4	744
	Install High/Low Lighting Controls	No	231	0.0	0.0	0.0	\$30.94	\$400.00	\$70.00	\$330.00	10.7	232
Electric Unitary HVAC Measures			11,247	6.7	0.0	0.0	\$1,508.70	\$16,084.37	\$989.00	\$15,095.37	10.0	11,325
ECM 3	Install High Efficiency Electric AC	Yes	11,247	6.7	0.0	0.0	\$1,508.70	\$16,084.37	\$989.00	\$15,095.37	10.0	11,325
Gas Heating (HVAC/Process) Replacement			0	0.0	41.0	41.0	\$399.65	\$4,712.73	\$800.00	\$3,912.73	9.8	4,797
ECM 4	Install High Efficiency Furnaces	Yes	0	0.0	41.0	41.0	\$399.65	\$4,712.73	\$800.00	\$3,912.73	9.8	4,797
Plug Load Equipment Control - Vending Machine			1,612	0.0	0.0	0.0	\$216.22	\$230.00	\$0.00	\$230.00	1.1	1,623
ECM 5	Vending Machine Control	Yes	1,612	0.0	0.0	0.0	\$216.22	\$230.00	\$0.00	\$230.00	1.1	1,623
TOTALS			28,759	9.9	41.0	41.0	\$4,257.54	\$30,721.76	\$3,669.00	\$27,052.76	6.4	33,757

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Dorothy McNish Parent Center - Benchmarking



ENERGY STAR® Statement of Energy Performance

**ENERGY STAR®
Score¹**

Dorothy McNish Parent Center

Primary Property Type: Adult Education
Gross Floor Area (ft²): 5,000
Built: 1967

For Year Ending: September 30, 2016
Date Generated: September 28, 2017

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 Dorothy McNish Parent Center 300 Prospect Avenue Asbury Park, New Jersey 07712	Property Owner Asbury Park Board of Education 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426	Primary Contact Geoffrey Hastings 910 4th Avenue Asbury Park, NJ 07712 (732) 776-2606 x 2426 hastingsg@asburypark.k12.nj.us	
Property ID: 6057910			

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI 59 kBtu/ft²	Annual Energy by Fuel	National Median Comparison	
	Electric - Grid (kBtu) 88,474 (30%)	National Median Site EUI (kBtu/ft²)	84.3
	Natural Gas (kBtu) 206,417 (70%)	National Median Source EUI (kBtu/ft²)	141.4
		% Diff from National Median Source EUI	-30%
Source EUI 98.9 kBtu/ft²		Annual Emissions	
		Greenhouse Gas Emissions (Metric Tons CO2e/year)	21

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 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

Equipment Rebates:

- SmartStart Retrofit
- SmartStart New Construction
- Direct Install
- Large Energy Users

INCENTIVE PROGRAMS

Whole Buildings:

- Pay for Performance Existing Buildings
- Pay for Performance New Construction

Energy Generation:

- Combined Heat and Power (CHP)

OTHER PROGRAMS

Renewable Energy Generation:

- SREC Registration Program (SRP)

* eligible programs are highlighted in yellow

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 certain equipment
- 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!

SmartStart: Financing Option



- NJNG provides 0% financing options for SmartStart that will cover up to \$130,000 per year.
- 10 year term-repayments made on regular monthly gas bill
- Need to review project with NJNG to confirm project qualifies.
- The SAVEGREEN program can help with a consultation to discuss your Commercial Energy Efficiency Project.



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 (up to \$500,000 if using ESIP)
- Participating contractors provide support and process all paperwork
- Fast turnaround time: Average length of time for job completion (4-6 months)

Direct Install:



Participating Contractor

Hutchinson Mechanical Services

Ed Hutchinson

856-429-5828 x215

edhutchinson@hutchbiz.com

Direct Install: Financing Option



- Eligible NJNG customers can finance the remaining 30 percent balance at 0% APR through the “SAVEGREEN Project® On-Bill Repayment Program” (OBRP) for 36 months.



Direct Install: Financing Option



- Questions? Contact:

Jerry Ryan

Energy Efficiency Operations Manager

New Jersey Natural Gas

732-433-4362 (cell)

732 378 4920 (office)

jryan@njng.com



P4P Existing Buildings: Overview



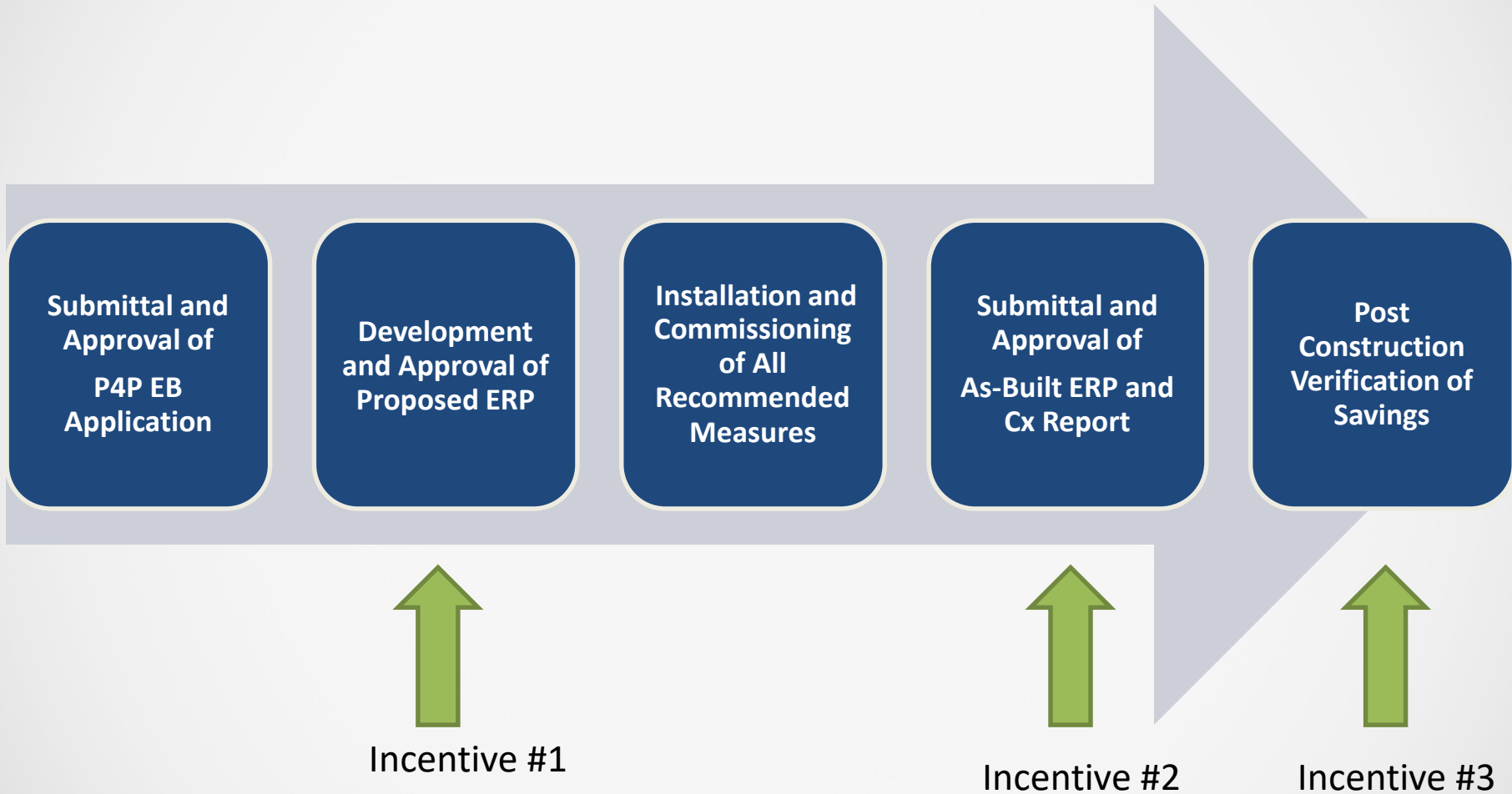
- Comprehensive, whole-building approach to saving energy in existing or new facilities
- Customer chooses from network of pre-approved participating Partners
- Incentives up to \$2 million per project
 - \$1 million for electric measures
 - \$1 million for gas measures
- \$4 million annual entity cap per fiscal year
- Incentives up to 50% of total project cost
- Incentives paid in three installments at milestones

P4P Existing Buildings: Overview



- Open to Commercial and Industrial facilities with annual peak demand of at least 200 kW in previous year
- Minimum savings 15% from existing energy use
- Must have at least two unique measures per project
- No more than 50% of total savings may come from lighting measures
 - Lighting savings up to 70% may be considered with minimum savings target increasing up to 35%

P4P EB: Process



P4P EB: Incentives



Incentive #1: Energy Reduction Plan			
Incentive Amount:		\$0.15	per sq ft
Minimum Incentive:		\$7,500	
Maximum Incentive:		\$50,000	or 50% of facility annual energy cost
Incentive #2: Installation of Recommended Measures			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15 % savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost
Incentive #3: Post-Construction Benchmarking Report			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15% savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost

Recommended NJCEP Incentives per Building



Asbury Park BOE	SmartStart	Direct Install	Pay For Performance	SREC Registration Program (SRP) for potential Solar Projects*
Asbury Park High School	X		X	X
MLK Jr. Middle School	X	X		X
Bradley Elementary School	X		X	X
Barack Obama Elementary School	X	X		X
Thurgood Marshall Elementary School	X		X	X
Administration Building	X	X		
Buildings & Grounds Facility	X	X		
Information Technology Center	X	X		
Dorothy McNish Parent Center	X	X		

* These buildings have a *high potential* for the implementation of a PV system. The SREC registration program is provided to register produced SRECs and is not an incentive or rebate program.

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

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Questions



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