

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
RWJ St. Barnabas Health

December 27, 2019

INTRODUCTIONS

RWJ St. Barnabas Health

- Jim Hogle – Facilities & Operations Manager
- Marc Brierley – St. Barnabas Behavioral Health
- Henry Schuurman – Clara Maass Medical Center
- Michael McTiernan – Monmouth Southern Campus
- Kevin Flanagan – Monmouth Southern Campus

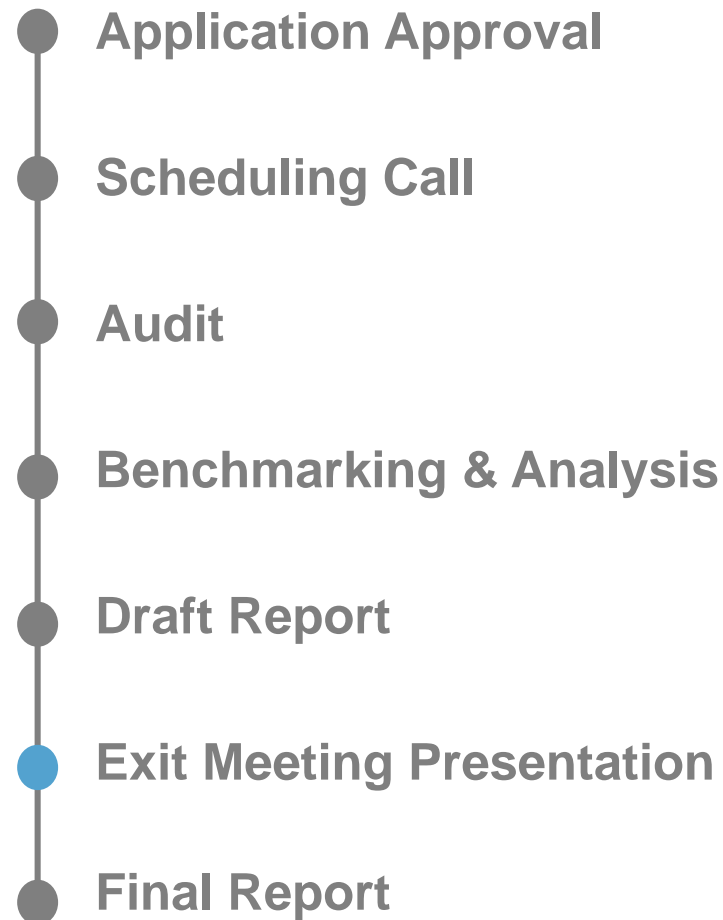
INTRODUCTIONS

- *NJ Clean Energy Program*
 - Aimee Lalonde – TRC Program Manager
 - Moussa Traore– TRC Auditor
 - Amanda Muench– TRC Account Manager
 - Mike Mandzik – TRC Outreach Manager

AGENDA

- The audit process overview
- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for RWJ St. Barnabas Health

LGEA PROCESS



SITE VISIT & UTILITY ANALYSIS

Overview of Systems, Baseline & Existing Conditions:

- Lighting System
- HVAC and Mechanical Systems
- Plug Load Equipment
- Energy Intensive Systems
- Food and Refrigeration Systems

Utility Consumption:

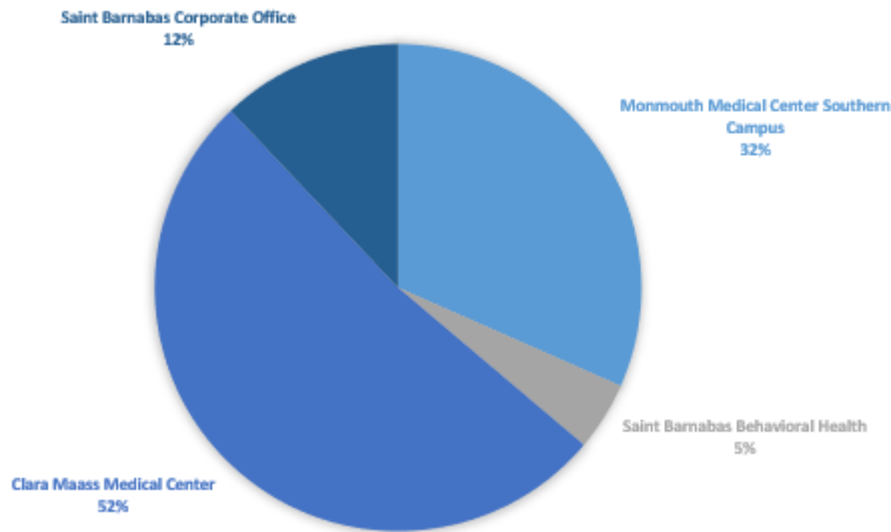
- Electric Consumption and Costs
- Natural Gas Consumption and Costs

Sites Visited/Analyzed

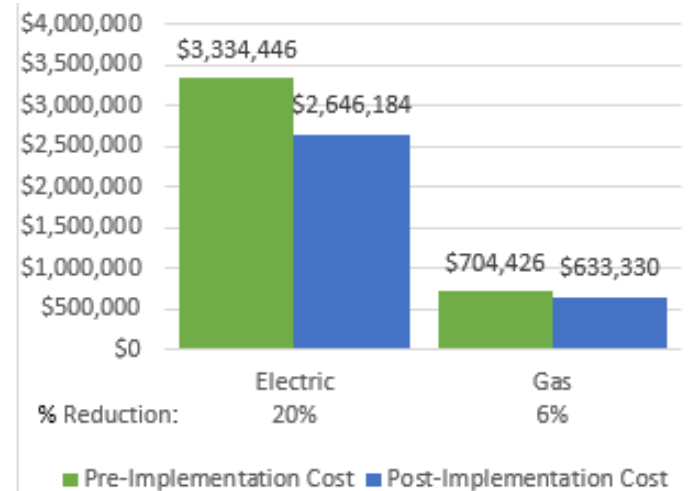
- St. Barnabas Behavioral Health
- St. Barnabas Corporate Office
- Clara Maass Medical Center
- Monmouth Southern Campus

UTILITY BREAKOUT


Percent of Total Annual Energy Costs



Pre & Post Implementation Cost



BENCHMARKING

 **ENERGY STAR® Statement of Energy Performance**

N/A **Clara Maass Medical Center**

Primary Property Type: Hospital (General Medical & Surgical)
Gross Floor Area (ft²): 622,320
Built: 1959

For Year Ending: November 30, 2018
Date Generated: August 29, 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 Clara Maass Medical Center 1 Clara Maass Drive Belleville, New Jersey 07109	Property Owner RWJ Barnabas Health 95 Old Short Hills Road West Orange, NJ 07039 (732) 267-5858	Primary Contact Victor Hogle 95 Old Short Hills Road West Orange, NJ 07039 (732) 267-5858 victor.moschella@rwjbh.org
Property ID: 8860762		

Energy Consumption and Energy Use Intensity (EUI)		
Site EUI 201.5 kBtu/ft²	Annual Energy by Fuel Natural Gas (kBtu) 70,087,380 (59%) Electric - Grid (kBtu) 55,351,120 (44%)	National Median Comparison National Median Site EUI (kBtu/ft²) 234.3 National Median Source EUI (kBtu/ft²) 426.9 % Diff from National Median Source EUI -14%
Source EUI 367.3 kBtu/ft²	Annual Emissions Greenhouse Gas Emissions (Metric Tons CO2e/year) 9,329	

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)

Site EUI
201.5 kBtu/ft²

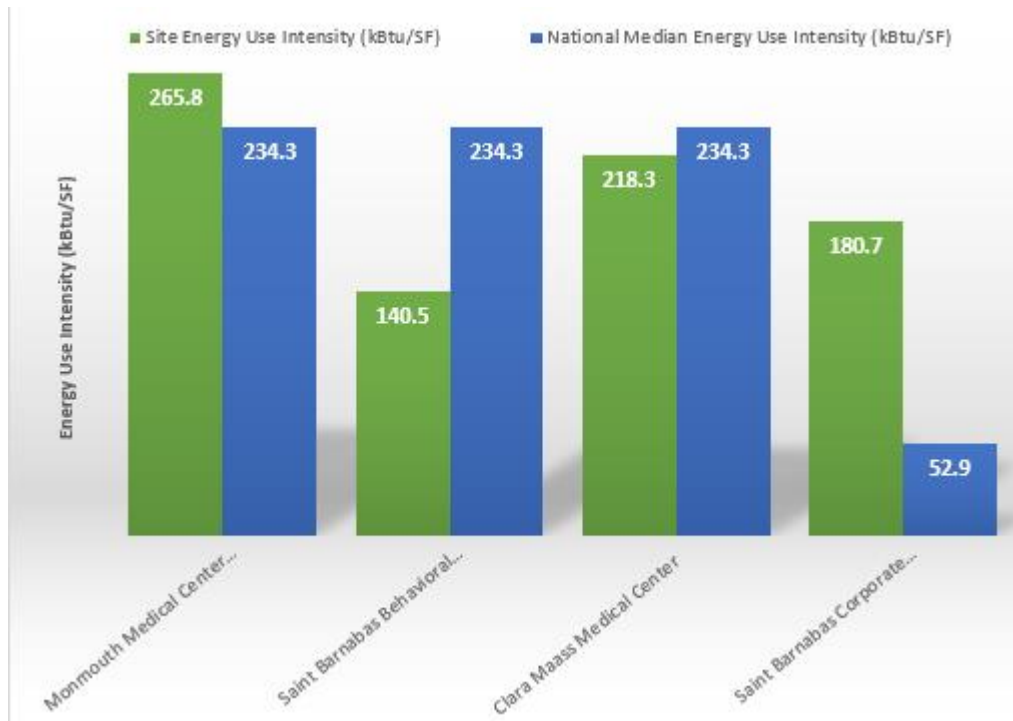
National Median Comparison

National Median Site EUI (kBtu/ft²)	234.3
National Median Source EUI (kBtu/ft²)	426.9
% Diff from National Median Source EUI	-14%

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.



BENCHMARKING



Site Name	Energy Star Score
Monmouth Medical Center Southern Campus	47
Saint Barnabas Behavioral Health	61
Clara Maass Medical Center	N/A
Saint Barnabas Corporate Office	31

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		2,806,064	419.8	-518.7	\$309,986	\$715,712	\$110,561	\$605,151	2.0	2,764,954
ECM 1	Install LED Fixtures	379,426	44.4	-3.2	\$42,244	\$156,888	\$12,500	\$144,388	3.4	381,706
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	343,019	54.2	-73.1	\$39,048	\$60,366	\$8,728	\$51,638	1.3	336,864
ECM 3	Retrofit Fixtures with LED Lamps	2,080,554	320.9	-441.8	\$228,350	\$494,403	\$89,333	\$405,070	1.8	2,043,373
ECM 4	Install LED Exit Signs	3,065	0.3	-0.7	\$344	\$4,055	\$0	\$4,055	11.8	3,010
Lighting Control Measures		580,055	83.7	-113.4	\$64,135	\$442,408	\$28,385	\$414,023	6.5	570,834
ECM 5	Install Occupancy Sensor Lighting Controls	373,247	58.1	-79.4	\$41,276	\$314,158	\$27,965	\$286,193	6.9	366,563
ECM 6	Install Daylight Dimming/Photocell Controls	47,339	3.8	-0.2	\$5,201	\$7,550	\$0	\$7,550	1.5	47,642
ECM 7	Install High/Low Lighting Controls	159,469	21.8	-33.8	\$17,659	\$120,700	\$420	\$120,280	6.8	156,630
Motor Upgrades		98,335	16.8	0.0	\$11,286	\$155,113	\$0	\$155,113	13.7	99,023
ECM 8	Premium Efficiency Motors	98,335	16.8	0.0	\$11,286	\$155,113	\$0	\$155,113	13.7	99,023
Variable Frequency Drive (VFD) Measures		1,382,720	234.7	0.0	\$150,720	\$661,057	\$63,705	\$597,352	4.0	1,392,388
ECM 9	Install VFD on Variable Air Volume (VAV) Fans	58,213	11.0	0.0	\$6,744	\$26,942	\$4,125	\$22,817	3.4	58,620
ECM 10	Install VFDs on Constant Volume (CV) Fans	192,486	44.9	0.0	\$20,992	\$102,395	\$11,880	\$90,515	4.3	193,832
ECM 11	Install VFDs on Chilled Water Pumps	778,222	149.9	0.0	\$83,516	\$311,494	\$38,100	\$273,394	3.3	783,664
ECM 12	Install VFDs on Heating Water Pumps	298,956	31.1	0.0	\$33,522	\$146,643	\$0	\$146,643	4.4	301,046
ECM 13	Install VFDs on Cooling Tower Fans	54,843	-2.2	0.0	\$5,945	\$73,584	\$9,600	\$63,984	10.8	55,227
Electric Unitary HVAC Measures		92,870	32.0	0.0	\$10,345	\$410,242	\$12,820	\$397,422	38.4	93,520
ECM 14	Install High Efficiency Air Conditioning Units	78,078	28.1	0.0	\$8,721	\$350,319	\$10,359	\$339,960	39.0	78,624
ECM 15	Install High Efficiency Heat Pumps	11,732	2.9	0.0	\$1,270	\$40,774	\$1,811	\$38,963	30.7	11,814
ECM 16	Install High Efficiency PTAC/PTHP	3,061	1.0	0.0	\$355	\$19,148	\$650	\$18,498	52.2	3,082
Electric Chiller Replacement		680,169	253.9	0.0	\$71,858	\$878,020	\$48,780	\$829,240	11.5	684,925
ECM 17	Install High Efficiency Chillers	680,169	253.9	0.0	\$71,858	\$878,020	\$48,780	\$829,240	11.5	684,925

ALL OPPORTUNITIES

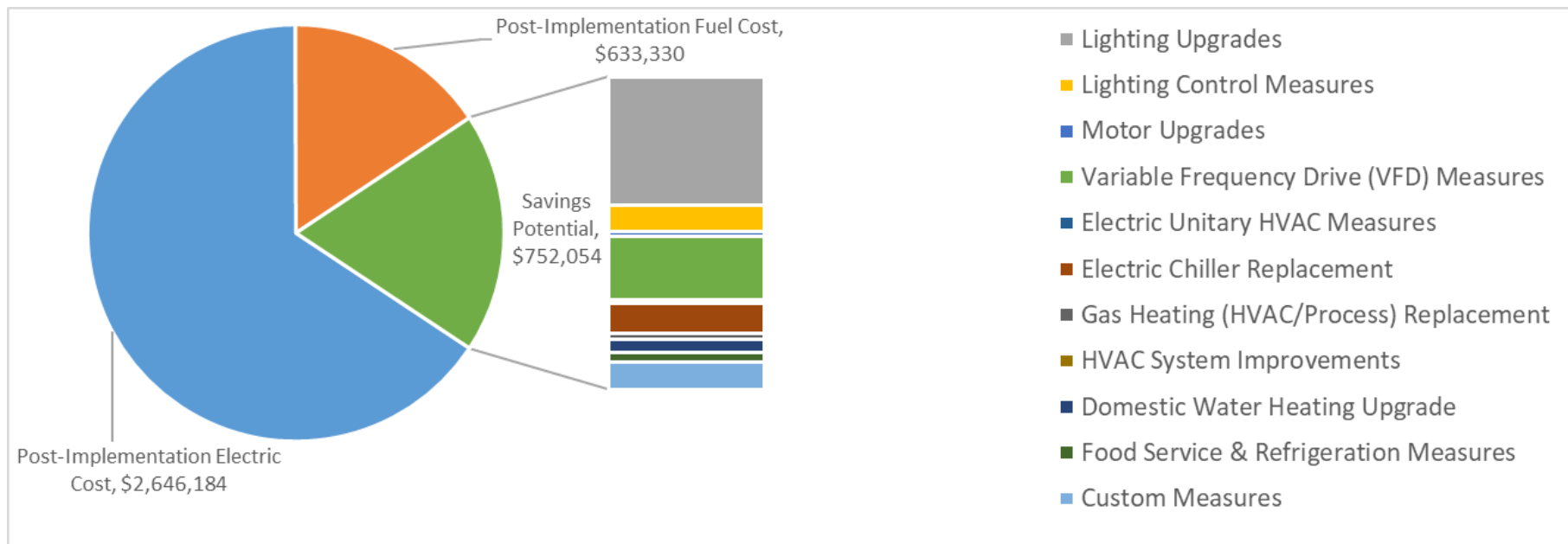
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Gas Heating (HVAC/Process) Replacement		0	0.0	2,626.9	\$14,506	\$788,379	\$4,312	\$784,067	54.0	307,578
ECM 18	Install High Efficiency Hot Water Boilers	0	0.0	457.3	\$3,627	\$208,691	\$4,312	\$204,379	56.4	53,542
ECM 19	Install High Efficiency Steam Boilers	0	0.0	2,169.6	\$10,880	\$579,687	\$0	\$579,687	53.3	254,036
HVAC System Improvements		2,336	0.0	34.7	\$493	\$5,552	\$0	\$5,552	11.3	6,419
ECM 20	Implement Demand Control Ventilation (DCV)	2,336	0.0	23.8	\$438	\$5,438	\$0	\$5,438	12.4	5,138
ECM 21	Install Pipe Insulation	0	0.0	10.9	\$55	\$114	\$0	\$114	2.1	1,281
Domestic Water Heating Upgrade		32,085	4.5	5,262.2	\$30,819	\$209,401	\$9,867	\$199,534	6.5	648,450
ECM 22	Install High Efficiency Gas-Fired Water Heater	0	0.0	4,825.5	\$24,550	\$200,440	\$7,000	\$193,440	7.9	565,006
ECM 23	Install Gas-Fired Booster Water Heater	30,000	4.5	-163.8	\$2,636	\$6,086	\$2,867	\$3,219	1.2	11,028
ECM 24	Install Low-Flow DHW Devices	2,085	0.0	600.5	\$3,634	\$2,875	\$0	\$2,875	0.8	72,416
Food Service & Refrigeration Measures		143,068	13.2	1,364.9	\$22,887	\$141,232	\$10,609	\$130,623	5.7	303,876
ECM 25	Food Service Equipment Replacement	14,897	2.3	1,364.9	\$8,723	\$50,449	\$5,599	\$44,850	5.1	174,809
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	42,412	4.3	0.0	\$4,595	\$12,739	\$880	\$11,859	2.6	42,709
ECM 27	Refrigeration Display Case Doors or Covers	3,018	0.3	0.0	\$350	\$1,338	\$200	\$1,138	3.3	3,039
ECM 28	Refrigeration Controls	37,116	1.1	0.0	\$4,048	\$30,696	\$1,750	\$28,946	7.2	37,375
ECM 29	Replace Refrigeration Equipment	21,709	2.5	0.0	\$2,478	\$40,260	\$1,480	\$38,780	15.6	21,861
ECM 30	Vending Machine Control	23,916	2.7	0.0	\$2,694	\$5,750	\$700	\$5,050	1.9	24,083
Custom Measures		359,067	0.0	4,897.7	\$65,018	\$1,023,400	\$43,109	\$980,291	15.1	935,038
ECM 31	Retro-Commissioning Study & HVAC Improvements	316,776	0.0	2,022.3	\$45,379	\$186,400	\$0	\$186,400	4.1	555,781
ECM 32	Installation of Smart Electric Meters	42,291	0.0	0.0	\$4,900	\$20,000	\$0	\$20,000	4.1	42,587
ECM 33	Heating System Upgrades	0	0.0	2,875.4	\$14,740	\$817,000	\$43,109	\$773,891	52.5	336,671
TOTALS		6,176,770	1,058.5	13,554.4	\$752,054	\$5,430,515	\$332,148	\$5,098,367	6.8	7,807,006

* - 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).

ALL OPPORTUNITIES

Savings Potential



COST EFFECTIVE 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		2,806,064	419.8	-518.7	\$309,986	\$715,712	\$110,561	\$605,151	2.0	2,764,954
ECM 1	Install LED Fixtures	379,426	44.4	-3.2	\$42,244	\$156,888	\$12,500	\$144,388	3.4	381,706
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	343,019	54.2	-73.1	\$39,048	\$60,366	\$8,728	\$51,638	1.3	336,864
ECM 3	Retrofit Fixtures with LED Lamps	2,080,554	320.9	-441.8	\$228,350	\$494,403	\$89,333	\$405,070	1.8	2,043,373
ECM 4	Install LED Exit Signs	3,065	0.3	-0.7	\$344	\$4,055	\$0	\$4,055	11.8	3,010
Lighting Control Measures		580,055	83.7	-113.4	\$64,135	\$442,408	\$28,385	\$414,023	6.5	570,834
ECM 5	Install Occupancy Sensor Lighting Controls	373,247	58.1	-79.4	\$41,276	\$314,158	\$27,965	\$286,193	6.9	366,563
ECM 6	Install Daylight Dimming/Photocell Controls	47,339	3.8	-0.2	\$5,201	\$7,550	\$0	\$7,550	1.5	47,642
ECM 7	Install High/Low Lighting Controls	159,469	21.8	-33.8	\$17,659	\$120,700	\$420	\$120,280	6.8	156,630
Motor Upgrades		87,806	15.5	0.0	\$10,130	\$137,897	\$0	\$137,897	13.6	88,420
ECM 8	Premium Efficiency Motors	87,806	15.5	0.0	\$10,130	\$137,897	\$0	\$137,897	13.6	88,420
Variable Frequency Drive (VFD) Measures		1,382,720	234.7	0.0	\$150,720	\$661,057	\$63,705	\$597,352	4.0	1,392,388
ECM 9	Install VFD on Variable Air Volume (VAV) Fans	58,213	11.0	0.0	\$6,744	\$26,942	\$4,125	\$22,817	3.4	58,620
ECM 10	Install VFDs on Constant Volume (CV) Fans	192,486	44.9	0.0	\$20,992	\$102,395	\$11,880	\$90,515	4.3	193,832
ECM 11	Install VFDs on Chilled Water Pumps	778,222	149.9	0.0	\$83,516	\$311,494	\$38,100	\$273,394	3.3	783,664
ECM 12	Install VFDs on Heating Water Pumps	298,956	31.1	0.0	\$33,522	\$146,643	\$0	\$146,643	4.4	301,046
ECM 13	Install VFDs on Cooling Tower Fans	54,843	-2.2	0.0	\$5,945	\$73,584	\$9,600	\$63,984	10.8	55,227
Electric Unitary HVAC Measures		12,801	1.1	0.0	\$1,404	\$8,977	\$552	\$8,425	6.0	12,891
ECM 14	Install High Efficiency Air Conditioning Units	12,801	1.1	0.0	\$1,404	\$8,977	\$552	\$8,425	6.0	12,891

COST EFFECTIVE OPPORTUNITIES

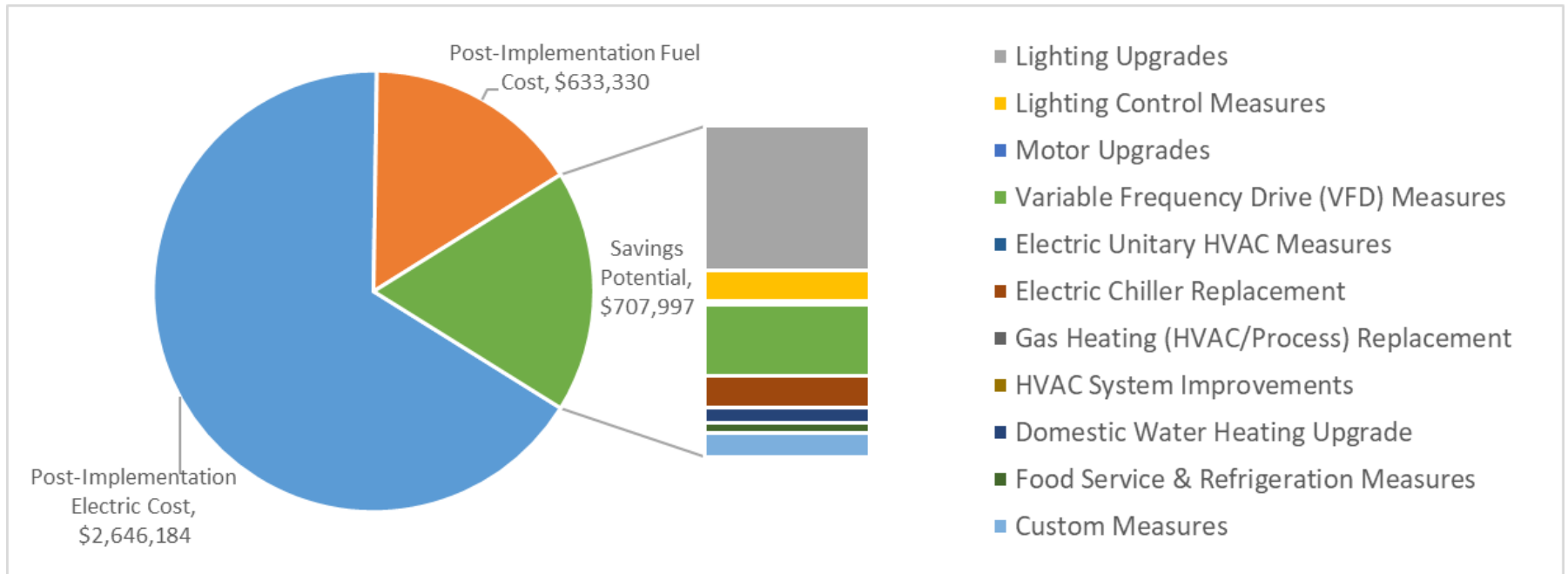
#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Electric Chiller Replacement		642,359	232.2	0.0	\$67,478	\$733,479	\$41,700	\$691,779	10.3	646,850
ECM 17	Install High Efficiency Chillers	642,359	232.2	0.0	\$67,478	\$733,479	\$41,700	\$691,779	10.3	646,850
HVAC System Improvements		2,336	0.0	34.7	\$493	\$5,552	\$0	\$5,552	11.3	6,419
ECM 20	Implement Demand Control Ventilation (DCV)	2,336	0.0	23.8	\$438	\$5,438	\$0	\$5,438	12.4	5,138
ECM 21	Install Pipe Insulation	0	0.0	10.9	\$55	\$114	\$0	\$114	2.1	1,281
Domestic Water Heating Upgrade		32,085	4.5	5,262.2	\$30,819	\$209,401	\$9,867	\$199,534	6.5	648,450
ECM 22	Install High Efficiency Gas-Fired Water Heater	0	0.0	4,825.5	\$24,550	\$200,440	\$7,000	\$193,440	7.9	565,006
ECM 23	Install Gas-Fired Booster Water Heater	30,000	4.5	-163.8	\$2,636	\$6,086	\$2,867	\$3,219	1.2	11,028
ECM 24	Install Low-Flow DHW Devices	2,085	0.0	600.5	\$3,634	\$2,875	\$0	\$2,875	0.8	72,416
Food Service & Refrigeration Measures		139,875	12.8	1,364.9	\$22,554	\$125,696	\$10,129	\$115,567	5.1	300,661
ECM 25	Food Service Equipment Replacement	14,897	2.3	1,364.9	\$8,723	\$50,449	\$5,599	\$44,850	5.1	174,809
ECM 26	Refrigerator/Freezer Case Electrically Commutated Motors	42,412	4.3	0.0	\$4,595	\$12,739	\$880	\$11,859	2.6	42,709
ECM 27	Refrigeration Display Case Doors or Covers	3,018	0.3	0.0	\$350	\$1,338	\$200	\$1,138	3.3	3,039
ECM 28	Refrigeration Controls	37,116	1.1	0.0	\$4,048	\$30,696	\$1,750	\$28,946	7.2	37,375
ECM 29	Replace Refrigeration Equipment	18,516	2.1	0.0	\$2,145	\$24,724	\$1,000	\$23,724	11.1	18,645
ECM 30	Vending Machine Control	23,916	2.7	0.0	\$2,694	\$5,750	\$700	\$5,050	1.9	24,083
Custom Measures		359,067	0.0	2,022.3	\$50,278	\$206,400	\$0	\$206,400	4.1	598,367
ECM 31	Retro-Commissioning Study & HVAC Improvements	316,776	0.0	2,022.3	\$45,379	\$186,400	\$0	\$186,400	4.1	555,781
ECM 32	Installation of Smart Electric Meters	42,291	0.0	0.0	\$4,900	\$20,000	\$0	\$20,000	4.1	42,587
TOTALS		6,045,168	1,004.4	8,052.1	\$707,997	\$3,246,580	\$264,899	\$2,981,681	4.2	7,030,235

* - 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).

COST EFFECTIVE OPPORTUNITIES

Savings Potential



ST. BARNABAS BEHAVIORAL HEALTH

#	Energy Conservation Measure	Cost effective?	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			335,414	54.8	-68	\$38,485	\$577,280	\$75,762	\$10,297	\$65,465	1.7	329,769
ECM 1	Install LED Fixtures	Yes	20,661	3.8	-1	\$2,398	\$35,974	\$17,269	\$2,180	\$15,089	6.3	20,660
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	303,165	49.1	-65	\$34,758	\$521,373	\$52,441	\$7,880	\$44,561	1.3	297,725
ECM 3	Retrofit Fixtures with LED Lamps	Yes	11,588	1.9	-2	\$1,329	\$19,933	\$6,051	\$237	\$5,814	4.4	11,383
Lighting Control Measures			31,746	4.5	-7	\$3,640	\$29,119	\$19,281	\$1,790	\$17,491	4.8	31,178
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	19,981	3.2	-4	\$2,291	\$18,327	\$13,556	\$1,790	\$11,766	5.1	19,623
ECM 5	Install Photocell Lighting Controls	Yes	69	0.0	0	\$8	\$65	\$100	\$0	\$100	12.4	70
ECM 6	Install High/Low Lighting Controls	Yes	11,695	1.3	-2	\$1,341	\$10,727	\$5,625	\$0	\$5,625	4.2	11,485
Motor Upgrades			196	0.1	0	\$23	\$343	\$921	\$0	\$921	40.3	197
ECM 7	Premium Efficiency Motors	No	196	0.1	0	\$23	\$343	\$921	\$0	\$921	40.3	197
Variable Frequency Drive (VFD) Measures			121,195	12.2	0	\$14,136	\$212,040	\$21,690	\$0	\$21,690	1.5	122,042
ECM 8	Install VFDs on WSHP Circulation Pumps	Yes	121,195	12.2	0	\$14,136	\$212,040	\$21,690	\$0	\$21,690	1.5	122,042
Electric Unitary HVAC Measures			3,746	0.2	0	\$437	\$6,555	\$19,182	\$983	\$18,199	41.6	3,773
ECM 9	Install High Efficiency Heat Pumps	No	3,746	0.2	0	\$437	\$6,555	\$19,182	\$983	\$18,199	41.6	3,773
Gas Heating (HVAC/Process) Replacement			0	0.0	74	\$695	\$13,890	\$55,280	\$4,312	\$50,968	73.4	8,713
ECM 10	Install High Efficiency Hot Water Boilers	No	0	0.0	74	\$695	\$13,890	\$55,280	\$4,312	\$50,968	73.4	8,713
Domestic Water Heating Upgrade			0	0.0	66	\$614	\$6,144	\$402	\$0	\$402	0.7	7,707
ECM 11	Install Low-Flow DHW Devices	Yes	0	0.0	66	\$614	\$6,144	\$402	\$0	\$402	0.7	7,707
Food Service & Refrigeration Measures			2,534	0.3	0	\$296	\$2,554	\$1,140	\$50	\$1,090	3.7	2,552
ECM 12	Refrigerator/Freezer Case Electrically Commutated Motors	Yes	923	0.1	0	\$108	\$1,614	\$910	\$0	\$910	8.5	929
ECM 13	Vending Machine Control	Yes	1,612	0.2	0	\$188	\$940	\$230	\$50	\$180	1.0	1,623
TOTALS (COST EFFECTIVE MEASURES)			490,889	71.7	-9	\$57,171	\$827,137	\$118,275	\$12,137	\$106,138	1.9	493,248
TOTALS (ALL MEASURES)			494,832	71.9	65	\$58,326	\$847,925	\$193,658	\$17,432	\$176,226	3.0	505,931

ST. BARNABAS CORPORATE OFFICE

#	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		410,858	65.9	-35	\$44,783	\$671,740	\$116,903	\$18,315	\$98,588	2.2	409,595
ECM 1	Install LED Fixtures	241,955	21.3	0	\$26,532	\$397,978	\$42,977	\$4,330	\$38,647	1.5	243,647
ECM 2	Retrofit Fixtures with LED Lamps	168,903	44.7	-35	\$18,251	\$273,762	\$73,926	\$13,985	\$59,941	3.3	165,949
Lighting Control Measures		87,988	12.7	-9	\$9,580	\$76,643	\$49,684	\$3,320	\$46,364	4.8	87,563
ECM 3	Install Occupancy Sensor Lighting Controls	28,614	7.2	-6	\$3,092	\$24,735	\$30,184	\$3,320	\$26,864	8.7	28,114
ECM 4	Install Photocell Controls	45,516	3.5	0	\$4,991	\$39,929	\$6,450	\$0	\$6,450	1.3	45,834
ECM 5	Install High/Low Lighting Controls	13,858	2.0	-3	\$1,497	\$11,980	\$13,050	\$0	\$13,050	8.7	13,616
Motor Upgrades		10,333	1.2	0	\$1,133	\$16,996	\$16,294	\$0	\$16,294	14.4	10,405
ECM 6	Premium Efficiency Motors	10,333	1.2	0	\$1,133	\$16,996	\$16,294	\$0	\$16,294	14.4	10,405
Variable Frequency Drive (VFD) Measures		118,385	11.8	0	\$12,982	\$194,726	\$102,691	\$9,600	\$93,091	7.2	119,213
ECM 7	Install VFDs on Chilled Water Pumps	63,584	11.7	0	\$6,972	\$104,586	\$30,468	\$2,400	\$28,068	4.0	64,029
ECM 8	Install VFDs on Heating Water Pumps	12,816	1.6	0	\$1,405	\$21,080	\$15,536	\$0	\$15,536	11.1	12,905
ECM 9	Install VFDs on Cooling Tower Fans	41,985	-1.4	0	\$4,604	\$69,060	\$56,687	\$7,200	\$49,487	10.7	42,279
Electric Unitary HVAC Measures		12,801	1.1	0	\$1,404	\$21,056	\$8,977	\$552	\$8,425	6.0	12,891
ECM 10	Install High Efficiency Air Conditioning Units	12,801	1.1	0	\$1,404	\$21,056	\$8,977	\$552	\$8,425	6.0	12,891
Electric Chiller Replacement		93,207	27.8	0	\$10,221	\$204,416	\$68,255	\$7,200	\$61,055	6.0	93,859
ECM 11	Install High Efficiency Chillers	93,207	27.8	0	\$10,221	\$204,416	\$68,255	\$7,200	\$61,055	6.0	93,859
Gas Heating (HVAC/Process) Replacement		0	0.0	383	\$2,932	\$58,647	\$153,411	\$0	\$153,411	52.3	44,829
ECM 12	Install High Efficiency Hot Water Boilers	0	0.0	383	\$2,932	\$58,647	\$153,411	\$0	\$153,411	52.3	44,829

St. Barnabas Corporate Office

HVAC System Improvements		2,336	0.0	24	\$438	\$6,576	\$5,438	\$0	\$5,438	12.4	5,138
ECM 13	Implement Demand Control Ventilation (DCV)	2,336	0.0	24	\$438	\$6,576	\$5,438	\$0	\$5,438	12.4	5,138
Domestic Water Heating Upgrade		0	0.0	21	\$160	\$1,599	\$158	\$0	\$158	1.0	2,444
ECM 14	Install Low-Flow DHW Devices	0	0.0	21	\$160	\$1,599	\$158	\$0	\$158	1.0	2,444
Food Service & Refrigeration Measures		16,989	1.4	0	\$1,863	\$26,176	\$1,747	\$50	\$1,697	0.9	17,107
ECM 15	Refrigerator/Freezer Case Electrically Commutated Motors	15,377	1.2	0	\$1,686	\$25,292	\$1,517	\$0	\$1,517	0.9	15,484
ECM 16	Vending Machine Control	1,612	0.2	0	\$177	\$884	\$230	\$50	\$180	1.0	1,623
TOTALS (COST EFFECTIVE MEASURES)		742,564	120.8	0	\$81,431	\$1,202,932	\$353,852	\$39,037	\$314,815	3.9	747,812
TOTALS (ALL MEASURES)		752,897	122.0	383	\$85,496	\$1,278,574	\$523,557	\$39,037	\$484,520	5.7	803,046

CLARA MAASS MEDICAL 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		1,213,433	196.9	-237	\$139,367	\$2,090,505	\$362,778	\$51,840	\$310,938	2.2	1,194,182
ECM 1	Install LED Fixtures	98,752	16.6	0	\$11,441	\$171,612	\$77,312	\$3,420	\$73,892	6.5	99,442
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	15,313	2.3	-3	\$1,757	\$26,360	\$3,641	\$388	\$3,253	1.9	15,038
ECM 3	Retrofit Fixtures with LED Lamps	1,096,985	177.6	-233	\$125,895	\$1,888,429	\$278,639	\$48,032	\$230,607	1.8	1,077,361
ECM 4	Install LED Exit Signs	2,384	0.3	-1	\$274	\$4,104	\$3,186	\$0	\$3,186	11.6	2,341
Lighting Control Measures		294,856	47.0	-63	\$33,840	\$270,719	\$278,268	\$15,785	\$262,483	7.8	289,597
ECM 5	Install Occupancy Sensor Lighting Controls	206,642	33.7	-44	\$23,715	\$189,718	\$211,018	\$15,365	\$195,653	8.3	202,935
ECM 6	Install Daylight Dimming Controls	1,755	0.3	0	\$202	\$1,616	\$1,000	\$0	\$1,000	4.9	1,738
ECM 7	Install High/Low Lighting Controls	86,459	13.0	-18	\$9,923	\$79,384	\$66,250	\$420	\$65,830	6.6	84,924
Motor Upgrades		84,125	14.7	0	\$9,746	\$146,194	\$133,083	\$0	\$133,083	13.7	84,714
ECM 8	Premium Efficiency Motors	84,125	14.7	0	\$9,746	\$146,194	\$133,083	\$0	\$133,083	13.7	84,714
Variable Frequency Drive (VFD) Measures		380,785	93.2	0	\$44,116	\$661,734	\$255,994	\$23,005	\$232,989	5.3	383,448
ECM 9	Install VFD on Variable Air Volume (VAV) Fans	58,213	11.0	0	\$6,744	\$101,163	\$26,942	\$4,125	\$22,817	3.4	58,620
ECM 10	Install VFDs on Constant Volume (CV) Fans	79,627	16.8	0	\$9,225	\$138,377	\$39,352	\$4,480	\$34,872	3.8	80,184
ECM 11	Install VFDs on Chilled Water Pumps	175,374	58.2	0	\$20,318	\$304,768	\$131,060	\$14,400	\$116,660	5.7	176,601
ECM 12	Install VFDs on Heating Water Pumps	67,571	7.2	0	\$7,828	\$117,426	\$58,641	\$0	\$58,641	7.5	68,044
Electric Unitary HVAC Measures		47,155	18.7	0	\$5,463	\$81,946	\$280,721	\$5,750	\$274,971	50.3	47,484
ECM 13	Install High Efficiency Air Conditioning Units	44,094	17.7	0	\$5,108	\$76,627	\$261,573	\$5,100	\$256,473	50.2	44,402
ECM 14	Install High Efficiency PTAC/PTHP	3,061	1.0	0	\$355	\$5,319	\$19,148	\$650	\$18,498	52.2	3,082
Electric Chiller Replacement		37,810	21.7	0	\$4,380	\$87,610	\$144,541	\$7,080	\$137,461	31.4	38,075
ECM 15	Install High Efficiency Chillers	37,810	21.7	0	\$4,380	\$87,610	\$144,541	\$7,080	\$137,461	31.4	38,075

Clara Maass Medical Center

Domestic Water Heating Upgrade		32,085	4.5	3,357	\$20,924	\$303,204	\$108,256	\$6,367	\$101,889	4.9	425,326
ECM 16	Install High Efficiency Gas-Fired Water Heater	0	0.0	3,152	\$16,157	\$242,353	\$100,220	\$3,500	\$96,720	6.0	369,033
ECM 17	Install Gas-Fired Booster Water Heater	30,000	4.5	-164	\$2,636	\$39,537	\$6,086	\$2,867	\$3,219	1.2	11,028
ECM 18	Install Low-Flow DHW Devices	2,085	0.0	369	\$2,131	\$21,314	\$1,950	\$0	\$1,950	0.9	45,265
Food Service & Refrigeration Measures		73,355	7.3	1,365	\$15,495	\$183,371	\$106,827	\$9,254	\$97,573	6.3	233,675
ECM 19	Food Service Equipment Replacement	14,897	2.3	1,365	\$8,723	\$104,671	\$50,449	\$5,599	\$44,850	5.1	174,809
ECM 20	Refrigerator/Freezer Case Electrically Commutated Motors	6,759	0.6	0	\$783	\$11,746	\$6,673	\$880	\$5,793	7.4	6,806
ECM 21	Refrigeration Display Case Doors or Covers	3,018	0.3	0	\$350	\$4,196	\$1,338	\$200	\$1,138	3.3	3,039
ECM 22	Refrigeration Controls	15,336	0.2	0	\$1,777	\$28,427	\$19,733	\$1,125	\$18,608	10.5	15,443
ECM 23	Replace Refrigeration Equipment	18,516	2.1	0	\$2,145	\$25,741	\$24,724	\$1,000	\$23,724	11.1	18,645
ECM 24	Vending Machine Control	14,829	1.7	0	\$1,718	\$8,590	\$3,910	\$450	\$3,460	2.0	14,933
Custom Measures		223,990	0.0	3,801	\$45,436	\$472,780	\$950,500	\$43,109	\$907,391	20.0	670,635
ECM 25	Retro-Commissioning Study & HVAC Improvements	181,699	0.0	926	\$25,797	\$128,985	\$113,500	\$0	\$113,500	4.4	291,378
ECM 26	Installation of Smart Electric Sub Meters	42,291	0.0	0	\$4,900	\$48,996	\$20,000	\$0	\$20,000	4.1	42,587
ECM 27	Heating System Upgrades	0	0.0	2,875	\$14,740	\$294,800	\$817,000	\$43,109	\$773,891	52.5	336,671
TOTALS (COST EFFECTIVE MEASURES)		2,302,630	363.5	5,348	\$294,184	\$3,833,707	\$1,378,707	\$106,251	\$1,272,456	4.3	2,944,906
TOTALS (ALL MEASURES)		2,387,595	403.9	8,223	\$318,768	\$4,298,063	\$2,620,969	\$162,190	\$2,458,778	7.7	3,367,137

MONMOUTH MEDICAL CENTER SOUTHERN CAMPUS

#	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		846,359	102.3	-178	\$87,351	\$1,310,267	\$160,269	\$30,109	\$130,160	1.5	831,408
ECM 1	Install LED Fixtures	18,058	2.7	-2	\$1,873	\$28,097	\$19,330	\$2,570	\$16,760	8.9	17,958
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	24,541	2.8	-5	\$2,533	\$37,989	\$4,284	\$460	\$3,824	1.5	24,101
ECM 3	Retrofit Fixtures with LED Lamps	803,079	96.7	-171	\$82,875	\$1,243,127	\$135,787	\$27,079	\$108,708	1.3	788,680
ECM 4	Install LED Exit Signs	681	0.1	0	\$70	\$1,054	\$869	\$0	\$869	12.4	669
Lighting Control Measures		165,465	19.5	-35	\$17,075	\$136,603	\$95,175	\$7,490	\$87,685	5.1	162,496
ECM 5	Install Occupancy Sensor Lighting Controls	118,009	14.0	-25	\$12,178	\$97,425	\$59,400	\$7,490	\$51,910	4.3	115,891
ECM 6	Install High/Low Lighting Controls	47,456	5.5	-10	\$4,897	\$39,178	\$35,775	\$0	\$35,775	7.3	46,604
Motor Upgrades		3,681	0.8	0	\$384	\$5,757	\$4,814	\$0	\$4,814	12.5	3,707
ECM 7	Premium Efficiency Motors	3,681	0.8	0	\$384	\$5,757	\$4,814	\$0	\$4,814	12.5	3,707
Variable Frequency Drive (VFD) Measures		762,354	117.5	0	\$79,486	\$1,192,293	\$280,681	\$31,100	\$249,581	3.1	767,685
ECM 8	Install VFDs on Constant Volume (CV) Fans	112,858	28.0	0	\$11,767	\$176,506	\$63,043	\$7,400	\$55,643	4.7	113,647
ECM 9	Install VFDs on Chilled Water Pumps	539,264	80.1	0	\$56,226	\$843,389	\$149,966	\$21,300	\$128,666	2.3	543,035
ECM 10	Install VFDs on Heating Water Pumps	97,374	10.1	0	\$10,153	\$152,289	\$50,775	\$0	\$50,775	5.0	98,055
ECM 11	Install VFDs on Cooling Tower Fans	12,858	-0.7	0	\$1,341	\$20,109	\$16,897	\$2,400	\$14,497	10.8	12,948
Electric Unitary HVAC Measures		29,168	11.9	0	\$3,041	\$45,618	\$101,361	\$5,535	\$95,826	31.5	29,372
ECM 12	Install High Efficiency Air Conditioning Units	21,183	9.2	0	\$2,209	\$33,129	\$79,769	\$4,707	\$75,062	34.0	21,331
ECM 13	Install High Efficiency Heat Pumps	7,985	2.7	0	\$833	\$12,488	\$21,593	\$828	\$20,765	24.9	8,041
Electric Chiller Replacement		549,151	204.4	0	\$57,257	\$1,145,135	\$665,225	\$34,500	\$630,725	11.0	552,991
ECM 14	Install High Efficiency Chillers	549,151	204.4	0	\$57,257	\$1,145,135	\$665,225	\$34,500	\$630,725	11.0	552,991
Gas Heating (HVAC/Process) Replacement		0	0.0	2,170	\$10,880	\$217,590	\$579,687	\$0	\$579,687	53.3	254,036
ECM 15	Install High Efficiency Steam Boilers	0	0.0	2,170	\$10,880	\$217,590	\$579,687	\$0	\$579,687	53.3	254,036

MONMOUTH MEDICAL CENTER SOUTHERN CAMPUS

HVAC System Improvements		0	0.0	11	\$55	\$603	\$114	\$0	\$114	2.1	1,281
ECM 16	Install Pipe Insulation	0	0.0	11	\$55	\$603	\$114	\$0	\$114	2.1	1,281
Domestic Water Heating Upgrade		0	0.0	1,819	\$9,121	\$133,173	\$100,586	\$3,500	\$97,086	10.6	212,973
ECM 17	Install High Efficiency Gas-Fired Water Heater	0	0.0	1,674	\$8,393	\$125,893	\$100,220	\$3,500	\$96,720	11.5	195,973
ECM 18	Install Low-Flow DHW Devices	0	0.0	145	\$728	\$7,280	\$366	\$0	\$366	0.5	17,000
Food Service & Refrigeration Measures		50,190	4.3	0	\$5,233	\$73,655	\$31,519	\$1,255	\$30,264	5.8	50,541
ECM 19	Refrigerator/Freezer Case Electrically Commutated Motors	19,354	2.4	0	\$2,018	\$30,269	\$3,640	\$0	\$3,640	1.8	19,489
ECM 20	Refrigeration Controls	21,780	0.8	0	\$2,271	\$36,334	\$10,963	\$625	\$10,338	4.6	21,932
ECM 21	Replace Refrigeration Equipment	3,193	0.4	0	\$333	\$3,995	\$15,536	\$480	\$15,056	45.2	3,215
ECM 22	Vending Machine Control	5,863	0.7	0	\$611	\$3,057	\$1,380	\$150	\$1,230	2.0	5,904
Custom Measures		135,077	0.0	1,096	\$19,582	\$97,909	\$72,900	\$0	\$72,900	3.7	264,403
ECM 23	Rectro-Commission Study & HVAC Improvements	135,077	0.0	1,096	\$19,582	\$97,909.14	\$72,900	\$0	\$72,900	3.7	264,403
TOTALS (COST EFFECTIVE MEASURES)		2,509,085	448.4	2,713	\$275,211	\$4,091,401	\$1,395,747	\$107,474	\$1,288,273	4.7	2,844,268
TOTALS (ALL MEASURES)		2,541,446	460.7	4,882	\$289,465	\$4,358,604	\$2,092,331	\$113,489	\$1,978,842	6.8	3,130,892

Custom Measures for Future Consideration

- Replacement/Expansion of an Energy Management System
- Envelop Upgrades
- Medical Process System Improvements



SOLAR ENERGY GENERATION POTENTIAL

	St. Barnabas Behavioral Health	St. Barnabas Corporate Office	Clara Maass Medical Center	Monmouth Medical Center - SC
<i>Potential:</i>	HIGH	MEDIUM	HIGH	HIGH
<i>System Potential: (kW)</i>	140	570	976	859
<i>Electric Generation: (kWh per year)</i>	956,070	4,015,494	734,386	1,023,388
<i>Displaced Cost: (per year)</i>	\$63,449	\$272,652	\$85,080	\$106,700

SREC Registration Program (SRP):

<http://www.NJCleanEnergy.com/SREC>

**Community Solar Energy Pilot
Program:**

<http://www.NJCleanEnergy.com/CommunitySolar>



COMBINED HEAT & POWER POTENTIAL

	Clara Maass Medical Center	Monmouth Medical Center - SC
<i>Potential:</i>	HIGH	HIGH
<i>System Type:</i>	Recip Engine	Recip Engine
<i>System Potential: (kW)</i>	1,660	1,100
<i>Electric Generation: (kWh per year)</i>	13,532,027	8,971,600
<i>Thermal Generation: (MBtu per year)</i>	53,601,232	36,383,916
<i>Displaced Cost: (per year)</i>	\$1,435,201	\$765,917



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

Whole Buildings:

- **Pay for Performance**

Energy Generation:

- **Combined Heat and Power – Fuel Cells**

OTHER PROGRAMS

Renewable Energy Generation:

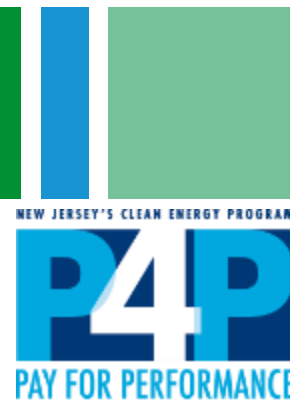
- **SREC Registration Program (SRP)**
- **Community Solar**

RECOMMENDED NJCEP INCENTIVES PER BUILDING

RWJ St. Barnabas Health	Pay For Performance	SmartStart	CTEEP	Combined Heat & Power
St. Barnabas Behavioral Health	X	X	X	
St. Barnabas Corporate Office	X	X	X	
Clara Maass Medical Center	X	X	X	X
Monmouth Medical Center Southern Campus	X	X	X	X

PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



What is P4P: Comprehensive, whole-building approach to saving energy in existing or new facilities.

Qualifications: Annual peak demand 200 kW+ in the previous year for existing buildings

About: Customer choose from a network of pre-approved ***Participating Partners***

Incentives:

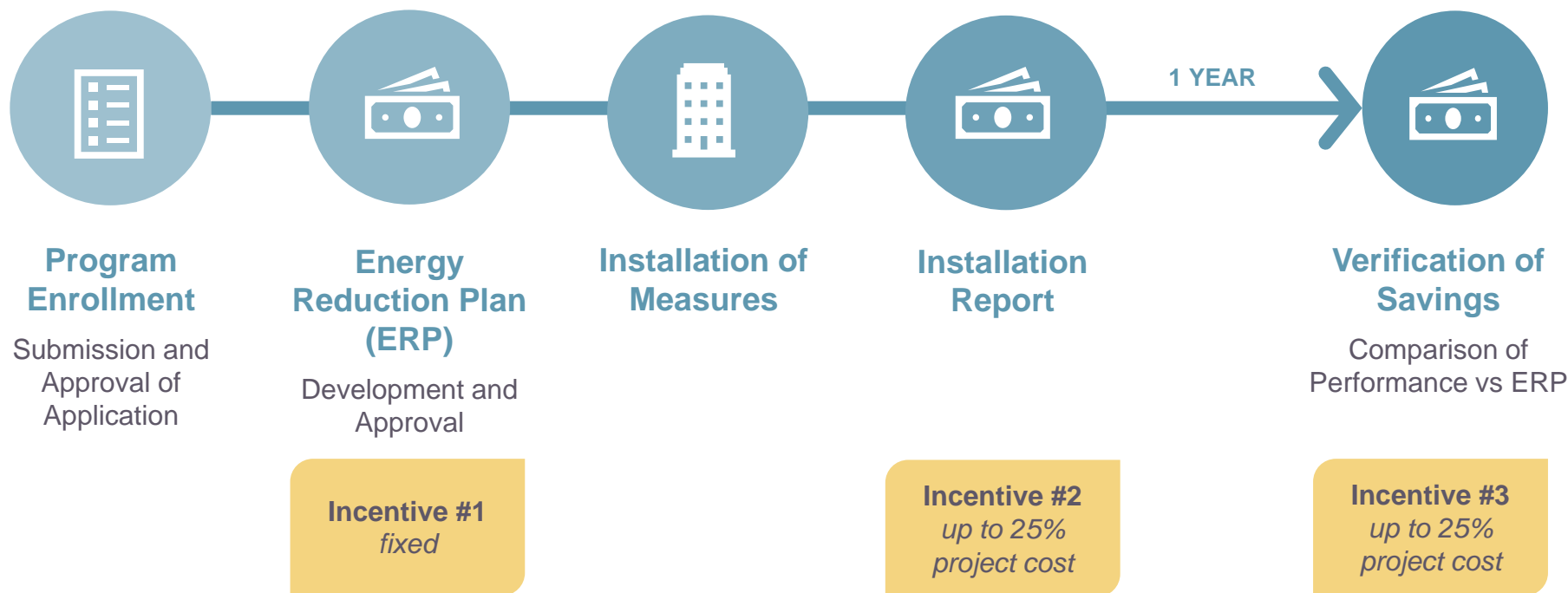
- Incentives paid in three installments
 - Up to \$2MM per project (\$4MM entity cap/year)
 - \$1 million for electric measures
 - \$1 million for gas measures
 - Up to 50% of project cost (or 80% for UEZ/OZ/ MUNI/K-12 Public Schools) up to \$2MM per project / \$4MM per entity annually

Incentive #2 & #3 are doubled for UEZ/OZ/ MUNI/K-12 Public Schools



PAY FOR PERFORMANCE

NJCleanEnergy.com/P4P



SMARTSTART

NJCleanEnergy.com/SSB

What is SSB: Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement

Qualifications: • All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- Prescriptive and custom designed measures
- Pre-approval required only for lighting projects with incentives >\$100,000 and all custom projects
- For measures not requiring pre-approval, applications must be submitted to the program within one year of purchase.

Incentives:

- Prescriptive: \$500,000 cap for each electric or gas account
- Custom, lesser of the following:
 - \$0.16/kWh and/or \$1.60/Therm saved annually
 - 50% of incremental installed cost
 - Buy-down to 1 year payback based on incremental cost and savings



SMARTSTART

NJCleanEnergy.com/SSB

Prescriptive Incentives

- Lighting & Lighting Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFD's
- Food Service
- Refrigeration

Prescriptive Only:

**DOUBLE
INCENTIVES FOR
OZ/UEZ/ MUNI/K-12
PUBLIC SCHOOLS**

Custom Incentives

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required

CUSTOMER TAILORED ENERGY EFFICIENCY PILOT

NJCleanEnergy.com/CTEEP

What is CTEEP: A streamlined/single application process for participants submitting multiple different technology types.

Qualifications:

- All C&I customer types contributing into the Societal Benefits Charge (SBC)

About:

- On site assistance available
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

Incentives:

- \$250,000 fiscal year entity cap
- Technical assistance incentives for custom project evaluation (up to \$10K)

**SAME INCENTIVE
VALUES AS
SMARTSTART**

SMARTSTART & CTEEP: FINANCING OPTION

- NJNG provides 0% financing options 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.



- Questions? Contact:

Jerry Ryan

Energy Efficiency Ops. Manager
New Jersey Natural Gas
732-433-4362 (cell)
732 378 4920 (office)
jryan@njng.com

COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

What is CHP: Combined Heat & Power (CHP) units generates electricity and recycle waste heat to provide heating and/or cooling

About:

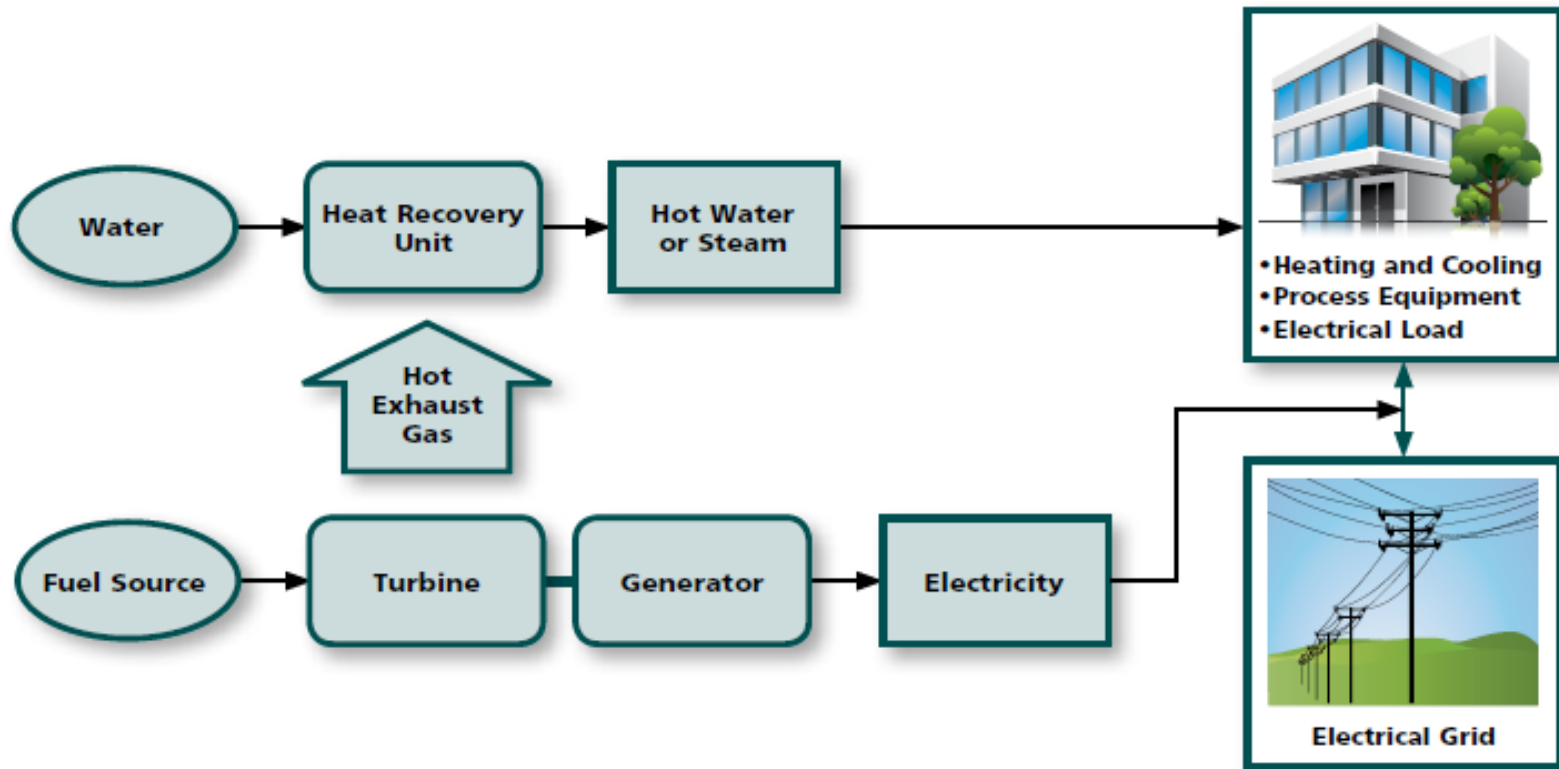
- Fuel Cells (FC) with or without heat recovery (HR)
- Resiliency with Return on Investment
- Technology-neutral incentives

Incentives:

- 30/50/20 Incentive payment
 - 30% when equipment purchased
 - 50% when system installed
 - 20% upon confirmation that the project is achieving the required performance

COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP



COMBINED HEAT & POWER - FUEL CELLS

NJCleanEnergy.com/CHP

Eligible Technology	Size (Installed Rated Capacity)	Incentive (\$/Watt) ⁽⁵⁾	% of Total Cost Cap per project	\$ Cap per project
CHP powered by non-renewable or renewable fuel source, or a combination ⁽⁴⁾ : <ul style="list-style-type: none"> • Gas Internal Combustion Engine • Gas Combustion Turbine • Microturbine 	≤500 kW ⁽¹⁾	\$2.00	30-40% ⁽²⁾	\$2 million
	>500 kW – 1 MW ⁽¹⁾	\$1.00		
	>1 MW – 3 MW ⁽¹⁾	\$0.55	30%	\$3 million
	Fuel Cell with Heat Recovery (FCHR)	>3 MW ⁽¹⁾		
Fuel Cell without Heat Recovery (FCwoHR)	Same as above ⁽¹⁾	Applicable amount above	30%	\$1 million
Waste Heat to Power (WHP) ⁽³⁾ Powered by non-renewable fuel source. Heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine)	≤1 MW ⁽¹⁾	\$1.00	30%	\$2 million
	>1 MW ⁽¹⁾	\$0.50	30%	\$3 million

Critical Facility/Blackstart bonus of 25%



FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (732) 855-0033

Mike Mandzik

Regional Outreach Manager

732.570.7534

mmandzik@trccompanies.com

QUESTIONS

