

# New Jersey's Clean Energy Program

LGEA Exit Meeting for:  
*Long Branch Board of Education*

Aimee Lalonde, TRC

September 20, 2017

# Introductions

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- Long Branch Board of Education
  - Peter Genovese
  - Ann Degnan
  - Gary Vecchione
- NJ Clean Energy Program – TRC & BPU
  - Auditor: Aimee Lalonde
  - Case Manager: Ashley Miller
  - ESIP / BPU: Gary Finger

# Agenda

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- Overview of LGEA process (application to deliverable)
- Energy use & existing conditions
- Review of Energy Conservation Measures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Long Branch Board of Education

# Process to Draft Report

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- Application submitted to NJCEP
- Site Visit Performed
- Utility Analysis
- Baseline Condition
- Analysis
- Recommendations
- Report

# Buildings Audited (10)

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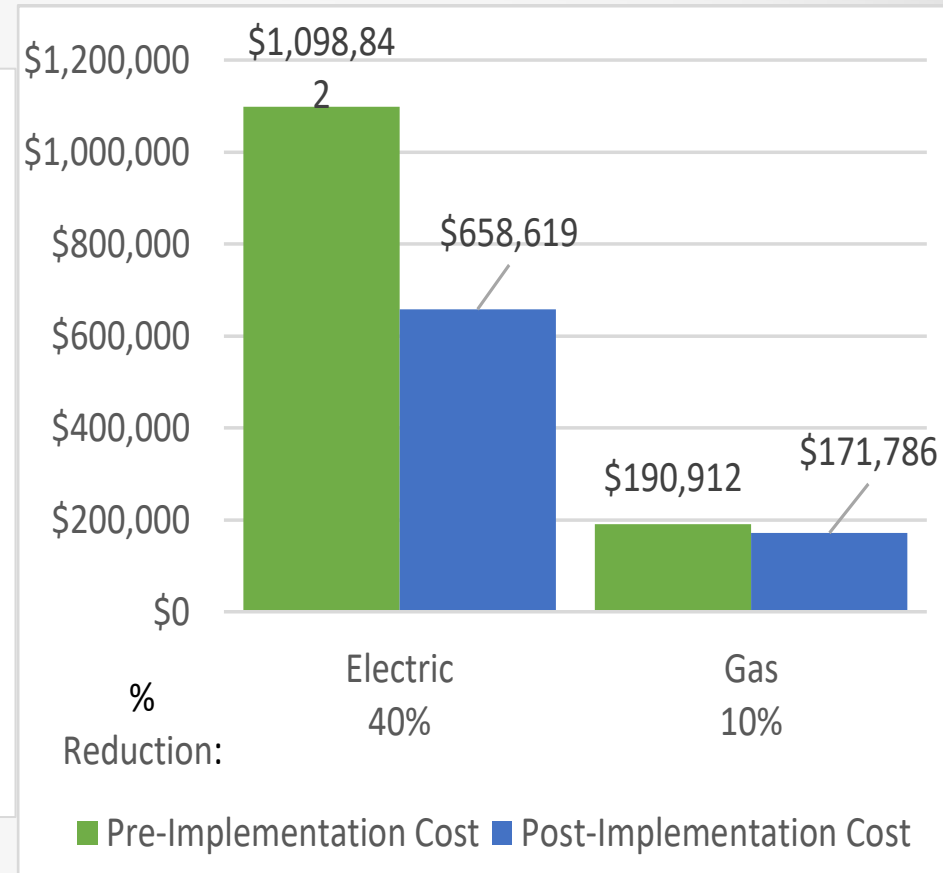
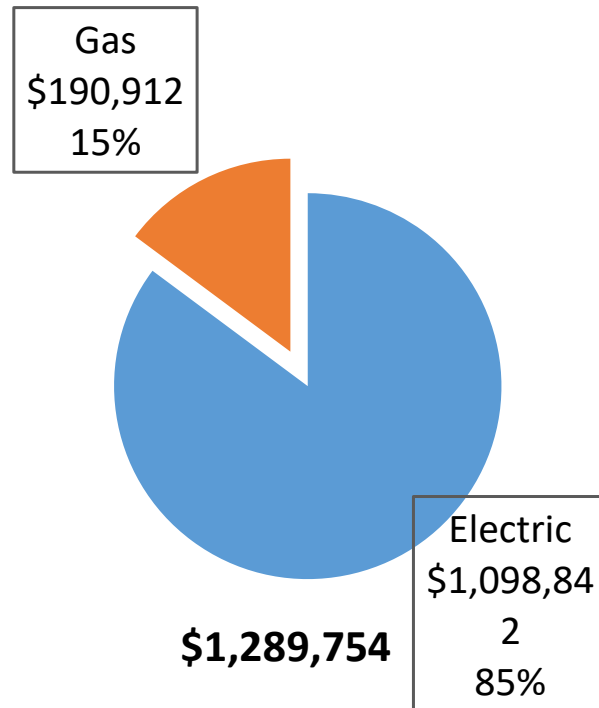
- Long Branch High School
- Long Branch Middle School
- Amerigo A. Anastasia School
- Gregory School
- George L. Catrambone School
- Morris Avenue School
- Audrey W. Clark School
- Lenna W. Conrow School
- JMF Early Childhood Learning Center
- Board of Education Office

	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 <sub>2</sub> e Emissions Reduction (lbs)
	<b>Lighting Upgrades</b>	<b>2,336,568</b>	<b>340.4</b>	<b>0.0</b>	<b>\$280,611</b>	<b>\$2,649,864</b>	<b>\$190,515</b>	<b>\$2,459,349</b>	<b>8.8</b>	<b>2,352,906</b>
ECM 1	Install LED Fixtures	739,682	58.3	0.0	\$88,654	\$1,235,264	\$63,885	\$1,171,379	13.2	744,854
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	1,342,463	244.2	0.0	\$161,953	\$1,300,360	\$125,130	\$1,175,230	7.3	1,351,850
ECM 3	Retrofit Fixtures with LED Lamps	254,423	37.9	0.0	\$30,004	\$114,240	\$1,500	\$112,740	3.8	256,202
	<b>Lighting Control Measures</b>	<b>264,290</b>	<b>45.2</b>	<b>0.0</b>	<b>\$31,611</b>	<b>\$207,544</b>	<b>\$24,385</b>	<b>\$183,159</b>	<b>5.8</b>	<b>266,138</b>
ECM 4	Install Occupancy Sensor Lighting Controls	264,167	45.2	0.0	\$31,586	\$207,484	\$24,385	\$183,099	5.8	266,014
ECM 5	Install Daylight Dimming Controls	124	0.0	0.0	\$25	\$60	\$0	\$60	2.4	125
	<b>Motor Upgrades</b>	<b>103,310</b>	<b>33.1</b>	<b>0.0</b>	<b>\$12,302</b>	<b>\$215,983</b>	<b>\$0</b>	<b>\$215,983</b>	<b>17.6</b>	<b>104,032</b>
ECM 6	Premium Efficiency Motors	103,310	33.1	0.0	\$12,302	\$215,983	\$0	\$215,983	17.6	104,032
	<b>Variable Frequency Drive (VFD) Measures</b>	<b>246,069</b>	<b>36.1</b>	<b>0.0</b>	<b>\$30,393</b>	<b>\$405,769</b>	<b>\$13,040</b>	<b>\$392,729</b>	<b>12.9</b>	<b>247,789</b>
ECM 7	Install VFD on Variable Air Volume (VAV) HVAC	2,005	0.9	0.0	\$399	\$6,760	\$0	\$6,760	16.9	2,019
ECM 8	Install VFDs on Constant Volume (CV) HVAC	29,953	6.5	0.0	\$3,604	\$283,439	\$1,640	\$281,799	78.2	30,162
ECM 9	Install VFDs on Chilled Water Pumps	123,995	18.3	0.0	\$14,623	\$62,318	\$9,600	\$52,718	3.6	124,862
ECM 10	Install VFDs on Hot Water Pumps	61,534	10.4	0.0	\$7,815	\$44,779	\$0	\$44,779	5.7	61,964
ECM 11	Install VFDs on Cooling Tower Fans	28,582	0.0	0.0	\$3,952	\$8,472	\$1,800	\$6,672	1.7	28,782
	<b>Electric Unitary HVAC Measures</b>	<b>202,594</b>	<b>91.0</b>	<b>0.0</b>	<b>\$23,170</b>	<b>\$633,007</b>	<b>\$40,003</b>	<b>\$593,004</b>	<b>25.6</b>	<b>204,010</b>
ECM 12	Install High Efficiency Electric AC	59,920	26.4	0.0	\$6,733	\$114,586	\$6,131	\$108,454	16.1	60,339
ECM 13	Install High Efficiency Heat Pumps	142,674	64.7	0.0	\$16,438	\$518,421	\$33,871	\$484,550	29.5	143,672
	<b>Electric Chiller Replacement</b>	<b>56,656</b>	<b>37.6</b>	<b>0.0</b>	<b>\$6,578</b>	<b>\$178,758</b>	<b>\$11,700</b>	<b>\$167,058</b>	<b>25.4</b>	<b>57,052</b>
ECM 14	Install High Efficiency Chillers	56,656	37.6	0.0	\$6,578	\$178,758	\$11,700	\$167,058	25.4	57,052
	<b>Gas Heating (HVAC/Process) Replacement</b>	<b>0</b>	<b>0.0</b>	<b>1,054.9</b>	<b>\$11,467</b>	<b>\$270,576</b>	<b>\$34,930</b>	<b>\$235,646</b>	<b>20.6</b>	<b>123,518</b>
ECM 15	Install High Efficiency Hot Water Boilers	0	0.0	963.3	\$10,379	\$245,653	\$25,730	\$219,923	21.2	112,788
ECM 16	Install High Efficiency Furnaces	0	0.0	91.6	\$1,088	\$24,923	\$9,200	\$15,723	14.5	10,730
	<b>HVAC System Improvements</b>	<b>11,452</b>	<b>0.5</b>	<b>67.9</b>	<b>\$2,252</b>	<b>\$29,154</b>	<b>\$5,800</b>	<b>\$23,354</b>	<b>10.4</b>	<b>19,488</b>
ECM 17	Install Programmable Thermostats	0	0.0	62.6	\$666	\$10,556	\$0	\$10,556	15.8	7,332
ECM 18	Install Occupancy-Controlled Thermostats	8,871	0.0	0.0	\$1,226	\$17,652	\$5,550	\$12,102	9.9	8,934
ECM 19	Install Dual Enthalpy Outside Economizer Control	2,164	0.5	0.0	\$251	\$750	\$250	\$500	2.0	2,179
ECM 20	Install Pipe Insulation	417	0.0	5.3	\$108	\$196	\$0	\$196	1.8	1,043
	<b>Domestic Water Heating Upgrade</b>	<b>114,140</b>	<b>6.8</b>	<b>177.7</b>	<b>\$13,690</b>	<b>\$103,166</b>	<b>\$540</b>	<b>\$102,626</b>	<b>7.5</b>	<b>138,750</b>
ECM 21	Install High Efficiency Gas Water Heater	107,407	6.8	-242.7	\$8,991	\$99,408	\$540	\$98,868	11.0	79,740
ECM 22	Install Low-Flow Domestic Hot Water Devices	6,733	0.0	420.5	\$4,688	\$3,758	\$0	\$3,758	0.8	56,010
	<b>Food Service Equipment &amp; Refrigeration Measures</b>	<b>23,953</b>	<b>2.6</b>	<b>0.0</b>	<b>\$2,818</b>	<b>\$32,337</b>	<b>\$125</b>	<b>\$32,212</b>	<b>11.4</b>	<b>24,121</b>
ECM 23	Replace Refrigeration Equipment	23,953	2.6	0.0	\$2,818	\$32,337	\$125	\$32,212	11.4	24,121
	<b>Plug Load Equipment Control - Vending Machine</b>	<b>18,355</b>	<b>0.0</b>	<b>0.0</b>	<b>\$2,097</b>	<b>\$3,910</b>	<b>\$0</b>	<b>\$3,910</b>	<b>1.9</b>	<b>18,483</b>
ECM 24	Vending Machine Control	18,355	0.0	0.0	\$2,097	\$3,910	\$0	\$3,910	1.9	18,483
	<b>Custom Measures</b>	<b>243,109</b>	<b>5.4</b>	<b>515.7</b>	<b>\$34,826</b>	<b>\$293,709</b>	<b>\$0</b>	<b>\$293,709</b>	<b>8.4</b>	<b>305,194</b>
ECM 25	Computer Power Management Software	67,738	0.0	0.0	\$8,211	\$39,760	\$0	\$39,760	4.8	68,211
ECM 26	Install an Ozone Laundry System	1,306	2.0	0.0	\$152	\$310	\$0	\$310	2.0	1,315
ECM 27	Retro-Commissioning Study & HVAC Improvements	105,981	0.0	194.3	\$14,823	\$133,346	\$0	\$133,346	9.0	129,476
ECM 28	Weather-Strip Exterior Doors	34,644	0.0	205.0	\$6,362	\$49,603	\$0	\$49,603	7.8	58,891
ECM 29	Replace Refrigerators with Compact Energy Star Equipment	23,026	3.4	0.0	\$2,786	\$8,050	\$0	\$8,050	2.9	23,187
ECM 30	Installation of an Energy Management System	10,414	0.0	116.4	\$2,491	\$62,640	\$0	\$62,640	25.1	24,114
	<b>TOTALS</b>	<b>3,620,497</b>	<b>698.8</b>	<b>1,816.3</b>	<b>\$481,814</b>	<b>\$5,023,775</b>	<b>\$321,038</b>	<b>\$4,702,737</b>	<b>10.4</b>	<b>3,858,481</b>

\* - 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).

# Long Branch BOE Totals – All Buildings





## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs



# (1) Long Branch 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>800,906</b>	<b>103.5</b>	<b>0.0</b>	<b>\$92,996.83</b>	<b>\$787,941.87</b>	<b>\$36,460.00</b>	<b>\$751,481.87</b>	<b>8.1</b>	<b>806,506</b>
ECM 1	Install LED Fixtures	Yes	309,556	16.4	0.0	\$35,943.98	\$447,821.83	\$4,800.00	\$443,021.83	12.3	311,721
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	334,898	61.8	0.0	\$38,886.57	\$288,216.17	\$30,570.00	\$257,646.17	6.6	337,240
ECM 3	Retrofit Fixtures with LED Lamps	Yes	153,471	24.9	0.0	\$17,820.17	\$50,066.38	\$1,090.00	\$48,976.38	2.7	154,544
<b>Lighting Control Measures</b>			<b>139,707</b>	<b>23.5</b>	<b>0.0</b>	<b>\$16,222.01</b>	<b>\$103,410.00</b>	<b>\$13,405.00</b>	<b>\$90,005.00</b>	<b>5.5</b>	<b>140,684</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	139,707	23.5	0.0	\$16,222.01	\$103,410.00	\$13,405.00	\$90,005.00	5.5	140,684
<b>Electric Unitary HVAC Measures</b>			<b>47,653</b>	<b>39.3</b>	<b>0.0</b>	<b>\$5,533</b>	<b>\$226,293</b>	<b>\$14,834</b>	<b>\$211,459</b>	<b>38.2</b>	<b>47,986</b>
ECM 5	Install High Efficiency Heat Pumps	Yes	47,653	39.3	0.0	\$5,533	\$226,293	\$14,834	\$211,459	38.2	47,986
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>182.7</b>	<b>\$1,494.31</b>	<b>\$2,359.60</b>	<b>\$0.00</b>	<b>\$2,359.60</b>	<b>1.6</b>	<b>21,390</b>
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	182.7	\$1,494.31	\$2,359.60	\$0.00	\$2,359.60	1.6	21,390
<b>Food Service Equipment &amp; Refrigeration Measures</b>			<b>5,583</b>	<b>0.6</b>	<b>0.0</b>	<b>\$648.27</b>	<b>\$4,232.80</b>	<b>\$0.00</b>	<b>\$4,232.80</b>	<b>6.5</b>	<b>5,622</b>
ECM 7	Remove/Replace Refrigeration Equipment	Yes	5,583	0.6	0.0	\$648.27	\$4,232.80	\$0.00	\$4,232.80	6.5	5,622
<b>Plug Load Equipment Control - Vending Machine</b>			<b>2,821</b>	<b>0.0</b>	<b>0.0</b>	<b>\$327.53</b>	<b>\$460.00</b>	<b>\$0.00</b>	<b>\$460.00</b>	<b>1.4</b>	<b>2,840</b>
ECM 8	Vending Machine Control	Yes	2,821	0.0	0.0	\$327.53	\$460.00	\$0.00	\$460.00	1.4	2,840
<b>Custom Measures</b>			<b>66,039</b>	<b>2.0</b>	<b>19.4</b>	<b>\$7,827.14</b>	<b>\$52,891.40</b>	<b>\$0.00</b>	<b>\$52,891.40</b>	<b>6.8</b>	<b>68,777</b>
ECM 9	Computer Power Management Software	Yes	14,025	0.0	0.0	\$1,628.49	\$8,500.00	\$0.00	\$8,500.00	5.2	14,123
ECM 10	Install an Ozone Laundry System	Yes	1,306	2.0	0.0	\$151.60	\$310.00	\$0.00	\$310.00	2.0	1,315
ECM 11	Retro-Commissioning Study & HVAC Improvements	Yes	44,091	0.0	13.0	\$5,225.59	\$37,706.40	\$0.00	\$37,706.40	7.2	45,917
ECM 12	Weather-Strip Exterior Doors	Yes	6,618	0.0	6.5	\$821.46	\$6,375.00	\$0.00	\$6,375.00	7.8	7,423
<b>TOTALS</b>			<b>1,062,709</b>	<b>168.9</b>	<b>202.1</b>	<b>\$125,049</b>	<b>\$1,177,589</b>	<b>\$64,699</b>	<b>\$1,112,889</b>	<b>8.9</b>	<b>1,093,806</b>

\* - 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).

## (2) Long Branch Middle 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>499,506</b>	<b>76.7</b>	<b>0.0</b>	<b>\$61,553.45</b>	<b>\$431,632.91</b>	<b>\$36,775.00</b>	<b>\$394,857.91</b>	<b>6.4</b>	<b>502,999</b>
ECM 1	Install LED Fixtures	Yes	79,547	11.2	0.0	\$9,802.51	\$68,016.99	\$6,230.00	\$61,786.99	6.3	80,104
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	360,717	57.1	0.0	\$44,450.61	\$333,306.33	\$30,545.00	\$302,761.33	6.8	363,239
ECM 3	Retrofit Fixtures with LED Lamps	Yes	59,242	8.4	0.0	\$7,300.33	\$30,309.59	\$0.00	\$30,309.59	4.2	59,656
<b>Lighting Control Measures</b>			<b>29,297</b>	<b>4.2</b>	<b>0.0</b>	<b>\$3,610.24</b>	<b>\$19,946.00</b>	<b>\$1,465.00</b>	<b>\$18,481.00</b>	<b>5.1</b>	<b>29,502</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	29,297	4.2	0.0	\$3,610.24	\$19,946.00	\$1,465.00	\$18,481.00	5.1	29,502
<b>Motor Upgrades</b>			<b>3,047</b>	<b>1.1</b>	<b>0.0</b>	<b>\$375.49</b>	<b>\$6,130.53</b>	<b>\$0.00</b>	<b>\$6,130.53</b>	<b>16.3</b>	<b>3,068</b>
ECM 5	Premium Efficiency Motors	Yes	3,047	1.1	0.0	\$375.49	\$6,130.53	\$0.00	\$6,130.53	16.3	3,068
<b>Electric Unitary HVAC Measures</b>			<b>73,436</b>	<b>24.9</b>	<b>0.0</b>	<b>\$9,049</b>	<b>\$287,590</b>	<b>\$18,853</b>	<b>\$268,737</b>	<b>29.7</b>	<b>73,949</b>
ECM 6	Install High Efficiency Heat Pumps	Yes	73,436	24.9	0.0	\$9,049	\$287,590	\$18,853	\$268,737	29.7	73,949
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>187.8</b>	<b>\$1,752.87</b>	<b>\$66,811.34</b>	<b>\$50.00</b>	<b>\$66,761.34</b>	<b>38.1</b>	<b>21,987</b>
ECM 7	Install High Efficiency Gas Water Heaters	Yes	0	0.0	50.1	\$468.01	\$66,080.00	\$50.00	\$66,030.00	141.1	5,870
ECM 8	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	137.6	\$1,284.86	\$731.34	\$0.00	\$731.34	0.6	16,116
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,612</b>	<b>0.0</b>	<b>0.0</b>	<b>\$198.62</b>	<b>\$460.00</b>	<b>\$0.00</b>	<b>\$460.00</b>	<b>2.3</b>	<b>1,623</b>
ECM 9	Vending Machine Control	Yes	1,612	0.0	0.0	\$198.62	\$460.00	\$0.00	\$460.00	2.3	1,623
<b>Custom Measures</b>			<b>54,847</b>	<b>0.0</b>	<b>12.0</b>	<b>\$6,870.49</b>	<b>\$39,599.80</b>	<b>\$0.00</b>	<b>\$39,599.80</b>	<b>5.8</b>	<b>56,633</b>
ECM 10	Computer Power Management Software	Yes	7,414	0.0	0.0	\$913.64	\$4,825.00	\$0.00	\$4,825.00	5.3	7,466
ECM 11	Retro-Commissioning Study & HVAC Improvements	Yes	42,697	0.0	8.0	\$5,336.07	\$28,279.80	\$0.00	\$28,279.80	5.3	43,931
ECM 12	Building Envelope Weatherization	Yes	4,735	0.0	4.0	\$620.79	\$6,495.00	\$0.00	\$6,495.00	10.5	5,236
<b>TOTALS</b>			<b>661,744</b>	<b>106.9</b>	<b>199.8</b>	<b>\$83,410.55</b>	<b>\$852,171</b>	<b>\$57,143</b>	<b>\$795,028</b>	<b>9.5</b>	<b>689,761</b>

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## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# (3) Amerigo A. Anastasia 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>271,447</b>	<b>40.2</b>	<b>0.0</b>	<b>\$32,221.10</b>	<b>\$329,356.84</b>	<b>\$27,615.00</b>	<b>\$301,741.84</b>	<b>9.4</b>	<b>273,345</b>
ECM 1	Install LED Fixtures	Yes	85,694	5.7	0.0	\$10,171.98	\$173,070.26	\$12,250.00	\$160,820.26	15.8	86,293
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	175,275	33.5	0.0	\$20,805.32	\$145,858.50	\$15,365.00	\$130,493.50	6.3	176,500
ECM 3	Retrofit Fixtures with LED Lamps	Yes	10,478	1.1	0.0	\$1,243.81	\$10,428.08	\$0.00	\$10,428.08	8.4	10,552
<b>Lighting Control Measures</b>			<b>14,037</b>	<b>2.2</b>	<b>0.0</b>	<b>\$1,666.21</b>	<b>\$13,040.00</b>	<b>\$760.00</b>	<b>\$12,280.00</b>	<b>7.4</b>	<b>14,135</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	14,037	2.2	0.0	\$1,666.21	\$13,040.00	\$760.00	\$12,280.00	7.4	14,135
<b>Motor Upgrades</b>			<b>35,938</b>	<b>9.8</b>	<b>0.0</b>	<b>\$4,265.93</b>	<b>\$69,489.70</b>	<b>\$0.00</b>	<b>\$69,489.70</b>	<b>16.3</b>	<b>36,190</b>
ECM 5	Install EC Motors in Unitary HVAC	Yes	35,938	9.8	0.0	\$4,265.93	\$69,489.70	\$0.00	\$69,489.70	16.3	36,190
<b>Variable Frequency Drive (VFD) Measures</b>			<b>70,320</b>	<b>10.8</b>	<b>0.0</b>	<b>\$8,347.13</b>	<b>\$41,789.60</b>	<b>\$4,800.00</b>	<b>\$36,989.60</b>	<b>4.4</b>	<b>70,812</b>
ECM 6	Install VFDs on Chilled Water Pumps	Yes	53,282	7.9	0.0	\$6,324.61	\$29,121.00	\$4,800.00	\$24,321.00	3.8	53,654
ECM 7	Install VFDs on Hot Water Pumps	Yes	17,039	2.9	0.0	\$2,022.51	\$12,668.60	\$0.00	\$12,668.60	6.3	17,158
<b>Electric Unitary HVAC Measures</b>			<b>1,638</b>	<b>0.3</b>	<b>0.0</b>	<b>\$194.46</b>	<b>\$2,992.44</b>	<b>\$184.00</b>	<b>\$2,808.44</b>	<b>14.4</b>	<b>1,650</b>
ECM 8	Install High Efficiency Electric AC	Yes	1,638	0.3	0.0	\$194.46	\$2,992.44	\$184.00	\$2,808.44	14.4	1,650
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>188.1</b>	<b>\$2,012.85</b>	<b>\$114,595.94</b>	<b>\$13,200.00</b>	<b>\$101,395.94</b>	<b>50.4</b>	<b>22,020</b>
	Install High Efficiency Hot Water Boilers	No	0	0.0	188.1	\$2,012.85	\$114,595.94	\$13,200.00	\$101,395.94	50.4	22,020
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>53.6</b>	<b>\$573.86</b>	<b>\$20,072.76</b>	<b>\$698.25</b>	<b>\$19,374.51</b>	<b>33.8</b>	<b>6,278</b>
	Install High Efficiency Gas Water Heater	No	0	0.0	32.0	\$342.16	\$19,993.89	\$698.25	\$19,295.64	56.4	3,743
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	21.6	\$231.70	\$78.87	\$0.00	\$78.87	0.3	2,535
<b>Food Service Equipment &amp; Refrigeration Measures</b>			<b>10,200</b>	<b>1.0</b>	<b>0.0</b>	<b>\$1,210.72</b>	<b>\$16,052.00</b>	<b>\$125.00</b>	<b>\$15,927.00</b>	<b>13.2</b>	<b>10,271</b>
ECM 10	Replace Refrigeration Equipment	Yes	10,200	1.0	0.0	\$1,210.72	\$16,052.00	\$125.00	\$15,927.00	13.2	10,271
<b>Plug Load Equipment Control - Vending Machine</b>			<b>3,224</b>	<b>0.0</b>	<b>0.0</b>	<b>\$382.65</b>	<b>\$460.00</b>	<b>\$0.00</b>	<b>\$460.00</b>	<b>1.2</b>	<b>3,246</b>
ECM 11	Vending Machine Control	Yes	3,224	0.0	0.0	\$382.65	\$460.00	\$0.00	\$460.00	1.2	3,246
<b>Custom Measures</b>			<b>145,328</b>	<b>0.0</b>	<b>90.9</b>	<b>\$14,315.52</b>	<b>\$631,854.80</b>	<b>\$0.00</b>	<b>\$631,854.80</b>	<b>44.1</b>	<b>156,986</b>
ECM 12	Computer Power Management Software	Yes	7,461	0.0	0.0	\$885.58	\$4,075.00	\$0.00	\$4,075.00	4.6	7,513
ECM 13	Weather-Strip Exterior Doors	Yes	7,839	0.0	12.2	\$1,061.27	\$2,500.00	\$0.00	\$2,500.00	2.4	9,324
	Install a Parking Lot Overhang PV System	No	123,401	0.0	0.0	\$10,740	\$597,000	\$0.00	\$597,000	55.6	124,264
ECM 14	Retro-Commissioning Study & HVAC Improvements	Yes	6,627	0.0	78.7	\$1,628.66	\$28,279.80	\$0.00	\$28,279.80	17.4	15,885
<b>TOTALS</b>			<b>552,132</b>	<b>64.3</b>	<b>332.6</b>	<b>\$65,190.43</b>	<b>\$1,239,704</b>	<b>\$47,382.25</b>	<b>\$1,192,322</b>	<b>18.3</b>	<b>594,932</b>

\* - 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).

<b>TOTALS (Recommended)</b>			<b>428,731</b>	<b>64.3</b>	<b>112.5</b>	<b>\$52,095.42</b>	<b>\$508,114.25</b>	<b>\$33,484.00</b>	<b>\$474,630.25</b>	<b>9.1</b>	<b>444,905</b>
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# (4) Gregory 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			225,788	31.9	0.0	\$26,513.95	\$261,572.24	\$24,575.00	\$236,997.24	8.9	227,366
ECM 1	Install LED Fixtures	Yes	47,718	3.8	0.0	\$5,603.46	\$115,600.17	\$10,200.00	\$105,400.17	18.8	48,052
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	168,153	27.2	0.0	\$19,745.96	\$135,651.50	\$14,375.00	\$121,276.50	6.1	169,329
ECM 3	Retrofit Fixtures with LED Lamps	Yes	9,917	0.9	0.0	\$1,164.53	\$10,320.58	\$0.00	\$10,320.58	8.9	9,986
<b>Lighting Control Measures</b>			13,173	1.9	0.0	\$1,546.90	\$13,040.00	\$760.00	\$12,280.00	7.9	13,265
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	13,173	1.9	0.0	\$1,546.90	\$13,040.00	\$760.00	\$12,280.00	7.9	13,265
<b>Motor Upgrades</b>			36,860	12.7	0.0	\$4,328.40	\$69,489.70	\$0.00	\$69,489.70	16.1	37,118
ECM 5	Install EC Motors in Unitary HVAC	Yes	36,860	12.7	0.0	\$4,328.40	\$69,489.70	\$0.00	\$69,489.70	16.1	37,118
<b>Variable Frequency Drive (VFD) Measures</b>			87,901	13.5	0.0	\$10,322.05	\$41,789.60	\$4,800.00	\$36,989.60	8.2	88,515
ECM 6	Install VFDs on Chilled Water System Pumps	Yes	66,602	9.9	0.0	\$7,821.01	\$29,121.00	\$4,800.00	\$24,321.00	3.1	67,068
ECM 7	Install VFDs on Hot Water Pumps	Yes	21,298	3.6	0.0	\$2,501.03	\$12,668.60	\$0.00	\$12,668.60	5.1	21,447
<b>Electric Unitary HVAC Measures</b>			2,002	0.5	0.0	\$235.13	\$2,992.44	\$184.00	\$2,808.44	11.9	2,016
ECM 8	Install High Efficiency Electric AC	Yes	2,002	0.5	0.0	\$235.13	\$2,992.44	\$184.00	\$2,808.44	11.9	2,016
<b>Gas Heating (HVAC/Process) Replacement</b>			0	0.0	198.2	\$2,371.44	\$114,595.94	\$13,200.00	\$101,395.94	42.8	23,210
	Install High Efficiency Hot Water Boilers	No	0	0.0	198.2	\$2,371.44	\$114,595.94	\$13,200.00	\$101,395.94	42.8	23,210
<b>Domestic Water Heating Upgrade</b>			0	0.0	47.4	\$567.43	\$20,072.76	\$698.25	\$19,374.51	34.1	5,554
	Install High Efficiency Gas Water Heater	No	0	0.0	32.0	\$382.45	\$19,993.89	\$698.25	\$19,295.64	50.5	3,743
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	15.5	\$184.98	\$78.87	\$0.00	\$78.87	0.4	1,810
<b>Food Service Equipment &amp; Refrigeration Measures</b>			8,171	0.9	0.0	\$959.45	\$12,052.00	\$0.00	\$12,052.00	12.6	8,228
ECM 10	Replace Refrigeration Equipment	Yes	8,171	0.9	0.0	\$959.45	\$12,052.00	\$0.00	\$12,052.00	12.6	8,228
<b>Plug Load Equipment Control - Vending Machine</b>			1,612	0.0	0.0	\$189.28	\$460.00	\$0.00	\$460.00	2.4	1,623
ECM 11	Vending Machine Control	Yes	1,612	0.0	0.0	\$189.28	\$460.00	\$0.00	\$460.00	2.4	1,623
<b>Custom Measures</b>			153,728	0.0	85.8	\$15,122.73	\$529,834.80	\$0.00	\$529,834.80	35.0	164,851
ECM 12	Computer Power Management Software	Yes	8,313	0.0	0.0	\$976.21	\$4,255.00	\$0.00	\$4,255.00	4.4	8,371
ECM 13	Weather-Strip Exterior Doors	Yes	7,839	0.0	12.9	\$1,074.59	\$2,500.00	\$0.00	\$2,500.00	2.3	9,402
	Install a Ground Mounted PV System	No	130,173	0.0	0.0	\$11,330	\$494,800	\$0.00	\$494,800	43.7	131,083
ECM 14	Retro-Commissioning Study & HVAC Improvements	Yes	7,402	0.0	72.9	\$1,741.93	\$28,279.80	\$0.00	\$28,279.80	16.2	15,995
<b>TOTALS</b>			529,234	61.5	331.5	\$62,156.75	\$1,065,899	\$44,217.25	\$1,021,682	16.4	571,746
* - 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).											
<b>TOTALS (Recommended)</b>			399,061	61.5	101.3	\$48,072.86	\$436,509.65	\$30,319.00	\$406,190.65	8.4	413,710

## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# (5) George L. Catrambone School



Energy Conservation Measure		Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Natural Gas Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>92,998</b>	<b>18.7</b>	<b>0.0</b>	<b>\$12,857.07</b>	<b>\$194,950.49</b>	<b>\$16,455.00</b>	<b>\$178,495.49</b>	<b>13.9</b>	<b>93,648</b>
ECM 1	Install LED Fixtures	Yes	46,368	4.8	0.0	\$6,410.47	\$112,684.96	\$9,500.00	\$103,184.96	16.1	46,692
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	44,170	13.1	0.0	\$6,106.53	\$77,159.00	\$6,805.00	\$70,354.00	11.5	44,479
ECM 3	Retrofit Fixtures with LED Lamps	Yes	2,460	0.9	0.0	\$340.08	\$5,106.54	\$150.00	\$4,956.54	14.6	2,477
<b>Lighting Control Measures</b>			<b>303</b>	<b>0.0</b>	<b>0.0</b>	<b>\$41.89</b>	<b>\$484.00</b>	<b>\$80.00</b>	<b>\$404.00</b>	<b>9.6</b>	<b>305</b>
ECM 4	Lighting Control Upgrades	Yes	303	0.0	0.0	\$41.89	\$464.00	\$80.00	\$384.00	9.2	305
<b>Motor Upgrades</b>			<b>11,365</b>	<b>3.8</b>	<b>0.0</b>	<b>\$1,571.24</b>	<b>\$45,318.28</b>	<b>\$0.00</b>	<b>\$45,318.28</b>	<b>28.8</b>	<b>11,445</b>
ECM 5	Install ECM Motors for Heat Pumps	Yes	17,363	6.4	0.0	\$2,400.51	\$49,126.23	\$0.00	\$49,126.23	20.5	17,485
<b>Variable Frequency Drive (VFD) Measures</b>			<b>34,580</b>	<b>2.6</b>	<b>0.0</b>	<b>\$4,780.78</b>	<b>\$12,280.00</b>	<b>\$2,786.67</b>	<b>\$9,493.33</b>	<b>2.0</b>	<b>34,822</b>
ECM 6	Install VFDs on Cooling Tower Fans	Yes	28,582	0.0	0.0	\$3,951.52	\$8,472.05	\$1,800.00	\$6,672.05	1.7	28,782
<b>HVAC System Improvements</b>			<b>8,871</b>	<b>0.0</b>	<b>0.0</b>	<b>\$1,226.49</b>	<b>\$17,651.96</b>	<b>\$5,550.00</b>	<b>\$12,101.96</b>	<b>9.9</b>	<b>8,934</b>
ECM 7	Install Occupancy-Controlled Thermostats	Yes	8,871	0.0	0.0	\$1,226.49	\$17,651.96	\$5,550.00	\$12,101.96	9.9	8,934
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,028</b>	<b>0.0</b>	<b>0.0</b>	<b>\$142.06</b>	<b>\$690.00</b>	<b>\$0.00</b>	<b>\$690.00</b>	<b>4.9</b>	<b>1,035</b>
ECM 8	Vending Machine Control	Yes	1,028	0.0	0.0	\$142.06	\$690.00	\$0.00	\$690.00	4.9	1,035
<b>Custom Measures</b>			<b>299,746</b>	<b>243.4</b>	<b>0.0</b>	<b>\$26,606.13</b>	<b>\$699,330.00</b>	<b>\$0.00</b>	<b>\$699,330.00</b>	<b>26.3</b>	<b>301,842</b>
	Roof Mounted PV System Installation	No	289,503	243.0	0.0	\$25,190.00	\$695,000.00	\$0.00	\$695,000.00	27.6	291,527
ECM 9	Computer Power Management Software	Yes	4,837	0.0	0.0	\$668.75	\$2,980.00	\$0.00	\$2,980.00	4.5	4,871
ECM 10	Replace Refrigerators with Compact Energy Star Equipment	Yes	3,425	0.4	0.0	\$473.48	\$350.00	\$0.00	\$350.00	0.7	3,449
ECM 11	Weatherstrip Exterior Doors	Yes	1,981	0.0	0.0	\$273.90	\$1,000.00	\$0.00	\$1,000.00	3.7	1,995
<b>TOTALS</b>			<b>448,892</b>	<b>268.5</b>	<b>0.0</b>	<b>\$47,225.67</b>	<b>\$970,704.74</b>	<b>\$24,871.67</b>	<b>\$945,833.07</b>	<b>20.0</b>	<b>452,030</b>

\* - 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).

<b>TOTALS (Recommended)</b>			<b>159,389</b>	<b>25.5</b>	<b>0.0</b>	<b>\$22,035.67</b>	<b>\$275,704.74</b>	<b>\$24,871.67</b>	<b>\$250,833.07</b>	<b>11.4</b>	<b>160,503</b>
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## Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs



# (6) Morris Avenue 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>128,934</b>	<b>16.1</b>	<b>0.0</b>	<b>\$14,970</b>	<b>\$178,062</b>	<b>\$11,115</b>	<b>\$166,947</b>	<b>11.2</b>	<b>129,836</b>
ECM 1	Install LED Fixtures	Yes	65,657	8.4	0.0	\$7,623	\$119,691	\$6,960	\$112,731	14.8	66,116
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	53,526	7.4	0.0	\$6,214	\$53,480	\$4,110	\$49,370	7.9	53,900
ECM 3	Retrofit Fixtures with LED Lamps	Yes	9,751	0.3	0.0	\$1,132	\$4,892	\$45	\$4,847	4.3	9,819
<b>Lighting Control Measures</b>			<b>15,324</b>	<b>2.2</b>	<b>0.0</b>	<b>\$1,779</b>	<b>\$14,282</b>	<b>\$2,140</b>	<b>\$12,142</b>	<b>6.8</b>	<b>15,431</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	15,324	2.2	0.0	\$1,779	\$14,282	\$2,140	\$12,142	6.8	15,431
<b>Variable Frequency Drive (VFD) Measures</b>			<b>23,759</b>	<b>3.2</b>	<b>0.0</b>	<b>\$2,758</b>	<b>\$85,745</b>	<b>\$800</b>	<b>\$84,945</b>	<b>30.8</b>	<b>23,925</b>
ECM 5	Install Unit Ventilators with EC Motors	Yes	21,906	3.0	0.0	\$2,543	\$158,084	\$0	\$158,084	62.2	22,059
ECM 6	Install VFDs on Chilled Water Pumps and Motor Upgrade	Yes	4,111	0.4	0.0	\$477	\$4,076	\$0	\$4,076	8.5	4,140
ECM 7	Install VFDs on Hot Water Pumps and Motor Upgrade	Yes	3,162	0.4	0.0	\$367	\$4,076	\$0	\$4,076	11.1	3,184
<b>Electric Unitary HVAC Measures</b>			<b>13,769</b>	<b>7.3</b>	<b>0.0</b>	<b>\$1,599</b>	<b>\$13,366</b>	<b>\$548</b>	<b>\$12,818</b>	<b>8.0</b>	<b>13,865</b>
ECM 8	Install High Efficiency Electric AC	Yes	13,769	7.3	0.0	\$1,599	\$13,366	\$548	\$12,818	8.0	13,865
<b>Electric Chiller Replacement</b>			<b>56,656</b>	<b>37.6</b>	<b>0.0</b>	<b>\$6,578</b>	<b>\$178,758</b>	<b>\$11,700</b>	<b>\$167,058</b>	<b>25.4</b>	<b>57,052</b>
ECM 9	Install High Efficiency Chillers	Yes	56,656	37.6	0.0	\$6,578	\$178,758	\$11,700	\$167,058	25.4	57,052
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>297.1</b>	<b>\$3,272</b>	<b>\$103,095</b>	<b>\$9,449</b>	<b>\$93,646</b>	<b>28.6</b>	<b>34,786</b>
ECM 10	Install High Efficiency Hot Water Boilers	Yes	0	0.0	297.1	\$3,272	\$103,095	\$9,449	\$93,646	28.6	34,786
<b>HVAC System Improvements</b>			<b>2,164</b>	<b>0.5</b>	<b>0.0</b>	<b>\$251</b>	<b>\$750</b>	<b>\$250</b>	<b>\$500</b>	<b>2.0</b>	<b>2,179</b>
ECM 11	Install Dual Enthalpy Outside Economizer Control	Yes	2,164	0.5	0.0	\$251	\$750	\$250	\$500	2.0	2,179
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>29.6</b>	<b>\$326</b>	<b>\$4,419</b>	<b>\$150</b>	<b>\$4,269</b>	<b>13.1</b>	<b>3,469</b>
	Install High Efficiency Gas Water Heater	No	0	0.0	14.2	\$156	\$4,340	\$150	\$4,190	26.9	1,658
ECM 12	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	15.5	\$170	\$79	\$0	\$79	0.5	1,810
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,612</b>	<b>0.0</b>	<b>0.0</b>	<b>\$187</b>	<b>\$460</b>	<b>\$0</b>	<b>\$460</b>	<b>2.5</b>	<b>1,623</b>
ECM 13	Vending Machine Control	Yes	1,612	0.0	0.0	\$187	\$460	\$0	\$460	2.5	1,623
<b>Custom Measures</b>			<b>45,926</b>	<b>0.7</b>	<b>1,770.3</b>	<b>\$24,829</b>	<b>\$1,024,243</b>	<b>\$0</b>	<b>\$1,024,243</b>	<b>41.3</b>	<b>253,529</b>
ECM 14	Computer Power Management Software	Yes	2,221	0.0	0.0	\$258	\$2,875	\$0	\$2,875	11.1	2,237
ECM 15	Replace Refrigeration Equipment with Smaller Energy Star Equipment	Yes	6,558	0.7	0.0	\$761	\$1,200	\$0	\$1,200	1.6	6,604
ECM 16	Blower Door Testing & Building Envelope Improvements	Yes	1,445	0.0	63.6	\$868	\$12,528	\$0	\$12,528	14.4	8,903
	Installation of VRF Systems	No	25,288	0.0	1,590.3	\$20,450	\$945,000	\$0	\$945,000	46.2	211,670
ECM 17	Installation of an Energy Management System	Yes	10,414	0.0	116.4	\$2,491	\$62,640	\$0	\$62,640	25.1	24,114
<b>TOTALS (Recommended)</b>			<b>262,857</b>	<b>67.7</b>	<b>492.6</b>	<b>\$35,943</b>	<b>\$653,839</b>	<b>\$36,002</b>	<b>\$617,838</b>	<b>17.2</b>	<b>322,367</b>

\* - 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).

## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# (7) Audrey W. Clark 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>52,204</b>	<b>14.4</b>	<b>0.0</b>	<b>\$10,372.40</b>	<b>\$124,690.01</b>	<b>\$9,600.00</b>	<b>\$115,090.01</b>	<b>11.1</b>	<b>52,569</b>
ECM 1	Install LED Fixtures	Yes	16,206	3.3	0.0	\$3,227.67	\$56,829.42	\$3,800.00	\$53,029.42	16.4	16,320
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	35,677	11.0	0.0	\$7,105.51	\$67,591.83	\$5,800.00	\$61,791.83	8.7	35,927
ECM 3	Retrofit Fixtures with LED Lamps	Yes	197	0.1	0.0	\$39.21	\$268.77	\$0.00	\$268.77	6.9	198
<b>Lighting Control Measures</b>			<b>11,190</b>	<b>3.4</b>	<b>0.0</b>	<b>\$2,228.62</b>	<b>\$11,510.00</b>	<b>\$1,115.00</b>	<b>\$10,395.00</b>	<b>4.7</b>	<b>11,268</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	11,066	3.4	0.0	\$2,203.97	\$11,450.00	\$1,115.00	\$10,335.00	4.7	11,144
ECM 5	Install Photocell Controls	Yes	124	0.0	0.0	\$24.65	\$60.00	\$0.00	\$60.00	2.4	125
<b>Motor Upgrades</b>			<b>287</b>	<b>0.2</b>	<b>0.0</b>	<b>\$57.12</b>	<b>\$3,596.76</b>	<b>\$0.00</b>	<b>\$3,596.76</b>	<b>63.0</b>	<b>289</b>
ECM 6	Replace Exhaust Fan Motors	Yes	287	0.2	0.0	\$57.12	\$3,596.76	\$0.00	\$3,596.76	63.0	289
<b>Variable Frequency Drive (VFD) Measures</b>			<b>8,622</b>	<b>2.9</b>	<b>0.0</b>	<b>\$1,717.24</b>	<b>\$63,368.80</b>	<b>\$533.33</b>	<b>\$62,835.47</b>	<b>36.6</b>	<b>8,683</b>
ECM 7	Install VFD on AHU Supply Fans and Upgrade Motors	Yes	2,005	0.9	0.0	\$399.24	\$6,760.31	\$0.00	\$6,760.31	16.9	2,019
ECM 8	Install Unit Ventilators with EC Motors	Yes	1,126	0.7	0.0	\$224.31	\$112,188.56	\$0.00	\$112,188.56	500	1,134
ECM 9	Install VFDs on Hot Water Pumps and Motor Upgrade	Yes	6,431	1.6	0.0	\$1,280.77	\$8,152.44	\$0.00	\$8,152.44	6.4	6,476
<b>Electric Unitary HVAC Measures</b>			<b>1,251</b>	<b>0.4</b>	<b>0.0</b>	<b>\$249.24</b>	<b>\$2,992.44</b>	<b>\$184.00</b>	<b>\$2,808.44</b>	<b>11.3</b>	<b>1,260</b>
ECM 10	Install High Efficiency Electric AC	Yes	1,251	0.4	0.0	\$249.24	\$2,992.44	\$184.00	\$2,808.44	11.3	1,260
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>227.6</b>	<b>\$2,438.74</b>	<b>\$65,816.27</b>	<b>\$7,581.20</b>	<b>\$58,235.07</b>	<b>23.9</b>	<b>26,646</b>
ECM 11	Install High Efficiency Hot Water Boilers	Yes	0	0.0	227.6	\$2,438.74	\$65,816.27	\$7,581.20	\$58,235.07	23.9	26,646
<b>HVAC System Improvements</b>			<b>0</b>	<b>0.0</b>	<b>1.8</b>	<b>\$18.92</b>	<b>\$43.50</b>	<b>\$0.00</b>	<b>\$43.50</b>	<b>2.3</b>	<b>207</b>
ECM 12	Install Pipe Insulation	Yes	0	0.0	1.8	\$18.92	\$43.50	\$0.00	\$43.50	2.3	207
<b>Domestic Water Heating Upgrade</b>			<b>14,052</b>	<b>1.4</b>	<b>-28.6</b>	<b>\$2,492.04</b>	<b>\$8,136.80</b>	<b>\$50.00</b>	<b>\$8,086.80</b>	<b>3.2</b>	<b>10,801</b>
ECM 13	Install High Efficiency Gas Water Heater	Yes	14,052	1.4	-47.9	\$2,284.76	\$8,022.08	\$50.00	\$7,972.08	3.5	8,536
ECM 14	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	19.3	\$207.27	\$114.72	\$0.00	\$114.72	0.6	2,265
<b>Custom Measures</b>			<b>-51,756</b>	<b>0.2</b>	<b>1,715.5</b>	<b>\$8,075.11</b>	<b>\$402,290.00</b>	<b>\$0.00</b>	<b>\$402,290.00</b>	<b>49.8</b>	<b>148,740</b>
ECM 15	Computer Power Management Software	Yes	2,416	0.0	0.0	\$481.14	\$3,010.00	\$0.00	\$3,010.00	6.3	2,433
ECM 16	Replace Refrigeration Equipment with Smaller Energy Star Equipment	Yes	2,035	0.2	0.0	\$405.33	\$1,300.00	\$0.00	\$1,300.00	3.2	2,049
ECM 17	Blower Door Testing & Building Envelope Improvements	Yes	667	0.0	76.1	\$948.58	\$13,830.00	\$0.00	\$13,830.00	14.6	9,585
	Installation of an Energy Management System	No	666	0.0	116.6	\$1,381.79	\$69,150.00	\$0.00	\$69,150.00	50.0	14,319
	Installation of VRF Systems (Optional)	No	-57,540	0.0	1,522.8	\$4,858.27	\$315,000.00	\$0.00	\$315,000.00	64.8	120,354
<b>TOTALS</b>			<b>93,390</b>	<b>22.8</b>	<b>393.4</b>	<b>\$22,791.14</b>	<b>\$367,444.58</b>	<b>\$19,063.53</b>	<b>\$348,381.05</b>	<b>15.3</b>	<b>140,110</b>

\* - 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).

<b>TOTALS (Recommended)</b>			<b>92,724</b>	<b>22.8</b>	<b>276.9</b>	<b>\$21,409.35</b>	<b>\$298,294.58</b>	<b>\$19,063.53</b>	<b>\$279,231.05</b>	<b>13.0</b>	<b>125,790</b>
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## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# (8) Lenna W. Conrow 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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>86,618</b>	<b>14.6</b>	<b>0.0</b>	<b>\$7,444.52</b>	<b>\$115,855.91</b>	<b>\$10,545.00</b>	<b>\$105,310.91</b>	<b>14.1</b>	<b>87,223</b>
ECM 1	Install LED Fixtures	Yes	25,839	1.8	0.0	\$2,220.80	\$42,445.37	\$4,215.00	\$38,230.37	17.2	26,020
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	57,298	12.0	0.0	\$4,924.60	\$72,658.00	\$6,280.00	\$66,378.00	13.5	57,699
ECM 3	Retrofit Fixtures with LED Lamps	Yes	3,480	0.8	0.0	\$299.13	\$752.54	\$50.00	\$702.54	2.3	3,505
<b>Lighting Control Measures</b>			<b>14,062</b>	<b>2.9</b>	<b>0.0</b>	<b>\$1,208.57</b>	<b>\$11,228.00</b>	<b>\$1,520.00</b>	<b>\$9,708.00</b>	<b>8.0</b>	<b>14,160</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	14,062	2.9	0.0	\$1,208.57	\$11,228.00	\$1,520.00	\$9,708.00	8.0	14,160
<b>Motor Upgrades</b>			<b>8,920</b>	<b>2.7</b>	<b>0.0</b>	<b>\$766.64</b>	<b>\$14,755.56</b>	<b>\$0.00</b>	<b>\$14,755.56</b>	<b>19.2</b>	<b>8,982</b>
ECM 5	Install ECM Motors on Unitary HVAC Equipment	Yes	8,920	2.7	0.0	\$766.64	\$14,755.56	\$0.00	\$14,755.56	19.2	8,982
<b>Electric Unitary HVAC Measures</b>			<b>37,528</b>	<b>6.2</b>	<b>0.0</b>	<b>\$3,225.41</b>	<b>\$14,823.20</b>	<b>\$626.37</b>	<b>\$14,196.84</b>	<b>4.4</b>	<b>37,790</b>
ECM 6	Install High Efficiency Electric AC	Yes	15,943	5.6	0.0	\$1,370.21	\$10,285.28	\$442.37	\$9,842.92	7.2	16,054
ECM 7	Install High Efficiency Heat Pumps	Yes	21,585	0.5	0.0	\$1,855.20	\$4,537.92	\$184.00	\$4,353.92	2.3	21,736
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>307.1</b>	<b>\$3,266.91</b>	<b>\$62,339.86</b>	<b>\$6,700.00</b>	<b>\$55,639.86</b>	<b>17.0</b>	<b>35,953</b>
ECM 8	Install High Efficiency Hot Water Boilers	Yes	0	0.0	307.1	\$3,266.91	\$62,339.86	\$6,700.00	\$55,639.86	17.0	35,953
<b>HVAC System Improvements</b>			<b>0</b>	<b>0.0</b>	<b>66.2</b>	<b>\$704.08</b>	<b>\$10,664.59</b>	<b>\$0.00</b>	<b>\$10,664.59</b>	<b>15.1</b>	<b>7,748</b>
ECM 9	Install Remote Mounted Thermostatic Radiator Valves	Yes	0	0.0	62.6	\$666.22	\$10,555.84	\$0.00	\$10,555.84	15.8	7,332
ECM 10	Install Pipe Insulation	Yes	0	0.0	3.6	\$37.86	\$108.75	\$0.00	\$108.75	2.9	417
<b>Domestic Water Heating Upgrade</b>			<b>68,033</b>	<b>4.1</b>	<b>-203.9</b>	<b>\$3,677.62</b>	<b>\$10,285.88</b>	<b>\$150.00</b>	<b>\$10,135.88</b>	<b>2.8</b>	<b>44,632</b>
ECM 11	Install High Efficiency Gas Water Heater	Yes	68,033	4.1	-232.1	\$3,377.51	\$10,085.12	\$150.00	\$9,935.12	2.9	41,329
ECM 12	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	28.2	\$300.11	\$200.76	\$0.00	\$200.76	0.7	3,303
<b>Plug Load Equipment Control - Vending Machine</b>			<b>3,224</b>	<b>0.0</b>	<b>0.0</b>	<b>\$277.07</b>	<b>\$460.00</b>	<b>\$0.00</b>	<b>\$460.00</b>	<b>1.7</b>	<b>3,246</b>
ECM 13	Vending Machine Control	Yes	3,224	0.0	0.0	\$277.07	\$460.00	\$0.00	\$460.00	1.7	3,246
<b>Custom Measures</b>			<b>11,686</b>	<b>0.6</b>	<b>14.0</b>	<b>\$1,153.28</b>	<b>\$5,225.00</b>	<b>\$0.00</b>	<b>\$5,225.00</b>	<b>4.5</b>	<b>13,406</b>
ECM 14	Computer Power Management Software	Yes	4,755	0.0	0.0	\$408.72	\$2,950.00	\$0.00	\$2,950.00	7.2	4,789
ECM 15	Replace Refrigeration Equipment with Smaller Energy Star Equipment	Yes	5,405	0.6	0.0	\$464.58	\$650.00	\$0.00	\$650.00	1.4	5,443
ECM 16	Weather-Strip Exterior Doors	Yes	1,526	0.0	14.0	\$279.98	\$1,625.00	\$0.00	\$1,625.00	5.8	3,174
<b>TOTALS</b>			<b>230,070</b>	<b>31.0</b>	<b>183.3</b>	<b>\$21,724.10</b>	<b>\$245,638.00</b>	<b>\$19,541.37</b>	<b>\$226,096.64</b>	<b>10.4</b>	<b>253,142</b>

\* - 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).

## **Overview of Systems, Baseline & Existing Conditions:**

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems

## **Utility Consumption:**

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

# (9) JMF Early Childhood Learning Center



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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>108,115</b>	<b>15.4</b>	<b>0.0</b>	<b>\$13,065.48</b>	<b>\$151,776.49</b>	<b>\$12,625.00</b>	<b>\$139,151.49</b>	<b>10.7</b>	<b>108,871</b>
ECM 1	Install LED Fixtures	Yes	48,218	2.7	0.0	\$5,827.08	\$70,940.98	\$5,530.00	\$65,410.98	11.2	48,556
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	59,753	12.7	0.0	\$7,220.99	\$80,513.00	\$7,095.00	\$73,418.00	10.2	60,171
ECM 3	Retrofit Fixtures with LED Lamps	Yes	144	0.0	0.0	\$17.40	\$322.52	\$0.00	\$322.52	18.5	145
<b>Lighting Control Measures</b>			<b>15,022</b>	<b>3.2</b>	<b>0.0</b>	<b>\$1,815.38</b>	<b>\$7,728.00</b>	<b>\$1,240.00</b>	<b>\$6,488.00</b>	<b>3.6</b>	<b>15,127</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	15,022	3.2	0.0	\$1,815.38	\$7,728.00	\$1,240.00	\$6,488.00	3.6	15,127
<b>Motor Upgrades</b>			<b>894</b>	<b>0.3</b>	<b>0.0</b>	<b>\$108.10</b>	<b>\$3,394.32</b>	<b>\$0.00</b>	<b>\$3,394.32</b>	<b>31.4</b>	<b>901</b>
ECM 5	Premium Efficiency Motors	Yes	894	0.3	0.0	\$108.10	\$3,394.32	\$0.00	\$3,394.32	31.4	901
<b>Variable Frequency Drive (VFD) Measures</b>			<b>20,525</b>	<b>4.6</b>	<b>0.0</b>	<b>\$2,480.38</b>	<b>\$20,379.75</b>	<b>\$1,640.00</b>	<b>\$18,739.75</b>	<b>7.6</b>	<b>20,668</b>
ECM 6	Install VFDs on Constant Volume (CV) HVAC	Yes	6,921	2.8	0.0	\$836.37	\$13,166.15	\$1,640.00	\$11,526.15	13.8	6,969
ECM 7	Install VFDs on Hot Water Pumps	Yes	13,604	1.9	0.0	\$1,644.01	\$7,213.60	\$0.00	\$7,213.60	4.4	13,699
<b>Electric Unitary HVAC Measures</b>			<b>10,020</b>	<b>7.2</b>	<b>0.0</b>	<b>\$1,210.88</b>	<b>\$43,055.58</b>	<b>\$2,197.50</b>	<b>\$40,858.08</b>	<b>33.7</b>	<b>10,090</b>
ECM 8	Install High Efficiency Electric AC	Yes	10,020	7.2	0.0	\$1,210.88	\$43,055.58	\$2,197.50	\$40,858.08	33.7	10,090
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>131.6</b>	<b>\$1,401.52</b>	<b>\$14,402.05</b>	<b>\$2,000.00</b>	<b>\$12,402.05</b>	<b>8.8</b>	<b>15,403</b>
ECM 9	Install High Efficiency Hot Water Boilers	Yes	0	0.0	131.6	\$1,401.52	\$14,402.05	\$2,000.00	\$12,402.05	8.8	15,403
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>73.6</b>	<b>\$784.42</b>	<b>\$6,934.80</b>	<b>\$240.00</b>	<b>\$6,694.80</b>	<b>8.5</b>	<b>8,621</b>
ECM 10	Install High Efficiency Gas Water Heater	Yes	0	0.0	73.6	\$784.42	\$6,934.80	\$240.00	\$6,694.80	8.5	8,621
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,612</b>	<b>0.0</b>	<b>0.0</b>	<b>\$194.79</b>	<b>\$230.00</b>	<b>\$0.00</b>	<b>\$230.00</b>	<b>1.2</b>	<b>1,623</b>
ECM 11	Vending Machine Control	Yes	1,612	0.0	0.0	\$194.79	\$230.00	\$0.00	\$230.00	1.2	1,623
<b>Custom Measures</b>			<b>6,906</b>	<b>0.4</b>	<b>13.3</b>	<b>\$976.44</b>	<b>\$9,080.00</b>	<b>\$0.00</b>	<b>\$9,080.00</b>	<b>9.3</b>	<b>8,513</b>
ECM 12	Computer Power Management Software	Yes	3,266	0.0	0.0	\$394.73	\$2,905.00	\$0.00	\$2,905.00	7.4	3,289
ECM 13	Replace Refrigeration Equipment with Smaller Energy Star Equipment	Yes	2,818	0.4	0.0	\$340.56	\$4,050.00	\$0.00	\$4,050.00	11.9	2,838
ECM 14	Weather-Strip Exterior Doors	Yes	822	0.0	13.3	\$241.14	\$2,125.00	\$0.00	\$2,125.00	8.8	2,386
<b>TOTALS</b>			<b>163,094</b>	<b>31.1</b>	<b>218.5</b>	<b>\$22,037.39</b>	<b>\$256,980.99</b>	<b>\$19,942.50</b>	<b>\$237,038.49</b>	<b>10.8</b>	<b>189,818</b>

\* - 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).

## Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Domestic Hot Water Systems
- PV Systems

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs



# (10) Board of Education Office



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 <sub>2</sub> e Emissions Reduction (lbs)
<b>Lighting Upgrades</b>			<b>73,157</b>	<b>9.4</b>	<b>0.0</b>	<b>\$8,962.53</b>	<b>\$75,862.50</b>	<b>\$4,750.00</b>	<b>\$71,112.50</b>	<b>7.9</b>	<b>73,668</b>
ECM 1	Install LED Fixtures	Yes	14,877	0.3	0.0	\$1,822.65	\$28,162.65	\$400.00	\$27,762.65	15.2	14,981
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	52,997	8.5	0.0	\$6,492.72	\$45,926.00	\$4,185.00	\$41,741.00	6.4	53,368
ECM 3	Retrofit Fixtures with LED Lamps	Yes	5,282	0.6	0.0	\$647.16	\$1,773.85	\$165.00	\$1,608.85	2.5	5,319
<b>Lighting Control Measures</b>			<b>12,175</b>	<b>1.8</b>	<b>0.0</b>	<b>\$1,491.58</b>	<b>\$12,896.00</b>	<b>\$1,900.00</b>	<b>\$10,996.00</b>	<b>7.4</b>	<b>12,260</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	12,175	1.8	0.0	\$1,491.58	\$12,896.00	\$1,900.00	\$10,996.00	7.4	12,260
<b>Electric Unitary HVAC Measures</b>			<b>15,297</b>	<b>5.0</b>	<b>0.0</b>	<b>\$1,874.03</b>	<b>\$38,901.72</b>	<b>\$2,392.00</b>	<b>\$36,509.72</b>	<b>19.5</b>	<b>15,404</b>
ECM 5	Install High Efficiency Electric AC	Yes	15,297	5.0	0.0	\$1,874.03	\$38,901.72	\$2,392.00	\$36,509.72	19.5	15,404
<b>Gas Heating (HVAC/Process) Replacement</b>			<b>0</b>	<b>0.0</b>	<b>91.6</b>	<b>\$1,087.79</b>	<b>\$24,923.07</b>	<b>\$9,200.00</b>	<b>\$15,723.07</b>	<b>14.5</b>	<b>10,730</b>
ECM 6	Install High Efficiency Furnaces	Yes	0	0.0	91.6	\$1,087.79	\$24,923.07	\$9,200.00	\$15,723.07	14.5	10,730
<b>HVAC System Improvements</b>			<b>417</b>	<b>0.0</b>	<b>0.0</b>	<b>\$51.10</b>	<b>\$43.50</b>	<b>\$0.00</b>	<b>\$43.50</b>	<b>0.9</b>	<b>420</b>
ECM 7	Install Pipe Insulation	Yes	417	0.0	0.0	\$51.10	\$43.50	\$0.00	\$43.50	0.9	420
<b>Domestic Water Heating Upgrade</b>			<b>32,056</b>	<b>1.4</b>	<b>-86.4</b>	<b>\$2,901.56</b>	<b>\$8,401.12</b>	<b>\$50.00</b>	<b>\$8,351.12</b>	<b>2.9</b>	<b>22,163</b>
ECM 8	Install High Efficiency Gas Water Heater	Yes	25,322	1.4	-86.4	\$2,076.67	\$8,286.40	\$50.00	\$8,236.40	4.0	15,383
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	6,733	0.0	0.0	\$824.89	\$114.72	\$0.00	\$114.72	0.1	6,780
<b>Plug Load Equipment Control - Vending Machine</b>			<b>1,612</b>	<b>0.0</b>	<b>0.0</b>	<b>\$197.47</b>	<b>\$230.00</b>	<b>\$0.00</b>	<b>\$230.00</b>	<b>1.2</b>	<b>1,623</b>
ECM 10	Vending Machine Control	Yes	1,612	0.0	0.0	\$197.47	\$230.00	\$0.00	\$230.00	1.2	1,623
<b>Custom Measures</b>			<b>22,150</b>	<b>1.0</b>	<b>24.2</b>	<b>\$3,000.32</b>	<b>\$15,310.00</b>	<b>\$0.00</b>	<b>\$15,310.00</b>	<b>5.1</b>	<b>25,133</b>
ECM 11	Computer Power Management Software	Yes	13,029	0.0	0.0	\$1,596.14	\$3,385.00	\$0.00	\$3,385.00	2.1	13,120
ECM 12	Replace Refrigerator with Compact Energy Star Equipment	Yes	2,784	1.0	0.0	\$341.10	\$500.00	\$0.00	\$500.00	1.5	2,804
ECM 13	Weatherstrip Exterior Doors	Yes	1,173	0.0	2.4	\$172.10	\$625.00	\$0.00	\$625.00	3.6	1,461
ECM 14	Retro-Commissioning Study & HVAC Improvements	Yes	5,164	0.0	21.8	\$890.99	\$10,800.00	\$0.00	\$10,800.00	12.1	7,748
<b>TOTALS</b>			<b>156,863</b>	<b>18.6</b>	<b>29.4</b>	<b>\$19,566.38</b>	<b>\$176,567.91</b>	<b>\$18,292.00</b>	<b>\$158,275.91</b>	<b>8.1</b>	<b>161,401</b>

\* - 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).



# *Some Energy Efficient Practices*

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- 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*

# PROGRAM PORTFOLIO



## ELIGIBLE SECTORS

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

## PROGRAMS

### Equipment Rebates:

- Retrofit – Existing Buildings
- New Construction
- Direct Install – Small Business
- Large Energy Users

### Whole Buildings:

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

### Energy Generation:

- Combined Heat and Power (CHP) and Fuel Cells

# Recommended NJCEP Incentives

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## ➤ Direct Install

### **Hutchinson Mechanical Services**

Ed Hutchinson

856-429-5828 x215

[edhutchinson@hutchbiz.com](mailto:edhutchinson@hutchbiz.com)

## ➤ Pay for Performance (P4P)

## ➤ SmartStart Buildings (i.e Retrofit – Existing Buildings)

# Energy Savings Improvement Program (ESIP)

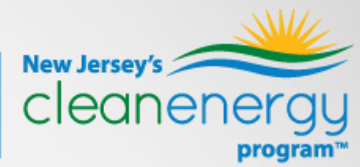
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- Provides alternative financing for energy savings projects at public institutions.
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract. Does not count as debt or require voter approval / referendum.
- Requires an audit as 1<sup>st</sup> step (LGEA satisfied this requirement)
- Program administered directly by BPU

# Questions

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# FOR MORE INFORMATION

**Visit** [NJCleanEnergy.com](http://NJCleanEnergy.com)

**Call** (866) NJSMART

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