

# New Jersey's Clean Energy Program

LGEA Exit Meeting for:  
*Hope Academy Charter School*

Aimee Lalonde, TRC

March 12, 2018

# Introductions

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## Hope Academy Charter School

- Donna Torres
- Dennis Daniels

## NJ Clean Energy Program – TRC

- Auditor: Aimee Lalonde
- Outreach Manager: Jim Friedl

# Agenda

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- Overview of LGEA process (application to deliverable)
- 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 [Applicant Name]

# Process to Draft Report

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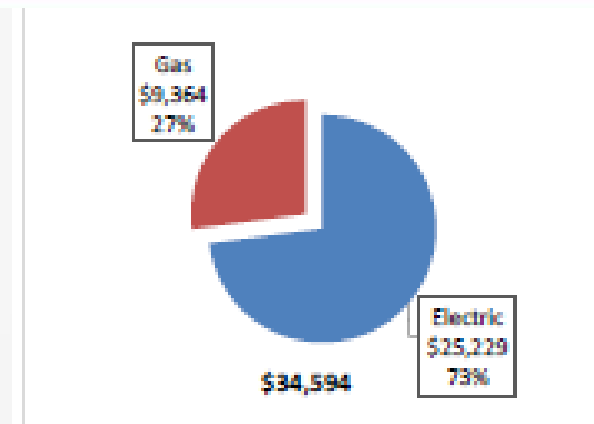
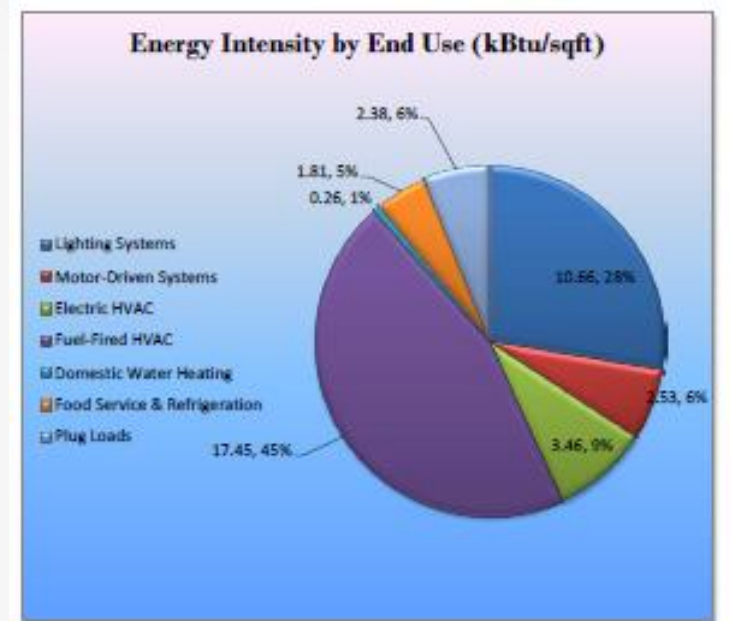
- Application submitted to NJCEP
- Site Visit Performed
- Utility Analysis
- Baseline Condition
- Analysis
- Recommendations
- Report

## Overview of Existing Conditions:

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

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs



# Hope Academy Charter 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>60,435</b>	<b>12.2</b>	<b>0.0</b>	<b>\$8,039.90</b>	<b>\$59,107.64</b>	<b>\$5,855.00</b>	<b>\$53,252.64</b>	<b>6.6</b>	<b>60,857</b>
ECM 1	Install LED Fixtures	Yes	9,650	0.1	0.0	\$1,283.79	\$13,038.36	\$610.00	\$12,428.36	9.7	9,718
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	49,970	12.0	0.0	\$6,647.77	\$45,599.67	\$5,235.00	\$40,364.67	6.1	50,320
ECM 3	Retrofit Fixtures with LED Lamps	Yes	814	0.2	0.0	\$108.34	\$469.62	\$10.00	\$459.62	4.2	820
<b>Lighting Control Measures</b>			<b>10,969</b>	<b>3.0</b>	<b>0.0</b>	<b>\$1,459.25</b>	<b>\$11,171.50</b>	<b>\$1,320.00</b>	<b>\$9,851.50</b>	<b>6.8</b>	<b>11,046</b>
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	10,926	2.6	0.0	\$1,453.56	\$10,734.00	\$1,005.00	\$9,729.00	6.7	11,003
ECM 5	Install Photocell Controls	Yes	43	0.5	0.0	\$5.70	\$437.50	\$315.00	\$122.50	21.5	43
<b>HVAC System Improvements</b>			<b>0</b>	<b>0.0</b>	<b>3.5</b>	<b>\$57.46</b>	<b>\$87.00</b>	<b>\$0.00</b>	<b>\$87.00</b>	<b>1.5</b>	<b>413</b>
ECM 6	Install Pipe Insulation	Yes	0	0.0	3.5	\$57.46	\$87.00	\$0.00	\$87.00	1.5	413
<b>Domestic Water Heating Upgrade</b>			<b>0</b>	<b>0.0</b>	<b>31.7</b>	<b>\$515.59</b>	<b>\$179.25</b>	<b>\$0.00</b>	<b>\$179.25</b>	<b>0.3</b>	<b>3,709</b>
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	31.7	\$515.59	\$179.25	\$0.00	\$179.25	0.3	3,709
<b>Food Service Equipment &amp; Refrigeration Measures</b>			<b>8,365</b>	<b>1.0</b>	<b>0.0</b>	<b>\$1,112.84</b>	<b>\$14,398.40</b>	<b>\$0.00</b>	<b>\$14,398.40</b>	<b>12.9</b>	<b>8,424</b>
ECM 8	Replace Refrigeration Equipment	Yes	8,365	1.0	0.0	\$1,112.84	\$14,398.40	\$0.00	\$14,398.40	12.9	8,424
<b>Custom Measures</b>			<b>4,285</b>	<b>0.0</b>	<b>102.1</b>	<b>\$2,231.36</b>	<b>\$62,605.00</b>	<b>\$0.00</b>	<b>\$62,605.00</b>	<b>28.1</b>	<b>16,265</b>
ECM 9	Retro-Commissioning Study & HVAC Improvements	Yes	1,648	0.0	28.4	\$680.72	\$8,775.00	\$0.00	\$8,775.00	12.9	4,979
ECM 10	Building Envelope Air Sealing	Yes	330	0.0	34.0	\$597.63	\$9,955.00	\$0.00	\$9,955.00	16.7	4,315
	Install an Energy Management System	No	2,307	0.0	39.7	\$953.01	\$43,875.00	\$0.00	\$43,875.00	46.0	6,971
<b>TOTALS</b>			<b>84,054</b>	<b>16.2</b>	<b>137.3</b>	<b>\$13,416.42</b>	<b>\$147,548.79</b>	<b>\$7,175.00</b>	<b>\$140,373.79</b>	<b>10.5</b>	<b>100,714</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).

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**TOTALS (Recommended)**

**81,747    16.2    97.6    \$12,463.40    \$103,673.79    \$7,175.00    \$96,498.79    7.7    93,743**

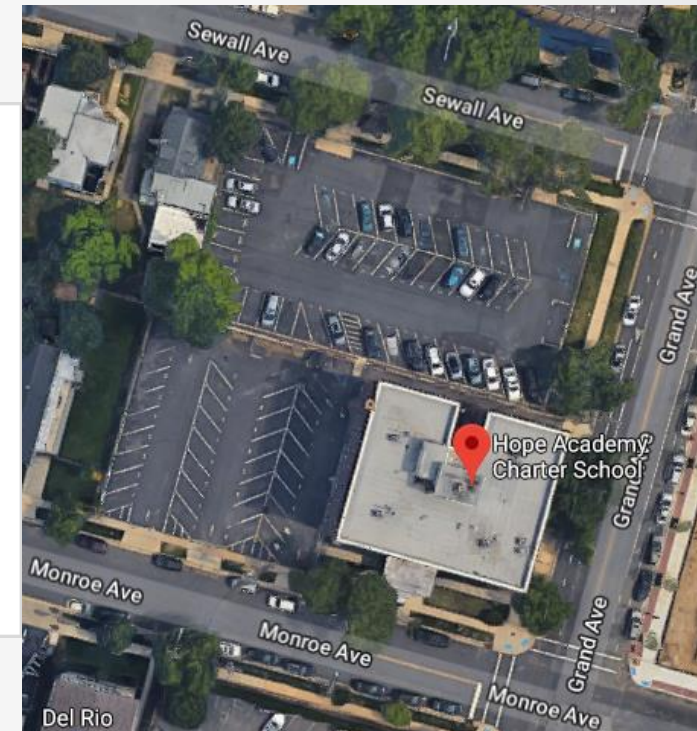
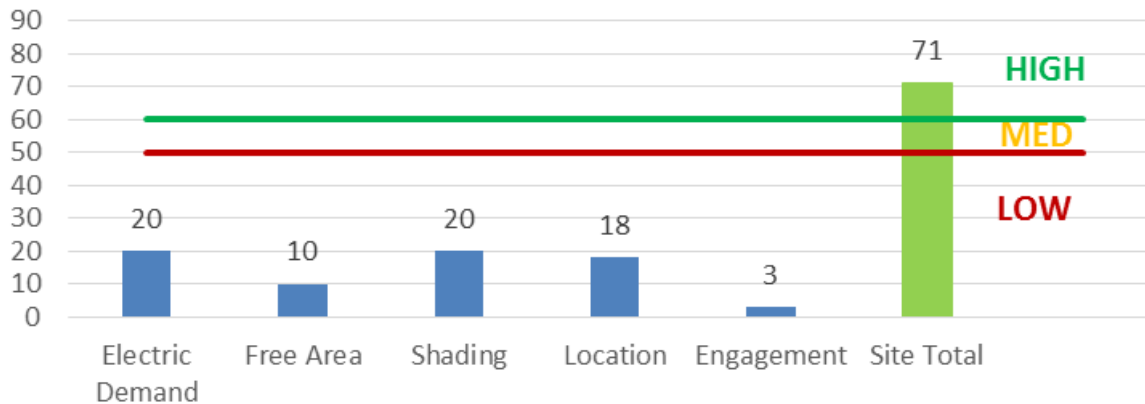


# Photovoltaic (PV) System Potential

- Preliminary screening based on some facility details indicated there is high potential for installing a PV array
- Some roof upgrades may be required before implementing a roof-mounted array

<b>Potential</b>	High	
<b>System Potential</b>	57	kW DC STC
<b>Electric Generation</b>	67,908	kWh/yr
<b>Displaced Cost</b>	\$5,910	/yr
<b>Installed Cost</b>	\$148,200	

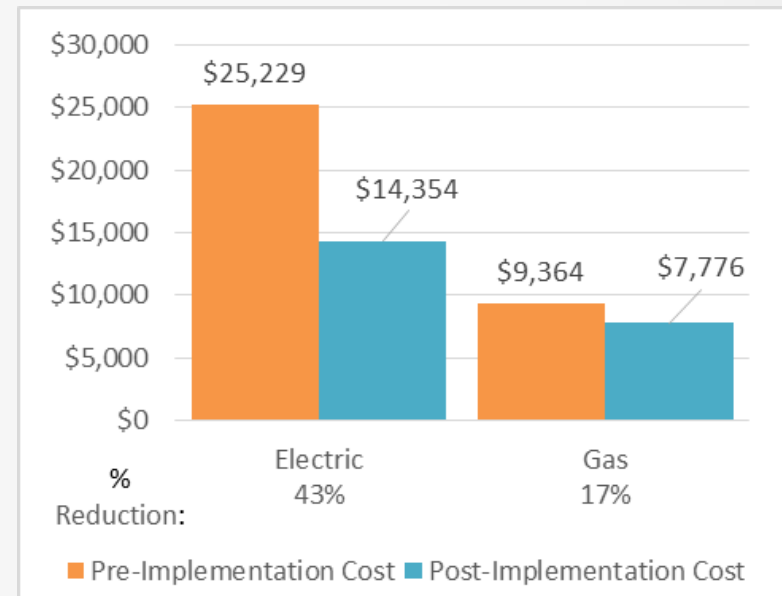
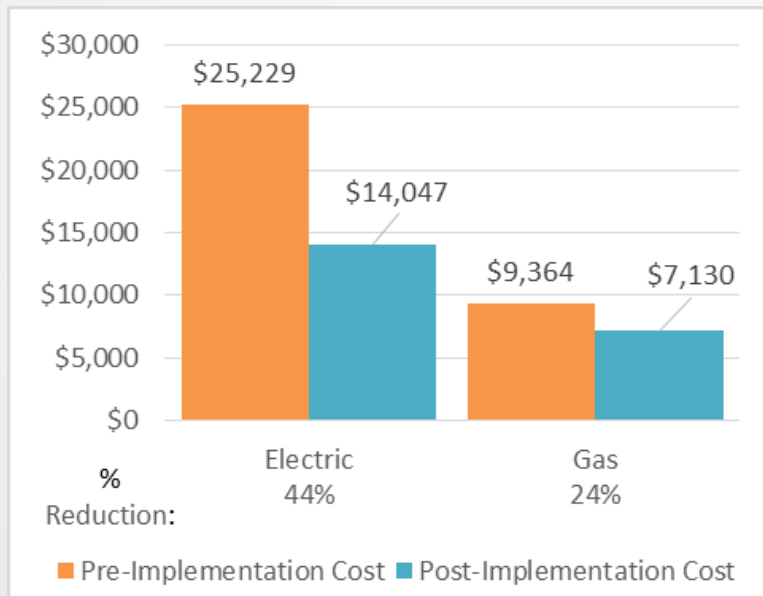
### PV Screening Results



# Hope Academy Charter School



- Estimated Utility Cost Reduction when ALL evaluated ECMs are implemented
- Project SPB is 10.5 years
- Estimated Utility Cost Reduction when ONLY Recommended (High Priority) ECMs are implemented
- Project SPB is 7.7 years







# Some Energy Efficient Practices

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- *Close Doors and Windows*
- *Use Window Treatments/Coverings*
- *Perform Proper Lighting Maintenance*
- *Develop a Lighting Maintenance Schedule*
- *Ensure Lighting Controls Are Operating Properly*
- *Perform Routine Motor Maintenance*
- *Practice Proper Use of Thermostat Schedules and Temperature Resets*
- *Clean Evaporator/Condenser Coils on AC Systems*
- *Clean and/or Replace HVAC Filters*
- *Check for and Seal Duct Leakage*
- *Perform Proper Furnace Maintenance*
- *Perform Proper Water Heater Maintenance*

*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)

- SmartStart Buildings (i.e Retrofit – Existing Buildings)

# DIRECT INSTALL: BENEFITS

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- Turn-key process: participating contractors provide support and process all paperwork.
- Minimal cost: Low upfront cost with generous incentives 70% of installed cost.
- Fast turnaround time: Average length of time for job completion, 4-6 months after approval.
- Ongoing savings: Projects provide energy savings year after year.

# SMARTSTART: OVERVIEW

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- Individual incentives for broad project categories
- Available to all Commercial, Industrial, Agricultural, Government, Non-Profit and Institutional customers
- Provides two types of financial incentives for high efficiency equipment installation: **Prescriptive & Custom**
- Incentives up to \$500,000 per electric account and \$500,000 per natural gas account per fiscal year.

# SMARTSTART: INCENTIVES

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## Prescriptive Incentives

- Specific incentives and individual applications for:
  - Lighting & Lighting Controls
  - Packed HVAC
  - Boilers & Water Heaters
  - Chillers
  - VFD's
  - Food Service
  - Refrigeration
- Project pre-approval required for all lighting measures

# Financing



- Direct Install –
  - NJCEP provides 70% incentive
  - NJNG provides 0% financing to cover the balance
  - 3 year term- Repayments made on regular monthly gas bill
  - Maximum loan is \$53, 570
  - Combination means \$178,570 is available per project
- Smart Start -
  - NJCEP provides rebates for qualifying equipment (varies by measure)
    - Including equipment identified in Direct Install assessment that may not be part of that program
  - NJNG provides 0% financing to help cover the balance
  - 10 year term- repayments made on regular monthly gas bill
  - Maximum loan amount is \$130,000
  - Need to review project with NJNG to confirm project qualifies

# Contact Information

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New Jersey Natural Gas

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# Questions

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# FOR MORE INFORMATION

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

**Call** (866) NJSMART

**Jim Friedl**

Outreach Manager

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