

# New Jersey's Clean Energy Program

LGEA Exit Meeting for:  
*Princeton Public Library*

Smruti Srinivasan, TRC

May 30, 2018

# Meeting Setup

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***1) Dial the following:***

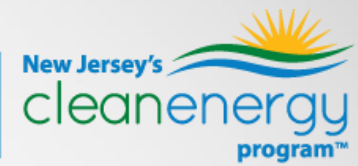
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***2) When prompted, enter the code below:***

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# Introductions

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- *Princeton Public Library*
  - Susan Chernik – Finance Director
  - Pat McAvenia – Facilities Director
- *NJ Clean Energy Program – TRC*
  - Brian DeLuca – Program Manager
  - Smruti Srinivasan – Auditor
  - Sarah Walters – LGEA Account Manager

# Agenda

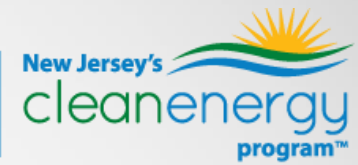
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- Energy use & existing conditions
- Review of **E**nergy **C**onservation **M**easures (ECMs) identified
- Questions or concerns regarding the draft audit report
- Overview of NJCEP equipment incentives
- Next steps for Princeton Public Library

# Process to Draft Report

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

## Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems

## Utility Consumption:

- Electric Consumption and Costs
- Natural Gas Consumption and Costs

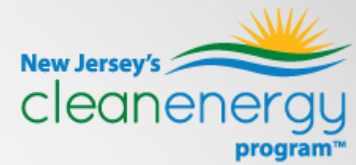
# Princeton Public Library



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>168,319</b>	<b>30.3</b>	<b>0.0</b>	<b>\$23,152.04</b>	<b>\$73,285.46</b>	<b>\$6,775.00</b>	<b>\$66,510.46</b>	<b>2.9</b>	<b>169,495</b>
	Install LED Fixtures	No	5,799	1.0	0.0	\$797.62	\$16,111.20	\$900.00	\$15,211.20	19.1	5,839
ECM 1	Retrofit Fixtures with LED Lamps	Yes	162,520	29.3	0.0	\$22,354.42	\$57,174.26	\$5,875.00	\$51,299.26	2.3	163,656
<b>Lighting Control Measures</b>			<b>25,144</b>	<b>4.4</b>	<b>0.0</b>	<b>\$3,458.56</b>	<b>\$7,040.00</b>	<b>\$1,615.00</b>	<b>\$5,425.00</b>	<b>1.6</b>	<b>25,320</b>
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	23,789	4.1	0.0	\$3,272.19	\$6,290.00	\$865.00	\$5,425.00	1.7	23,956
ECM 3	Install Daylight Dimming Controls	Yes	1,355	0.2	0.0	\$186.37	\$750.00	\$750.00	\$0.00	0.0	1,364
<b>Motor Upgrades</b>			<b>804</b>	<b>0.2</b>	<b>0.0</b>	<b>\$110.59</b>	<b>\$3,606.43</b>	<b>\$0.00</b>	<b>\$3,606.43</b>	<b>32.6</b>	<b>810</b>
	Premium Efficiency Motors	No	804	0.2	0.0	\$110.59	\$3,606.43	\$0.00	\$3,606.43	32.6	810
<b>Variable Frequency Drive (VFD) Measures</b>			<b>26,542</b>	<b>4.9</b>	<b>0.0</b>	<b>\$3,650.89</b>	<b>\$16,216.00</b>	<b>\$0.00</b>	<b>\$16,216.00</b>	<b>4.4</b>	<b>26,728</b>
ECM 4	Install VFDs on Chilled Water Pumps	Yes	26,542	4.9	0.0	\$3,650.89	\$16,216.00	\$0.00	\$16,216.00	4.4	26,728
<b>Electric Chiller Replacement</b>			<b>110,687</b>	<b>54.5</b>	<b>0.0</b>	<b>\$15,224.92</b>	<b>\$213,296.05</b>	<b>\$7,500.00</b>	<b>\$205,796.05</b>	<b>13.5</b>	<b>111,461</b>
ECM 5	Install High Efficiency Chillers	Yes	110,687	54.5	0.0	\$15,224.92	\$213,296.05	\$7,500.00	\$205,796.05	13.5	111,461
<b>TOTAL FOR ALL RECOMMENDED MEASURES</b>			<b>324,894</b>	<b>93.1</b>	<b>0.0</b>	<b>\$44,688.78</b>	<b>\$293,726.31</b>	<b>\$14,990.00</b>	<b>\$278,736.31</b>	<b>6.2</b>	<b>327,166</b>
<b>TOTALS FOR ALL EVALUATED MEASURES</b>			<b>331,497</b>	<b>94.3</b>	<b>0.0</b>	<b>\$45,597.00</b>	<b>\$313,443.94</b>	<b>\$15,890.00</b>	<b>\$297,553.94</b>	<b>6.5</b>	<b>333,815</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 Best Practices*

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- *Ensure Lighting Controls Are Operating Properly*
- *Perform Routine Motor Maintenance*
- *Ensure Economizers are Functioning Properly*
- *Assess Chillers & Request Tune-Ups*
- *Clean Evaporator/Condenser Coils on AC Systems*
- *Clean and/or Replace HVAC Filters*
- *Check for and Seal Duct Leakage*
- *Perform Proper Boiler Maintenance*
- *Perform Proper Furnace Maintenance*
- *Perform Proper Water Heater Maintenance*
- *Install Plug Load Controls*
- *Water Conservation*

# 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

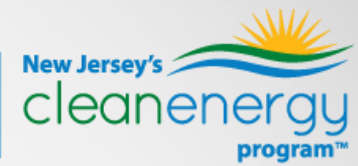
# Recommended NJCEP Incentives

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

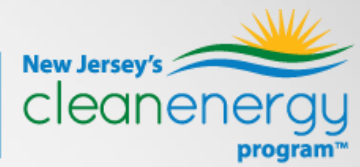
# SmartStart Prescriptive: Overview



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

# 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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