



New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Clayton Public Schools

Moussa Traore, TRC

May 10, 2017

Meeting Setup



1) Dial the following:

1-877-304-9323

2) When prompted, enter the code below:

3587465#

Introductions



- Clayton Public Schools
 - Business Administrator: Fran Adler
 - Designated Representative: Robert Garrison

- NJ Clean Energy Program – TRC
 - Auditor: Moussa Traore
 - Case Manager: Amanda Muench
 - Outreach Manager: Jim Friedl

Agenda



- 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 *Clayton Public Schools*

Process to Draft Report



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

(1) Herma Simmons Elementary School



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Onsite Generation / Renewables

Utility Consumption:

- Electric Consumption and Spend
- Gas Consumption and Spend

(1) Herma Simmons Elementary School



Recommended ECMs (see pages 22-28)

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		298,815	78.9	0.0	\$37,768.74	\$140,483.52	\$11,025.00	\$129,458.52	3.43	300,904
ECM 1	Install LED Fixtures	88,128	25.7	0.0	\$11,138.98	\$56,454.10	\$8,065.00	\$48,389.10	4.34	88,744
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	184,385	46.7	0.0	\$23,305.40	\$65,105.39	\$0.00	\$65,105.39	2.79	185,674
ECM 3	Retrofit Fixtures with LED Lamps	23,400	6.3	0.0	\$2,957.65	\$15,052.05	\$2,960.00	\$12,092.05	4.09	23,564
ECM 4	Install LED Exit Signs	2,901	0.2	0.0	\$366.71	\$3,871.98	\$0.00	\$3,871.98	10.56	2,922
Lighting Control Measures		25,579	6.5	0.0	\$3,233.06	\$10,556.00	\$1,820.00	\$8,736.00	2.70	25,758
ECM 5	Install Occupancy Sensor Lighting Controls	25,579	6.5	0.0	\$3,233.06	\$10,556.00	\$1,820.00	\$8,736.00	2.70	25,758
Domestic Water Heating Upgrade		24,258	2.7	397.3	\$4,885.16	\$1,886.79	\$50.00	\$1,836.79	0.38	70,946
ECM 6	Install High Efficiency Gas Water Heater	15,240	2.7	-52.0	\$1,688.21	\$1,406.40	\$50.00	\$1,356.40	0.80	9,258
ECM 7	Install Low-Flow Domestic Hot Water Devices	9,018	0.0	449.3	\$3,196.95	\$480.39	\$0.00	\$480.39	0.15	61,687
Food Service Equipment & Refrigeration Measures		379	0.0	0.0	\$47.84	\$1,248.00	\$75.00	\$1,173.00	24.52	381
ECM 8	Replace Refrigeration Equipment	379	0.0	0.0	\$47.84	\$1,248.00	\$75.00	\$1,173.00	24.52	381
Plug Load Equipment Control - Vending Machine		1,612	0.0	0.0	\$203.73	\$718.80	\$0.00	\$718.80	3.53	1,623
ECM 9	Vending Machine Control	1,612	0.0	0.0	\$203.73	\$718.80	\$0.00	\$718.80	3.53	1,623
TOTALS		350,642	88.1	397.3	\$46,138.53	\$154,893.11	\$12,970.00	\$141,923.11	3.08	399,612

* - All incentives presented in this table are based on N J 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) Clayton High School



Overview of Systems, Baseline & Existing Conditions:

- Building Envelope
- Lighting System
- HVAC and Mechanical Systems
- Onsite Generation / Renewables

Utility Consumption:

- Electric Consumption and Costs
- Gas Consumption and Costs

(2) Clayton High School



Recommended ECMs (see pages 22-27)

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		171,869	57.4	0.0	\$27,759.95	\$200,632.92	\$33,465.00	\$167,167.92	6.02	173,071
ECM 1	Install LED Fixtures	43,717	16.5	0.0	\$7,061.12	\$102,163.53	\$14,100.00	\$88,063.53	12.47	44,023
ECM 2	Retrofit Fixtures with LED Lamps	127,829	40.9	0.0	\$20,646.76	\$98,039.17	\$19,365.00	\$78,674.17	3.81	128,723
ECM 3	Install LED Exit Signs	322	0.0	0.0	\$52.07	\$430.22	\$0.00	\$430.22	8.26	325
Lighting Control Measures		14,347	4.1	0.0	\$2,317.33	\$6,728.00	\$1,160.00	\$5,568.00	2.40	14,447
ECM 4	Install Occupancy Sensor Lighting Controls	14,347	4.1	0.0	\$2,317.33	\$6,728.00	\$1,160.00	\$5,568.00	2.40	14,447
Variable Frequency Drive (VFD) Measures		39,940	4.9	0.0	\$6,450.98	\$10,388.90	\$0.00	\$10,388.90	1.61	40,219
ECM 5	Install VFDs on Hot Water Pumps	39,940	4.9	0.0	\$6,450.98	\$10,388.90	\$0.00	\$10,388.90	1.61	40,219
Domestic Water Heating Upgrade		0	0.0	92.1	\$478.43	\$200.76	\$0.00	\$200.76	0.42	10,784
ECM 6	Install Low-Flow Domestic Hot Water Devices	0	0.0	92.1	\$478.43	\$200.76	\$0.00	\$200.76	0.42	10,784
Plug Load Equipment Control - Vending Machine		6,447	0.0	0.0	\$1,041.36	\$2,875.20	\$0.00	\$2,875.20	2.76	6,492
ECM 7	Vending Machine Control	6,447	0.0	0.0	\$1,041.36	\$2,875.20	\$0.00	\$2,875.20	2.76	6,492
TOTALS		232,603	66.5	92.1	\$38,048.06	\$220,825.78	\$34,625.00	\$186,200.78	4.89	245,013

* - 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

- Close Doors and Windows
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Clean and/or Replace HVAC filters
- 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



- Pay for Performance (P4P)
www.NJCleanEnergy.com/P4P
- SmartStart Buildings (i.e Retrofit – Existing Buildings)
www.NJCleanEnergy.com/SSB

Questions



?



FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

Jim Friedl

Outreach Manager

732-855-6543

jfriedl@trcsolutions.com