

New Jersey's Clean Energy Program

LGEA Exit Meeting for:
Deerfield Board of Education

TRC Energy Services

August 7, 2018

Introductions



- *Deerfield Board of Education*
 - Melanie Allen – Business Administrator
 - Frank Manno – Facilities Director
 - Keith Lauermann – Board Member
 - Jason Scythes – Board Member
 - Mary Steinhauer-Kula – Superintendent
- *Garrison Architects*
 - Bob Garrison Jr. – District Architect
- *NJ Clean Energy Program*
 - Brian DeLuca – Program Manager
 - Vish Nimbalkar – Auditor
 - Sarah Walters – LGEA Account Manager
 - Arif Welcher – BPU Ombudsman

Agenda



- The audit process overview
- 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 Deerfield Board of Education

Process





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



ENERGY STAR® Statement of Energy Performance

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**ENERGY STAR®
Score¹**

Deerfield Township Elementary School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 60,300
Built: 1958

For Year Ending: October 31, 2017
Date Generated: April 27, 2018

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 Deerfield Township Elementary School 419 Morton Ave Rosenhayn, New Jersey 08352	Property Owner Deerfield Township Elementary School 419 Morton Ave Rosenhayn, NJ 08352 () -	Primary Contact Melanie Allen 419 Morton Ave Rosenhayn, NJ 08352 856-451-2804 pgoray@trcsolutions.com
Property ID: 6260411		

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI 69 kBtu/ft²	Annual Energy by Fuel		National Median Comparison
	Natural Gas (kBtu)	2,077,548 (50%)	National Median Site EUI (kBtu/ft²) 71.6
	Electric - Grid (kBtu)	2,080,246 (50%)	National Median Source EUI (kBtu/ft²) 150
			% Diff from National Median Source EUI -4%
Source EUI 144.5 kBtu/ft²			Annual Emissions
			Greenhouse Gas Emissions (Metric Tons CO2e/year) 341

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)

Deerfield Township 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 ₂ e Emissions Reduction (lbs)
Lighting Upgrades			96,453	22.8	0.0	\$15,747.58	\$161,351.11	\$18,805.00	\$142,546.11	9.1	97,127
ECM 1	Install LED Fixtures	Yes	31,596	6.4	0.0	\$5,158.54	\$105,519.39	\$10,205.00	\$95,314.39	18.5	31,817
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	1,041	0.3	0.0	\$169.92	\$936.00	\$80.00	\$856.00	5.0	1,048
ECM 3	Retrofit Fixtures with LED Lamps	Yes	62,205	16.0	0.0	\$10,155.96	\$52,099.29	\$8,520.00	\$43,579.29	4.3	62,640
ECM 4	Install LED Exit Signs	Yes	1,612	0.1	0.0	\$263.16	\$2,796.43	\$0.00	\$2,796.43	10.6	1,623
Lighting Control Measures			18,523	4.8	0.0	\$3,024.25	\$24,972.00	\$3,140.00	\$21,832.00	7.2	18,653
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	16,815	4.3	0.0	\$2,745.30	\$23,372.00	\$3,140.00	\$20,232.00	7.4	16,932
ECM 6	Install High/Low Lighting Controls	Yes	1,709	0.4	0.0	\$278.95	\$1,600.00	\$0.00	\$1,600.00	5.7	1,720
Motor Upgrades			675	0.3	0.0	\$110.18	\$3,863.62	\$0.00	\$3,863.62	35.1	680
ECM 7	Premium Efficiency Motors	Yes	675	0.3	0.0	\$110.18	\$3,863.62	\$0.00	\$3,863.62	35.1	680
Variable Frequency Drive (VFD) Measures			7,156	3.3	0.0	\$1,168.39	\$13,765.30	\$2,000.00	\$11,765.30	10.1	7,206
ECM 8	Install VFDs on Constant Volume (CV) HVAC	Yes	7,156	3.3	0.0	\$1,168.39	\$13,765.30	\$2,000.00	\$11,765.30	10.1	7,206
Electric Unitary HVAC Measures			28,329	19.3	0.0	\$4,625.19	\$230,625.00	\$12,592.50	\$218,032.50	47.1	28,527
	Install High Efficiency Electric AC	No	28,329	19.3	0.0	\$4,625.19	\$230,625.00	\$12,592.50	\$218,032.50	47.1	28,527
Gas Heating (HVAC/Process) Replacement			0	0.0	187.6	\$2,150.89	\$88,716.65	\$8,131.20	\$80,585.45	37.5	21,971
	Install High Efficiency Hot Water Boilers	No	0	0.0	187.6	\$2,150.89	\$88,716.65	\$8,131.20	\$80,585.45	37.5	21,971
Domestic Water Heating Upgrade			0	0.0	17.1	\$196.26	\$415.86	\$0.00	\$415.86	2.1	2,005
ECM 9	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	17.1	\$196.26	\$415.86	\$0.00	\$415.86	2.1	2,005
TOTALS FOR ALL RECOMMENDED MEASURES			122,807	31.2	17.1	\$20,246.65	\$204,367.89	\$23,945.00	\$180,422.89	8.9	125,671
TOTALS FOR ALL EVALUATED MEASURES			151,137	50.5	204.8	\$27,022.73	\$523,709.54	\$44,668.70	\$479,040.84	17.7	176,169

* - 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).

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

PROGRAMS

Equipment Rebates:

- SmartStart Retrofit
- SmartStart New Construction
- Direct Install
- Large Energy Users

Whole Buildings:

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

Energy Generation:

- Combined Heat and Power (CHP)

* eligible programs are highlighted in yellow

SmartStart: Overview



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

Financing Options – SmartStart & P4P



- 0% Financing
- Up to \$100,000 for 5 years
- SJG can help guide you through the process

Contact:

Bruce Grossman – Program Manager

South Jersey Gas

#1 South Jersey Plaza

Folsom, NJ 08037

Phone: 609-561-9000, ext. 4271



P4P Existing Buildings: Overview



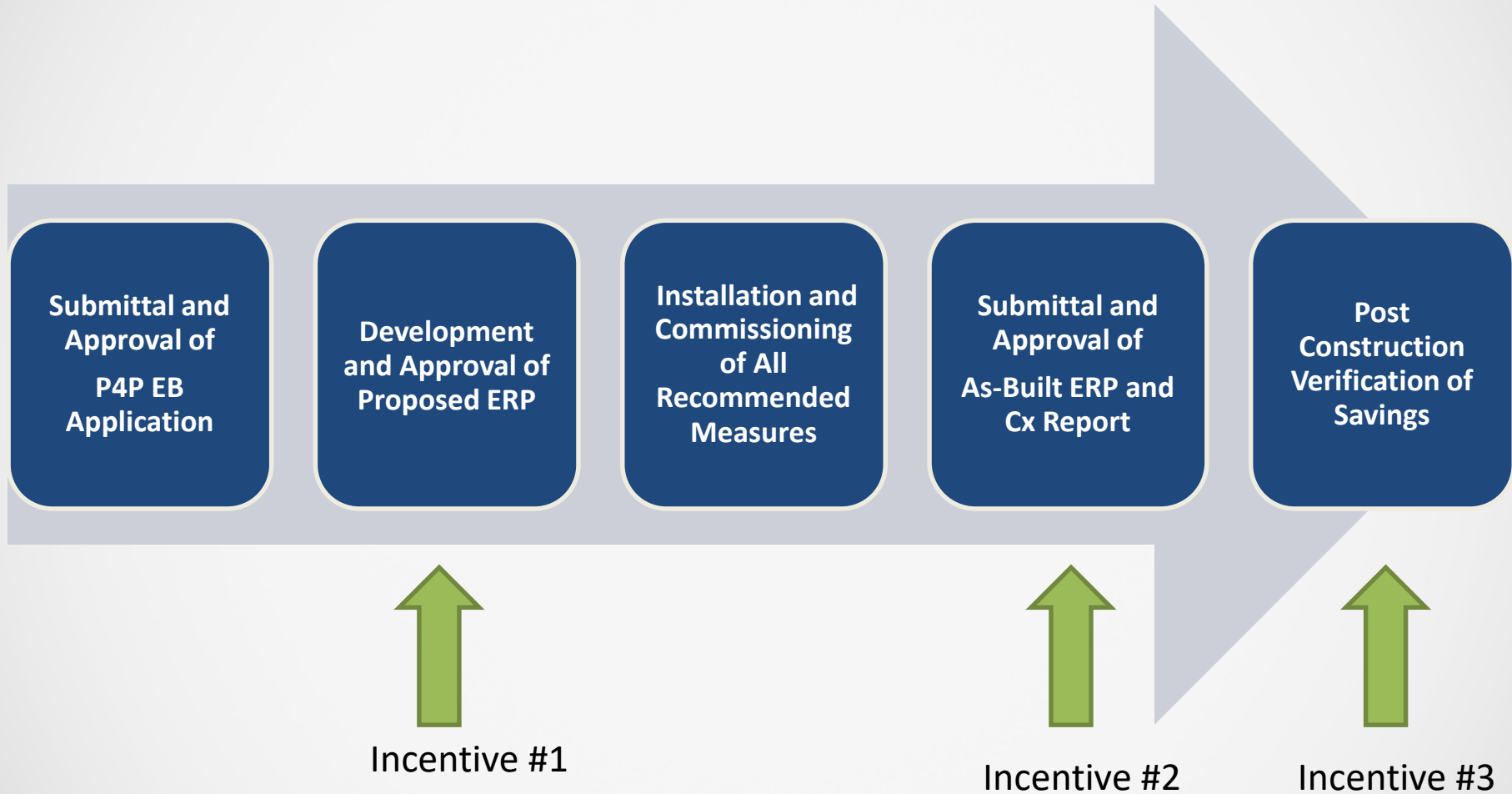
- Comprehensive, whole-building approach to saving energy in existing or new facilities
- Customer chooses from network of pre-approved participating Partners
- Incentives up to \$2 million per project
 - \$1 million for electric measures
 - \$1 million for gas measures
- \$4 million annual entity cap per fiscal year
- Incentives up to 50% of total project cost
- Incentives paid in three installments at milestones

P4P Existing Buildings: Overview



- Open to Commercial and Industrial facilities with annual peak demand of at least 200 kW in previous year
- Minimum savings 15% from existing energy use
- Must have at least two unique measures per project
- No more than 50% of total savings may come from lighting measures
 - Lighting savings up to 70% may be considered with minimum savings target increasing up to 35%

P4P EB: Process



P4P EB: Incentives



Incentive #1: Energy Reduction Plan			
Incentive Amount:		\$0.15	per sq ft
Minimum Incentive:		\$7,500	
Maximum Incentive:		\$50,000	or 50% of facility annual energy cost
Incentive #2: Installation of Recommended Measures			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15 % savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost
Incentive #3: Post-Construction Benchmarking Report			
Minimum Performance Target:		15%	
Electric Incentives	Base Incentive based on 15% savings:	\$0.09	per projected kWh saved
	For each % over 15% add:	\$0.005	
	Maximum Incentive:	\$0.11	
Gas Incentives	Base Incentive based on 15% savings:	\$0.90	per projected Therm saved
	For each % over 15% add:	\$0.05	
	Maximum Incentive:	\$1.25	
Incentive Cap:		25%	of total project cost

Energy Savings Improvement Program (ESIP)

- 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/require voter approval.
- Requires an audit as 1st step (LGEA satisfies requirement)
- ESIP participation question on LGEA application
- Program administered directly by BPU

ESIP Process

New Jersey's Clean Energy Program Interaction

Initial Energy Audit completed
for entity building(s)

Local Government Energy Audit
(LGEA) may be used to meet
this requirement

Entity issues ESIP RFP (previously
approved by BPU) and selects ESCO
or DIY approach

Investment Grade Energy Audit completed
and Energy Savings Plan (ESP)
developed

P4P Energy Reduction Plan (ERP),
Direct Install, or SmartStart application
recommended submittal time frame

Third party review of ESP

Review and approval of ESP
by Board of Public Utilities (BPU)

Entity adopts ESP,
determines guarantee



FOR MORE INFORMATION

ESIP

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Questions



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FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

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