



MONROE TOWNSHIP SCHOOL DISTRICT

Home of the Falcons

ENERGY SAVINGS IMPROVEMENT PROGRAM

***BUILDING UPGRADES DESIGNED, PROCURED,
IMPLEMENTED AND PAID FOR WITH SAVINGS
GENERATED***

Honeywell

February 12, 2024

MONROE SCHOOL DISTRICT'S TEAM

Caroline Jackson
Business Consultant

Paul Peters PE, CEM
Sr Solution Development Engr

Tim Laverick
Project Manager Leader

Lisa Montalto
Finance Director

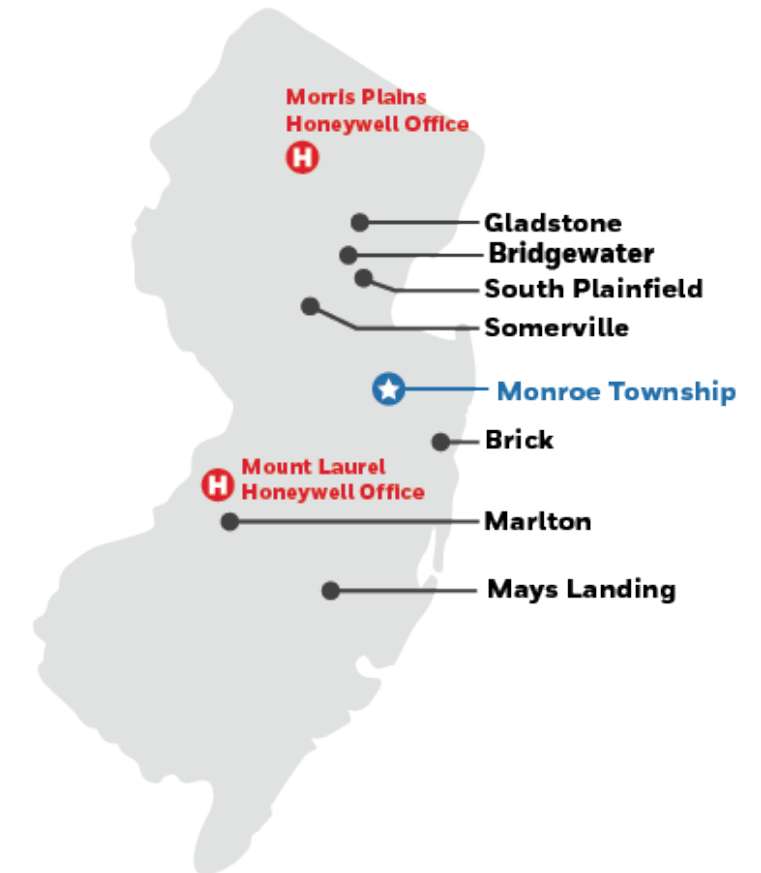
Sean Yates
NE Regional Manager

Emily Li
Solution Development Engr

Wyatt Ferguson
Project Manager

Frank Capitummino CEM
M&V Specialist

YOUR NEW JERSEY HONEYWELL TEAM



NJ ESIP Experience

AGENDA

1. Introductions
2. NJ Energy Savings Improvement Program (ESIP) Overview
3. Sample Projects
4. Understanding Your Priorities
5. Potential Project
6. Recent Co-op Selections
7. Project Implementation Overview
8. Honeywell Qualifications
9. Next Steps

Common Acronyms in NJ Energy World:

- ESIP - Energy Savings Improvement Program
- ESCO - Energy Services Company
- IGA - Investment Grade Audit
- ESP - Energy Savings Plan
- HVAC - Heating Ventilation & Air Conditioning
- BPU - Board of Public Utilities
- M&V - Measurement and Verification
- PPA- Solar Power Purchase Agreement

Please ask questions anytime!

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

Purpose:

NJ Law PL 2012 C.55 Enacted to enable public entities to re-direct a portion of their existing energy and operational expenditures to pay for energy related capital improvements to their facilities

Energy Savings Improvement Programs Highlights:

- Leverage energy savings, rebates/grants and utility incentives to fund projects
- Support staff with implementation resources for select projects
- Not considered traditional debt because it's primarily funded from the utility budget

Assurances Built into NJ Clean Energy Board of Public Utilities (BPU) Process:

- Follows the BPU process
- A Third-Party Engineer reviews savings and guarantee
- BPU reviews final Energy Savings Plan (ESP)



WHAT IS AN ESIP PROJECT?

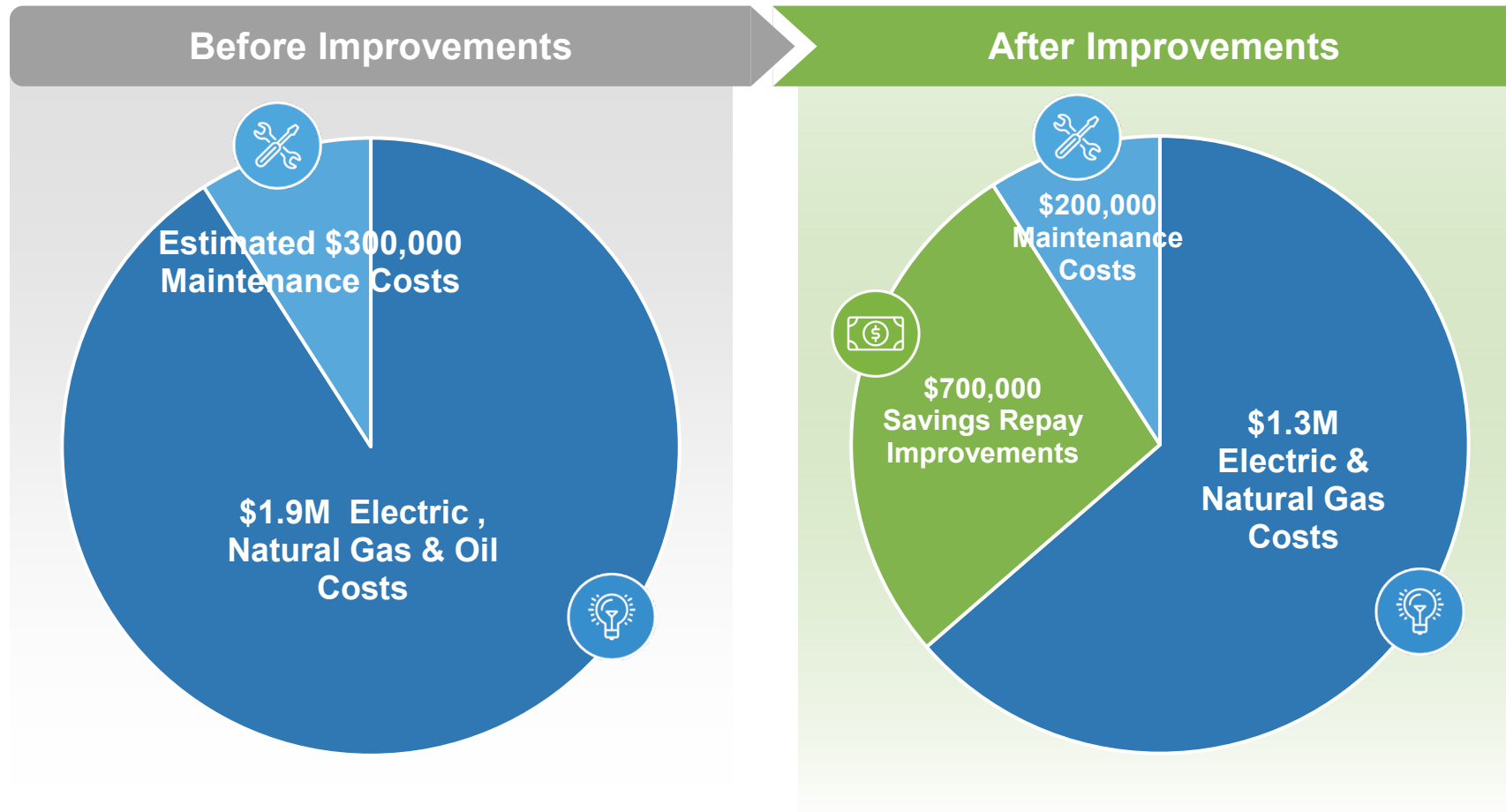
The Energy Savings Improvement Program (ESIP) is a funding mechanism used to finance energy efficiency upgrades at public institutions throughout New Jersey. It allows a public entity to use energy savings to pay for the cost of energy-related capital upgrades.

HOW DOES IT WORK?

Over a 15-year period, the savings achieved from the energy conservation measures and upgrades pay for the cost of the project.

Self Funding Proven Program

ESIP – A BUDGET NEUTRAL SOLUTION



No Up-front Capital Outlay Required / Leverages Available Rebates & Grants / No Debt Limit Impact

Efficiency Improvements Pay for Facility Upgrades

SAMPLE NJ ESIP PROJECTS

Old Bridge Township Public Schools

Funding Generated: **\$15.2M**

Annual Savings: **\$1.86M**



Highlight of Improvements:

15 Schools

- Lighting Upgrades – LED Retrofit
- Building Management System Upgrades / Pneumatic to DDC Conversion
- Boiler Replacements & Boiler Burner Controls
- Building Envelope Improvements
- Rooftop Unit Retro-Commissioning
- 3.4 MW Solar Power Purchase Agreement
- Roof Replacement
- High Efficiency Transformers

East Brunswick School District

Funding Generated: **\$8.4M**

Annual Savings: **\$2.65M**



Highlight of Improvements:

11 Schools

- Lighting Upgrades – LED Retrofit
- Building Management Systems Installation
- Boiler Burner Controls
- Building Envelope Improvements
- Domestic Hot Water Replacement
- Demand Control Ventilation
- Indoor Air Quality Monitoring
- Energy Efficient Motors / Variable Frequency Drives
- Transformer Replacements
- Solar Power Purchase Agreement

Proven Honeywell NJ ESIP Project Performance

UNDERSTANDING YOUR PRIORITIES

ENERGY SAVINGS PLAN DEVELOPMENT

PRIMARY AREAS OF CONCERN



**Interior &
Exterior LED
Lighting**

District-wide



**Control
System
Upgrades &
Strategies**

District-wide



**Boiler Plant
Replacements**

**Select
Locations**



**Building
Envelope**

District-wide



**HVAC
Mechanical
Needs**

**Select
Locations**



**Non-Energy
Related
Needs**

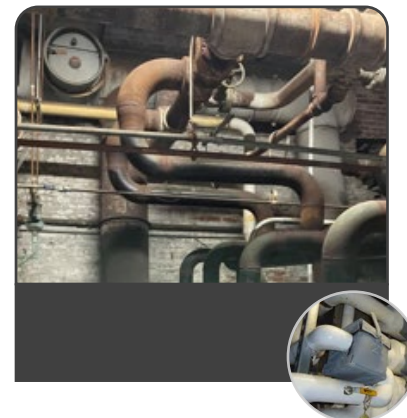
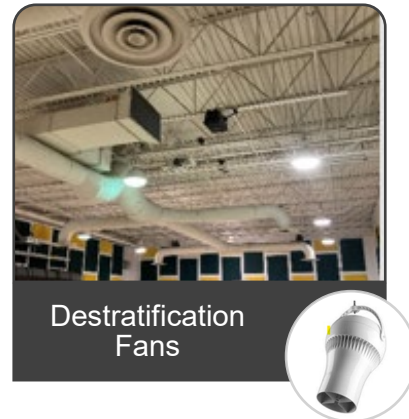
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**Examples:
Security
Related
IT Related**

UNDERSTANDING YOUR PRIORITIES

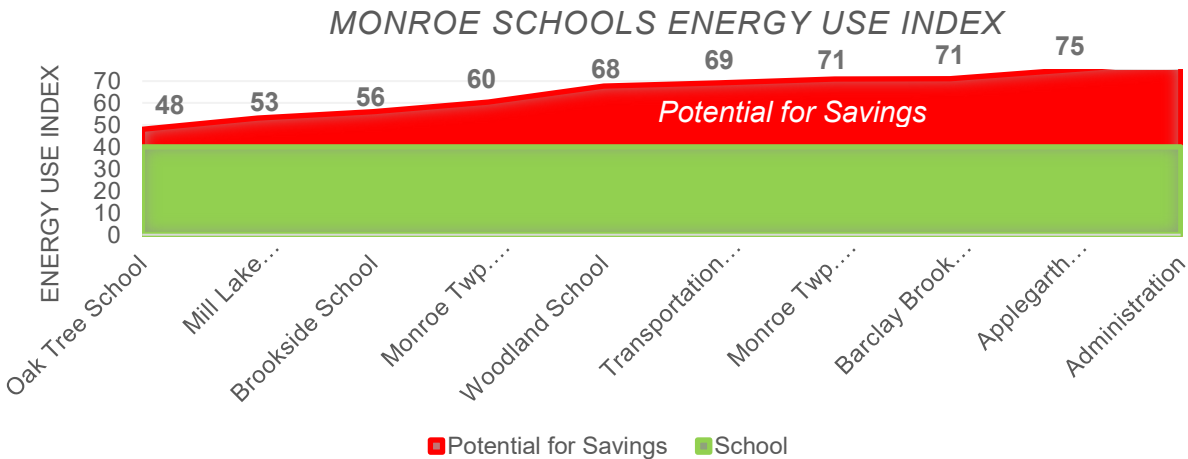
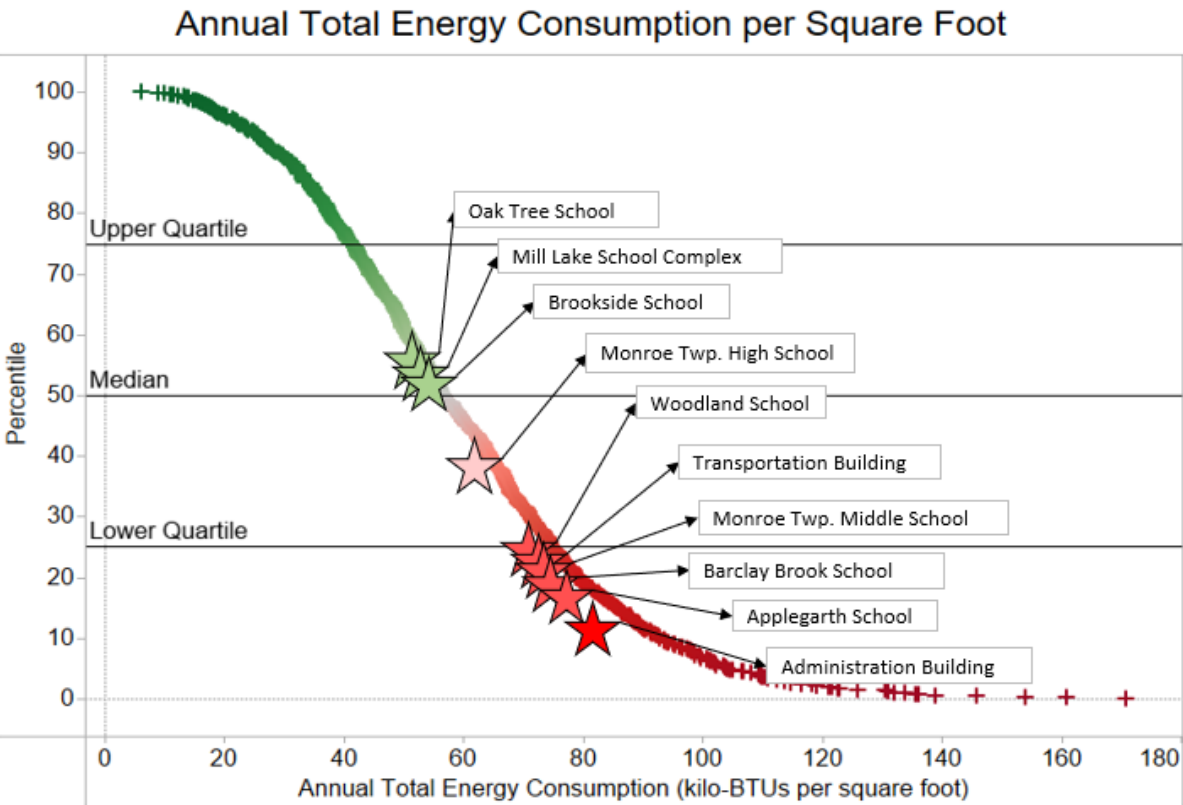
ENERGY SAVINGS PLAN DEVELOPMENT

ADDITIONAL POTENTIAL ENERGY CONSERVATION MEASURES



SAVINGS ESTIMATION – INDUSTRY BENCHMARKS

ENERGY USE INDEX



Percentile Category	kBtu/sq ft	Cost /SQ FT	Total Utility Cost	Total Square Ft
Most Efficient				
None				
★ Median				
Oak Tree School	48.0941935	\$ 1.33	\$ 109,126	82270
Mill Lake School Complex	53.1302486	\$ 1.48	\$ 117,197	79312
★ Brookside School	56.0054886	\$ 1.45	\$ 87,746	60662
★ Lower Quartile				
Monroe Twp. High School	60.4646426	\$ 2.38	\$ 912,566	382699
★ Least Efficient				
Woodland School	67.7806253	\$ 1.84	\$ 111,385	60419
Transportation Building	69.2458575	\$ 2.10	\$ 12,279	5856
Monroe Twp. Middle School	70.9049741	\$ 2.03	\$ 380,082	187332
Barclay Brook School	71.0748626	\$ 1.74	\$ 86,053	49453
Applegarth School	74.9464617	\$ 2.28	\$ 114,954	50429
Administration Building	78.9872288	\$ 2.54	\$ 16,733	6600
		\$ 2.02	\$ 1,948,123	965032

SAMPLE PROJECT FOR MONROE TOWNSHIP SCHOOLS

Monroe Township School District

Funding Generated: ~ \$7.5 M to \$14M

Annual Savings: ~ \$650K

Solar Savings: ~ \$200K



Highlight of Improvements:

8 Schools plus Support Buildings

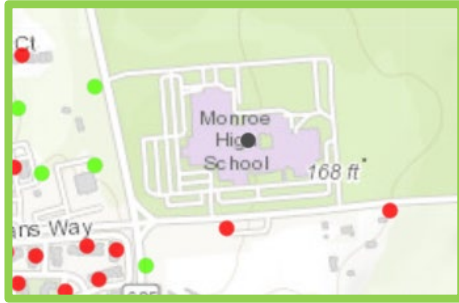
- LED Lighting Improvements
- Roof Top Unit Replacements- AAON UNITS
- New Boilers
- New Cooling Equipment
- New Air Handling Units
- Building Management Control System Upgrades
- Replace Mini Splits
- Solar Photovoltaic PPA

Honeywell ESIP Customer	Project \$	Pre-ESIP Utility Spend	Annual Energy Savings	% Energy Savings
Elizabeth Board of Education	\$10,033,644	\$3,533,898	\$858,265	24%
Egg Harbor School District	\$8,345,782	\$2,366,547	\$532,857	23%
Old Bridge Township Public Schools	\$15,160,251	\$2,342,993	\$1,087,415	46%
West Orange School District	\$10,825,346	\$2,230,689	\$659,752	30%
Monroe Schools Potential Project				
Monroe Township School District- 15 Yr	\$7,597,678	\$1,948,123	\$584,437	30%
Monroe Township School District - 20 Yr	\$14,026,482	\$1,948,123	\$779,249	40% w/Solar PPA
Parsippany Troy Hills School District	\$13,920,401	\$1,853,152	\$421,061	34%
Bridgewater-Raritan-Regional District	\$8,563,325	\$1,807,540	\$592,025	30%
Hillsborough School District	\$15,154,752	\$1,755,960	\$834,099	47%
Camden County Technical Schools	\$6,999,998	\$1,617,166	\$526,478	33%
Bloomfield School District	\$5,965,940	\$1,387,943	\$387,951	24%
NH Voorhees Regional HS District	\$7,559,572	\$1,273,624	\$602,161	47%
NH Voorhees Regional HS District Phase 2-3 Phases	\$7,559,572	\$1,273,624	\$602,161	47% w/Solar PPA
Phillipsburg School District	\$7,132,145	\$1,246,624	\$421,061	34%
Robbinsville Public School District	\$4,492,914	\$945,110	\$240,849	25%
School District of the Chathams	\$5,014,158	\$901,268	\$311,135	35%
Clearview Regional School District Potential Project	\$5,145,337	\$851,304	\$402,725	47% w/Solar PPA
City of Perth Amboy	\$2,398,207	\$845,885	\$187,473	23%
Burlington City Public Schools	\$4,400,000	\$830,780	\$263,547	32%
Swedesboro Woolwich School District	\$5,020,520	\$655,055	\$273,632	42% w/Solar PPA

Possibilities for Monroe Township Schools

POTENTIAL SOLAR AT ALL BUILDINGS

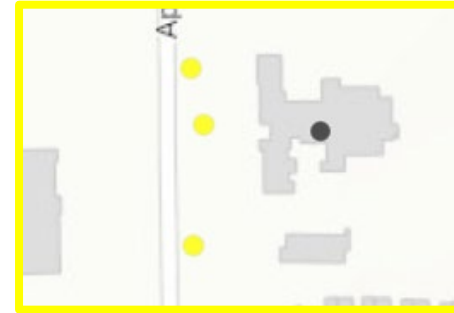
Solar Accommodation Map



Monroe HS



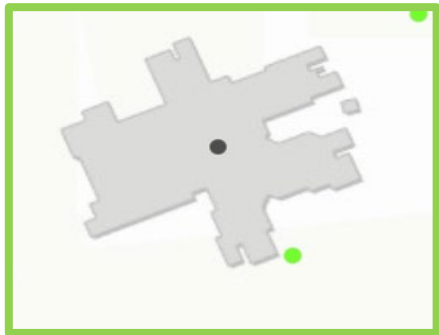
Monroe MS



Applegarth Sch.



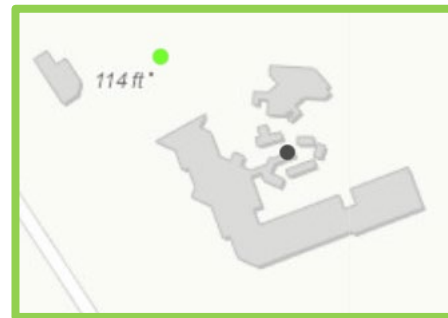
Woodland Sch



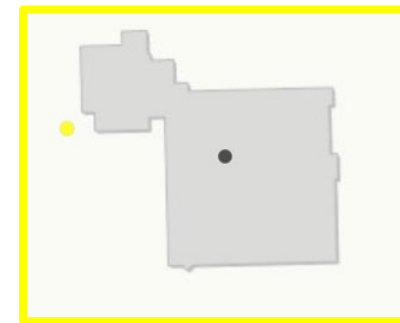
Mill Lake Sch.



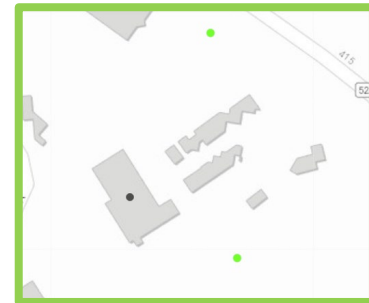
Brookside Sch.



Barclay Brook Sch.



Oak Tree Sch.



Admin Bldg..

- **Red = Less than 100 kW AC**
- **Yellow = 100 to 1000 kW AC**
- **Green = Greater than 1000 kW AC**

STATE & FEDERAL REBATES, INCENTIVES & GRANTS



Energy Efficiency and Renewable Energy Improvement Program

Program Purpose: The Grants for Energy Efficiency Improvements and Renewable Energy Improvements at Public School Facilities program provides grants to make energy improvements.

Funding Department: Department of Energy

Deadline: Estimated Winter
Maximum Award: TBD



EPA Clean School Bus Program

Program Purpose: EPA's new Clean School Bus Program provides five billion dollars over five years (FY 2022-2026) to replace existing school buses with clean and zero-emission models. \$500m each year for EV buses, and \$500m each year for alternative fuel buses (compressed natural gas and propane).

Deadline: August 2022
Maximum Award: 25 buses
\$20,000 per bus for charging infrastructure



COPS School Violence Prevention Program

Program Purpose: The COPS Office STOP School Violence: School Violence Prevention Program (SVPP) provides funding directly to states, units of local government, Indian tribes, and public agencies to improve security at schools and on school property in the grantee's jurisdiction through evidence-based school safety programs.

Deadline: June 2022
Maximum Award: TBD



Funding Beyond Energy Savings

\$29.3M Grants
Generated for NJ
School Clients
over the last 3
years

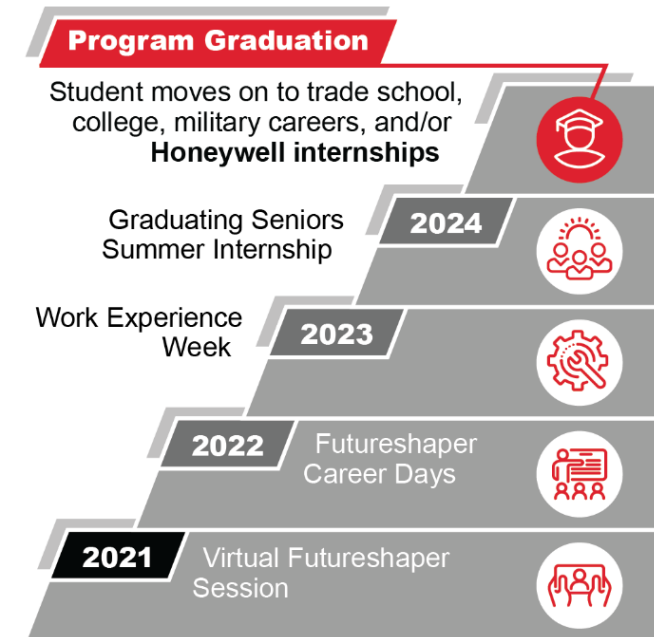
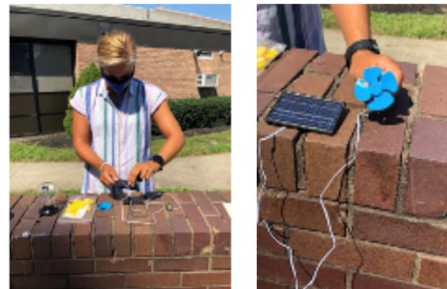
Current Local Incentives/Grants

- JCP&L/PSE&G Prescriptive Rebates
- JCP&L PSE&G Custom Rebates
- Potential Engineered Solutions incentive

EDUCATION ENRICHMENT PROGRAM OPTIONS

The Future-shaper Programs could include:

- Support Career Days & Stem Work Experience Programs
- Student education on the technology, sustainable engineering design methodology & associated trades
- Provide Curriculum Workshops
- Discovery Education – Focused on empowering students to serve as ambassadors for sustainability by providing digital resources students need to make informed decisions and take responsible actions supporting sustainability



IMPLEMENTATION OVERVIEW

FROM ESP DEVELOPMENT TO ESIP IMPLEMENTATION



Pre ESIP to ESCO Selection

Local Government Energy Audit
Verify Utility Baseline- Collect Utility Bills
Determine Project Potentials
Decide Purchasing Method- State RPF or Co-op Selection

Identify ESIP Committee -
Agree on Project Goals and Objectives

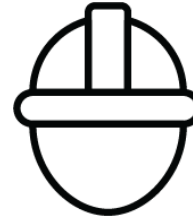


Phase I – Solution Development (ESP Development)

Kick-off Meeting
Audit buildings
Design & Develop ECM Measures
Rebates & Incentive Options
Develop:

- Resource Plan
- Financing Solution
- Measurement & Verification Plan
- Communication & Awareness Plan

Output – ESP Report Completed
Projects & Savings Identified



Phase 2,3,4 Design, Procurement, Construction

Contract Finalized
Design Solutions
Procurement of Subcontractors
Install Measures
Manage:

- Permits
- Subcontractors (Local & Regional)
- Health & Safety Processes

Commissioning
Training for School District

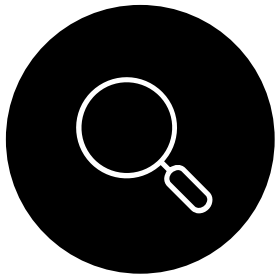
Output – Rebates/Grants
Secured, Improvements
Installed



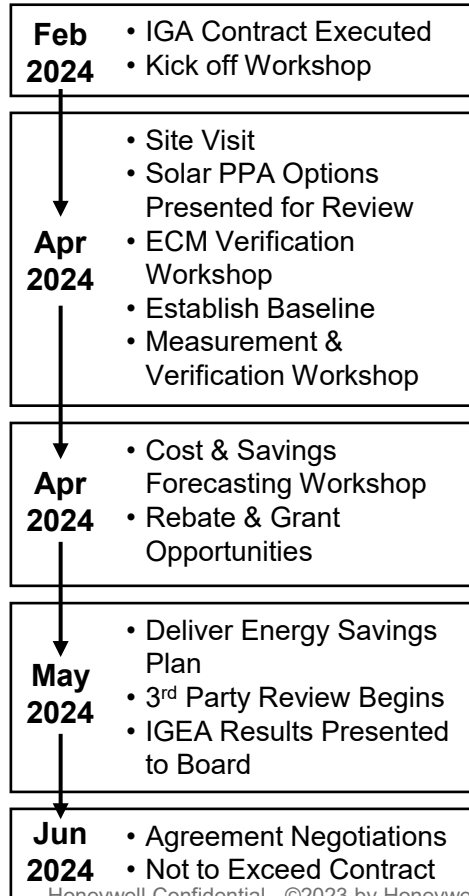
Phase 5 Post Construction Guarantee Period

First Party Guarantee
Ongoing Measurement & Verification
Ongoing Communication & Awareness
Support & Maintenance Services

Output – Annual Cost
Avoidance Report



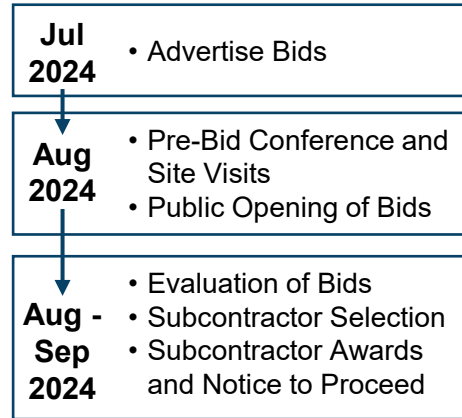
PHASE 1 Discovery Solutions Development (ESP Development)



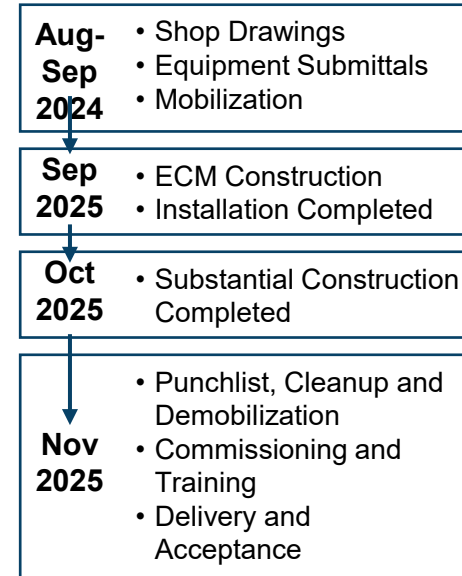
PHASE 2 ECM Design and Bid Development



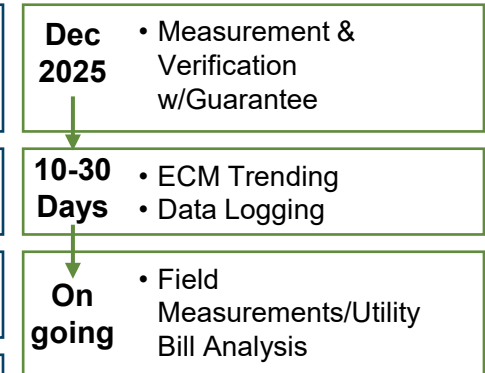
PHASE 3 Procurement



PHASE 4 Construction



PHASE 5 Performance/ Guarantee Period



NJ BOARD OF PUBLIC UTILITIES REVIEW

- **NJ Board of Public Utilities (BPU)**
 - Michele Rossi, ESIP Coordinator
- **Verify the process adherence**
- **Verify Third Party Review completion**
- **Verify all rebate were considered and accurately applied**



Hello Caroline,

The revised (and attached) Energy Savings Plan submitted on 9/1/23 for the Clearview Regional School District has been approved.

The upgrades that will be implemented will not only increase energy efficiency but also save a significant amount of money. These improvements will reduce overall energy consumption and ultimately help to diminish the district's carbon footprint. I applaud Clearview Regional for making this commitment to pursue an ESIP project.

I will be checking in periodically, but please don't hesitate to reach out should you or any representatives from the district should have questions moving forward.

Best,

Michelle Rossi

Michelle Rossi
ESIP COORDINATOR
New Jersey Board of Public Utilities
(O) 609.913.6295
(C) 609.915.0903
michelle.rossi@bpu.nj.gov
www.nj.gov/bpu

BPU Approval

RECENT CO-OP SELECTIONS

Project Name	Purchasing Method	BPU Approval	Contract Date
Bloomington School District	Omnia - Energy Solutions Category	✓	Nov-21
Sparta School District	Omnia - Energy Solutions Category	✓	Dec-21
Harrison School District	Omnia - Energy Solutions Category	✓	May-22
North Hunterdon Voorhees Regional HS District	Omnia - Energy Solutions Category	✓	Nov-22
Egg Harbor Township School District	Omnia - Energy Solutions Category	✓	Mar-23
Burlington City School District	Omnia - Energy Solutions Category	✓	Jun-23

Next Steps as per LFN- 2012-10 (Using National Cooperative Contracts)

- ☐ Resolutions to Select ESCO
- ☐ Advertise Selection For 10 Days
- ☐ Include required forms in Energy Savings Plan



Cooperative Purchasing Selections

HONEYWELL OVERVIEW AND QUALIFICATIONS

Current Project References

Burlington City Schools	Swedesboro Woolwich School District
North Hunterdon Voorhees Regional School District	Bloomington School District
Egg Harbor Township Schools	Clearview Regional HS District



Over \$400 Million In New Jersey Energy Savings

500+ New Jersey Performance Contract Projects over the Past 39 Years valued at over \$600 Million

Over \$20 Million in Customer Utility Incentives
Over \$35 Million in NJ SSB

Over \$150 Million in Annual Performance Contracts (ESIP)

In Excess of \$6.5 Billion in Guaranteed Savings

REVIEW OF NEXT STEPS

LGEA Reports- Sample Quote Request

ESIP Intake Form submitted to BPU

Resolution to Select Energy Services Company (ESCO) via Co-op

Honeywell will complete Energy Savings Plan

- Organize Utility Baseline
- Complete Site visits
- Identify Existing Equipment and Needs
- Coordinate with current projects and planned projects- savings
- Identify utility rebates or grant opportunities
- Report on solar opportunities

Present overview of improvements and select with you what can be completed in the Energy Savings Improvement Program (ESIP)

We will Guide you through the ESIP Process

THANK YOU

Additional Questions?

We at **Honeywell** look forward to helping **Monroe Township School District** develop your Energy Savings Improvement Project

