Montclair BOE

Energy Savings Improvement Program (ESIP)

Energy Savings Plan Summary (ESP)
AGENDA

• Team Introductions
• ESIP Process Overview
• ESIP Timeline
• ESIP Project Summary
• Environmental Summary
Team Introductions

Montclair BOE

Honeywell
ESIP Process Overview
ESIP Process Overview

PURPOSE

NJ PL 2012 C.55 was enacted to give schools the opportunity to re-direct a portion of their existing energy and operational expenses to pay for energy-related improvements using the energy savings that result from the improvements.

- ESIP is overseen by the New Jersey Board of Public Utilities (BPU)
- Projects are funded entirely with the resulting savings
- Energy Service Company (ESCO) guarantees the savings
- Projects improve comfort, reliability and efficiency of the existing buildings
- Projects produce significant energy efficiency rebates

Re-Directing Money Back into the Montclair Facilities
ESIP Process Overview

Why It Works:
- No Up-front Capital Expenditures
- Projects are Funded with Energy and Operational Savings
- The ESCO, Honeywell, Guarantees the Savings
ESIP Timeline
ESIP Timeline

2016
- Jan ‘16: PSA Commences ESIP Process
- Aug ‘16: Local Government Energy Audit (LGEA) Approval Issued to BOE
- Jan – May ’17: LGEA on Hold

Winter 2016: LGEA Audits Performed:
- Utility Costs
- Building Envelope
- Lighting Systems
- Heating Systems
- Electric Usage & Demand
- Energy Demand

2017
- Jan ’19: Final LGEA Reports Issued to BOE for all Buildings

2018
- March ’19: ESCO RFP Released
- May ‘19: ESCO Proposals Received
- July ’19: Honeywell Selected

2019
- June ’20: ESP Approval
- Jan ‘18: Draft LGEA Reports Issued to BOE for 7 buildings.

2020
- Jan ’19: Final LGEA Reports Issued to BOE for all Buildings

2021
- July ’21: Upgrades Started
- Sept ‘22: Solar PPA Transition Incentive Program (TI) Approvals issued by the NJ Clean Energy Program

2022
- Sept ‘23: Anticipated Substantial Completion

2023

2024
# ESIP Project Summary

| Montclair Public Schools | 15 Year Lease Purchase  
1.5% Interest Rate |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Total Project Value</strong></td>
<td>$10,720,000.00</td>
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<tr>
<td><strong>Total Energy and Operational Savings</strong></td>
<td>$12,044,131.00</td>
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<td><strong>Potential Rebates Paid Directly to School District</strong></td>
<td>$559,434.00</td>
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<td><strong>Positive Cash Flow for School District</strong></td>
<td>$475,097.00</td>
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*Includes Professional Design and Issuance Fees*
ESIP Projects Summary

**ELECTRICAL**
- Lighting Upgrades
- Vending Misers
- De-Stratification Fans

**Mechanical**
- Roof Top Unit Replacement
- Premium Efficiency Motors and Variable Frequency Drives (VFD)
- Piping Insulation Upgrades
- Steam Trap Replacements/Refurbishment

**Building Management System**
- Building Automation, Demand Control Cantillation Ventilation, & Exhaust Fan Controls

**Building Envelope**
- Building Envelope
- Improve Classroom Comfort

**Transformer Replacement**
- High Efficiency Transformers

**Roof – Re-sealing**
- Silicone Roof Coating
- Extend Roof Warranty for 15 years

**Solar Power Purchase Agreement (PPA)**
- Solar PPA Renewable Energy 765 KW

**Water Conservation**
- Water Conservation through aerators
# ESIP Projects Summary

<table>
<thead>
<tr>
<th>Honeywell</th>
<th>Overall Percentage</th>
<th>Pre-K/DLC</th>
<th>Bradford</th>
<th>Bullcock</th>
<th>Buzz Aldrin</th>
<th>Edgemont</th>
<th>Glenfield</th>
<th>Hillside</th>
<th>High School</th>
<th>George Inness</th>
<th>Nishuane</th>
<th>Northeast</th>
<th>Renaissance</th>
<th>Woodman Field</th>
<th>Central Heating Plant</th>
<th>Board of Education</th>
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<tbody>
<tr>
<td><strong>ECM1 - Electrical</strong></td>
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<td>A - Lighting Upgrades</td>
<td>95%</td>
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<td>C - Vending Misers</td>
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<td>D - De-Stratification Fans</td>
<td>100%</td>
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<td><strong>ECM2 - Mechanical</strong></td>
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<td>D - RTU Replacements</td>
<td>25%</td>
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<td>G - Premium Efficiency Motors and VFD’s</td>
<td>50%</td>
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<td>H - Piping Insulation Ugrades</td>
<td>90%</td>
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<td>J - Steam Trap Replacements/Reburishment</td>
<td>100%</td>
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<td><strong>ECM3 - Building Management System</strong></td>
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<td>A-C - BA, DCV, &amp; Exhaust Fan Controls</td>
<td>22%</td>
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<td><strong>ECM4 - Building Envelope Improvements</strong></td>
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<td><strong>ECM7 - Transformer Replacements</strong></td>
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<td><strong>ECM9 - Roof Re-Sealing</strong></td>
<td>25%</td>
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<td><strong>ECM12 - Water Conservation</strong></td>
<td>90%</td>
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Electrical

New Destratification Fans at Rand MS

Lighting at Montclair High School
Mechanical

Existing RTU at Bradford ES

New RTU at Bradford ES
New Attic Insulation at Bradford

New Door Weather Stripping & Sweeps at Community Pre-K
Transformer Replacement

New Transformer at Bradford
Roof Re-Sealing

Northeast – Before

Northeast - After
Solar Power Purchase Agreement

High School

Northeast

Woodman

Bradford

George Inness
Environmental Summary
Environmental Summary

<table>
<thead>
<tr>
<th>Environmental Impact</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Electrical Savings</td>
<td>2,052,491 kWh Saved</td>
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<tr>
<td>Gas Savings</td>
<td>291,481 Therms</td>
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<tr>
<td>Green House Gas Emissions</td>
<td>2627 Metric Tons</td>
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<tr>
<td>Automobiles Removed</td>
<td>544</td>
</tr>
<tr>
<td>Trees Saved / Planted</td>
<td>2488 Acres</td>
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</table>
THANK YOU