NEW HAVEN PUBLIC SCHOOLS

NHPS Climate Resolution 3

Citywide School Building and Stewardship Committee
Meeting Date: April 13, 2023
Presented by: Thomas Lamb, Chief Operating Officer

STRATEGIC PLAN : SY 2020-2024

NEW HAVEN PUBLIC SCHOOLS

Core Values

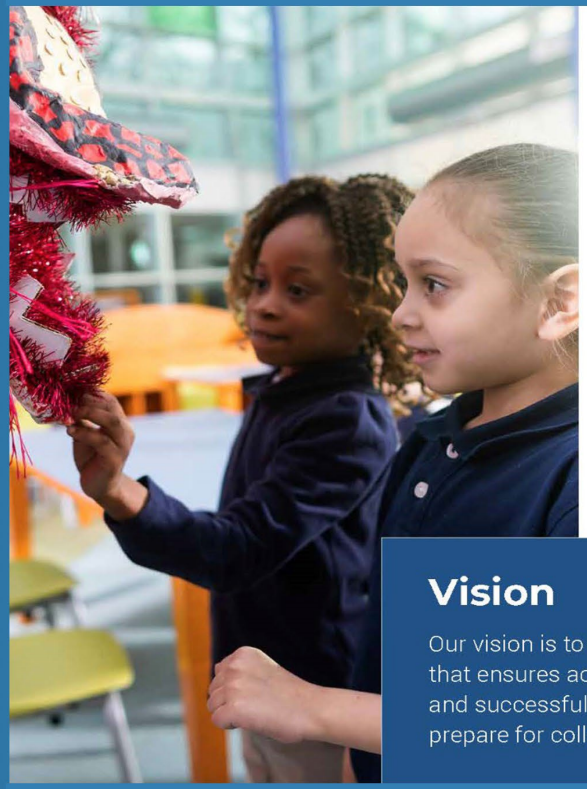
We believe...

1 Equitable opportunities create the foundation necessary for every child to succeed

2 A **culture of continuous improvement** will ensure that all staff are learners and reflective practitioners

3 High expectations and standards are necessary to prepare students for college and career

4 Collaboration and partnerships with families and the New Haven community will enhance learning and achievement



Mission

To provide all students in New Haven Public Schools with personalized, authentic, and engaging learning experiences through creativity, exploration, innovation, critical thinking, problem-solving, and high quality instruction. To foster a culture of continuous improvement through collaborative partnerships with staff, families, and the New Haven community. To support students' growth and development by utilizing the Whole Child Framework.

Vision

Our vision is to be a premier urban school district that ensures access to equitable opportunities and successful outcomes for all students as they prepare for college, career, and life.

Priority Areas for 2020-2024

1	Academic Learning	2	Culture & Climate
3	Youth & Family Engagement	4	Talented Educators
5	Operational Efficiencies		

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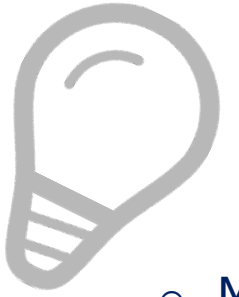
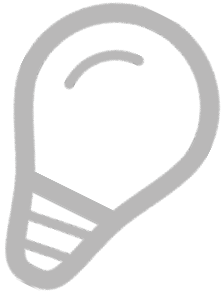
3. BE IT FURTHER RESOLVED that the Citywide School Building and Stewardship Committee will aim to create a plan within six months of passage of this Resolution on reducing energy use in all facilities, increasing efficiency, and on electrifying energy in buildings to the greatest extent possible.



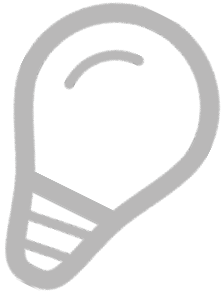
Goals of Energy Management Plan

- Maximize efficient operations of existing building systems through effective preventative maintenance
- Plan for the fascial responsible replacement of aging building systems to reduce reliance on fossil fuels where possible
- Manage, measure, and reduce through conservation efforts: energy, water, and waste
- Minimize pollution and reduce district carbon footprint
- Ensure compliance with local, state, and federal building codes
- Engage the district: leadership, staff, and students



Facts

- America's 120 million buildings consume a prodigious amount of energy.
- Residential and commercial buildings account for almost:
  - 39 percent of total U.S. energy consumption
  - 38 percent of U.S. carbon dioxide (CO_2) emissions.
- Nearly all of the greenhouse gas (GHG) emissions from the residential and commercial sectors can be attributed to energy use in buildings.
- For a typical company, energy costs can account for as much as 10% of the annual operating budget; electricity accounts for nearly 75% of that cost.
- Between 10 and 50% of building energy use is wasted!



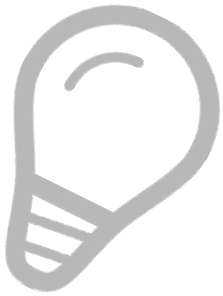
Energy Management Best Practices

Each of the best practices fall into one of the following four major categories:

1. Management—energy-efficient building operation and the "big picture."
2. Teamwork—energy-efficient building operation is everybody's business.
3. Resources—information saves time and money.
4. Energy-Efficient O&M—expanding the preventive maintenance program.

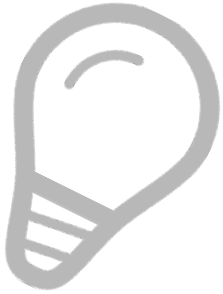
Source: "15 O & M Best Practices – Energy Efficient Buildings", Prepared with funding from the U.S. EPA and U.S. DOE, September 1999

Management



Best Practices

1. Goals
2. Planning
3. Energy Audit, Accounting & Reporting



Goals

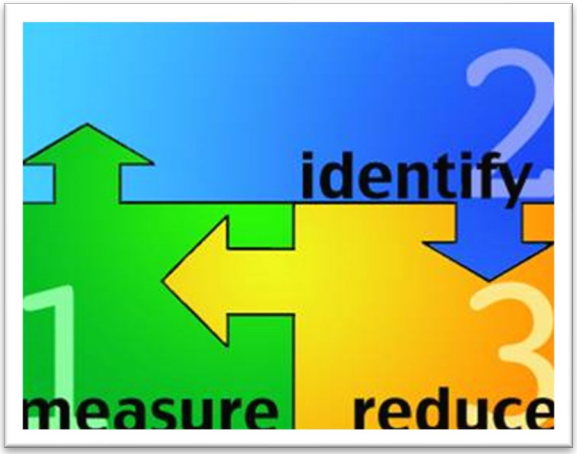
Incorporate Goals for Energy Efficient Building Operations into the Strategic Plan:

- Gathers the attention of senior management by increasing their understanding of efficient operation as part of asset management.
- Efficient building operation reduces operating costs
- Senior management support for the O&M in general and for energy-efficient building operation in particular.
- Establish energy-efficient operation as a specific goal for the Facilities department.

Planning

Require an Energy Management Plan with Energy Efficient Operations as a Key Component.

- Energy Management Plan is a strategic, rational way to examine energy investment choices using data on energy use in facilities.

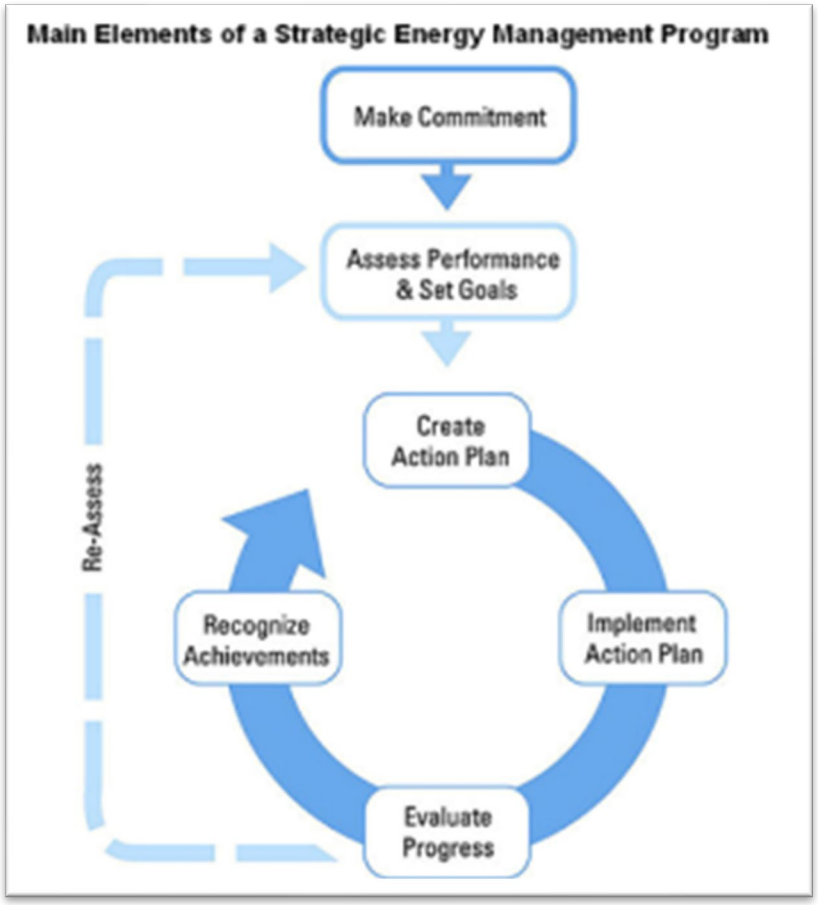


Planning cont.

Effective energy management planning focuses on:

- Purchase or produce clean and reliable energy at the lowest cost.
- Replacing old equipment and systems with new, efficient technologies.
- Operating energy consuming equipment in the most efficient manner as per design.
- Creating a written energy management plan that not only includes fuel purchasing and equipment replacement but equally emphasizes strategies for efficient building operation.
- Optimizing energy cost savings by efficiently operating existing equipment and reducing inappropriate or premature capital outlay.

Energy Management Planning



Source: Energy Star Guidelines for Energy Management

Energy Management Plan

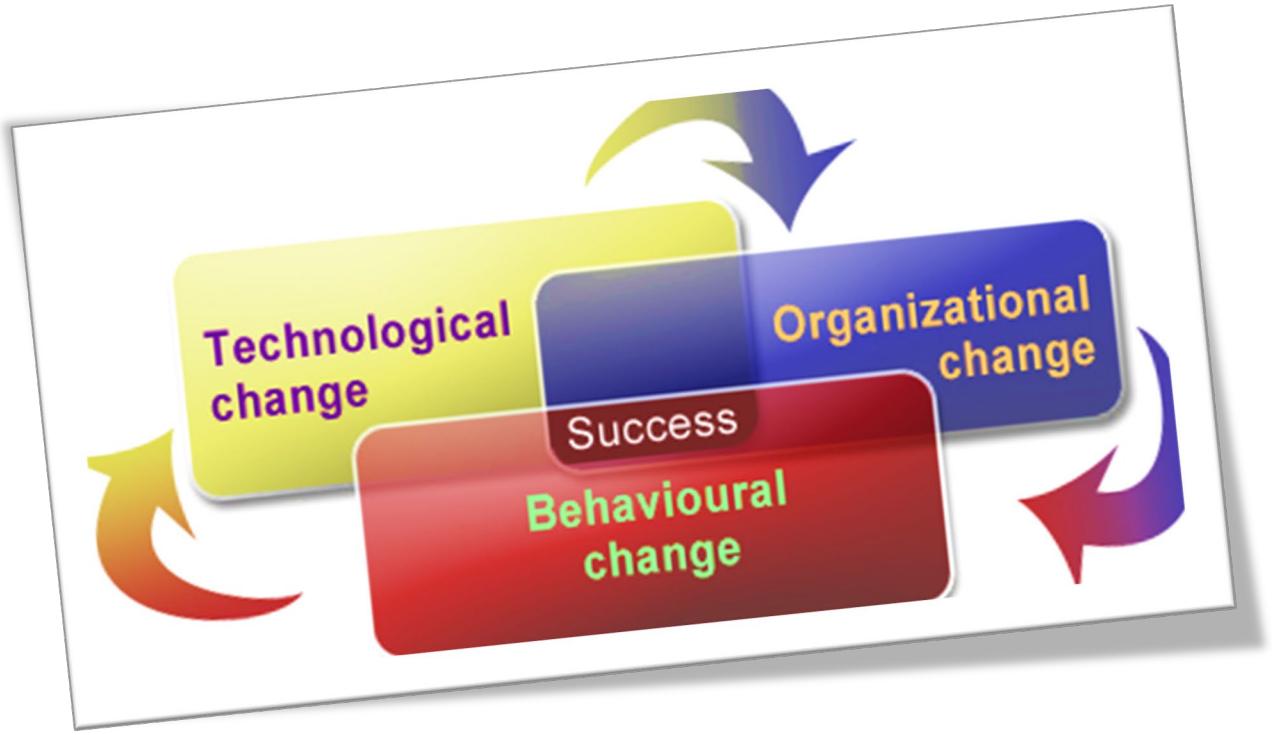
- Background
- Energy Management Policy
- Energy Management Team
- Energy Baseline
- Energy Conservation Targets
- No/low cost Energy Efficiency Initiatives
- Energy Capital Reserve
- Conservation Capital Projects
- Financial Planning and Analysis
- Engage Leadership and Staff
- Measurement and Verification
- Documentation Maintenance

Audit, Accounting & Reporting

Provide a basic foundation for a successful Energy Management Plan:

- Conduct an Energy Audit (Best Practice 10).
- Provide a basis for setting realistic energy savings goals.
- Record and track the progress of energy saving strategies.
- Identify Energy Capital Reserve.
- Identify possible areas for improved Operations & Maintenance (O&M).
- Motivate O&M staff by continually giving them feedback through data and reports.

Engaging the Organization



Teamwork

Best Practices

4. Staffing

5. Training

6. Outsourcing

7. Partnerships

Staffing

Employ a staff member whose primary focus is developing and implementing the organization's Energy Management Plan:

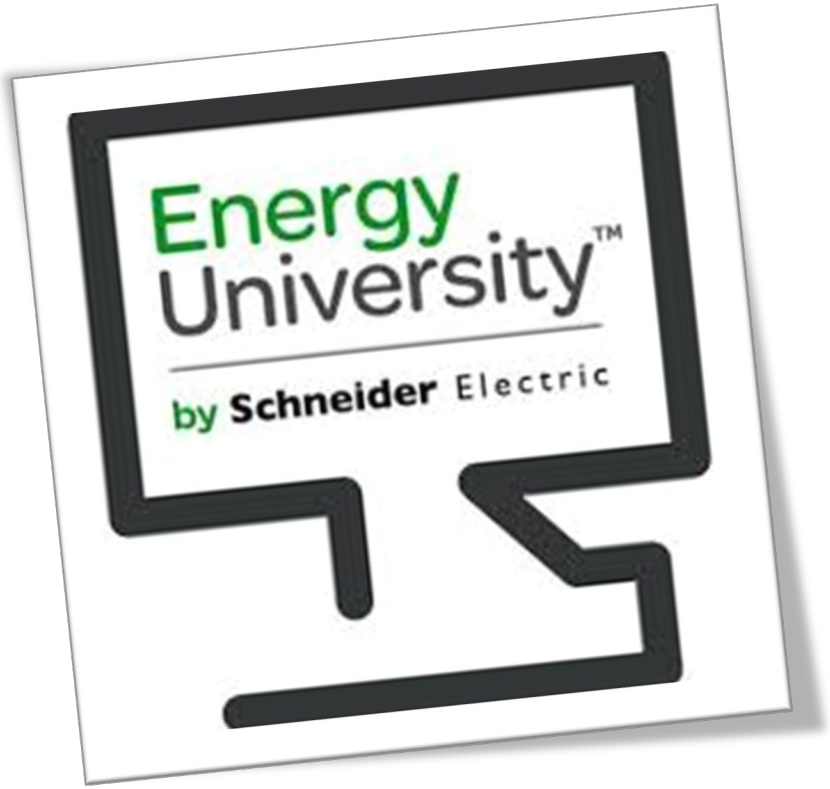
- The school district through hour contract with ABM has hired an Energy and Sustainability Manager
- Seek, up-to-date energy management training for staff assigned to energy management roles.
- Explore how to obtain memberships in organizations that specifically support energy management for school districts.

Training Goals

Train building operations in energy efficient practices:

- Employ a confident, sophisticated, and motivated facilities staff that has a clear understanding of how to operate the building's energy-consuming systems efficiently no matter how sophisticated the technology.
- Develop a training plan for Facilities Team using in-house resources as well as classes, conferences, and seminars that focus on energy-efficient building operation.
- Obtain necessary training or certifications for Building Management Systems Operations

Training cont.



Energy University is a **FREE**, online, educational resource, offering more than 200 vendor-neutral courses on energy efficiency and data center topics to help you identify, implement, and monitor efficiency improvements within your organization.

Vendor Management

Require Service Contracts that Support Energy Efficient-Building Operation:

- Increase the quality of the service provided by the service contractor.
- Increase service contractor accountability for both maintenance and efficient building operation.
- Instill confidence that the service contract works to efficiently operate and maintain building equipment.
- Obtain, sustain, and in some cases increase the energy savings and equipment life generated by the service contract.

Partnerships

Acknowledge Energy-Efficient Operations as a Cross-Functional Activity:

- Increase energy savings and equipment life by educating equipment users on how to properly operate energy consuming devices.
- Reduce Operations and Maintenance problems and trouble calls for O and M staff.
- Identify staff who operate energy consuming equipment and who influence when, why, and how the equipment is operated. Develop partnerships with these individuals regarding proper equipment operation.
- Involve these individuals in the energy management process through education. Instruct them in how to operate new equipment and give them fact sheets that put to rest misconceptions about operating equipment.
- Periodically remind equipment users such as custodians and staff to turn off equipment when not in use, especially when they leave the area for an extended period of time.
- Take advantage of meetings, company newsletter, e-mail, stickers, and other opportunities to issue these reminders. Work with district Director of Communications to develop Energy Management Newsletter.
- Perform periodic night and weekend audits to discover what equipment is operating that could be turned off; i.e., including lights and office equipment.

Partnerships cont.

ENERGY STAR

- Is about more than products. In fact, since 1992, EPA has also worked with organizations to help them save money and reduce greenhouse gas emissions by making their buildings and plants more energy efficient.

- Every year, they're saving more than $9 billion and preventing nearly 120 million metric tons of greenhouse gas emissions from entering our atmosphere. Learn how ENERGY STAR can help you create a better building, a better bottom line, and a better world.

Energy Star

Build an energy program
- Guidelines for energy management
- The business case for energy efficiency
- Financing strategies and incentives

Benchmark energy use
- Learn about benchmarking
- Use ENERGY STAR tools

Improve energy performance
- Improve commercial buildings
- Find guidance for design projects
- Manage energy use in manufacturing
- Develop programs and policies

ENERGY STAR in action
- Programs and policies leveraging ENERGY STAR
- Green buildings and ENERGY STAR

Earn recognition
- For your building or plant
- For your commercial new construction project
- For your organization

Communicate and educate
- Communications toolkit
- The value of ENERGY STAR
- What others are doing

Resources

Best Practices

8. Energy Management Standards

9. Tools

10. Energy Audits

Energy Management Standards

- ISO 50001 is based on the management system model of continual improvement This international standard makes it easier for organizations to integrate energy management into their overall efforts to improve quality and environmental management.

- ISO 50001:2011 provides a framework of requirements for organizations to:
  - Develop a policy for more efficient use of energy
  - Fix targets and objectives to meet the policy
  - Use data to better understand and make decisions about energy use
  - Measure the results
  - Review how well the policy works, and
  - Continually improve energy management.

ISO 50001
Energy Managment System
ISO

Energy Management Standards

Tools

Equip O & M Staff with State-of-the Art Diagnostic Tools:

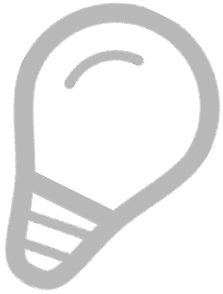
- Provide O & M staff and managers with a state-of-the-art means of troubleshooting and detecting energy wasting malfunctions as well as obtaining immediate feedback on comfort and operational changes.
- Provide a method of measuring the results of discrete changes in operating strategies.

Energy Audits

Perform a Comprehensive Energy Audit:

- Identify the most immediate and cost-effective O & M tune-up activities that will lead to efficient building operation and meet management and user needs.
- Generate a master list of O & M improvements to assist management in budgeting and decision making.
- Document current O & M conditions as a baseline for comparing to future improvements.

Source: ASHRAE's *Procedures for Commercial Building Energy Audits*



Thank You

Questions?