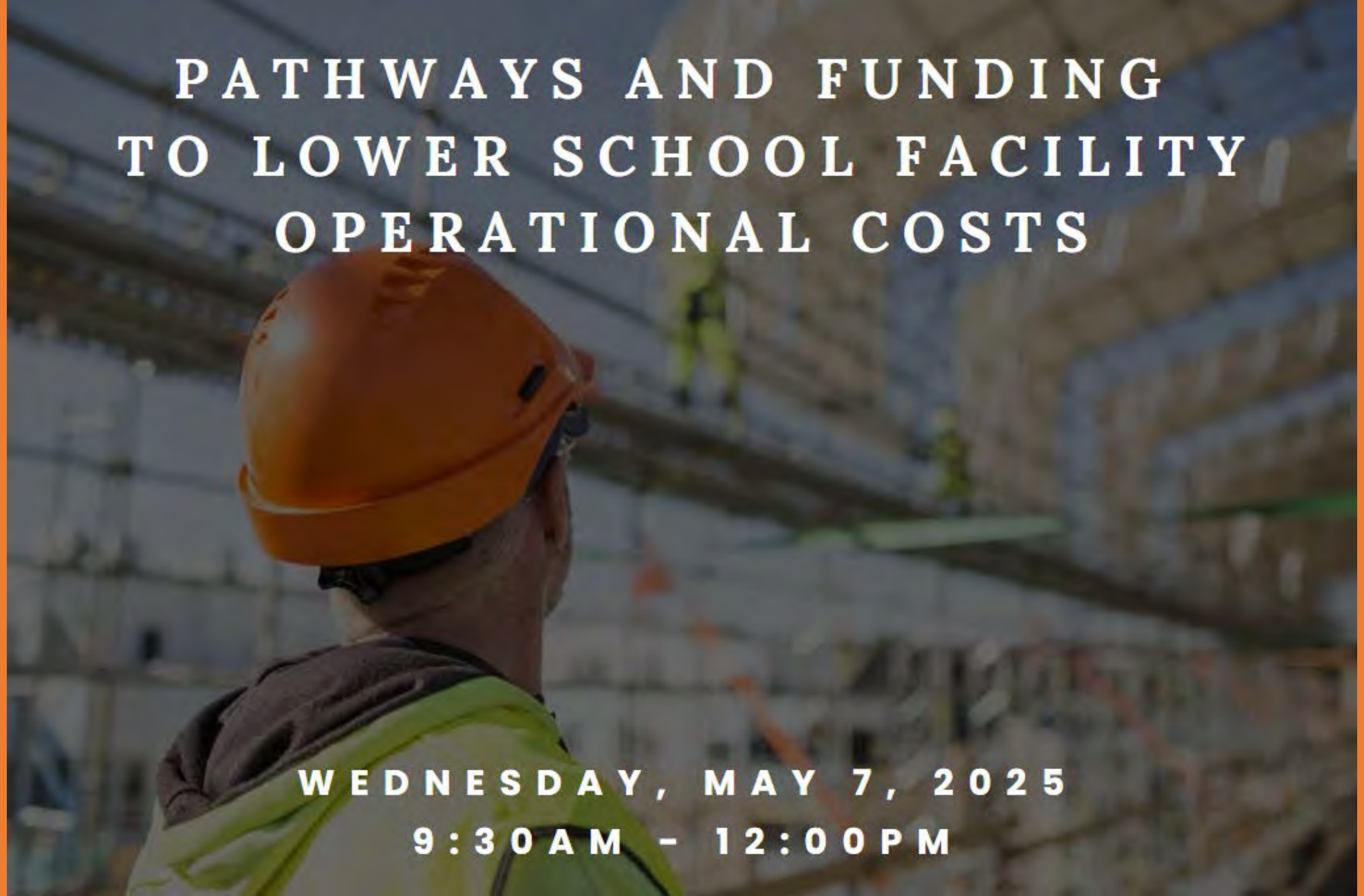


PATHWAYS AND FUNDING TO LOWER SCHOOL FACILITY OPERATIONAL COSTS

WEDNESDAY, MAY 7, 2025

9:30AM - 12:00PM

Introduction & Welcome

Session 1: Challenges Facing Rural School Districts

- One Rural Region's Challenges
- Planning for the Whole District

Session 2: Project Pathways

- Incremental HVAC Retrofits for Schools with Low Budgets
- Orange's Fisher Hill Elementary School Add/Reno & Solar Project
- Westfield River Elementary School Construction

Session 3: State Funding Sources to Offset Cost

- MSBA Grant Program
- MASS Save: Municipal Building Decarbonization Support
- Massachusetts Clean Energy Center (CEC)

Closing Remarks



Session 1:
Challenges in Rural Regions

One Rural Region's Challenges

Sheryl Stanton
Superintendent
Mohawk Trail/Hawlemont Regional School District

Mohawk Trail/Hawlemont Regional School Districts

- Serve 8 diverse towns that cover over 250 square miles
- Operate 5 school buildings for a total of 900 students

Ashfield
Buckland
Charlemont
Colrain
Hawley
Heath
Plainfield
Shelburne

Buckland-Shelburne ES - *PreK-6* (270)

Colrain Central ES - *PreK-6* (94)

Hawlemont Regional ES – *PreK-6* (71)

Mohawk Trail Reg. School - *7-12* (316)

Sanderson Academy – *PreK-6* (125)

300 staff

2 school committees

2 teaching contracts

Challenges to Quality Education

Five small schools providing education to 900 students is inefficient



- Elementary Cohort Size
- Special Ed Programming
- Science and technology
- Climate mitigation and energy efficiency
- High School Programming

Challenges within a Two-District, Eight-Town Region

- Declining enrollment – 55% & 60% between 2000-2004
- Stagnant property values
- Rising operational costs
- Flat state aid





2D8T (2 District, 8 Town) Study – How to Sustain Quality Education





- Commissioned a study
- Study Goals:
  - To ensure that the communities that comprise our Districts are fully informed about the issues we face
  - To gather input from our constituents
  - To create potential operating models that offer a more sustainable future for our schools and our member towns

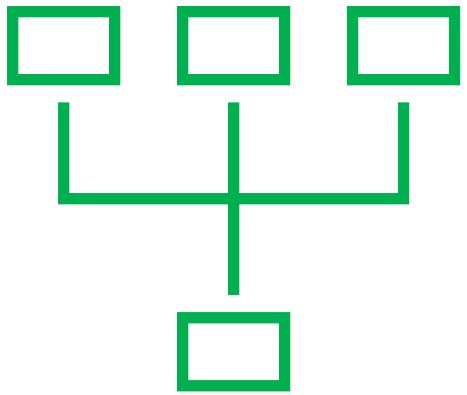
Lessons Learned … So Far

- Find your "walk on water" people
- Scrounge for funding
- Dive into the data – but tell a story
- Focus on education
- Community support leads the way



Study Outcomes

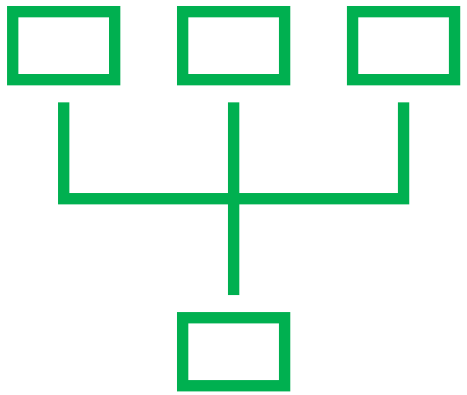




- The current buildings are well under-capacity and will become more so based on enrollment projections through 2030
- (Three schools: Colrain, MTRS and Hawlemont are at less than 50% capacity)
- No existing elementary school can be used to educate all elementary students in the district
- Selective use of facilities, (closures, reorg of grade levels, and redistricting by geography and grade span is possible
- The closure of school facilities is needed to achieve true economies of scale and fiscal savings

Study Outcomes (continued)





- Capital investment is projected to be needed in 5 years;
  - $850,000 in maintenance and an additional $2.6M for system upgrades (including staffing) will be needed to upkeep the five current buildings
- Solutions include creating a single campus through renovation and addition at the Mohawk Trail Regional School
- Operational savings reached through a single campus is estimated to be $4.7M to $5.3M (up to 65 fewer staff)

Q & A





Planning for the Whole District

Dorrie Brooks, AIA
Principal Architect
Jones Whitsett Architects

Board Member
AIA Massachusetts



“Baby Boomer Schools”

THE “LIFE SPAN” OF BUILDING COMPONENTS

Concrete 40 -80 years

Structural Steel 30 - 70 years

Brick Exterior Walls 40 years

Roof Systems 15-30 years

Boilers 20 -30 year

Lighting 20 - 25 years

Window Systems 20 years

Acoustic Ceiling Tile - 15 - 30 years

Air Handling Units - 15 - 20 Years

Vinyl Tile 10 - 20

Carpet 5 -15

Gen Z Student and Future Students

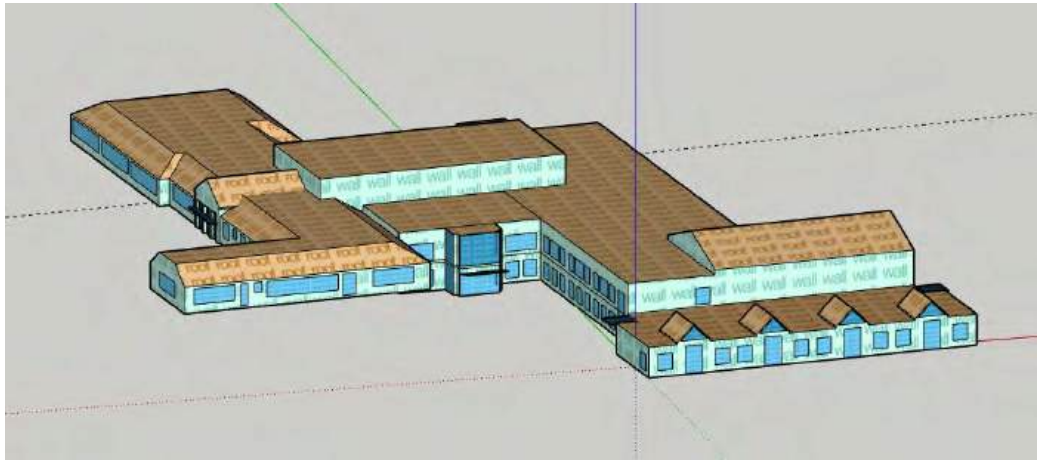


Components of an Educational Facilities Master Plan



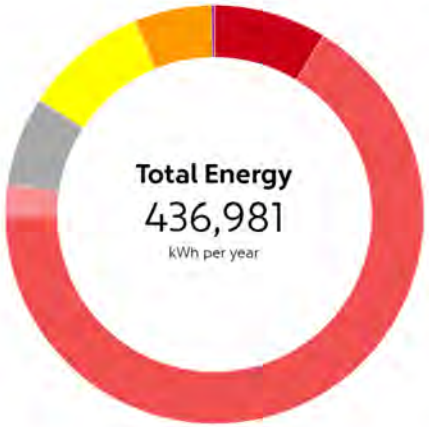
Building & Site Assessments

What are the assets and liabilities of each building in your portfolio?



Sample spatial analysis

Annual Energy Use



Segment	kWh per year	% of total use
Heating	**337,897**	**77 %**
AHU	38,011	9 %
Zones	289,144	66 %
Humidification	10,742	2 %
Cooling	**0**	**0 %**
AHU	0	0 %
Heat Rejection	0	0 %
Zones	0	0 %
Fans	**30,164**	**7 %**
AHU	30,164	7 %
Zones	0	0 %
Interior	**67,974**	**16 %**
Lighting	41,867	10 %
Equipment	26,107	6 %
Pumps	**946**	**0 %**

Sample Energy Use Analysis

Educational Appropriateness Assessment





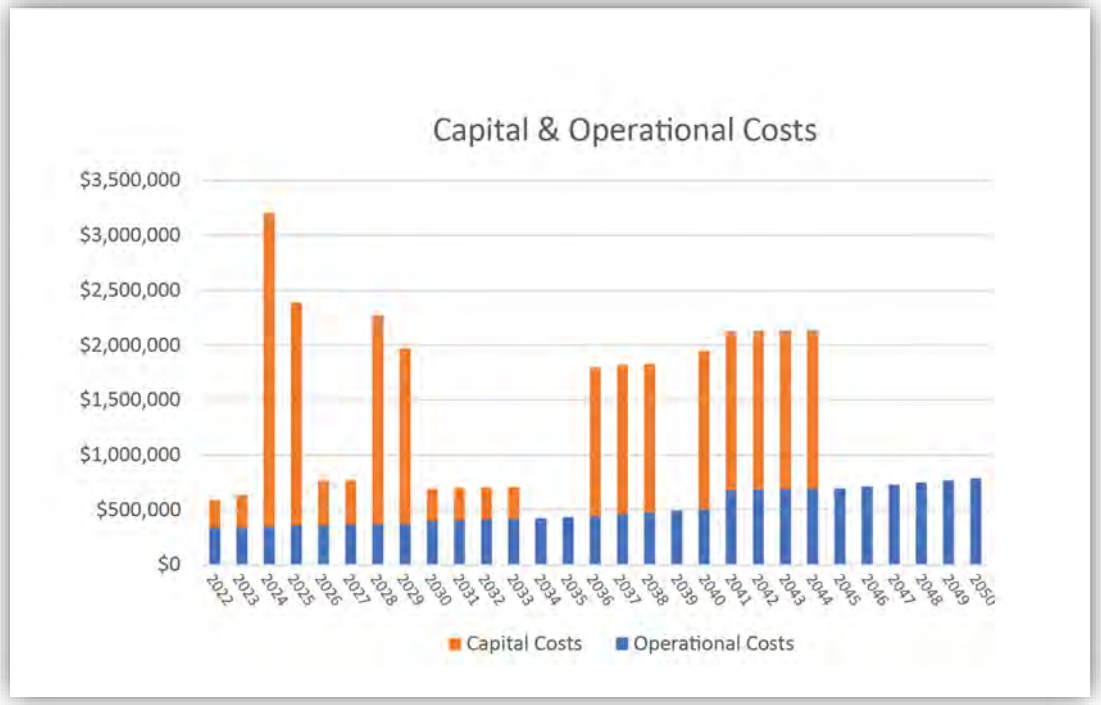


Gardner Elementary School (New Construction, Consolidation, JWA, 2022)

Do your facilities match your educational vision?

- 21st century learning & inclusion
- Adequacy of power and infrastructure
- Varied space sizes to support academic intervention near the classroom
- Appropriate work spaces for all staff members
- Up-to-date specialized instructional spaces for Arts, Science, STEM, Health and Vocational instruction

Capital Planning v. Cost of Doing Nothing



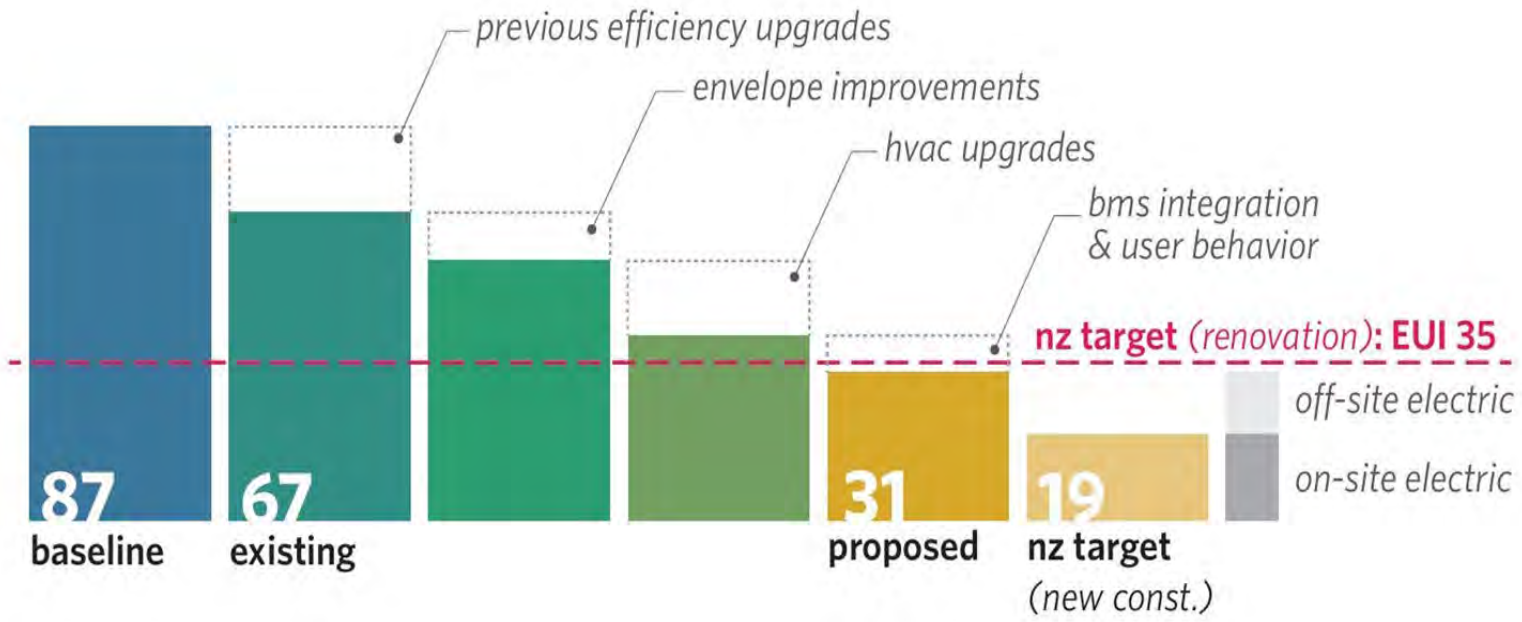
Northampton Net Zero Schools Study, 2022, JWA



Granby Elementary Study, 2015, JWA

Bring authoritative data to the community to guide capital planning.

Massachusetts Decarbonization Roadmap



Big Picture Look at Energy Use Step Down
(EUI is a measure of building energy use per square foot)

- **2023 DOER Stretch Code**
- **2025 Large Building Reporting Requirements**

Do your facilities match your educational vision?

Feel free to reach out:

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AIA MASSACHUSETTS
John Nunnari, Executive Director
jnunnari@architects.org
https://www.aiama.org



Q & A





Session 2:
Project Pathways

Incremental HVAC Retrofits for Schools with Low Budget

Ben Weil
Director of Climate Action
and Project Administration
City of Northampton

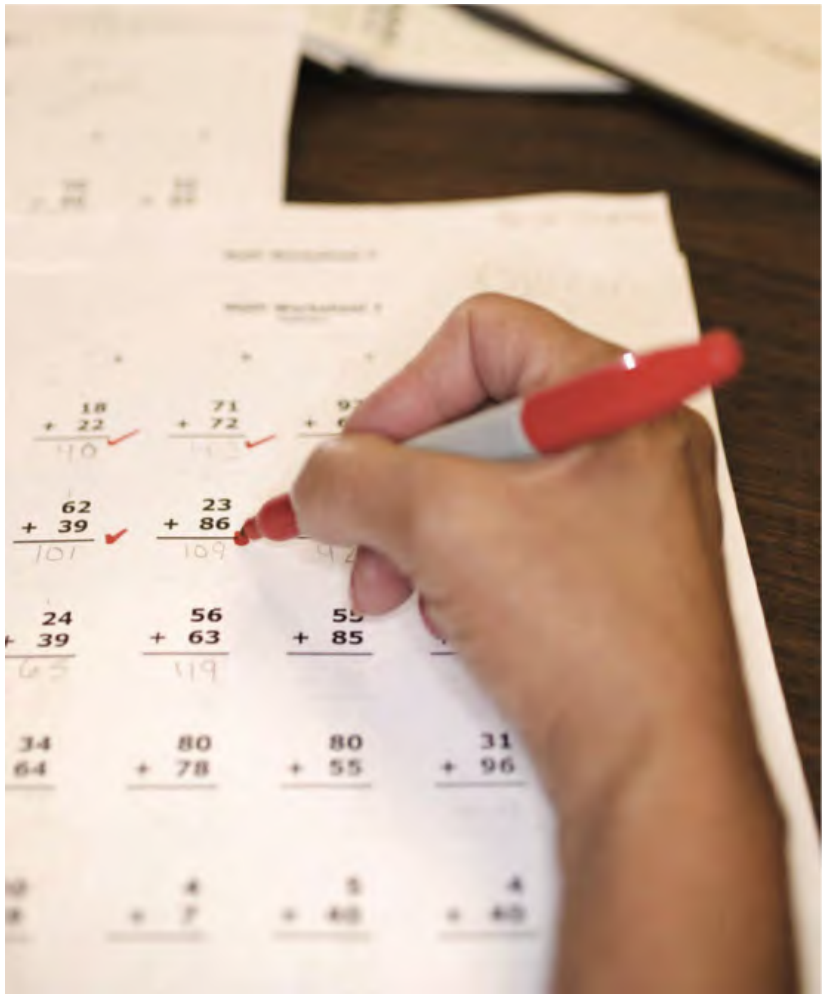






Invest in Ventilation and Cooling in Schools

"... air quality and temperatures in classrooms are important factors in the learning process and improving them should be given as much priority as improving teaching materials and methods."

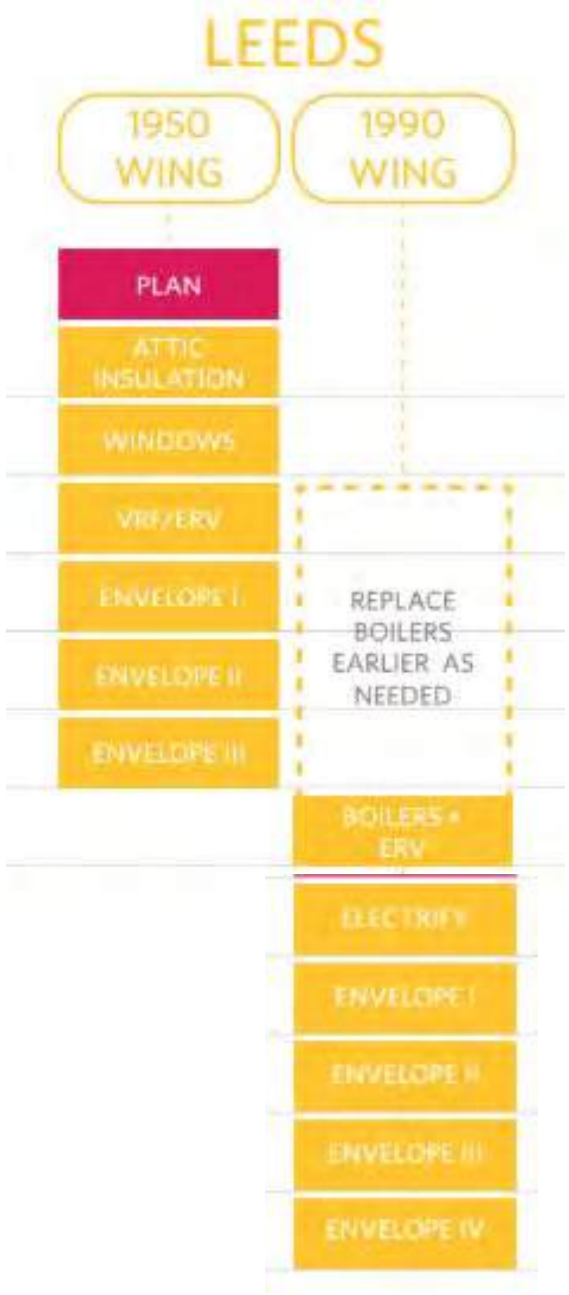


Pawel Wargocki and David P. Wyon, Effects of HVAC on Student Performance ASHRAE Journal Vol. 48, No. 10 October 2006

Path to Reduce Reliance on Fossil Fuel in Schools

Envelope	Ventilation Energy Recovery	Optimize Interim/backup fueled heating	Electrify heating/add cooling
- Insulation - Air sealing - High performance windows Example: Leeds attic, crawlspace, & windows	- ERVs - CO_2 sensor control Examples: NHS cafeteria JSS: cafeteria Leeds Clark School classrooms	- Optimize controls - Replace steam with hydronic condensing boilers - Right-size new equipment Examples: NHS boiler set points Leeds replacement boilers	- Ground Source Heat Pumps - Air-to-water heat pumps - VRF - Mini-splits Example: JSS: Library, cafeteria

Leeds Elementary Plan



✓
✓
✓

FY 2025/6 ❑❑❑

FY 2025 ✓

FY 2027 ❑❑❑

FY2027 ❑❑❑

- Minimize fossil fuels
- Improve ventilation
- Provide cooling

Northampton Net Zero Schools, JWA, 2022

Energy to Condition Fresh Air

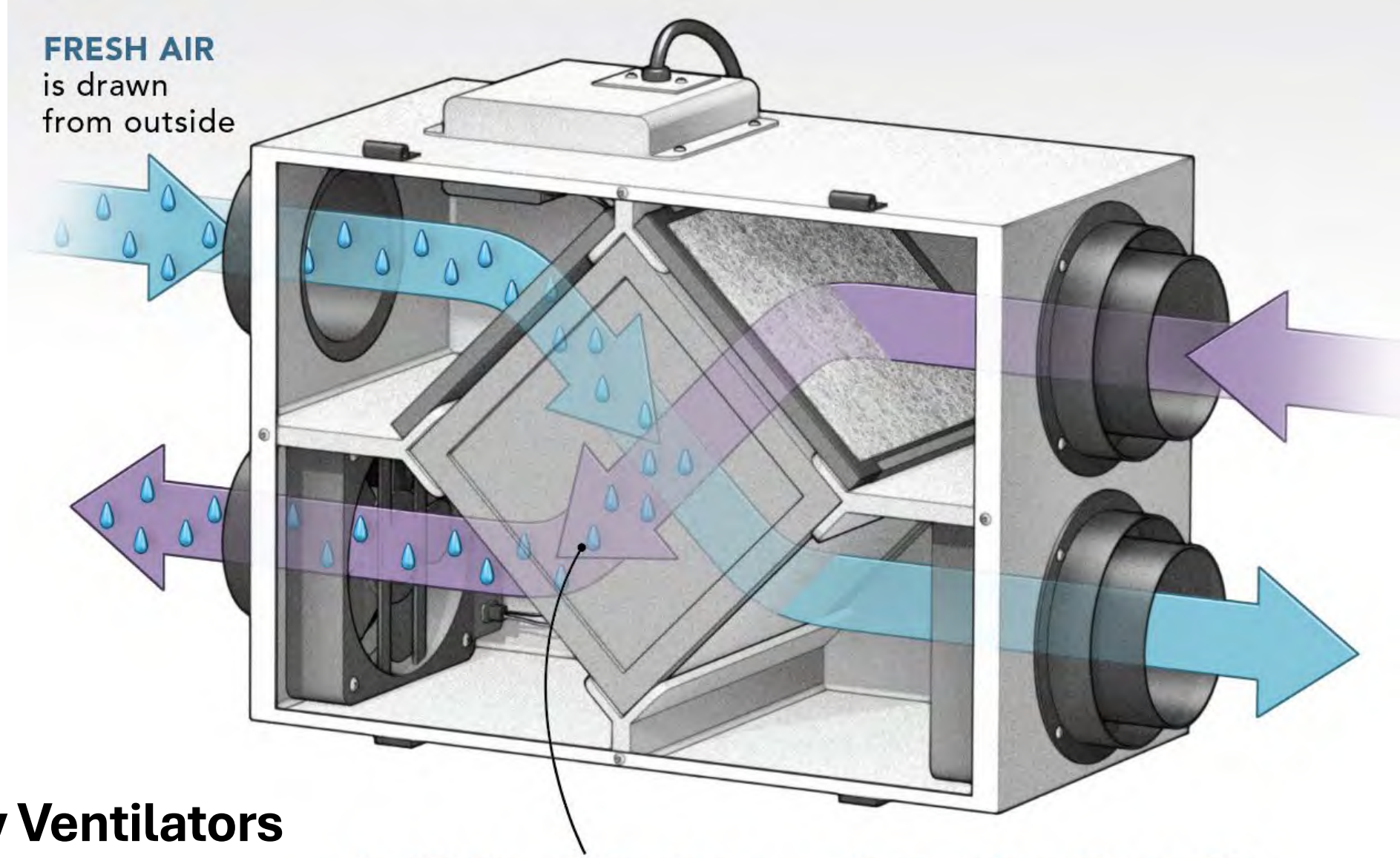
Standard ventilation in current classrooms requires:

- 35% of total annual heating *energy*
- 60% of total heating *power*

If cooling exists, it must handle very high humidity loads

Absent dehumidification capability, proper ventilation during high humidity seasons leads to moisture problems and mold growth.





Enthalpy Recovery Ventilators
recapture up to 92% of sensible heat and 65% of moisture

Enthalpy Recovery Ventilator (ERV) recovers heat and moisture





Leed's Green Communities Decarbonization Grant

1. **Remove steam boilers**. Replace with high efficiency hydronic boilers for 1990s wing.
2. **1950s classrooms:** Remove steam unit ventilators. Replace with ERV and ASHP (similar for toilets/hallways)
3. **Cafetorium:** Replace steam heated air handler with an ERV for ventilation and a set of ASHPs for heating and air conditioning.

Green Communities Grant:	**$494,613**
Utility Incentives:	**$131,067**
Community Match:	**$354,250**

Interim System Annual Savings

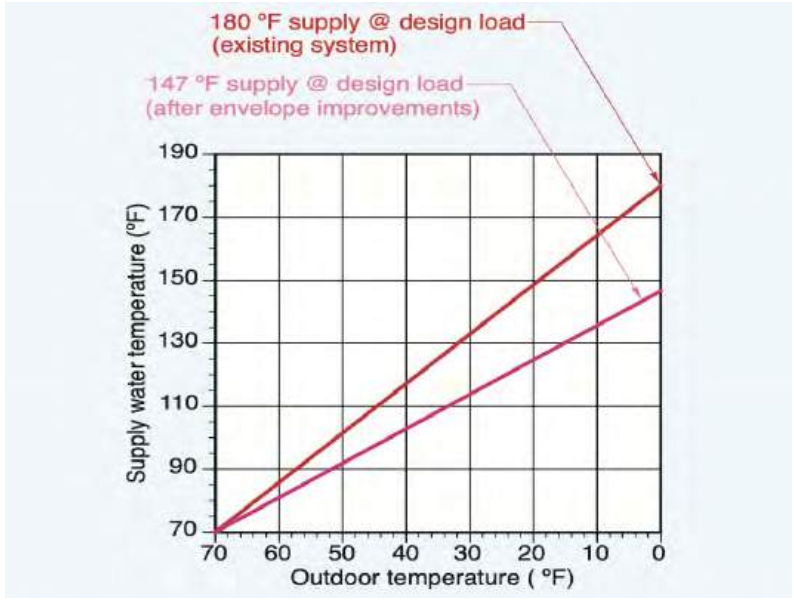
Gas	Electric	GHG emissions	Cost
21660 Therms	-11598 kWh	112 $MTCO_2e$	$24,707
(51%)	(-4%)	(39%)	(45%)

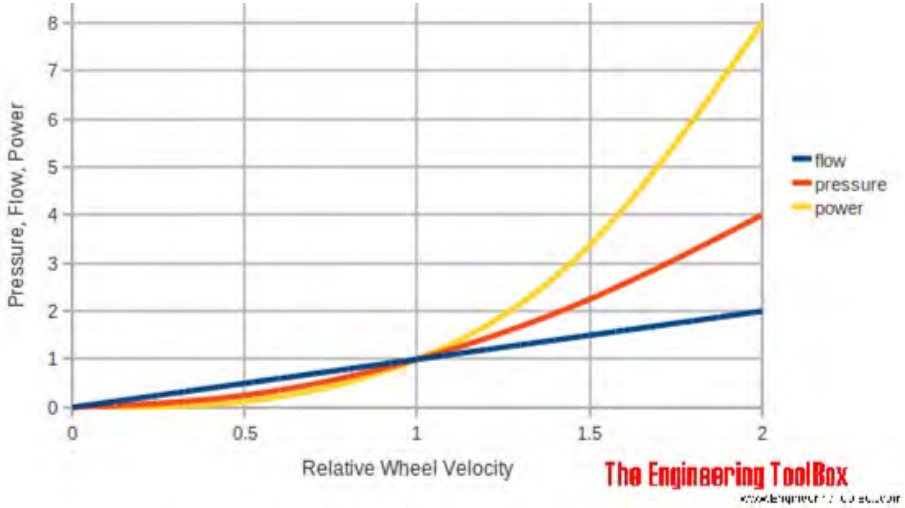
Building controls, no expensive wires!





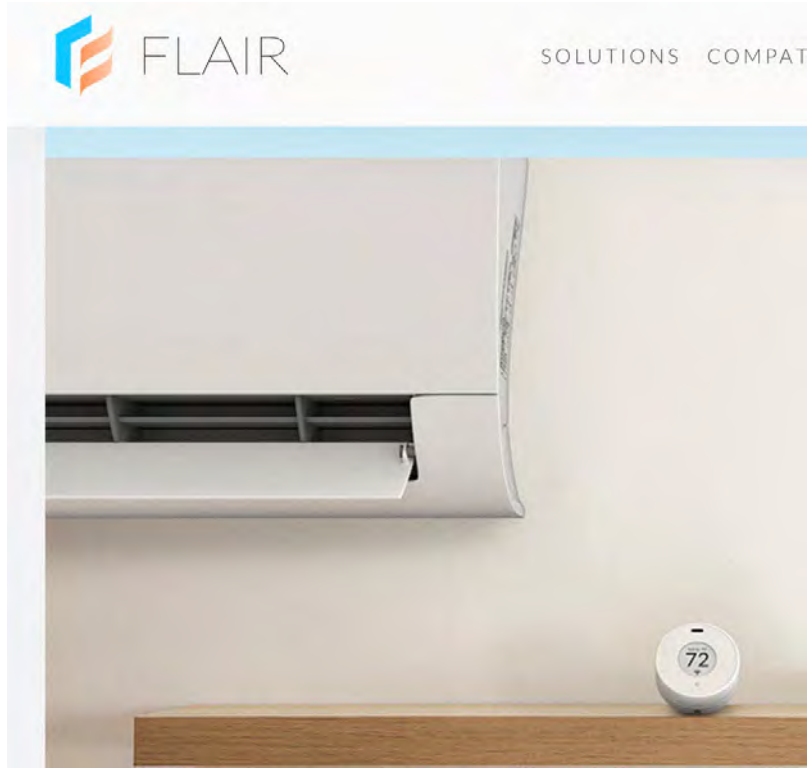


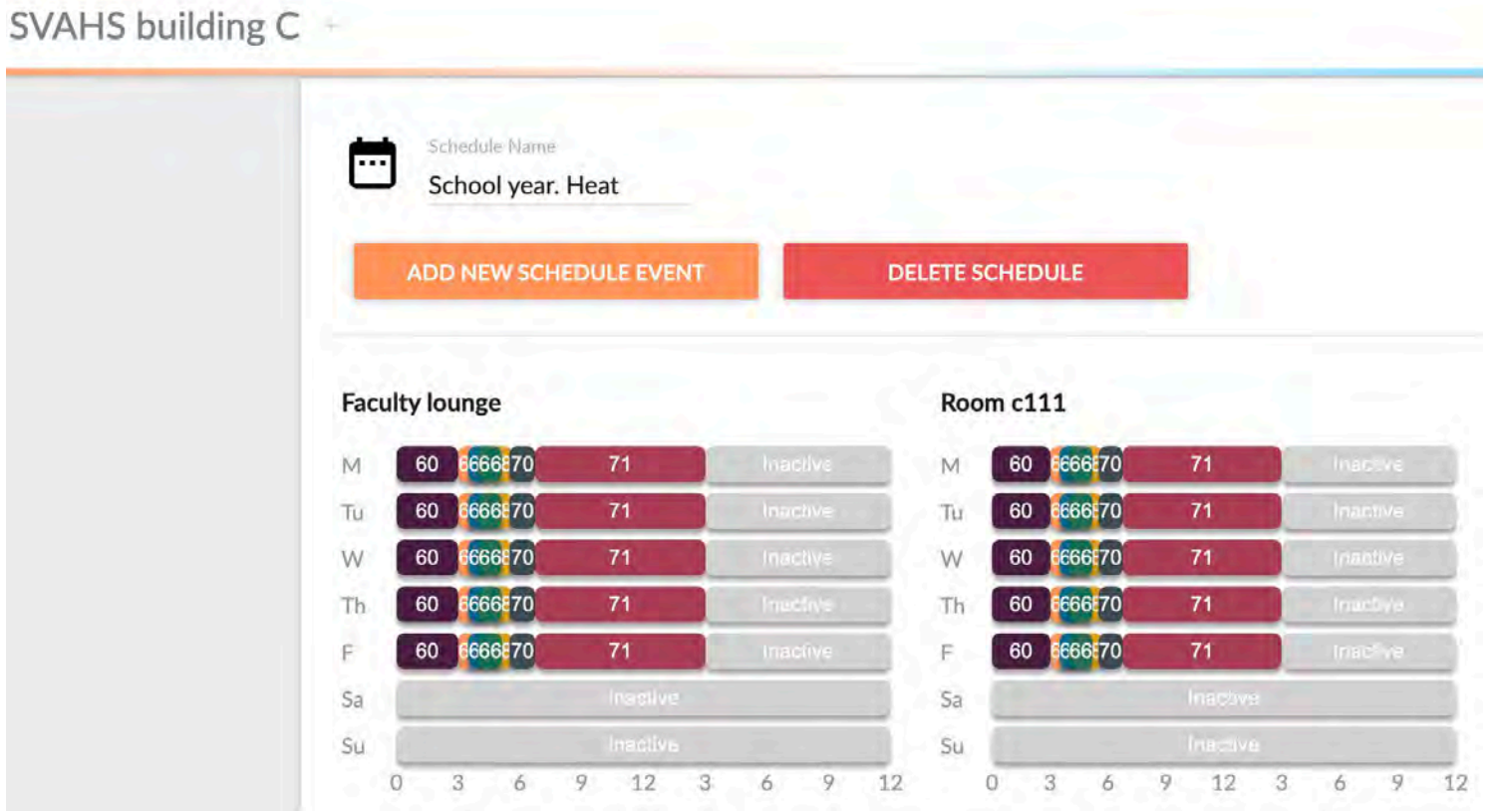






Using WIFI-Connected Remote Replacement to Control Mini-splits





Lessons Learned

- **Account for ventilation first**
  - Utilities still do not have a prescriptive incentive for ERVs, so provide them with calculations on savings for a custom incentive

- **Re-use existing systems where possible, but reduce the loads they must serve**

- **Seek modular solutions made from standard components.**
  - Mass Save Qualified Products List
  - Manufacturer's installation guides

- **Have a well-thought-out controls system integrated into your plan from the beginning**
  - Utilities will pay up to 60% of a whole building controls system (BMS) if the current system is more than 15 years old
  - But… more complex and expensive is not necessarily better!

Q & A



Orange's Fisher Hill Elementary School Add/Reno & Solar Project

Bruce Scherer
School Building Committee Member, Town of Orange

Pat Smith
School Building Committee Member, Town of Orange





Fisher Hill Elementary School



Completed: 2023
Enrollment: 560
Addition/Renovation

Lessons Learned

- Assembling a team is very important:
  - OPM—Hill International (now Liro-Hill)
    Martin Goulet, Senior Project Manager
  - Architect—Raymond Design Associates
    Gene S. Raymond Jr., AIA, LEED AP
  - General Contractors—J&J Contractors
    Kamlesh Patel, Founder and CEO



- Site work can add cost creep
- An Add/Reno project may be a good alternative for rural districts—requires careful phasing to locate students during construction
- The new learning environment offers so many benefits for school staff, teachers and children, as well as to the community at large by attracting families with young children and businesses to town



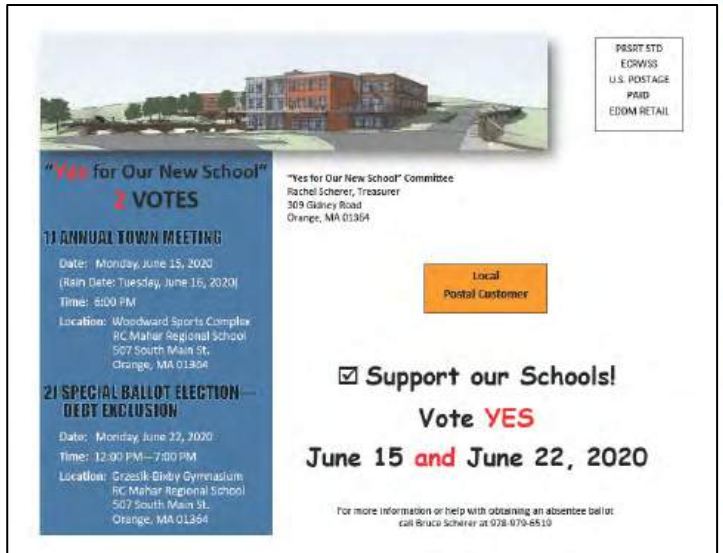
2006: Orange Votes Against Pursuing MSBA Grant
2016: Deteriorating Schools Change Minds

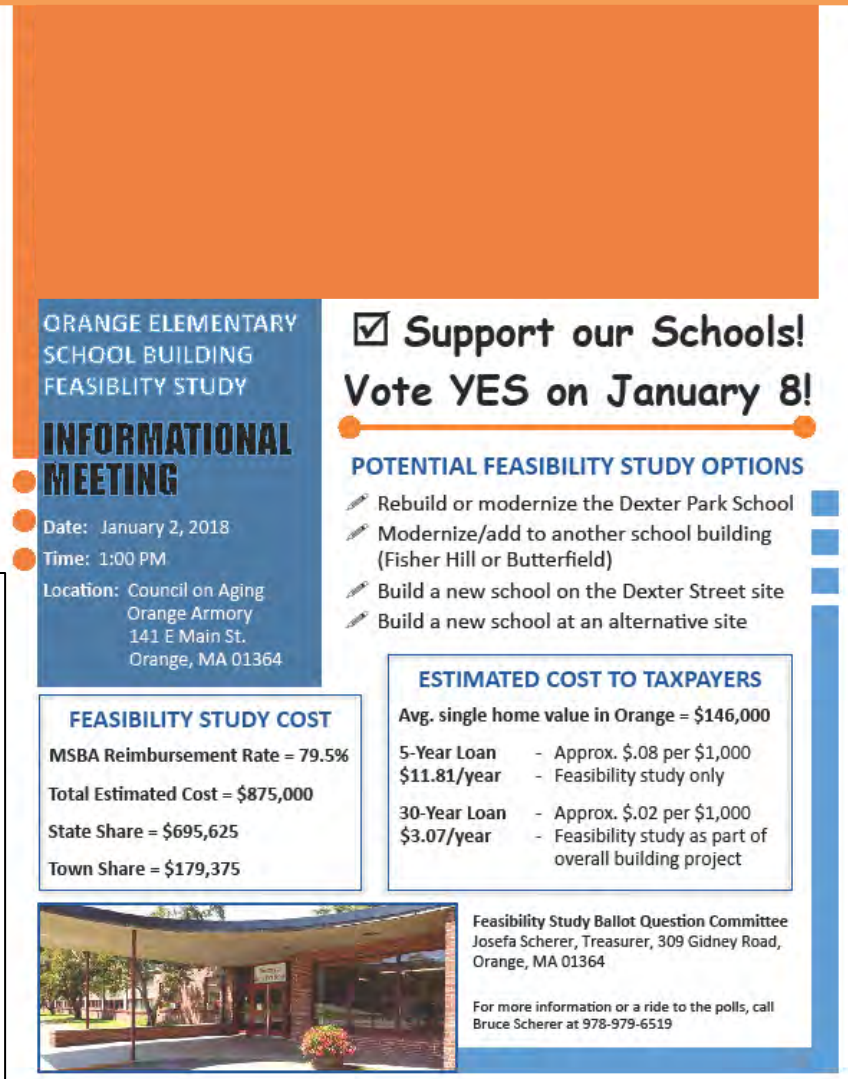
- In 2006 Orange Town Meeting voters objected to the $400,000 cost of the feasibility study, defeating the MSBA-financed project to replace Dexter Park School
- In the interim 10 years, the Town condemned the Dexter Park School, an obsolete building from 1951, and mothballed Butterfield School, from the 1890s
- In 2016, the Town submitted another SOI to MSBA
- In 2017-18 voters approved an $875,000 feasibility study for Dexter Park, with 75% reimbursed by MSBA
- The thoroughness of the feasibility study helped to narrow down the options and quieted the naysayers



Getting to "YES" – Communicate!

- Extensive opportunities were offered for all Town boards and commissions, and community groups to hear firsthand about the need for a new school
- Townspeople were invited to view for themselves the deteriorating condition of the Dexter Park School
- Public information emphasized the costs of doing nothing, estimated at $18.5 million to be paid for 100% by the Town
  - Public outreach included informational meetings, mailings to all residents, Facebook page, Town website page, and yard signs





What a Difference a Decade Makes

- 18 building options were reviewed, and options for consideration included renovating or replacing Dexter Park, re-opening and expanding Butterfield School, and constructing a new school on the Mahar Regional Campus
- The District ultimately settled on a design for a 3-story, 55,000 sq. ft. addition to and renovation of Fisher Hill School to serve all grades from Pre-K to 6, increasing the school to a total of 97,000 sq. ft. on a 14-acre campus at an estimated total project cost of $57.7 million
- The June 2020 Town Meeting vote resulting in approval for the project by an overwhelming majority vote of 300-16 took place outside on the Mahar football field during COVID restrictions





Massachusetts School Building Authority

Construction Begins





Phase 1 - Build addition (July 2021 to Dec 2022)
Dexter Park was stabilized so students could remain there during this phase, and the new 3-story addition was built



Construction Completed



Phase 2 - Renovate Fisher Hill (Jan 2023 to Sept 2023)
Students were moved out of the old Fisher Hill building and were temporarily located in the new addition so the old building could be renovated



Phase 3 - Demo Dexter park (Sept 2023 to Dec 2023)
Students were moved out of Dexter Park and it was demolished



Phase 4 - Final Completion (Dec 2023)
All students were moved to the final locations for their grades in the newly renovated Fisher Hill for the start of school following the Winter Holiday Break, which was extended one week to accommodate the move

Fisher Hill Elementary School Solar Installation

- The #1 priority expressed by the public in the many community meetings was to build an energy efficient building, including solar PV arrays
- Respecting the construction schedule is paramount
- Limits of the electrical grid
- Proposed array will provide 50% of the school's electricity needs and will power the school as an emergency shelter



To Be Completed: 2025
225kw Rooftop Solar PV
with 100/200 kWh battery

Lessons Learned from Solar PV Project

- Create a design team with solar expertise at every level—OPM, architect, engineers, electrical subcontractor, etc.
- Begin application process for solar PV installation as early as possible in the design phase, recognizing that it takes considerable time to go through process
- Design and build solar-ready building and grounds:
  - Place other utilities on roof to leave room for solar panels
  - Pre-locate properly sized conduits for electrical cables as needed for solar panels on roof and EV charging stations
  - Create sufficient space in Utility Room for wiring and controls for solar PV



Solar Installation Design and Interconnection Issues

- **Ways to design a solar project:**
  - Grid interconnection (owned or PPA)—requires lengthy and expensive Group Study to identify necessary grid upgrades
  - Behind the meter—all electricity generated remains on-site
- Membership of the Town of Orange in **PowerOptions** (a nonprofit energy-buying consortium) allowed us to avoid a time-consuming and expensive procurement process and to use PO's state-approved preferred vendors, including Solect Energy
- Town of Orange entered into a contract with **Solect Energy** for system design and installation

National Grid Pilot Program and Funding Sources

- DPU and National Grid created a pilot program for a “behind the meter” project using a battery storage system for Fisher Hill School
- Estimated total solar PV project costs: **$920,000**
  - National Grid contribution — $160,000 for the battery
  - Massachusetts Municipal Vulnerability Program (MVP) — $350,000 for solar array, engineering, etc.
  - Massachusetts Green Communities Grant Program — $144,000 for the battery
  - Federal funds from Inflation Reduction Act (IRA) Direct Pay Program — $239,200 anticipated
  - Estimated remainder—Town cost = $ 27,000
- Other projected annual savings and incentives to offset remaining costs:
  - Estimated annual utility savings $ 48,000
  - SMART program utility incentives $ 25,000
  - Other avoided costs $ 12,000

Orange Contacts

Bruce Scherer, School Building Committee Chair

Email: heritagefields@gmail.com
Cell: 978-979-6519

Patricia A. Smith, School Building Committee Member
(liaison from RC Mahar Regional School Committee)

Email: patriciasmith@rcmahar.org

Q & A



Westfield River Elementary School Construction

Tammy Tefft, MCPPO, PMP
Chief Procurement Officer
City of Westfield

- Vice Chair of School Building Committee
- Construction Project Manager
- Graduate of the Suffolk Leadership Academy
- Six years with the Springfield Public Schools
- BS in Accounting
- MHEC Board Member
- t.tefft@cityofwestfield.org
- 413-572-6254

Challenges and Opportunities for Aging Infrastructure



Design that Transforms





Example of reimagined entry with seamless integration into neighborhood fabric

Community Engagement

Learning to Learn

- Emphasis on critical thinking skills
- Student Centered

- **Building Lifelong Learners** (40)
  - Innovative Teaching and Learning
  - Authentic Learning Experiences
  - Inquiry-Based Instruction
  - Collaborative and Project-Based Learning
  - Real World Application
  - Curiosity & Imagination
  - Nurturing the Whole Child
  - Natural Play Learning
- **Warm and Inviting Community** (35)
  - Creating Communities of Learners
  - Bright and inviting atmosphere
  - Light and Transparency
  - Quiet spaces, nooks and caves
  - Kid Friendly and Relatable
  - Safety and Welcome
  - Eyes on the Street
- **School as a Community Resource** (35)
  - School as Community Building
  - Family Resource Center
  - Reciprocal Community Relationships
  - Preserving the History and Telling the Story of Each School
- **Collaborative and Cooperative** (30)
  - Collaboration of School & Community
  - HEART, Honor Effort Attitude Responsibility Teamwork
  - Unifying Students, Staff and Families
- **Diversity and Inclusion** (25)
  - Embrace all cultures of our populations
  - Community/Family Centered- inclusive for all families
  - Resource for families
- **Sustainability** (20)
  - Highly Efficient
  - Prioritizing Daylight
  - Rainwater Collection, Recycling and Metering
- **Flexible and Adaptable** (10)
  - Varied Spaces
  - Multi-Purpose Spaces
- **Outdoor Learning Connections** (5)

Community Collaboration

- Neighbors collaborating
- Communication and accessibility
- Finding a way to bring both (Franklin and Gibbs) communities together so it is welcoming to all



Creative Ways to Finance

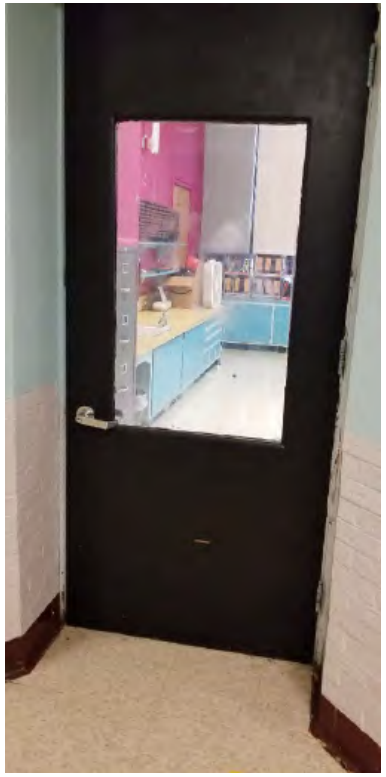
Treasurer's Ideas

- Bonded the Feasibility Study
- Started budgeting into our debt decline account
- Sold 18 million up front for lower interest rates

Alternative Sources for Projects

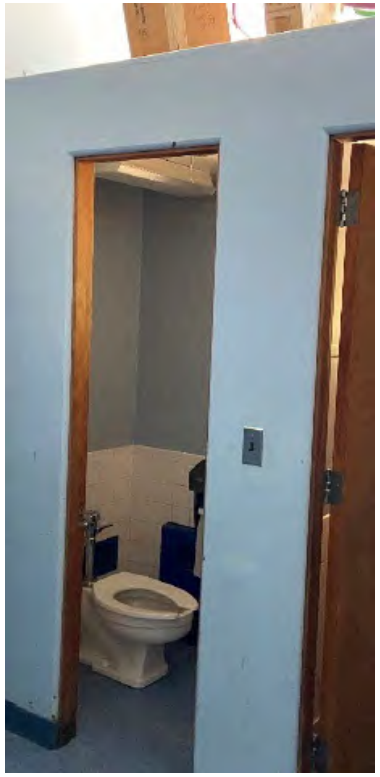
- Partnering with the MSBA
- CPA funding for playgrounds
- Free Cash for FFE or other Equipment
- Food Service for Cafeteria Furniture
- Regular School budget
- Preschool Grants
- Erate Funding for Technology
- Capital Improvement Plans
- Grants
- Partnering Energy Management Monies with other sources such as MSBA

Design that Transforms





Modernized classroom entry – new entry, new energy





Small users, big accessibility – kid-friendly, fully accessible facilities

Success through Partnerships

effective

Program funding

Regular meetings

Regular meetings throughout the projects' lifetime ensure clear communication, track progress, and keep all team members aligned as we meet key milestones and move the project forward with confidence.

Site visits

Frequent site visits by the architect are essential to monitor progress, address challenges in real time, and ensure construction stays on track and true to the design intent.

Established education plan

A successful design begins with listening — translating the needs of educators and staff into a thoughtful plan that supports learning at every level.







Community Preservation Coalition

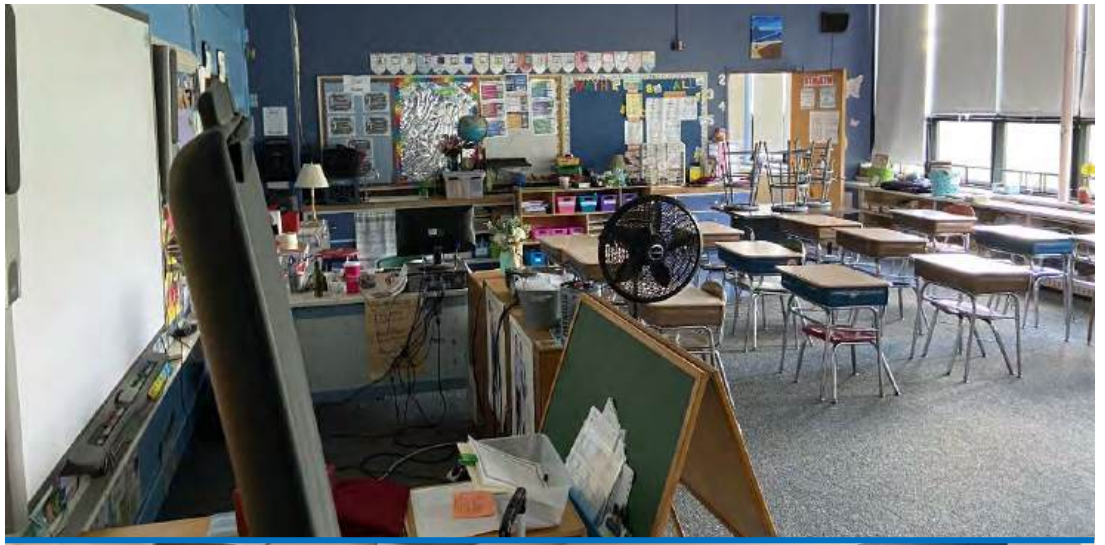
Preserving our past. Building our future.



Student needs – learning designed for all

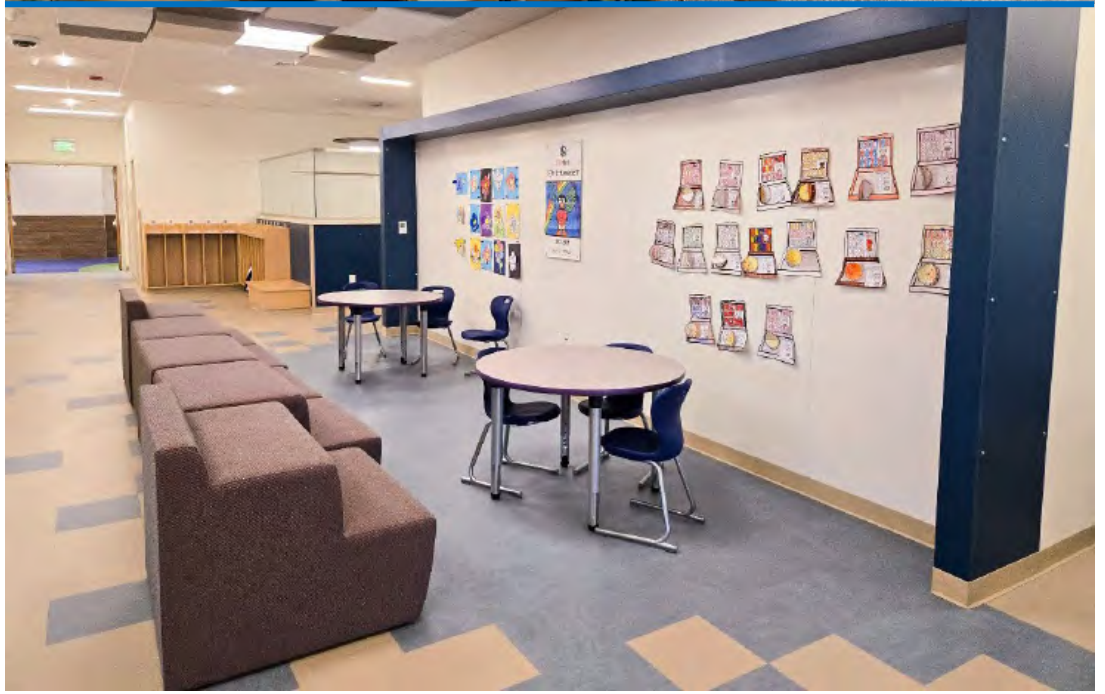












Community connected through program

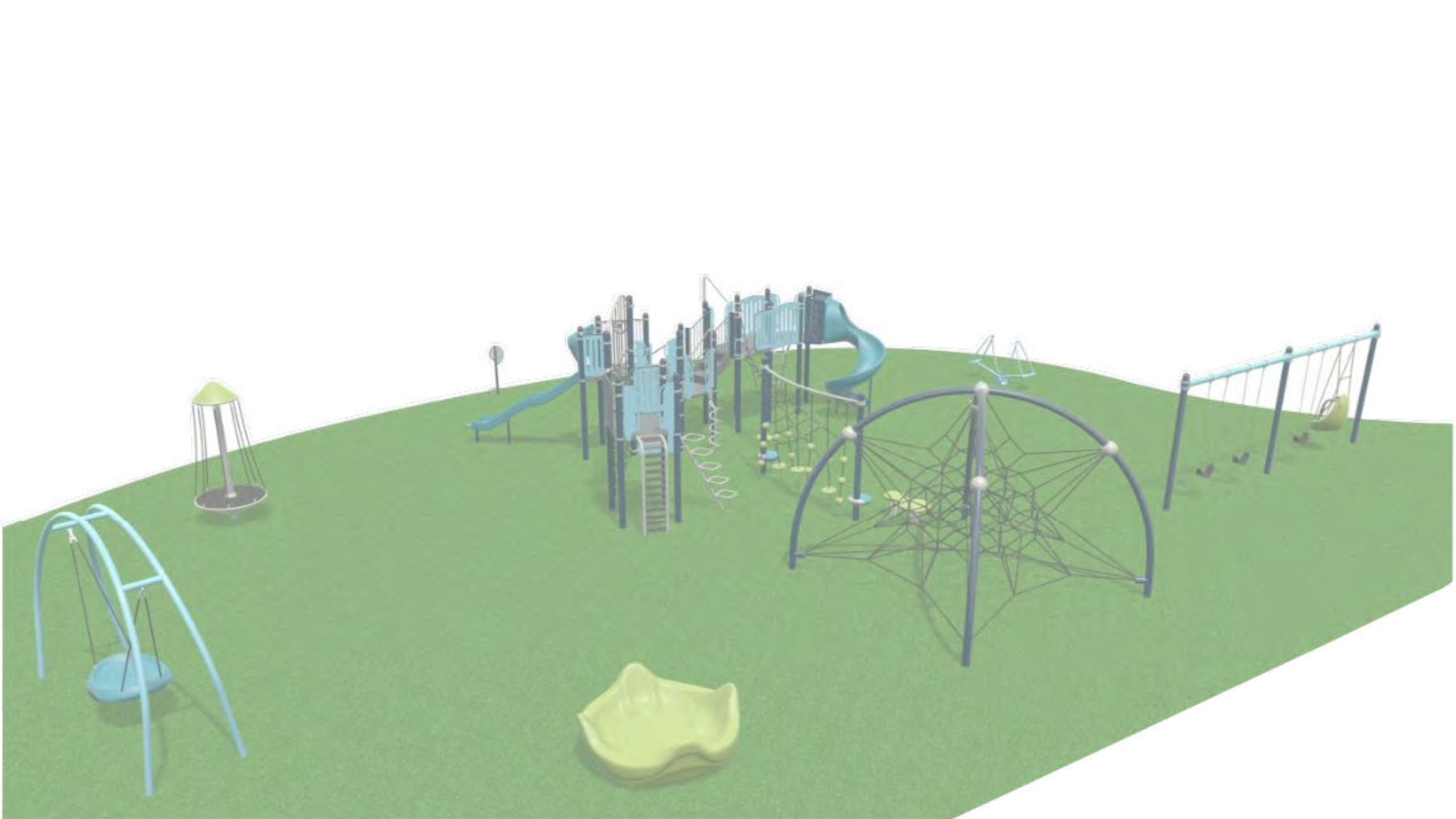












Thank you to our Project Team

City of Westfield and the MSBA

Architect - Caolo & Bieniek Associates

- Curtis Edgin; Bert Gardner; James Fiore

Owners Project Manager - P3

- Dan Pallotta and Michael DelVecchio

GC – Fontaine Bros., Inc.

- Stan Pchelka



Q & A





Session 3:
State Funding Sources to Offset Cost

MSBA Grant Program

Mary Pichetti
Executive Director, MSBA

Massachusetts School Building Authority

Recap of Points from Today's Presenters

- "Can do" leadership has forged a path for rural Mohawk-Hawlemont School District

- Planning can take the form of either a formal study or an in-house professional assessment



Northampton Leeds Elementary Design



Orange Fisher Hill Elementary School



Westfield River Elementary School

Capital Projects and Operational Cost Benefits

Paths toward reducing school operational costs

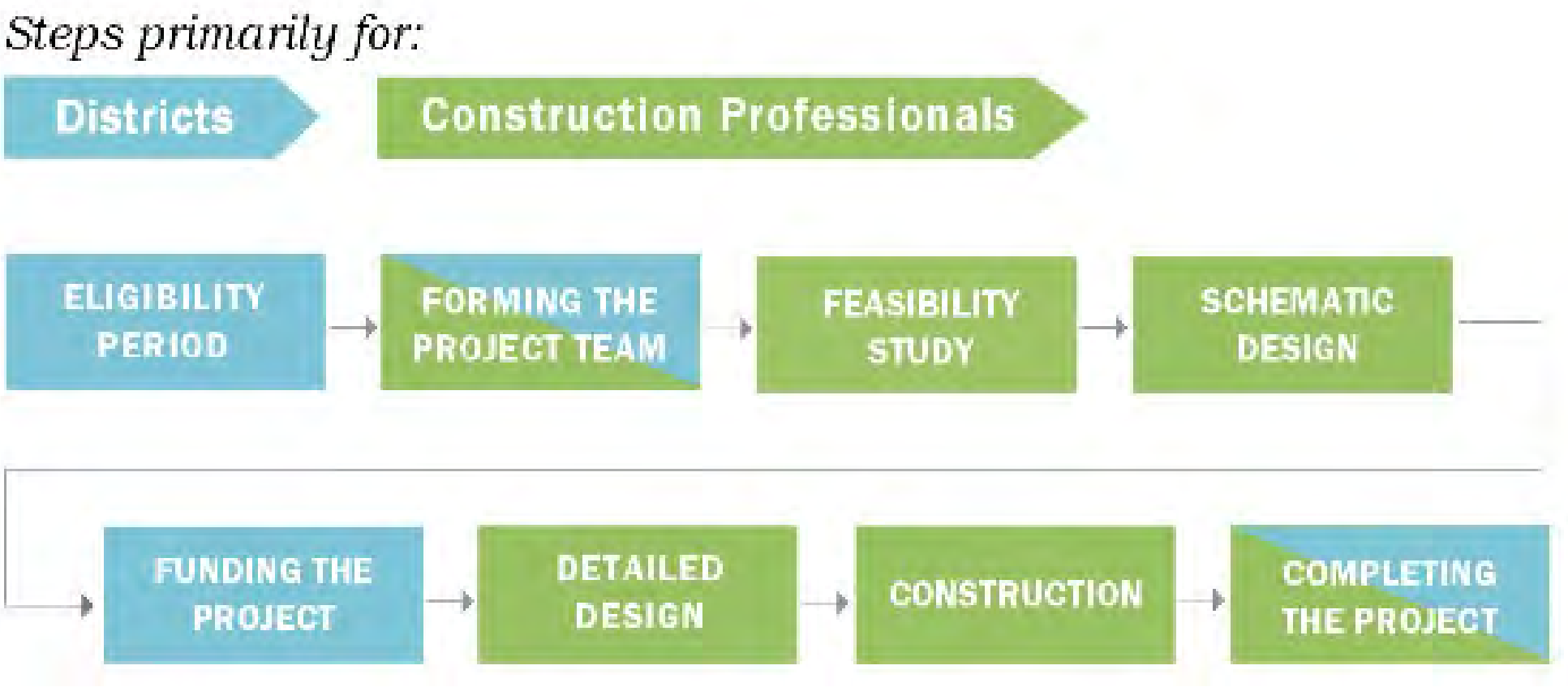




- Northampton's approach at the Leeds Elementary School to upgrade ventilation will benefit classroom comfort and decrease costs
- Orange's Fisher Hill Elementary School consolidated from two former schools into one & introduced a solar project
- Westfield took two old schools offline when students relocated to the new Westfield River Elementary School. The new school introduced cooling for overall comfort while reducing reliance on fossil fuel

MSBA

MSBA grant program offers between 31 and 80% funding of eligible costs



MSBA Program Process Overview

Core Program

- Intended for new construction, addition, and/or renovation projects
- SOI period is open annually

Accelerated Repair Program (ARP)

- The ARP is intended for roofs, windows/doors, and heat pump conversions in existing school facilities
- SOI period opens biennially (since 2025)

$17.8 BILLION

IN PAYMENTS MADE

More than $17.8 billion paid to cities, towns, and regional school districts



$28.1 BILLION



AUDITED

The MSBA has diligently audited project costs of $28.1 billion.

Model School Option

Athol Community Elementary School, Athol-Royalston Regional School District
Designed by Mount Vernon Group Architects, Inc.





Plains Elementary School, South Hadley
Designed by Jones Whitsett Architects, Inc.





- "Tried and true" design that is in operation in school districts
- Advantages include:
  - Visit a school in operation and envision it for your district
  - Save time and money on design cost
  - Get to construction faster

Q & A



May 2025

Efficiency First: School Building Decarbonization Support

Amanda Formica, National Grid

WE ARE MASS SAVE®:

mass save®

Together, we make good happen for Massachusetts.

Your local electric and natural gas utilities and energy efficiency service provider are taking strides in energy efficiency: Berkshire Gas, Cape Light Compact, Eversource, Liberty, National Grid and Unitil.

As one, we form Mass Save®, with the common goal of helping residents and businesses across Massachusetts save money and energy, leading our state to a clean and energy efficient future.

WE ARE MASS SAVE®:

Berkshire Gas
An Avangrid company

Cape Light Compact

EVERSOURCE

Liberty

nationalgrid

Unitil

We Are Mass Save®

New Opportunities: School Buildings

Mass Save School Decarbonization Offer*



Municipal Energy Manager competitive grant for communities without a similar full-time role. Applications due January 31, 2025. (National Grid and Eversource)



Technical Assistance: Portfolio Planning and Project Planning assistance designed to work together with MassCEC's Green School Works program.



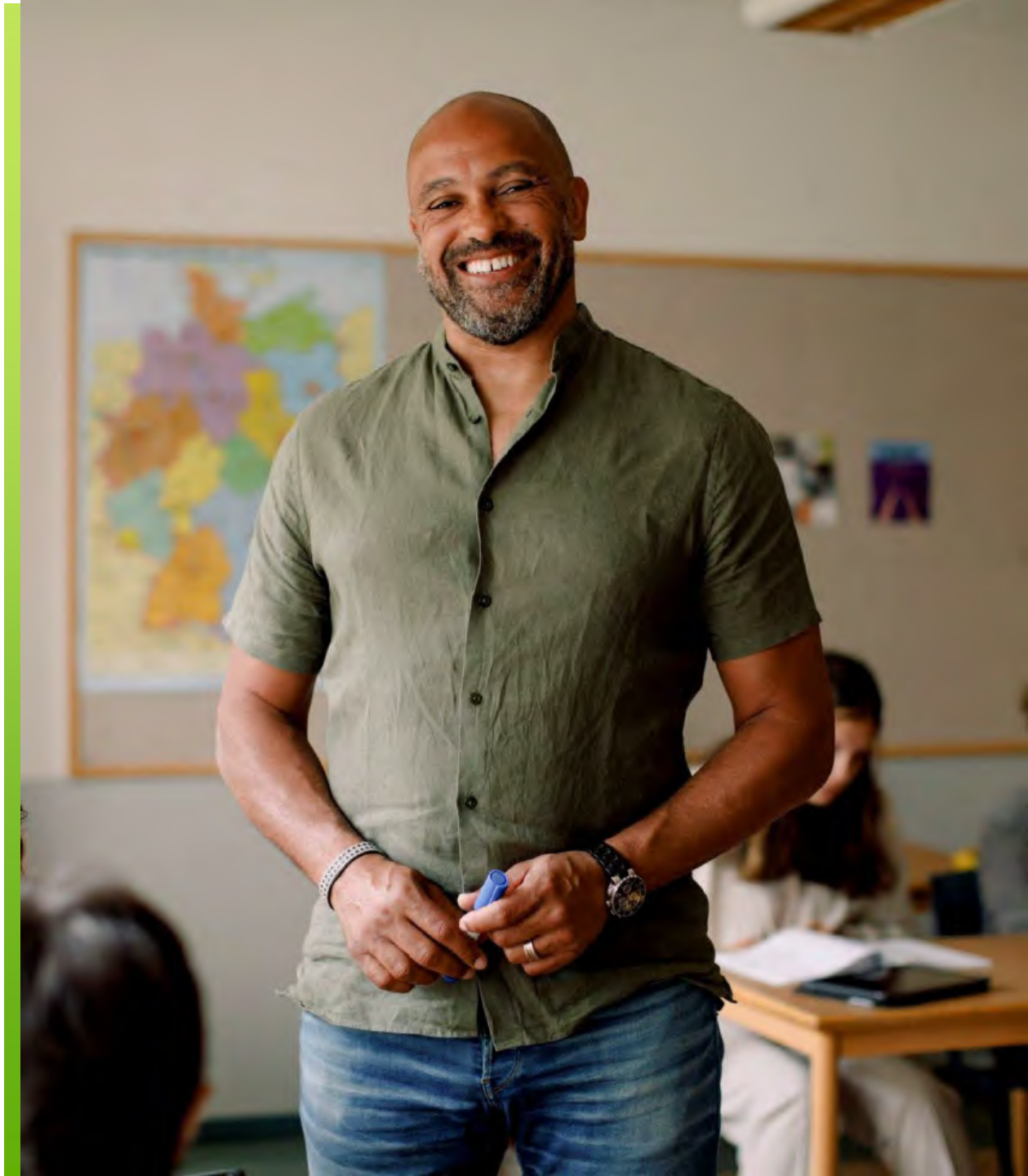
Enhanced Incentives for energy efficiency and electrification of school buildings can work together with MassCEC's Green School Works, MSBA heat pump program, DOER Green Communities.



Staff Training and Teacher Curriculum, such as training for facilities staff and teacher training and student workshops on energy efficiency and clean energy.

Energy Manager Grant

- ✓ **$5.5M+ awarded** over three years by Eversource and National Grid
- ✓ **24** teams
- ✓ **63** municipalities across MA
- ✓ **4** regional planning authorities
- ✓ Covers salary, wages, and benefits for the energy manager
- ✓ Focus on **school buildings** (existing and new) and help **advance municipal energy management plans**
- ✓ **Intention to continue, pending proven success**



School Technical Assistance

Type of Study	Purpose	Cost
Portfolio Prioritization Plan (PPP)	Entire building portfolio; identify priorities for decarbonization	No cost to district/municipality
Comprehensive Building Assessment (CBA)*	Single building; provide pathways, high level costs to decarbonization	No cost to district/municipality
Focused Study	Single measure (such as chiller replacement) granular cost estimate	50% cost share

**Subject to cost cap and assignment of one of our approved vendors*

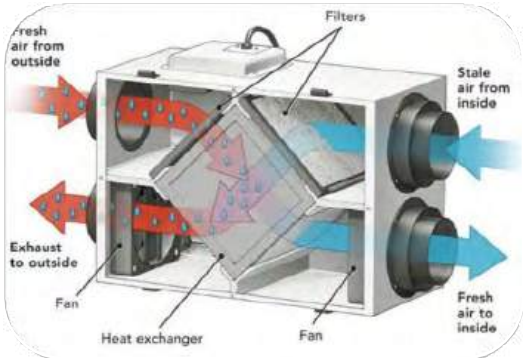


Existing Incentives: School Buildings

Incentives for Getting Electrification-Ready



Weatherization



Ventilation



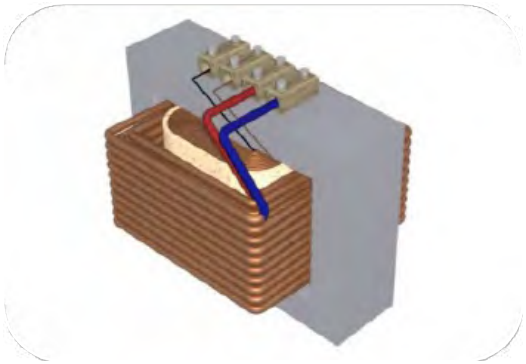
Controls



Hydronics



Variable Frequency Drives



Transformers



Compressed Air



Lighting

Through end of 2025

Benefits of Being Electrification Ready

- ✓ Reduce energy use
- ✓ Save money on utility bills
- ✓ Reduce required size of (heating, ventilation, and air conditioning) HVAC equipment
- ✓ Reduce need for future service upgrades

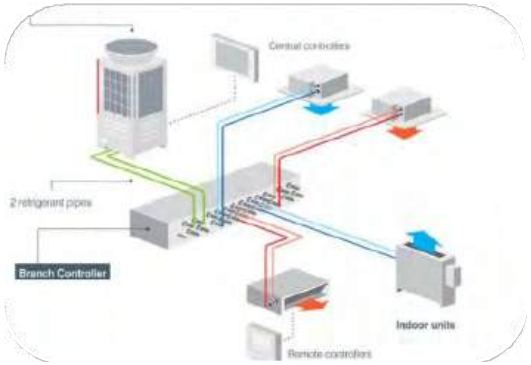
Incentives for Electrification



Air Source Heat Pumps $2,500/ton (retrofit)



Heat Pump Rooftop Units $2,500/ton (retrofit)



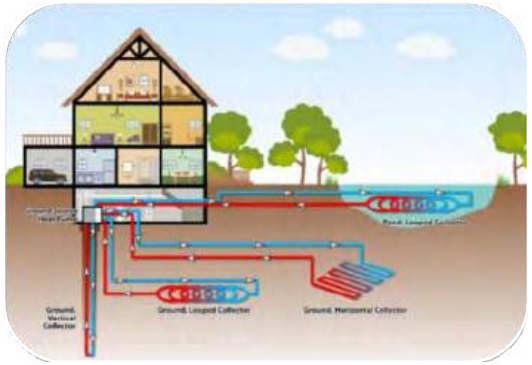
Variable Refrigerant Flow $3,500/ton



LEV Kits $3,500/ton



Heat Pump Chiller/Air to Water custom $ incentive



Ground Source Heat Pumps $4,500/ton

Incentives for New School Buildings/Major Renovation

*Note: To participate, new buildings and additions **may not have a gas meter for any purpose**, with few exceptions.*

Path 1	Path 2	Path 3
Net Zero & Low EUI Buildings	Whole Building EUI Reduction	High Performance Buildings

***The Good News:** You can build a zero energy school for 0-3% cost difference of a fossil fuel school,* with greater health benefits.*

*https://builtenvironmentplus.org/zero-energy-buildings/

Incentives for New School Buildings/Major Renovation

- ✓ Exact incentives vary by path, $ per square foot
- ✓ All pathways include:
  - ✓ Technical assistance, Path 1: net zero design support and verification incentive, Path 2: energy modeling, charette support, design review
  - ✓ Heat Pump incentives

Air source heat pumps:	$800/ton
Variable refrigerant flow (VRF):	$1,200/ton
Ground source heat pumps:	$4,500/ton

*https://builtenvironmentplus.org/zero-energy-buildings/

Tips for Working with Mass Save Sponsors

Tips for Working with Mass Save Sponsors

- ✓ Know your energy efficiency representative(s)
- ✓ Engage with us early
  - ✓ Most municipal capital planning begins 1+ year in advance; electrification can take 3 years
  - ✓ Plan for 6 months before Green Communities application due date
- ✓ Reach out with questions: If there's a building upgrade planned, chances are there's a potential incentive.
- ✓ Take advantage of our technical assistance

Partner with us:

https://www.masssave.com/en/contact

Amanda.Formica@nationalgrid.com

mass save

Thank you.

WE ARE MASS SAVE®:

Berkshire Gas
An Avangrid company

Cape Light Compact

EVERSOURCE

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Unitil

Q & A



MASSACHUSETTS CLEAN ENERGY CENTER®

Green School Works

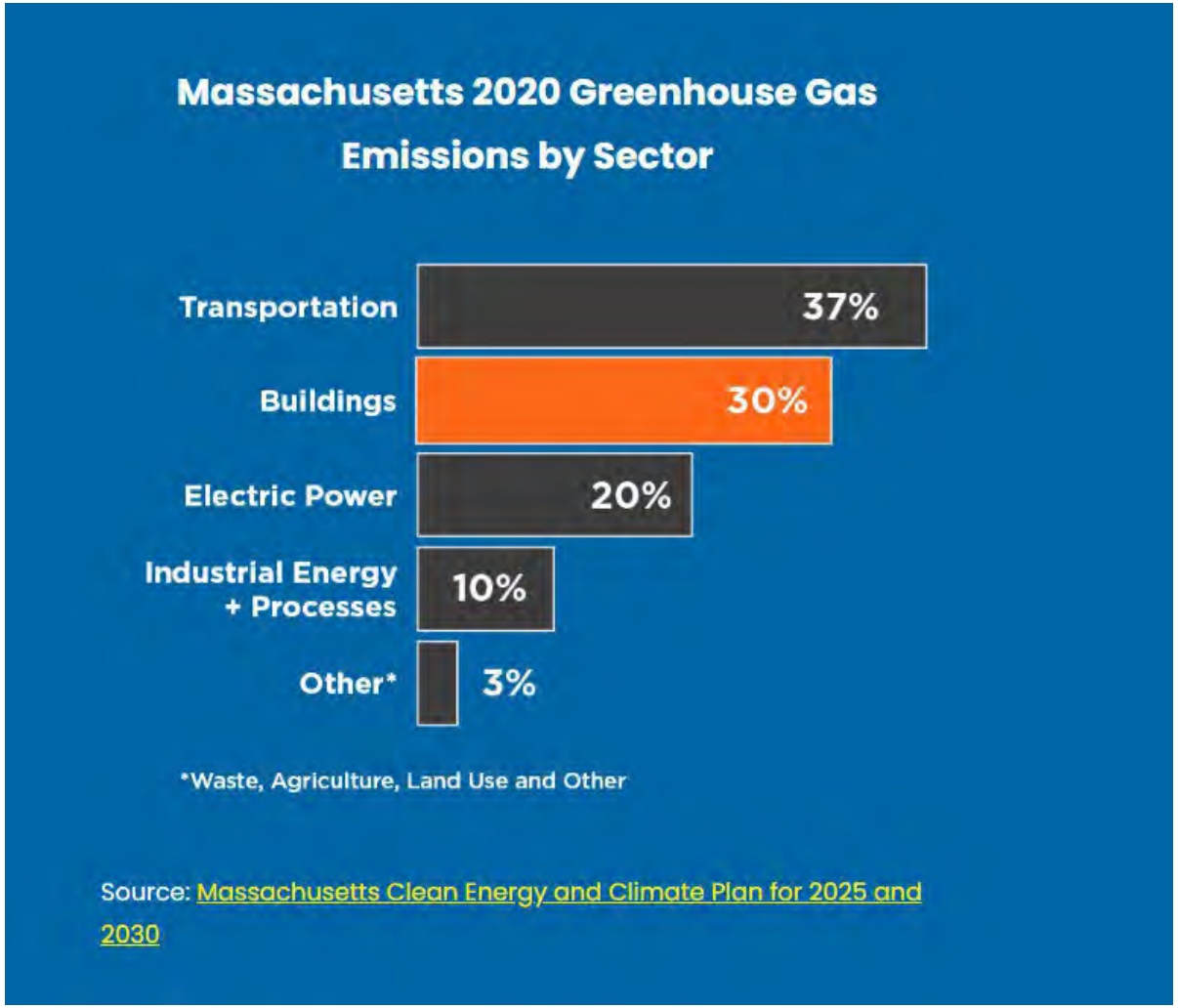
Meg Howard
MACEC

MassCEC's work spans four main areas of climate impact for MA

Climate Tech Innovation & Investment	Accelerating Decarbonization	Large Scale Deployment: Offshore Wind	Clean Energy & Climate Workforce Development
			
We help new climate-focused businesses grow faster by backing a vibrant community of researchers, startups, and established industry players - creating an ecosystem where they connect and thrive.	**We contribute to meeting our state's ambitious climate goals by tackling barriers to widespread use of clean energy and climate technology** in buildings, transportation, and the grid.	**We're building a cutting-edge offshore wind industry, marshaling world-class ports** while addressing supply chain and workforce development challenges**.**	**We're growing a diverse and talented clean energy workforce** by supporting a dynamic network of community-based organizations, labor, training providers, schools and employers committed to a sustainable future for all.

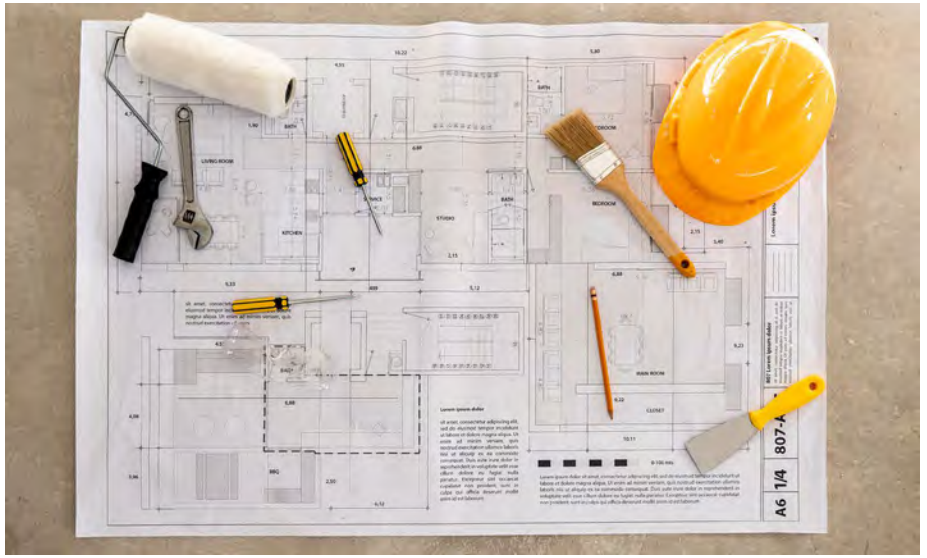
Accelerating Decarbonization

- Decarbonization means using cleaner energy, so we put less harmful gas into the air.
- Decarbonizing a building means achieving an all-electric building (i.e., a building with no on-site combustion equipment for fossil fuel use or capacity, including fossil fuel use in space heating, water heating, cooking, or drying appliances) that has also maximized opportunities for energy efficiency and weatherization. This can be done over time.



Decarbonizing Schools

- Massachusetts is home to approximately **1,800 public K-12 school buildings** responsible for 880,000 metric tons of carbon every year.
- The electrification and decarbonization of school buildings represents a significant opportunity for the state to reach its goal of **net zero emissions by 2050 while creating a healthier, more resilient learning environment for its students**.
- Green School Works funding will benefit students, teachers, and school communities across the Commonwealth as it's used to **modernize school buildings, reduce on-site fossil fuel use, electrify and update building systems, and increase indoor air quality.**





Green School Works: Program Overview



What: $60 million from the state budget as part of the Fair Share Amendment to fund projects at public K-12 schools that **improve energy efficiency**, **reduce carbon emissions**, or **mitigate the impacts of climate change**.



Who: Eligible schools and school districts serving a student population of 40% or more low-income for one or more of the last three school years.



How: Technical assistance and implementation grants

Technical Assistance: Planning and Support for schools

- Will reduce the cost of technical assistance for eligible, low-income public K-12 schools and districts with the goal of making decarbonization planning more accessible.
- Technical assistance services align with Mass Save offerings and include an additional Green School Works Scope.
  - Available to Mass Save eligible and non-Mass Save eligible schools





Technical Assistance Offerings *(aligned with Mass Save)*

- **Comprehensive Building Assessments:** Decarbonization assessment identifying energy efficiency and electrification opportunities for a single school.
- **Portfolio Decarbonization Roadmaps:** Exploration of decarbonization strategies, typically for multiple buildings (such as an entire school district), with a plan to implement over a long-time horizon.
- **Focused Studies:** Detailed study of specific energy efficiency and electrification measures that result in actionable savings and cost estimates. Required to access Mass Save funding.

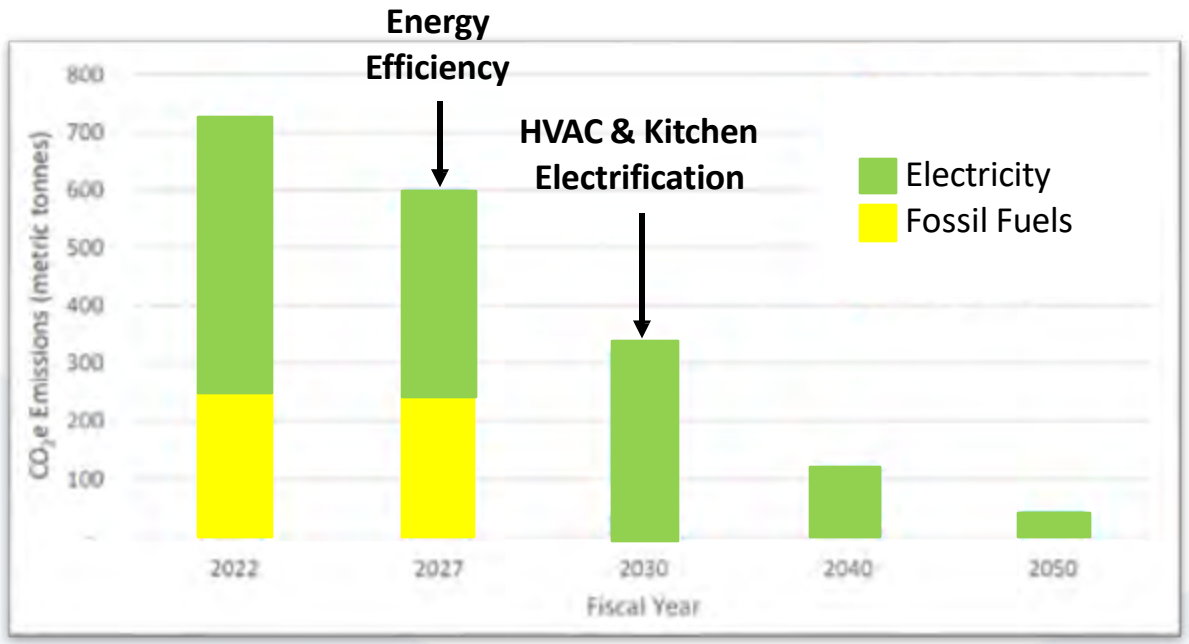
Additional Green School Works Scope

- On-site renewable energy feasibility analysis of existing building(s) and site(s)
  - MA Class I Renewable Energy Certificate (“REC”) analysis
- Additional scope approved on a case-by-case basis



Hypothetical School Decarbonization Planning Scenarios

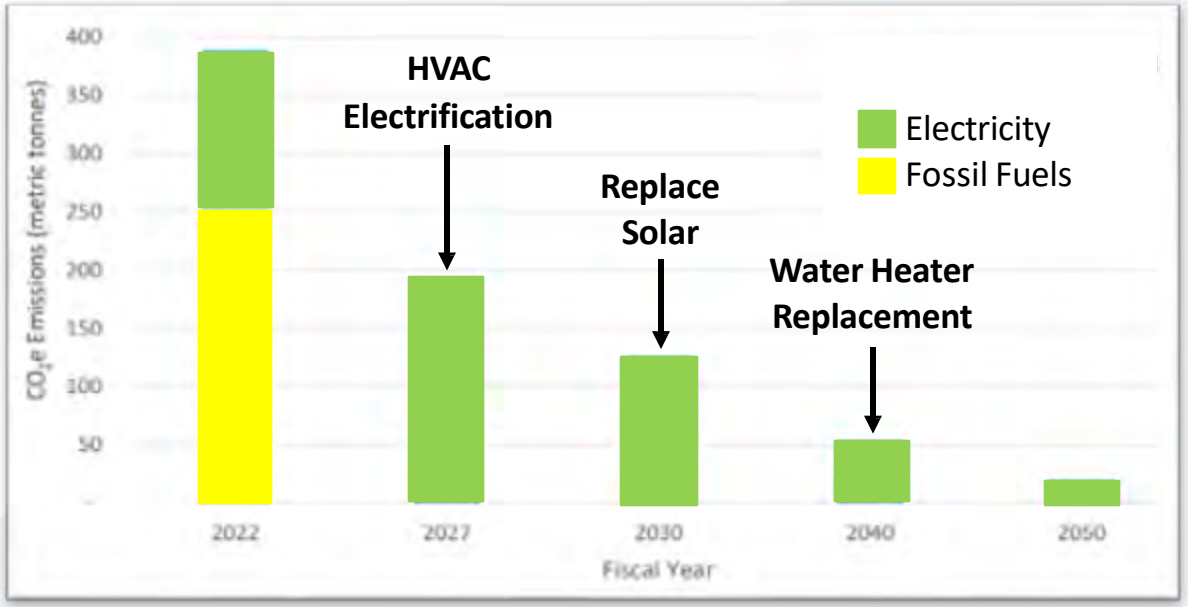
Building 1 – High School



Building characteristics:

- Large building
- Large electrical load, with oil & gas HVAC

Building 2 – Elementary School



Building characteristics:

- Small building
- Fossil fuel use, existing solar

Coming soon:
Enrollment in Technical Assistance

- Expected release: June 2025
- First come, first serve
- Available for any eligible school regardless of Mass Save energy efficiency sponsorship
- Potential first step toward Mass Save, DOER, or MSBA funding



Implementation Grants
(proposals were due April 30, 2025)





- Funding for projects that improve energy efficiency, reduce carbon emissions, or mitigate impacts of climate change at eligible public kindergarten through twelfth grade (“K-12”) school districts and educational collaboratives in Massachusetts.
- Schools must serve a significant percentage (40%) of students from low-income families to be eligible.
- Up to 15% of total awarded funds may be used for project “soft costs,” including (schematic design, project management, and other non-construction costs)

Implementation Project Types

Grants can be used for energy efficiency, electrification, decarbonization, resilience, and clean energy projects.

- Ground source and air source heat pumps
- Solar PV and storage
- Thermal energy storage systems
- Ventilation system upgrades, including energy recovery
- Electrification of other building systems and appliances
- Electric vehicle supply equipment (i.e., charging infrastructure) for school buses and other fleet vehicles
- Electrical service and system upgrades, building management systems, health and safety barrier mitigation and roof repair and window replacements if they are part of a broader electrification or clean energy project
  - Note: Green School Works grant funding cannot be used toward fire safety compliance or ADA compliance costs that may be triggered by these projects.
- Other energy efficiency and weatherization projects
- Other electrification, decarbonization, resilience, and clean energy projects to be reviewed on a case-by-case basis

Keep in touch -

Learn more about Green School Works!

Sign up for program email updates!

Q & A



Thank You for Joining Us!

We hope that you enjoyed our program on pathways and funding opportunities to lower school facility operational costs.

Please check your email for an online survey to provide feedback on the event.

