Green School Works Webinar

Draft Program Concepts and Request for Information

7/17/2024

MASSACHUSETTS CLEAN ENERGY CENTER®

Introductions

- Katherine Straus, Program Manager, MassCEC
- Tom Chase, Program Director, MassCEC
- Trisha Hua, Program Administrator, MassCEC
- Christopher Till, Facilities Manager, Town of Manchester, CT

Agenda

- MassCEC and Green School Works Overviews
- Green School Works Draft Program Concept
- Example Project from Buckley Elementary, Manchester CT
- IRA Investment Tax Credit 101
- Q&A

MassCEC's Work Spans Four Main Areas of Climate Impact for MA

Climatetech Innovation & Investment	Accelerating Decarbonization	Large Scale Deployment: Offshore Wind	Clean Energy & Climate Workforce Development
			
We're helping new climate-focused businesses grow faster through direct support and by creating an ecosystem where they connect and thrive.	**We're 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,** a robust supply chain and a highly trained workforce**.**	**We're partnering with schools and other education partners to build the skilled and diverse workforce** essential to achieving our climate goals.

Green School Works Background

- Created as part of the State's FY24 budget, the goal of the Green School Works program is to provide financial support to "K-12 public schools or districts for projects to install or maintain clean energy infrastructure."

- Program is currently funded at $50 million.

- Key legislative text:
  - "Address the cost of installation, operation, or upgrades of clean energy infrastructure"
  - "Reduces carbon emissions or mitigates the impacts of climate change"
  - "Including school rooftop construction or repair costs necessary for a clean energy infrastructure project"
  - "Shall maximize the total number of projects undertaken"
  - "May give preference to grant applications for schools serving low-income and environmental justice populations"

Draft Program Concepts

Provide technical assistance and implementation funding to K-12 public schools or districts for projects that improve energy efficiency, reduce carbon emissions, or mitigate the impacts of climate change, and support decarbonization planning and prioritization.

Combination of:

- Technical services grants
- Implementation grants
- Implementation bridge loans

Draft Program Concepts

PORTFOLIO PLANNING

PROJECT PLANNING

IMPLEMENTATION

Portfolio Planning Overview

High-level, school-wide decarbonization planning is the 1st step in planning for 2050 climate-ready buildings

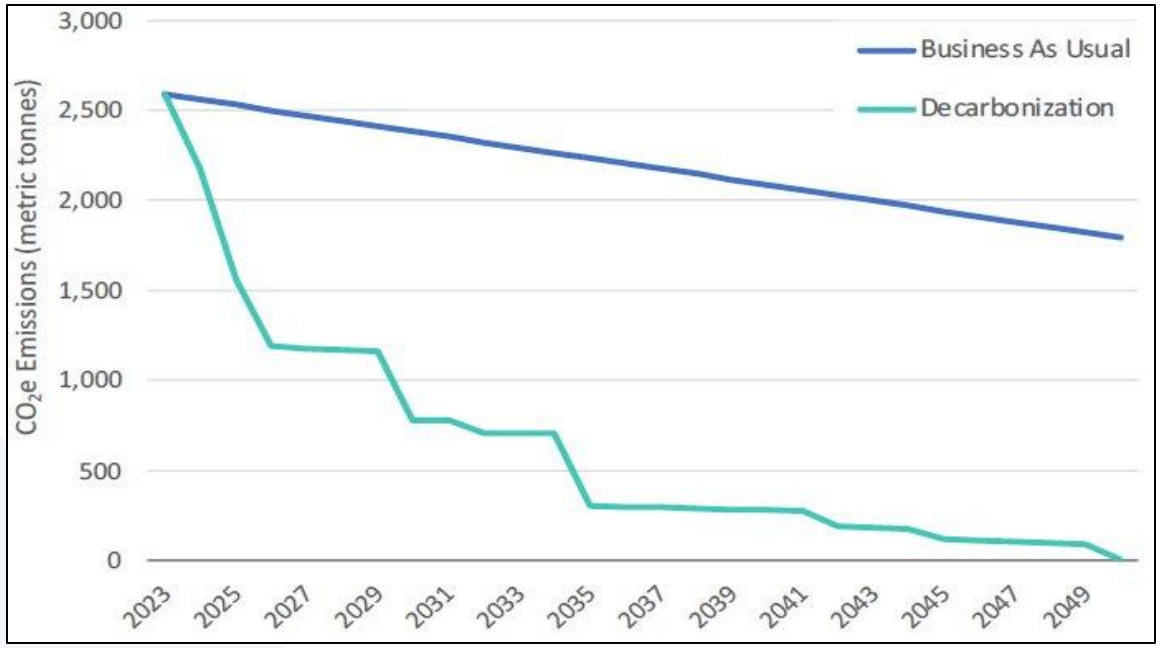
Involves desktop analysis and is relatively low cost per building

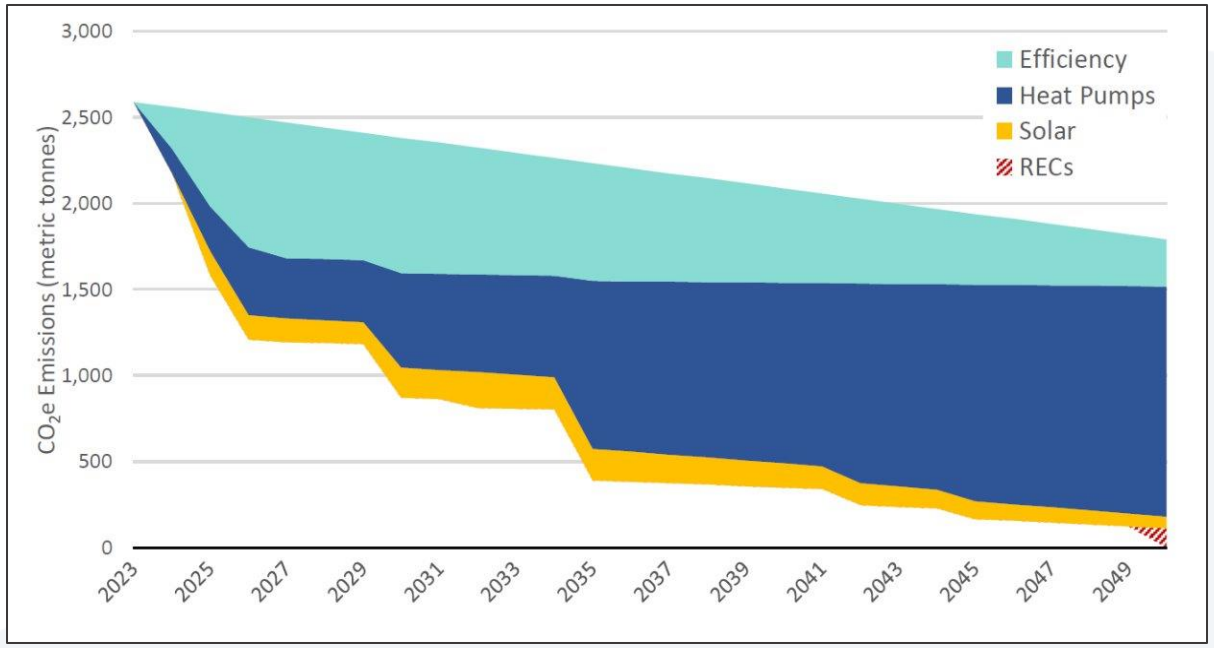
Provides clear picture of current and future emissions and allows planning aligned with capital needs

Portfolio Planning Proposed Services

- Provide wraparound support to low-income and Environmental Justice schools to complement portfolio electrification prioritization plans to be offered by Mass Save, including:
  - Over-time 2050-Ready planning
  - Renewable energy feasibility analysis
  - Funding the school district's portion of Mass Save-required cost match
- Services delivered to districts by pre-approved Mass Save vendors
  - Payments to vendors would come directly from Mass Save and MassCEC

Portfolio Planning Example





Portfolio Planning Proposed Enrollment

- Open enrollment
  - Districts who enroll in Mass Save portfolio prioritization plan support given choice to enroll in Green School Works Portfolio Planning.
  - Districts served by municipal utilities, and therefore unable to access Mass Save services directly, would still be eligible for enrollment.

Project Planning Overview

2nd step is a deeper dive into building decarbonization assessment and planning for one or more individual buildings

Project-level planning includes more rigorous energy use and emissions analysis, calibrated energy modeling and engineering calculations, and on-site assessment. It is more intensive and costly than Portfolio Planning, but still relatively small value compared to total scope of decarbonization projects.

Not all school districts will need to do Portfolio Planning before Project Planning, due to capital planning work already in process and/or due to a limited number of buildings in a district's portfolio with clear decarbonization needs.

Project Planning Proposed Services

- Provide low-income and Environmental Justice school districts with a single building decarbonization assessment and plan.
  - Would supplement Decarbonization Roadmap support services offered through Mass Save and their vendors.

- Services delivered to districts by pre-approved Mass Save vendors
  - Payments to vendors would come directly from Mass Save and MassCEC

Project Planning Proposed Enrollment

- MassCEC extends an invitation to apply to eligible districts already receiving Decarbonization Roadmap support from Mass Save.
- Certain number of spots would be reserved for districts participating in the initial Portfolio Planning step of this Program.
- Inquiry form would be available through the Program website for other districts to express interest.

Implementation Overview

Decarbonizing schools is often complex, costly, and time consuming, and these projects require a good deal of technical and staff capacity.

For school districts with the capacity to tap into new and expanded funding resources, the incentive and funding environment is far more favorable to these projects than in the past.

Many of the new and expanded funding resources provide funding at project completion, or in the case of the IRA tax credits, have a limited time window, with eligibility ending in 2032.

Implementation Proposed Services

- Award a certain number of school districts with implementation funding that may be in the form of a bridge loan, grant, or combination of the two for the following:
  - Eligible decarbonization project hard costs, plus design, capacity, and technical assistance grants to support soft costs for eligible projects.

- A bridge loan would allow schools to capture up-front IRA tax credit funding for eligible projects at the beginning of construction, and to repay the bridge loan at the time the tax credit is received.
  - Projects intending to maximize IRA tax credit funding may be given priority in the selection process.

Implementation Proposed Enrollment

- Application for Implementation funding will open at roughly the same time as the other two Program components above.

- Not all eligible districts will require Portfolio and Project Planning assistance prior to embarking on Implementation.

- At least half of the Implementation awards could be reserved for districts participating in one or both of the other two Program Components.

Proposed Implementation Project Types and ITC Eligibility

- Projects eligible for Inflation Reduction Act's Energy Investment Tax Credit (ITC):
  - Ground-source heat pumps
  - Solar PV (rooftop, ground mount, and parking canopy)
  - Solar PV with islandable battery storage systems
  - EVSE for electric school buses and personal vehicles

- Projects **not** eligible for ITC, but that enable work for ITC-eligible projects:
  - Building electrification readiness
  - Roof repair
  - Window replacement

- Projects **not** eligible for ITC:
  - Air-source heat pumps
  - Electrification of other building systems
  - Other electrification, decarbonization and clean energy projects

Overall Proposed Program Eligibility Requirements

- K-12 public school; and
- Serves a Massachusetts Environmental Justice Block Group population; and/or
- Is a designated Title I school.

Green School Works Proposed Competitive Selection Criteria

- General:
  - Selected schools represent a diverse set of communities, e.g., rural, urban;
  - School has a demonstrated need, i.e., this project would not happen without Green Schools Works funding; and,
  - Majority of student population is from a MA Environmental Justice Block Group.

- For Implementation funding awards:
  - Criteria outlined above; and
  - School has a demonstrated strategy for integrating projects with student learning; and,
  - Project(s) intends to maximize Investment Tax Credit funding.

Program Timeline

July – October 2024: Stakeholder engagement and final Program design

October – December 2024: Program documentation, RFP, and consultant selection

January 2025: Enrollment and Applications open

Buckley Elementary School (Before)

Manchester School District

“Can a Ford Pinto be transformed into a Tesla?”
Town Staff and Building Committee members were skeptical about the feasibility of transforming schools constructed just after WWII into state-of-the-art 21st Century Net Zero Energy High Performance Buildings.

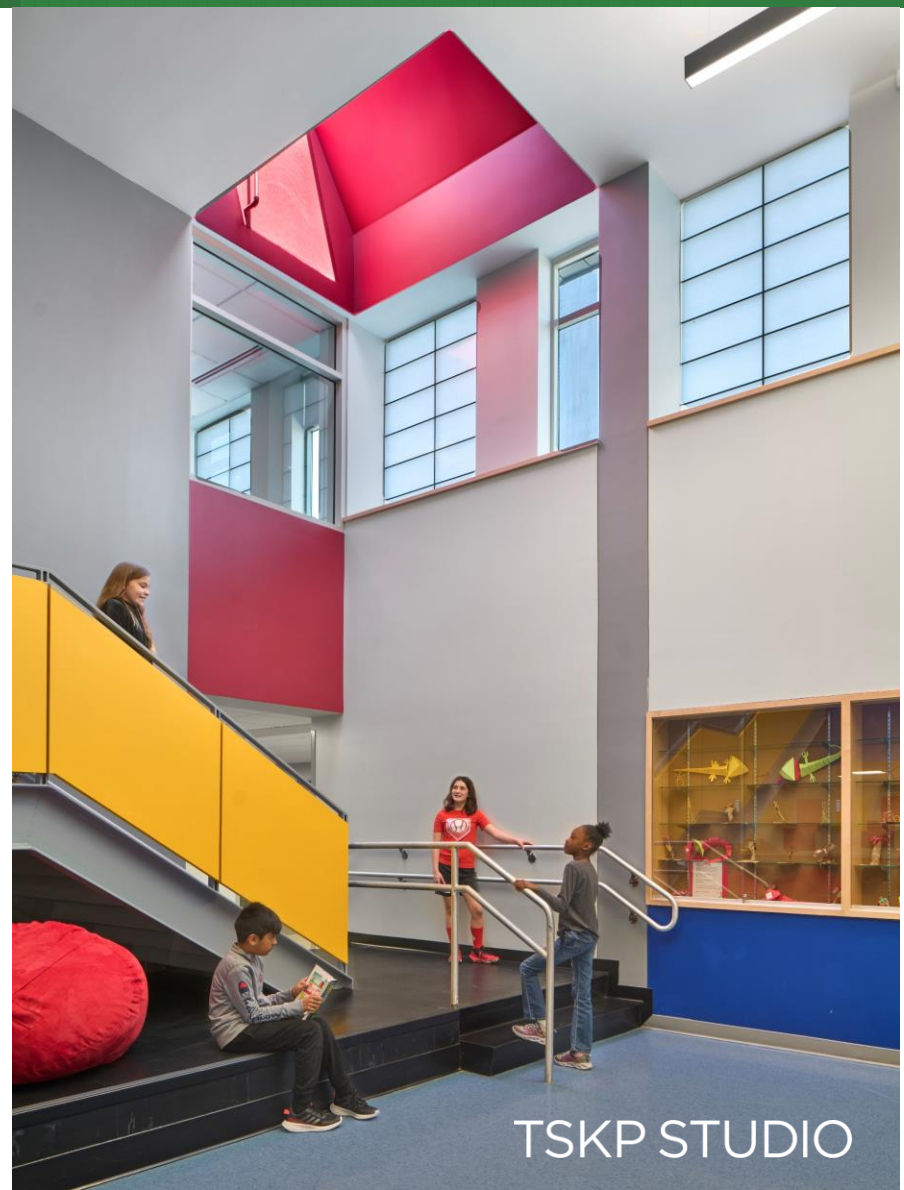
Reducing the EUI to less than half of the prior similar renovation seemed like a long shot. The first glimpse of optimism came during the interview process for the design teams when Manchester was presented with several successful Net Zero Energy projects completed by CMTA across the country.

TSKP STUDIO

Renovation Goals:

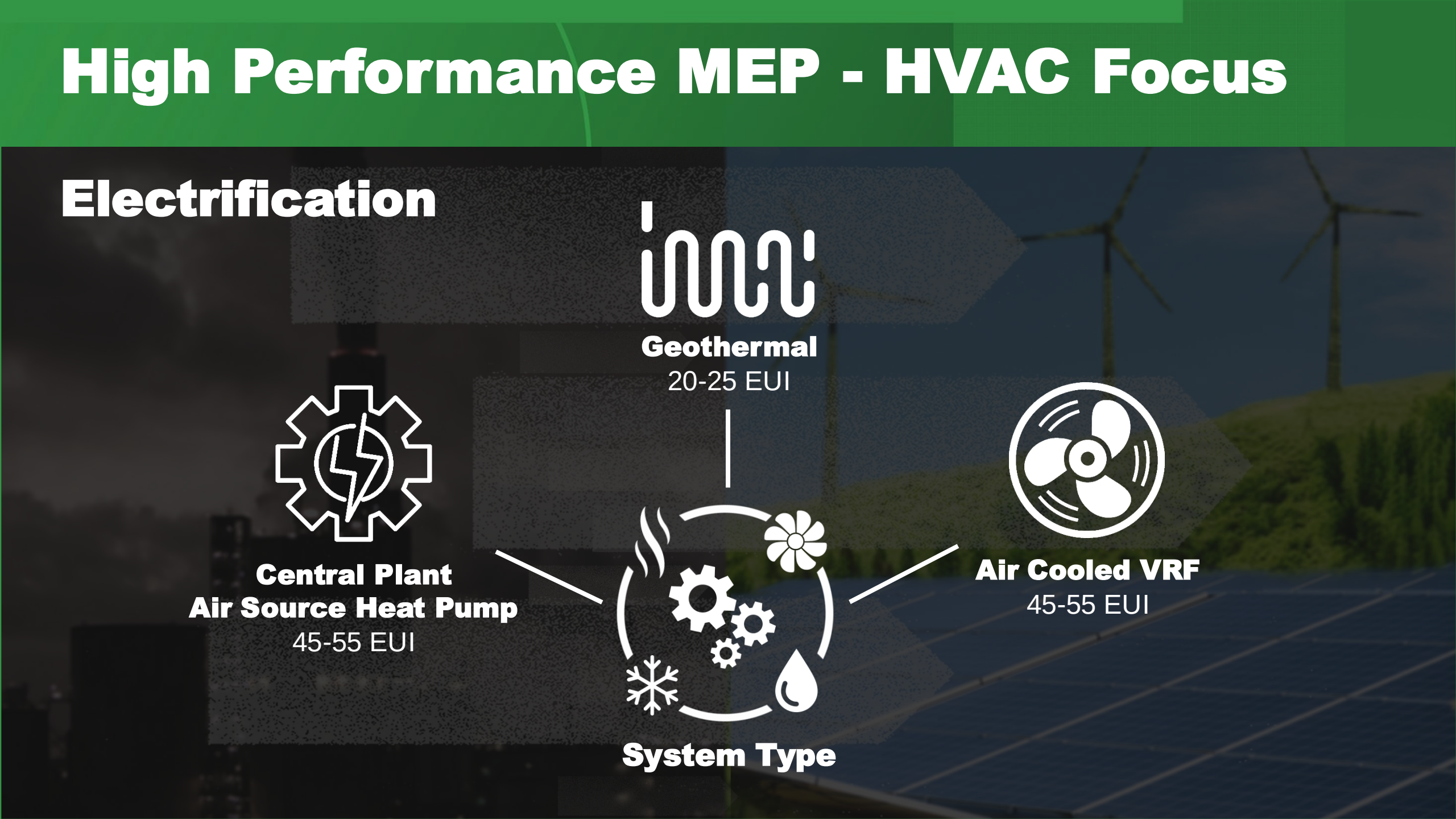
- 21st Century Learning
- 9,000 ft² Additional Program Space
- Indoor Air Quality
- Natural Daylighting
- Upgraded Building Envelope
- Net Zero Energy | < 25 EUI (kBtu/ft²/yr)
- Building Electrification

Breakout Area



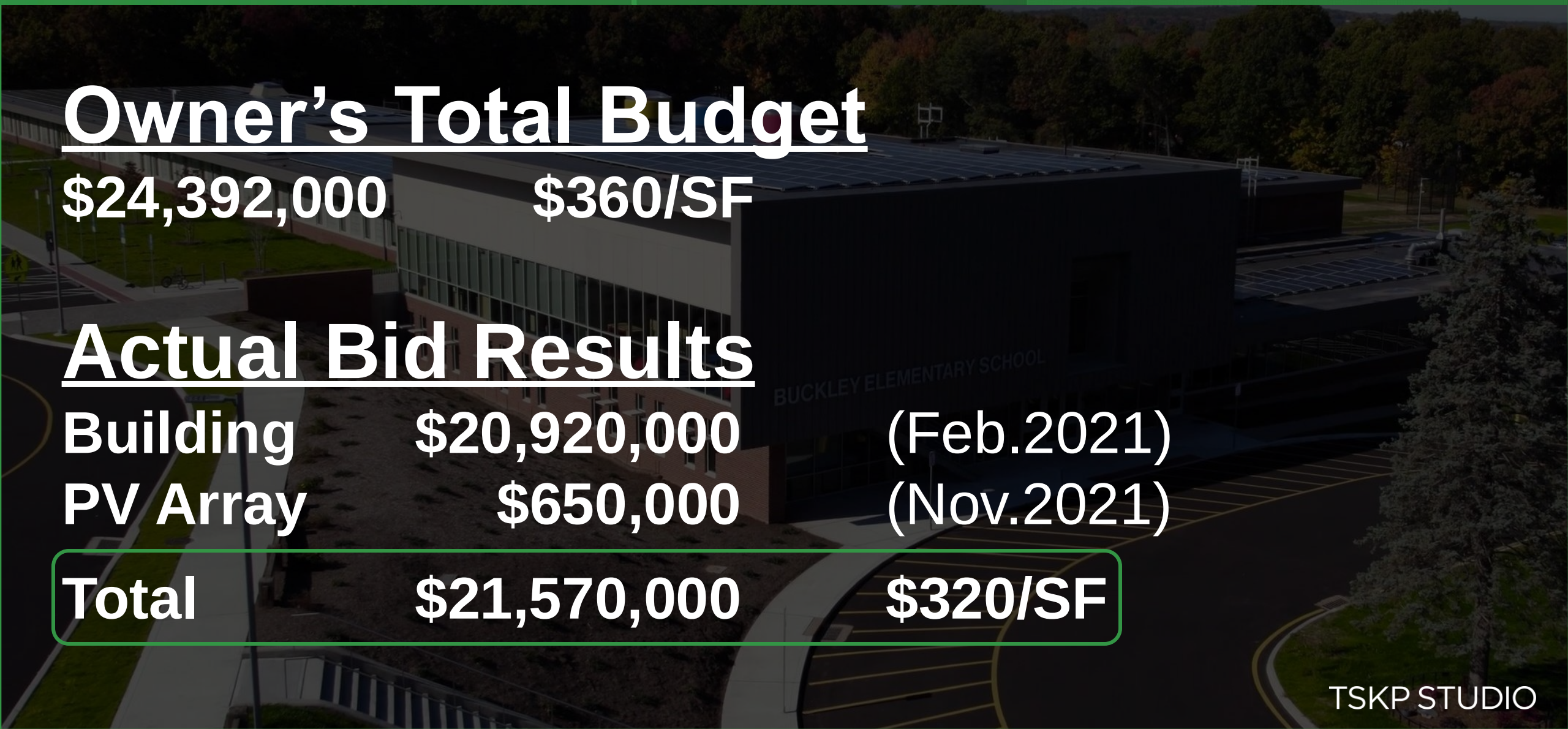
High Performance MEP - HVAC Focus

Electrification



What are Annual Utility Costs?

What Did it Cost?



Owner's Total Budget

$24,392,000 $360/SF

Actual Bid Results

Building	$20,920,000	(Feb.2021)
PV Array	$650,000	(Nov.2021)
Total	$21,570,000	$320/SF

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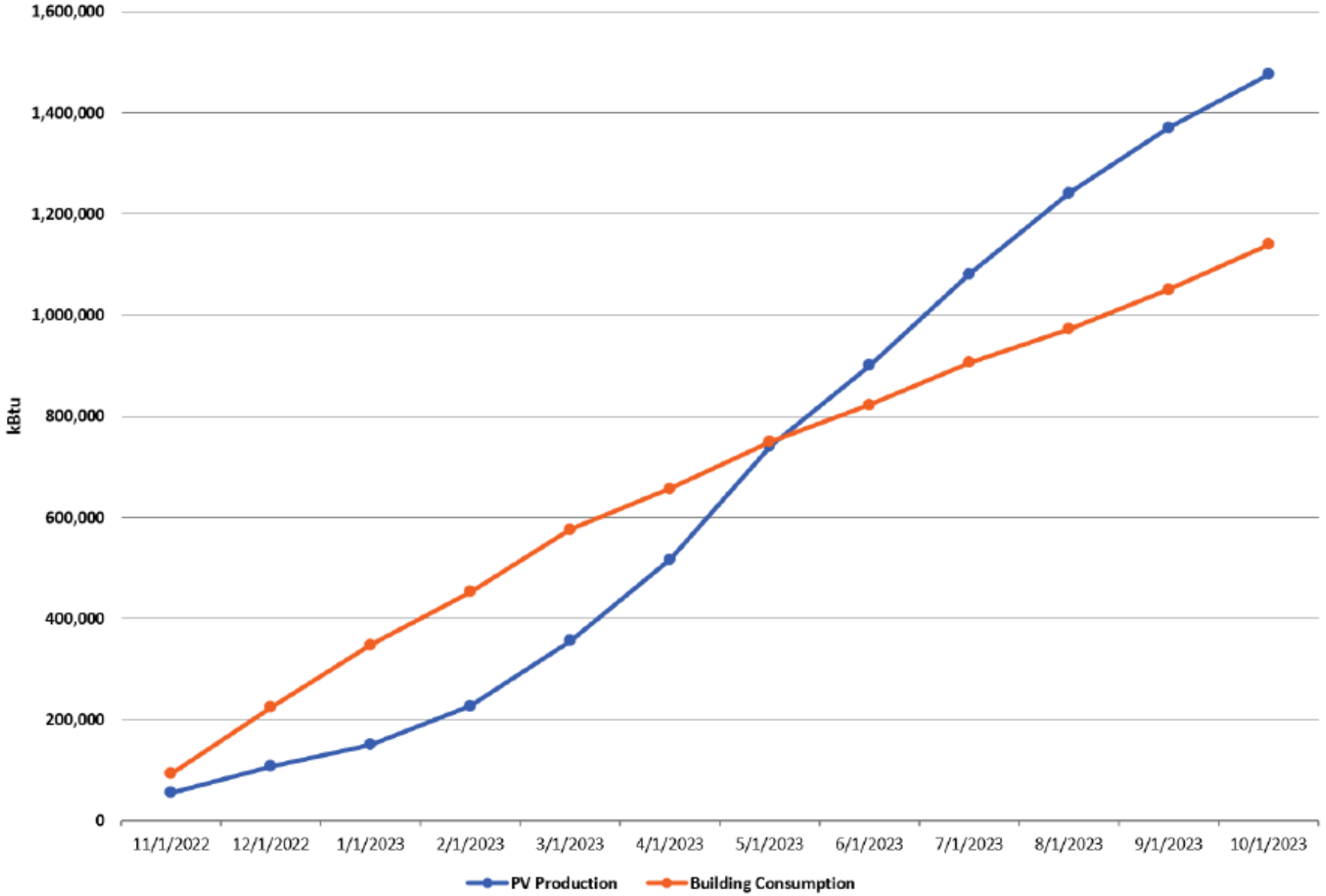
Buckley Elementary Building Consumption vs PV Production



Buckley Elementary - Before / After

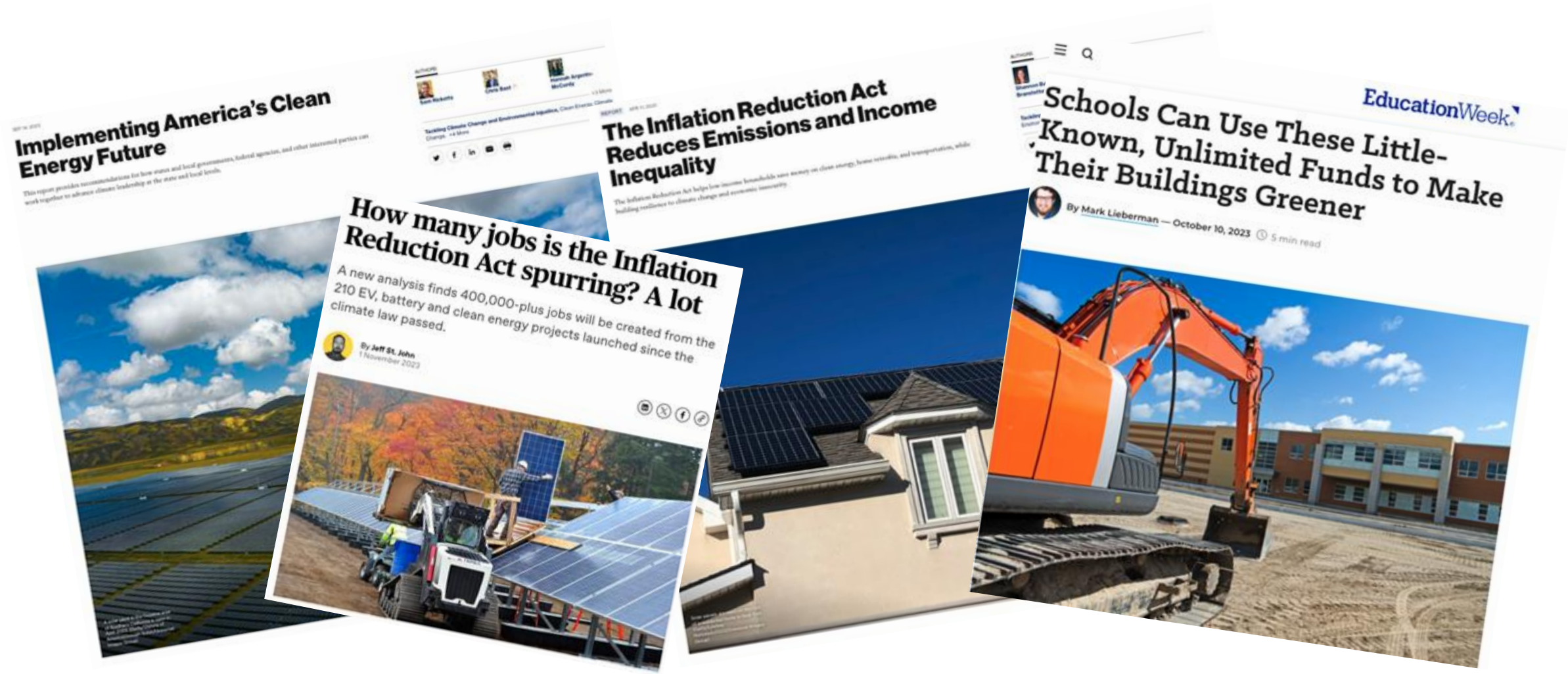
TSKP STUDIO

Buckley Elementary - Before / After

Buckley Elementary - After

TSKP STUDIO

The Inflation Reduction Act is here!



What's so special about the clean energy tax credits?

Non-competitive

Cash reimbursement

Available until 2032+

Unlimited funding

The IRA provides funding for these clean energy machines

Heat Pumps*

Start construction by 1/1/35

Solar Energy

Start construction by 12/31/33

Energy Storage

Start construction by 12/31/33

Electric Vehicles

Acquire by 12/31/32

EV Charging

Start construction by 12/31/32

*Just ground-source heat pumps, not air-source

How much can these tax credits be worth?

Technology	Count	Max credit	Cost basis	Estimated tax credits
Ground-source heat pumps	–	–	$6,000,000	$2,040,000
Solar	–	–	$1,500,000	$450,000
Energy storage	–	–	$750,000	$225,000
Electric School Buses	10	$40,000	–	$400,000
EV charging equipment	2	$100,000	–	$200,000
Total estimated clean energy tax credits				$3,315,000

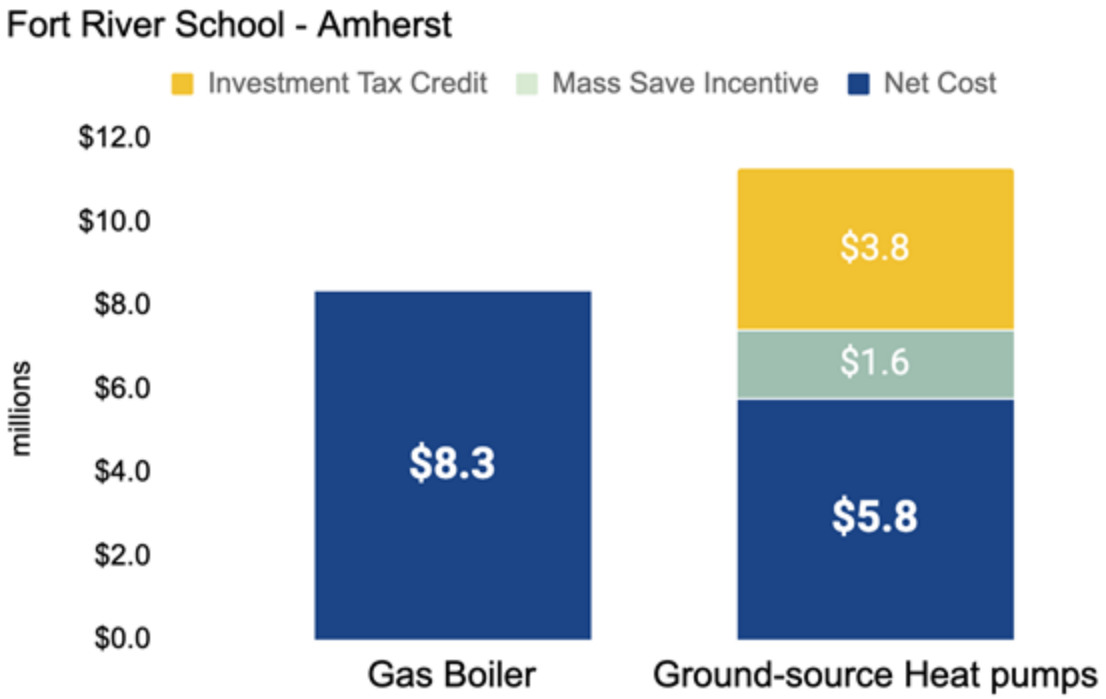
What is the process?

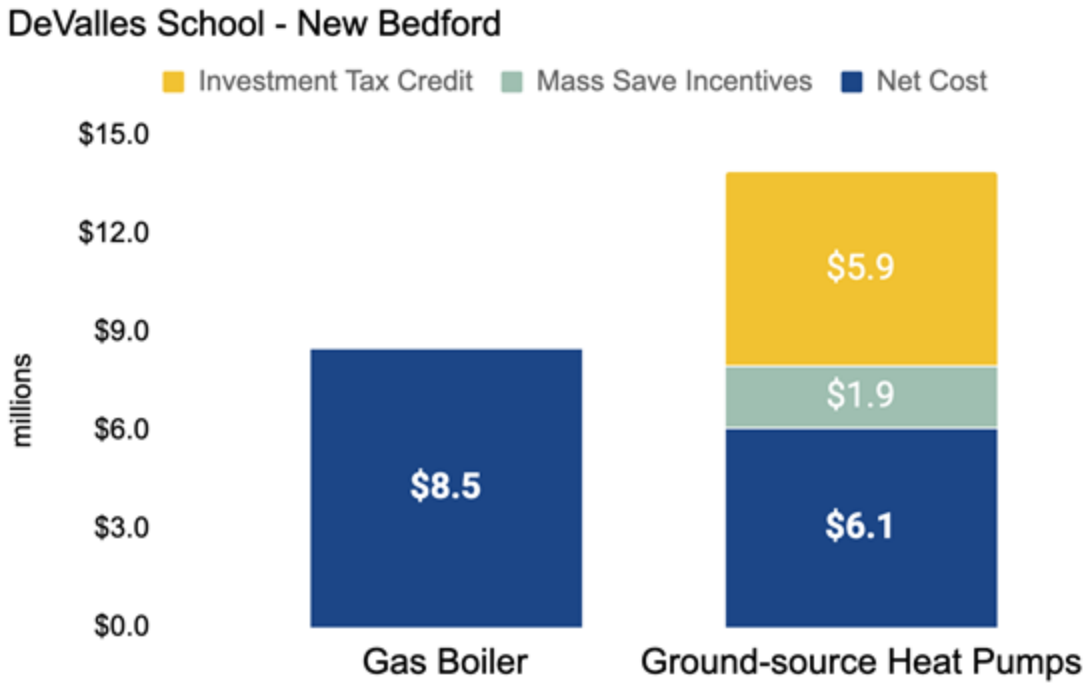
1. **Install/buy the eligible equipment**
2. **Wait until the end of your fiscal year**
3. **Complete pre-filing and filing with the IRS**
4. **Receive direct deposit in approx. 45 days after filing**

$ out ----------→ **$ in**

* First time filers (e.g. no filings in the last 10 years) can choose to file on a calendar year or fiscal year basis. See: 89 FR 17546

Clean energy options may cost less





Other events/resources to flag

- MA Legislation on Section 35: Green School Works
- MA Department of Energy Resources' Green Communities
- MA School Building Authority
- MA Federal Funds & Infrasturcture Office
- Undaunted K12
- Climate Resilient Schools Coalition
- Grant-writing workshop for municipal Sustainability Staff 8/1/2024 in Natick
  - Building Electrification Accelerator, Cora Weissbourd
- Inflation Reduction Act Tax Credits for Schools

RFI info

- Goal
  - To receive feedback from a wide range of school and decarbonization stakeholders on potential Green School Works program design.
- Dates
  - Posted - July 12, 2024
  - Priority Response Deadline - August 1, 2024
- Key Respondents
  - K-12 school professional or administrator
  - Municipal official
  - Parent/Guardian of K-12 student
  - School decarbonization advocate
  - Electrification or decarbonization planning and technical assistance service provider
  - Electrification or decarbonization implementer
  - General or specialized building contractor
  - Tax credit expert
- Green School Works RFI

Q&A