

Prepared by Mike Ritter a Lee Academy Pilot School parent and Family Council member

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[BPS HVAC Now Petition](#)

Presentation (short, sweet, animated w/ videos... please look through)

- **[Use ESSR Funds to Retrofit BPS Buildings with Heat Pump HVACs](#)**

Videos

- [Students swelter through first day of school in Boston](#) Globe WCVB 9/7/23 (at Lee Academy)
- [Mike's house heated and cooled with air source heat pump powered by solar panels](#)
- [Mike's house video for MassCEC](#)
- [Forbes Road School District in PA retrofitted its school with air source heat pumps](#) (a popular superintendent!)
- [Mike's video detailing state of his daughters' school \(get other parents to make these as well\)](#)
- [Daikin Argyle Road Retrofit in Toronto](#), password: heatpump

Organizations

- [BlocPower](#) featured in [Breaking Buildings' Addition to Fossil Fuels on How to Save a Planet](#) podcast
- [Renew Boston Trust](#)
- [Energy Sage](#)
- [Boston Schools Fund](#)
- [Rewiring America](#)
- [Healthy Buildings](#) including this [Case Study: Boston](#)
- [Undaunted K12](#)

Plans / Info / Reports

- [BPS Long-Term Facilities Plan](#)
- [BPS Decision Making Rubric Dashboard](#)
- [Mayor Wu plans to file home rule petition for fossil fuel free new construction and major renovations City of Boston](#) 8/16/22
- [Beautiful Trouble](#)
- [Undaunted HVAC Choices for Student Health and Learning](#)
- [Student Pathways to Success Poll](#) 10/27/22 "Nine in ten voters say our next governor must put education improvements among their top priorities (88%) with two in ten saying it must be our next governor's top priority (20%)."
- [BPS Letter 10/24/22](#) "... most of our buildings are not meeting students' most basic needs." "... combining school communities - in new or updated facilities, wherever possible - will provide us with a path forward to improve students' academic experience."

- [BPS Building Dashboard](#)
- [BPS Facilities Condition Assessment Dashboard from Green New Deal](#)
- [Green New Deal for BPS](#)
- [Build BPS](#) ([archive.org / buildbps.org](https://archive.org/buildbps.org) because it's been removed since March of '22, then YEAR in the United States in Wikipedia to find historical events)
- [BPS Datasets Analyze Boston](#)
- [Build BPS Master Plan](#)
- [Getting to Zero Schools Resources](#) and [Advanced Energy Retrofit Guide for K-12 Schools](#) (pg. 15 notes "US K-12 school districts spend more than \$8 billion each year on energy - more than they spend on computers and textbooks combined.")
- [BPS Indoor Air Quality](#)
- [Boston's Carbon Emissions](#) under Municipal Emissions / Emissions by department BPS is noted as the largest source of municipal natural gas consumption.
- [Intro to Heat Pumps and VRF](#)
- American Economic Association [Impact of School Facility Investments on Students and Homeowners: Evidence from Los Angeles](#) by Julien Lafortune and David Schönholzer with [Twitter thread breaking it down](#). Average age of LAUSD facilities fell between 1999 and 2012, new facilities concentrated in poorest parts, not fancy but climate controlled, students who went to new facilities attended almost a week of additional schooling and saw substantial math and English improvements, house prices in affected neighborhoods increased by 6% = \$billions in property wealth. Every dollar of capital investment generated \$1.6 in return.
- [Greenhouse Gas Equivalences Calculator](#) looks like BPS is responsible for 2/3 of roughly 50k metric tons (=33K) of methane / natural gas according to Boston Carbon Emissions under [Emissions by energy source](#) leaving calculator to estimate switching BPS off natural gas being like removing 2.1 natural gas-fired power plants in one year among other things.
- [FY2021 Fund Code 209: Improving Ventilation and Air Quality in Public School Buildings Grant](#)

Case Studies

- [Mitsubishi Case Studies](#)
- [CMTA Berkeley County Schools](#) (Geothermal in seven schools. \$1.5M ABOVE Guaranteed Energy Savings in first 3 years).
- [Every Child, Every Neighborhood: Policy Pathways to Deliver High-Quality Education in Boston](#) by Boston Schools Fund. Particularly Policy Brief #1: School Buildings. Under "Centralized", read how DC (a nearly identical size to Boston) created Office of Public Ed Facilities Modernization in 2007, set side a budget of \$billions, and shared School Facilities Master Plans to modernize all 114 schools by 2024.

Rebates / Tax Credits / Production Credits

- [Mass Save Rebates](#) (it's residential but hopefully could apply for schools as well)
- [Mass Clean Energy Center Rebates](#)

- [Investment Tax Credit \(ITC\) for solar installs at 26% through end of 2022](#) may not be applicable for schools
- [Alternative Energy Certificates \(AEC\) for HVAC system](#)
- [MA-SMART \(solar panel production credits\) for 10-20 years after install](#)

Articles / Social Media

- [There's a secret for Mass. cities and towns to win big bucks from DC: Invest in sustainability](#) Globe 6/8/24
- [We're kicking the can down the road with slow BPS closures](#) Globe 5/23/24
- [BPS scales back plans for school closures](#) Globe 5/22/24
- [Will 'The Holdovers' return us to a time when exalted public school buildings were valued?](#) Globe 2/26/24
- [To slash carbon emissions, colleges are digging really deep](#) NYTimes 1/23/24
- [The challenge of closing BPS buildings, and what Boston can learn from DC](#) Globe 1/12/24 "Parents don't choose schools based on the building but what's inside" I disagree strongly. Enrollment went up in DC once schools buildings were improved.
- [What's the condition of your child's school? BPS has now scored them](#) Globe 10/12/23
- [Schools are not ready for climate change](#) Globe 10/9/23
- [Baltimore's school building program could offer model to close gaps in MA](#) Globe 10/4/23
- [What High Heat in the Classroom is Doing to Millions of American Children](#) Inside Climate News 9/9/23
- [How hot is it in classrooms without air conditioning? BPS data can tell us.](#) Globe 9/7/23
- [Climate change and poverty are complex problems. These solutions aim to address both.](#) Globe 9/4/23
- [Too hot to handle: As schools recopen in a heat wave, a warning of the climate future](#) 9/6/23 Globe
- [Many kids are returning to schools w/o air conditioning. Should parents be concerned?](#) 9/6/23 Globe
- [Covid Closed the Nation's Schools. Cleaner Air Can Keep Them Open.](#) 8/28/23 NYT
- [Classes resume in sweltering heat, many schools lack AC](#) NPR Morning Edition 8/28/23
- [State program to fund new schools allows for fossil fuels despite climate goals](#) 6/1/23 Globe
- [Boston now spends more per student than any other large school district in the nation](#) 5/31/23 Globe
- [MA spends thousands more on school construction aid for white students than for students of color](#) 5/27/23 Globe
- [BPS merger plan met with resistance at PA Shaw School](#) [Dorchester Reporter](#) 2/9/23 mentions previous plans doing nothing but close schools at the end
- [Why a major local developer is going big on renewable power for 43-building portfolio](#) Boston Globe 1/31/23
- [Taking the Heat: Homeowners are seeking ways to stay warm without breaking the bank](#) Boston Globe 1/13/23
- [France requires clean air in classrooms](#) [Twitter Kashif Pirzada MD](#) 1/3/23

- [Key things to know about the Green New Deal for Boston Public Schools](#) Boston Globe 1/2/23
- [Making heat recovery ventilators sexy](#) Boston Globe 12/8/22
- [BU Finishes the Most Environmentally Friendly In the City](#) Boston Globe 12/7/22
- [With Federal Aid on the Table, Utilities Shift to Embrace Climate Goals](#) NY Times 11/30/22
- [MassHousing Redevelopment of Historic Stone Mill into Low Carbon High Energy Efficient Housing Community...](#) 11/8/22
- ["Boston's 2030 climate goal is out of reach, a new report finds"](#) Boston Globe 11/3/22
- ["A profound change is coming to American school buses"](#) Washington Post 10/26/22
- ["Wellesley teed up a bold move on climate action. Then came an offer it couldn't refuse"](#) Globe 10/26/22
- From Lee Academy Newsletter 10/6/22:
 - The weather is getting cooler, fast! The school building does feel cold and I have received complaints from both students and adults. We cannot turn on the heat at the school and we do not have control. It is controlled centrally by the district. Therefore, please dress your child in layers. With the exception of K0/K1, students will be outside so long as the temperature is above the freezing point.
- Boston Globe 9/27/22 ["Trouble brewing in the power grid as officials warn of possible electricity shortages in N.E.this winter"](#)
- Boston Globe 6/15/22 ["Seize the moment" Advocates push state to use pandemic relief funds for climate action."](#)
- Boston Globe 3/29/22 ["How clean is the air in your school or workplace. Many are lacking"](#)
- NYT Wirecutter ["A Heat Pump Might Be Right for Your Home. Here's Everything to Know"](#)
- NPR 3/18/22 ["Better ventilation means healthier students, but many schools can't afford to upgrade"](#)
- NPR 3/14/22 ["Better air in classrooms matters beyond COVID. Here's why schools aren't there yet"](#)
- Boston Globe 2/11/22 ["These climate activist aren't just spouting rhetoric: they're helping wean utilities off fossil fuels"](#)
- Boston Globe 2/2/22 ["BPS unveils \\$1.3 billion budget pumping an additional \\$40 million into schools, programs"](#)
- GBH 1/26/22 ["Parents ask: Where's the \\$400 million that was promised for Boston schools?"](#)
- Boston Globe 1/18/22 ["All around MA, cities and towns want to go fossil free. Here's why they can't"](#)
- Boston Globe 1/11/21 ["Baker administration's next climate task: curbing heat emissions from buildings"](#)
- Boston Globe 1/10/21 ["As Covid surge hammers staffing in schools, Wu pressures Baker on remote learning"](#) BPS closes for cold partly due to windows open for ventilation
- 6sqft 12/9/21 ["NYC set to ban gas hookups in new buildings"](#)

- Boston.gov 12/4/21 "[Mayor Wu Secretary of Energy Granholm Tour Boston Arts Academy](#)" Notes BAA building will be 100% electric except for gas in science labs and kitchen.
- BuildingDesign + Construction 11/29/21 "[Ithaca votes to electricify, decarbonize all its buildings](#)"
- Dorchester Reporter 11/18/21 "[Boston Nature Center breaks ground on its new solar array](#)" notes city and state officials were at groundbreaking and that BNC is converting three brick cottages which houses its preschool from natural gas to electrical heating systems.
- Boston Globe 11/8/21 "[Mayor-elect calls for more resources, support in Boston Public Schools](#)"
- Boston Globe 11/8/21 "[Radical changes and big incentives as Mass Save becomes a climate fighting tool - but is it enough?](#)"
- Dorchester Reporter 11/4/21 "[HVAC issue in Boston schools crisis for many](#)"
- Globe 10/29/21 "[Mentorship program aims to prepare high school students for careers in the trades](#)"
- Councilor Flynn letter 6/7/21 "[Heat Emergency](#)"
- City of Boston City Council 7/21/21 "[Safety BPS Extreme Temperatures Hearing Order](#)"
- Globe 10/16/21 "[With Boston Public Schools in crisis problems are mourning. Can the system save itself?](#)"
- WBUR 10/15/21 "[Wu holds wide lead over Essaibi George in race for Boston mayor, WBUR poll shows](#)" scroll down to see essentially a voter mandate to improve BPS
- 10/5/21 "[Boston just enacted its 'single most impactful initiative' to curb greenhouse gas emissions](#)"
- Globe 10/3/21 "[As Mass envisions a fossil fuel-free future, gas companies are quietly investing billions in pipelines](#)"
- Globe 9/22/21 "[Boston City Council approves major emissions cuts for large buildings](#)"
- Globe 9/20/21 "[Mass is creating a Commission on Clean Heat, a major step toward achieving climate goals](#)"
- Globe 9/7/21 "[These lawmakers wrote the climate bill. They're worried the state won't achieve it](#)"
- Globe 8/30/21 "[Curb Boston's biggest source of greenhouse gas emissions](#)"
- Globe 8/21/21 "[Massachusetts should be converting 100,000 homes a year to electric heat. The actual number: 461](#)"
- Globe 7/21/21 "[The heat is on cities - and it's not going away](#)"
- Globe 7/14/21 "[Beacon hill, hoarding billions in surplus dollars](#)"
- Globe 7/4/21 "[After record-breaking heat, more than half of the Boston schools used for summer learning do not have air conditioning](#)"
- Globe 7/10/21 "[Efforts to pursue climate goals in Mass. clash with incentives offered that promote fossil fuels](#)"
- Dorchester Reporter 6/16/21 "[Let's invest in new HVAC system for our schools](#)"
- Globe 6/8/21 "[BTU denounces classroom temps amid heat wave, calls for improvements to school HVAC systems](#)"
- [BTU Facebook #SafetyFirstBPS posts on classroom temps in 80s](#)

- Globe 6/7/21 [“90 degree days occurring earlier and more often...”](#)
- Globe 5/12/21 [“Boston School Committee... hears proposal for nine major school construction projects”](#)
- Aprilaire [Airborne Viruses and Healthy Air](#) on how HVACs can limit virus spread
- Spaces4Learning 3/8/21 [“In Prep for Re-Entry. Boston Schools Invest in Window Repair. Replacements”](#)
- Globe 6/22/21 [“Heat islands turn lower income neighborhoods from hot to insufferable”](#)
- GBH 9/16/20 [“Boston’s School Buildings Are Old. Can They Handle A Pandemic?”](#)
- Curbed NY 4/22/19 [“NYC passes its own ‘Green New Deal’ in landmark vote”](#)
- Globe 9/12/18 [“One teacher’s quest for air conditioning in all Boston schools”](#)
- WGBH 9/6/18 [“Boston Public School Teacher Wants City to Turn off AC for Administrators”](#)
- Globe 3/1/17 [“Many BPS schools are said to have bad air”](#)