

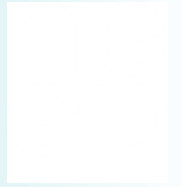


The Opportunity & Need for High Performance Schools in RI

John Balfe

March 21, 2019

Northeast Energy Efficiency Partnerships



“Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption 3% per year and carbon emissions 40% by 2030 (relative to 2001)”

Mission

We seek to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

Vision

We envision the region's homes, buildings, and communities transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

Approach

Drive market transformation regionally by fostering collaboration and innovation, developing tools, and disseminating knowledge



Why Focus on Schools?

More than a place for instruction

Students spend more time in schools

Reduced costs and better outcomes

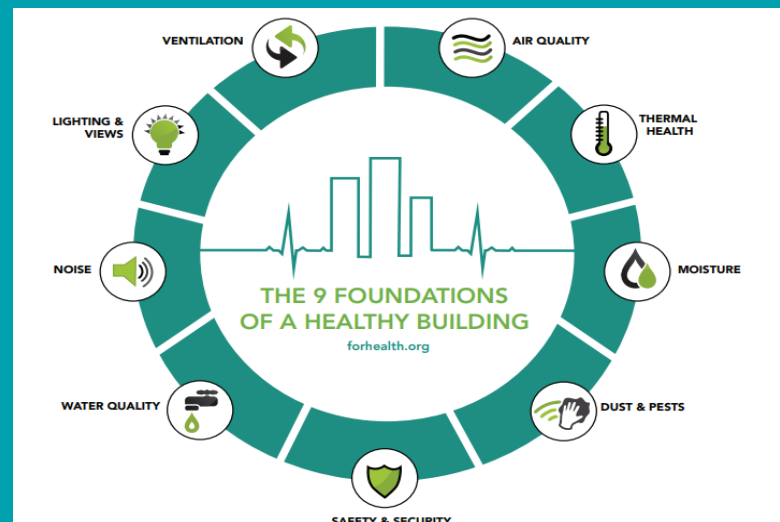
High Performance Schools

The Comprehensive Benefits

Energy: Utility Costs in N. Providence fell by ~49% from 2010 to 2013 ([source](#))

Acoustics: Exposure to noise negatively correlates with children's learning outcomes and cognitive performance ([source](#))

Air Quality: Increased ventilation rates result in higher test scores in elementary schools ([source](#))



Source: Harvard TH Chan School of Public Health

Existing Buildings

What can be done?

- Building Energy Benchmarking
- Focus on Operations and Maintenance
- Training and Education
- Connect with Utility Programs

Study: Buildings benchmarked for three straight years realized a 7% total savings over that period [\(source\)](#).



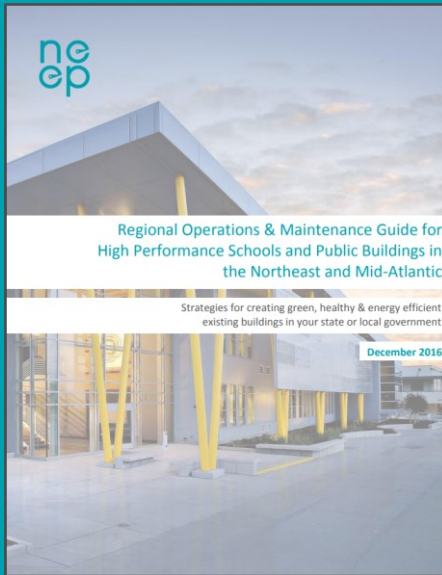
Around the Region

Trends and Opportunities

- Technical Assistance
- Zero Energy Schools
- Existing Buildings
- Performance Data
- Workforce Development



Other Free NEEP Resources





CAPEE

COMMUNITY ACTION PLANNING FOR ENERGY EFFICIENCY



Step 1

Complete Short Questionnaire



Step 2

Receive Recommendations



Step 3


Download Custom Action Plan

TRY IT OUT

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QUESTIONS?

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Archie R. Cole Middle School
East Greenwich, Rhode Island




Photo Credit: Symmes Hain & Jucker Associates (SMAA)

General Information

Location: 100 Cedar Ave, East Greenwich, RI
Scope: 110,000 square feet of new construction
Cost: \$32 million
Completion: August 2011
Enrollment: 573 students grades 6th to 8th
Architect & Engineer: SMAA
Funding/Grant: National Grid Design 2000plus rebates for lighting, VFDs and ECM motors
Award: AIA RI Chapter Honor Award 2012
Certification: NE-CHPS

Project Overview

The construction of Archie R. Cole Middle School commenced in 2009 after receiving the approval from the town residents. In the preceding year, East Greenwich voters had approved to take out a 30-year, \$52 million construction bond to build the new middle school and fix up the district's school facilities. The new middle school which was built adjacent to the old junior high school, a facility built in the 1990s and opened in 2011 to accommodate over 570 students in 6th, 7th and 8th grade, while the old building only had room for grades seven and eight.

The school's plan is on an east-west axis to optimize solar orientation while long, sloping roofs allow for rainwater harvesting. The project's design maximizes the use of natural daylight through special glazing, skylights and clerestory with daylight sensors, and sunshades on the building's southern facade used to control sunlight.

Reduction in energy costs will yield over \$182,000 in savings annually.

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