

2023-2024 Efficient and Healthy Schools Program

Help Us Forge the Way to
Efficient and Healthy Schools

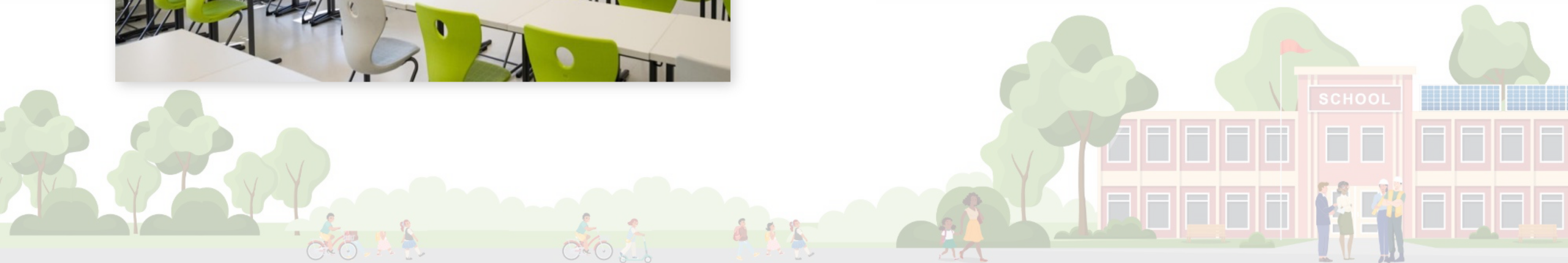


**EFFICIENT AND
HEALTHY SCHOOLS**

Efficient and Healthy Schools Recognition Launch



- Webinar is being recorded
- All attendees are muted during this webinar
- Please enter questions into the Q&A
- Slides and recording will be sent out shortly after



Agenda

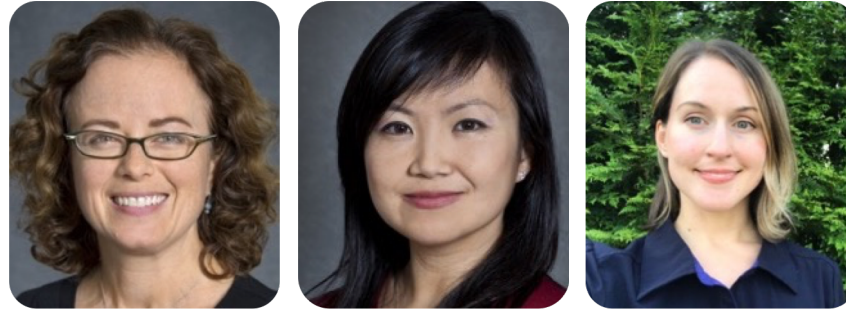
- 1 2023-2024 Efficient and Healthy Schools Program
- 2 ASHRAE - Supporting the EHSP
- 3 Supporter Program & Teaming List
- 4 School District Experience - Rockingham County Schools
- 5 Question and Answer Session

The Efficient and Healthy Schools Program Team

U.S. Department of Energy



Berkeley Lab



New Buildings Institute



Today's Presenters



Shannon Oliver
New Buildings Institute



Alice Yates
ASHRAE



Andrea Swiatocha
US Department of Energy



Gene Kelley
Rockingham County Schools



2023-2024 Efficient and Healthy Schools Program

Shannon Oliver
New Buildings Institute



Aims to improve energy performance, advance resilience, and promote a **healthy learning environment** in schools.

Engages **K-12 schools**, especially those serving low-income student populations and in rural areas.

Provides **technical assistance** through direct consultations and **recognition** of exemplary school improvements.



Three ways to get involved



Join the Program

- National support network of best practices
- Free Technical Assistance
- One-on-one onboarding



Support Schools

- Engage with active schools and districts
- Be listed on program website
- National network of leading organizations



Gain Recognition

- National recognition
- Free Technical Assistance
- Onboarding and coaching

Key Program Dates

Supporter Webinars

- March 27, 2024

Recognition Cohorts

- January 30, 2024 – Solutions Strategist & Data Detective
- February 29, 2024 – Retrofit Revolutionary & Performance Pro

Recognition application deadline

→ **April 5, 2024**



Technical Assistance: Categories



General Program Support

- Onboarding
- Identifying first steps & next steps
- Recognition submission assistance



Energy management

- Benchmarking
- Building assessments
- Energy analytics
- Retro commissioning



Goal Setting and Planning

- Develop district roadmap
- Facility planning & prioritization
- Documentation development: SOW, RFP, OPR



Technologies and Systems

- EEM identifications: HVAC, lighting, water, kitchens
- Energy Management Information Systems (EMIS) & Controls
- Commissioning
- Performance verification



Indoor Air Quality

- IAQ assessments and planning
- IAQ monitoring



Decarbonization

- Electrification approaches
- Emissions reduction calculations



Solar and Renewables

- Solar potential
- Program and funding opportunities



Resilience

- Technical Resilience Navigator
- Approaches to manage emerging risks e.g., extreme heat, wildfire smoke



Funding

- Identify federal, state, local and utility funding available
- Value proposition for funding pitch
- Performance based contracting

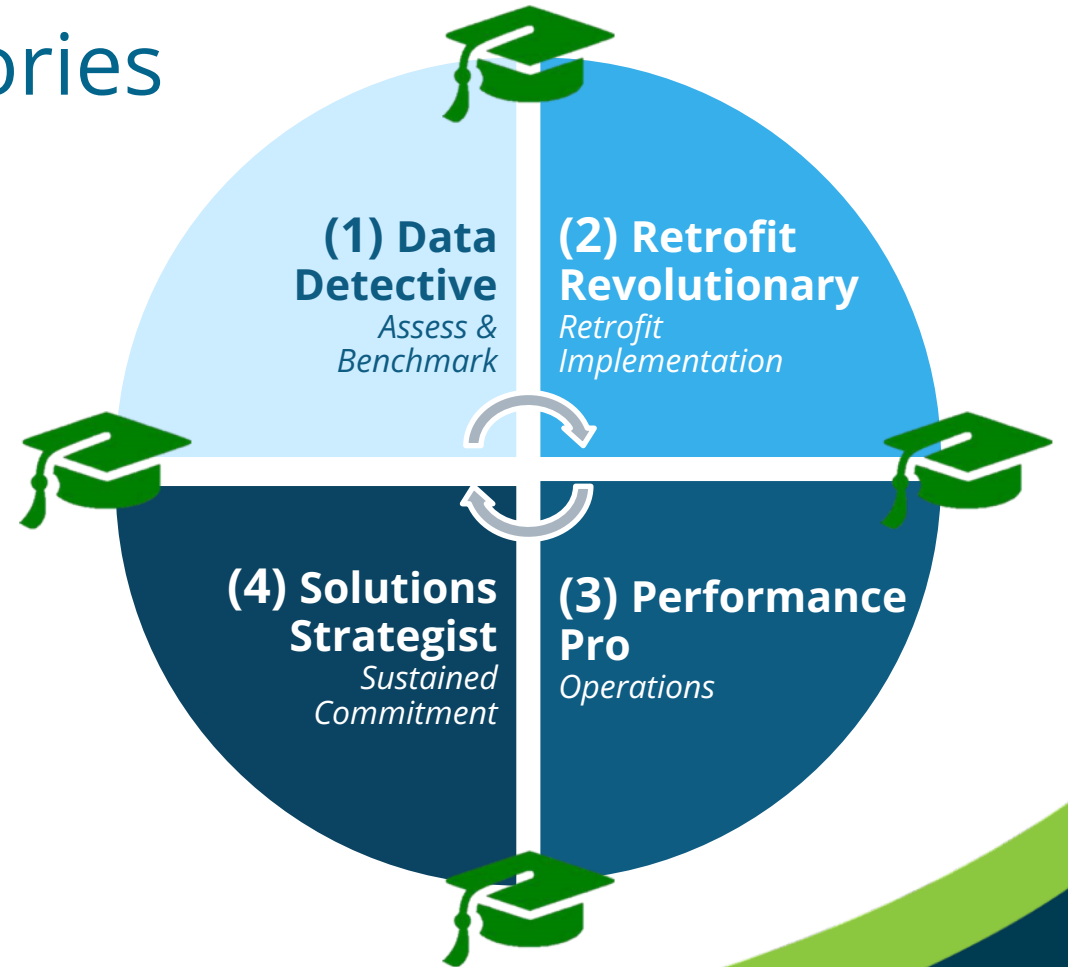
Technical Assistance: Process



2023-2024 Recognition Categories

All Categories Offered

- Tangible Technical Assistance menu administered by LBNL & NBI
- Peer-Peer learning in cohorts of districts facilitated by NBI
- Mentorship from previous honorees
- Financing & funding development
- Packaged resource sharing by NBI



Preparation

Interested schools and districts will fill out a recognition application and request assistance from the program if needed.

Winter 2023-2024

April 2024



May-June 2024

Final Submission

Schools and districts will submit application and supporting materials by April 5, 2024.

Announcement & Celebration

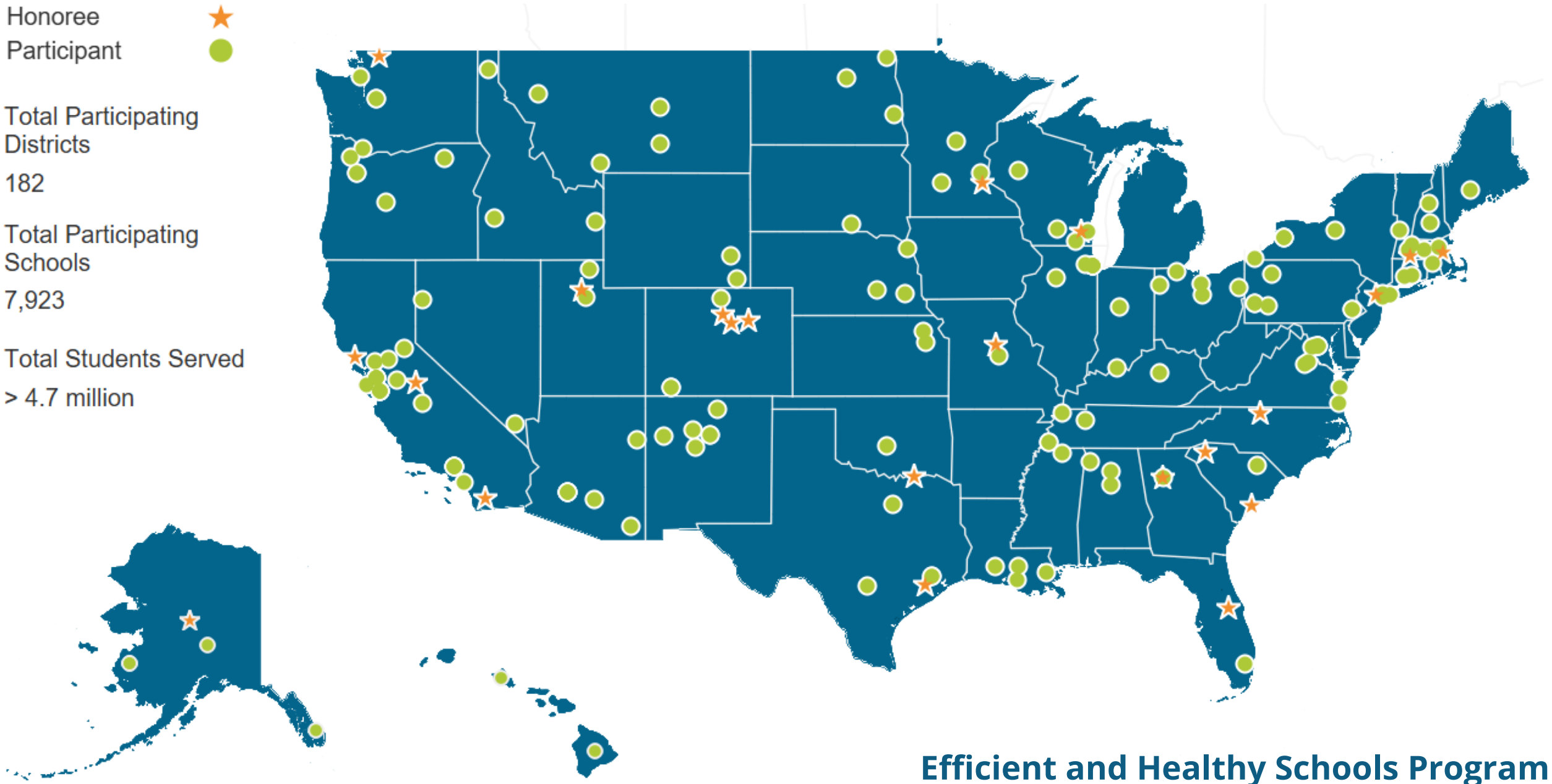
Schools and districts will be notified of recognition in May and will be invited to attend an in-person celebration in June 2024.

Honoree 
Participant 

Total Participating
Districts
182

Total Participating
Schools
7,923

Total Students Served
> 4.7 million



**Efficient and Healthy Schools Program
Participants to date – January 2024**



American Society of Heating, Refrigeration and Air-conditioning Experts – Supporting Schools

Alice Yates

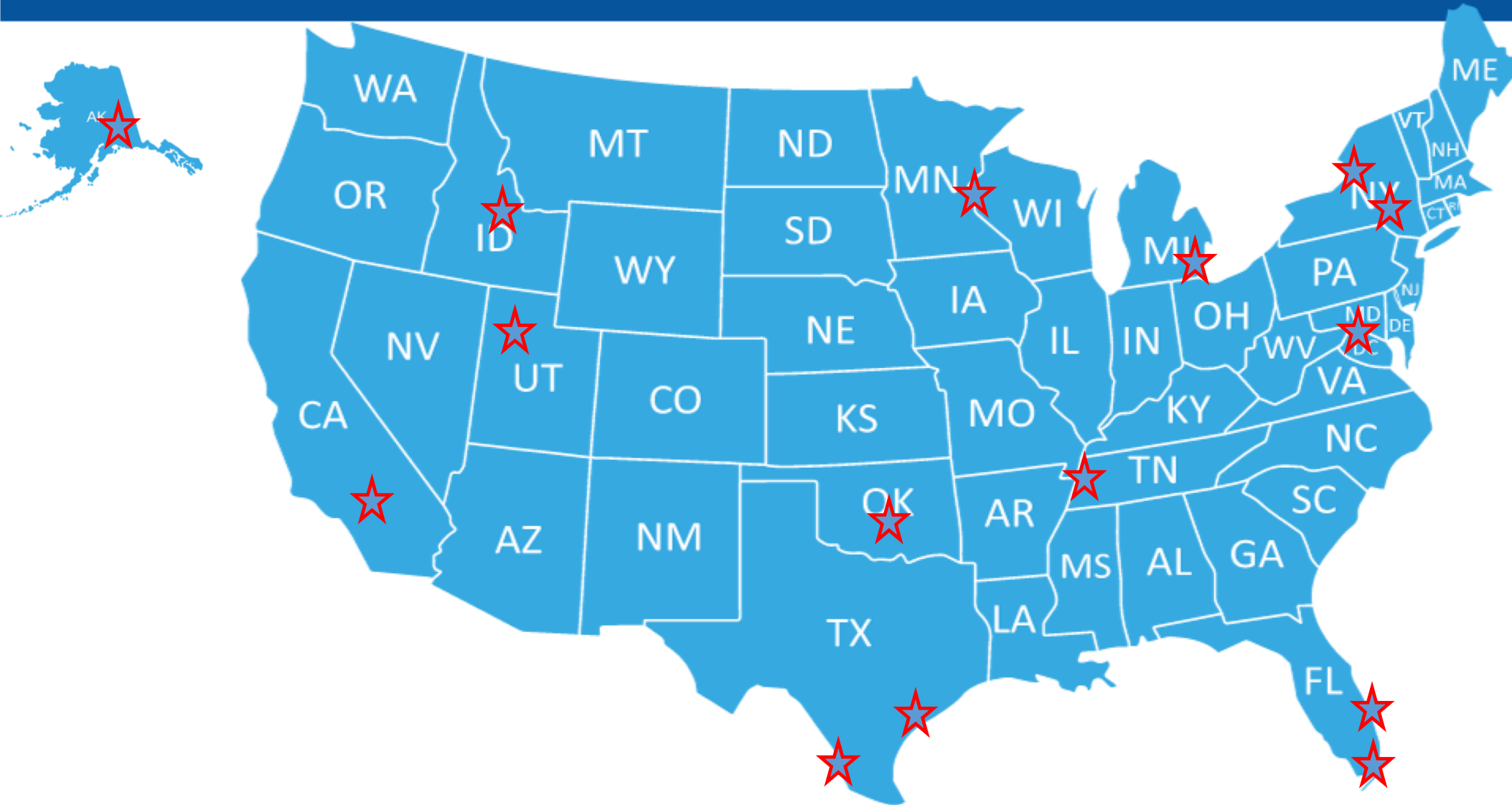
American Society of Heating, Refrigeration and Air-conditioning
Experts (ASHRAE)

Initial Engagement and Expanded Involvement



- August 2021 – Joined as a “Supporter” of the Efficient and Healthy Schools Initiative – natural outgrowth of our work with schools in addressing Covid-19 and our long-standing work with energy efficiency; participated in 2 webinars
- March 2022 – ASHRAE Leadership met with LBNL & DOE to discuss pilot program with Chapter Outreach
- Nov 2022 – ASHRAE President appointed a Volunteer Member Leadership Team to guide Chapter Involvement
- June 2023 – Entered into Contract with LBNL to better support the pilot
- Jan 2024 – 15 ASHRAE Chapters involved; 5 webinar events; technical program at the ASHRAE Conference; Board-level attention

ASHRAE Chapters Involved in Schools Pilot Program



ASHRAE-DOE Pilot Program for Efficient and Healthy Schools



The Bipartisan Infrastructure Law (BIL) has appropriated approximately \$62 Billion to the U.S. Department of Energy (DOE) to invest in American infrastructure, including more than **\$500 Million targeted for school building renovations** through competitive grants offered over the next 5 years.

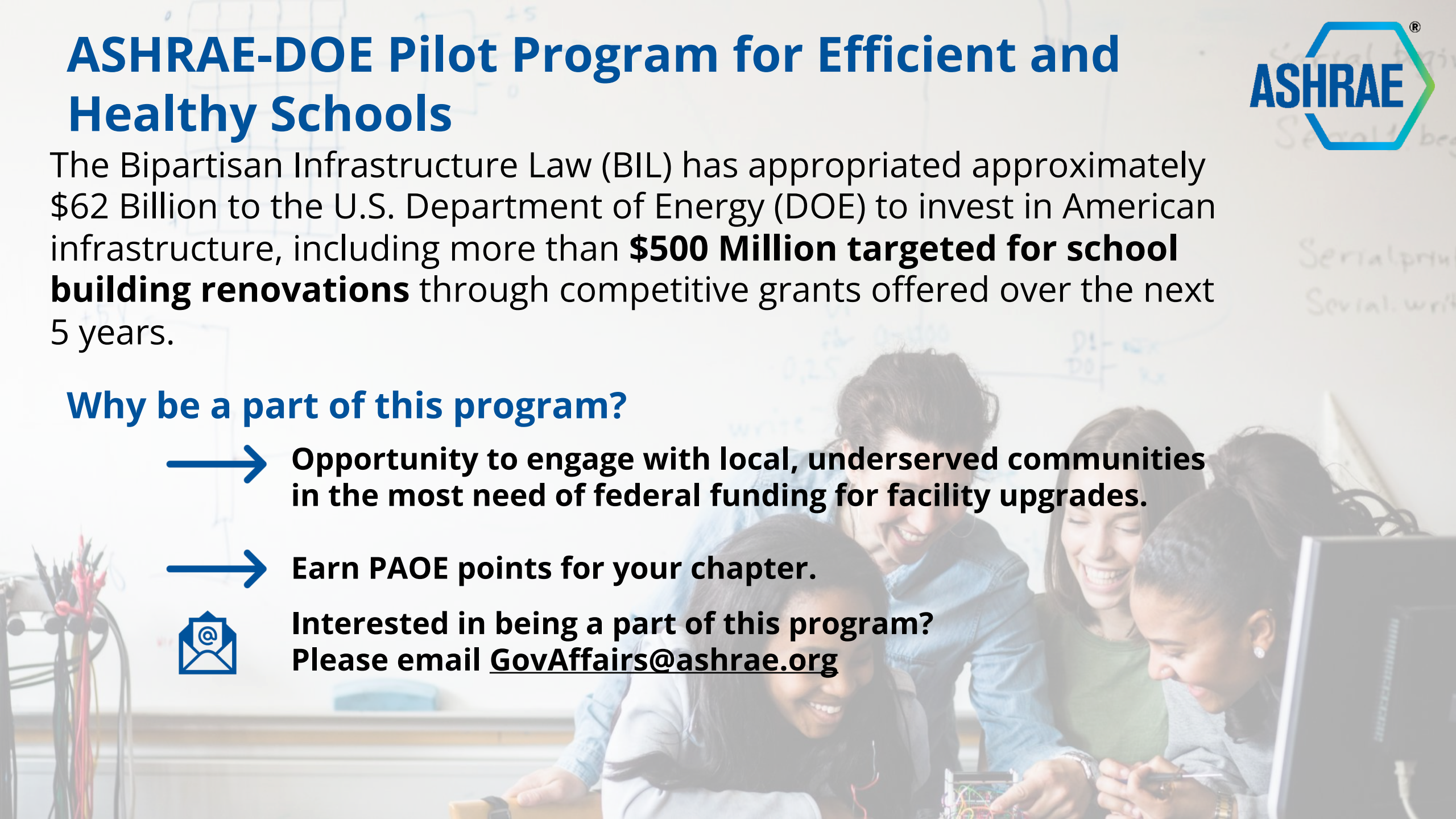
Why be a part of this program?

→ Opportunity to engage with local, underserved communities in the most need of federal funding for facility upgrades.

→ Earn PAOE points for your chapter.



Interested in being a part of this program?
Please email GovAffairs@ashrae.org





Note to Presenter

To replace this logo with your chapter's logo:

1. Select VIEW from ribbon above.
2. Select SLIDE MASTER
3. Insert Chapter Name on all slides
4. Select CLOSE MASTER VIEW
5. Delete this text box

ASHRAE-DOE Pilot Program for Efficient and Healthy Schools

Overview for the **YOUR CHAPTER NAME** Chapter Members

Presenter's Name

Presenter's Title within ASHRAE, Chapter Name Chapter of ASHRAE



Opportunities for School Facility Improvements

ASHRAE Provides

Expertise | Guidance | Technical Resources | Tools

How to Fund School Improvements:

Elementary and Secondary School Energy Relief Fund (ESSER)

Funding can be used to cover facilities upgrades or expansion to address challenges presented by the COVID-19 pandemic. This may include repairs or upgrades to the HVAC system, including filtration, that enables a safer on-site environment for pupils and teachers.

Renew America's Schools Program

The U.S. Department of Energy (DOE) launched the \$500 million Renew America's Schools Program to promote the implementation of clean energy improvements at K-12 public schools across the country. This first-of-its-kind investment, funded by President Biden's Bipartisan Infrastructure Law (BIL), aims to help school communities make energy upgrades that will lower utilities costs, improve indoor air quality, and foster healthier learning environments. The Renew America's Schools grant is the program's flagship funding opportunity. This competitive award focuses on funding infrastructure upgrades at K-12 public school facilities, prioritizing high-need school communities.



energy.gov/scep/renew-americas-schools

ASHRAE is a Partner with DOE and LBNL in the Efficient and Healthy Schools Program

The U.S. Department of Energy's Efficient and Healthy Schools Program offers direct technical assistance to participating schools and districts interested in improving energy performance, advancing resilience, and promoting a healthy learning environment. This free assistance is offered through direct communication with the school, informational webinars, introduction to resources and best practices, and signposting funding opportunities for facilities improvements. Our Program welcomes all K-12 schools and districts to join and access one-on-one support to find the right resources for your schools.

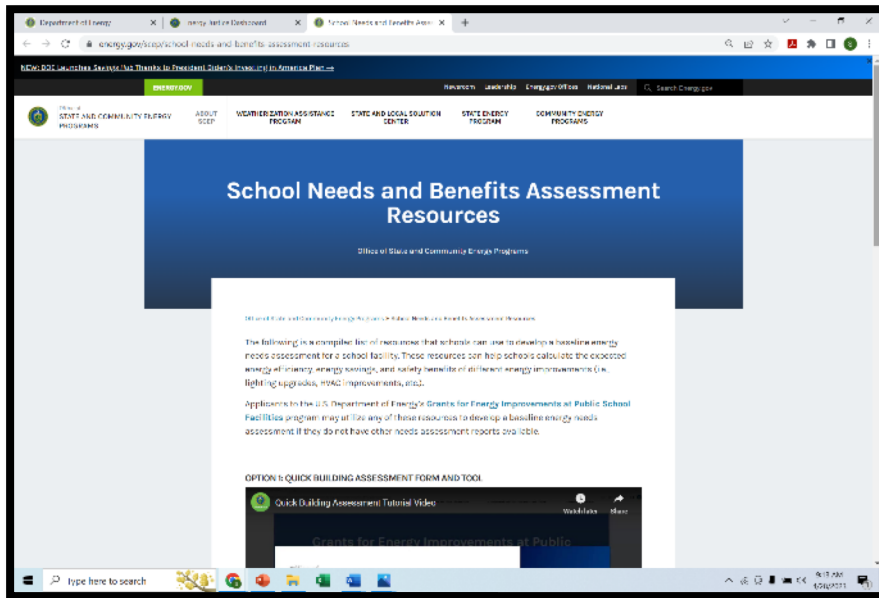


Participating schools and districts can gain national recognition for their exemplary efforts to improve school facilities. Supporters such as designers, engineers, consultants, and program implementers can encourage schools to sign up for the Program and apply for recognition. Last year, our Program recognized 17 schools and districts from 15 states that achieved substantial energy savings and greatly improved the learning environment through indoor air quality, lighting, and building control improvements. You can view their success stories on our website or email us at schools@lbl.gov for more information.

efficienthealthyschools.lbl.gov

Your Local ASHRAE Contact

ASHRAE-DOE Pilot Program for Efficient and Healthy Schools



Complementary DOE Resources:

- Provide recognition opportunities through the DOE [Efficient and Healthy Schools Campaign](#), and value proposition for schools.
- [School Needs and Benefits Assessment Resources](#):
 - OPTION 1
 - School Energy Assessment Form
 - School Asset Score Tool
 - ECM Cost Estimations
 - OPTION 2: DOE School Asset Score
 - **OPTION 3: Third Party Assessment**
 - OPTION 4: Modeled Retrofit Performance for Prototype Schools



ASHRAE-DOE Pilot Program for Efficient and Healthy Schools



FREE Resources:

- Consultations with local subject matter experts
- Local response and support for technical questions submitted to U.S. DOE & LBNL
- Letters of support for school initiatives and grant applications
- Access to and debriefing of technical resources such as:
 - [Design Guidance for Education Facilities: Prioritization of Advanced Indoor Air Quality](#)
 - [Advanced Energy Design Guides](#)
 - [Seminar: Lighting Design Parameters for Successful Zero Energy Schools](#)
- ASHRAE Standard 211 compliant facility audits, **from select sources***
- Assistance in developing grant applications, **from select sources***

*These services are NOT provided by the Chapter, however, they may be obtained from Chapter members who routinely offer them and who may elect to provide them at no cost.



This information was developed by the Detroit Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. ASHRAE chapters may not act for the Society and the information presented here has not had Society review. To learn more about ASHRAE activities on an international level, contact the ASHRAE home page at <http://www.ashrae.org>

Lack of interest/engagement from schools due to lack of:

- Time
- Staff
- Concern that spending on needs assessments won't necessarily result in improvements
- Incomplete understanding about the 2024 application, including deadlines
- Concern over allocating funding if received

... and Opportunities



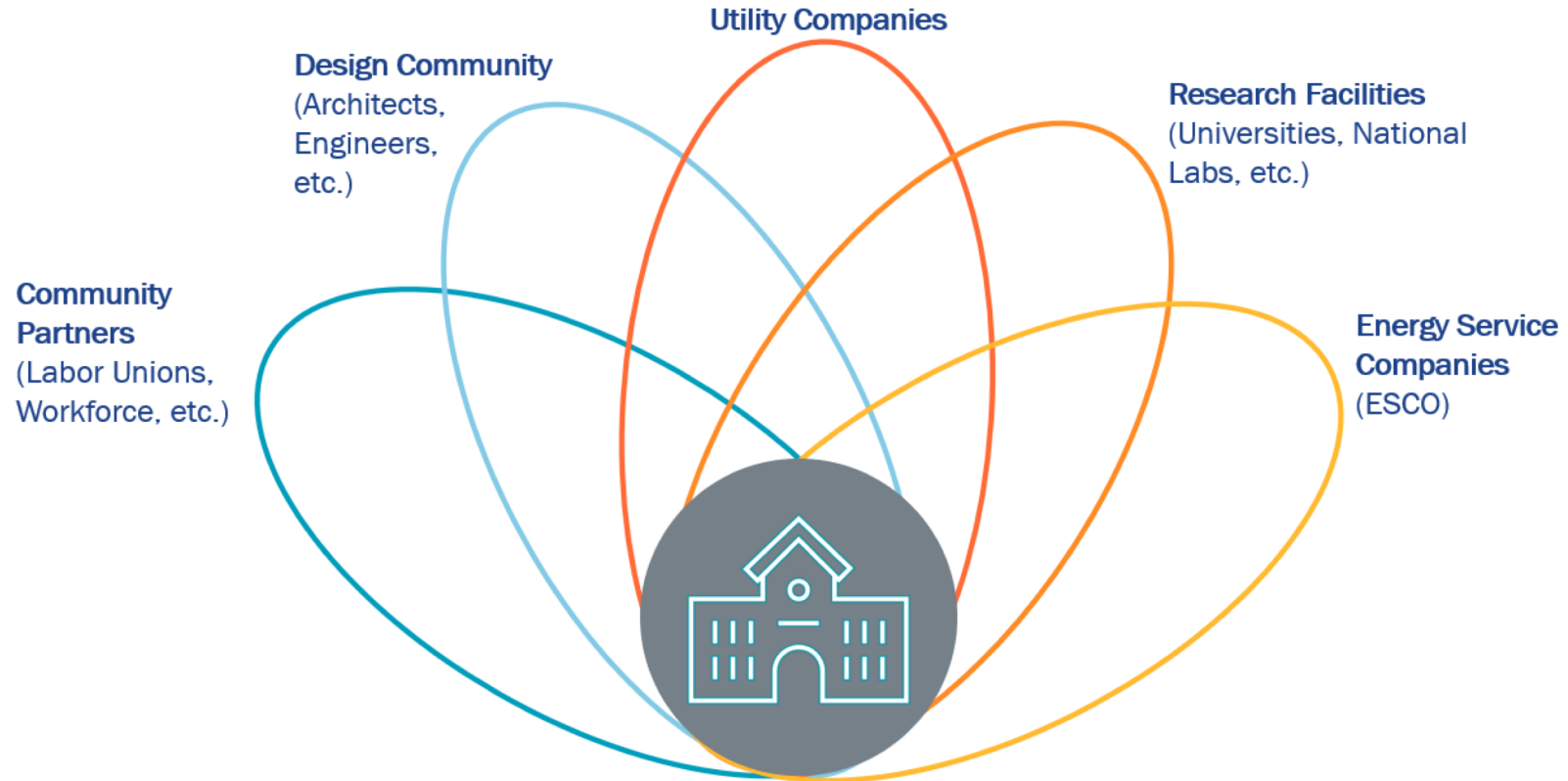
- Next Round of Funding in the Renew America's Schools Program will likely spur more interest
- Partnerships and engagement with other community- and education-based organizations will better guide ASHRAE's engagement
- More enthusiasm from ASHRAE members will be generated at the ASHRAE Winter Conference



Supporter Program and Teaming List

Andrea Swiatocha, AIA
Schools and Nonprofits Team
US Department of Energy

The Power of Partnerships



[Watch the Power of Partnerships Webinar](#)

The Power of Partnerships

Energy Service Company (ESCO)

ESCOs can identify opportunities for energy conservation measures, estimated savings, and implementation costs. ESCOs can also provide financing options through Energy Savings Performance Contracts (ESPCs).

University Partner

University partners can be a great asset to K-12 schools by assisting with energy benchmarking, facilitating the development of new partnerships for energy audits and proposal development.

Community-Based Organization

Partnering with local community organizations can provide critical support in areas like project management, financial administration, workforce development, and more.

Utility Partner

Utility partners bring experience in managing local energy service projects and can provide net-zero financing options through Energy Performance Contracts with low or no upfront costs to LEAs.

Join the Teaming List

There is vast interest and opportunity for collaboration between school districts and industry experts willing to support them in meeting their energy goals. To facilitate such partnerships, and to help school stakeholders in the Renew America's Schools Program, the Efficient and Healthy Schools Program, the ESPC Campaign, and the Better Buildings/Better Climate Challenge connect and communicate, DOE is compiling a Teaming Partner List. [Join the Teaming Partner List](#) to let prospective partners know you are interested in working together. Please note that this is not an application for any DOE programs or campaigns.



DOE Schools Teaming Partner List

DOE is compiling a Teaming Partner List for the school community to facilitate connections between school districts and industry partners willing to support schools with meeting their energy and climate goals. This list will support a number of DOE programs including the Renew America's Schools Program, the Efficient and Healthy Schools Program, the ESPC Campaign, and the Better Buildings/Better Climate Challenge.

Access to the Teaming Partner List will be available from the following websites:

- <https://www.energy.gov/scep/renew-americas-schools>
- <https://efficienthealthyschools.lbl.gov/partners>
- <https://www.energy.gov/scep/espc-campaign>
- <https://betterbuildingsolutioncenter.energy.gov/sectors/k-12-school-districts>

DISCLAIMER: By submitting a request to be included on the Teaming Partner List, the requesting organization consents to the publication of the information provided in the form below. By facilitating the Teaming Partner List, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are self-identifying themselves for placement on this Teaming Partner List. DOE will not pay for the provision of any information, nor will it compensate any participants or requesting organizations for the development of such information. Organizations should complete their own due diligence of partners listed prior to reaching out.

* Required

1. Organization Name *

Enter your answer

2. Generic Organization Contact Email *

Enter your answer

3. Organization Website *

Enter your answer

4. List geographic areas you are able to support (ie, nation-wide, region, city, state, etc.) *

Enter your answer

5. Area(s) of technical and programmatic expertise. *

- Community Organization
- Contractor
- Designer / Architect
- Energy Consultant
- Energy Service Company (ESCO)
- Engineer
- Manufacturer
- Nonprofit Organization
- Other

6. If you are interested in becoming a Supporter of the Efficient and Healthy Schools Program or the ESPC Campaign, please check the box below to express interest, or visit the program website(s) to learn more.

- Efficient and Healthy Schools Program
- ESPC Campaign

Submit

[Join the Teaming
Partner List](https://www.energy.gov/scep/renew-americas-schools)

<https://www.energy.gov/scep/renew-americas-schools>



Supporters

State / Regional Agencies

- Green & Healthy Schools Wisconsin, WI Department of Public Instruction
- Massachusetts Facilities Administrators Association (MFAA)
- Montana SMART Schools Program, MT State Energy Office
- Weber Morgan Health Department, Ogden, UT
- Missouri Green Ribbon Schools, MO
- Redwood Coast Energy Authority
- U.S. Green Building Council - Missouri Gateway Chapter
- Chelan Douglas Health District
- Georgia State Energy Office (GEFA)
- City of Ventura Green Schools Program
- NorthEast Washington ESD 101
- CPS Energy
- Mid-Ohio Regional Planning Commission
- City of Carbondale Government
- Madison School District
- American Industrial Hygiene Association (AIHA)
- Virginia Dept. of Energy
- Eversource
- Washington State Department of Health

Industry Organization or Nonprofit

- ASHRAE
- Indoor Air Hygiene Institute



School District Support through ESPC

Gene Kelley

Rockingham County Schools

RCS Demographics

State: Northern Piedmont region of North Carolina

Students: 11,000

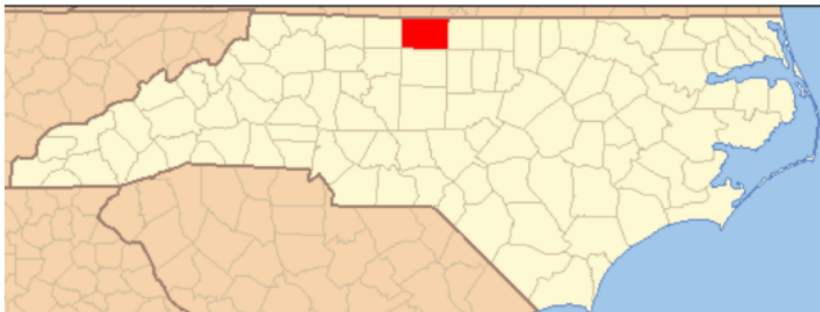
Schools: 23

Property total square feet: 2,457,812 ft²

Utility Dollars: \$3.1 million

County population: 91,000

County square miles: 573 sqm



RCS ESPC Details

- ESPC = Energy Savings Performance Contract
- Approximately \$8.8 million of work
- **Began** the process **Summer 2017/ Began** the 1st performance year **June 2021**
- **ESCO**: Johnson Controls, Inc.
- **Others**: NC DEQ, local government, and BoE
- Engineering Consulting Firm: Locklear, Locklear & Jacobs, PLLC (third party hire)
- Mainly, lighting and domestic water ECMs for the entire district

RCS Scope of Work

ECM No. & Title	Bethany Elementary	Booker T. Washington	Central Elementary	Dillard Academy	Douglass Education Center	Douglass Elementary	Draper Elementary	Holmes Middle	Huntsville Elementary	Johnson Street	Lawsonville Elementary	Leaksville-Spray Elementary	Lincoln Elementary	McMichael High	Monroeton Elementary	Morehead High	Moss Street Elementary	New Vision	Old Williamsburg	Reidsville High	Reidsville Middle	Rockingham County High	Rockingham County Middle	South End Elementary	Stoneville Elementary	Wentworth Elementary	Western Rockingham Middle	Williamsburg Elementary	Administrative Office	Maintenance Department	Transportation (Bus Garage)	
ECM 1: Lighting and Lighting Controls	Y	*	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ECM 1: Exterior Lighting	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ECM 4c-1 HVAC and Control System Improvements				Y																												
ECM 9b Chilled Water Piping Re-insulation																					Y											
ECM 13: Domestic Water Conservation	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ECM 17: Install Sub-meters for Sewer Charge Deduct														Y																		

RCS Scope of Work

ECM 13A – Water Conservation



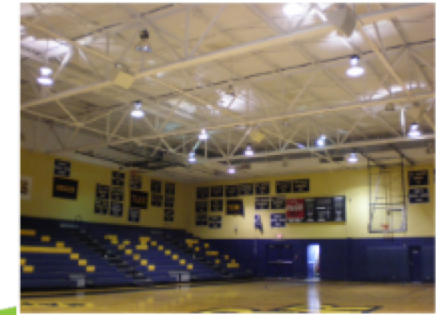
ECM 4c-1 – Dillard Elementary School HVAC Upgrades



ECM 9b-1 – Rockingham High School Chilled Water Pipe Insulation



ECM 1A – Lighting Retrofits



Reflection

- **Success:** RCS leadership (experience with ESPC, 1990s HVAC BAS controls expansion)
- **Success:** Hiring a third party engineering firm with experience in ESPC
- **Success:** Teamwork and close partnership with ESCO
- **Lesson Learned:** Older building domestic water ECM
- **Lesson Learned:** Planning-Plus
- **Lesson Learned:** Persistence
- **Note:** Continued partnership with ESCO
 - Ongoing and annual audits
 - ESCO annual report
 - Third party engineering firm annual review





Energy Savings Performance Contracting (ESPC)

Resources from the U.S. Department of Energy

ESPC Resources

With ESPC, facility owners can pay for today's facility upgrades with tomorrow's energy savings.

Learn more about ESPC here.

<https://www.energy.gov/scep/slsc/articles/energy-savings-performance-contracting-improving-infrastructure-turning-waste>

ESPC Resources From DOE

DOE offers a collection of resources that federal, state, and local organizations have used to successfully implement and evaluate performance contracting. A few resource highlights include:

ESPC or Design-Bid-Build?

MARKET: State and Local

This illustrated fact sheet enables users to decide whether ESPC or design-bid-build is more suited to their planned retrofit project by comparing the development, management, and outcomes of each approach.

eProject Builder

MARKET: State, Local and Federal

This web-based data management tool provides consistent tracking and reporting of ESPC project data, enabling project owners to make the business case for ESPC, negotiate strong ESPC projects, and standardize project results reporting. All performance contracting market segments can use this national database.

ESPC Virtual Technical Assistant

MARKET: State and Local

This electronic guide walks users through the process of developing and implementing an ESPC project in five phases. A document version of this tool is also available that state and local governments can customize to their local ESPC practices and conditions and program into their own websites.

ESPC Toolkit

MARKET: State and Local

This collection of resources featured in the Better Buildings Solution Center will enable federal, state, and local communities to learn and benefit from the work of DOE's three-year ESPC assistance initiative for the MUSH market. It includes tools that states, cities, and K-12 schools have used to successfully implement and evaluate performance contracting.

ESPC Financing Decision Tree

MARKET: State and Local

A decision tree that enables users to select the form(s) of financing best suited to their jurisdiction's conditions.

ESCO Selector

MARKET: State, Local and Federal

This web-based tool creates a federally compliant notice of opportunity that meets agency needs and streamlines ESCO selection. It quickly generates an editable document that is easily tailored to specified requirements for federal projects and could be further edited to meet state and local project requirements.

ESPC Project Development Resource Guide

MARKET: Federal

This guide charts the ESPC process for providing project development support to agencies developing Energy Savings Performance Contract (ESPC) projects using the U.S. Department of Energy indefinite-delivery, indefinite-quantity ESPC.

M&V Process and Guidelines

MARKET: State, Local and Federal

The key factor of any ESPC is the measurement and verification (M&V) of savings which determines if the ESCO meets the guarantee. Three documents help MUSH and Federal market customers determine reasonable and acceptable guidelines for M&V of energy and operation and maintenance savings as well as the customer witnessing strategies to ensure verification of savings:

- [M&V Guidelines: Measurement & Verification for Performance-Based Contracts](#)
- [How to Determine and Verify Operating and Maintenance Savings in Federal Energy Savings Performance Contracts](#)
- [Guide to Government Witnessing and Review of Measurement and Verification Activities](#)



For more information on the ESPC Toolkit and other ESPC resources for state and local governments, contact

Alice Dasek,
US Department of Energy, at
alice.dasek@ee.doe.gov.

For federal agencies, contact the [Federal Project Executive](#) covering your region.

Footnotes
<https://energy.gov/eere/slsc/espccfact-sheet-footnotes>

U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY &
RENEWABLE ENERGY

For more information, visit:
energy.gov/eere/slsc



SCEP

STATE & COMMUNITY ENERGY PROGRAMS



ESPC
Campaign

Energy Savings Performance Contracting

<https://www.energy.gov/scep/espc-campaign>





Question & Answer

Reilly Loveland Falvey
New Buildings Institute

THANK YOU – Connect with us!!

- Join | [Healthy Schools \(lbl.gov\)](https://www.lbl.gov)
- Subscribe to the Efficient and Healthy Schools Program [Mailing List](#)
- Resources | [Healthy Schools \(lbl.gov\)](https://www.lbl.gov)

**Apply for
recognition
today!**

