

# ZEROING IN ON SCHOOLS: TRANSFORMING NEW AND EXISTING K-12 BUILDINGS TO ZERO ENERGY

GRAND HYATT DENVER | 10 a.m to 3 p.m.



Schools are leading in the count of zero energy buildings (ZEB) with over 100 verified and emerging educational buildings across the country. These buildings save money on energy expenses that can be put back into the classroom and offer students and teachers healthy and productive learning spaces. ZE school projects hail from all regions, represent new construction and existing buildings and in many cases are being created with no or low additional cost. Led by the Department of Energy, this four-hour workshop will delve into those costs considerations as well as the technical approaches and policy drivers that are transforming K-12 schools market. The workshop will also feature a new DOE initiative that will support states and districts in the pursuit of ZE schools. During this interactive session, participants will learn about the real-world experiences of districts working toward achieving ZE schools and attain the planning and technical tools to achieve successful ZE school project financing, planning, design, construction and operations.

## Objectives:

1. Understand the national status of Zero Energy Buildings and the fundamental principles of getting to zero energy in the built environment.
2. Explain and utilize resources from new US Department of Energy Zero Energy Buildings program and the new K-12 Energy Schools Accelerator Program.
3. Describe best practices and key components of zero energy building success based upon real-world experiences of school districts that are pursuing and achieving zero energy schools.
4. Apply planning and technical tools needed to achieve successful zero energy project financing, planning, design construction and operations.
5. Connect with zero energy in schools experts and the opportunity to collaborate on how to initiate and support zero energy school projects in their own communities.

## Agenda

**10-10:40 a.m. *Introductions and Setting the Stage: Introduction of the DOE Zero Energy Schools Program***

Presentation of Department of Energy programs for Zero Energy Schools and an overview of national status of Zero Energy Buildings and Getting to Zero in the built environment

Solome Girma, Department of Energy  
Ralph DiNola, New Buildings Institute

**10:40-11:10 a.m. *Policy Drivers that will bring ZE Schools to Scale***

Favorable state and local policy are vital to driving ZE schools to scale. Learn how local jurisdictions are supporting ZE financing, design and operations. U.S. DOE will review plans for new resources that will help states and cities enable new projects and renovations of existing schools.

**11:20-11:50 p.m. *Designing to the ZE Performance Target***

Proven technologies and design approaches for ZE projects, include daylighting, radiant heating/cooling, lighting controls, plug load controls, LEDs and beyond. Attendees will learn about new design guidance to achieve ultra-efficiency in K-12 school buildings and explore the integrative process that creates successful projects.

Shanti Pless, NREL

**11:50-12:10 p.m. *From Concept to Completion—Design of 800,000 square feet of energy-positive educational buildings with an aggressive schedule and tight budget***

Designers leading the development of five new K-12 net-positive schools in Horry County in SC, will spotlight the process reflecting best practices in the fields of education and building design/construction. Each of the five schools leverages state-of-the-art building technology and incorporates the latest advances in building materials and high-performance building systems targeting efficiency levels of 17 EUI or less.

Keith G. Pehl, P.E., LEED AP BD+C, Optima Engineering  
Robert W. Ferris, AIA, REFP, LEED AP, SfL+a Architects CEO of FirstFloor

**12:10-12:40 p.m. *Sandwich Buffet Lunch***

**12:40-3 p.m. *Case Studies on Planning, Implementing and Delivering ZE in Schools***

**Facilitators:** Solome Girma, Department of Energy  
Ralph DiNola, New Buildings Institute  
Carolyn Sarno, Collaborative for High Performance Schools

- ***Creating a path to district-wide ZE in new and existing buildings at Boulder Valley School District (BVSD)***

BVSD has a district-wide goal of achieving ZE in all existing and new schools over the coming years. Project managers will share the path BVSD has created to model, design, and build, or renovate, schools utilizing the integrative design process. While working inside the funding and schedule constraints of a conventional school bond program BVSD has aligned the right team and processes to achieve deep energy savings.

**Presenters:**

Philip Saieg, McKinstry & Jeff Medwetz, Boulder Valley School District

- ***Big bold goals drive zero energy in California's schools***

Speakers from two of California's largest school districts will share what it takes to set district-wide policies for sustainability including a commitment to zero energy schools. This session will cover how the spark of an idea took San Francisco Unified School District through the process of formalizing a carbon neutral policy. Further south, San Diego Unified School District Board of Trustees embraced the ZE goals in its "Dream Big" initiative last year. But with a cost of nearly \$30/sf to implement its first retrofit project, the district is now challenged by the affordability of a larger-scale program. Attendees will discuss how state support and stakeholder commitment at all levels of the district are keys to success.

**Presenters:**

Jeff Setterman & Darin Vey, San Diego Unified School District  
*From setting policy to addressing challenges in implementation of Zero Net Energy*

Nik Kaestner, & Nate Kinsey, San Francisco Unified School District  
*THE ZERO CARBON DIET: A step-by-step approach to burning less energy and feeling great!*

- ***Facilitated Discussion Panel***

Panelists and attendees will break down 5 myths of ZE schools, craft strategies to overcome the barriers to ZE and identify what DOE can do to help and discuss the development of ZE certification criteria.

**3-3:05 pm *Closing Discussion***

**3:15 p.m. *Optional tour of Broomfield Heights Middle School in Boulder, CO (returns by 5:30 p.m.)***