

The **Better Buildings Initiative** is a national leadership initiative calling on state and local officials, corporate chief executive officers, university presidents, utilities, and other leaders to make commitments to improve the energy efficiency of their buildings and plants, save money, and increase competitiveness. The U.S. Department of Energy (DOE) has expanded this Initiative to engage leaders in a set of **Better Buildings Accelerators** designed to demonstrate specific innovative approaches, which, upon successful demonstration, will accelerate investment in energy efficiency and clean energy.

The **Zero Energy Schools Accelerator** aims to make Zero Energy K-12 schools mainstream, while enhancing the educational environment for our nation's students. Energy consumption plays a significant role in the operational expenses of schools. Each year, taxpayers spend \$6 billion on school utility expenses, and it is estimated that a quarter of this cost can be saved by implementing energy efficiency measures.¹ Consequently, schools spend more on energy than on textbooks and computers—energy expenses are second only to salaries.

Given these opportunities, K-12 schools are a good choice for accelerating the market transformation to zero energy construction. They also have good replication potential, strong stakeholder involvement, prominence in their communities and offer a unique opportunity to educate and shape the views of a new generation. On average, zero energy schools use 80% less energy than conventionally constructed schools and the remaining energy required is supplied by renewable energy. This significantly reduces utility costs, often amounting to more than \$100,000 per year.² In addition to the cost savings from reduced energy usage that can be realized from Zero Energy construction, this approach can also, help prevent greenhouse gas emissions and improve the students' learning environment.

Accelerator Partners will work with key stakeholders to demonstrate that Zero Energy Buildings can be constructed with today's technologies at the cost of a conventional code-compliant school. The Accelerator will bring together participants working toward Zero Energy Schools construction. Accelerator participants will include:

- ▶ Implementing partners (states and school districts)
- ▶ National partners (organizations and utilities that will recruit an implementing partner and support that partner in developing a road map for Zero Energy K-12 schools).

Accelerator Goals

- ▶ **Identify** strategies to overcome market barriers related to building zero energy K-12 schools
- ▶ **Share** solutions, resources, and technologies that help schools achieve zero energy goals
- ▶ **Develop** replicable road maps to build zero energy schools
- ▶ **Increase** visibility and replication of best practice approaches and successful models.

Why are Zero Energy Buildings important to K-12 new construction?

Zero Energy Buildings are an important pathway toward optimizing energy efficiency in new construction because of the cost savings and environmental and economic benefits they can provide. DOE's multifaceted Zero Energy Schools efforts are designed to engage and move the market from buildings that consume energy to buildings that are energy neutral or produce energy. Zero Energy Schools are designed and built to maximize energy efficiency and use renewable energy to meet remaining energy needs.

In addition, zero energy construction is cost-effective across all regions of the United States, but still faces challenges. Beyond the common misconception that Zero Energy Buildings are more costly than typical new construction, issues such as Zero Energy Schools knowledge gaps among decision makers and a lack of communication between designers and school administrators continue to slow progress.

Benefits to Partners

- ▶ **Save energy and money:** States and school districts will gain access to cost-effective process and technical resources for achieving Zero Energy and meeting environmental goals. Partners can also leverage DOE resources to scale up broader Zero Energy program portfolio applications for other building types.
- ▶ **Receive technical assistance from DOE and national labs:** Partners will gain access to tools, analyses, and resources to implement Zero Energy Schools strategies. Partners will also receive support for developing solutions to challenges faced during implementation.
- ▶ **Receive national recognition:** DOE will recognize partners for their leadership, innovation, and commitment to advancing Zero Energy approaches and technologies.
- ▶ **Exchange lessons learned and accelerate development of successful strategies:** Partners will be able to leverage the experience of others involved in new school construction planning and learn about the technologies, policies, and solutions that have worked for them.

Implementing Partner Agrees To

- ▶ **Identify** one or more K-12 school projects appropriate for pursuing Zero Energy goals within six months of joining the Accelerator
- ▶ **Prepare** a road map to outline key Zero Energy design parameters and address key barriers to achieve Zero Energy within one year of joining the Accelerator
- ▶ **Implement** the road map
- ▶ **Sponsor** 10 stakeholders per year to visit the closest Zero Energy School ^{3,4}
- ▶ **Report** progress annually on developing the road map and provide annual utility data relative to the Zero Energy design goals to DOE after school has been in use for one full year.

National Partner Agrees To

- ▶ **Work** with DOE to recruit one or more Implementing partner(s) within six months of signing up as a National Partner
- ▶ **Support** Implementing Partner(s) and DOE in developing a road map to encourage future new Zero Energy School construction
- ▶ **Leverage** their existing Zero Energy resources to align with the Accelerator
- ▶ **Promote** Accelerator efforts and accomplishments at relevant events and meetings as well as in publications.

The U.S. Department of Energy Agrees To

- ▶ **Support** partners in developing a road map
- ▶ **Develop** resources necessary to achieve Zero Energy status
- ▶ **Provide** technical support in implementing resources for cost-effective Zero Energy Buildings
- ▶ **Provide** access to relevant precedent case studies for Zero Energy Schools
- ▶ **Train** Implementing Partners
- ▶ **Recognize** partners for their leadership.

For More Information

Common Definition for Zero Energy Buildings, Campuses, and Communities

<https://buildingdata.energy.gov/cbrd/resource/1938>

Better Buildings Accelerators

<http://betterbuildingsinitiative.energy.gov/accelerators>

Interested in participating? Contact betterbuildings@ee.doe.gov to learn more about joining.

1. Managing Energy Costs In Schools <https://www.xcelenergy.com/staticfiles/xcel/Marketing/Managing-Energy-Costs-Schools.pdf>

2. U.S. Green Building Council (2009). LEED 2009 for new construction and major renovation. Washington, DC.

3. As an alternative, visit schools with energy use intensities less than 25 kBtu/ft²•yr.

4. Virtual tours along with a webinar with the owner can be substituted.