

# California ZNE School Awards

## Frequently Asked Questions (FAQs)

### ***Who is sponsoring these awards?***

A ZNE Schools Recognition & Awards Program is being initiated for the state of California on behalf of the Investor Owned Utility ZNE School Retrofit Pilot program, the CPUC and other state agencies. The program is intended to raise awareness of zero net energy, advance leadership, and promote high performance school retrofits. New Buildings Institute is administering the awards program with collaboration from Green Technology and the Green Schools Summit.

### ***When is the application due?***

October 3, 2016.

### ***Is there an application fee?***

No.

### ***What are the Award categories?***

- **ZNE Leadership Award** — Honoring the leaders, both individuals who inspire others on the path to ZNE and project teams that work effectively together to achieve ZNE goals.
- **Outstanding Buildings Award** — Spotlighting ZNE verified, ZNE emerging and ultra-low projects at K-12 schools and community college campuses.
- **Visionary School District Award** — Recognizing both large and small districts that have utilized policies, programs or plans that results in larger scale advancement of zero energy buildings.

### ***How many awards will be given out in each category?***

There will be a maximum of 6 awards possible, up to two awards per each of the three award categories described above.

### ***Can my project be submitted to multiple categories?***

It is possible that a project could be submitted in multiple categories however, the selection panel will aim to spread the awards to a diversity of projects to best showcase the variety of projects in California. If submitting your application for more than one award category, please note the “Primary” and “Secondary” categories (if applicable) for which you would like to be considered. Note that the selection panel may also give recognition in different or other categories if deemed appropriate.

### ***Who is eligible to apply?***

The following groups are eligible to apply for ZNE School Awards & Recognition:

- Project Designers & Design Teams (can be located out of state as long as the buildings are in California)
- Owners
- Builders
- Energy/Facility Managers
- Educators, Faculty and Administrators
- School Principals
- Superintendents
- Advocates
- Students
- School Boards
- PTSA

If you don't see yourself on this list, please email us at [reilly@newbuildings.org](mailto:reilly@newbuildings.org) to verify eligibility.

*Please note: Manufacturers are able to submit a building project, however the team (of which they are part of) or the building featuring their products would be eligible to win, not the manufacturer alone.*

### ***What are some possible characteristics of a ZNE Leader or Visionary District?***

Individual, team or district that has done one or more of the following:

- Designed, built, or contributed to the advancement of one or more verified or emerging zero net energy buildings
- Served as a champion within the school/district on pushing the advancement of ZNE
- Established a policy, program or plan for pursuing ZNE
- Incorporated ZNE into every day school processes and operations
- Generated buy-in and engaged stakeholders in the ZNE work in the school and at the district level
- Created opportunities for student, staff and stakeholder innovation and leadership in ZNE
- Put in place systems to measure and track performance metrics and accomplishments
- Recognized, celebrated and shared successes in ZNE with the school and broader community

### ***What buildings or projects are eligible for the Awards Program?***

All ZNE Verified, ZNE Emerging and Ultra-low Verified buildings and campuses for K-12 and community colleges are eligible. Buildings are encouraged to be completed but there may be extenuating circumstances for projects demonstrating innovation value or replicability.

Performance thresholds target a total gross EUI of 40 or less for new constructions or retrofitted buildings.

Other eligible projects are a visionary school district that has utilized policies or plans that resulted in a large scale advancement of ZNE. Or a leader or team who has championed ZNE and inspired others on the path to ZNE while working effectively to achieve goals. Entries such as prototypes or ZNE curriculum may be considered under the District or Team/Individual category.

This awards program is only eligible for K-14 schools in the state of California.

***Would a firm be eligible for the individual or team category?***

Firms can be considered part of a team or as an individual. The team category focuses on collaboration and integrated design, bringing together groups of individuals with mixed skills sets and backgrounds to achieve a common goal.

***What information do I need to submit?***

- All Award Categories must submit the Nomination Form with all applicable sections completely filled out.
- For Outstanding Buildings Category – all information available on the Building + Energy Form linked from the Nomination form (Building characteristics, EUI data, renewables, post occupancy, etc.), including:
  - ZNE or Ultra Low Energy Verified buildings: 12 months of verifiable monthly energy data including on-site generation (renewables) and consumption of electric (kWh), gas (Therms) and any other utilities.
  - Emerging buildings: 12 months of actual or predicted monthly energy data including on-site generation (renewables) and consumption of electric (kWh), gas (Therms) and any other utilities.
- Images:
  - 1-3 images for ZNE Leadership and Visionary District Award.
  - 5 images for Outstanding Buildings Award.
- Disclosure Confirmation – Affirmation to disclose award application information provided, unless noted otherwise.

***How will the awards be evaluated?***

Awards will be evaluated based on weighted criteria that NBI will develop. There are several opportunities for bonus points. One bonus point per certification may be given if buildings have additional certifications such as CHPS (Collaborative for High Performance Schools), LEED and ILFI. One bonus point may be given by submitting the NBI Design Strategies form and another bonus point for submitting your project to the Getting to Zero Database and completing the case study narrative.

***Is there a performance threshold that needs to be achieved to be eligible?***

For Verified ZNE Buildings: To submit your building to the awards program as verified ZNE, buildings will be evaluated based on Energy Use Intensity (EUI) and the Zero Energy Performance Index (zEPI). Outstanding Buildings should ideally have a total gross EUI of 40 or less to be considered. ZEPi score will be used to normalize EUI's for different climates on the backend. 40 was the highest bar of a threshold that still would meet ZNE in the more difficult of California climates. The Selection Panel will use weighted criteria on the evaluation to reward best energy performance scores using the normalized ZEPi numbers.

For Emerging ZNE Buildings: To submit your building to the awards program as emerging or targeting ZNE; the buildings must be constructed and occupied, targeting ZNE with a stated goal for ZNE and/or is a verified low energy building with a total gross EUI of 40 or less.

NBI must be able to verify 12 months of monthly billing data or monthly predicted data substantiating the reported EUI as well as any renewable production information.

***Who will be evaluating the awards?***

A selection panel of representatives from the Division of the State Architect (DSA), Collaborative for High Performance Schools, the Investor Owned Utilities (IOUs), state agencies, professional associations, and other California leaders will review each application based on demonstration of leadership, innovation, and building energy impact. Applications will have multiple reviewers to score each application and these scores will be averaged.

***When is the awards ceremony?***

Awards will be given out at the Green California Schools Summit Green Technology reception in Pasadena, CA on November 2<sup>nd</sup>. A representative must be available to receive the award.

***Will all of the data I submit be published?***

A disclosure statement will be included in your application. NBI will publish basic information such as EUI and building characteristics as well as general information provided in the nomination form. Please be sure to tell us any information that you prefer not to have disclosed.

***What is net zero energy? How is it measured?***

Zero net energy (ZNE), also commonly referred to as “net zero energy” (NZE) or zero energy building (ZEB), is a term that describes a building which produces as much energy as it consumes over the course of a year. Typically, this is achieved with low energy consumption along with on-site solar photovoltaic (PV) generation which equals or out-produces the building energy consumption over a year so that the net annual energy consumption is less than or equal to zero. A common metric to measure energy consumption level is the Energy Use Intensity (EUI) metric, which is measured in kBtu/ft<sup>2</sup> /year. It is important to consider the building's gross EUI, or annual energy consumption from all sources

(electricity, gas, renewables, and delivered fuels) compared to the Renewable Production Intensity (RPI, also measured in kBtu/ft<sup>2</sup> /year representing renewable energy generated by the building) in order to calculate the net EUI. If the generation is greater than or equal to the consumption, then the building is said to be net zero energy.

Net EUI = Gross EUI – RPI (all units: kBtu/ft<sup>2</sup> /year)

### ***What is zEPI?***

zEPI provides a scale for measuring commercial building energy performance and ranks a building's energy usage on a scale from 100 (average energy usage in the year 2000, based on the Commercial Buildings Energy Consumption Survey published in 2003) to 0 (net zero energy). A lower zEPI score indicates lower energy consumption. For more information on zEPI, including how to calculate scores, refer to: <http://newbuildings.org/zero-energy-performance-index-zepi>

### ***Do I need to retain the Renewable Energy Credits (RECs) for my project?***

In order to count the renewable energy generation for your project toward your net zero goal, RECs must be retained or retired. If you have not retained or retired the RECs associated with your onsite renewable energy system, other parties may be claiming the RECs from your project toward their own environmental goals. This REC policy is put in place to prevent double counting of the environmental attributes of your on-site renewable generation. For those projects which achieve net zero energy performance at the site level but did not retain or retire their RECs, a qualifier will be added to the ZNE designation acknowledging that the environmental attributes of the onsite renewable energy capacity at the project have been sold to a third party as RECs.

### ***How will my data be used?***

By submitting your project to the awards program, your building will be a candidate for inclusion in the Getting to Zero Database, which is considered a key resource for industry policymakers, owners, and practitioners targeting ZNE. Participation also helps to advance the net zero energy building knowledge base from which NBI develops trainings, policy, tools, and guidelines to promote advancement of net zero energy and high performance buildings. Your building will also be featured in the bi-annual publication of the *Getting the Zero Status Update*, which provides an overview of the net zero project growth and trends throughout North America, and other ZNE publications and promotions.

### ***What is the Getting to Zero Database?***

The Getting to Zero Database is a project undertaken by NBI to track net zero and near net zero buildings in North America. By keeping track of these projects, NBI is able to share insights and resources about these projects to help inform policymakers, designers, and contractors about feasibility, best practices, and generally promote sustainable and advanced building performance.

The database includes net zero energy buildings that are both verified and emerging, as well as “ultra-low” energy buildings, which are said to be “net zero ready”.

- *Verified* buildings have metered data which show net zero or positive energy generation over a given year.

- *Emerging* buildings are those that have a publically stated goal of ZNE but have not yet demonstrated achievement of these goals. These may be in the planning or design phase, under construction or have been in operation for less than a year. Others may have been operating for 12 months or longer, but their measured energy either has yet to achieve net zero or the measured data to document ZNE verified status was not available.
- *Ultra-low energy* buildings are those with low annual energy usage (gross EUI). These buildings have demonstrated significant technical progress toward goals of building energy use reduction, even though they may not have continued on the ZNE pathway by investing in on-site renewables.

***Is there a reference to terms for the Building + Energy data form?***

*Yes, refer to the summary below from NBI's ZNE Registry for use with the Building + Energy data form.*

<b>Data Field</b>	<b>Description</b>
Data Type	Indicate whether the data you are providing is "Measured" or "Estimated". Measured data is typically provided from utility bills or dashboards while estimated data typically comes from architect or engineering design documents.
Data Frequency	"Annual" or "Monthly"
Data Source	Choose from a list that describes typical data sources
Net Consumption?	Some utility bills provide only net energy consumption. If consumption and production is reported separately please provide both
Number of Years	Indicate how many years of data you are providing. Can provide up to 5 years of data
Date Range (Consumption)	Enter the beginning date and the ending date of the data. For monthly data the <b>day</b> portion of the date will establish the 30-day billing cycle. Any additional years entered are assumed to have the same billing cycle.
Date Range (Production)	Enter the beginning date and the ending date of the data. For monthly data the <b>day</b> portion of the date will establish the 30-day billing cycle. Any additional years entered are assumed to have the same billing cycle.
REC Ownership	Indicate here if the building owner has retained ownership of the REC or sold it to a 3rd party
Energy Use Intensity (EUI):	Calculated field. The formula for EUI is <b>kbtu (energy consumed) / gross square foot</b> . kWh is converted to kbtu at the rate of <b>3.412 kbtu per kWh</b> . Calculated based on most recent year of data provided

Renewable Production Intensity (RPI):	Calculated field. The formula for RPI is <b>kbtu (energy produced) / gross square foot</b> . kWh is converted to kbtu at the rate of <b>3.412 kbtu per kWh</b> . Calculated based on most recent year of data provided
Net EUI (EUI less RPI):	Calculated field. The formula for net EUI is <b>EUI - RPI</b>

*Note: These terms and descriptions reflect NBI's technical data references. As the author of this document, New Building Institute is solely responsible for its contents.*

**Do you have any other resources available for ZNE buildings?**

Getting to Zero Database – In-depth information about ZNE and high performance buildings across the United State, Canada and beyond.

<http://newbuildings.org/getting-zero-buildings-database>

Getting to Zero National Forum – this forum provides designers, owners, operators, commercial real estate professionals, policymakers and manufacturers an opportunity to share perspectives on the growth of ZNE and ways in which ZNE can transform the built environment.

<http://gettingtozeroforum.org/>

2014 Getting to Zero Status Update – NBI's most recent report looking at the projects, policies and programs driving net zero energy performance.

<http://newbuildings.org/resource/2014-getting-zero-status-update/>

ZNE Communications Toolkit - NBI has published a ZNE toolkit that includes a message platform, a sample ZNE presentation and a series of both general and audience specific fact sheets. The toolkit can be found here:

<http://newbuildings.org/zero-net-energy-communications-toolkit>

ZNE Case Studies – NBI has published a number of case studies covering a range of building types in a wide variety of climate zones:

<http://newbuildings.org/case-studies-zne-verified-and-zne-emerging-projects>

ZNE Building Controls Research – NBI has published a report exploring the role of controls in ZNE buildings, including characteristics, energy impacts, and lessons learned:

<http://newbuildings.org/resource/zero-net-energy-building-controls-characteristics-energy-impacts-and-lessons-learned-research-report/>

Systems with ground loops such as ground source heat pumps, while often referred to as “geothermal,” are not considered a renewable energy source because the systems do not generate energy themselves but rather use the ground as a heat sink or source to increase overall system efficiency.

2030 Challenge: [http://architecture2030.org/2030\\_challenges/2030-challenge/](http://architecture2030.org/2030_challenges/2030-challenge/)