

## **Advanced Energy Design Guide – K thru 12 Schools Overview Concept and Scope**

The purpose of the AEDG-K12 document is to provide “how to”, user-friendly design assistance to Design and A/E firms working for school boards in order to achieve energy savings of 30% progress toward a net zero energy building.

The document will present a prescriptive approach with practical design information and recommendations that can be used within the constraints of typical construction and design fees. The document will be formatted for easy use, provide specific measures, convey best practices, and avoid code language. In addition the guide will contain case studies for various climate zones and appropriate “how-to” guidance.

This guide will not have building size limitations as in previous AEDG documents. A school will be defined as a primary or secondary school facility containing: administrative & office areas, classrooms/hallways/restrooms, gymnasiums, assembly spaces, food preparation spaces, and dedicated spaces (ie. library & “clean” labs). The guide will exclude some areas such as steam heating, modular classrooms, as well as vehicle and other maintenance areas.

As in previous AEDG guides, the benchmark building for the energy savings will be a building built to the minimum standards required to meet standard 90.1-1999, representing building design at the beginning of the millennium. By continuing to use the same baseline throughout the 30% AEDG series, continuity will be maintained between the various building types addressed in the series. Targeted energy savings will be documented as a given percentage progress toward a net zero energy building.

The guide is primarily intended for new construction but many of the options may be applicable to renovation, remodeling, and upgrade situations. The guide will provide recommendations for envelope, fenestration, daylighting, lighting systems, HVAC systems, building automation & controls, treatment of outside air, service water heating, plug loads, and commissioning.

In order to meet a 30% level of energy savings, it is critical to promote system and/or full integrated design. This means that relationships between various building components must be addressed. Quality assurance is another important part of the guide’s approach as it is not enough to install efficient systems, they must also be demonstrated to work as intended.

Partnering organizations (AIA, IES, USGBC, SBIC, CHPS) and appropriate ASHRAE Committees (Std 90.1, TC 9.6, TC 2.8, TC 5.5, TC 7.6, TC 8.12) will be included in the process for input, consultation, buy-in, and peer review. While efforts will be made to get agreement on the content, this will not be a consensus document.

The work on the guide began in October 2006, with the naming of the Project Committee and input from the focus group. A final approved draft should be available by the summer of 2007 with publication expected in the 4<sup>th</sup> quarter of 2007.

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