

ASHRAE Technical FAQ

ID 94

Question What is the relationship between ASHRAE Standard 90.1, the Advanced Energy Design Guide (AEDG) series, and Standard 189.1?

While each of these publications is related to reducing energy use of buildings, each has a different stated purpose and objective.

[ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings except Low-Rise Residential Buildings](#), is published as a consensus standard to provide *minimum* requirements for the energy-efficient design of new and renovated or retrofitted buildings. 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States. 90.1-2013 has recently been approved by DOE as the minimum standard to be met by all states in the U.S. (by Sept. 26, 2016). It is written in a code intended language as minimum requirements so it does not necessarily provide exemplary or state-of-the-art design guidance. ASHRAE Standard 90.1 is on continuous maintenance and is republished on a three year cycle. The current version is [90.1-2016](#).

Answer

In contrast, the [ASHRAE Advanced Energy Design Guides \(AEDG\)](#) are a series of publications designed to provide prescriptive recommendations for achieving 30% or 50% energy savings over the minimum requirements in Standard 90.1 (1999 or 2004 respectively) in eight U.S. climate zones. They are developed by a committee of experts and undergo peer review but are not developed through a consensus process. They show a way, but not the only way, to achieve 30% or 50% savings. The specific version of 90.1 provides the reference point to maintain a consistent baseline and scale for the AEDG guides. However, many of the energy simulation results for the AEDGs showed greater than the target savings (see the [Technical Support Documents](#)). The guides note the savings relationship to more recent versions of 90.1.

As 90.1 gets more stringent, the standard will eventually surpass the energy savings recommended AEDGs, however, they will remain excellent tools for energy-efficient design of buildings for quite some time. These guides provide a good starting point for anyone looking for a prescriptive, simple way to improve their energy efficiency and remain a good resource due to the information contained in the how-to tips.

[ASHRAE Standard 189.1-2014](#), Standard for the Design of High-Performance, Green Buildings except Low-Rise Residential Buildings, is intended for buildings that wish to exceed the minimum requirements of Standard 90.1. This standard is currently in development with a goal for publication in early 2010. Public

reviews will be available at the [Standards](#) page of the ASHRAE website.

189.1 is broader in scope than 90.1 and is intended to provide minimum requirements for the siting, design, and construction (including plans for operation) of high performance, green buildings. The goal is not just energy efficiency but a balance of environmental responsibility, resource efficiency, occupant comfort and well being, and community sensitivity, and support the goal of sustainable development.

189.1 has some overlap in scope with ASHRAE Standard 90.1 in that 189.1 includes a section on building energy efficiency. However, the 189.1 requirements will be consistent in nature with 90.1 but will include significantly more stringent energy requirements. 189.1 is not referenced in the AEDGs or ASHRAE Standard 90.1.

ASHRAE Pubs

[ASHRAE Standard 90.1-2016](#) plus [ASHRAE BOD approved addenda](#)

[ASHRAE Standard 189.1-2014](#) plus [ASHRAE BOD approved addenda](#)

[ASHRAE Advanced Energy Design Guides \(AEDG\)](#)

Topic References

energy-efficiency, commercial buildings, sustainable buildings, advanced energy design guides (AEDG), net-zero energy, 90.1

	Cognizant ASHRAE Committees	Refer to Organization
1	TC 7.6	
2	SSPC 90.1	
3	SSPC 189.1	