Shaping Tomorrow's Built Environment Today

ENERGY EFFICIENCY FOR BUILDINGS AND HVAC&R EQUIPMENT

THE ISSUE

In the United States, residential and commercial buildings account for approximately 40% of the total primary energy use. Specifically, heating, ventilation, air conditioning, and refrigerating (HVAC&R), and water heating are responsible for about 75% of residential[1] and 54% of commercial building site energy use[2]. Cost effective energy efficiency is critical for the economy, the environment and energy security.

ASHRAE members participate in integrated building design, operation and evaluation. They support building sustainability to assure safe, comfortable indoor environments while limiting the impact on the earth's natural resources. ASHRAE collaborates with other leading technical societies and is the leading developer of building energy standards. For example, Federal law mandates ANSI/ASHRAE/IES Standard 90.1 as the basis for State commercial building energy codes. ASHRAE's 2013 version of Standard 90.1 improves minimum energy efficiency by approximately 37.7% from the 2004 edition of Standard 90.1 for regulated loads and almost 50% more efficient than 1999 edition. Other standards and guidance from ASHRAE include Standard 189.1 for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, Standard 202 – Commissioning Process for Buildings and Systems, Standard 100 – Energy Conservation in Existing Buildings, and the Advanced Energy Design Guides which provide tools for going beyond minimum requirements. Additionally, ASHRAE promotes the design, construction and operation of highly energy efficient buildings through its professional certifications and by providing and disseminating technical information for the building and policymaking community.

ASHRAE helps policymakers address the technical and implementation barriers that can prevent the market from obtaining cost-effective energy efficiency.

ASHRAE's VIEW

Congress should adopt legislation that improves building energy efficiency through voluntary equipment consensus standards and performance-oriented building codes based on those standards. Code-adopted standards can save more energy than any other policy tools, and consensus standards (e.g., ASHRAE Standard 90.1) help ensure technical and economic feasibility.

Congress should assure that Federal policies related to energy efficiency support innovation, reduce market barriers, include full environmental considerations, and ensure that government leads by the example of outstanding design, construction, and operation of its own buildings, whether owned or leased. Making new technologies and practices mainstream is the key to win-win strategies for the owners, the economy and the environment. The Federal government itself is the nation's largest building owner, so the potential savings from leadership are greatest when government sets the example, and as a result encourages building owners to follow suit.

Congress should appropriate increased funding for research, development, demonstration and deployment to advance energy efficiency and renewable energy technologies and practices. Funding by successive Administrations in Washington, DC has historically been based on technological innovation as a critical tool for ensuring that the nation has affordable, clean, and reliable energy, and helping stimulate innovation in the private sector.

ASHRAE Resource Documents

ANSI/ASHRAE/IES Standard 202 *Commissioning Process for Buildings and Systems*
International Green Construction Code and ANSI/ASHRAE/USGBC/IES 189.1-2014 *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*
ANSI/ASHRAE/IES 90.1-2013 *Energy Standard for Buildings Except Low-Rise Residential Buildings*
ANSI/ASHRAE Standard 90.2-2007 90.2 *Energy Efficient Design of Low-Rise Residential Buildings*
ANSI/ASHRAE Standard 105-2014 *Standard Methods of Determining, Expressing and Comparing Building Energy Performance and Greenhouse Gas Emissions*
ANSI/ASHRAE Standard 62.1-2016 *Ventilation for Acceptable Indoor Air Quality*
ANSI/ASHRAE Standard 62.2-2016 *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*
ASHRAE, AIA, USGBC, IES Advanced Energy Design Guides for Buildings

[1] US Department of Energy. 2011. "Building Energy Data Book: Chapter 2: Residential Sector". http://buildingsdatabook.eren.doe.gov/ChapterIntro2.aspx?2#1.
[2] US Department of Energy. 2011. "Building Energy Data Book: Commercial Sector Energy Consumption". http://buildingsdatabook.eren.doe.gov/TableView.aspx?table=3.1.4

ASHRAE Government Affairs Office • 1828 L St., N.W., Ste. 810, Washington, DC 20036-5104 USA
Tel: 202.833.1830, Fax: 202.833.0118