



2009 Open Forum for
Standards Developers



Can You See the Forest for the Green?

Navigating the Multitude of Sustainability Standards

Presented by
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ASHRAE

Open Forum for Standards Developers
October 6, 2009

Part of the World Standards Week 2009 series of events

Agenda

- ❑ ASHRAE overview
- ❑ ASHRAE sustainability standards
- ❑ Other key activities
- ❑ Learning more/keeping up
- ❑ Resources

ASHRAE Overview

- ❑ Founded in 1894
- ❑ 51,000+ members worldwide
- ❑ Includes consulting engineers, manufacturers, government, researchers, universities, utilities, and regulators
- ❑ Mission: To advance the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and *promote a sustainable world*.

ASHRAE's Standards Experience

- ❑ Developing ANSI standards since 1978
- ❑ ANSI Audited Designator (one of five ADs)
- ❑ Hundreds of ANSI-approved documents
- ❑ ASHRAE policy to develop all our standards through ANSI consensus process (no cherry picking)
- ❑ Secretariat to several ISO TCs, SCs, and U.S. TAGs

Why an ANSI Process?

- ❑ ANSI process is a true, open, consensus process
- ❑ Balanced committee
- ❑ Lack of dominance (e.g., no more than one vote from any organization)
- ❑ Consensus must be reached by materially affected parties
- ❑ All comments (committee and public review) must be responded to in good faith
- ❑ Appeals options at ASHRAE and again at ANSI

Key ASHRAE Sustainability Standards



- ❑ Standard 55, *Thermal Environmental Conditions for Human Occupancy*
- ❑ Standard 62.1, *Ventilation and Acceptable Indoor Air Quality*
- ❑ Standard 90.1, *Energy Standard for New Buildings Except Low-Rise Residential Buildings*
- ❑ Standard 100, *Energy Conservation in Existing Buildings*
- ❑ Standard 189.1P, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*
- ❑ Standard 191P, *Standard for the Efficient Use of Water in Building, Site and Mechanical Systems*

BSR/ASHRAE/IES/USGBC Standard 189.1

- ❑ *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- ❑ Being developed in model code language
- ❑ Provides minimum requirements for high-performance, green building
- ❑ Targeted for January 2010 approval; spring 2010 publication



BSR/ASHRAE/IES/USGBC Standard 189.1

□ Roster includes:

- Consulting engineers
- Lighting experts
- Architects
- EPA
- Materials experts
- Code enforcement
- DOE
- Public health experts
- Water experts
- Building owners
- Equipment manufacturers
- Related organizations

Standard 189.1 Topic Areas

- SS Sustainable Sites
- WE Water Use Efficiency
- EE Energy Efficiency
- IEQ Indoor Environmental Quality
- MR Building's Impact on the Atmosphere,
Materials & Resources
- CO Construction and Operations Plans

Goals for Standard 189.1

- Establish mandatory criteria in all topic areas
- Provide simple compliance options
- Complement green building rating programs
- More stringent than 90.1-2007
- Energy measurement for verification
- Includes plug/process loads

Standard 191

Standard for the Efficient Use of Water in Building, Site and Mechanical Systems

□ Purpose: To provide baseline requirements for the design of buildings, site, and mechanical systems that minimizes the volume of water required to operate HVAC systems, plumbing systems, and irrigation systems.



Beyond Standards – Supporting the Users



ASHRAE
*Engineering
for
Sustainability*

ASHRAE Sustainability Resources

ASHRAE's GreenTips

Sustainability Resources

**The BIM Guide
(Free Access)**

**Advanced Energy Design Guidance
(Free Access)**

Sustainability in ASHRAE Journal

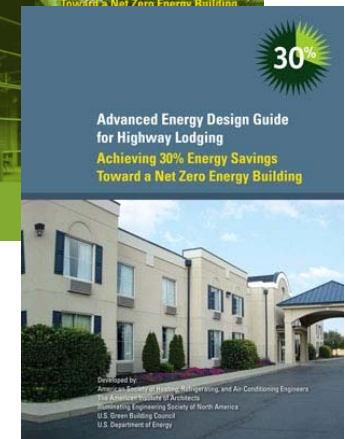
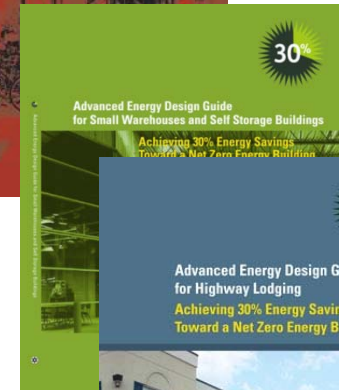
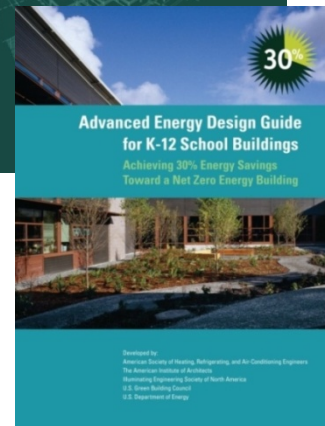
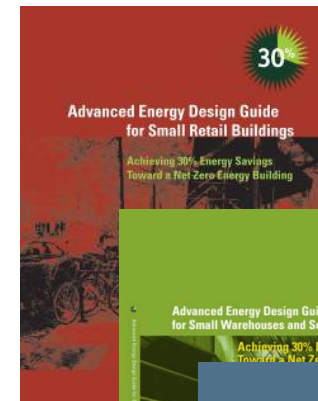
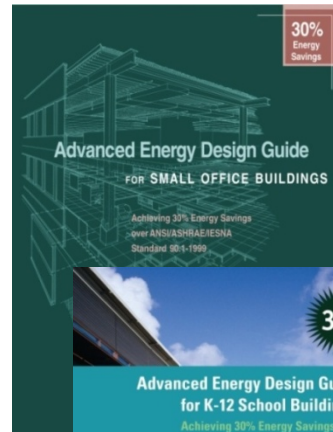
Walking the Talk

ASHRAE's Building Energy Quotient program aims to help move the nation's building stock toward net-zero energy use.

Green Commercial Resources

Advanced Energy Design Guides

- Office Buildings
- Retail Buildings
- K-12
- Warehouses
- Highway Lodging
- Health Care



Indoor Air Quality Guide

- ❑ Practical guidance on achieving good IAQ in commercial buildings
- ❑ Joint effort of ASHRAE, AIA, BOMA, EPA, SMACNA, USGBC
- ❑ Available late 2009



DOE Commercial Building Energy Alliances

Informal associations among building owners and operators who want to reduce energy consumption by sharing best practices and ideas

❑ Current Alliances

- Retailer Energy Alliance
- Commercial Real Estate Energy Alliance
- Hospital Energy Alliance

❑ 8.6 billion square feet of commercial building space total

❑ Supplier's Summit

- January 28, 2010: Orlando, FL
- <http://www.ashrae.org/events/page/2478>



Retailer Energy Alliance Members



bloomingdale's



that was easy:



Commercial Real Estate Energy Alliance Members



Hospital Energy Alliance Members



HCA



HEALTHSOUTH



Sustainable Design eLearning

- ❑ Full courses – 5 to 35 hours each on topics including
 - Standard 90.1
 - Small Retail AEDG
 - Small Office Building AEDG
 - Data Center Energy Use
 - Fundamentals of Sustainable Buildings and High Performance System Design
- ❑ Short courses – 1 to 5 hours each
 - Stand-alone modules based on the full courses
 - Dozens of courses

Certification

- ❑ High-Performance Building Design Professional
- ❑ Commissioning Process Management Professional
- ❑ Operations & Performance Management Professional
- ❑ Healthcare Facility Design Professional
- ❑ Building Energy Modeling Professional (in development)

Earn an ASHRAE Certification
Stand Out from the Crowd



www.ashrae.org/certification



ASHRAE References

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| Advanced Energy Design Guides (free download) | <u>http://www.ashrae.org/technology/page/938</u> |
| Building Energy Labeling | <u>http://www.buildingeq.com/</u> |
| Certification | <u>http://www.ashrae.org/certification/</u> |
| Education | <u>http://www.ashrae.org/education/</u> |
| Engineering for Sustainability | <u>http://www.engineeringsustainability.org/</u> |
| Government Affairs Update | <u>http://www.ashrae.org/advocacy/page/1344</u> |
| Headquarters Renovation | <u>http://images.ashrae.biz/renovation/</u> |
| High Performing Buildings Magazine | <u>http://www.hpbmagazine.org/</u> |
| Membership | <u>http://www.ashrae.org/members/page/589</u> |
| Online Learning | <u>http://www.ashrae.org/education/page/1476</u> |
| Special Projects | <u>http://www.ashrae.org/technology/page/678</u> |
| Standards - general | <u>http://www.ashrae.org/technology/page/548</u> |
| Standards - project web sites | <u>http://www.ashrae.org/publications/detail/15373</u> |

ANSI References

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| Global Standards Search Engine | www.nssn.org |
| Procedures, Guides, and Forms | http://publicaa.ansi.org/sites/apdl/Documents/Forms/AllItems.aspx?RootFolder=http%3a%2f%2fpublicaa%2eansi%2eorg%2fsites%2fapdl%2fDocuments%2fStandards%20Activities%2fAmerican%20National%20Standards%2fProcedures%2c%20Guides%2c%20and%20Forms |
| Standards Action Newsletter | http://www.ansi.org/news_publications/periodicals/standards_action/standards_action.aspx?menuid=7 |
| U.S. Standards Strategy | http://www.ansi.org/standards_activities/nss/usss.aspx?menuid=3 |
| Value of American National Standard Designation | http://publicaa.ansi.org/sites/apdl/Documents/News%20and%20Publications/Brochures/Value%20of%20the%20ANS.pdf |

Other References

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|---|---|
| Department of Energy (U.S.) – Energy Efficiency & Renewable Energy | http://www.eere.energy.gov/ |
| Building Energy Codes Training | http://www.energycodes.gov/training/ |
| Commercial Building Energy Alliance | http://www1.eere.energy.gov/buildings/commercial_initiative/alliances.html |
| High Performance Buildings | www.highperformancebuildings.gov |
| Environmental Protection Agency – Energy Star | http://www.energystar.gov/ |
| EU Directorate-General for Energy and Transport | http://ec.europa.eu/dgs/energy_transport/index_en.html |
| European (EN) Standards and Implementation | www.buildingsplatform.eu |
| National Institute of Building Sciences | www.nibs.org |
| High Performance Buildings Council | http://www.wbdg.org/news/release_061808.php |
| Whole Building Design Guide | http://www.wbdg.org/index.php |
| NIST Building & Fire Research Laboratory | http://www.bfrl.nist.gov/ |