



Shaping Tomorrow's
Built Environment Today

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November 13, 2015

Mr. Roland Risser
Director
Building Technologies Office
U.S. Department of Energy

RE: ASHRAE's Response to the U.S. Department of Energy's Request for Information on the Building Technologies Office Draft Multi-Year Program Plan

Dear Mr. Risser:

Thank you for the opportunity to provide input on the draft Multi-Year Program Plan (MYPP) for the U.S. Department of Energy's (DOE) Building Technologies Office (BTO). ASHRAE, founded in 1894, is an international organization of over 54,000 members. The Society and its members focus on building systems, energy efficiency, indoor air quality and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.

As BTO determines its goals and strategies for substantially accelerating the rate of efficiency improvements in new and existing commercial and residential buildings, ASHRAE is pleased to offer the following feedback to the questions posed in DOE's request for information on the MYPP.

Residential Buildings Integration (RBI) Program

Question 7: Has BTO identified and effectively addressed the key barriers to improving the efficiency of new and existing residential buildings? How might BTO's plans in this area be improved?

Response: The one consideration that seems to be missing is the impact on the comfort that residents expect in their homes. As homes are designed and constructed to consume less and less energy, it will become harder to deliver fresh, conditioned air to each room in the required amounts. Energy efficiency and comfort are not necessarily mutually exclusive concepts, but energy efficiency will continue to be a tough sell unless we, as an industry, can ensure that comfort won't be compromised.

Heating and cooling comfort is delivered by duct distribution systems that will have to be much better sealed and insulated than in the past to realize the desired comfort from improved energy efficiency. The draft report only makes some general statements about homeowner expectations of performance.

There is also mention of the role that contractors play in the introduction of new technologies. Experience in the retrofit market suggests that in the absence of higher standards and/or incentives, contractors will do what they are comfortable with. The risks and costs of being on the bleeding edge are just too high for most contractors to stomach for the potential rewards available.

Building Energy Codes Program

Question 13: Is BTO pursuing the most effective strategies for accelerating the development, adoption and implementation of new residential and commercial building energy codes? How might BTO's plans in this area be improved?

Response: ASHRAE feels that there is no need to accelerate development of current commercial building energy codes and that DOE/PNNL should continue supporting development as is presently being done. ASHRAE appreciates the personnel and financial support, which includes the efforts of PNNL in the area of development, and recommends no changes in its direction.

ASHRAE suggests that additional emphasis be given to the important areas of both adoption and implementation. It is worth noting that in all but two states in the southern tier of the U.S., adoption has been to only the 2007 version of ANSI/ASHRAE/IES 90.1 *Energy Standard for Buildings Except Low-Rise Residential Buildings* or the aligned version of the International Energy Conservation Code (IECC)¹. Much of the savings in the later versions of these standards has been in the area of cooling and is therefore not being realized in the National Energy Demand reduction expected from the energy codes efforts.

Question 14: Are the goals for influencing the code development, adoption and implementation process, and for reducing the energy use intensity (EUI) of new residential and commercial buildings ambitious, but realistic?

Response: ASHRAE notes that the area of targets has been one of significant discussion by the Standard 90.1 project committee. Using the target base of 2010 when that version of the standard has not been universally adopted creates complications in comparisons. ASHRAE recommends that all discussion of targets use a stable and independent baseline, specifically ASHRAE Standard 90.1-2004. With the publication of addendum bm to ASHRAE Standard 90.1-2013, all comparisons and movement of the standard are now from that baseline. Without a stable and independent baseline, any discussion of targets is meaningless.

¹ U.S. Department of Energy. "Status of State Energy Code Adoption."
<https://www.energycodes.gov/adoption/states>

Moving Forward

ASHRAE hopes that these comments are helpful as BTO sets its goals and plots the path to achieve those objectives. The Society looks forward to continuing this dialogue and responding to any questions or comments you may have. Please feel free to contact Lilas Pratt, ASHRAE's Manager of Special Projects at lpratt@ashrae.org or 678-539-1193.

Sincerely,

A handwritten signature in black ink, appearing to read "David Underwood". The signature is fluid and cursive, with a long, sweeping tail that loops back to the right.

David Underwood, P.Eng., Fellow ASHRAE, CPMP
President, ASHRAE

cc: Jim Vallort, ASHRAE Technology Council Chair
Jeff Littleton, ASHRAE Executive Vice President
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