



Shaping Tomorrow's  
Built Environment Today

## **BUILDING ENERGY DATA: A CRITICAL RESOURCE**

### **THE ISSUE**

Reducing the energy use of buildings requires the availability of a robust database of building energy data to define the baseline against which progress can be measured. Because buildings account for approximately 38% of U.S. energy consumption<sup>1</sup>, they can be a significant opportunity for reducing energy use. However, limited data exists to understand the energy use associated with individual buildings and the factors that affect energy use. Despite increased focus on improving the ability for all new buildings to use energy more efficiently, existing buildings represent the greatest source of energy use within the sector, and once occupied, new buildings become existing buildings.

Improved understanding of existing building energy use characteristics will clarify the relationship between intended and actual performance. Understanding these gaps can result in better building design, inform operations and maintenance practices and provide input to energy codes and standards that establish design and construction criteria for new buildings, renovations and additions to existing buildings.

### **ASHRAE'S ROLE**

As a technical society whose priorities include reducing the energy use of buildings, ASHRAE has the resources and expertise to guide the development of more energy efficient buildings. ASHRAE disseminates best practices to professionals across the building sector by developing standards, guidance and educational resources. However, those best practices must be informed by robust data on the actual energy performance of buildings. To help building owners and operators understand the energy use of their buildings and opportunities for improvement, ASHRAE has developed a building energy performance tool and rating system (the Building EQ<sup>2</sup>) that compares a building's energy performance to average energy performance across building types and climate zones. ASHRAE has also developed Standard 105, a method for determining, expressing and comparing building energy performance and greenhouse gas emissions; Standard 214, a standard for measuring and expressing building energy performance in a rating program; and Standard 211, a standard that establishes consistent practices for conducting and reporting commercial building energy audits.

### **ASHRAE'S VIEW**

Existing Federal and State programs, like the U.S. Energy Information Administration's Commercial Buildings Energy Consumption Survey (CBECS), serve as the baseline for many initiatives designed to reduce energy consumption in both new and existing buildings. However, this data has not been updated

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<sup>1</sup> *Use of Energy in the United States - Energy Explained, Your Guide To Understanding Energy*, U.S. Energy Information Administration, 29 May 2018, [www.eia.gov/energyexplained/index.php?page=us\\_energy\\_use](http://www.eia.gov/energyexplained/index.php?page=us_energy_use).

<sup>2</sup> For more information, see [www.ashrae.org/technical-resources/building-eq](http://www.ashrae.org/technical-resources/building-eq).



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since 2012 and a new report will not be published until Spring of 2020. The importance of this data will continue to grow as the nation and the building community focus on reducing energy use.

Recommendations for maintaining and enhancing the availability of building energy data:

- Adequately fund the U.S. Energy Information Agency to allow for the timely release of robust datasets focused on the energy use of buildings and increase their coverage. Also support the agencies and programs that make use of this data, including EPA's ENERGY STAR® program and those administered by the U.S. Department of Energy's Building Technologies Office.
- Support the development and implementation of technically sound private sector programs designed to reduce building energy use and report on the actual energy use of buildings, such as ASHRAE's Building EQ program, which can be useful for demonstrating compliance with benchmarking ordinances and energy audit requirements.
- Support the adoption, application, and use of ASHRAE Standards 105, 214 and 211P to provide a uniform and robust method for measuring and expressing building energy performance and conducting building energy audits.