

Written Testimony to the National Institute of Building Sciences on Data Needs to Achieve High Performance Buildings

Testimony from:

Jim Pauley, P.E

Sr. Vice President, External Affairs and Government Relations

Schneider Electric

1415 South Roselle Road

Palatine, IL

T: 859-245-7923

email: jim.pauley@schneider-electric.com

Background/Building Sector

Schneider Electric is a global specialist in energy management with operations in more than 100 countries. We offer integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centers/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 110,000 plus employees achieved sales of more than \$26 billion in 2010, through an active commitment to help individuals and organizations "Make the most of their energy."

Data Importance

As an energy management specialist; having appropriate data to benchmark building performance for our customers is critical. Although we can offer many solutions to help a building achieve a higher level of energy performance than it does today, being able to characterize that performance by comparing to other buildings of similar type and use helps to drive a better understanding of the potential that may still be available to our customer.

Having solid comparative data on an ongoing basis also allows for additional goals and performance benchmarks to be set along with action plans for achieving the improved performance. Having a poor performing building improve its energy performance by 25% is a great step, but if that building is still significantly underperforming compared to other buildings of similar type and use then there is still great potential for continued improvement.

Building comparison data allows us to make more informed recommendations for our customer base and helps building owners and customers make more informed decisions about their energy spend and where to invest for potential improvements.

Building Rating/Labeling Systems

We believe that the development and use of strong building labeling/rating systems is a key element to driving better building performance. Having visibility of the building performance allows potential users/occupants of the building to see how the building is performing and make informed decisions about whether a particular building's approach to energy performance is suitable for their business and operational needs.

However, good rating systems cannot exist without a good dataset used for benchmarking. From our view, this is one of the most critical reasons for having a strong national collection system of building energy data.

What data is critical?

Overall building energy use along with geographic location, building features (e.g. floor space, etc.), operational data about how the building is heated or cooled, existence of a building management system and occupant load are all features we see as important in data collection.

Of most importance is the need for actual energy performance data. Energy performance of a building related to its "as designed" state is certainly a data point that can have some value; however the ability to actually see how the building is performing in its operating state is the most important aspect in looking at potential energy improvements. We would also argue that having the building energy use data broken down further into subsystem usage (e.g. HVAC vs. lighting vs. plug load, etc.) would provide even greater opportunity for better decision making for users.

CBECS Data

The loss of updated CBECS data from EIA is of significant concern. Losing the 2007 study results due to data integrity and then ultimately losing the 2011 study due to lack of funding results in a comparative data set that is outdated and can lead to incorrect decisions about how buildings are comparatively performing. Although many have argued that the CBECS data is lacking in some sample sets, it is also one of the most looked to resources for comparative data and for seeing important market trends in energy usage. In addition, the loss of the datasets is also a blow to building rating systems that rely on comparative data to establish quartile performance of buildings.

We would certainly like to see the funding restored to the EIAs CBECS data efforts and the 2011 study put back on track.

Data Needs in the Future

There are numerous data collection efforts that appear to be underway in the marketplace. Some are private based where the data is only available to a particular organization or set of members and others where the data could be purchased by interested parties. Our view is that we need to consider ways for the industry to come together to create a single repository of energy usage information.

Rather than asking building owners/operators to report multiple times into multiple data sets, we need to look at ways to gather the information once and gather it at a level of granularity that will satisfy the bulk of the market data needs.

Key characteristics of this effort include:

- Actual energy consumption data of the building as occupied and used. Input data should be gathered from building management systems, metering subsystems, smart meters as they become more prevalent and other systems/sensors that will credibly report actual energy use.
- Data privacy must be taken into account such that the source and integrity of the data are protected and the data is not generated in a manner that could be used against a submitter.
- Incentives for participation in the data submission should be considered. This could include incentives built into local or state regulation as well as incentives such as access to the dataset for the particular geography and building type of the submitter.
- The effort should be structured as a consortium of interested parties and take advantage of both public and private sector participants. This will ensure that we have a system that can meet both private sector and public policy needs and will avoid a small number of entities controlling the effort.
- As a more comprehensive data set is developed, we should also consider the need to utilize the data to establish metrics for buildings that can be shared globally in order share global best practices

Efforts such as the DASH program from the Green Building Alliance and ASHRAE go a long way toward setting up such a system. We would encourage expansion of this type of effort in a manner where we can all focus on a singular approach toward gathering building performance data.

Schneider Electric appreciates the opportunity to submit our comments to the NIBS High Performance Building Data Collection Initiative and looks forward to working with NIBS in the future to advance the importance of having a strong building performance data system for the US.