

National Action Plan for Energy Efficiency Sector Collaborative on Energy Efficiency

Pilot Project Proposal: Expanding Benchmarking Capabilities to More Building Types

Utilities planning to incorporate benchmarking information in their customer service and / or energy efficiency programs will want to make such information available to a broad spectrum of commercial customer segments. However, the wide range of building types across the commercial market and the availability of data for benchmarking buildings has typically limited programs to specific types of buildings. A strategy for overcoming this barrier is to enable buildings to benchmarking relative to themselves using an approach based on an energy use intensity (EUI) metric. This approach would allow utilities to provide benchmarking information to customer segments where data availability prevents a more in-depth analysis of building energy performance. Utilities seeking to implement this approach could pilot EUI benchmarking in partnership with NAPEE end-users, and leverage on-going EPA ENERGY STAR program efforts to use EUIs to expand the reach of commercial building benchmarking.

EUIs measure how much energy a building is using per square foot. To calculate an EUI, the fuel use is first converted from site energy (e.g., electricity consumed by the building) to source energy (the energy required to produce and deliver the fuel, such as electricity, to the building). Then the building's total energy use for all fuels (expressed in thousand British thermal units, kBtus) is divided by the building's total square feet. An EUI is a valuable energy performance benchmarking when calculated using weather normalized energy use and tracked to show changes in performance over time.

In its approach, EPA provides a weather normalized EUI and measurement of changes in EUI over time through its online Portfolio Manager tool. Partners who are not currently served by EPA's energy performance rating system models are encouraged to track their EUIs as a valuable alternative to 1-100 performance rating that is available for much of the commercial building market. EPA will soon increase its promotion of the use of EUIs by recognizing partners as ENERGY STAR Leaders for demonstrating improvements in EUIs over time. In order to receive this recognition, a partner will have to show that energy savings result from energy performance improvements as opposed to lower energy use because of decreases in a building's business activity. This stipulation allows EPA to expand recognition to EUI based benchmarks while still taking into account operational changes.

This proposal outlines a pilot utility project to explore how EUI benchmarking can be used to meet the needs of utilities and their customers, in situations when an EPA rating or similar metric is not available. This pilot project would complement efforts to promote energy efficiency in the public sector, which typically has a diverse set of buildings for which EPA energy performance ratings are not available (ratings are currently available only for K-12 schools, dormitories and court houses). A public buildings pilot would expand benchmarking to additional public sector building types such as public safety, fire stations, and libraries. This pilot project would help develop and advance best practices for using EUIs in commercial building benchmarking programs.

The project would include the following elements.

- Identifying utilities interested in developing and refining strategies for delivery of EUI benchmarking.
- Identify target building type(s) based on customer interest in benchmarking and energy savings potential.
- Collecting data and refining an approach to using EUI's for targeting efficiency improvements. This step would consider:
 - Promoting the use of EUIs to customers as an energy management best practice.

- Addressing the potential need for data release forms for utilities to provide customers with EUI's for current and historical data.
- Developing a mechanism for capturing the square footage and address of targeted buildings.
- Importing square feet, address, and energy consumption into EPA's Portfolio Manager tool.
- Determining whether the data collection and import will be driven by the customer or managed by the utility on behalf of the customer.
- Providing customers with resources to help them understand their EUI and the importance of tracking EUI over a number of years.
- Measuring the percentage of customers requesting, accessing, and/or viewing EUIs.
- Promoting other energy efficiency offerings along with delivery of EUIs.
- Measuring customer interest in other utility DSM programs as a result of involvement in the benchmarking program.

The final phase of the pilot would be to document lessons learned and make recommendations to the National Action Plan Leadership Group on best practices for supporting this approach for commercial building benchmarking.