

Small Buildings and Small Portfolios

2014 Building Technologies Office Peer Review

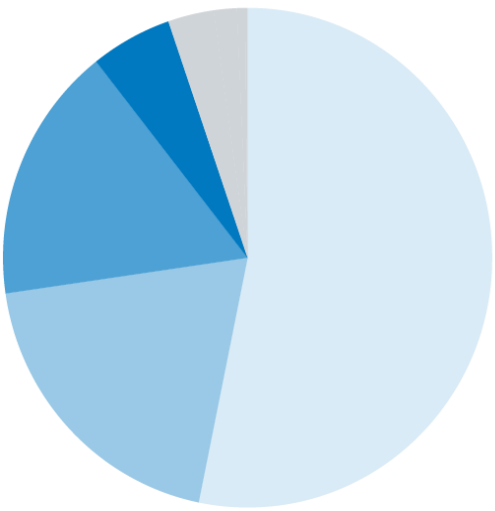


U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Cody Taylor, cody.taylor@ee.doe.gov
Commercial Buildings Integration

Small Commercial Buildings in the United States



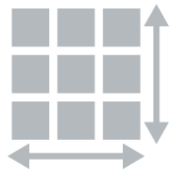
95%

NUMBER OF BUILDINGS



51%

SQUARE FOOTAGE



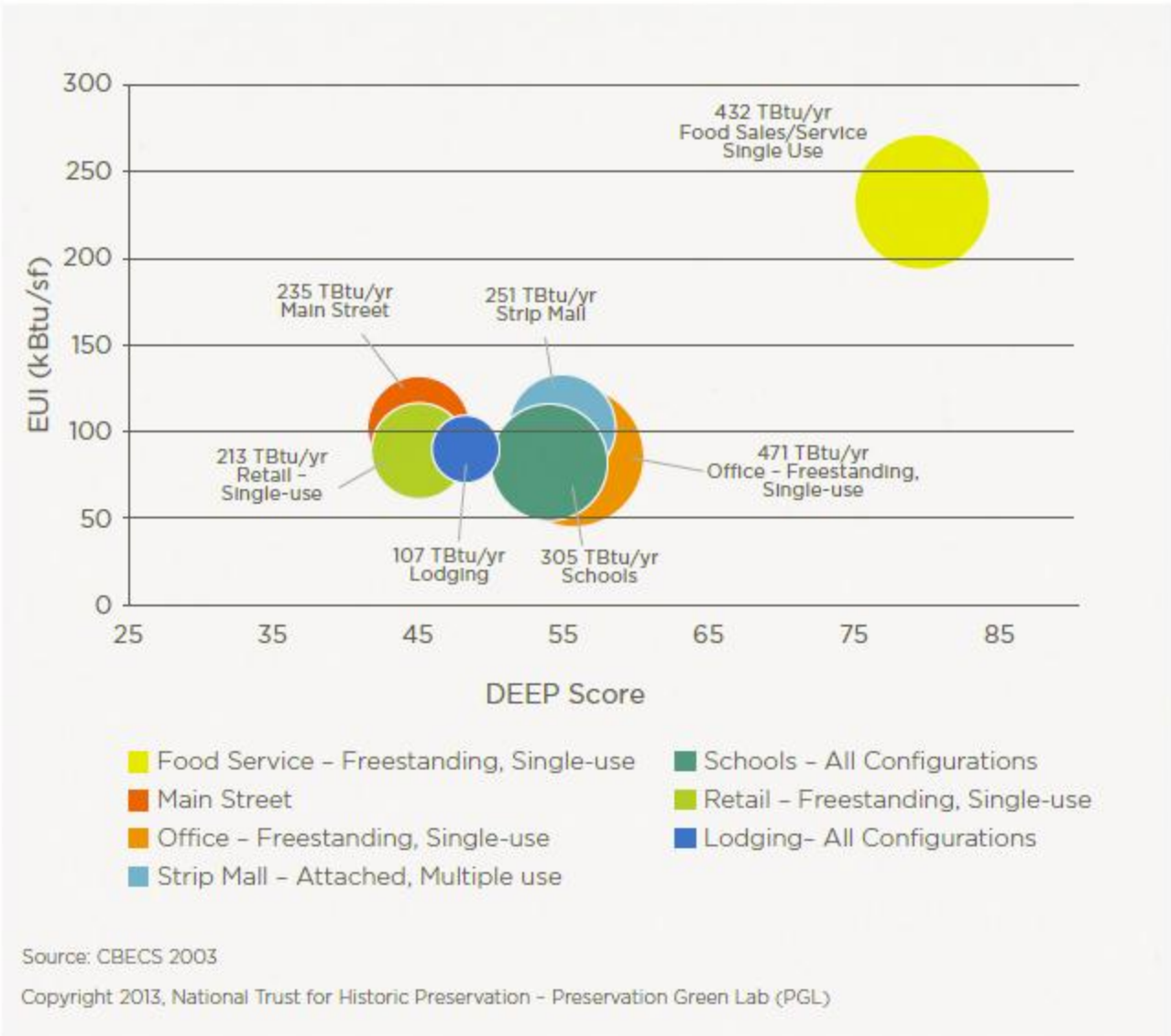
44%

ENERGY



- Building Floor Space**
- 1,001–5,000 ft²
 - 5,001–10,000 ft²
 - 10,001–25,000 ft²
 - 25,001–50,000 ft²
 - Over 50,000 ft²

Small Commercial Buildings in the United States



What are the Challenges?

The largest reported barriers inhibiting SBSP owners from adopting energy efficiency solutions:

- *Limited capital*
- *Higher transaction costs relative to energy cost savings*
- *Lack of time to research and implement energy efficiency solutions*
- *Split incentive obstacles between owners and tenants*
- *Lack of available sector-specific resources and technologies*

What are the Opportunities?

- Big energy savings
- Money back in business owners' pockets
- Economic development/redevelopment
- Innovation and growth

WHAT IS DOE DOING FOR SMALL BUILDINGS?

National Laboratory Research

- Small building market assessment report (NREL)
- Energy efficiency in pre-engineered metal buildings (ORNL)
- Midstream/Upstream utility incentive program design (ANL)
- Contractor-led energy management (LBNL)
- Leveraging existing SBA programs for small building energy efficiency (NREL/ANL)

Cooperative Agreements

In 2013, DOE funded six cooperative agreements that explore innovative models for engaging small businesses and small building owners/managers. Project goals include:

- Emphasizing a whole-building approach for new construction and retrofits
- Engaging local service providers
- Developing easy-to-use and simple tools to measure, track, and take action on building energy use
- Identifying retrofit packages that are cost-effective and appropriate for the small-buildings sector
- Improving access to financing through innovative models, structures, and programs

Penn State Consortium for Building Energy Innovation

In 2014, the Penn State Consortium for Building Energy Innovation (CBEI, formerly the EEB Hub) revised their mission to focus specifically on demonstrating innovative solutions to improve efficiency in small and medium commercial buildings.

The projects take advantage of the Consortium's capabilities:

- Serving as a real-world test bed for technical/market solutions
- Demonstrating and testing real-world integration of technologies, systems, and processes
- Advancing R&D of needed technologies and solutions

New Opportunities

- DOE plans to issue a funding opportunity in FY16 focused on small buildings again. Expected to focus on:
 - Extending and enhancing programs demonstrated through FY16 FOA
 - Demonstrating new programs that build on DOE's other investments in the small commercial buildings sector
 - Demonstrating new solutions that transform the market for energy efficiency in small commercial buildings