EFFICIENCY AND BEYOND

Guidance for Energy Efficiency Program Administrators to Aid Building Owners

PUTTING DATA TO WORK

TOOL

IMT
INSTITUTE FOR MARKET TRANSFORMATION

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ABOUT IMT

The Institute for Market Transformation (IMT) is a national nonprofit organization focused on increasing energy efficiency in buildings to save money, drive economic growth and job creation, reduce harmful pollution, and tackle climate change. IMT ignites greater investment in energy-efficient buildings through hands-on expert guidance, technical and market research, policy and program development and deployment, and promotion of best practices and knowledge exchange. For more information, visit imt.org.

PUTTING DATA TO WORK

Putting Data to Work **is a three-year pilot project aimed at using building performance data and asset information to help efficiency program implementers better target their outreach to building owners and increase the number of projects executed within these programs. The project used building performance data to improve energy efficiency program design and delivery in the District of Columbia and New York City, and developed a toolkit of resources to enable local governments, utilities, and program implementers to learn from activities to replicate successes.**

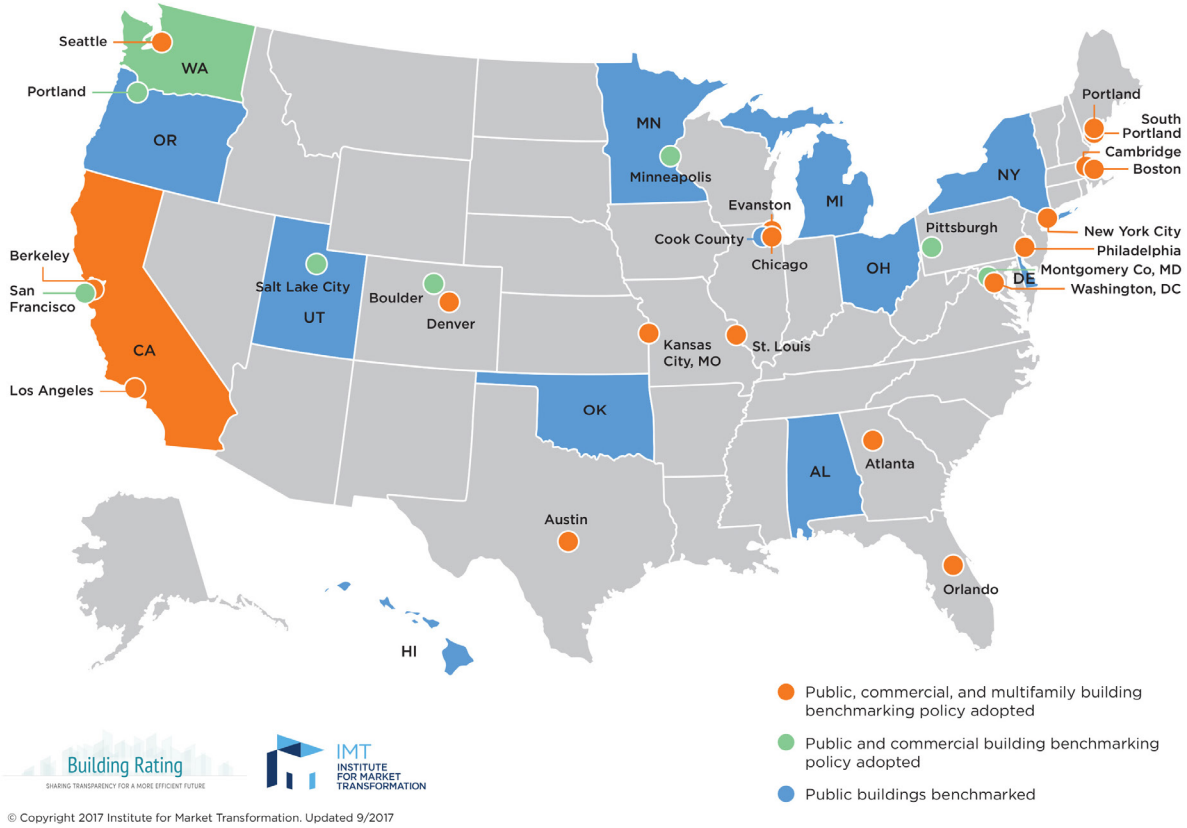
This resource list is designed to aid efficiency program account managers in guiding building owners to find ways to pursue greater energy efficiency in their properties beyond complying with a building energy use benchmarking policy. In some cases, these actions can help account managers acquire program participants at a faster rate, decreasing customer acquisition costs.

Finding Ways to Pursue Greater Efficiency

As of January 2018, 24 cities, one county, and two states have passed mandatory benchmarking and transparency policies and many other jurisdictions oversee similar voluntary efforts.[1] The building performance data collected to comply with these programs generally includes whole-building characteristics (such as square footage and building use type) and whole-building energy consumption data (including electricity, natural gas, and fuel oil usage data as applicable). The generally acknowledged goals of these programs are to:

- make individual building owners more aware of their building's performance, and how it compares to that of their peers;
- drive general market transformation by generating demand for more energy-efficient buildings among potential buyers, tenants, lenders, and others involved in the real estate market; and
- provide policy makers, program administrators, and researchers with the information needed to design and implement effective energy efficiency initiatives.

U.S. Building Benchmarking and Transparency Policies



1 Institute for Market Transformation, "U.S. building Benchmarking and Transparency Policies," September 2017: http://buildingrating.org/graphic/us-commercial-building-policy-comparison-matrix

Recognizing the multiple benefits offered by increased understanding of actions that can be taken to improve building performance—whether subject to a benchmarking and transparency policy or not—this resource list provides guidance on relevant next steps for those building owners looking to go above and beyond compliance with policy in order to improve energy performance through the following actions:

- adjusting building operation to improve energy performance;
- incorporating energy efficiency into capital planning and leasing; and
- obtaining recognition for high performance.

This guide is not meant to be prescriptive, but rather directional in helping an account manager guide a building owner in finding ways to pursue greater energy efficiency. Each section provides efficiency program account managers with links to additional resources that provide further detail and allow for the solutions to be customized to a building's specific circumstances. Concepts in this guide will resonate at different levels with different building owners—some may be knowledgeable about energy efficiency measures, and some may need additional education.

Improve Operational Energy Performance

Often the lowest cost and easiest-to-implement option, operational energy performance improvements may include revising operating hours, adjusting building system setpoints, or changing out low-cost fixtures such as lighting for more efficient versions. A 2011 Lawrence Berkeley National Laboratory (LBNL) study estimates that whole-building energy savings of 16 percent, on average, can be realized in existing buildings through measures that have a payback time of around 1.1 years[2]. This section provides guidance for building owners on next steps for understanding opportunities (through audits) and identifying specific improvements and consumption anomalies (through energy management information systems).

RECOMMENDED ACTION	HOW IT HELPS	RESOURCES
Understand building characteristics and operation	Knowledge of the specific circumstances of a building can illuminate energy-savings opportunities, whether they be operational (for example, adding occupancy sensors to light fixtures) or capital (such as replacing an inefficient boiler toward the end of its useful life with a high-performance unit).	A relatively new offering, virtual audit systems can give basic recommendations based on high-level energy and building information. Companies including FirstFuel and ENGIE (formerly Ecova) offer these services, and the U.S. Department of Energy's (DOE) Advanced Research Projects Agency for Energy has provided funding for further development and investigation of this concept. On-site audits can give detailed operational and system information, and often identify operational and capital opportunities for improvement. The Pacific Northwest National Laboratory has published guidance on types of energy audits available.
Obtain more frequent data and identify operational improvements	Granular energy-performance information (frequent interval and system-level data) can identify energy consumption anomalies and opportunities for operational energy savings.	LBNL and the Institute for Market Transformation (IMT) have published guidance on what types of energy management information systems are available to building owners, and how to incorporate these platforms into a building's operation.

2 Evan Mills, "Building Commissioning: A golden opportunity for reducing energy costs and greenhouse gas emissions in the United States," Energy Efficiency, Vol. 4, No. 2, 2011: http://evanmills.lbl.gov/pubs/pdf/cx-enef-mills.pdf

Improve Key Building Systems and Capital Planning to Enhance Energy Performance

Whether through emergency replacement or long-term planning, energy efficiency should be prioritized in a building's capital plan. This section includes guidance on financing and incentives for energy efficiency projects, and on incorporating energy efficiency into leases.

RECOMMENDED ACTION	HOW IT HELPS	RESOURCES
Investigate financing tools	Energy-efficient equipment decreases the ongoing energy costs of a building, but is often not pursued because of various funding barriers. Depending on the jurisdiction, different financing mechanisms may be available to aid in overcoming the initial cost of investment.	DOE's Better Buildings Initiative includes a variety of resources on financing models and solutions. IMT and the Retail Industry Leaders Association (RILA) published a series of guides on internal and external financing options for energy efficiency projects. In addition, the partnership's Energy Efficiency Finance calculator provides specific guidance on external financing mechanisms.
Investigate incentive programs	Depending on the jurisdiction, utilities, governments, and third parties offer a variety of incentives (including rebates or tax credits) to encourage the deployment of energy-efficient technologies and behaviors.	North Carolina State University operates the NC Clean Energy Technology Center, funded by DOE, which maintains the DSIRE database, a database of incentives and policies supporting renewable energy and energy efficiency. The U.S. Environmental Protection Agency (EPA) maintains a list of Energy Efficiency Program Administrators that run programs promoting energy efficiency which leverage EPA's ENERGY STAR platform.
Investigate high-performance leasing	The allocation of utility costs are outlined in building leases, which are often not structured in a way that promotes energy savings. Energy-aligned leases include language that helps to overcome the split incentive barrier to energy efficiency.	The Green Lease Library is a collaboration of government, nonprofit, and commercial stakeholder resources. The website consolidates green leasing tools and provides guidance and case studies for domestic and international stakeholders. Green Lease Leaders is a DOE- and IMT-run program that recognizes forward-thinking companies that incorporate energy efficiency and sustainability into their leases.

Increase Public Recognition of High Performance to Drive Property Value

When a building is identified as high performing, it sends signals to the market that it is well managed and maintained. This section lists some of the certification programs for energy performance that are best known in the real estate community. These programs are well recognized by customers in the real estate market; for example, more than 80 percent of Americans recognize the ENERGY STAR label.[3]

RECOMMENDED ACTION	HOW IT HELPS	RESOURCES
Certification and Reporting Programs	Buildings that are recognized as high performing on sustainability are recognized as well managed and maintained, and have been found to command a higher market value. In reporting to local benchmarking and transparency programs, buildings often collect many of the requisite pieces of information to apply for recognition as a high performer. Certification also helps increase the financial value of buildings—for example, ENERGY STAR-certified office buildings show better financial performance, higher rents (6.5 percent premium, on average), and higher selling prices (12.9 percent higher than non-certified buildings, on average).	EPA's ENERGY STAR certification is available to certain facility types that score in the top 75 percent of peer buildings (earning an ENERGY STAR score of 75 or higher on a 1–100 scale). The U.S. Green Building Council (USGBC) administers the Leadership in Energy and Environmental Design (LEED) system, which certifies buildings at various levels (certified, silver, gold, platinum) depending on energy performance and other factors. LEED certification does not guarantee that a building is energy efficient, as there are many factors that contribute to the accrual of "points" which correspond with certification—points related to energy performance are accrued alongside points related to occupancy comfort, landscaping, building materials, among others. The Global Environmental, Social and Governance Benchmark (GRESB) is a reporting platform for sustainability performance in the real asset sector (real estate, real estate debt and infrastructure) designed to give transparency to investors.

3 "ENERGY STAR PRODUCTS: 20 Years of Helping America Save Energy Save Money and Protect the Environment," United States Environmental Protection Agency, March 2012, last accessed January 2018, https://www.energystar.gov/ia/products/downloads/ES_Anniv_Book_030712_508compliant_v2.pdf

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