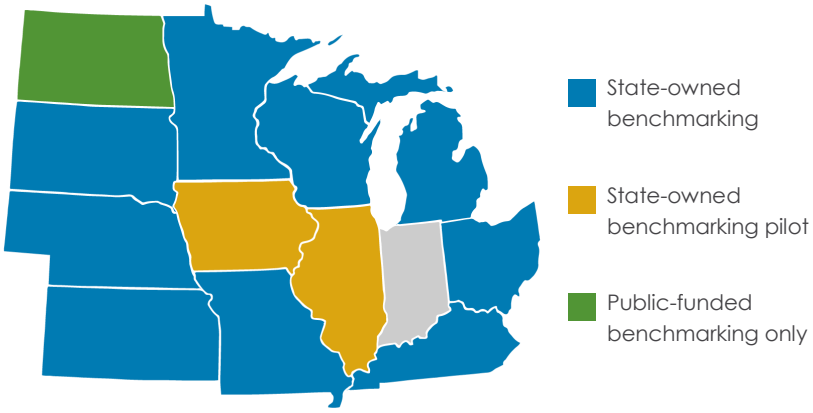
Energy Data and **Benchmarking**

The first step to saving energy in an existing building is to complete a baseline or "benchmark" of current energy consumption. Building energy benchmarking allows a building to be compared to itself over time, to other buildings of the same type, or to an applicable energy standard. **Buildings that benchmark their energy use on a regular basis reduce their energy consumption by 2.4 percent per year on average**, with potential for even greater savings by setting energy reduction goals.

To benchmark an existing building's energy use, two general pieces of information are required:

1. **General Building Characteristics** (location, size, population, use and age)
2. **Utility Energy Consumption Information** (electricity, natural gas/propane and steam usage)

Data Collection in State-Owned Buildings

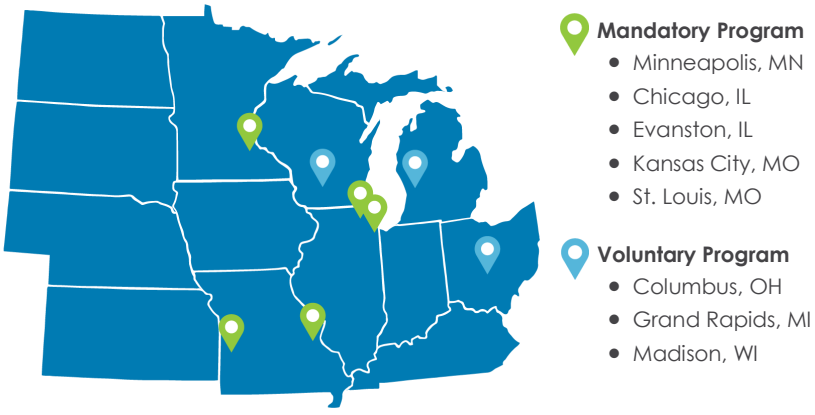


Midwest Successes

MEEA has assisted many Midwest city and state governments to develop internal data collection, utility energy data acquisition and benchmarking programs for their publicly-owned buildings.

We have also provided technical assistance to the cities of Minneapolis, Chicago and Kansas City to complete and implement their benchmarking ordinances. By developing an ordinance, a city obtains data to track annual energy use of the city's built environment, resulting in a progress towards its overall energy or greenhouse gas reduction goals.

Midwest Municipal Benchmarking Programs



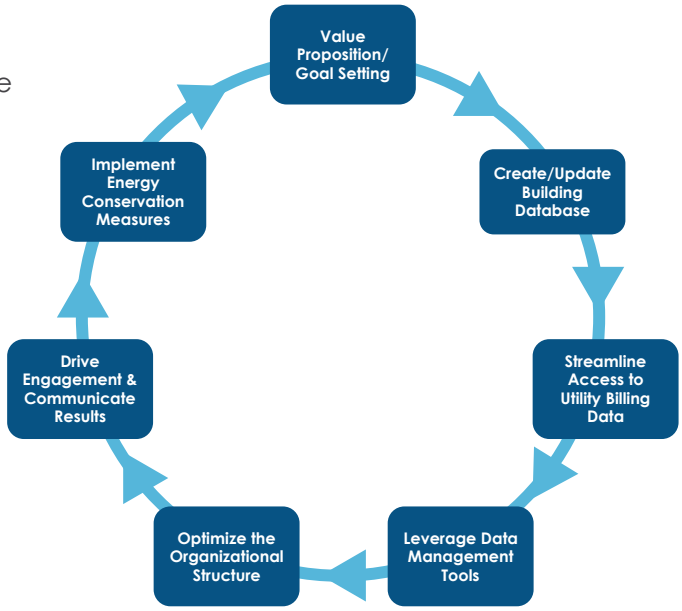
The City of Chicago, whose policy now covers more than 3,500 properties, estimates savings of approximately $17.8 million by buildings benchmarking and reporting for either two or three consecutive years. Using benchmarking data results in 2016, the City of Minneapolis was able to identify that the biggest savings potential for its privately-owned buildings existed in offices, medical buildings, hotels and worship facilities.

Why Track Energy Use?

By creating an energy tracking or benchmarking process, building owners and managers are able to better gauge the performance of their buildings. In addition, this data can be used to:

- Create more accurate energy budgets and track energy goals
- Identify underperforming buildings and pinpoint specific energy reduction measures
- Verify savings completed by energy service companies or within performance contracts
- Earn recognition in ENERGY STAR, Green Globes, LEED and/or local challenge programs

Steps in Developing an Energy Management Process



Who Benefits from Benchmarking?

By creating an accurate building energy use picture, decision-makers are able to more precisely target energy improvement projects. Benchmarking can also be used to verify the outcome of any operational or building improvement program/project. Stakeholders benefit by using this information to:

Building Owners

- Understand the actual energy performance of their building(s)
- Determine realistic energy savings targets

Facility Managers

- Maximize the efficiency of building equipment and optimized schedules
- Uncover errant utility data, billing and meter reading issues for potential savings

Tenants

- Build awareness of tenant contributions towards potential energy savings activities
- Recognize buildings and their managers for operating high performing buildings. Awards like ENERGY STAR certification, for example, are proven to increase and maintain occupancy.

Utilities

- Engage with neighborhoods, campuses or a portfolio of buildings to complete energy use upgrades using incentive programs

City or State Administrators

- Build public trust and confidence while saving taxpayer dollars by making better, more informed energy management decisions and targeted investments for public buildings
- Stimulate the local economy when local jobs are created through benchmarking activities and after energy audits are employed to assess potential energy improvements and investments
- Accelerate employment growth for architects, engineers, contractors and energy service companies when hired to implement energy saving upgrades to equipment and building components

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