




INCREASING CUSTOMER ENGAGEMENT WITH DATA

District of Columbia
Sustainable Energy Utility

PUTTING DATA
TO WORK

CASE STUDY



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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.

ABOUT 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 generated by city policies 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 case study examines how a utility energy service provider can combine whole-building data from a city benchmarking ordinance with other customer- and building-specific information. These efforts were designed with the intent of engaging customers and increasing participation in incentive and efficiency programs, and tracking metrics related to efficiency program participation, including estimated energy savings, using building performance data over time.

The more information that DCSEU account managers have regarding a building's energy performance, the more targeted they can be in their one-on-one outreach and support of customers, and the more likely those engagements will be result in energy-efficient upgrades.

Identifying the Targets: Sustainability Goals in the District of Columbia

Under its 2012 *Sustainable DC* plan, the District of Columbia established targets that include reducing greenhouse gas (GHG) emissions by 50 percent by 2032 and by at least 80 percent by 2050, including a citywide energy-use reduction target of 50 percent by 2032. In December of 2017, Mayor Muriel Bowser furthered that commitment by pledging that the District will be carbon neutral by 2050. The District of Columbia Sustainable Energy Utility (DCSEU) is one of the primary means by which the District reduces energy consumption in its building stock through training, outreach, engineering consulting, and incentives for efficiency projects.

The DCSEU is operated by Vermont Energy Investment Corporation, under contract to the D.C. government's Department of Energy and Environment (DOEE), and was created as part of the Clean and Affordable Energy Act of 2008 (CAEA). The DCSEU began operating in March 2011 with funding from the Sustainable Energy Trust Fund, which is financed by an electric and gas rate surcharge on PEPCO and Washington Gas customers in the District. Under the CAEA, the DCSEU is responsible for:

- reducing per-capita energy consumption and growth of energy demand of the largest energy users;
- increasing renewable energy generation capacity and “green-collar” jobs; and
- improving energy efficiency of low-income housing.

Deploying Whole-Building Benchmarking Data to Increase Effectiveness

The DCSEU has an interest in securing the participation of building owners in its efficiency programs as cost-effectively as possible. The more information that DCSEU account managers have regarding a building's energy performance, the more targeted they can be in their one-on-one outreach and support of customers, and the more likely those engagements will be result in energy-efficient upgrades. As a result of integrating data collected through the District's benchmarking ordinance into its customer database, the DCSEU can now target program design and outreach in several ways, as discussed below.



DC
SUSTAINABLE ENERGY
UTILITY

The District of Columbia Sustainable Energy Utility (DCSEU) is a third-party, demand-side management program administrator that services electric and natural gas customers in the District of Columbia. The DCSEU helps District residents and businesses use less energy and save money. Since 2011, the DCSEU has delivered financial incentives, technical assistance, and information to tens of thousands of District residents and businesses, helping them to save millions of dollars on their energy costs.

Understanding Changes in the District's Building Stock

Benchmarking data highlights overall changes in the energy efficiency of the District's commercial buildings—a useful indicator not only in designing and targeting efficiency programs, but also for more broadly assessing the commercial buildings sector's contributions to the District's climate goals. The benchmarking data has allowed the DCSEU to understand:

- **Which buildings are the most energy-intensive.** These include buildings that are especially energy intensive (for example, those that have data centers), where efficiency improvements may yield some of the shortest paybacks for building owners and make significant contributions toward the District's GHG reduction goals.
- **Changes in fuel use.** Differential changes in energy efficiency and energy use by fuel type can inform the appropriateness of incentives (e.g., electric vs. gas) and improve the accuracy of forecasted energy and GHG savings. One of the earliest findings of the DCSEU was that fewer large commercial customers than expected used natural gas service in the District, which allowed more efficient targeting of gas incentives and improvements in the design of gas efficiency programs.
- **Physical changes and evolution of the District's commercial building stock as a whole.** Changes in building square footage, as well as any changes in building use type, occupancy, or ownership turnover may provide additional information on opportunities for targeted outreach (for example, education of new ownership).



DATASETS AT WORK

The DCSEU used a combination of publicly available data collected through the City's benchmarking ordinance and internal, proprietary customer data to identify customers for outreach and create visualizations to engage those customers. Efficiency program implementers looking to replicate these efforts should identify similar datasets for their local building stock.

Data Sources and Use

- *District of Columbia Energy and Water Benchmarking Data:* The most recent publicly available dataset of buildings 50,000 square feet and above that are covered by the District's benchmarking law was used to compare peer buildings in the DCSEU's visualizations.
- *DCSEU Proprietary Customer Data:* The DCSEU tracks customer information internally at the project level, including customer points of contact and relevant information to past interactions or incentives. The DCSEU worked to map this customer data (not always at the building level) to the building-level benchmarking data.

Building Types

- Buildings subject to the District's benchmarking law, which include commercial and multi-family buildings 50,000 square feet and larger.

Enabling Customized and Productive Customer Outreach

The DCSEU has found that building owners and managers who benchmark their properties start their conversations with the DCSEU at a much higher level of awareness and engagement than those who have not. The data allows the DCSEU account manager to work with a building owner or property manager in a more intensive and customized fashion. The DCSEU account manager can also use whole-building benchmarking data to look at energy use and intensity trends over a portfolio of buildings with a common owner or manager to prioritize the buildings within that owner's portfolio that have the highest potential energy savings for project deployment, as well as to track improvements over time, and compare to direct peer competitors. As a result, the account manager is able to identify the best opportunities for efficiency projects within a building owner or manager's portfolio, and help lay out the business case for those projects.

How Data Changed the DCSEU's Business Practices

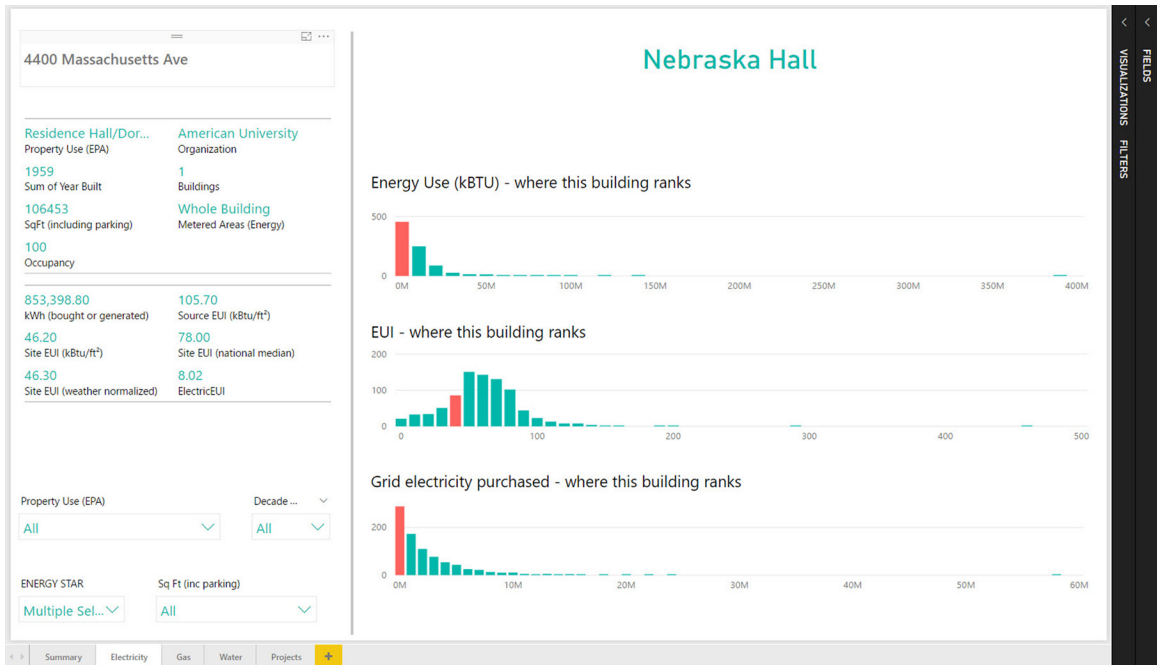
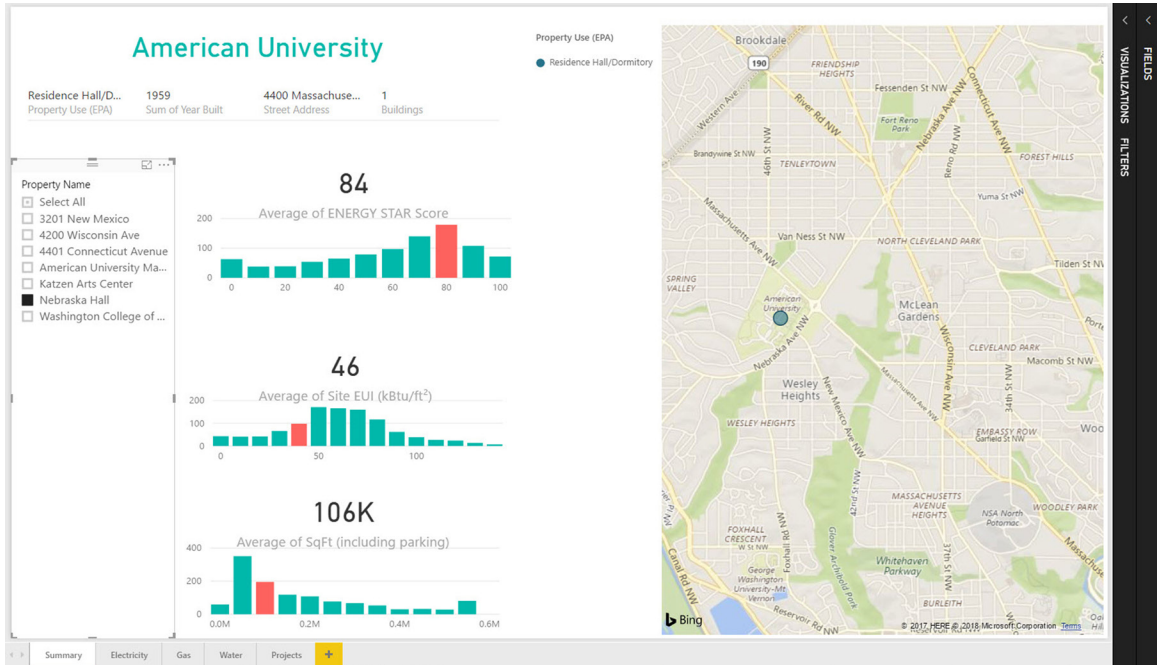
The DCSEU previously conveyed energy-saving opportunities and demonstrated its successful track record on a project level—often with a specific tenant or in pursuit of a single efficiency project within a building. However, it lacked data to communicate at the whole-building level when speaking with building owners and property managers, or to easily connect single efficiency projects with a specific building. In addition, as is often the case, the practice of storing data in multiple places introduced opportunities for inaccuracy and inefficiency. It also required account managers to reference information in more than one place—a particularly problematic challenge given that the DCSEU is striving to reach customers and secure their program participation as quickly and efficiently as possible.

In order to streamline the process of receiving the most current and complete benchmarking data from the District, the DCSEU needed to connect the database in which it collects customer information with the city's Standard Energy Efficiency Data Platform™ (SEED) account (the system in which the District stores reported whole-building benchmarking data). To do so, the DCSEU IT staff created an application programming interface (API) mapping scheme to tie the two together. This will ensure that the DCSEU's internal datasets are updated with any changes to the city benchmarking data over time, that the DCSEU receives new records as they are added to the District's SEED account, and that account managers can efficiently access all data they require in one place.



The Standard Energy Efficiency Data Platform™ (SEED Platform), developed by the U.S. Department of Energy, provides public agencies and other organizations with a standardized but flexible, cost-effective, secure, enterprise data platform to manage portfolio-scale building performance data from a variety of sources. The SEED Platform has the potential to significantly reduce the administrative effort required by public agencies or other organizations to implement building performance reporting and transparency programs.

A Sample of the DCSEU’s Internal, Proprietary Visualization Interface



The DCSEU routinely meets with new and existing customers in the multifamily and commercial markets to provide key insights into building energy use using building performance visualizations that are generated in-house. This way, the DCSEU helps customers choose and prioritize energy-saving solutions and increases participation in, as well as the performance of, its programs. However, energy efficiency can be difficult to grasp and visualize. To overcome this, the DCSEU used the District’s benchmarking data and the DCSEU’s customer database to build an internal demonstration

tool that allows its account managers to have more informative, illustrative discussions with companies about the energy use of their buildings. The tool illustrates both the impact the DCSEU has already had with its customers (proving effectiveness), and how additional actions may be able to improve its customers' energy use further (proving the value of continual improvement).

Lessons Learned

Several lessons learned through the DCSEU's work are valuable for efficiency program implementers serving other utilities. They include:

- **Whole-building data can be used to analyze trends.** The building-level analytics previously unavailable to the DCSEU enabled implementers to evaluate trends in whole-building energy usage over time and to identify buildings and neighborhoods with high savings potential.
- **Data can be used to engage customers.** Direct customer engagement using data visualizations to show relative performance of buildings when compared with their peers can be a valuable tool for relationship cultivation, with the end goal of enabling building owners and property managers to understand and improve the energy efficiency of their buildings—and, as a result, increase participation in incentive programs.
- **Benchmarking data can be a valuable addition to existing customer datasets.** Mapping efficiency project information to the building level allows for the tracking of building performance over time, enabling implementers to understand the impact of project implementation on building performance. It also allows for disparate points of contact to be rolled up to the building level to streamline communication with the building.

What's Next?

The strategic customer engagement undertaken during the *Putting Data to Work* project was a pilot program deployed with a portion of the DCSEU's account managers. This type of analysis and engagement will be deployed more broadly to all account managers, and the data-sharing systems will continue to work in a synchronized fashion through the API developed to link the DCSEU's internal database with the District's SEED Platform. ●



ADDITIONAL INFORMATION

[DOEE Clean and Affordable Energy Act](#)

[DOEE Energy Benchmarking](#)

[District of Columbia Sustainable Energy Utility](#)

[Putting Data to Work Toolkit](#)

[SEED Platform](#)

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