

Key Facilities Metrics: The Value of Measuring Consumption

By Sally Grans Korsh

Most APPA members appreciate the value of measuring consumption. The old adage “If you can’t measure it, you can’t manage it” is understood by sophisticated campus facilities teams. However, getting staff to spend the time—and sometimes the cost—to capture this critical data is not easy in the face of the increasing financial pressures and ongoing staff constraints of daily campus operations.

Members of the National Association of College and University Business Officers (NACUBO) Sustainability Advisory Panel (SAP) are keenly aware that many campus leaders do not have awareness of key facilities measures. They know full-time equivalent (FTE) ratios, the cost of tuition, and estimated faculty expenses, but rarely recognize basic building-related facts. SAP members noted it was imperative that to plan or improve a campus, leaders need to have a basic understanding of these campus consumption metrics. As a result, NACUBO joined with APPA two years ago to create the Key Facilities Metrics (KFM) Survey; a collection of basic data in five important consumption areas: British thermal units (BTUs), electrical, water, waste, and carbon. Given the many surveys a campus can participate in, SAP members were committed to making the KFM Survey as simple as possible, with data easily retrieved from vendors or utility bills.

APPA was a natural partner in this effort, as the association has already implemented the more sophisticated Facilities Performance Indicators (FPI) survey. FPI is a robust survey that benchmarks facilities inventory, ownership costs, operations, management budget, customer satisfaction, and staffing components. It is considered the gold standard for metrics by facilities personnel and helps financial officers understand physical plant needs.

HOW IT WORKS

One primary feature of the Key Facilities Metrics (KFM) Survey is to allow campus staff to complete it

with a relatively low time commitment and to create metrics that campus administrators can easily grasp. This means asking only a handful of questions that can be answered by reviewing vendor invoices from the previous year. Additionally, it means adjusting survey results so they are more relevant, for example, stating BTU consumption as “85 kBTU/square foot” instead of “8,500 BTU/square foot.”

You can consider the KFM a “gateway survey” to the more sophisticated FPI survey or the more labor-intensive surveys that include academic offerings, such as the AASHE STARS (Sustainability Tracking, Assessment & Rating System) framework. KFM allows campuses that have not participated in more extensive surveys to start using building metrics to inform campus leaders. Conversely, campuses that have participated in the more extensive surveys are encour-

“In the past, these metrics were used primarily by technical staff in the facilities department; participating in the Key Facilities Metrics survey increased awareness and understanding of these issues among our business office.”

Amir Mohammadi, EdD, Vice President of Finance, Administrative Affairs and Advancement Services, Slippery Rock University

aged to answer these simpler KFM survey questions, because their contribution helps significantly to achieve better-aggregated, institutional-type ratios.

After a campus representative has completed the KFM Survey and the results are confirmed by APPA staff, the data will be uploaded to the APPA website. The data can be retrieved in a number of ways. A campus can choose to compare within regions or by institutional type, gross square footage (GSF), student FTE ratios, or a combination of all of these. This is an important factor, because campuses differ in what metrics resonate with leaders. For example, regarding energy use, a campus might have a high GSF ratio due to a large student population and

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“It was good to do both surveys [Facilities Performance Indicators and Key Facilities Metrics] at the same time. Will definitely do them again.”

Sharon Curry, Coordinator for Sustainability and Support Services, Trinity University

being open long hours on multiple days. That campus would be higher in GSF consumption, but would have far less energy use per FTE. It is acceptable—and even encouraged—to use more energy per GSF as long as it helps more students learn!

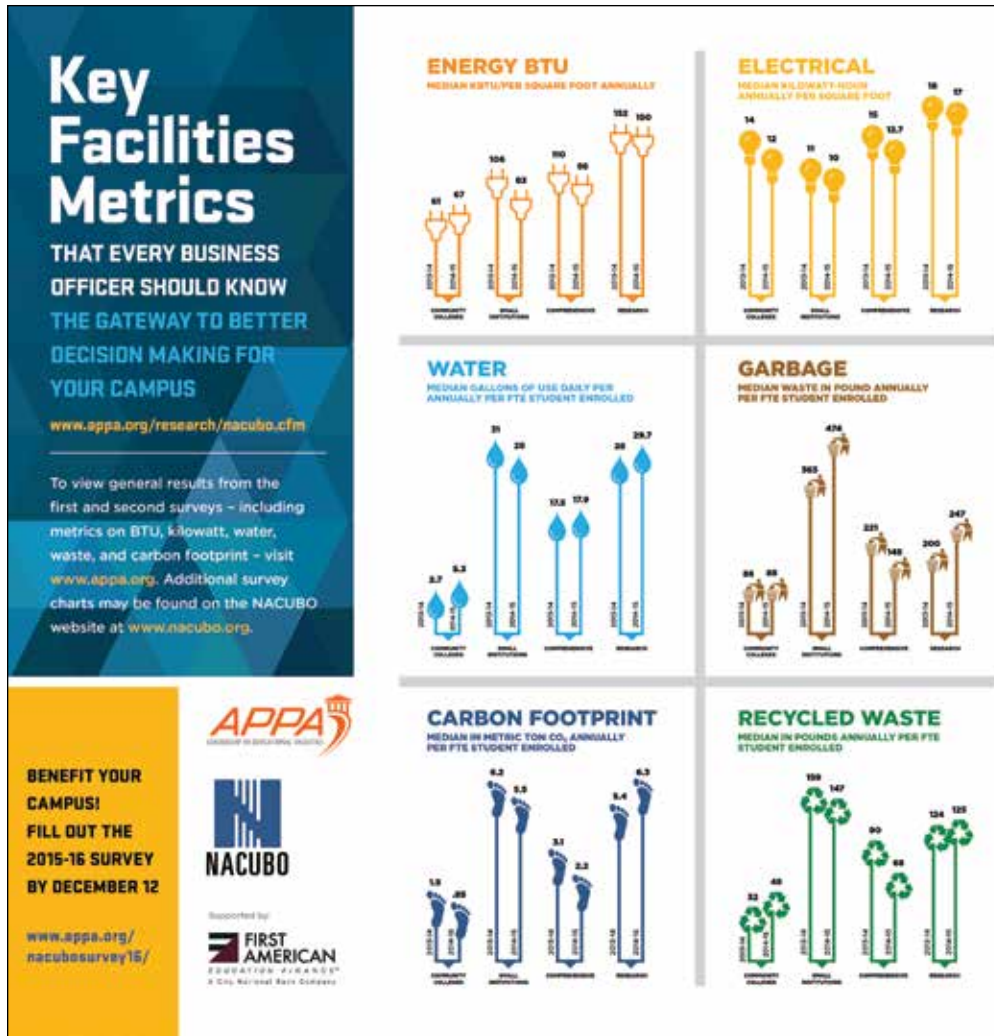
GETTING THE WORD OUT

Using these metrics can be a great starting point for planning and advancing the reduction of energy, water, and waste. Sharing this information with leaders, students, and staff can be beneficial for planning

and adjusting behavior that may reduce consumption. Whether a campus is small or large, there are some great examples available of using data to reduce energy, save costs, and improve the environment. Here are a few:

- One community college in the Midwest noticed that it was comparatively higher than other campuses in its region for energy consumption, despite a recent update to its digital control system. A consultant evaluated the 300,000-square-foot campus and found a computer glitch in the programming that allowed all of the toilet fans to run 24 hours a day, seven days a week, 365 days a year. By correcting this digital error, the campus saved \$18,000 annually in unnecessary heating, cooling, and ventilation costs.
- A large university used its metrics on utility consumption to develop a total conservation plan that resulted in \$14.5 million reduced utility costs.

Key Facilities Metrics



Informing all leaders of these key facilities metrics—including provosts and deans—is another means to reduce consumption. One community technical college found that its water usage was 10 gallons per FTE annually, significantly higher than at other campuses. The chief financial officer brought this fact to the faculty whose programs were likely the culprit of using the most water: the horticulture, culinary, and fire suppression programs. After just one year of adding in minimal conservation efforts suggested by the faculty, the institution reduced water usage to less than 8.5 gallons per FTE. That 15 percent savings assisted campus finances, taught students sound conservation measures for the future, and helped to conserve the community’s limited water resources.

Another example of using data directly relates to students. For waste, garbage and recycle ratios are measured in pounds per year per FTE (highlighted in the graphic). The amount of garbage students produce varies

by campus type, from 88 pounds per year to 247 pounds per year, with recycling averaging from 48 pounds per year to 124 pounds per year. If students know these facts, it might impact their behavior and encourage more of them to recycle. Or from an operational perspective, these facts might inform pounds-per-year analyses and persuade leadership to procure additional recycle bins and place them more strategically throughout the campus.

THE EASY WAY TO QUANTIFY CONSUMPTION

The KEM Survey is flexible, so that a campus can enter two, three, or all five metrics. Some campuses may not be able to enter all of the metrics; for example, one small rural college did not have its garbage picked up in pounds, so it could not complete the waste/recycle component. However, the leadership started to self-assess their consumption and discovered that their garbage was being picked up frequently, but with dumpsters only partially filled. Analyzing the situation, they reduced the amount of pickup days, which resulted in full garbage containers being picked up. While this tactic didn't necessarily reduce overall consumption, it did lower campus costs and added environmental benefits for the community due to less truck travel. Having the data and reviewing it in the analysis and planning process can benefit campus operations.

Whether working in facilities, finance, or the academic units of a campus, all leaders should be aware of the basic consumption costs of the physical plant. Operations are typically the second highest cost for an institution after salaries. The basic metrics captured by the KEM Survey are a start for all campuses to easily and efficiently quantify consumption. Encourage your campus to participate in the survey, which is open now and will close on December 12, 2016. This requires review of invoices for the 2015-16 academic year. The responsibility might be that of the finance/business office or the facilities

unit. Each campus is different, but participation in the survey is urged. ☎

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