

Application Solution

Benchmarking Utilities Usage Across Multiple Properties

Comparing Energy and Water Usage: Essential to Managing A Multi-Building Program

For those who manage multiple properties, benchmarking and comparing utility usage across all buildings presents a continual challenge. Yet, this data is essential to effective facilities management, especially at a time when energy consumption is of primary concern to many facility owners.

Establishing norms for water, gas, oil, and electricity use during various times of the year makes it easier to implement a realistic conservation program. In addition, establishing norms for specific building types makes it easier to detect excess usage at a particular property.

Normative data (e.g., kWh per square foot, day/night ratio) is also essential to monitoring an energy savings program. For instance, if energy saving has been mandated across all schools in a district, or all buildings in a housing complex, having data on average usage will tell you at a glance if savings programs are really being followed at a given location. If usage has been cut 25% on average throughout a complex, yet one building shows usage reductions of only 10%, this can indicate that conservation initiatives are not fully implemented at that location.

Knowing what levels of usage were typical before the programs were implemented can also demonstrate how much is being saved in annual costs. This, in turn, enables building operators to have a clear, immediate idea of the return on investment for any energy management installations. Collecting data efficiently and in real time can make an important positive impact on operations.

Utility Metering: Advantages of Active Systems vs. Passive Systems

Passive automated meter reading (AMR) systems (e.g., those utilizing RFID technology) provide data on usage, but require valuable staff hours to collect that data. The data is not continuously available, and errors in reading or collecting it can make information unreliable. Called away on a service call, a staffer can forget to read some meters, for instance. Numbers might also be recorded incorrectly.

Installing an active automated meter reading system eliminates the labor costs associated with collecting data and allows for real-time monitoring of usage. Statistics on usage for every building can be gathered remotely, so that staff do not have to be sent out



repeatedly to read meters. Monitoring readings automatically also eliminates human error, making the system more dependable. Any excessive usage, which could indicate a problem (such as lights left on overnight, faulty equipment, or AC left running at too high a level), can be seen as it happens and addressed right then.

Solution

A variety of products from Spinwave Systems attach to existing utility meters, making it possible to monitor utility usage continuously, across multiple properties, from one centralized location. Wireless pulse counters can be used with many existing meters that have been retrofitted with pulsers. Wireless Modbus radios can also wirelessly enable nearly any existing Modbus smart meter.

Installations for meters that already exist are fast, and require minimal labor. If a new meter needs to be installed, options abound for meter types-Spinwave's solutions work with virtually all utility meters currently being manufactured.

Wireless monitoring and benchmarking can be done at any type of location-from schools to apartment and condo complexes to retail. **Using web-based tools, configuring and maintaining a benchmarking system is easy to learn, even for non-technical staff. Software can browser-based, requiring only a gateway module and an internet connection.** Many software tools also allow you to create charts of usage straight from monitoring window itself.

Application Solution

Active AMR Means Real-Time Data: Unlike passive AMR systems, an active AMR system using Spinwave's wireless pulse counters provides real-time data, collected efficiently. No more sending out staff to collect data periodically from passive devices. No more waiting for that data to come in before you have a clear picture of energy usage across all properties. With Spinwave's solution, you have the performance and usage information you need available 24-7.

Free Up Time and Resources for Maintenance and Improvement Tasks: Spinwave's active AMR systems eliminate the need for someone to go out and periodically collect data, as is needed with passive AMR systems. Spinwave's wireless pulse counters allow data to be collected remotely, aggregated, and analyzed without anyone needing to make a site visit. Staff time and resources are freed up for facilities maintenance and improvement tasks, rather than being devoted to simple data collection activities. Automated reading also eliminates the human error factor in monitoring.

Optimize the Effectiveness of Energy Saving Programs: An energy savings program is only as good as the effectiveness of its implementation. Make sure that occupants of each building are making conservation efforts effectively by continuously monitoring usage. This type of monitoring is especially needed if efforts rely heavily on occupant actions, such as manually turning off lights. With real-time data collection, it's possible to immediately tell if a building's energy management plan is truly being implemented as intended. Continuously monitoring also serves as an alarm system, alerting building maintenance if equipment has failed or is out of spec.

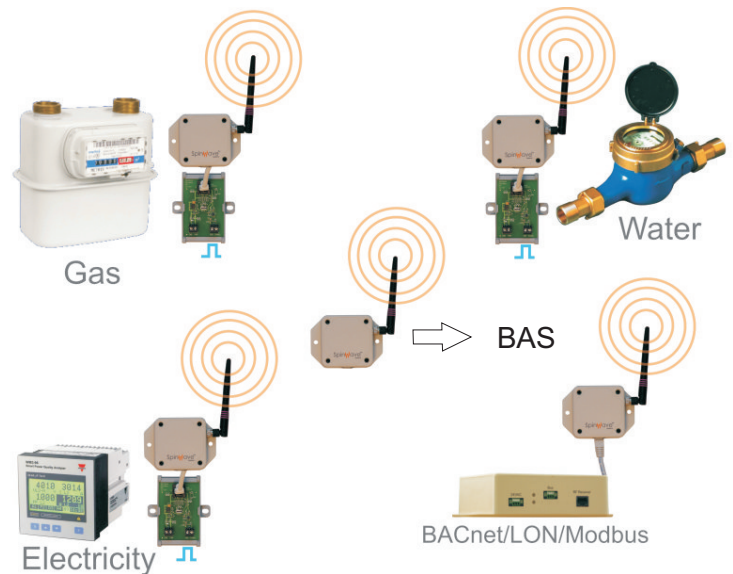
Establish Benchmarks to Determine How Much Energy is Being Saved: The first step in getting a water or energy savings program to work is establishing how much your building's occupants are using when there is no conservation plan in place. Armed with this knowledge, you can establish goals for saving water and energy based on where you are now. You can realize your largest savings right up front by identifying your largest energy wasters: air conditioning left on overnight, windows and doors propped open, or inefficient equipment. This "low hanging fruit" can create important savings in the first few weeks of implementation. Once these major sources of savings have been identified, you can fine-tune your program to address smaller, but still significant savings.

The Bottom Line

Wireless pulse counters and radio modules from Spinwave Systems make it easy and affordable to benchmark and monitor utility usage across multiple buildings.

Spinwave's wireless metering solutions allow you to install a comprehensive water and energy use monitoring system, complete with:

- Lower overall utility costs
- Better, more accurate budgeting of utility costs year-round
- Greater accountability for savings programs
- Overage prevention



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