

# Eaton's Power Xpert® W.A.G.E.S. Monitoring and Reporting Solution Eliminates Guesswork and Complexity

## Background

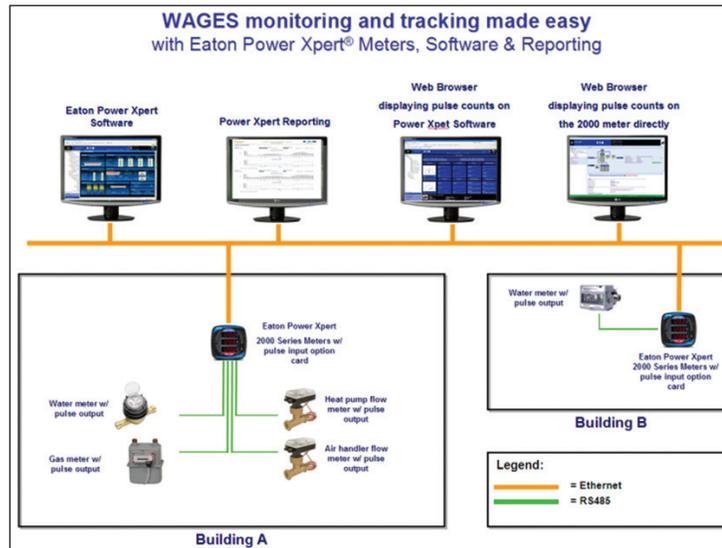
Energy management principles apply to all forms of energy – water, air, gas, electricity, and steam (W.A.G.E.S.). Collecting and analyzing data on W.A.G.E.S. consumption enables industrial operations, water treatment plants, universities, healthcare facilities, and others to benchmark actual usage, identify opportunities for improvements, and measure the effectiveness of energy conservation and efficiency initiatives. Armed with W.A.G.E.S. usage information and continuous reporting capabilities, users can develop strategies and programs for reducing energy expenses, using energy resources more efficiently and reducing operating costs while tracking progress with detailed reports.

## Challenge

Many facilities are aware that monitoring W.A.G.E.S. offers substantial opportunities for reducing energy expenses and optimizing energy resources, but they believe the process is complex, expensive, and requires hiring additional in-house expertise or costly outsourcing. However, what today's operations are looking for is a simple, easy to use, cost effective method to get a comprehensive "report card" tracking their utility usage that takes the guesswork and complexity out of monitoring and reporting W.A.G.E.S. usage.

## Solution

To provide users with a complete solution, Eaton has developed a simple method of easily capturing baseline information on W.A.G.E.S. usage and providing ongoing monitoring and reporting.



**Figure 1**

A single Power Xpert Series 2000 meter with the pulse input option card can support up to four W.A.G.E.S. devices. The meter connects directly into the existing Ethernet network and provides utility usage data to Power Xpert and Reporting Software, enabling easy W.A.G.E.S. monitoring and tracking. The reports can be automated to be delivered via email at user-defined intervals, e.g. once a week. Since the meter has a built in Web Server, a plain Web Browser can also be used to view usage information. This is especially convenient when only a few meters are in place. No additional software would be necessary in this type of use case.

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The first step is installing a compatible Eaton Power Xpert meter (Power Xpert 2250, 2260 or 2270), with a pulse input option card that reads the pulses coming from the utility measurement device (water, air, gas, electricity, steam). From the meter, the pulse count is transferred over Ethernet and the information is logged into Power Xpert Software. Power Xpert Reporting works in conjunction with Power Xpert Software to aggregate this critical information into understandable charts and graphs, allowing users to easily identify W.A.G.E.S. improvement opportunities and compare usage between different departments or sites. It enables users to view past individual measurements, trend graphs, and events. The system can be set up to run reports automatically and send new, updated reports via email at user-defined intervals.

The solution can be configured to automatically view usage data at daily, weekly or monthly intervals. It also retains historical information so it can run these reports as far back as data is available, thus providing comprehensive historical documentation on consumption over time.

Unlike some other integrated solutions that are expensive and only focus on one utility and thus provides fragmented information, Eaton's solution captures all W.A.G.E.S. information and displays it on a Web page as well as a report. Since it is scalable, users can easily attach new systems when new buildings or processes are added. Using Power Xpert Reporting, customized reports can be created so that those within various levels of the organization, from the plant floor operators to the CEO, get the kind of easy to understand information they need to make operational and business decisions about energy usage and costs.

Eaton's elegant solution simplifies the data collection and presents it in a user-friendly format without the need to invest in on site technical expertise or hiring an outside contractor to oversee the monitoring and reporting system.

While the meters, software, and reporting package are easy to install, Eaton's engineering services are also available for organizations that prefer to have a turnkey solution.

## Results

With the installation of Eaton compatible Power Xpert meters, software and reporting, facilities have an easy-to-use, customizable solution for monitoring and reporting their W.A.G.E.S. usage. Since the system enables users to establish benchmark consumption levels, it streamlines tracking the effectiveness of improvements that have been put in place to reduce energy costs as well as conserve energy resources. Additionally, the Eaton solution for monitoring and reporting W.A.G.E.S. provides the information essential for Leadership in Energy and Environmental Design (LEED) accreditation submittals.

With the data collection and analysis capabilities of Eaton's meters, software and reporting offering, users benefit from empirical W.A.G.E.S. documentation and take the guesswork out of monitoring and reporting. The Eaton solution's ability to capture data, collect, and convert data into useful information that can be used to develop strategies for reducing energy expenses, using energy resources more efficiently and improving operating costs transforms mere data into an energy management asset.

## Required Solution Components

### A. Basic Solution (1 to 5 metered utility points)

1. Power Xpert 2250, 2260 or 2270 meter with optional pulse input card connected to the Ethernet.
2. Web Browser on a networked computer to view remotely metered utility data.
3. Existing utility meter(s) supporting pulse output (not provided by Eaton).

### B. Software Solution (over 5 metered utility points)

1. Power Xpert 2250, 2260 or 2270 meter with optional pulse input card connected to the Ethernet.
2. Power Xpert and Reporting Software packages installed.
3. Web Browser on a networked computer to use Power Xpert and Reporting Software.
4. Email account to receive automatic W.A.G.E.S. reports at user defined intervals.
5. Existing utility meter(s) supporting pulse output (not provided by Eaton).

## Additional Solution Component Information

- Power Xpert Software [www.eaton.com/pxs](http://www.eaton.com/pxs)
- Power Xpert Reporting [www.eaton.com/pxr](http://www.eaton.com/pxr)
- Power Xpert Meters [www.eaton.com/pxm](http://www.eaton.com/pxm)

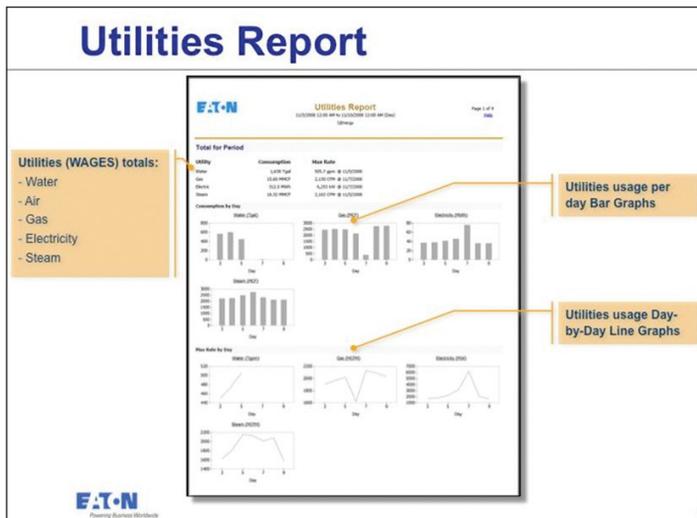


Figure 2

The Utilities Report captures usage information on the consumption of water, air, gas, electricity, and steam. That information serves as a baseline to identify and implement energy saving opportunities. Then, as initiatives to reduce usage are implemented, the Utilities Report reflects their impact. The report's information makes it possible to track progress toward established performance and financial goals as well as document the return on investment made for improvement programs.

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