Managing energy and infrastructure for U.S. Department of Agriculture:

Improve operations and fulfill government mandates

Energy Management Solutions

SIEMENS

Siemens energy management systems are a powerful suite of products, software and services that monitor and report energy consumption of all types.

Robust reporting functions and analysis tools make visible the infrastructure status,

power quality and reliability of the electrical systems.

Powered by our WinPM.Net™ or SENTRON Powermanager™ software, the system puts the right information into the hands of facilities engineers, energy managers and support staff to help them manage the energy. Infrastructure issues can be more effectively addressed by setting and monitoring of efficiency and energy goals (e.g EPact 2005 and EISA 2007 mandates) and reporting progress.

The system allows for better planning of system expansions and managing energy issues and provides for alarms that when limits are about to be exceeded within the facility or complex. Siemens family of advanced hardware, software products, combined with our service and support, round out our offering to help you meet your energy management goals.

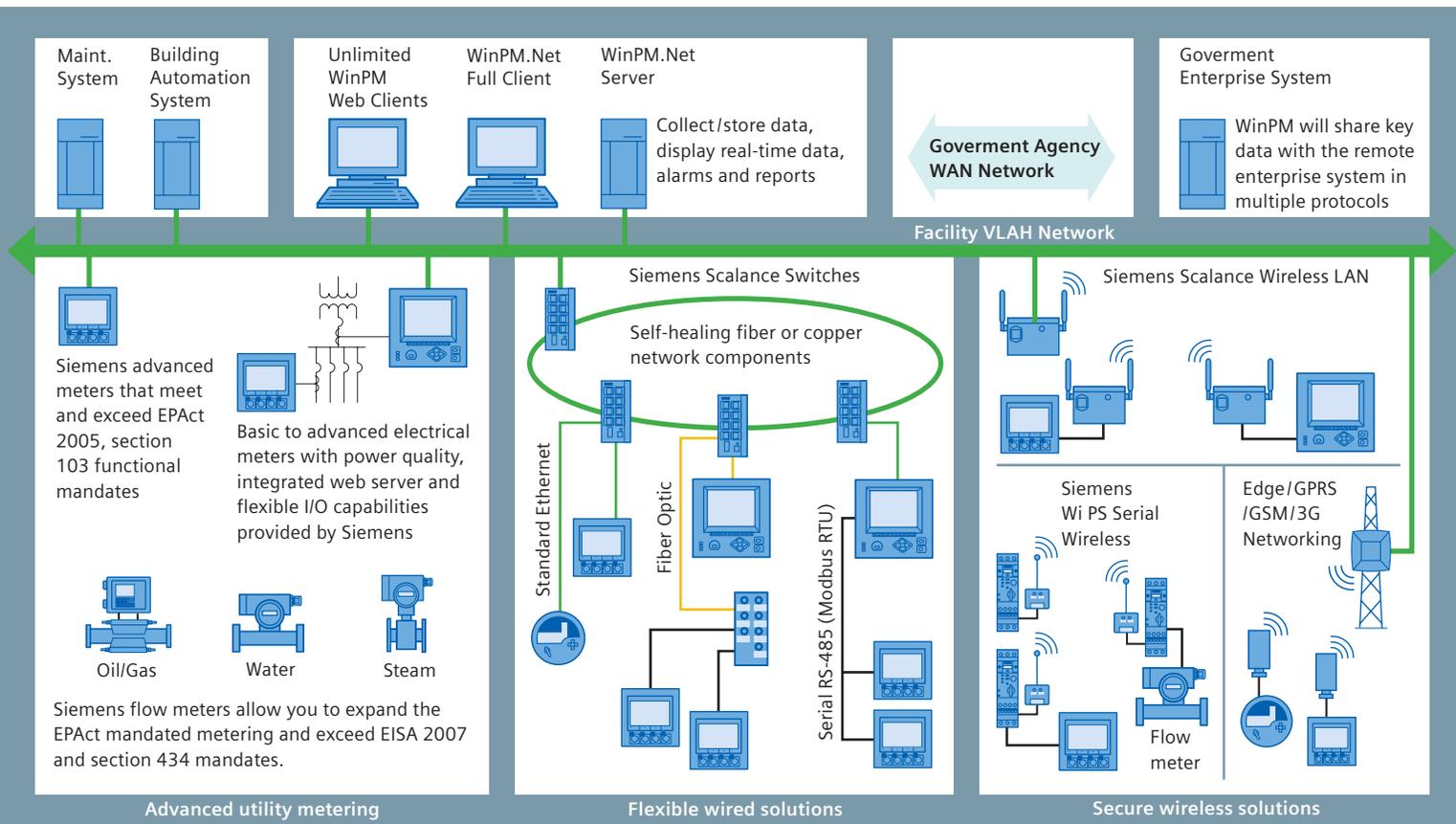**Advanced metering at the U.S. Department of Agriculture**

As stated in the USDA's Guidance on Electric Metering and Buildings Electric Metering Plan, the Energy Policy Act of 2005 (EPAct2005) set the Federal energy reduction mandates on an annual basis. To help achieve this requirement, EPAct2005 requires agencies to measure and account for electricity consumption, where practical on a per building basis using approved electrical metering technologies. Specifically, EPAct2005,

Section 103, requires Federal agencies to install advanced metering systems in all buildings, where found to be cost-effective, by October 1, 2012.

A few key objectives objects outlined in the USDA guidance plan include:
- Fully implement advanced electric metering at USDA buildings wherever cost effective.
- Identify the specific list of buildings (including name, location, and type) in which advanced electric metering will be implemented.

- Reduce electrical consumption by eight percent (in buildings with advanced metering systems) by end of FY 2011 through no-cost and low-cost efficiency measures identified through continuous and timely data analysis and resulting actions.
- Ensure timely analysis of metered data at all agency sites.
- Employ cost allocation and demand response or time allocation programs where possible.
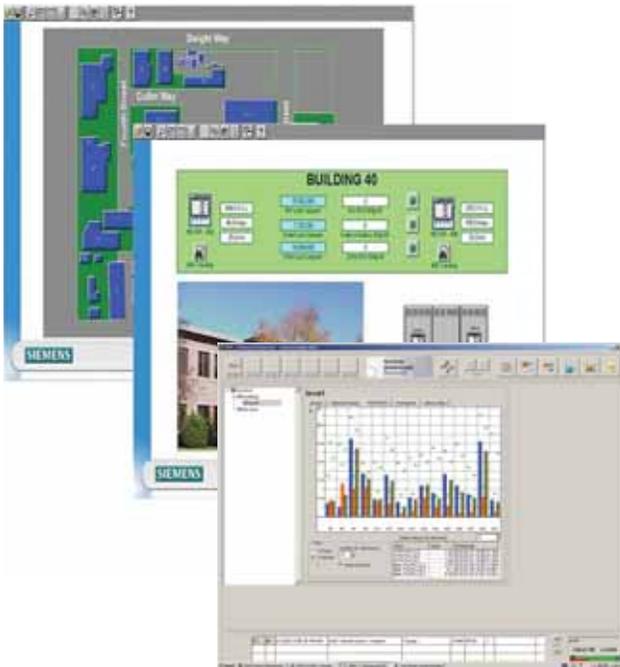
Maint. System	Building Automation System	Unlimited WinPM Web Clients	WinPM.Net Full Client	WinPM.Net Server

Collect / store data, display real-time data, alarms and reports

Goverment Agency WAN Network

Goverment Enterprise System

WinPM will share key data with the remote enterprise system in multiple protocols

Facility VLAH Network

Siemens advanced meters that meet and exceed EPAct 2005, section 103 functional mandates

Basic to advanced electrical meters with power quality, integrated web server and flexible I/O capabilities provided by Siemens

Oil/Gas   Water   Steam

Siemens flow meters allow you to expand the EPAct mandated metering and exceed EISA 2007 and section 434 mandates.

Siemens Scalance Switches

Self-healing fiber or copper network components

Standard Ethernet

Fiber Optic

Serial RS-485 (Modbus RTU)

Siemens Scalance Wireless LAN

Siemens Wi PS Serial Wireless

Edge / GPRS / GSM / 3G Networking

Flow meter

Advanced utility metering | **Flexible wired solutions** | **Secure wireless solutions**

The Siemens solution

Siemens power monitoring solutions with our advanced energy monitoring hardware, network communication hardware, monitoring softwares and application engineering services, is the perfect advanced metering system to support the USDA's metering objectives as it moves to implement the electrical metering requirements of EPAct2005.
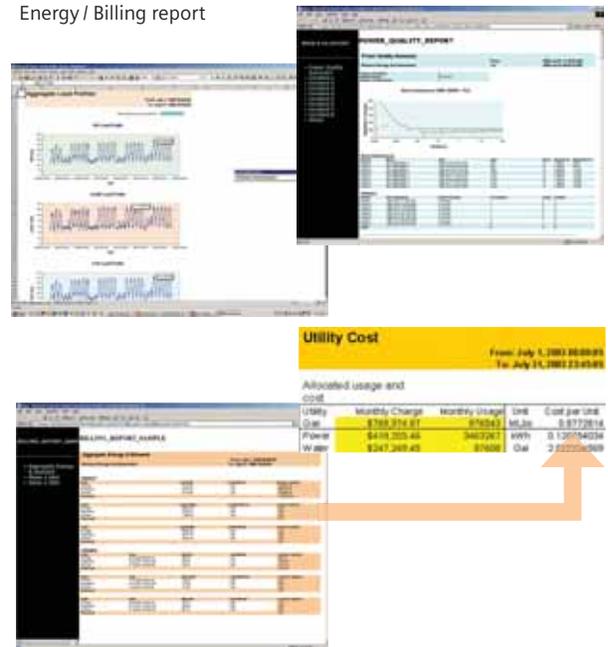
Siemens provides local and remote energy monitoring using our commercial off-the-shelf (COTS) software, WinPM.Net

and SENTRON Powermanager. With WinPM.Net and SENTRON Powermanager, you get the tools you need to collect, store and analyze the metered data at all the USDA sites with advanced metering devices and the ability to move that data to an agency wide enterprise system if required. This system will help you make sound decisions about energy conservation measures to reduce electrical consumption and provide documented results of those savings.

Energy management software and hardware solutions

Energy / Billing report

Siemens WinPM.Net offers Load Profile, Power Quality and Billing / Cost Allocation Reporting as standard tools to manage your facility.

Advanced reports for billing, trending and power quality

With the Siemens WinPM.Net software, reporting features are built in to allow agency staff to easily record and track historical energy usage, and to report on energy savings from energy conservation efforts. Three standard reports; Billing, Trending, and Power Quality are provided with every system.

A built-in reporting tool can create unlimited custom reports to meet any facility reporting needs.

Reports are supplied in both HTML and Excel formats and can be emailed to key personnel manually, automatically at set times, or in response to system conditions.

Siemens SENTRON Powermanager software is another option for usage and trending reports as well as billing. With many of the Siemens power monitoring devices built in as well as access to Modbus device integration, SENTRON Powermanager allows for easy setup of basic systems and offers expendability to meet most any energy monitoring requirement.

Advanced PAC series meters

Pre-wired meter enclosures for easy retrofit applications

Siemens Scalance wireless network solutions for Ethernet, serial and more
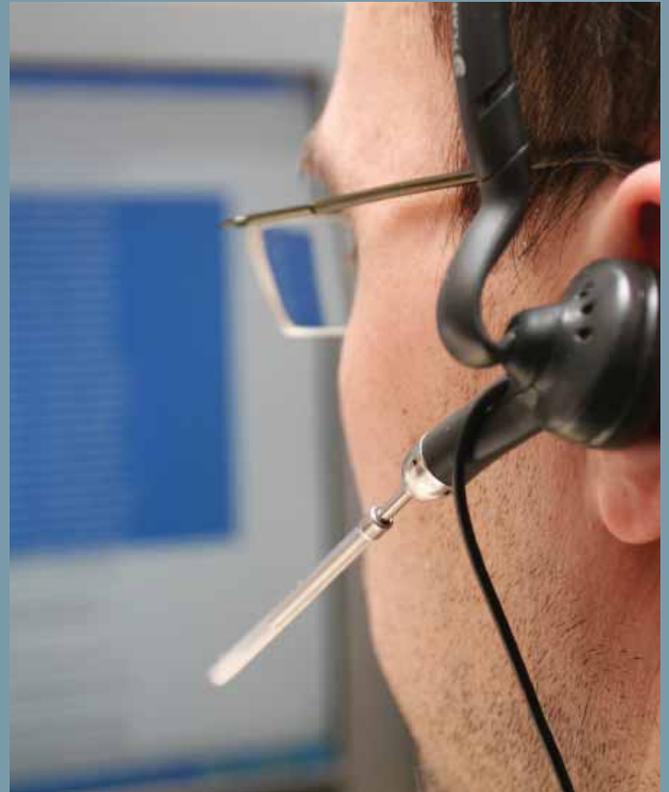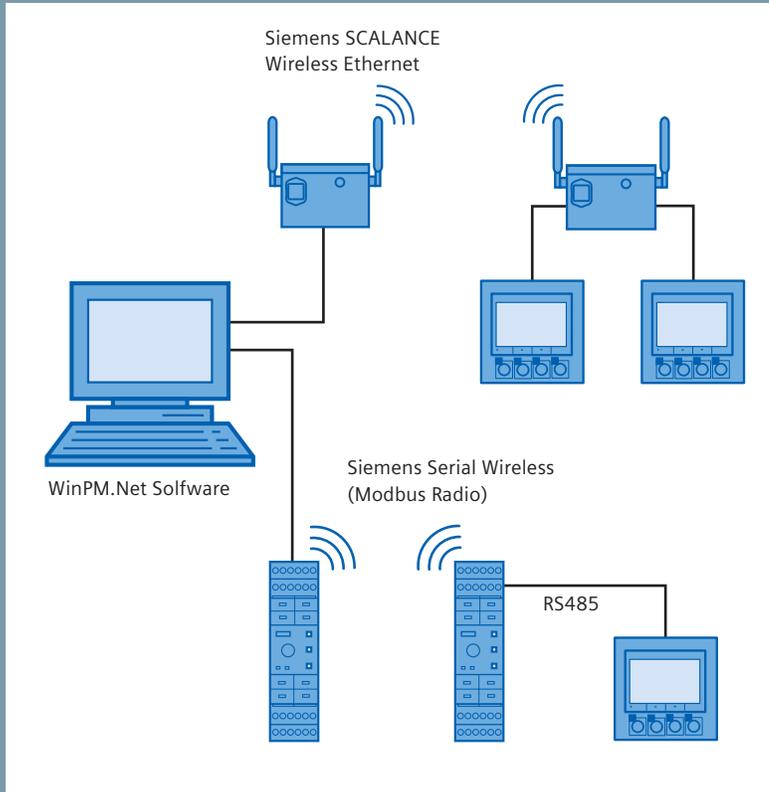
Siemens extensive utility flow meters

Expansive product line

Siemens advanced metering and networking products provide everything your solutions will require, from basic energy monitoring to sophisticated power quality and transient monitoring. These metering devices meet and exceed the EPAct specifications, DOE guidance and additional agency standards.

Capabilities incorporated into the industry proven electrical meters include real-time and historical information, built-in Ethernet and serial communications, digital input and output ports for integration of existing utility inputs, custom logic and customizable graphic displays.

The electrical meters can also be supplied in all levels of NEMA rated enclosures, providing a fast and easy way to retrofit a meter in any location.

Thinking beyond the EPAct initiatives, the Siemens open system allows easy integration of additional 3rd party equipment, like generators, switchgear/panelboards, MCC, UPS's, transfer switches and more. This reduces the overall cost of design and provides a "complete" facility energy monitoring system.

Siemens SCALANCE
Wireless Ethernet

WinPM.Net Solfware

Siemens Serial Wireless
(Modbus Radio)

RS485

End to end connectivity

At Siemens we understand that an ideal system is not always made up of one type of communications network. Field conditions often require non-typical connection of the metering and monitoring equipment to the server.

Siemens has the answer. A complete lineup of communication options, including secure wireless Ethernet, fiber networks, radio Modbus systems, or protocol conversion hardware devices. Siemens experts will work with the local USDA facility managers, IT personnel and maintenance staff to evaluate the local conditions and determine the best communication options for your facility.

Proven experience and support

The Siemens WinPM.Net and SENTRON Powermanager systems have been proven in hundreds of applications throughout the world, including projects for all branches of the military, federal and local government buildings, U.S. embassies, government hospitals, GSA buildings, and more. We combine a broad understanding of power distribution, automation, networking, control and the specialized knowledge of energy monitoring to develop a system that meets the needs of any government facility.

Our support continues beyond project implementation to include a 24x7 technical support hotline (1-800-333-7421), to onsite or remote training and services. Backed by 470,000 employees worldwide, Siemens has the expertise and resources to deliver.

Advanced meters, communication networks, data collection, reporting, and system commissioning – all of this from one source. It is the solution you can expect from Siemens, a company recognized around the world for leading technology and engineering innovation.

GSA Contract Holder