AFDtek Energy Dashboard

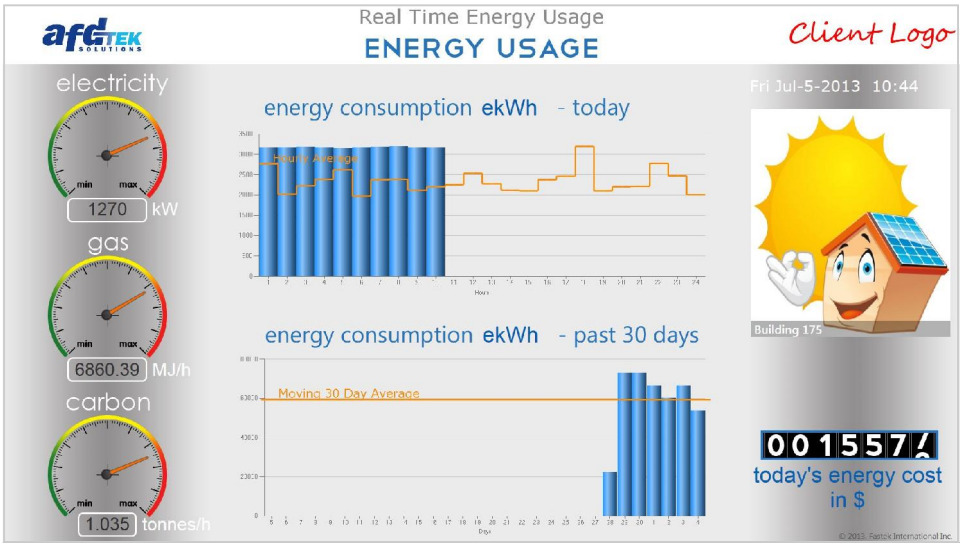
Facts:

- *Heating, Cooling and Lighting typically make up more than 80% of a building's energy bill*
- *Utility bills are based on peak demand*
- *Employees and tenants become engaged in saving energy when they can see the energy cost*

Questions:

« Can we really afford an increase to our utility bill from operating inefficient or non-essential equipment ? »

« Do we want to be part of the solution for reducing the world's energy usage ? »



The *AFDtek Energy Dashboard* is designed to seamlessly integrate with any energy management system that supports the BACnet/IP protocol, OPC or the Johnson Controls Extended Metasys architecture. In fact, it can integrate with all of those architectures at the same time!

It is a complete dashboard solution comprised of hardware and software designed specifically for the display of energy data of a single building or the display of energy data and comparison of the energy usage of many buildings.

It is a turnkey system. It is a packaged industrial computer with installed software that includes a choice of three pre-built energy related dashboard pages plus a weather forecast display page. The pages can be easily customized with your logo and building picture.

Once you have configured the software's Data Miner with the energy management system data points from which to mine the energy data, plug in your HDMI compliant display (or choose one of our recommended industrial displays), connect the computer to your energy management Ethernet network and begin collecting and displaying your buildings' energy data.

The *AFDtek Energy Dashboard* feature set makes it a great candidate for both new and existing projects.

Advise • formulate • deliver

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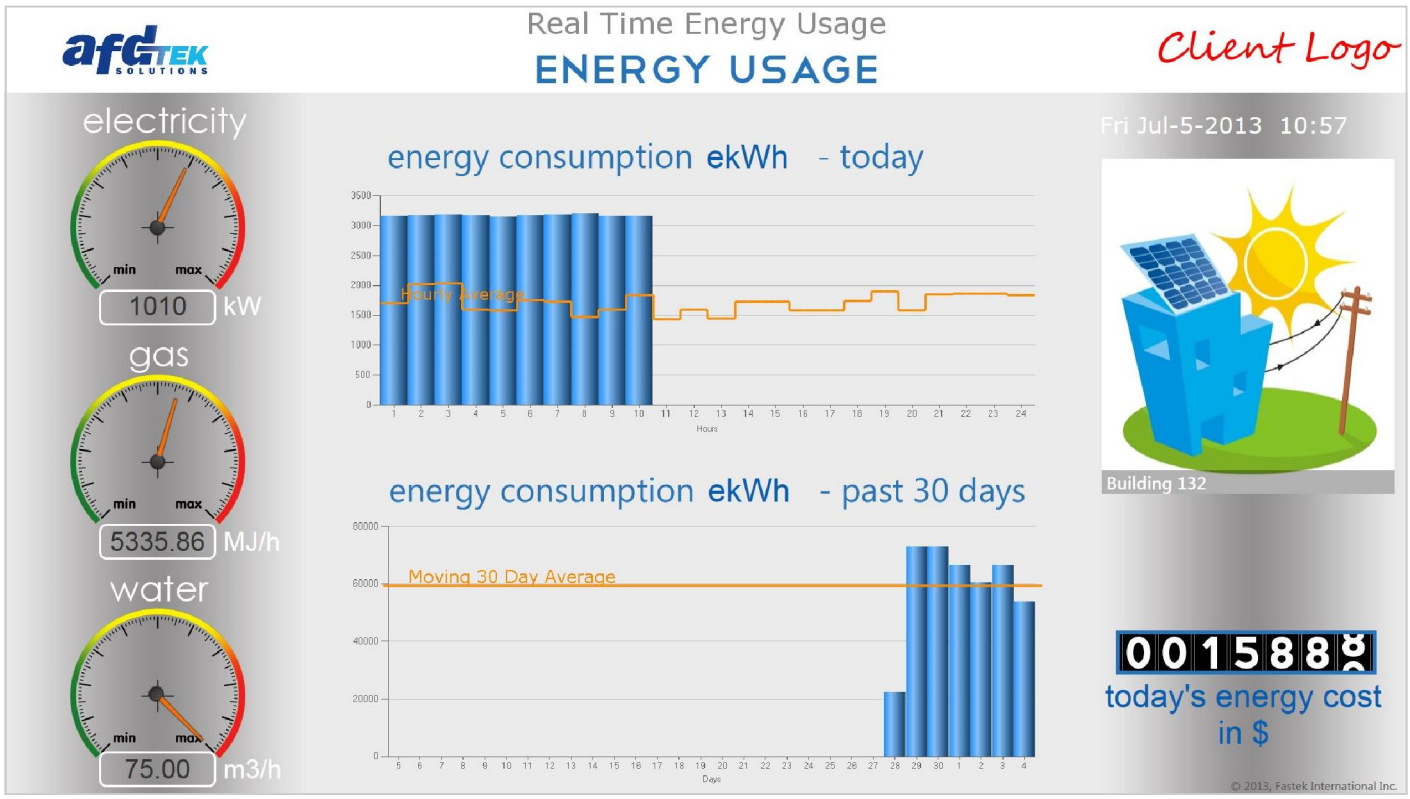
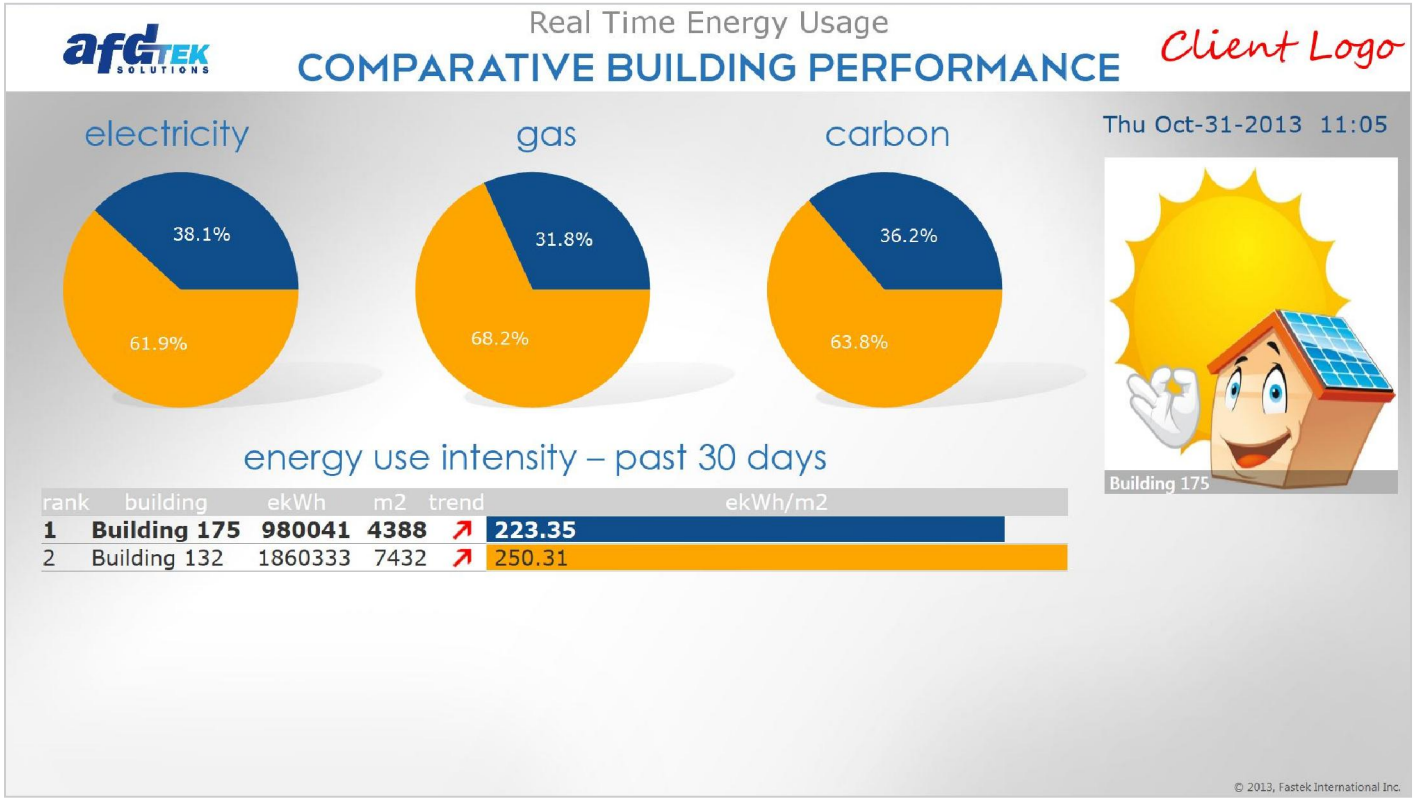
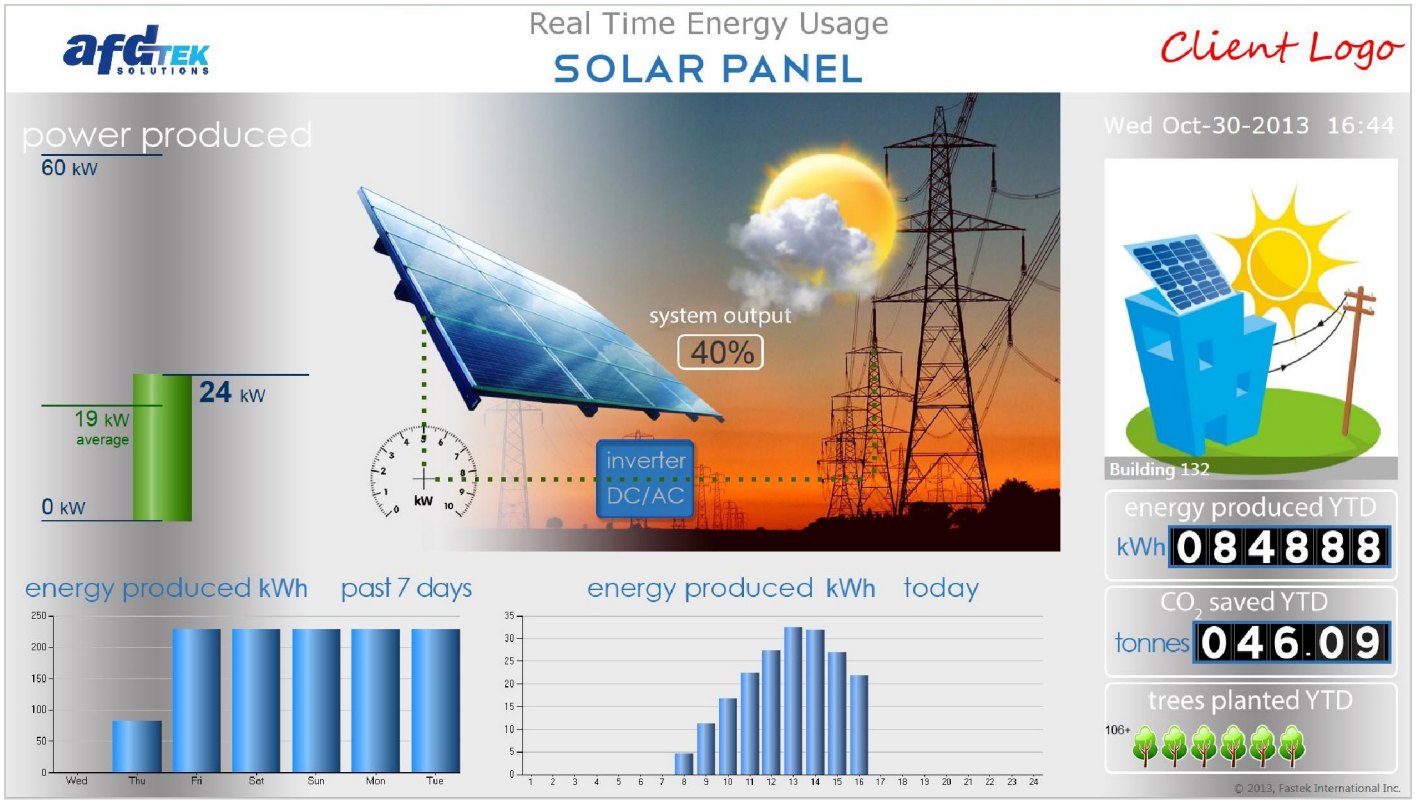


The Energy Usage page displays the current electricity, gas and water consumption. These values are all mined from the energy management system. The energy management system also provides the unit energy cost in dollars. All other values are calculated by the dashboard from its stored data.

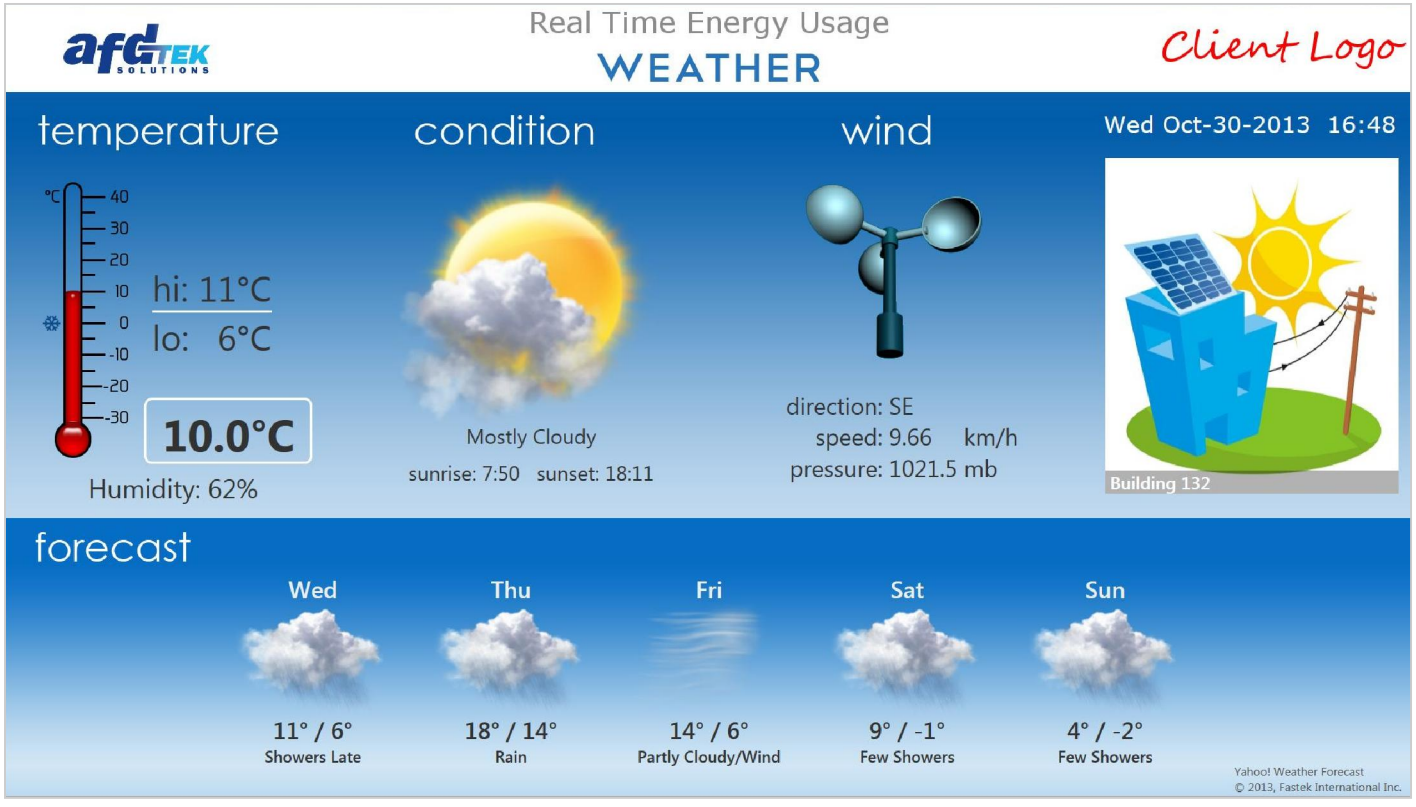


The Comparative Building Performance page compares the usage of this building with other buildings.

Dashboard Pages



The Solar Panel page displays the maximum output, current power output and average power output of the solar generated electricity production. These values are all mined from the energy management system. All other values are calculated by the dashboard from its stored data. The sun and cloud indicates the current weather condition, providing the viewer a graphic display of how weather affects solar panel output.



The Weather page displays the current weather and weather forecast for the city of your choice.

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Features and Benefits

Features

- Display real-time, hourly and daily energy usage
- Communicates with Building Automation Systems via the industry standard BACnet/IP protocol
- Communicates with Industrial Automation Systems via the industry standard OPC protocol
- Communicates with Johnson Controls Extended Metasys Architecture systems via secure Web Services
- Easily integrated with new or existing Energy Management Systems
- Conveniently packaged turnkey hardware and software
- Easily customized by the purchaser to display your choice of branding and site specific pictures

Benefits

- Gives Energy Management Systems the ability to engage employees and tenants in energy management by publicly displaying energy usage
- Enables the Energy Management System to publicly display the effectiveness of energy management strategies
- Supports the energy management system protocols most widely used in commercial, government and institutional markets
- The AFDtek Energy Dashboard is a self-contained, hang on the wall, one-box solution for adding a dashboard display to an Energy Management System
- The pre-built fixed set of dashboard pages minimizes the time, effort, skills and cost required to have an energy dashboard up and running
- The AFDtek Energy Dashboard is a low cost package that requires only minimal configuration, easily done by the purchaser

Theory of Operation

The energy dashboard draws its energy data from the energy management system. The energy management system is required to have data points for each of the data the energy dashboard requires. For example, in order to display electrical demand, the energy management system must have a data point that is metering the electricity usage. Similarly, in order to display gas usage, the energy management system must have a data point that is metering gas flow. The energy dashboard is designed to monitor electricity usage, gas usage and water usage on a per building or per system basis. It can compute and display comparisons of the relative energy usage of multiple buildings or systems.

The energy dashboard samples each data point every 5 minutes and stores the data in its internal database. From this stored data it computes energy usage for hourly, daily and monthly charting as well as average values. The energy usage page displays current usage for each of the energy types and the total combined usage on an hourly and a daily chart. Each chart also shows the 30 day moving average.

The set of dashboard pages includes an optional weather page. The weather page can be configured to display the weather for the city of your choice. The dashboard can be configured to display multiple weather pages for different cities. This is typically done for situations where the dashboard displays energy data for buildings in different cities.

The set of dashboard pages includes an optional Solar Panel page. Solar panels are the technology most often installed on commercial and institutional buildings for Feed-In Tariff renewable energy contracts. The Solar Panel dashboard page monitors the current output and performance of the solar panel array and displays its current, hourly and most recent 7 days output. The weather data is integrated with the Solar Panel page, providing a visual link between the weather and how it affects the solar panel output.

Specifications

Processor	Intel Core 2 Duo
OS	Windows Embedded standard 7
RAM	4GB
HDD	2.5” 350GB SATA
Video	1 x HDMI (1920 x 1080)
LAN	RJ45 1Gbit Ethernet
Operating temperature	-5°C to 45°C
Dimensions W x H x D (mm)	268(W) x 44(H) x 174(D)
Dimensions W x H x D (inch)	10.55(W) x 1.73(H) x 6.85(D)
Power	AC Adapter 75W (+12V)
Cooling	1 x Smart Fan (temp. controlled)
Compliance	CE, FCC
Included	AC Adapter, wall mounting kit, Manuals

Front Panel

Back Panel

Ordering Information

Item	Part Number	Description
Dashboard Computer	ENRDSBD-BAC-100	dashboard complete with BACnet client and manuals
Dashboard Computer	ENRDSBD-OPC-100	dashboard complete with OPC client and manuals
Dashboard Computer	ENRDSBD-MET-100	dashboard complete with JCI Metasys Web Services client and manuals
BACnet client add-on	DSBD-BAC-CLI-100	Factory installed BACnet client for ENRDSBD-OPC-100 or ENRDSBD-MET-100
OPC client add-on	DSBD-OPC-CLI-100	Factory installed OPC client for ENRDSBD-BAC-100 or ENRDSBD-MET-100
Metasys client add-on	DSBD-MET-CLI-100	Factory installed Metasys Web Services client for ENRDSBD-BAC-100 or ENRDSBD-OPC-100
Keyboard/touchpad	DSBD-KYBD-TP-100	Optional USB keyboard with built-in touch pad
46” Digital Signage Display	DSBD-DISP48-100	Optional 48 inch 1920 X 1080 industrial LCD display
40” Digital Signage Display	DSBD-DISP40-100	Optional 40 inch 1920 X 1080 industrial LCD display
32” Digital Signage display	DSBD-DISP32-100	Optional 32 inch 1920 X 1080 industrial LCD display

Specifications subject to change without notice.

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