



# RECOGNITION IN EXCELLENCE

*for products & projects that improve  
energy performance*

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# Lights. Intelligence. Insight.

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## Announcing the 2015 Winners

### 2015 Judging Panel

Paul Blagbrough  
Head of  
Environmental  
Stewardship  
MUFG Americas

Jody East  
Chief Plant Engineer  
Wellborn Cabinet,  
Inc.

Carl W. "Bill" Eger III  
Energy Manager  
City of Alexandria, VA

Jonathan Herz, AIA,  
LEED AP  
Chief Architect for  
Sustainable Facilities  
US Department of  
Health and Human  
Services

George Holcombe,  
LEED AP, CEM, CEA,  
Senior Manager,  
Environmental  
Sustainability Office  
Capital One

Luke Leung, PE,  
LEED Fellow, P Eng  
Director of the  
Sustainability  
Engineering Studio  
Skidmore, Owings  
and Merrill LLP

Jeff Mahoney  
Manager, Asset and  
Operations Group  
Accenture

Kevin Sok  
Manager of  
Engineering &  
Sustainability  
Cox Enterprises, Inc.

Rob Threlkeld  
Global Manager of  
Renewable Energy  
General Motors

Albert R. Zucco  
Sr. Director, Energy  
& Sustainability  
USG Corporation



## A LETTER FROM THE PUBLISHER



As publisher of Business Sector Media, I am thrilled to announce the results of the Energy Manager Today Awards, a program that has excited us with the level of variety and innovation we saw in its first year. Our judges were impressed by both the number of submissions and the caliber of the entries, and they enjoyed seeing the broad spectrum of how energy reductions and savings are being achieved.

Energy management is a cutting-edge field in which to be operating today; the winners here prove that innovations are opening up vast new areas of potential for improvement, and that companies are capitalizing on those opportunities in exciting and impressive ways. We believe you will be as excited as we were to gain a glimpse into the way companies are using energy management to make changes across an entire business, not only in terms of energy spend but also as a way of improving in areas such as supply chains processes, equipment maintenance, packaging and others. The innovations here show that the positives to be gleaned from successful energy management strategies are endless, and endlessly varied.

Entries that were awarded Top Product or Project of the Year are those that the judges feel should be carefully considered by companies seeking to improve their own operations in a similar manner.

Like the Environmental Leader Product & Project Awards, the Energy Manager Today Awards is a program recognizing excellence in products and services that provide companies

with significant energy management benefits, or in projects implemented by companies that improved energy management and increased the bottom line. Scores were determined by a panel of independent judges from the following companies: Accenture, CapitalOne, City of Alexandria VA, COX Enterprises Inc., General Motors, MUFG Union Bank, IBM, Skidmore Owings & Merrill, US Department of Health & Human Services, USG Corporation, and Wellborn Cabinet Inc.

With rapid advancements and a continuous rate of change in the field, energy professionals have a notoriously difficult time knowing what products to choose to help their companies increase energy savings and improve energy performance. The Energy Manager Today Awards give companies a solid base of products, vetted by experts, from which to choose, as well as a variety of projects to illustrate how successful initiatives in energy management are helping companies improve.

For more award opportunities, watch for Business Sector Media's call for entries for our annual Environmental Leader Product & Project Awards early in the New Year, then join us at our Environmental Leader 2016 conference in June when we announce the winners in our first-ever live awards event.

Paul Nastu  
Publisher  
Business Sector Media



**TOP PRODUCT  
OF THE YEAR  
2015**

- Adobe**  
Adobe - Stem Energy Storage
- Big Ass Solutions**  
Haiku with SenseME
- Blue Pillar**  
Aurora
- EnergyCAP, Inc.**  
EnergyCAP
- Green Charge Networks**  
Energy Storage Platform
- GridPoint**  
GridPoint Energy Manager
- Hyster Company**  
PSI Industrial Lift Truck Engines Featuring Hyster Variable Power Technology
- JLL**  
IntelliCommand Smart Building Solutions
- Lennox International**  
Emergence Ultra Rooftop Units
- Lucid**  
BuildingOS
- Meazon SA**  
Zi-Clamp
- NexRev Inc.**  
DrivePak HVAC Efficiency Retrofit
- Panoramic Power**  
Device Level Energy Management
- Schneider Electric**  
Altivar Process
- Schneider Electric**  
EcoBreeze Air Economizer
- Schneider Electric**  
Resource Advisor's Performance Analytics and Energy Performance Services
- Urjanet**  
Urjanet Utility Data



**TOP PROJECT  
OF THE YEAR  
2015**

- ABM**  
Wright State University Building and Energy Solutions
- ABM Government Services**  
GSA LA ESPC GS-09P-12-KS-C-0023
- Big Ass Solutions**  
Cassidy Elementary School, Lexington, KY
- Bueno**  
Crown Casino - Energy and Operational Savings across a multi-use entertainment complex
- Cascades**  
Heat Recovery Steam Generator
- Caterpillar**  
Thinking Outside AND Inside the Box to Reduce CO2 Emissions
- Daintree Networks**  
Universal Music Group Energy Efficiency Project
- Digital Lumens**  
Atlas Box Deploys Digital Lumens to Achieve Energy Intelligence
- Ensign Pty. Ltd**  
Energy Leadership Program, Richards Bay Minerals
- FirstFuel Software**  
E.ON UK Energy Toolkit for SME (Small and Medium Enterprise) Customers
- Powerhouse Dynamics**  
Saving the Bottom Line at Bertucci's
- Saint-Gobain Corporation**  
Vancouver Impact Mill Heat Recovery
- STV**  
Mother Clara Hale Bus Depot

**ENERGY  
MANAGER  
TODAY**



**AWARDS**

**TOP PRODUCT  
OF THE YEAR  
2015**





## STEM ENERGY STORAGE

### STEM ENERGY STORAGE

Adobe has engaged in many past energy management initiatives, making it a challenge to continue to reduce energy costs and environmental impact without compromising its ability to continue as a leader in digital media and marketing solutions, the company says. After evaluation, Adobe identified energy storage as a way to reduce electric costs, add visibility to operations and support California's greenhouse gas reduction goals, without

sacrificing high productivity.

Adobe created an energy savings forecast, then engaged Stem to implement one of the country's first customer-sited energy storage systems. Stem's intelligent energy storage system incorporates historical energy use, weather forecasts and rates to learn and then predict Adobe's unique energy patterns. The 162 kW system stores and deploys energy automatically, with no effect on

business operations. In addition to automated savings, Stem's PowerScope software provides real-time and predicted energy use visibility for Adobe's facility, helping identify costly peaks before they happen and delivering alerts should Adobe exceed a predetermined energy maximum.

The system reduces otherwise unassailable demand charges by as much as 10 percent each month, Adobe says. With a 10-

[ cont'd on next page> ]



### What the Judges Said...



Adobe has gone to great lengths to improve their energy management. They have leveraged technology to help learn how they use electricity and predictive analytics to determine market pricing fluctuations to adjust energy consumption during peak periods without impacting their business.”

--Energy Manager Today Awards judge

year warranty and self-tuning algorithms, the systems will continue to generate increasing savings and protect against rising rates over the next decade. Additionally, Adobe includes its storage system in a network that Stem bids into California’s wholesale energy market, generating additional revenue.

“The predictive analytics in the system are very interesting,” said one judge. “The intelligence derived from them should result in significant energy savings.”

Intelligent energy storage is the first demand management solution that automatically shifts energy consumption

away from high cost periods without affecting operations or occupants. As one of the first Fortune 500 and technology companies to install an on-site energy storage system, Adobe says it has helped pave the way for broader adoption of storage technology.

[www.stem.com/](http://www.stem.com/)



## BIG ASS SOLUTIONS

### HAIKU WITH SENSEME

## BIG ASS SOLUTIONS

Haiku with SenseME is a smart ceiling fan designed with an on-board computer and array of sensors that make decisions to keep people comfortable automatically. SenseME monitors temperature and humidity, adjusting the fan's speed when conditions change to ensure consistent comfort. Smart Mode learns owner preferences and tailors speed adjustments to what users find comfortable, giving HVAC systems a break without

compromising comfort. With its occupancy sensors, SenseME also knows when people leave a room, turning the Haiku off automatically to reduce unnecessary energy usage.

Haiku with SenseME exceeds ENERGY STAR requirements by 450 percent and uses just \$5 of electricity annually, the company says. The fan's operation, its ability to make automatic comfort adjustments and its occupancy sensors help end users manage their

energy usage for year-round savings. In a recent study by Big Ass Fans, a 2°F increase in thermostat setpoint daily at noon, paired with Haiku with SenseME, shifted nearly all air conditioning energy consumption for test homes outside peak utility demand hours. In homes included in the study, reductions in air conditioning energy consumption ranged from 12 to 100 percent depending on original setpoint temperature.

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#### What the Judges Said...



Haiku with SenseME incorporates new technology that allows users to reduce their air conditioning demands resulting in less energy usage during peak periods. This is clearly a new innovation in this space and could help many end-users reduce their energy usage and GHG emissions.”

--Energy Manager Today Awards judge

Haiku with SenseME can also be controlled by a smartphone app. Users can use the app to set schedules for both the fan and LED, or select from several energy-saving control modes: Sleep Mode lowers Haiku’s speed hourly to save energy

overnight, and Gradual Awake Mode gently increases the fan’s speed and light as morning arrives for a more pleasant wake-up.

“The product is unique and has broad applicability given size of consumer fan market,” said a

judge. “‘Soft’ integration with household energy systems (i.e. HVAC, occupants, etc.) and ‘hard’ integrations with other new, home IoT solutions (i.e. Nest, etc.) provide added benefit through systems integrations.”

<http://www.bigassfans.com/for-home/haiku/>



## BLUE PILLAR

Stranded facility meters, unmonitored critical power systems, dozens of facility equipment hardware vendors without a uniform connectivity and control interface -- all are common problems facing today's complex facilities. Aurora is a Digital Energy Internet of Things solution focused on facilitating building owners who are looking to build a uniform platform for connecting to, collecting from, and controlling equipment within their facility regardless

of make, model, vintage, or protocol.

Aurora enables facilities to connect any existing facility equipment -- including meters, generators, automatic transfer switches, and any other intelligent mechanical equipment regardless of make, model, vintage, or protocol -- and to collect meaningful energy, equipment status, critical alarms, and operational health and readiness data. The solution allows users to then control an entire

facility's equipment portfolio, execute critical power system compliance/readiness testing, and automate energy efficiency programs such as Demand Response.

For example, the company says, a regional healthcare customer uses Blue Pillar's solutions to operate 65 facilities to enhance patient care and safety through better energy management. Aurora integrates with other Blue Pillar

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#### What the Judges Said...



The Blue Pillar Aurora is a turnkey survey, retrofit, interface, and data storage platform which provides for a single solution for core metering, electrical, mechanical, and generation assets. It can add new equipment without custom software programming and has also worked with cyber-security experts, a real benefit.”

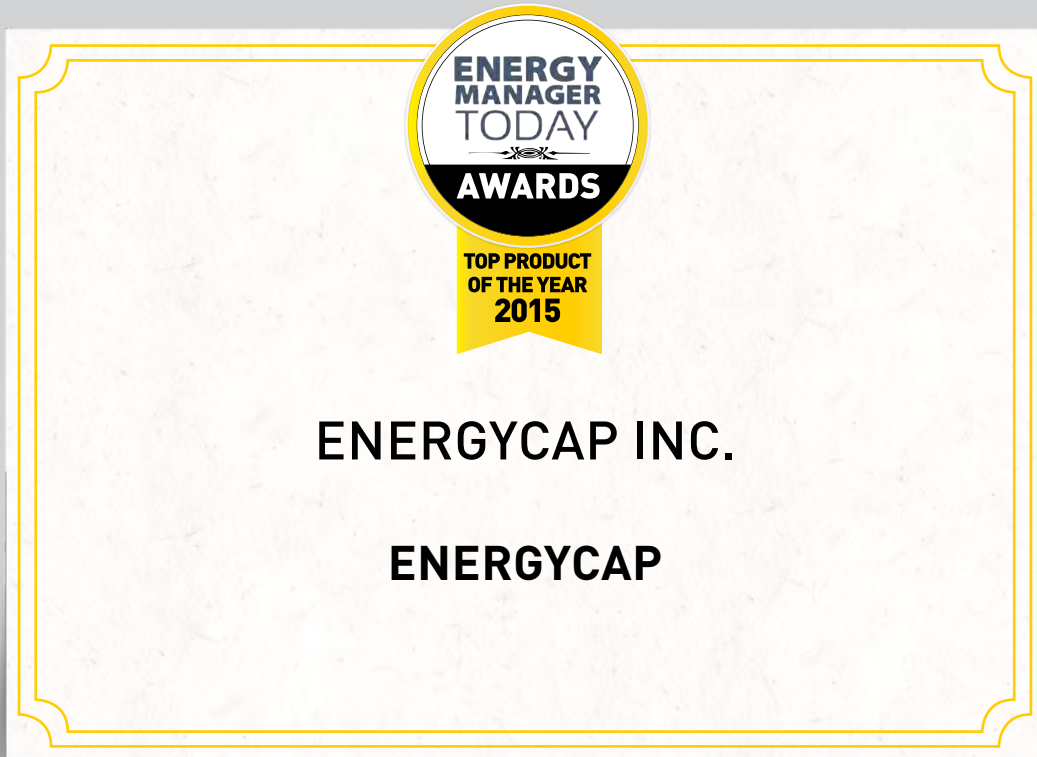
--Energy Manager Today Awards judge

solutions to deliver a built-in metrics dashboards designed to track progress against a set of specific performance measurements. The platform delivers its facility managers real-time, one-line network diagrams encompassing all types of facility utilities including water, gas, electric, steam, etc. In terms of ROI, Demand Response enrollment

is helping the healthcare customer to save on average \$25,000 per year per enrolled site. The elimination of paid NEC load studies and energy reporting is saving the organization an average of \$20,000 to \$200,000 per year. Additionally, submetering capabilities have reduced the average utility bill by 5% across facilities, Blue Pillar says.

“The ability to connect to so many diverse equipment is an advantage,” said one judge. “Energy managers want to make decision based on data so they can zone in and respond appropriately and this technology is a perfect tool.”

<http://hubs.ly/H01pLGK0>



## **ENERGYCAP INC.**

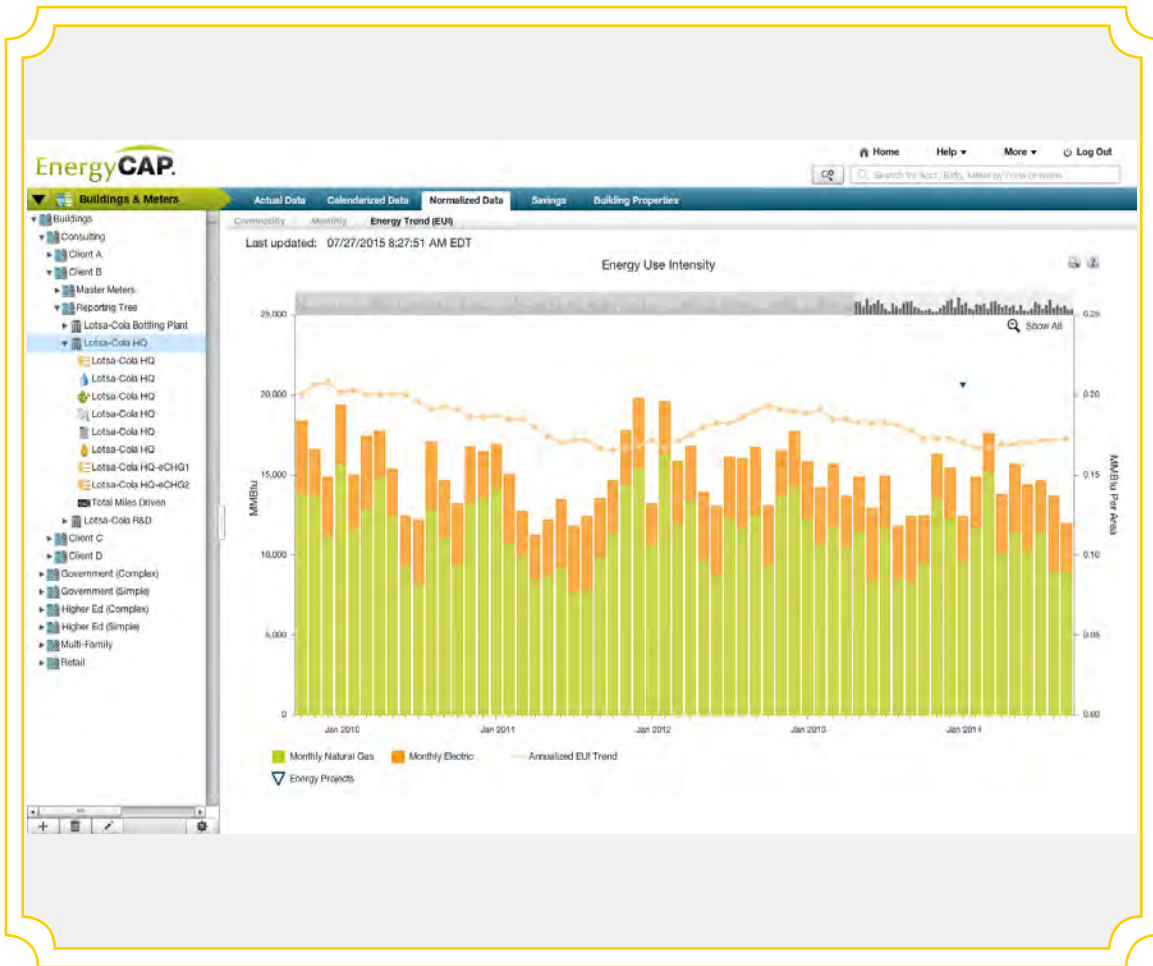
Every organization faces unique challenges in energy management, including utility bill processing, data integration, transparency, workflows, reporting, project prioritization, tracking and verification of savings. EnergyCAP utility bill management software includes the entire workflow process from manual or electronic bill data entry to auditing and bill verification, internal invoicing and cost allocations, detailed analysis, budgeting

and forecasting, energy project identification and assessment, and day-to-day reporting, the company says.

EnergyCAP software provides multiple options for viewing and interpreting utility bill and meter data. Its web-savvy browser-based version helps display, validate and interpret historical energy data in graphical and tabular formats. Hallmarks of the product include true cost of avoidance

using the IPMVP Option C Whole-Building methodology, graphical displays of utility bill cost/use data that can easily show rolled-up data at any organizational level, 50+ utility bill audits that can be automatically run individually or in groups to highlight issues, and an optional A/P interface. The software accommodates internal billing and cost recovery using utility data, and can integrate submeter data when available.

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### What the Judges Said...



Doesn't just handle your utility bill, but also pulls in interval data for someone that is logging energy usage or submetering. It also handles benchmarking, GHG emissions, weather normalization and cost avoidance. If those weren't enough, it allows for project tracking. This solid product provides for a holistic approach to energy management."

--Energy Manager Today Awards judge

The company says that, since 1982, it has helped more than 10,000 energy managers get value from their organization's utility bills. For example, Virginia Beach won the Louisville Award for Innovation in Government for improvements in utility bill processing using EnergyCAP, and Miami-Dade County

standardized processes for handling electricity invoices for an anticipated \$2 million in annual savings due to gains in energy data transparency and accessibility. EnergyCAP's utility bill database, coupled with a browser-based UI, makes energy information actionable, the company says.

"The product allows companies to focus on and drive down energy usage," said a judge. "I may have some interest in it myself, for our own use."

[www.energycap.com](http://www.energycap.com)





## GREEN CHARGE NETWORKS

### GREEN CHARGE ENERGY STORAGE PLATFORM

## GREEN CHARGE NETWORKS

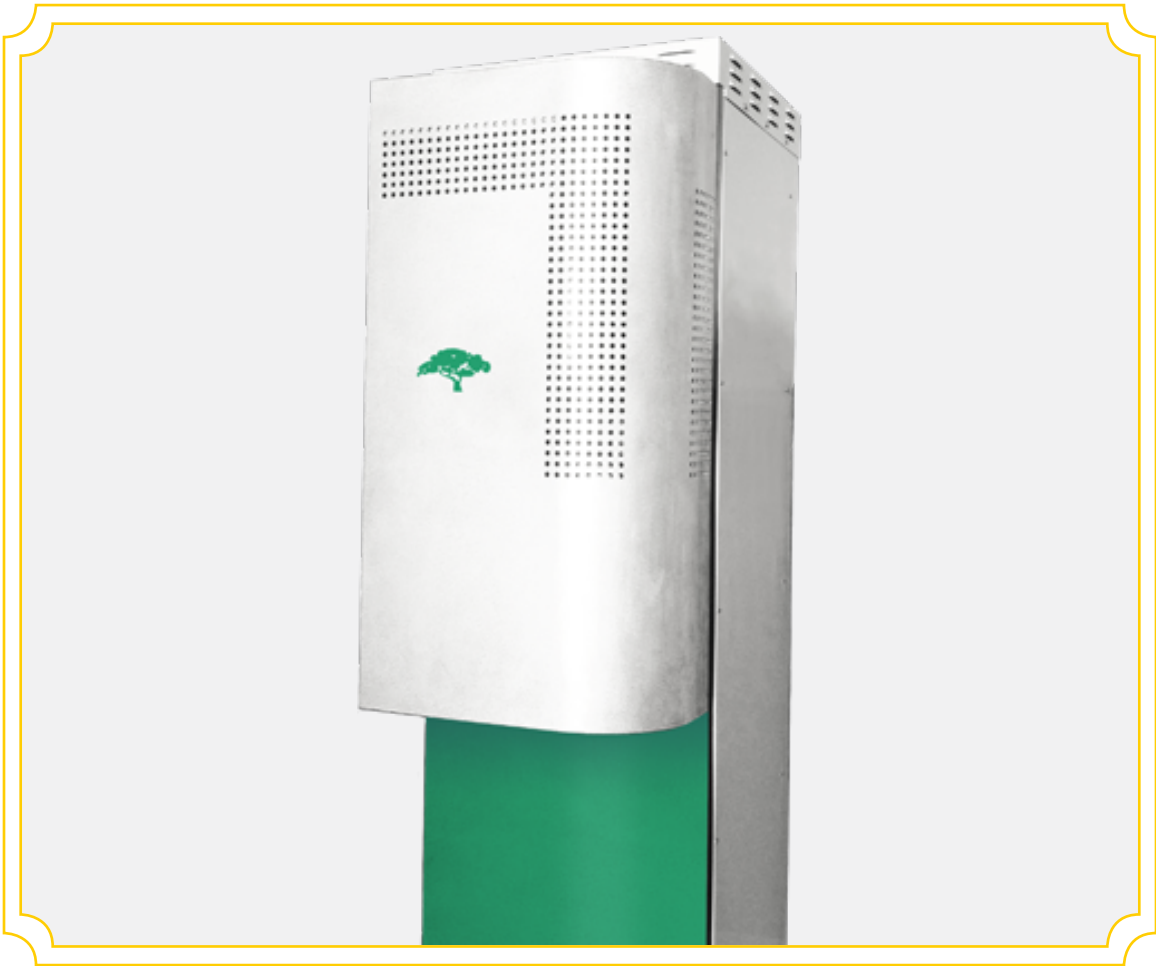
Energy storage is the easiest way for energy managers to save money for commercial and industrial businesses, municipalities and schools, and Green Charge offers the first purpose-built lithium-ion intelligent energy storage product specifically targeting peak demand reduction, the company says. The platform encompasses five components: cloud-based software that automatically responds to peaks in demand by learning a facility's energy

use patterns; lithium-ion batteries designed to perform in various environments; a no-cost financing option with equipment, installation, warranty, ongoing operations and maintenance included; an ecosystem of industry partners including Sun Edison (solar), ChargePoint (EV charging) and Nissan (2nd life batteries) allowing managers to easily combine energy storage and other renewables; a portal providing second-by-second visibility into building load and

historical data.

The core technology is a smart controller with sophisticated cloud-based software that monitors facility loads on a second-by-second basis. The result is a more efficient utilization of infrastructure assets already in place, such as transformers and feeder cables, smoothing out the peaks and valleys of load profiles. This improves the power efficiency of the facility and the entire electric grid.

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### What the Judges Said...



For a business, being able to minimize the risk of high energy usage during peak periods where electric prices are the highest is critical. The Green Charge Energy Storage Platform helps mitigate that risk by providing stored energy to businesses during these periods of higher than average pricing. By efficiently learning and subsequently managing energy usage, it opens the door to substantial cost savings.”

--Energy Manager Today judge

As one judge said, “This is a good application of technology and product.”

Green Charge operates a shared savings business model - owning the systems at customer facilities and covering the capital expenses for installation and interconnection, as well as providing ongoing

operations and maintenance services. This allows facilities to dramatically reduce energy costs with no capital output, cost or risk, the company says.

Green Charge’s solutions delivers savings of up to 50 percent in demand charges. In California schools, a sampling of ten schools/districts is

expected to save more than \$6.75M over the contract term. The Shore Hotel, the first hotel in the US to install an energy storage system coupled with fast DC EV charging, is also expected to save 50% in demand charges.

<http://www.greencharge.net>



## GRIDPOINT

GridPoint's energy management suite is designed to help end-users reach their sustainability

goals by giving them detailed visibility into a site's energy profile and offering intelligent building control. The data GridPoint collects can diagnose malfunctioning equipment and remotely troubleshoot issues before technicians need to be called. It can also help companies make more intelligent capital purchases

based on real, asset-level consumption data, the company says.

GridPoint uses submetering and monitoring sensors to collect real-time, granular energy data from assets such as HVAC, lighting, refrigeration, and renewable sources of energy as well as data about environmental conditions including temperature, CO2 and humidity. The data is then aggregated in GridPoint

Energy Manager, a cloud-based software platform that leverages big data analytics to enable tools such as smart alarms, exception reporting, intelligent control, facility diagnostics, continuous demand management, and project and event tracking.

Additionally, GridPoint's professional services offer support and insights that lead to savings, the company says. For example, an international media

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**What the Judges Said...**



The value of the product is the multi-site, enterprise-level approach to energy management system implementation. Moreover, the product features asset- and system-level data collection, data management, analytics, controllability, and reporting. The abstracted system overlay (by way of the SaaS and consultative support) make the product widely applicable.”

--Energy Manager Today Awards judge

company installed GridPoint’s EMS at four locations, including its 800,000 sq.ft. headquarters. The company utilized the EMS to identify a 25% increase in chiller usage at headquarters resulting from a building management conversion. Fixing the issue generated annual electric savings of

\$50k. Additional savings of \$13k per month were realized when compressor leaks pinpointed by GridPoint’s data analysts were remedied.

CDP recently recognized GridPoint’s sustainability capabilities by naming the company its first and only

Carbon Reduction Partner, the company says.

One judge says GridPoint’s “excellent application of large amounts of data reduces costs and meets sustainability, GHG reduction goals.”

[www.gridpoint.com](http://www.gridpoint.com)



## HYSTER COMPANY

**PSI INDUSTRIAL LIFT TRUCK ENGINES FEATURING  
HYSTER VARIABLE POWER TECHNOLOGY**

## HYSTER COMPANY

The lift truck/forklift industry struggles to balance the need for powerful equipment with increasing sustainability demands and mandates. Hyster Company, a leading lift truck manufacturer, says it has responded to the challenge with a new line of industrial engines designed to increase productivity and fuel economy. These new PSI engines featuring Hyster Variable Power Technology offer adjustable

performance modes. They allow lift trucks to serve double-duty by moving from high-power mode, when moving heavier or more loads is integral to the success of the operation, to ECO-eLO mode for significantly lower fuel consumption, when there is less demanding work to be done, the company says.

The PSI engines combine fuel economy with advanced design that offers increased travel and hoist speeds, and a 10%

increase in horsepower over the previous engines. Rather than having to purchase different pieces of equipment to perform different tasks, this technology offers a flexible solution that enables users to shift modes depending on immediate needs, increasing efficiency and performance. If a customer's main focus is fuel efficiency, productivity tests have shown the PSI engine in ECO-eLO mode to be 18.75% better than

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#### What the Judges Said...



Hyster has always made a good lift and I'm glad to see they are working on more fuel efficient engines for forklifts. A lot of companies run fleets of forklifts in this size range and the amount of LP or gas used is often overlooked. A substantial increase in efficiency (from 10% to 25%) like this has the potential to tilt the forklift market as the others play some catch-up."

--Energy Manager Today Awards judge

the competition, and in mode 2, to move more loads per hour, increasing productivity.

Available in LPG, CNG or dual fuel (LPG or gasoline), the engines can perform effectively in a wide range of industries, addressing customer specific

application needs. Additionally, they have endured 30,000 hours of testing in heavy duty cycles, have been proven to extend service intervals and offer reduced periodic maintenance requirements, the company says.



## JLL

IntelliCommand is a cloud-based “smart building” solution that typically reduces building energy consumption 8% to 10% immediately, according to JLL. IntelliCommand collects data from building systems (e.g. HVAC, lighting) and analyzes it with artificial intelligence to continually optimize building performance. Users pay a monthly fee for online reports and dashboards to show the building operations team what is happening throughout the building, and then tells the team exactly what needs to be changed. For example, it could

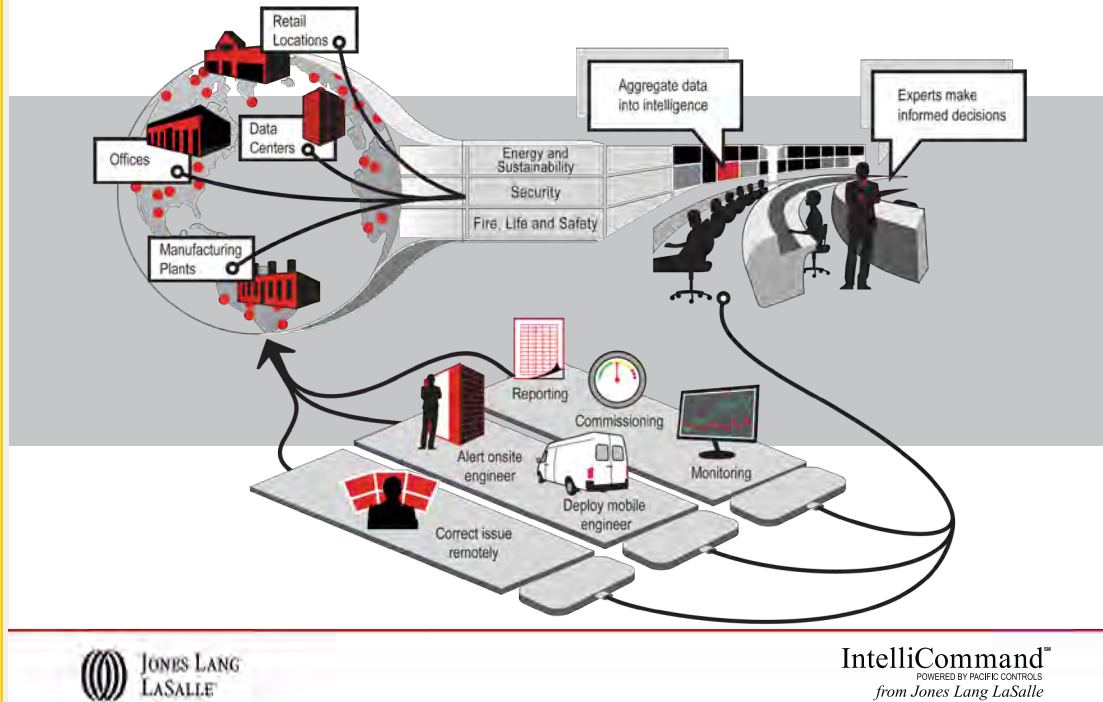
tell a building team to alter a specific damper setting. The IntelliCommand Command Center is manned 24/7 by building engineers, and allows interaction between the building team and operations experts to address more complicated issues. Teams can discuss problems and solutions with building operations experts. Because IntelliCommand understands building data, it can “predict” breakdowns before they occur, JLL says.

IntelliCommand has been installed in 12 Procter & Gamble buildings totaling

3.2 million square feet, and achieved cost savings to reach the break-even point in three months. The properties - including office, industrial, R&D and laboratory facilities - had been operated with high attention to energy efficiency before IntelliCommand was deployed, yet the smart building system reduced energy use by another 8 to 10 percent across the board, saving millions of dollars over time, JLL says. P&G is now in the process of implementing the solution at dozens of properties around

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## IntelliCommand Architecture



### What the Judges Said...



The intellicommand solution is a flexible service offering that provides real time monitoring and management of a building system. It is scalable, able to be applied to a single building or a building portfolio extending its availability from small businesses to large operations.”

--Energy Manager Today judge

the world, providing a scalable and global solution to cost reduction.

Even with building automation systems, it can be difficult for operating teams to process the continual streams of data produced by equipment and

sensors throughout the building and turn that information into tangible actions. By continually reading and interpreting data, and applying algorithms, developed by building experts, to communicate specific commands and directions, IntelliCommand solves that

problem, the company says.

“This is a unique system that leverages 24/7 monitoring to ensure buildings are operated in an energy efficient manner,” said one judge.

<http://www.us.jll.com/united-states/en-us/intellicommand>





## LENNOX INTERNATIONAL

### ENERGENCE ULTRA ROOFTOP UNITS

## LENNOX INTERNATIONAL

Lennox has expanded its popular Energence HVAC rooftop line with new ultra-high-efficiency models that are the most efficient, lightest and quietest rooftop units in its class, the company says. Lennox's ultra-high-efficiency Energence units feature industry leading efficiencies of up to 21.5 IEER and 13.9EER resulting in overall lower operating costs and service which contributes to the lowest total cost of ownership. Energence ultra-high-efficiency

units are designed to offer customers ultimate energy savings with features such as the Advanced Cooling System and the DirectPlus blower system. In addition to sustained savings, the Energence ultra-high-efficiency lineup exceeds ASHRAE 90.1 minimum standards by 92 percent, exceeds CEE Tier 1 and 2 efficiency minimum requirements, and qualifies for many potential utility rebates and incentives, while also providing additional options to

meet California Energy Code Title 24.

Energence ultra-high-efficiency models come standard with MSAV (multi-stage air volume) supply fan technology with the option of either the belt-less DirectPlus blower system or the belt-drive blower system. The DirectPlus blower system is a patent-pending design that combines the motor and electronics into one unit which uses fewer components and features slide-out access to

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### What the Judges Said...



Lennox International has set a new standard for commercial HVAC. Their Emergence units not only have some of the highest SEER ratings in the market, but they have raised the bar by offering substantial control intelligence and direct integration with solar. By being the only manufacturer to integrate with solar, they are able to provide a real impact to a firm's overall energy management initiative."

--Energy Manager Today Awards judge

help reduce maintenance time and costs.

Compared to standard-efficiency equipment, an Emergence® ultra-high-efficiency unit can deliver significant energy savings over the life of the system. Emergence® also provides near-endless opportunities for customization with every

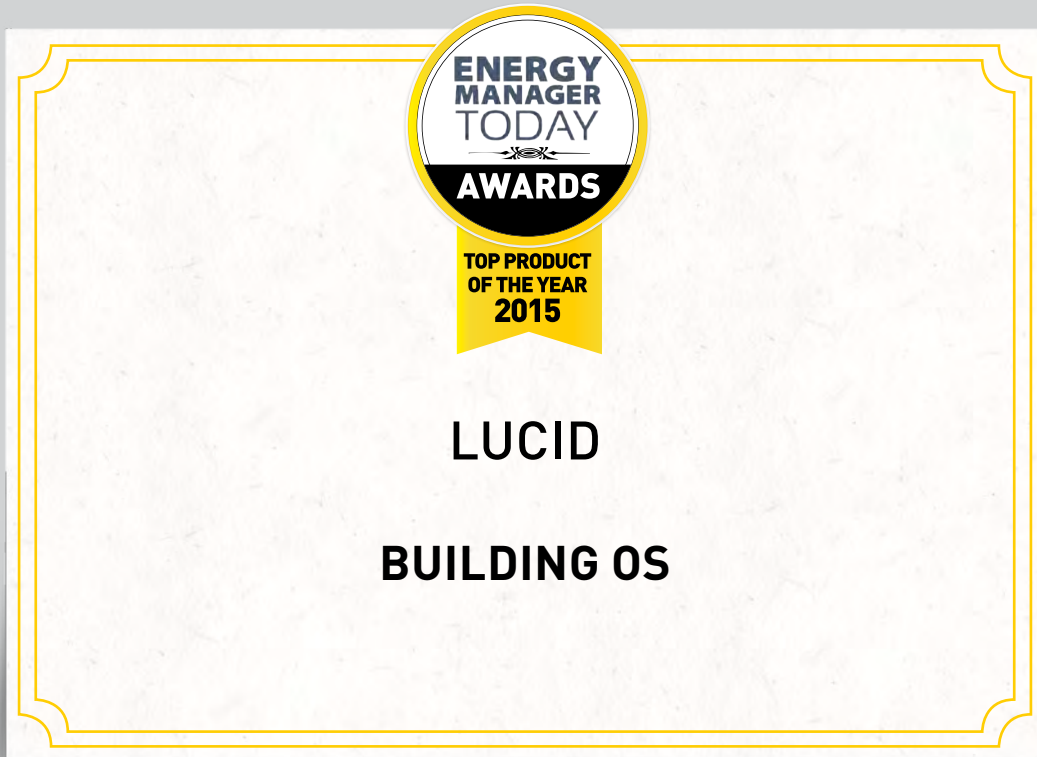
rooftop unit to help customers reduce their carbon footprint and qualify for many state and local utility incentives.

Built to suit a variety of applications, Emergence ultra-high-efficiency units are backwards compatible with many existing Lennox rooftops, offering a simple solution for replacement applications.

Up to 42% lighter than the competition, these units make it the perfect choice where rooftop structural integrity may be a concern, according to the company.

One judge called Emergence ultra-high-efficiency units an "excellent product, producing real-time savings to the customer."

<http://www.lennoxcommercial.com/landing/emergence-ultra>



## LUCID

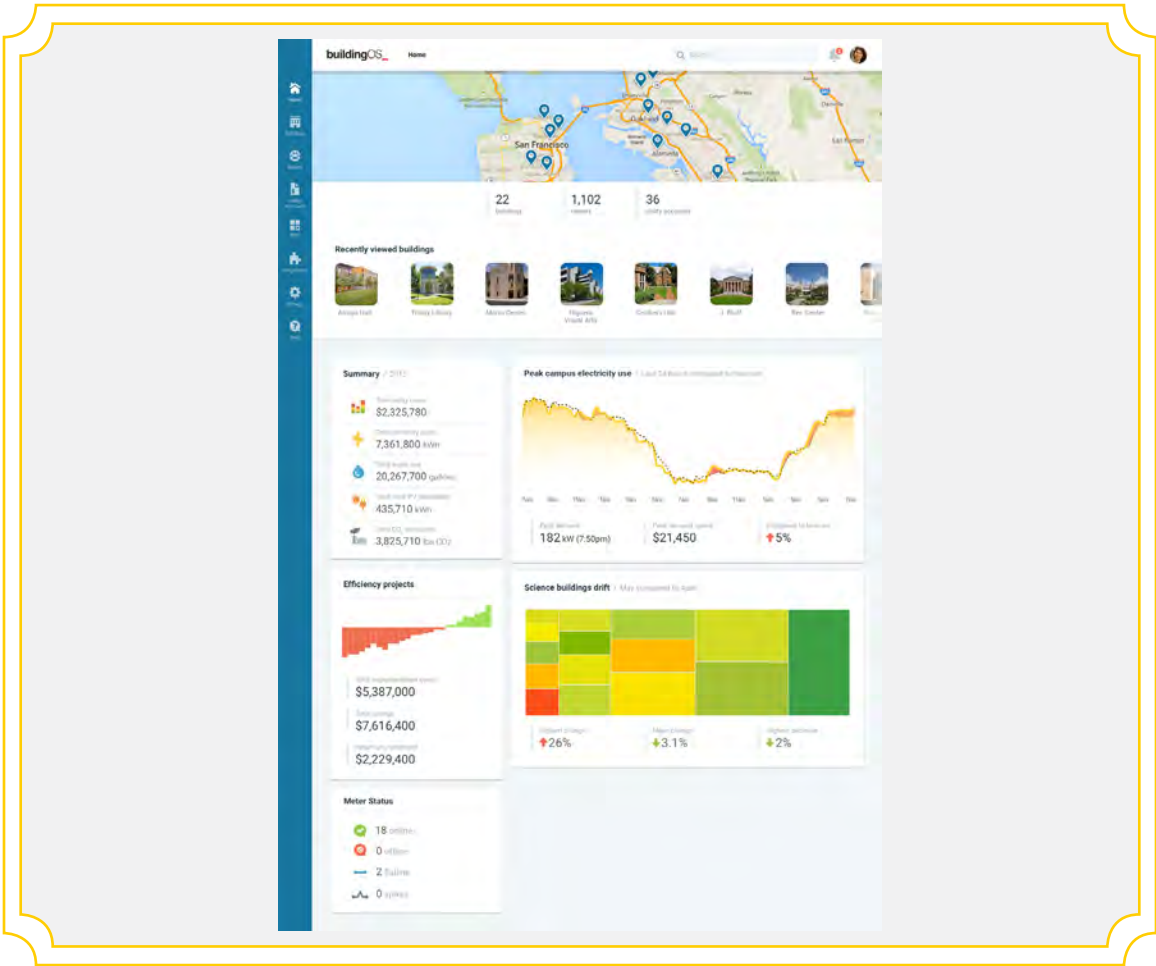
BuildingOS is a building management platform that integrates and aggregates portfolio-wide metering and building systems data for simple, collaborative analysis. It provides a centralized repository for all end-users' building data, so they can import all of their building information, historical bill/interval data, facility audits, asset information and equipment documentation.

The intuitive suite of BuildingOS applications enables a diverse set of teams to drive action from data, guiding them in decisions about building optimization, planning, and tenant engagement, according to Lucid. Lucid offers an entire suite of solutions to manage connected buildings, including: Visibility & Reporting, Measurement & Verification, Building Efficiency, Utility Bill Management, Budgeting & Planning, Benchmarking, and

Tenant Billing. BuildingOS is vendor-agnostic and natively connects to 175+ building technologies. Users can leverage existing infrastructure to collect data from any utility meter, sub-meter, or controls system and seamlessly access that data across any device. As an SaaS platform, BuildingOS also lowers TCO and improves time to value, the company says.

Lucid says BuildingOS has over

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### What the Judges Said...



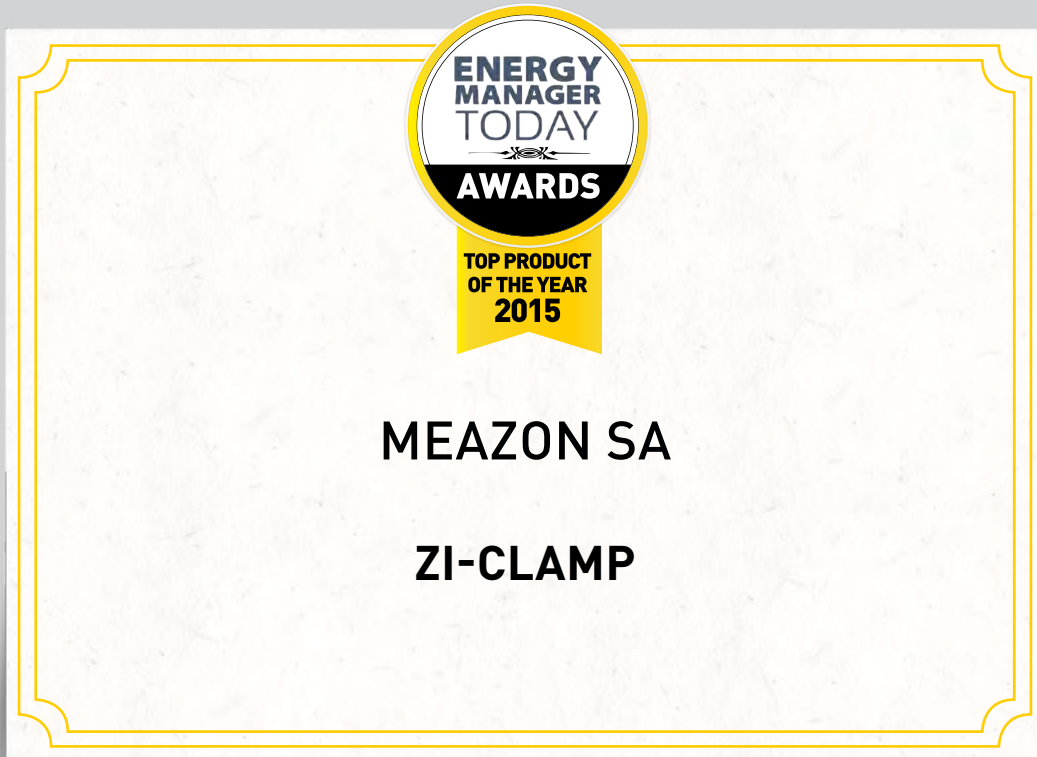
BuildingOS is a very solid building energy tracking and management software package. It enables reporting and visualization of data across the enterprise which allows assessment of energy consumption and identification of opportunities to reduce energy use."

--Energy Manager Today Awards judge

10,000 buildings, 50,000 BIOT devices, and 1 billion square feet under management across 10 countries. Some customers include DuPont, Starbucks, Sony, Disney, PNCBank, Google, Yahoo, JLL, Yale, Boston Public Schools and the City of Washington D.C.

One judge called BuildingOS a "good application of how connected buildings can make smart decisions on energy management to reduce consumption and decrease costs."

<http://www.lucidconnects.com>



## MEAZON SA

Energy efficiency projects suffer from a variety of limiting factors affecting ROI, according to Meazon SA, including: Lack of space in the DB in order to monitor as many loads as possible, mainly due to the large size of available circuit meters; high cost of installation of circuit meters, including installation time and wires; closed and proprietary communication protocols between the circuit meters and metering data aggregation units, sometimes including complicated wiring needs; and a high total cost of ownership that prohibits use and installation of many circuit meters in a building. Meazon says its Zi-Clamp self-charging induction meter combines

the benefits of wireless open ZigBee circuit meters with plug and play convenience, to enable deployment in space- or access-constrained environments, ideal for large scale deployments where cost of installation and provisioning in-cabinet solutions becomes prohibitive.

Zi-Clamp is a wireless ZigBee enabled current meter used for measuring true RMS AC current on electrical installations. Zi-Clamp's maximum measurable load is 32 Amperes in 50Hz and 60Hz frequencies with small measurement error (less than 5%). Zi-Clamp is a revolutionary product for the energy management market due to its very easy installation,

the company says. It allows a quick deployment of many devices in order to get a speedy audit of a building and characterize the loads without interrupting the power supply. As there is no need to cut power supply, there is no risk of damage on the DB of the building that is a nightmare for the installers, especially in old buildings. Due to its small size, it can fit everywhere and the wireless interface simplifies things further. The energy harvesting from the power line that is measured allows long monitoring periods without the need of maintenance for battery change. Removal of the devices is also quick and simple

The Zi-Clamp meter includes:

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### What the Judges Said...



The non-intrusive connection capability and the inductive charging capability is well engineered and offers easy installation, management and use.”

--Energy Manager Today Awards judge

wireless circuit metering – absence of cables optimizes installation time and costs; ZigBee networking – the most widely used wireless energy management standard secures openness and interoperability with Meazon’s and other vendor’s data aggregation and energy analytics solutions; split core high accuracy CTs – enabling easy and fast installation; self-charging through induction (energy

harvesting)– install and forget, with USB easy back-up charging in case of load absence for a long period; revolutionary small size enabling the installation and measurement of large number of loads in the same DB; low total cost of ownership, unleashing investments in energy efficiency projects; specially designed housing for conveniently optionally placing in the wall.

One judge found the product attractive for several reasons, including the fact that the non-intrusive connections remove reliability or equipment interruption issues associated with gathering electricity use data, and that the wireless network and mesh capability enables real-time monitoring, easy collection and aggregation of data and fast and efficient data analysis.

<http://meazon.com/portfolio-view/meazon-zi-clamp/>



## NEXREV INC.

### DRIVEPAK HVAC EFFICIENCY RETROFIT

## NEXREV INC.

DrivePak is an energy-saving upgrade for existing packaged rooftop air conditioning units. DrivePak brings variable speed technology to standard RTU and blower motors in the 3-5 horsepower range. Using preset speeds – without considering the actual air delivery of an existing piece of equipment – can result in unsafe airflows and potential unit damage. By matching the supply fan speed to run only as fast as the actual load requires, the reduction in energy consumption is automatic, and the savings impact of reduced motor speed

is exponential, according to NexRev.

Equipment added consists of two components – a VFD and interface board. Existing controls remain in control of the heating and cooling. It is a conversion of a constant (full) speed motor to multiple-speed operation. No software or microprocessor programming or maintenance. An operational check of each unit is performed prior to installation. The method of implementation--utilizing test and balancing methods and specific set points for each

individual unit--allows the unit to be commissioned at safe air flows. NexRev provides a compressor and heat exchanger warranty on units ten years old and newer that pass our minimum operating standards.

Total fan energy is typically reduced by over 70%, total unit energy usage by up to 50%, with project simple payback of 2 years or less. Additionally, the latent cooling capacity of the unit is increased, improving dehumidification and resulting in lower humidity levels in the space for improved occupant

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### What the Judges Said...



A simple solution to save energy and extend the useful life of existing HVAC systems. Solid examples show real world results for a number of clients.”

--Energy Manager Today Awards judge

comfort. Reduced maintenance is also achieved, as DrivePak creates a “soft start” of the blower motor, reducing stress on belts, pulleys, shafts and bearings. Air filters see a lower total volume of air, extending their life, NexRev says.

NexRev cites numerous successes, including: More

than 5,500 Cinemark Theatres’ RTUs in 300+ locations have been upgraded with DrivePak meeting Cinemark’s target of a 10-15% total energy reduction across the board; IRR for this investment sits at 40%; DrivePak is installed on 1,330 JC Penney RTUs on 131 standalone stores throughout the US, with savings results

over 19 months showing a 14% reduction in overall building energy consumption in KWH translating to over \$3.6M in annualized savings.

One judge was impressed by the product’s ease of installation, transportability, and wide market applicability.

[www.nexrev.com](http://www.nexrev.com)





## PANORAMIC POWER

### PANORAMIC POWER DEVICE LEVEL ENERGY MANAGEMENT

## PANORAMIC POWER

Panoramic Power's Energy Management Platform brings transparency and visibility to energy usage, with real-time circuit-level energy measurement that gives companies actionable analytics and monthly reports for more informed decision-making to reduce energy, maintenance and operation costs, and to improve facility performance. Combining device level wireless sensor technology with cloud-based analytics, businesses

gain unmatched visibility into their energy consumption and system level performance, Panoramic Power says.

Device level energy management lets companies discover precisely where their energy expenditures are taxing the enterprise's resources. The platform: allows companies to conduct measurements and verifications for retrofits, commissioning and LEED certifications; provides

executive tools for prioritizing retrofits and operational improvements by load type and site location; identifies unseen problems and predict failures through real-time alerts, before they lead to thousands of dollars in wasted energy and/or equipment failures; and quickly determines when systems are not functioning properly to detect hidden operational inefficiencies and energy waste.

As sensors measure energy

[ cont'd on next page > ]



#### What the Judges Said...



Panoramic Power has taken the concept of energy management to a micro level. While some products are touting their ability to help monitor energy usage at the meter level, Panoramic Power has kicked it up quite a few notches with device level monitoring. Businesses can now identify individual problematic pieces of equipment rather than simply knowing a general area of a problem. This can greatly enhance the energy management initiative of a business and have direct cost savings impacts.”

--Energy Manager Today Awards judge

consumption at the device level, they transmit that information every 10 seconds through Panoramic Power’s communications bridge. The data is aggregated by a machine-learning analytics engine, then is analyzed by an advanced intelligence system to deliver sophisticated reports and statistical analyses on detailed energy and operational

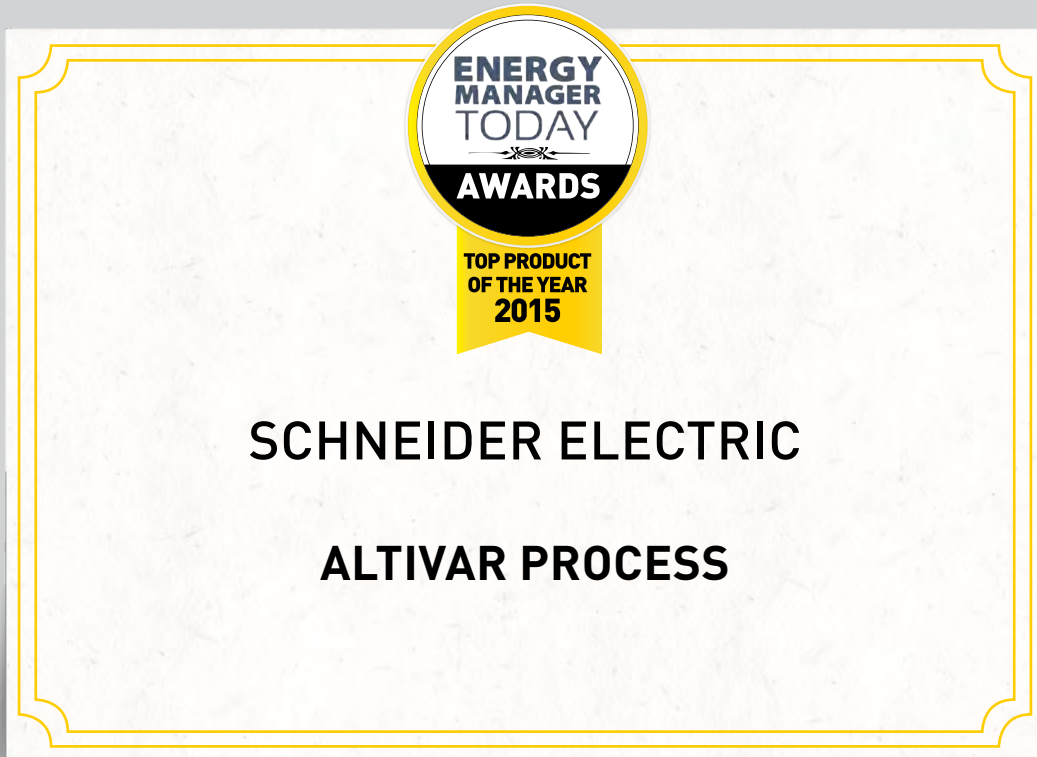
consumption. Finally, the systems deliver real-time alerts, automated reports, and ongoing visibility into all devices and systems.

Panoramic Power says its solution has won awards including Worldwide winner of the 2009 Qualcomm QPrize award, IBM Israel Smartcamp winner, 2012 Global Cleantech 100, and 2014 CleanTech

Innovation Prize.

One judge called it a “good application of how connected buildings monitoring to the device level can make smart decisions on energy management to reduce consumption and decrease costs.”

<http://www.panpwr.com/technology>



## SCHNEIDER ELECTRIC

Around 40% of the price of water is coming from the cost of energy used in the process. Industrial process and utilities are the biggest energy consumers and their consumption comes largely from electric motors and pumps. Variable speed drives are used to control most of these motors and pumps. Many of these motors or pumps are used with valves, to regulate the flow. The benefit of every variable speed drive (VSD) is

to be able to run the pumps at the desired speed, consuming only the energy needed for the flow or pressure needed. Altivar Process is a new range of variable speed drive that embeds energy management services in its inner core, according to Schneider Electric. Integrated in the Industrial Internet of Things, Altivar Process aims to reduce the energy consumption of these processes.

Schneider Electric calls Altivar Process VSD the first and only "Services Oriented Drives". This means that energy management services are embedded in the inner core of the VSD and they are available thanks to the Internet of Things connectivity of the VSD. The Altivar Process contains an accurate power measurement functionality and a embedded pump efficiency algorithm. This algorithm delivers an efficiency KPI in kWh per cubic meter.

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### What the Judges Said...



The system takes the variable speed drive to the next level by embedding real time control algorithms and metrics to continually optimize the pump operation and minimize energy consumption by adjusted drive speed to best fit current conditions. With its network connection, it can also enable system level optimization to tune and balance a full system of pumps and valves.”

--Energy Manager Today Awards judge

This efficiency KPI can be accessed from anywhere: the VSD provides this data on an embedded webpage, or the user can access it from any system as the Drive has a standard Ethernet connectivity. This approach is unique as Altivar Process VSD takes advantage of the Industrial Internet of Things to bring the field data (pump efficiency) to upper levels of the

organization in order to monitor and optimize the complete set of operations, Schneider Electric says.

The benefit of Altivar Process VSD, is to be able to follow, in real time, the motor energy consumption, and the pump efficiency. End users are able to know, for every pump in their installation, what is the current

level of efficiency of their asset (in kWh/M3) and to optimize it without additional hardware.

“It is a significant advantage that their VSDs are connected to the internet as this will be the future,” said one judge. “The real time performance monitoring is critical to optimizing the pump performance.”

<http://www.schneider-electric.com/drives>



## SCHNEIDER ELECTRIC

### ECOBREEZE AIR ECONOMIZER

## SCHNEIDER ELECTRIC

With the increased dependence on technology comes an increased demand on our data centers, resulting in unprecedented cooling challenges for data center operators. These operators are also faced with rising energy costs. With an astounding 30 to 40 percent of the energy consumed in a data center being tied to the cooling system, that is the first place data center operators look to reduce their consumption. Schneider Electric says it has created a more sustainable approach to cooling with the EcoBreeze. These systems deliver free cooling using economization, meaning that the unit uses cooler air from outside the data center to cool the hot air inside the data center. The EcoBreeze

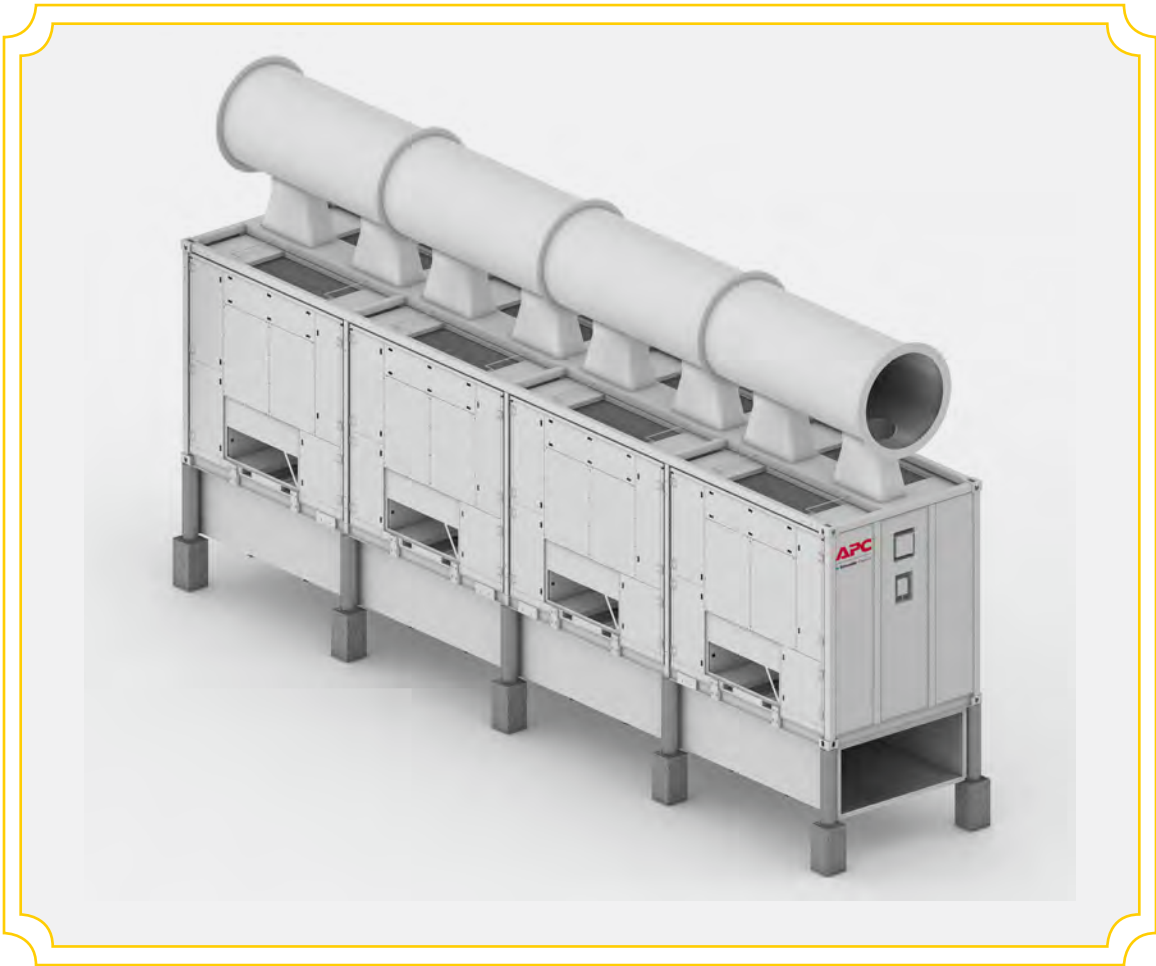
systems are also modular, meaning they allow the users to pay as they grow, creating a right-sized solutions for data center operators.

Unlike other economizer products, the EcoBreeze provides two separate methods of economization. First is air to air economization. This method works by taking two air streams, the outdoor air that is cooler, and the indoor air that is heated by the IT equipment, and performs a heat exchange between the two without ever mixing them. The second method is indirect evaporative cooling. This method is used when the outdoor dry bulb temperature is not cool enough to lower the indoor temperature to the desired

setpoint. In this method, the EcoBreeze leverages the wet bulb temperature by coating the heat exchanger with a film of water that cools that air more effectively than relying on the dry bulb alone. Finally, if the ambient temperature is too hot or humid, the unit has proportional direct expansion refrigerant circuit that will automatically activate to make sure the desired setpoint is always achieved.

Schneider Electric's EcoBreeze units have the ability to automatically switch between the different economizer options depending on the variability of outside ambient air temperature. This provides the most energy efficient cooling method possible by

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#### What the Judges Said...



This technology is a great solution to managing data center cooling load. The modular design is a good option to have as data center loads could change and also the ability to switch to the most efficient method of cooling is ideal.”

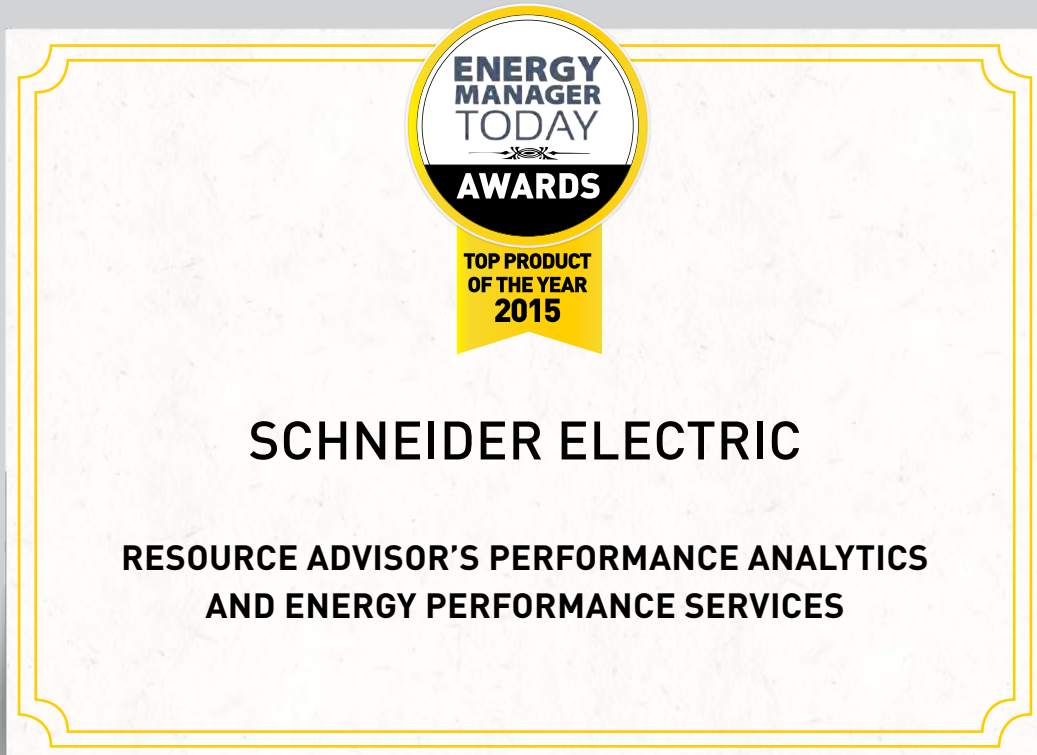
--Energy Manager Today Awards judge

optimizing the total number of hours available for full or partial free cooling. By utilizing this sustainable approach, co-location data center facilities like Cogeco and DataPro have been successful in not only minimizing their environmental impact, but in turn, achieving a reduction of 20-30% on their energy bills.

The EcoBreeze not only provides multiple types of air economization, but through the use of intelligent controls, the system is able to monitor the ambient temperature and switch between these modes as necessary. This level of control ensures that the desired setpoint is always met in the most efficient way possible. In addition, the modular design of

the EcoBreeze allows the unit to easily adapt to the future cooling needs of the data center, allowing the customers to pay as they grow. For example, a 40 foot frame can hold up to 8 modules and a 20 foot frame can hold up to 4 modules. Each module has a nominal cooling capacity of 50kW, making the EcoBreeze scalable from 50-400kW of cooling capacity.

<http://www.schneider-electric.com/en/product-range/61783-ecobreeze-air-economizers/>



## SCHNEIDER ELECTRIC

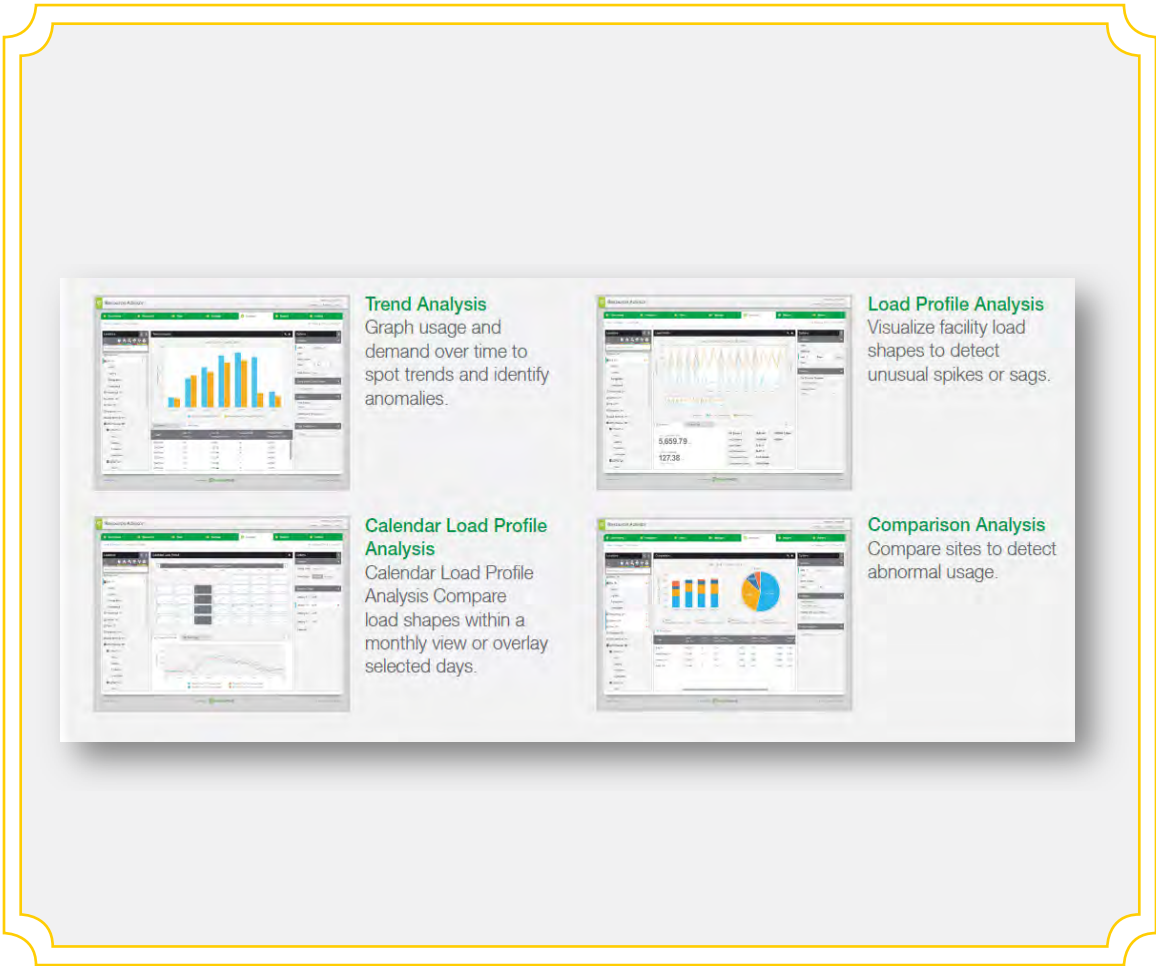
Performance Analytics is a new suite of functionality within Schneider Electric's StruxureWare Resource Advisor energy and sustainability software platform. This functionality builds on Resource Advisor's existing set of capabilities, which includes the ability to monitor energy and carbon markets, manage key sustainability metrics and report results to stakeholders on more than 400 types of resource

streams, including utility and facility data, weather data, and water and energy usage, the company says. Resource Advisor is Schneider Electric's enterprise-level StruxureWare software application and part of the EcoStruxure architecture. Resource Advisor provides secure access to data, reports and summaries to drive your energy and sustainability programs.

To become more sustainable

and efficient, companies must understand how their facilities consume resources on a site-by-site basis in enough detail to find inefficiencies and fix them. But they also need a simple way to look across the enterprise, in order to prioritize efforts, measure results, report to their stakeholders and compare themselves to their peers. Performance Analytics now allows Resource Advisor users to collect, visualize, and analyze near-real-time interval data

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### What the Judges Said...



Schneider’s performance analytics brings context to energy and sustainability information for users at multiple levels in an organization. This system uses core energy data and slices and dices it through its powerful energy intelligence engine recognizing trends and identifying opportunities for energy reduction.”

--Energy Manager Today Awards judge

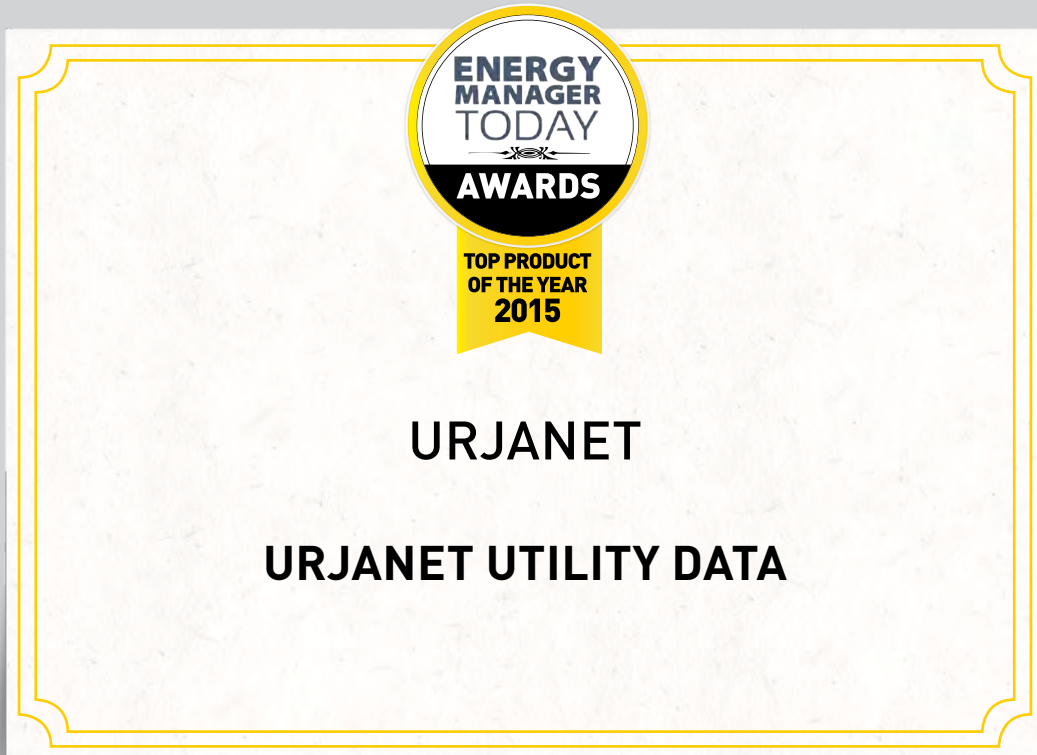
from a variety of sources, in context of this enterprise-wide view of their data.

Resource Advisor provides this context, and now Performance Analytics drills down to interval-level information in a way that clients are finding very powerful, Schneider Electric says.

According to one judge, the interface is easy to use and the solution makes a good connection to other owner sustainability goals.

[www.resourceadvisor.com](http://www.resourceadvisor.com)





## URJANET

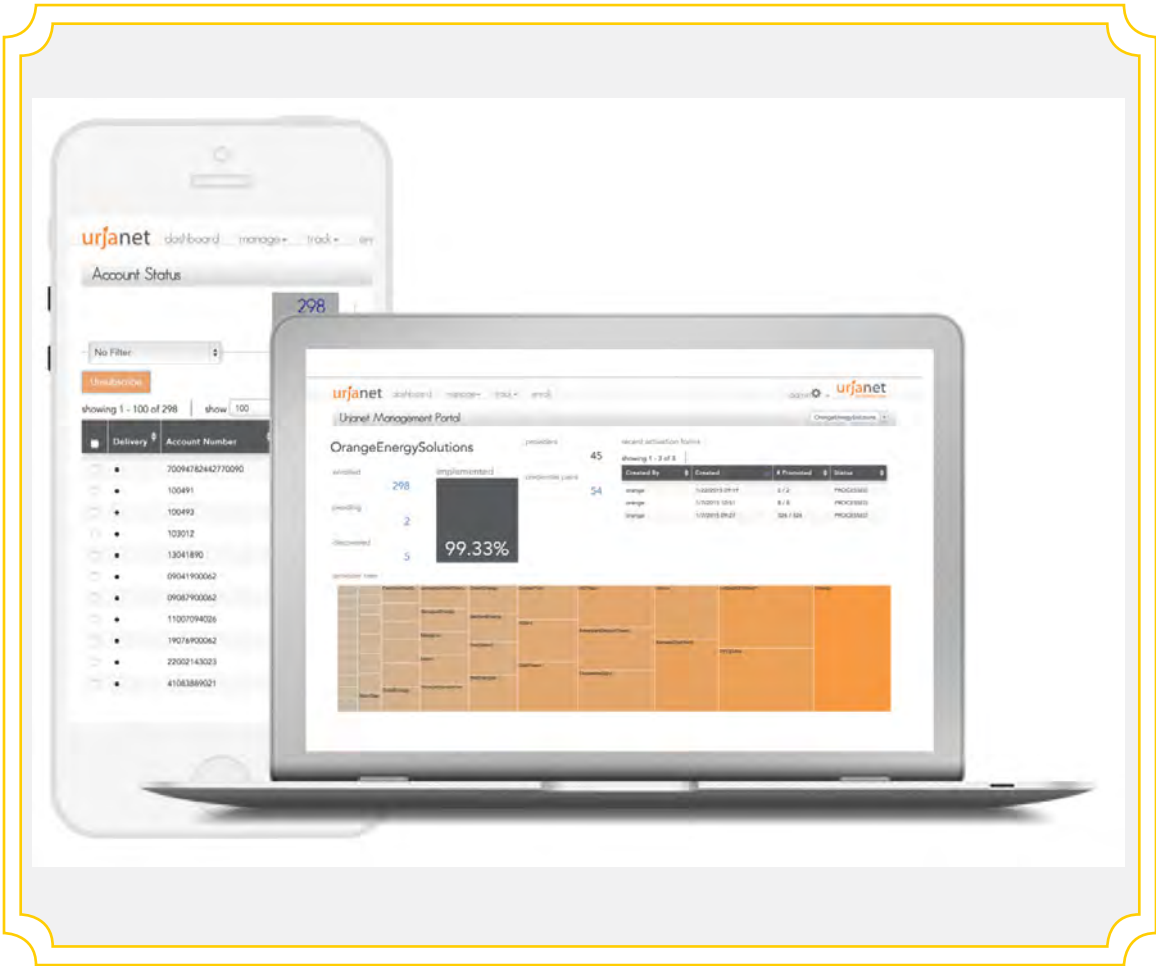
Urjanet's approach is innovative, the company says, because it focuses exclusively on a single thing: delivering the world's best utility data by combining disruptive technology with an expansive network of global utility connections. Urjanet's platform enables companies to automate the entire utility data collection, normalization and delivery process, gaining a new level of visibility into their energy consumption.

Urjanet's cloud-based utility data platform processes millions of utility bills, extracting all data points and normalizing them in a way that makes the data highly useful to energy management, sustainability, accounting and procurement professionals. The company says it maintains the world's largest and fastest growing network of utility connections comprised of over 2,000 of the largest utilities. This network enables Urjanet

crawlers to continuously visit these utilities to efficiently collect timely and accurate data.

Accessing disparate utility data is the "must do" first step in any energy or sustainability management program, Urjanet believes. Energy and sustainability solutions providers around the world rely on Urjanet data to power their processes and applications. Ecova, Verisae, Schneider

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### What the Judges Said...



Urjanet platform solves the problem of handling a large amount of utility data. Energy managers can forget about manually collecting utility invoices and keying them in manually, which can be long and tedious. I see this as a great transition in the billing and energy analysis space.”

--Energy Manager Today Awards judge

Electric, thinkstep and others have incorporated Urjanet into their solutions to improve operational efficiency, profits and customer satisfaction, while energy managers use data provided in these solutions to reduce energy consumption

and spend.

One judge called Urjanet Utility Data an “innovative platform delivering thousands of utility data and connections worldwide.”

**ENERGY  
MANAGER  
TODAY**



**AWARDS**

**TOP PROJECT  
OF THE YEAR  
2015**



**ABM**

**WRIGHT STATE UNIVERSITY BUILDING  
AND ENERGY SOLUTIONS**

**ABM**

Wright State University faced numerous challenges in both energy consumption and the mounting inventory of deferred maintenance to replace individual boilers and chillers. The State of Ohio has established a requirement of all universities to reduce their energy spend by 20% per Executive Order House Bill 251. Wright State University needed an energy related capital improvement program, financed through a performance contracting, with guaranteed savings at no initial cost.

ABM's Building & Energy Solutions program provided WSU with new technologies and a funding strategy that overcame these challenges. The \$25 million construction project had a 20 month implementation schedule. The project helped Wright State reduce their energy consumption by 40 percent, which translates into \$2 million annually in energy costs savings with cumulative guaranteed savings of \$35.8 million over the 15-year term. Additionally, the project removed over 30

pieces of equipment (chillers and boilers), reducing long-term maintenance and saving over a million dollars in capital replacement costs. Tying the entire project together was the installation of pressure independent control valves, allowing Wright State to measure the Delta T at every heating and cooling coils on over 100 air-handling units.

ABM's energy engineering team began the process by establishing the energy baseline on campus which required the acquisition of

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### What the Judges Said...



The use of a multi-faceted approach to analyze opportunities and determine the best energy saving measures to deploy shows the amount of detail and thought that went into the project. The use of a novel funding strategy and a detailed energy capital plan enabled Wright State to achieve significant energy reduction.”

--Energy Manager Today Awards judge

data relating to run-times, occupancy schedules, comfort demands, inventorying all assets, life cycle analysis for the HVAC assets, and a utility bill analysis. The company’s HVAC project technicians and construction managers then designed and evaluated numerous types of HVAC and other technologies as a means to eliminate energy waste while increasing student comfort.

ABM’s public finance executives used this data to build the financial strategy which allowed for the implementation to be realized. Some technologies included replacing over 2000 exterior fixtures with LED lighting, lighting controls across the entire 26 buildings on campus, new arena lighting, upgraded domestic hot water systems and installation of a geothermal cooling system at

the Nutter Center. The program improved indoor environmental quality, improved lighting levels, and had a dramatic effect on lowering the university’s carbon footprint.

One judge complimented the project team, pointing out its strategic approach to securing financing for the project when the client had little capital to contribute up front.

[www.abm.com](http://www.abm.com)



## ABM GOVERNMENT SERVICES

**GSA LA ESPC GS-09P-12-KS-C-0023**

### ABM GOVERNMENT SERVICES

Working with ABM Government Services, the General Services Administration (GSA) is using an Energy Savings Performance Contracting (ESPC) program that will improve the operational and financial performance of five federal facilities in the Los Angeles area. The recommendations will result in the GSA reducing its annual energy and operational spend by an additional \$2,072,220, of which \$1,851,250 is guaranteed. The project has a total simple payback of 15.5 years. As a

result of these efforts, the 300 NLA and Roybal Campus have qualified for the Los Angeles Better Buildings Challenge which mandates a commitment to realize 20% energy and water savings by 2020. This project includes a grand total of 54 Energy Conservation Measures across the Roybal Federal Building, the Social Security Administration Building, the 300 N. Los Angeles Building (NLA), the Glenn Anderson Federal Building, and the Ronald Reagan Federal Building, ABM Government Services says.

During the assessment phase, the team evaluated a specific scope of work that will generate energy and cost savings while meeting the objectives of facility management, including energy and resource savings, maximizing the capabilities of automated building management control systems, open source controls and technologies, equipment standardization, resolution of any compliance issues, coordination with on-going infrastructure improvement projects, and a self-funding

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### What the Judges Said...



This project coordinated energy reduction efforts across 5 buildings to achieve 30 percent energy cost reduction, allowing the campus to meet a government energy mandate for the next 10 years, an impressive feat alone. But they also implemented use of some newer technologies, like BioPCM's new ECM; convincing clients to implement cutting edge technology can be challenging, but it's the single greatest driver in pushing the boundaries of energy reduction and management."

--Energy Manager Today Awards judge

project with no increase to the current budget.

In FY 2008, GSA generated an estimated 2.4 million metric tons of carbon dioxide. By FY 2020, GSA will shrink its GHG emissions to 1.75 million metric tons of carbon dioxide. This project reduces site energy expenditures by over 30%, satisfying all 10 years of requirements for this site in a single project. This

project employs enhanced M&V by including full system monitoring, combining disparate ECMs under one system with continuous monitoring.

Two experimental ECMs are included in this project: BioPCM is an ECM that passively absorbs, stores and releases excess ambient heat at specific temperatures. Building Robotics' Comfy

service optimizes commercial office temperature control by providing a carefully curated web interface for occupants that connects to the BMS and allows for immediate but moderated adjustment of the zone temperature. Oakridge National Laboratory, ABM and the GSA will analyze the potential of the both ECM for 6 months.

[www.abm.com/pages/government-facility-management.aspx](http://www.abm.com/pages/government-facility-management.aspx)



## BIG ASS SOLUTIONS

### CASSIDY ELEMENTARY SCHOOL, LEXINGTON, KY

## BIG ASS SOLUTIONS

After parents and observers reported issues with the industrial fans at Cassidy Elementary, Big Ass Fans stepped in with a recommendation. In prior research conducted at Oakland Unified School District, Big Ass Fans designed a custom solution that helped the school keep students comfortable without using any air conditioning in classrooms. The company's engineering team tested numerous fan

configurations to ensure air movement would be high enough for comfort but low enough to prevent papers from blowing off desks.

Meanwhile, Cassidy Elementary's renovated library space, with its 33-foot ceilings, struggled with heat stratification, in which warm air rises to the ceiling's peak. The HVAC system worked overtime to keep occupants warm. The school attempted to remedy the

problem with large industrial fans, but the noise rendered them unusable. The originally installed gear-driven industrial fans were large enough to provide destratification but nearly doubled the sound levels in the library. When Big Ass Fans engineers looked at the Cassidy Elementary library space, they knew Essence by Big Ass Fans could improve energy usage with no background noise. The team provided a custom layout using

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### What the Judges Said...



The product takes a commodity piece of equipment and moves it to the next level through sound engineering and design principles. At first glance, one could say, "It's just a fan," but in reading all of the details, it becomes clear that the team put a lot of work and thought into the design, execution and testing of the solution."

--Energy Manager Today Awards judge

Essence fans, then installed two 10-foot diameter Essence fans, free of charge. Slowed to efficiently destratify heat, the fans move warm air off the ceiling without creating drafts. This decreased temperature differences in the space by 72 percent and HVAC runtimes by 15.7 percent.

Additionally, the data collected in the school's library helped determine the ideal settings for energy savings and improved comfort in schools. The research conducted in this space will undoubtedly lead to future energy-saving and customized solutions for other schools, Big Ass Fans says.

One judge said the team offered a "nice analysis, addressing common problems that might arise."

<http://www.bigassfans.com/case-studies/cassidy-elementary-school/>



## BUENO, CROWN CASINO

### ENERGY AND OPERATIONAL SAVINGS ACROSS A MULTI-USE ENTERTAINMENT COMPLEX

## BUENO, CROWN CASINO

Built in 1997, Crown Casino's operations team identified that the complex had a huge potential for energy use reduction. An energy efficiency program was started in 2010 to achieve energy savings. The challenge was to reduce energy usage across a vast property totalling over 5.5 million square feet of space that utilizes Automate Building Tuning by: addressing faults before they create Issues for the customer, increase energy consumption,

or result in equipment failure; reduce management costs; reduce maintenance costs; provide integrated reporting; and avoid metering infrastructure.

After a market review of available analytic solutions by the Crown Operations Team was conducted, BUENO was appointed to provide a complete managed service approach to monitoring and analytics through the use of SkySpark

technology. Rule algorithms were set to detect faults including heating and chilled water valves failing or not closing, failed dampers, VAV box failures, valves hunting, central plant short cycling, pumps/fan hunting, temperature set points not being achieved, equipment left in manual override mode, and invalid occupancy readings from room control sensors.

For the initial site, the Crown Promenade Hotel, BUENO

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### What the Judges Said...



The key to this technology is real time data. This will improve the response time to resolve issues before they become a real problem that could lead to big expenses.”

--Energy Manager Today Awards judge

was able to monitor, identify and rectify issues utilizing the BUENO analytics platform and SkySpark to achieve a 6 percent HVAC energy and 9 percent HVAC gas reduction for the first seven months of implementation. This is estimated to rise to 10 to 15 percent (HVAC electricity) and 15 to 20 percent (HVAC gas) by the end of the year.

All expected faults plus more were found as a result of the SkySpark rule algorithms active across the facility. Due to the results to date, additional rule algorithms are being implemented and cost savings continue to be achieved through existing and newly detected faults

Moving forward, these results allow Crown to roll out the

solution to their remaining Melbourne and Perth properties to continue to achieve cost savings, the resort says.

One judge called this a “solid project with expected results based on similar case studies in commercial real estate. The team was well managed and experienced with this type of project.”

<http://www.buenosystems.com.au>



## CASCADES

### HEAT RECOVERY STEAM GENERATOR

## CASCADES

The Cascades Tissue Group – NY Inc. (Mechanicville) mill has a machine that makes 100 percent recycled fiber white and brown paper towel sold on the commercial and industrial markets. In a typical plant like this, energy consumption represents 20 percent to 30 percent of our products' total cost, so the company turned its attention to improving efficiency. The steam generator project consists of recovering and reusing the energy in the exhaust gases of the hood used to dry out the paper, by means of a system fitted with a steam-generating heat exchanger. Initiated in 2014, this project aimed to produce an average

of 4,450 lb/h of steam at 125 psig, or about 15 percent of the steam required by the mill. The objective was to reduce the amount of natural gas consumed without impacting the production negatively—part of an effort to decarbonize our operations. This million-dollar project would save the plant \$240,000 per year

This was the first project of its kind carried out by the Cascades energy efficiency team and also a first for the industry in North America, Cascades says. This means there were no comparables to help the company predict the potential risks. Unlike most energy recovery projects,

which re-inject heat into the process by means of a lower-temperature medium, this project sought to maximize the quality of the energy by producing high-pressure steam that could be used by all equipment requiring steam in the plant.

The project also raised unique challenges related to control and automation to make the system autonomous, going beyond what the supplier proposed, in order to maximize the system's operation and overall performance without operators having to intervene even when there are major variations in the process.

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### What the Judges Said...



This is a good example of a waste heat recovery project. The team navigated a challenging problem to successfully implement a new process with a reasonable payback that integrates with their sustainability plan. Demonstrated results are promising, particularly the generation of high enough quality steam to be used in process on site.”

--Energy Manager Today Awards judge

A rigorous feasibility study examined the incorporation of this technology into the existing process including cost-benefit and risk analyses, paying special attention to ensuring that there would be no negative impacts on or prolonged stoppage of the paper machine. Energy efficiency specialists worked closely with team members to make sure all aspects were understood and

that the system was compatible at each deployment stage. The supplier of the equipment (technology) was chosen based on the limitations of the existing facilities (lack of space, evacuation capacity). As this system is pressurized and involves very high temperatures, there were several risks associated with workers' health and safety which needed to be addressed.

Today the project is operational and achieving the expected results. Savings associated with the energy recovery steam generator project are estimated at approximately 41,888 GJ/year, which is equal to nearly 10% of the company's total reduction target of 450,000 GJ/year for 2014, Cascades says.

<http://www.services.cascades.com/>



## CATERPILLAR INC.

### THINKING OUTSIDE AND INSIDE THE BOX

## CATERPILLAR INC.

With about a dozen employees worldwide, the transportation and packaging team of the Caterpillar Building Construction Products (BCP) Division, which manages all spend, projects, suppliers, and issues related to transportation and packaging for 10 Caterpillar locations, has significant potential to impact variable cost.

Over the past three years, they focused on continuous improvement projects to reduce cost while balancing quality, inventory, velocity, and safety. These efforts, the company says, have provided

a cost savings of over \$18 million while reducing CO<sub>2</sub> emissions by more than 6,000 metric tons. Examples of these projects include: Creating new solutions to shipping machine parts (rather than just large construction equipment) via rail; utilizing annual transportation permits and developing a global database of restrictions heavyweight ocean shipments by state/country to increase ocean shipment density by 25 to 40 percent; developing custom equipment/processes to increase weight per load by 10 percent or more utilizing existing rules and regulations.

In order to effectively manage these projects, an integrated tracking tool was developed, and detailed tasks associated with each individual project were added to drive accountability. Additionally, projects were classified as budgeted or not budgeted and given a status of not started, in process, behind/has issues, or complete.

The project management tool evolved to also provide executive level summaries. To facilitate this “real time” information sharing, all files for the different regions of the world were rolled up into

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### What the Judges Said...



The project is unique as it address transportation and supply chain energy use. The company is presenting efforts to minimize 'indirect' emissions through supply chain enhancements. The company should be commended for its effort to affect its total energy use and greenhouse gas emissions."

--Energy Manager Today Awards judge

a single file. This included cost savings, CO2 reductions, graphs, and charts. Weekly meetings were established. As a result, a significant "pipeline" of projects was developed with around 50 percent of them in process at any given time.

The CO2 reductions reported by the BCP team have helped to re-shape the way sustainability is tracked. Historically, "direct"

emissions have been the only source of carbon footprint tracking. This includes energy usage, facility waste, etc. Transportation is considered part of the "indirect" emissions and has not been significant enough to track in the past. However, the total reductions developed by this team have created a need to include both direct and indirect emissions to meet or exceed target levels

One judge complimented Caterpillar's willingness to take significant risk by modifying and customizing existing systems. "The project demonstrates a significant opportunity for energy recovery on various industrial processes, as well as creative thinking by staff and pushing the limits by the organization," the judge added.

[www.cat.com](http://www.cat.com)



## DAINTREE NETWORKS

### UNIVERSAL MUSIC GROUP

### ENERGY EFFICIENCY PROJECT

## DAINTREE NETWORKS

Universal Music Group (UMG), the largest music company in the world, was moving to a new building in Southern California. Since they plan to occupy the building for at least 10 years, UMG wanted to significantly reduce energy use across 150,000 square feet of space over four floors at the new offices to meet California's Title 24 requirements. As of July 1, 2014, Title 24 calls for a 25-percent reduction in energy consumption in both commercial and residential buildings compared with previous state requirements. UMG retrofitted their new facility with LED lighting, and

installed wireless controls for thermostats, the LED lighting and electrical plugs. This project included installing technology for daylight harvesting, dimming, LED lighting fixtures, and occupancy sensors.

After considering various proprietary solutions, UMG chose Daintree Networks' wireless, networked smart technology as its solution to achieve compliance and gain flexibility to meet its future needs, in large part due to Daintree Networks' use of open standards.

UMG chose a completely wireless solution and the project included installing technology for daylight harvesting, dimming, LED lighting fixtures, and occupancy sensors. Daintree Networks' ControlScope software, intelligent wireless devices and data analytics are being used to significantly reduce energy use across 150,000 square feet of space over four floors at UMG's offices in Woodland Hills, Calif.

UMG reported easy installation and commissioning of the devices, as well as ease of operation of the software to manage the lighting and

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### What the Judges Said...



The project is an excellent example of a wireless monitoring and management system which enables rule setting and control of all lighting and plug loads. The open protocol solution provides a number of benefits to clients and sets this solution apart from many competitors.”

--Energy Manager Today Awards judge

plug loads. The whole project was completed on time and its employees were able to move into their new offices as planned.

Now, the facility manager has the ability to make changes using Daintree Networks ControlScope software from a user-friendly graphical user interface. The electronic games in the game room have been

installed with plug load controls and can be automatically powered down based on schedules. The exterior signage is controlled by the system with automatic on/off functionality based on daylight and schedule. While UMG’s lighting energy savings was significant, initially around 42 percent, through the use of big data analytics, they are continuing to adjust and enjoy increased energy savings.

The project delivered over 92,100 KWh in energy savings and allowed UMG to comply with California’s Title 24 requirements.

One judge pointed out an additional benefit of the project: “It goes beyond simple compliance by using intelligent lighting controls to create a better work environment for UMG employees.”

[www.daintree.net/products/controlscope-overview/](http://www.daintree.net/products/controlscope-overview/)



## DIGITAL LUMENS

### ATLAS BOX DEPLOYS DIGITAL LUMENS TO ACHIEVE ENERGY INTELLIGENCE

## DIGITAL LUMENS

With a goal of reducing lighting costs and controlling and monitoring lighting, Atlas Box & Crating Company took a new approach to energy management, spearheaded by deploying Digital Lumens' intelligent LED lighting system. Atlas Box, a protective packaging company, selected Digital Lumens' system to deploy in multiple Massachusetts facilities system because the sensors integrated in each fixture collect occupancy data, providing insight

into occupancy patterns, operational characteristics, and usage of other building systems, allowing the company to optimize energy consumption, the company says. The initial implementation resulted in a 75% decrease in yearly energy consumption, and the system paid for itself in less than a year

Atlas Box was able to not only maximize lighting savings, it reduced overall energy con-

sumption via Digital Lumens' premier energy management platform: LightRules, an IoT-based software that communicates wirelessly with the light fixtures. Using LightRules, Atlas Box was able to create a heatmap to track occupancy patterns. That insight incentivized Atlas Box to consolidate and adjust the layout of its products to optimize efficiency, resulting in massive employee time savings. Simply by consolidating the products in aisles, Atlas

[ cont'd on next page > ]



#### What the Judges Said...



LEDs are being deployed rapidly these days and the use of smart sensors certainly takes the product to the next level. This project has a great return and delivers solid reductions in energy usage. The use of data from the motion sensing system to track motion throughout the plant added additional efficiency to the operation. Interesting use of technology for additional intelligence about process and planning.”

--Energy Manager Today Awards judge

Box has saved approximately an hour per shift in time savings. Occupancy between aisles is much more consistent now. After experiencing this great success saving and managing energy in an efficient way, Atlas Box deployed Digital Lumens’ technology in multiple Massa-

chusetts facilities.

Atlas Box implemented the multi-measure energy efficiency retrofits and reduced the total energy consumption by 1.25 million kilowatt-hours – 55 percent of their total energy consumption.



## ENSIGHT PTY. LTD

### ENERGY LEADERSHIP PROGRAM RICHARDS BAY MINERALS, LINK

## ENSIGHT PTY. LTD

Richards Bay Minerals set two key big energy management goals in 2013: to reduce its energy costs by over 10 percent in 2015, and to reduce its greenhouse gas emissions by 7 percent in the same period. The project started when Richards Bay Minerals made a strategic decision to form a unique long-term energy cost management partnership with Ensignt to implement a site-wide, all energy source conservation program called the Energy Leadership Program (ELP). Ensignt, an energy services company (ESCO) set up a program of 31 high priority energy projects, utilizing six different types of energy saving interventions

The ELP is a fundamentally

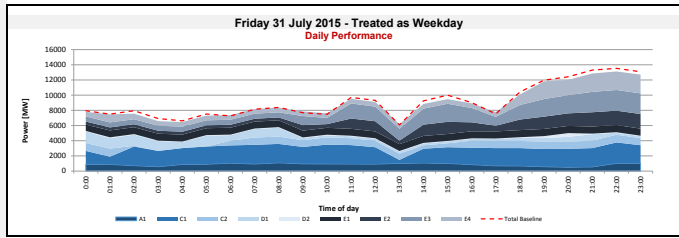
different approach to corporate energy management than that conventionally offered by an ESCO or a consulting engineering company, the company says. It considers the relationships between energy uses across the site as a whole; it sets up an ELP to focus on a whole-of-site energy transformation program of projects with project execution supported by a close working partnership between Ensignt and client staff. This approach is also founded on high quality financial analysis to reveal previously unaccounted for energy system losses and waste; and underpinned by a redesign of energy systems to deliver energy services essential to cost-efficient business

operation. Ensignt facilitates and guide a long term (7-year), structured, on-site program of opportunity evaluation and operational change, advising and assisting clients to establish a full reporting and governance structure to oversee and implement the program from start to finish.

Ensignt embedded 20 energy efficiency engineers and their support teams at RBM from October 2013 to December 2015. This team did the development phase of the project; eight engineers will remain from 2016 for the performance phase. The projects implemented addressed all energy sources (electricity, CO Gas, and diesel) and ranged from energy management, energy efficiency, energy efficient

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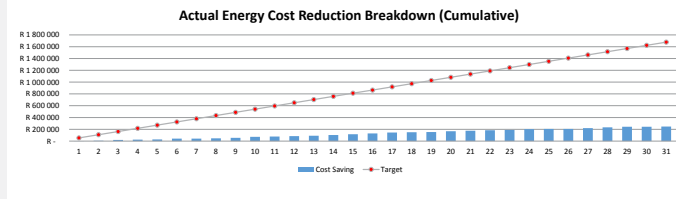
**Daily Performance Report**  
RBM007 - Booster pump optimization



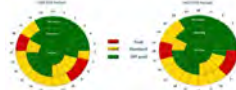
Energy Profile Breakdown						
	Baseline		Desired Profile		Actual	
	Today	Month to date	Today	Month to date	Today	Month to date
Energy Consumption (MWh)	219.06	9 162.36			219	7 887
Energy Cost (ZAR)	R 213 235	R 7 007 420			R 210 725	R 6 761 507
Unit Energy Cost (R/MWh)	R 973.41	R 858.50			R 980.03	R 857.26

Energy Cost Impact Breakdown Summary					
	Actual vs Baseline		Actual vs Desired		
	Today	Month to date	Today	Month to date	
Daily Energy Consumption Reduction (MWh)	-4.04	-275.29			
Daily Energy Cost Reduction (ZAR)	R 2 506.89	R 246 913.36			
Of which the Unit Energy Cost Component - Energy Cost Variance (ZAR)	R -1 423.73	R 9 805.23			
Of which the Energy Efficiency Component - Efficiency Variance (ZAR)	R 3 930.41	R 298 308.13			
Unit Energy Cost Reduction (R/MWh)	-5.82	-1.24			

The percentage energy consumption reduction for this day is 1.84%.



Eskom variable tariff structure		
Running cost:	Tariff (R/kWh)	Cost (R)
Off-peak:	R 0.37	R 1 185
Standard:	R 0.68	R 1 361
Peak:	R 2.26	R 693



**Disclaimer**  
Please note that energy and cost reduction provided are only an estimate for the period indicated. The verified energy and cost savings are provided in the official M&V Performance Tracking Report, which is reviewed and signed-off by relevant stakeholders. Expected figures are calculated based on estimated average energy reduction.

**What the Judges Said...**



A coordinated program to achieve significant energy reduction at a large operation. This effort included six different large scale initiatives and the results included a reduction of 25MW of electricity and a peak reduction of 76MW. Overall, the results were very impressive for Richards Bay Minerals and the project highlights significant milestones in energy reduction and efficiency savings.”

--Energy Manager Today Awards judge

technologies, implementation of standards and procedures, process energy optimisation and behavioral change

To date, the project has reduced peak power by 76MW, and energy efficiency savings of 25MW have been achieved. Most of the projects did not require capital, and the overall investment was paid back in under 9 months, providing

Richards Bay Minerals with an outstanding ROI.

The environmental impacts resulting from the RBM ELP have been significant, with over 131,000 tons of CO2 emissions and 4,500 million liters of water consumption reduced to date. Based on the current forecast, 220,000 tonnes of CO2 emissions and 17,400-million liters of water will be saved by

31 December 2015, according to Ensignt.

Said one judge, “The Ensignt Energy Leadership Program goes beyond typical ESCOs and client’s simple cost reduction goals to address a wide range of critical sustainability targets. It is a step in the right direction to reduce negative impacts of mining operations.”

<http://www.ensight.solutions>



## FIRSTFUEL SOFTWARE

### E.ON UK ENERGY TOOLKIT FOR SME (SMALL AND MEDIUM ENTERPRISE) CUSTOMERS

## FIRSTFUEL SOFTWARE

One of the UK's largest utilities, E.ON, kept hearing from small business customers that they wanted help in lowering their energy consumption. In response, E.ON UK partnered with FirstFuel Software to deploy its Energy Toolkit for free to over 400,000 SME (Small and Medium Enterprise) customers. The Toolkit uses customers' own meter data to give them insights into their energy use at a level previously only available to industrial or larger commercial businesses. The toolkit combines web-based advice on energy efficiency measures, personalized by

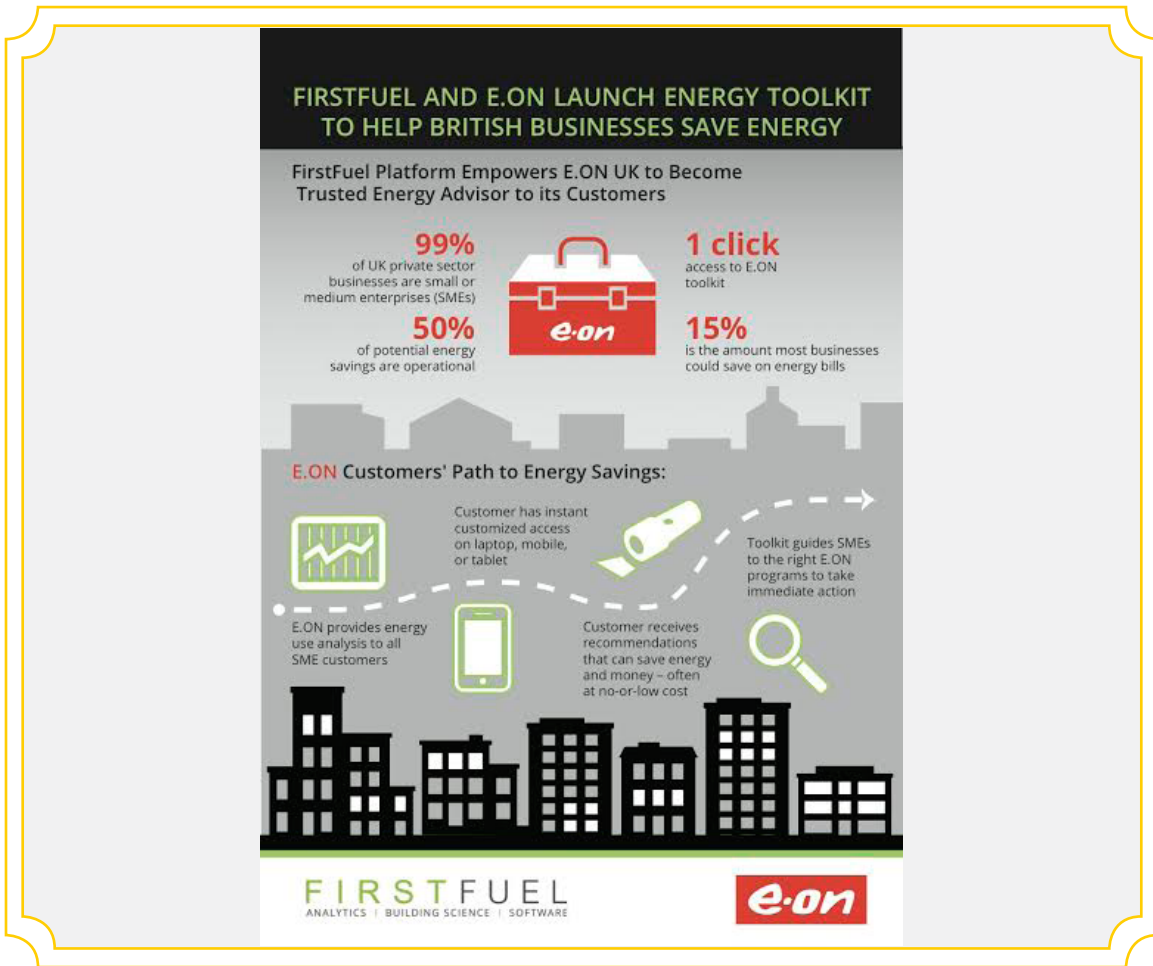
each customer's business and meter data, with a phone-based energy saving advice line staffed by engineers. Just a few months into the program, SME customers have already reported using the Toolkit to save hundreds of pounds from their energy bills.

E.ON UK developed and implemented the Energy Toolkit in partnership with FirstFuel. E.ON used FirstFuel's energy customer intelligence platform to process the usage data for all commercial customers and produce ongoing insights into each customer's energy use. The data was then integrated

into an easy to understand interface on E.ON's customer web portal. The solution was trialed by thousands of E.ON customers, from restaurants and petrol stations to hairdressers and hotels, who provided feedback. Following incorporation of the feedback, the Toolkit was rolled out to the rest of E.ON's customers this past summer.

Unlike many US states, the UK does not require its utilities to meet commercial EE targets or goals for business customers. Thus, this project's energy management goals are different from either a single facility,

[ cont'd on next page> ]



### What the Judges Said...



This application could be very useful in many cities/counties/provinces for small and medium sized businesses that do not have the capacity to hire energy managers to manage day to day energy consumption. This is definitely a 'thinking out of the box' model to help small business."

--Energy Manager Today Awards judge

portfolio manager or large US utility. Instead, E.ON's goal was for its customers to be able to save at least 5 percent on their bills. The Energy Toolkit is available to all of E.ON's over 400,000 customers, and preliminary analysis shows that the Toolkit presents customers with an average 15 percent in savings opportunities, with about half of the opportunities coming from operational (low or

no-cost) changes. Already, over 40 percent of users are using the toolkit and have visited the dashboard more than once, with more than 10 percent indicating interest in their recommended energy savings measures. Individual case studies have shown substantial savings – for example, a grocery owner who has already saved over €600/month.

E.ON and FirstFuel have launched one of the largest UK energy saving projects in the commercial energy space. Without the use of incentives or mandates, the partners have developed a market-based way of spurring EE adoption en masse in what has historically been a hard to reach segment: SME customers.

<http://www.ensight.solutions>



## POWERHOUSE DYNAMICS

### SAVING THE BOTTOM LINE AT BERTUCCI'S

## POWERHOUSE DYNAMICS

Bertucci's, an 89-unit full-service Italian restaurant group, wanted to sharply reduce their increasing energy expenditures. The CEO challenged the facilities department to produce \$500,000 in savings; the company chose SiteSage Enterprise Energy & Asset Management System from Powerhouse Dynamics for a 3-store pilot project.

The installation included "smart" thermostats for HVAC control, energy sensors on circuits powering key pieces of equipment and lighting, and temperature sensors in walk-in coolers and freezers. All of these sensors and thermostats were cloud-connected via the SiteSage wireless gateway. SiteSage's patented algorithms

analyzed the data to produce real-time energy-saving alerts and reports, along with controls. After a 4 month pilot, SiteSage demonstrated the potential for significant savings, with an average payback across the locations of 11.8 months. Based on this, Bertucci's expanded the project to 13 locations.

Bertucci's assigned a Project Manager (PM) to work with Powerhouse Dynamics on the project. The PM and the general managers of each of the pilot locations were trained on the SiteSage system and worked with Powerhouse to define useful reports and alerts. The PM and a representative from Bertucci's Finance department met with the Powerhouse team

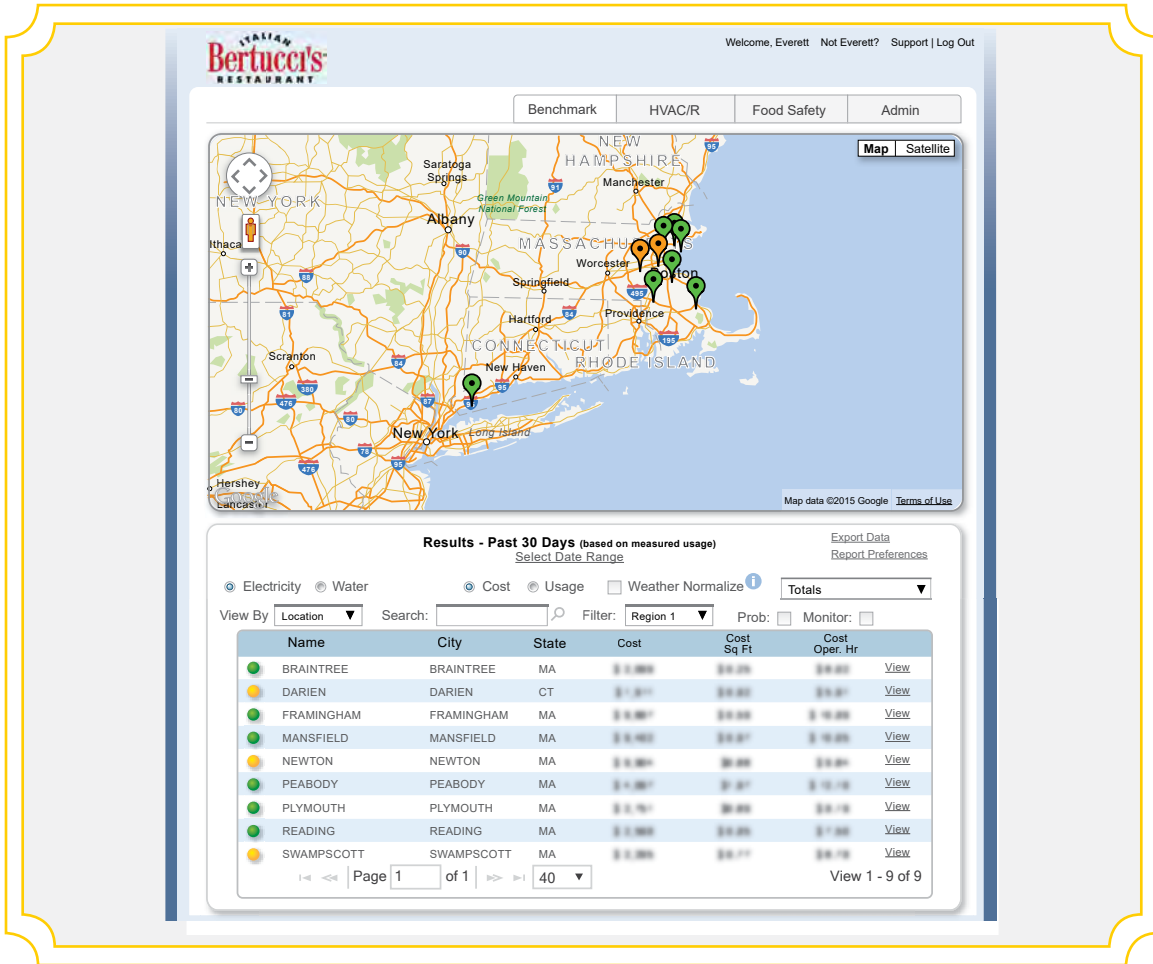
regularly to review results and tweak the configuration of the SiteSage alerts. Throughout the pilot, the GMs worked closely with Powerhouse Dynamics to decide how to address equipment problems and inefficiencies.

SiteSage found energy-saving opportunities across the 13 Bertucci's locations. The system enforced more efficient thermostat settings. It identified a significant amount of kitchen equipment being left on after hours, and heating equipment left on in summer months, and provided management with the ongoing information to virtually eliminate these inefficiencies.

Based on actual utility bill data, SiteSage reduced electric use

[ cont'd on next page > ]





### What the Judges Said...



A 12 month payback should be a no-brainer for most firms. It seems to be a solid low cost option for retail controls and monitoring. I like the additional ability to monitor use of individual pieces of equipment. Most small retail systems only control HVAC and lighting so this adds additional functionality and value to the client."

--Energy Manager Today Awards judge

by 12% and gas use by 9% compared to the control group. This saved approximately \$7,000 per location per year, and yielded a payback of 11.4 months; slightly less than the payback projection after the initial pilot. In addition to energy savings, the system also reduced maintenance costs by providing advance notice of equipment issues.

With this information, the facilities department was able to demonstrate how to meet the \$500,000 savings challenge across the enterprise with SiteSage alone.

While SiteSage does control HVAC, it also centrally monitors energy usage of other major energy-consuming equipment, including lighting, and

leverages a patented analytics engine to highlight problems and inefficiencies, Powerhouse Dynamics points out.

"The project helped identify hidden inefficiencies and provided the opportunity to identify energy waste from smaller equipment that may not normally be focused on," said one judge.

<http://powerhousedynamics.com/resources/case-studies/bertuccis-sitesage-pays-itself-year/>



## SAINT-GOBAIN CORPORATION

### VANCOUVER IMPACT MILL HEAT RECOVERY

## SAINT-GOBAIN CORPORATION

Saint-Gobain Corporation's manufacturing plant in Vancouver, British Columbia, Canada produces gypsum wallboard. The process utilizes two Impact Mills to produce an intermediate product called stucco. Stucco is produced by simultaneously heating and grinding gypsum rock. The stucco is then pneumatically conveyed through a cyclone and dust collector. Previously, the mills operated in a single pass system, where ambient "traveling air" was drawn into the burner chamber, heated between 600-720 degrees centigrade and exhausted at

150 degrees centigrade. This method was inefficient because thermal energy was lost by exhausting humid, preheated travelling air and electrical energy was wasted using inefficient fixed speed fans and dampers to draw air through the system.

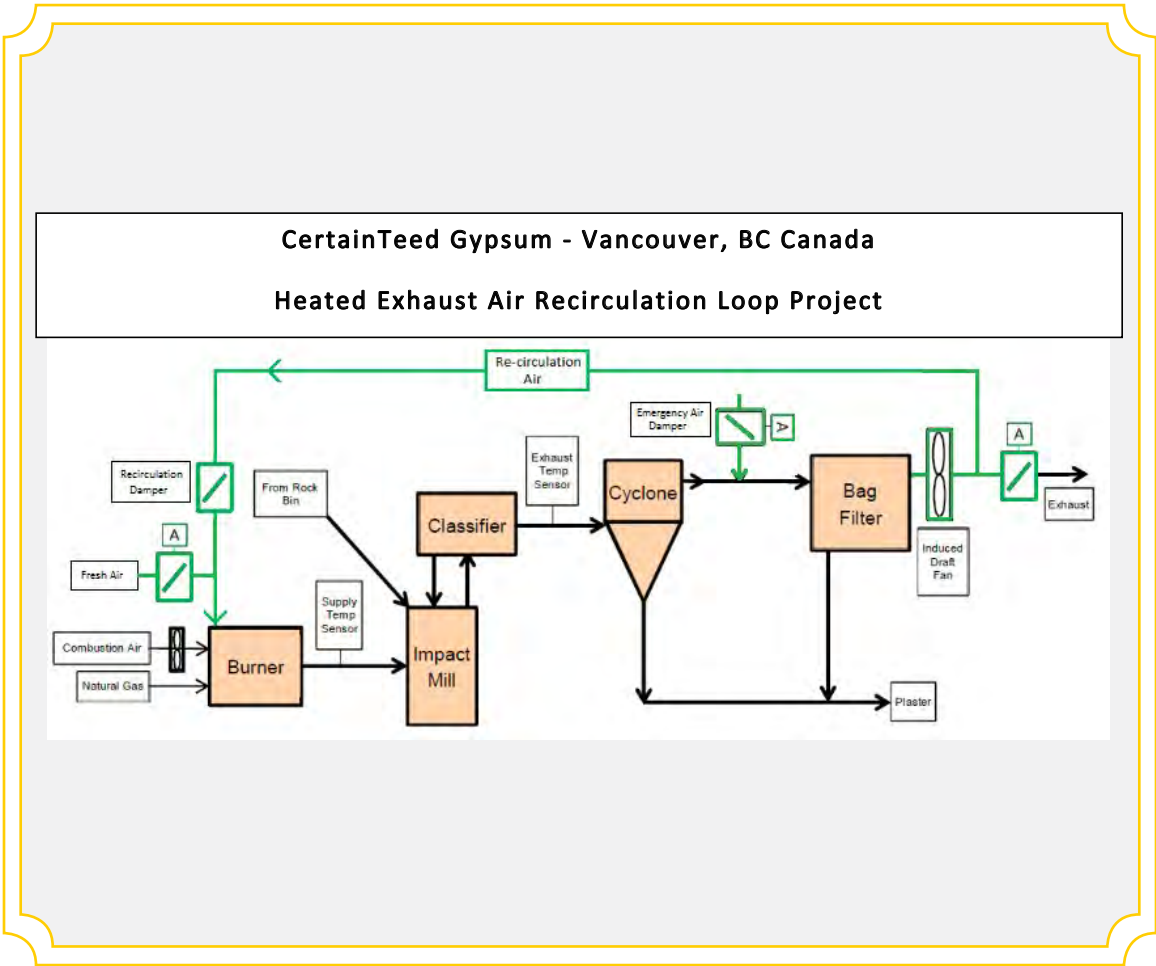
The plant made use of financial incentives offered by local Natural Gas and Electrical utilities for a heat recovery project. Feasibility reports were developed by consultants to evaluate and design the improvements. The project improved efficiency by: Installing recirculation

ducting to capture a portion of the heated exhaust stream and return it to the burner; replacing inefficient system fans and dampers with new fans on variable frequency drives.

Process measurements were input into heat and energy models to estimate potential natural gas savings from the project. The models showed that returning hot, moist air instead of cold ambient air to the system would significantly reduce the energy required to create the stucco.

The heat recovery project reduced plant gas consumption

[ cont'd on next page> ]



### What the Judges Said...



This heat recovery project allowed the plant to reduce natural gas consumption by 4.5 percent and reduced GHG emissions by 865 tons per year. The energy reduction is excellent progress and exceeded the company's internal goals for energy reduction. In addition, the added safety improvements are a plus."

--Energy Manager Today Awards judge

by 4.5 percent, exceeding Saint-Gobain internal energy reduction goals. This is projected to reduce the plant's annual CO2 emissions by 865 tons. Additionally, the projected reductions in CO2 emissions from fan efficiency improvements total 14,700 kilograms annually. These energy savings, along with the incentives available from the utility companies, resulted in an

ROI of 1.19 years.

Other unique process improvements were also made possible as a result of this project. Stucco quality has improved and become more stable by returning humid air to the system. The re-circulation loop allows the process to run consistently at a higher humidity levels than before the installation.

Safety improvements were also implemented as part of the heat recovery project. Emergency air dampers were installed and programmed to open and allow cool air to enter the piping in case of temperature extremes. Modulating dampers on the exhaust line and burner pressure sensors were also installed to ensure that the burner chamber never expels hot air into the plant.

[www.certainteed.com](http://www.certainteed.com)



**STV**

## **MOTHER CLARA HALE BUS DEPOT**

### **STV**

To meet its goals of becoming more energy efficient, MTA New York City Transit (NYCT) worked with STV on an initiative to transform the site of a former trolley barn in the Harlem section of Manhattan into a modern, energy-efficient bus depot, the Mother Clara Hale Bus Depot (MCHBD). The bus maintenance and storage facility, which achieved Gold LEED certification, plays an important role in the NYCT's ongoing initiative to move to hybrid-electric and ultra-low-emissions buses and now serves as a model for future

facilities.

NYCT and the MCHBD Community Task Force jointly developed a vision for the new depot. Then STV employed weekly meetings with all design disciplines to coordinate the integration efforts. The design includes provision of a complete micro-electronic digital building energy management and automatic temperature control system and features low-emission boilers, heat-recovery air-handling units, natural lighting, rainwater recycling, solar wall air pre-heating and a green roof.

The design also included developing a complete energy model of the facility, using approved software to demonstrate successful achievement of the NYCT's energy savings target design criteria and LEED Gold compliance criteria. This model allowed the team to modify equipment/ building features/ design variables to immediately determine their impact on energy consumption.

The facility uses an array of energy-efficient and recovery features, including: Plate-type air-to-air heat recovery heat

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### What the Judges Said...



MCHBD has implemented a number of energy managing features to help them greatly reduce their carbon footprint and serve as an example for others. The integration of smarter controllers, rainwater collection, passive heating systems, and others work together to help manage the energy use of the building. Should be seen as a leader in large scale energy management initiatives.”

--Energy Manager Today Awards judge

exchangers in the natural-gas-fired, variable-air-volume heating and ventilating units that continuously supply and exhaust 660,000 CFM of outdoor air ventilation to the facility; recovery of the air compressors’ rejected heat to provide space heating in utility room; total enthalpy recovery wheels in variable-air-volume multi-zone HVAC systems serving offices and locker rooms, providing

year-round pre-conditioning of their outdoor intake air streams; fully condensing high-efficiency boilers; zone lighting controls and occupancy sensors; translucent façade wall panels, providing day-lighting enhancements; NOX gas monitoring controls system to reduce HV systems supply and exhaust fans’ speeds in response to variations in space NOX concentrations below a

predetermined setpoint; south facing solar wall panels to pre-heat outdoor air for HVAC units during heating season.

“This could be easily replicated in many cities looking at modernizing transportation infrastructure,” said a judge. “Given the age of many buildings in cities tied to transportation, a great example of what can be done.”



**TRANSPORTATION &  
INFRASTRUCTURE**

**BUILDINGS &  
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**CONSTRUCTION  
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**ENERGY  
SERVICES**

Mother Clara Hale Bus Depot  
MTA New York City Transit

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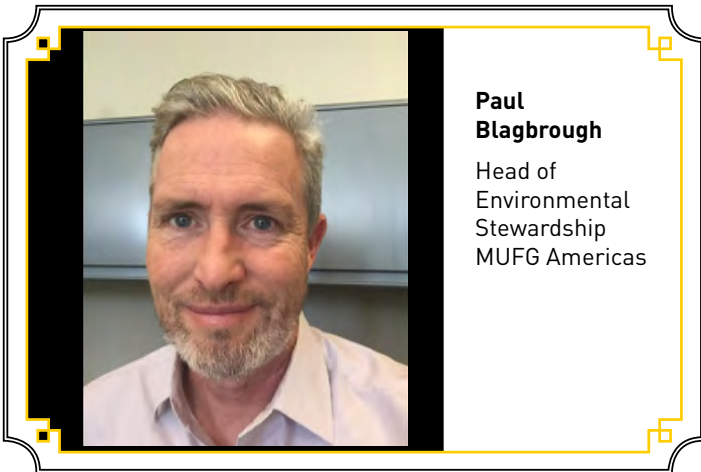
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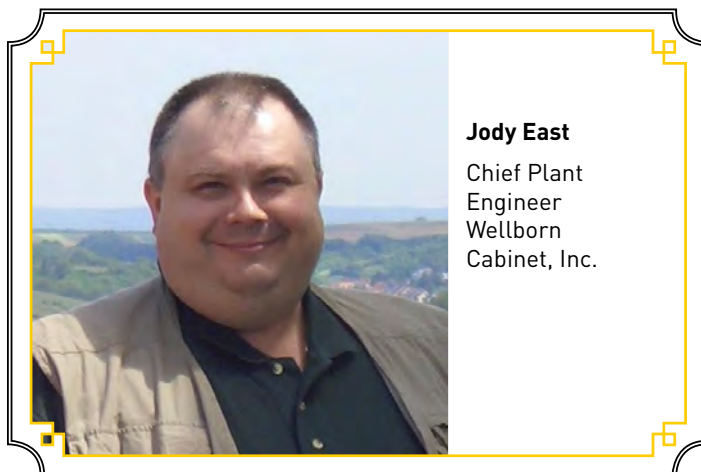
## 2015 JUDGING PANEL



**Paul Blagbrough**

Head of  
Environmental  
Stewardship  
MUFG Americas

Paul Blagbrough is head of environmental stewardship for MUFG Americas. The Environmental Stewardship Team is responsible for reducing the bank's environmental impact as well as developing new environmental risk policies and promoting green banking products. Paul has a background in civil engineering and environmentalism and has worked in the UK, Vietnam, Zambia, the Philippines, Tokyo and the US.



**Jody East**

Chief Plant  
Engineer  
Wellborn  
Cabinet, Inc.

Jody East has a broad range of experience including military, engineering, environmental, and project management. Of his over 26 years in engineering, almost 22 years include the management of environmental compliance and permitting. Project management has included everything from small process improvement projects up to 235,000 square-foot buildings, as well as large biofuels projects. As a large company's chief plant engineer, he is also responsible for the corporate sustainability efforts including recycling, waste management, and energy management.

In his spare time he has served on several local boards and is currently serving as the chairman of the County Water Authority Board of Directors. His specialties include Building Energy Systems, Utilities/Service/MCC Design and Management, IR Thermography-Certified Level II, Arc Flash/Short Circuit Analysis, Environmental Management/Regulations/Compliance/Permitting, CAD/CAM/CAE.

Jody loves spending time with his family camping, and on good nights he's an amateur astronomer.

Bill Eger serves as the Energy Manager for the City of Alexandria (Alexandria, VA). As Energy Manager, Bill leads planning, engineering, programming, technical evaluation, policy development, education and outreach, and implementation of Alexandria's clean energy, green building, climate change mitigation/adaptation, resilience, and related sustainability initiatives.

In addition, Bill leads Alexandria's energy, utility, and fuel resource acquisition; building energy and vehicular fuel use analytics, modeling, simulation, benchmarking, and reporting; energy assurance and reliability planning, response, and project implementation; community and neighborhood



## 2015 JUDGING PANEL

energy-use and greenhouse gas emission reduction planning; clean-tech and sustainable economic development efforts; and serves as the City's public utilities regulatory and policy expert and consumer advocate in public utility regulatory affairs. Finally, Bill leads various strategic planning efforts for Alexandria's various "smart cities" initiatives related to energy & water, transportation, civic engagement, public safety and emergency response, and economic development. Bill formerly served as Energy Manager for the City of Cleveland (Ohio) in the Mayor's Office of Sustainability.

Bill holds a Bachelor of Science in Computer Engineering, Bachelor of Electrical Engineering, and Master of Science in Engineering (Mechanical & Renewable and Clean Energy concentrations) from the University of Dayton. Bill is a registered Professional Engineer, US Green Building Council LEED Accredited Professional, and holds a Certificate of Public Management from the George Washington University.



**Carl W. "Bill" Eger III**  
Energy Manager  
City of  
Alexandria, VA



**Jonathan Herz, AIA, LEED AP**  
Chief Architect  
for Sustainable  
Facilities  
US Department  
of Health and  
Human Services

Jonathan Herz is the chief architect for sustainable facilities for the US Department of Health and Human Services. He has over 30 years of public and private sector design, construction, and policy experience. His focus, since 1999, has been researching and writing about sustainability. Prior to joining HHS, he headed the US General Services Administration (GSA) Office of Governmentwide Policy's sustainable development education initiative, where he authored and edited numerous sustainability and workplace-related publications. Other GSA work included management of major design and construction projects and programs. Mr.

Herz received a BS in Architecture from the University of Virginia, and a Master of Architecture from the University of California, Berkeley.

George Holcombe is part of Capital One's Environmental Sustainability Office and is responsible for the development and implementation of the company's green building and energy management programs. George works with operations and design teams to integrate sustainability strategies into projects and optimize building operations through

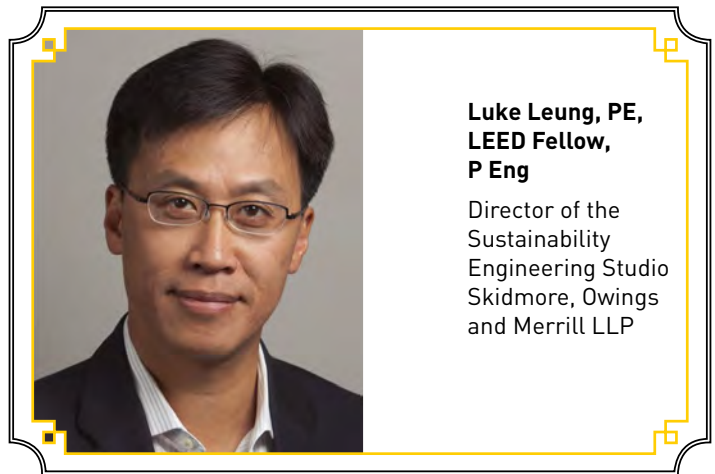




identifying and building business cases for energy management measures. He has also led projects to improve corporate recycling programs and led negotiations for the development of a 500KW solar system at a data center facility. George is also responsible for managing the utility bill pay process for all facilities and leads negotiations of deregulated power contracts including all green power purchases for the company.

Since 2001, George has held several roles at Capital One including Supply Chain Management and development of a test platform for a new debit card processing product. He managed supplier sourcing projects and negotiated contracts. Prior to joining Capital One, he worked as an Energy Consultant for GPU Energy and MaGrann Associates.

George holds a MBA from Strayer University and a Bachelor of Science degree in Building Construction Management from Michigan State University. He also currently serves as Board President for Rebuilding Together Richmond, a non-profit focused on home renovations for low income elderly residents and military veterans.



**Luke is a LEED (Leadership in Energy and**

**Environmental Design) Fellow;** He is also a Centennial Fellow from The Pennsylvania State University Architectural Engineering Department; Board of Directors for USGBC (United State Green Building Council), Illinois; Chairman of the ASHRAE (American Society of Heating, Refrigeration and Air Conditioning) Committee on “Tall Buildings”; Chairman of the Building Pressure Committee, Chicago Committee on High Rise Buildings; Sustainable Committee with Council on Tall Buildings and Urban Habitat; Part Time Professor at IIT; Chicago Council on Global Affairs Energy Roundtable Member; Member of the Chicago Sister Cities Program with China; MBA from University of Chicago, BS and BAE from Architectural Engineering at Penn State University.

Luke Leung is a Director of the Sustainability Engineering Studio for Skidmore, Owings and Merrill LLP. His work includes Burj Khalifa, the world’s current tallest man-made structure; Multiple times recipient of the “Excellence in Engineering” award from the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE); 2 awards from National Institute of Building Sciences, among others. Selected projects also include the General Motors Global Headquarters, Roche Diagnostic in



Indianapolis, Beijing Finance Street, Embassy of Ottawa in China, Embassy in Beijing, Rolex Tower in Dubai, several LEED Platinum buildings including one with the first large scale horizontal wind turbine in the city of Chicago

College and will be graduating with his Master of Business Administration with certificates in Business Information Systems and Business Intelligence from Colorado State University in the Spring of 2016.



**Jeff Mahoney**  
Manager, Asset and Operations Group  
Accenture



**Kevin Sok**  
Manager of Engineering & Sustainability  
Cox Enterprises, Inc.

Jeff Mahoney is currently a manager with Accenture's Asset and Operations group. He specializes in real time data management, data analysis, and remote operations in multiple operating environments including nuclear, combined cycle, and renewables. Over 10 years, Jeff has gained and developed significant experience in establishing and optimizing real-time remote power generation operations, managing the immense streams of data (OPC, MODBUS), and maximizing the value of that data through visualization and meaningful KPIs. Jeff began his career as a nuclear operator for the United States Navy where he was responsible for the reliable operation and maintenance of multiple reactors and most recently led the efforts of consolidating and refining data management for a large independent power producer. He holds a Bachelor of Applied Science in Energy Management from Bismarck State

**Kevin Sok is Manager of Engineering & Sustainability**

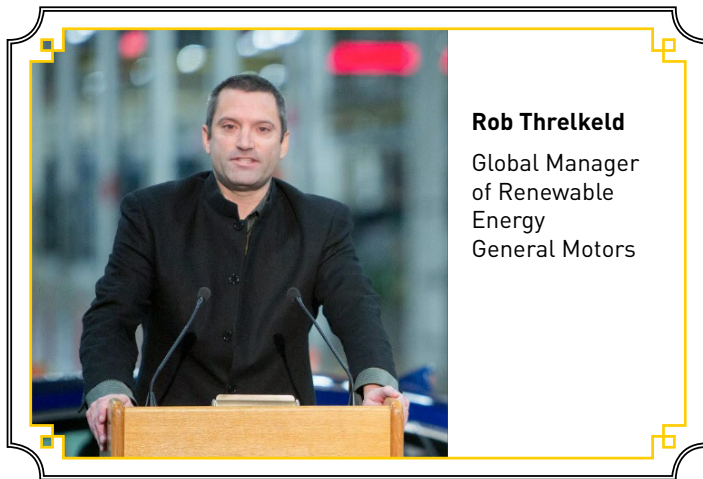
for Cox Enterprises, Inc. With over 17 years of extensive experience in the energy and engineering industry, his role entails developing and executing strategies to generate energy from renewable sources, energy management,

identifying and deploying clean-tech innovation, and environmental data management and analytics. His experience includes evaluation of potential projects for self-development, acquisition or investing; overseeing engineering, construction, financial structure analysis, state and federal incentives analysis, renewable energy certificate (REC) markets; and developing off-take strategy. He heads the initiative to centralize environmental data from various sources from across multiple business units and establishes governances and processes to capture accurate data, establish key performance indicators, and improve business processes.



Before joining Cox, Kevin worked at Southern Company and held various positions in engineering and marketing services. He holds a bachelor's degree in Mechanical Engineering from the University of Central Florida (UCF) in Orlando, and an Executive MBA from the J. Mack

Robinson School of Business at Georgia State University in Atlanta, GA.



**Rob Threlkeld**  
Global Manager  
of Renewable  
Energy  
General Motors

Rob Threlkeld is General Motors' global manager of renewable energy, responsible for managing GM's renewable strategies and portfolio of projects. Since beginning this role, Threlkeld has negotiated or implemented long-term power purchase agreements for over 40 megawatts of renewable energy at GM facilities.

Rob Threlkeld joined General Motors in 2002 as the manager of powerhouse and wastewater treatment plant operations at GM's Lordstown Assembly.

Threlkeld earned Bachelor of Science and Master of Science degrees in civil engineering from Purdue University. He holds Certified Energy Manager, Business Energy Professional, Certified Sustainable Development Professional and Certified Hazardous Materials Management accreditations.



**Albert R. Zucco**  
Sr. Director,  
Energy &  
Sustainability  
USG Corporation

Al Zucco has led the Energy and Sustainability team for USG Corporation in Chicago, IL, since 2008. During his 27 year career with USG Corporation, Mr. Zucco has held numerous leadership roles in the areas of manufacturing, strategic sourcing and supply chain management, as well as positions in manufacturing engineering, production management and plant management. His current role as senior director energy and sustainability capitalizes on his extensive background and experience. Al is responsible for developing and implementing the sustainability strategy for USG Corporation.

Mr. Zucco, is a graduate of the Cleveland State University Electrical Engineering program and obtained an Executive MBA from Baldwin Wallace College in Cleveland, OH.

Al and his wife Fran have been Naperville, IL residents since 2003 and have enjoyed raising their children in such an outstanding community. Mr. Zucco currently serves on the Board of Directors for the Naperville Heritage Society and the Gypsum Association. He has been and is actively involved in various community activities such as coaching and scouting and enjoys hiking, biking and spending time with his family.



## ABOUT BUSINESS SECTOR MEDIA

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### environmental LEADER

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