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# SWITCH TO RESULTS IN RETAIL

Domain specific solutions for stores to monitor, manage & reduce energy consumption.



Retailers with a national presence are large consumers of energy. Rising energy costs and regulatory requirements have increased the pressure on retailers for managing energy effectively while improving the customer experience.

Recently, many participants of the US Department of Energy Better Buildings Challenge published their achievements. The two main highlights were:

- Retailers that achieved the highest savings were those that have implemented an effective Energy Management Systems (EMS) program
- Irrespective of the savings achieved, retailers are now realizing the importance of an EMS in their environment

The present approach to energy management focuses on discrete measures for an individual site. The same is then applied across larger number of sites based on criteria such as tariffs, type of assets and operational knowledge.

In contrast, an energy management system leverages IT systems to monitor and analyze the performance of an enterprise's energy infrastructure across a large number of sites. The rich analytics help energy managers spot the energy efficiency opportunities and can lead to operational improvement of assets. The focus of such a savings program is to optimize the operation of the existing energy infrastructure and improve the compliance of operating policies as required by business.



This space is evolving rapidly. As compared to retrofit-based energy savings programs which rely on refitting energy efficient components into existing assets, there are significant gains possible with much lower capital outlay. At the same time, there are many hurdles to be crossed for successful deployment.

- Modeling the differences between various sites and tailoring the saving strategies accordingly
- The ability to set up and quickly scale the program across the organization
- The technology to detect deviations across multiple sites
- The integration of current energy related infrastructure and automation systems
- Domain expertise in Refrigeration, HVAC, Lighting and Controls along with the ability to understand large volume of data
- Capital funding for implementing EMS program and the availability of incentives and rebates for operational saving programs
- Vendor-agnostic solutions to address multi-vendor environment in same or different geographies

Our EMS program offers you more than just saving energy costs. We deliver savings on operational costs covering a wide scope ranging from food safety management to comfort (employees' as well as customers') to proactive asset performance management.

# Comprehensive Approach To Energy Cost Management

At EcoEnergy, we believe that there are more savings to be had in operations, beyond that of energy consumption reduction. Our EMS program serves as an Operational Savings program that holistically addresses the energy cost reduction, cross-leveraging four distinct areas.

## Operations:

Through our EMS program, we centralize and remotely support stores and your field technicians supporting the store infrastructure. We are able to resolve at least 60% calls

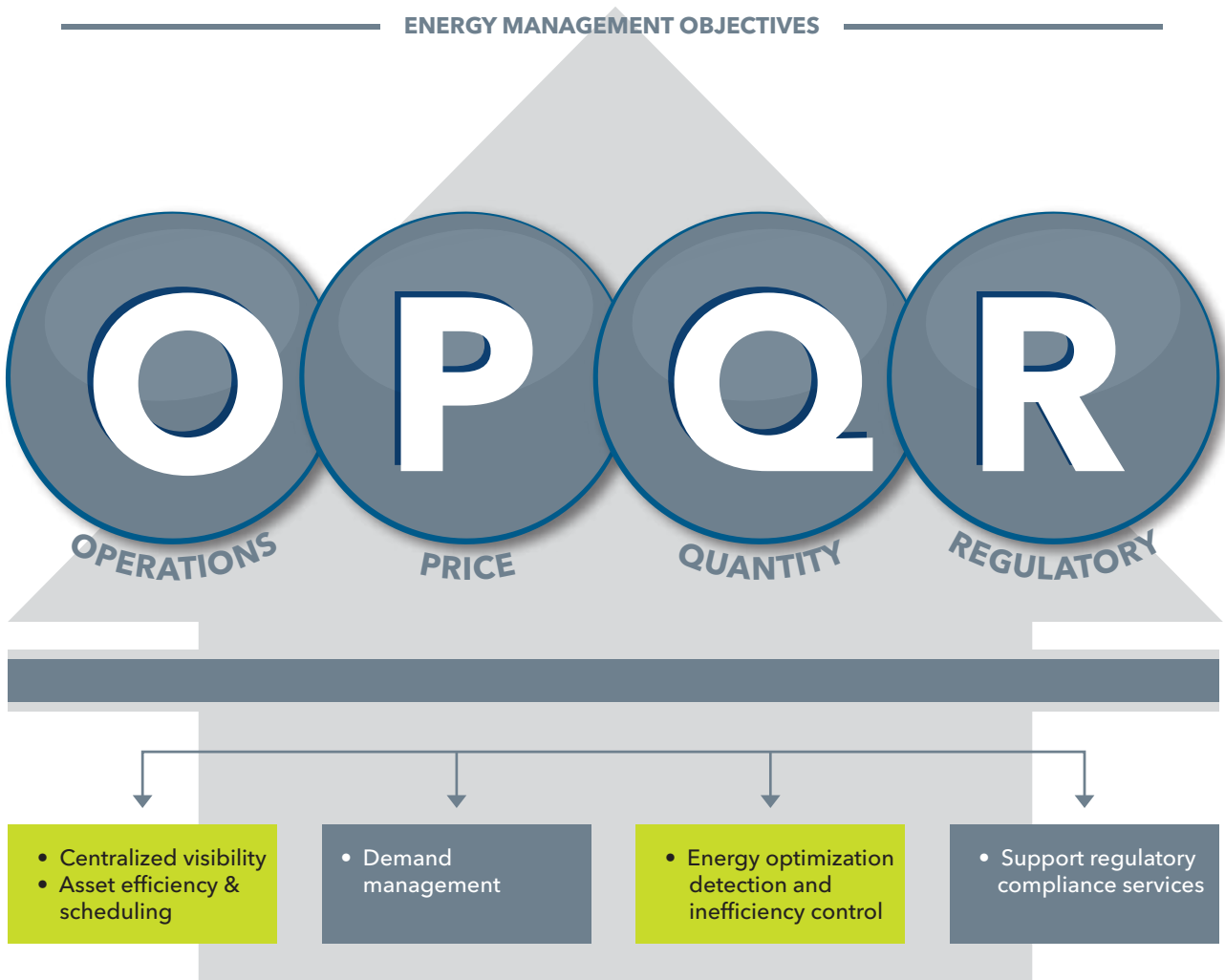
remotely, avoiding truck-roll costs. At EcoEnergy, we have a strong pedigree of Service Management that focuses on resolving and eliminating frequently occurring problems.

## Price Optimization:

Our offering delivers savings with Demand Response and Peak Load Shaving. Load can be curtailed based on time-of-day tariff, and focus on savings is always higher in high-tariff zones.

### Our Energy Management Services

Energy Infrastructure View | Energy Cost Reduction | Centralized Energy Operations | Compliance and Reporting Support



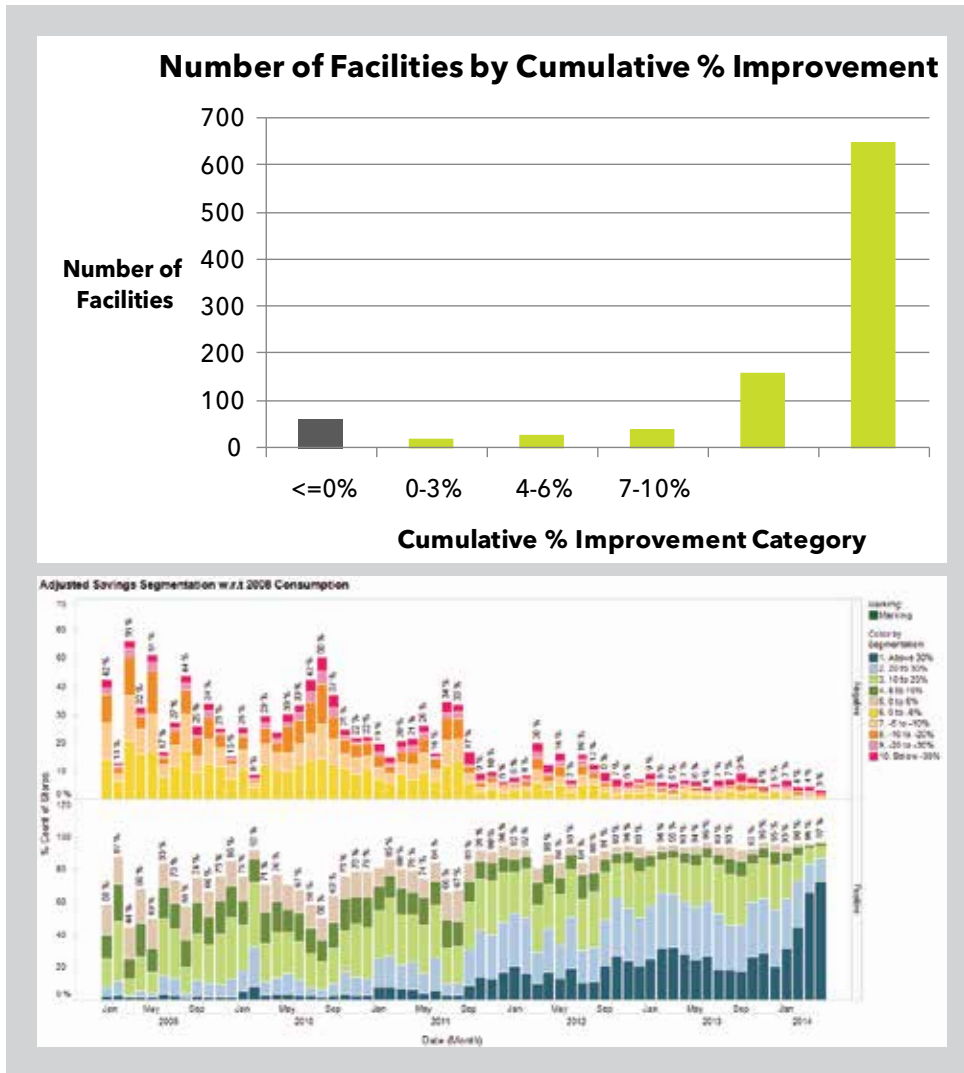
## Quantity:

A large portion of savings from our EMS offering is achieved by reducing the energy consumption. Our innovative saving strategies are identified through our highly scalable EMS platform and analytics teams. Our own teams take responsibility to action the findings, giving certainty of savings and not just insights.

## Sample Reports

## Reporting & Assurance:

Our services offer Enterprise-level reporting which allow Enterprises to not only ensure internal policy compliance but also provide data to monitor regulatory requirements.



## Delivering Quicker, Deeper

EcoEnergy deploys the EMS program through an innovative wave-based ideology. Each wave focuses on key aspects and is dedicated to uncovering every opportunity there is to save energy related costs for you.

### Wave 1: Policy and Control Strategies

Once the saving strategies are identified, Wave 1 savings focus

on remote operational corrections and standardization, like schedule and policy corrections. Controls-based asset optimization strategies are deployed that optimize the capacity in operation and choose the most optimum mode of operation.

Our Wave 1 solution is vendor agnostic that allows us to start producing savings very early on in the program, even for proprietary controls.

## Waves Approach - How we do it

### Energy Management Framework



Service Window™



Load / Capacity Optimization



Free Energy Usage



Asset Efficiency



**Wave 1**  
Policy & Control Strategies



**Wave 2**  
Deviation Management



**Wave 3**  
Advanced Analytics

### Wave 2: Deviation Management

The Wave 2 saving strategies focus on sustaining the savings through rule-based deviation management, and delivering real-time savings through short-range analytics.

Our unique Energy Management Platform continuously detects and even corrects the deviations through algorithms. Integration of weather trends & tariff information delivers substantially higher cost savings.

### Wave 3: Advanced Analytics

The analysis of richer data helps maximize the effectiveness of the deployed saving strategies, and the identification of new & more granular saving strategies.

Any deviations from the policies, schedules, mode of operations are detected by the Platform, and the adherence to the same is enforced by analysts at our Energy Operations Center (EOC). The EOC is a central control center run by a team of energy experts that provides energy modeling, monitoring, incident management, ticket management, and performs energy reduction activities & reporting. The Platform protects many other saving strategies, and also autocorrects some of the deviations in near real-time.

## Multidimensional Data Analysis - EUI Vs Avg. Temp Vs Compressor Run-hours

Store wise average temperature with average compressor hours and average EUI (HVAC EUI if HVAC consumption is monitored)



Compared to the conventional energy management solutions, our EMS is analytics-driven that dynamically determines the savings. The continuous commissioning of saving strategies, delivered in a managed services model, sustains the long term savings.

## Why EcoEnergy?

- **Certainty of Savings** - Our domain expertise in retail energy management is the cornerstone of our confidence. We conduct in-depth pre-deployment studies and create tailored programs for you that deliver operational savings.
- **Savings in Multi-site Retail Environment** - Our expertise in multi-site retail environment to model and ramp up the savings environment helps us quickly scale the program, ensuring quickest possible positive cash flows.
- **Flexible Financial Models** - So deep is our conviction, that we would link our earnings to your gains.

In short, we offer you a Zero-risk savings program. With our commitment to deliver significant savings to customers, our extensive capabilities with hosted platforms and our vast experience in Global Delivery, you can count on us to be your partner in meeting your energy cost reduction targets.

Our experience with some of the largest retailers in the world also stands testament to our trusted, high-performing EMS program.

# Case in Point - Large North American Retailer with 1000+ Sites

## Engagement Overview

- Multi-year energy management services to reduce energy consumption across 1000+ stores in the US
- Continuous identification and commissioning of energy saving strategies through dynamic control of connected stores
- Manage 24X7 Operations Support Center to monitor, troubleshoot & analyze reported incidents

## Value delivered to Client

- Energy Management Services program significantly contributed towards improving Carbon Disclosure Leadership Index (CDLI) score to 98A in 2013 from 54C in 2009
- Operational efficiency in managing and maintaining lighting, HVAC and plug load across the chain
- Insights from the EMS platform identify, prioritize & resolve long-standing issues contributing towards better customer experience

## Highlights



### Average Annual Energy Savings

>13% energy savings realized on Total Energy Spend

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### Data points Integrated

275K Data points  
100K Assets



### Remote Resolution

~65% of calls resolved remotely



### Savings Generated From

- Remote Store Operations Support
- Consumption Reduction
- Demand Response & Billing Anomaly Detection

Estimated Gross Savings of \$70 Mn+ over the Engagement Period



## About EcoEnergy

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EcoEnergy's award-winning connected services combine the power of its Technology Platform & the agility of its Command Center with the expertise of its industry experts and analysts to deliver desired business outcomes - such as energy efficiency and occupancy comfort. Forever pushing the edge of the learning curve, EcoEnergy has built strong expertise across industries and employs only the latest technologies to deliver transformative results.

EcoEnergy is a part of UTC Climate, Controls & Security, a unit of United Technologies Corp., a leading provider to the aerospace and building systems industries worldwide.