

# HARNESSING THE POWER OF BIG DATA - AN ECOENERGY PERSPECTIVE

Big Data analytics is the buzzword in almost every business boulevard. It allows energy managers to access, visualize and analyze the data they collect. Organizations today understand the emerging importance of Big Data analytics in driving business decisions across multi-site national accounts.

Raj Beniwal, Head of Retail Energy Management at EcoEnergy, talks about how energy managers can harness the power of Big Data.

Excerpts of a discussion with the Edison Electric Institute:



## What does Big Data mean to owners and operators?

Big Data is a very large set of data - structured or unstructured - that can be analyzed and correlated to reveal ways of solving problems that were not very feasible earlier. Technology and increase in affordable computing power have accelerated development of ways to harness Big Data in facilities, an area in general not as much thought of for using such technologies. There are some obvious use cases while many are still emerging.

## How can mining and managing Big Data help national accounts customers reduce their energy usage, as well as meet their expectations for relevant information?

National accounts are characterized by large numbers of facilities - each store has tens of thousands of devices that are capable of communicating. There are credible industry case studies in which clients have saved up to 20% on energy costs and maintenance & operations expenses across the portfolio by leveraging Big Data.

Big Data analytics is enabling not just energy consumption reduction but also wider supply-side optimization, including demand management, energy procurement, and tariff-based savings. The ability to deal with voluminous data will allow energy managers to sample data more frequently and act in near real-time.

Energy is just one of the areas where Big Data analytics and video analytics are being leveraged to manage customer experiences in stores & restaurants, as well as to digitally manage operations as significant business enablers.

Up to  
**20%**  
savings on energy costs, and maintenance & operations expenses

## What types of data are we talking about?

Typically, utility data such as consumption, tariff, charges, demand and penalties. Other pieces of the puzzle are data around asset operations, maintenance, service calls (including natural language records), granular asset performance data, interval consumption data and weather feeds. We also include static data related to location, size and nature of facilities.

This has the potential to expand quickly to various other parts of the business operations, including operations of all in-store assets, video analytics and wearable technologies for store associates. Much of this technology may not be just under IT management but will have to be managed by the facilities organization as well.

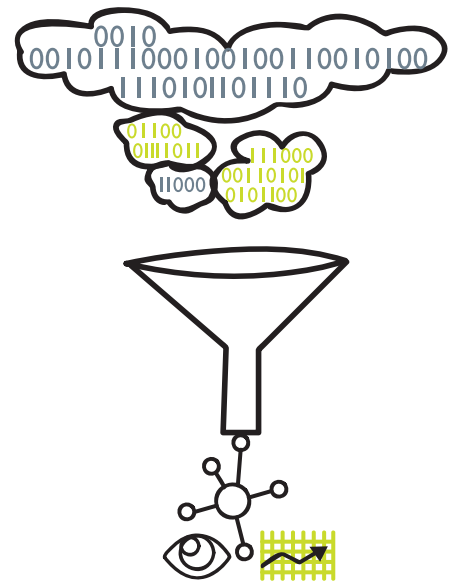
## What are the enabling and/or emerging technologies that are prompting more Big Data discussions?

The Internet of Things (IoT) is the biggest reason we are seeing the increase in Big Data discussions. We will see Big Data even more with the influx of new technologies that are able to connect to existing systems & devices and enable them to become intelligent. As advances in technology make it possible to store & process large amounts of data, both new & existing devices (sensors, meters, cameras, etc.) will be capable of providing & correlating data in unprecedented proportions. Clearly, the low cost of computing power and the ability of these devices to talk to each other present unprecedented possibilities for how businesses can benefit from Big Data - be it cost reduction, understanding trends or offering better store environments.

## What are some of the ways for energy managers to access, visualize, and analyze all of the data that are collected?

This is an important topic as it is easy to get overwhelmed by the volume and velocity of data. Visual analytics is a crucial component that enables energy managers to identify and resolve energy challenges in new and effective ways. Harnessing the power of Big Data calls for simplifying data access and usage by company personnel who are not information technology or statistics savvy.

This requires the platform to have a model to link and correlate the information, organize the data for faster access, define the key performance indicators at various levels, and then drill down through the visual interfaces. It is important to have a bird's-eye view as well as the ability to go to microscopic levels. EcoEnergy has invested heavily in making the visualizations intuitive and relevant to different stakeholders like the energy manager, chief financial officer and head of overall store operations.



## What type of challenges do you see customers encounter when they embark on a data-driven facilities management effort?

Today, there is a lot of buzz around data in facilities and we have believers, non-believers and observers. It is essential to get a believer who can shape this initiative. There is, at times, very limited appetite to experiment and the facilities operators are more comfortable dealing with the lower-risk, conventional improvement methods. Getting started with in-house expertise requires significant effort as it needs deep collaboration of cross-functional teams. It also requires strong senior stakeholder support and some significant time and money. Also, legacy technology may not offer an easy path for data integration. IT and security considerations, though solvable, require an initial push.

## About EcoEnergy

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.