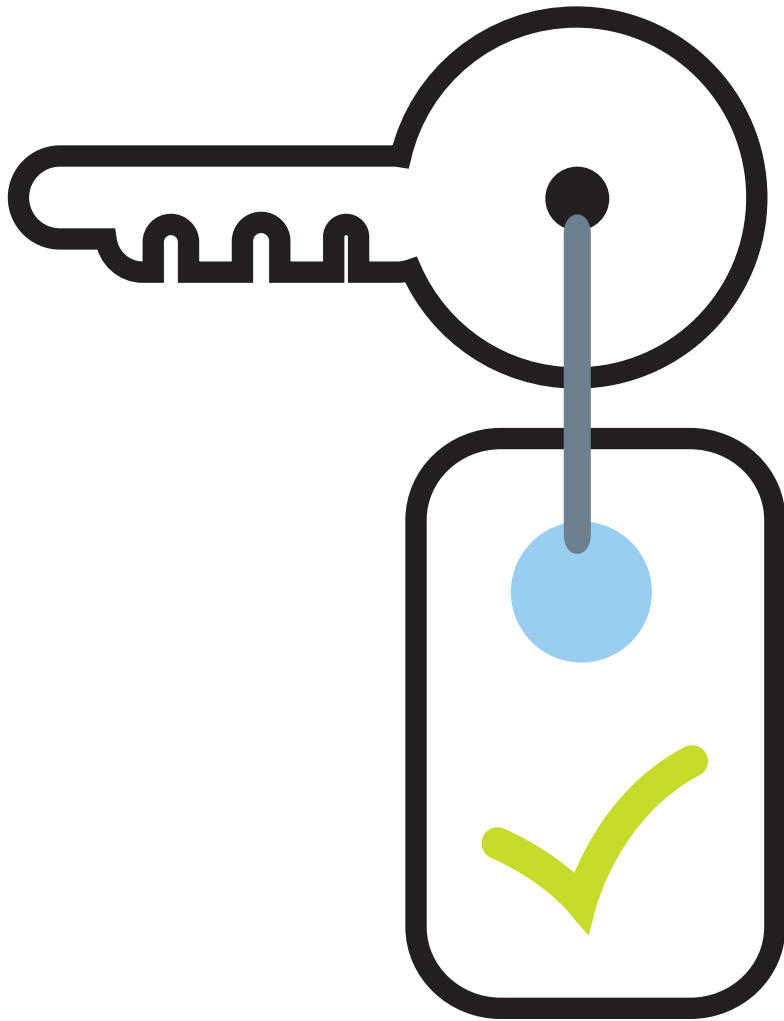

SWITCH TO RESULTS IN HOTELS

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



Energy is one of the fastest growing operating costs in the hospitality industry, accounting for up to 6% of total running costs. Benefits from engaging in energy efficiency program are not limited to improving the business bottom line and increasing competitiveness but also enabling hotels to capitalize on their efforts to build reputation as a green hotel.

Hotel facilities worldwide are under mounting pressure to do more with less - to provide superior guest experience while controlling costs and eliminating waste. But with escalating energy prices, increasing demand, and the expanding role of power-dependent technology in the delivery of care, the challenge grows each day.

By eliminating energy waste through improved energy efficiency, margin improvement can be as much as 25%. At the same time, energy efficiency programs help improve guest experience, guest safety, and increase hotel staff productivity.

However, energy efficiency programs in hotel facilities are not easy to roll out. This is because energy consumption pattern across the hotel facilities differs very significantly from site to site rendering benchmarking meaningless. Consumption is also dependent on multiple factors viz.: type of facility (luxury, semi-luxury, business, with laundry, with swimming pool etc); type of electromechanical system and their condition (age, maintenance, technology, etc.); location - weather, layout, size, orientation, operation pattern, controllability etc. Further, continuous operations and focus on guest experience require uninterrupted power supply. There are multiple departments that need to come together to make the program successful: Real Estate, IT, Facilities Development, Strategic Sourcing, and Human Resources.

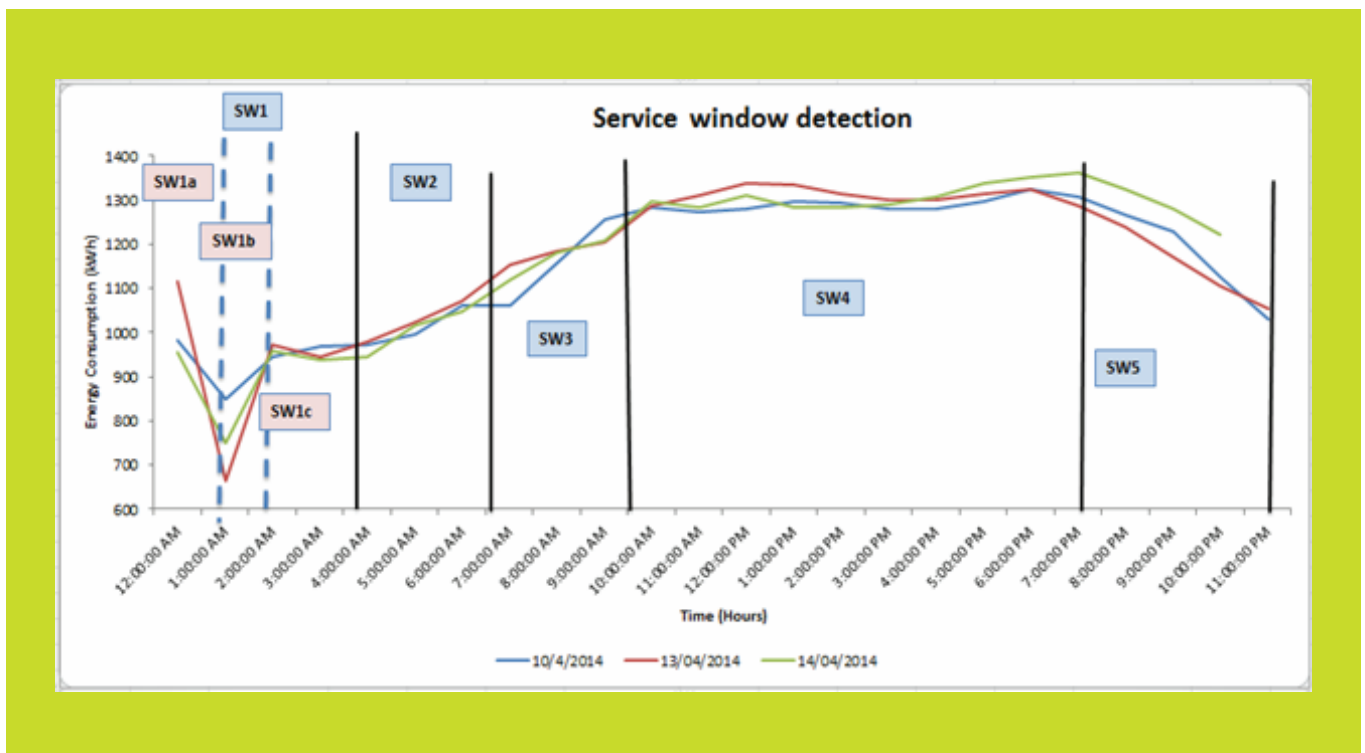
Wipro EcoEnergy's Managed Energy Services Program (MESP) for the hospitality sector is developed to address these challenges and continuously deliver sustained savings during the engagement period – normally 5-7 years. MESP model generates savings primarily through operational control - Policy and Control Strategies, Deviation Management, Benchmarking, Long Range Analytics etc. The program is anchored on a deep domain understanding and constraints of a hotel like its 7 days per week operations, the need to cater to individual comfort requirements of different guests (lighting, temperature levels, ventilation etc.) from the time of checking in to check-out, running energy systems irrespective of demand etc. We also understand that success of an energy efficiency program is very much dependent on close cooperation between all stakeholders and Wipro EcoEnergy brings its best practices in governance, program management and delivery assurance to ensure seamless execution of the overall program.

Service Offering

Our MESP focuses on driving energy efficiency in hotel buildings by using a centralized Energy Operation Center (EOC) and real-time control of infrastructure. As a part of this framework, we deliver energy monitoring & management by ensuring your major assets are run as per the most optimized schedule and set-points, detecting and reducing energy leaks. This is done by integrating the Building Management System (BMS), meters and sub-meters, and other business systems to collect site data on our Energy Management Platform. The Platform is a centralized technology suite that receives, manages and mines the data received from the individual sites.

The Platform runs rules / algorithms to identify at multiple Service Consumption Areas (SCA) levels. Schedules and policies are defined for every SCA as per building codes and operational demands based on the unique Service Window™ framework.

A typical Service Windows illustration based on metered data of a leading hotel organization is depicted below:



The Service Window™ framework helps the platform identify deviations. These opportunities are broadly classified into:

- Policy Management
- Service Window™ based management
- Deviation Management
- Long Range Analytics

The Platform provides standard as well as customized reports at property, group and corporate level on a near real-time basis. Reports are classified as Engineering, Management & Enterprise level reports.

Wipro Energy Manager Snapshot

Figure I: Snapshot of Wipro Energy Manager Application showing a site's consumption over 30 days

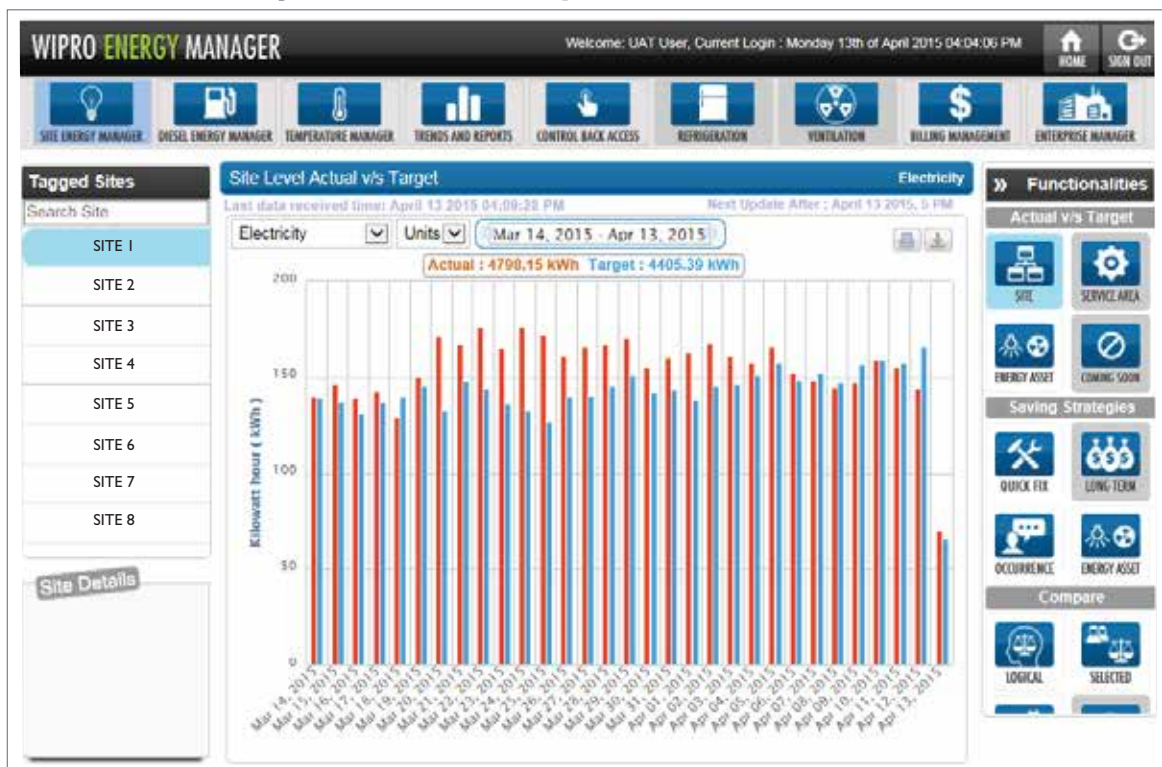
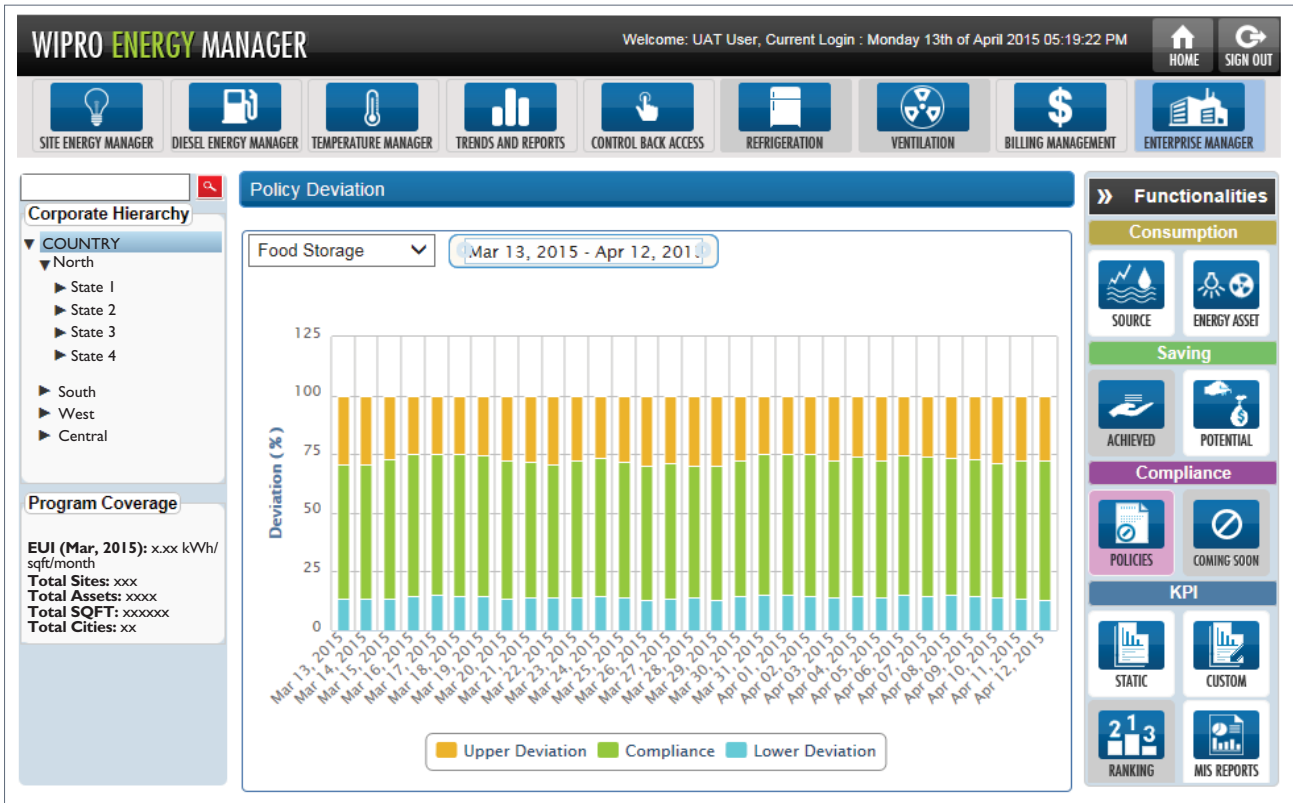


Figure 2: Snapshot of Wipro Energy Manager Application showing temperature policy compliance for food safety



The Platform is completely scalable in terms of number of facilities and generates site-level and enterprise-level reports for MIS and analytics. Further, the Platform is tightly integrated with the EOC which aids in dynamic real-time interventions to deliver energy efficiency. The EOC helps sustain the identified savings and commission new saving strategies remotely by following interventions:

- Providing centralized energy service desk services
- Acting on control malfunctioning alerts
- Analyzing energy consumption patterns and performance data
- Identifying improvements in control logic
- Applying policies and monitoring across deployed sites

Our MESP is developed with intent to continuously deliver sustained savings during the engagement period which is over 5-7 years. Some of the key differentiators are:

- An end-to-end multi-year approach to ensure savings sustenance
- Advanced, analytics-driven Energy Management Platform
- Centralized Energy Operations Center (EOC)
- Prioritizing type of saving strategies (operational, retrofits, capital asset replacements) based on hotel budget and resources

Based on the innovative analytics-led approach to energy management in the hospitality sector, Wipro EcoEnergy has been approached by 'Cornell Center for Hospitality Research', a unit of the Cornell School of Hotel Administration to enter into a partnership. The Center for Hospitality Research (CHR) sponsors research designed to improve managerial and operational practices in the hospitality industry. The objective of the partnership is to work on driving research directed towards sustainability for the hospitality industry and other businesses. Also, Wipro EcoEnergy has been selected to work with US Department of Energy to develop standards and benchmarks for different industries.



Energy Assessment

- Site walk-throughs & validations
- Interaction with the facility teams
- System and sub-system level study
- Load profiling & data validation
- Controls assessment & integration feasibility
- Asset validation & assessment
- Metering infrastructure assessment
- Identification of energy conservation measures (ECMs) candidates



Technology Deployment

- Systems integration (BMS, EMS, automated room management, chiller system)
- Metering integration / deployment
- Controls implementation
- Energy management platform setup
- Energy Operations Center (EOC) setup



Managed Services

- Analytics-driven approach to energy savings
- Management decision support through benchmarking and trend analysis
- Continuous commissioning of controls
- EOC implementation & deviation reporting
- Ongoing savings strategies identification

Engagement Benefits



Visibility

Comparative analysis reports



Model based analysis

Design & capacity optimization



Energy efficiency rules

Design & capacity optimization



Service & Asset Management

Workflow Management



Supply side optimization

Demand analysis



- Benchmarking & Baselining
- Dashboards, single version of truth



- Demand vs capacity matching
- Scenario planning



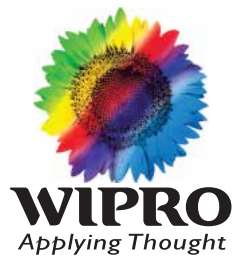
- Correct control logic, configuration, parameter tuning, process improvement, dynamic correction



- Track end-to-end resolution



- Demand management
- Contract demand optimization



About Wipro EcoEnergy

Wipro EcoEnergy is the energy services business division of Wipro Limited that provides intelligent, sustainable solutions for energy consumption and management. Utilizing leading edge analytical tools we deliver energy-efficient solutions to our clients that help reduce their carbon footprint, energy usage and recover avoidable energy losses.

Our Managed Energy Services holistically address the entire spectrum of energy and sustainability, providing sustained energy savings. We have created a strong local ecosystem of partners in North America, Europe and APAC, and have deployed our Energy Management Services for a number of companies around the world. Our clients have realized substantial energy savings and cost reduction during the course of their engagement with us.

For more information please visit www.wiproecoenergy.com or write to ecoenergy.info@wipro.com