Service and Product Provider Partner

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Project Scope

In 2016 Petco, an ENERGY STAR Buildings partner, began working with ENERGY STAR Service & Product Provider (SPP) partner EcoEnergy to implement standardized, analytics-driven energy management across its national store portfolio. The goal of this 5-year program is to achieve enterprise-wide operational energy savings of at least 8% while maintaining the guest experience and providing a safer environment for animals.

Within a year, the program has successfully achieved the Phase-I target savings of 3% and has scaled to 1,400+ Petco stores, comprising 19+ million sq. ft.

Project Summary

The program first standardized the way that Petco stores manage energy and implemented deep HVAC and lighting controls-based saving strategies. Data from each store's Building Management System is collected and centrally analyzed by EcoEnergy's Energy Management Platform, which collects and carries out analytics on around 150-200 data points for every store. These data points include the status of the HVAC system and its modes of operation, temperature values for zones in each store, return air temperature, outside air temperature, lighting status for internal and external lights, and store occupancy status from security alarm systems. The platform also collects data from external sources like weather feeds, maintenance management, and billing management systems.

The EcoEnergy platform processes this data to discover energy savings strategies and any deviations in system operations throughout Petco's stores. For example, the EcoEnergy platform regularly adjusts the operating schedule of HVAC and Lighting within stores in response to occupancy information that comes from analysis of security system data. By automatically adjusting HVAC and lighting schedules to match typical occupancy, Petco gains significant savings by keeping those systems off when they are not needed.

Analyzing this array of data has directly enabled Petco and EcoEnergy to resolve many common, high-impact system deviations at the single-store level. These operational aberrations are typical in large, multisite properties: in a week, Petco typically detects deviations for about 6-12% of HVAC units and 2-5% of Lighting circuits. Many other deviations are remotely resolved by EcoEnergy's Energy Operations Center (EOC) to drive additional energy savings.

Equipment inefficiencies or breakdowns are flagged by the software, and addressed by Petco field service partners dispatched to local stores. These flags are especially important in helping Petco maintain strict indoor environmental quality conditions to ensure animal safety—providing significant, non-utility-bill savings.

Energy Savings

In a great example of the value provided by an ENERGY STAR SPP partners to a committed ENERGY STAR Buildings partner, the program achieved a 3% savings trend in the first several months after launch. It is on track to achieve target savings for the first year across the 1,400-store portfolio.

Investment

The initiative leverages Petco's existing Building Management System. As part of the program, Petco made IT investments at its data centers to enable data collection. Investments were made in IT infrastructure and software to bring the data collection and controls management in-house. Total investment was less than $100,000.

Financial Return

The partnership with EcoEnergy has been cash-positive for Petco within the first year, as the Service Fee is recovered through a share of the energy cost savings delivered by the program. Petco expects electricity expenditures for fiscal year (FY) 2016 to be down compared to FY 2015 by 3.5% (about $1.5 million), with the analytics project being the most significant driver. That portfolio-wide savings came despite a roughly 5% growth in total number of stores.

Monitoring & Verifying Energy Savings

EcoEnergy follows a methodology based on International Performance Measurement and Verification Protocol (IPMVP) - Option C for measurement and verification of savings.

Distinguishing Value

As the service provider, EcoEnergy takes end-to-end responsibility for the program, allowing Petco staff to focus their time on driving tactical and strategic improvements in store planning and operations.

In addition to real cost savings, the program is providing Petco with better insight on stores' compliance with thermal standards needed to keep animals healthy. Monitoring and management of thermal compliance has increased overall compliance levels to above 99%. The level of compliance has been steadily improving as the program has given Petco's central management information on thermal conditions that was not available before the launch of the analytics project.

The focus on remotely resolving problems, coupled with resolving chronic equipment performance issues on-site, helps to improve thermal reliability and is expected to reduce the number of service calls from individual stores. The reduction in service calls provides significant savings for Petco in both overhead and staff hours.

Analysis of in-store system performance data enables identification of new savings strategies over time, potentially leading to higher savings year-after-year.