

COMMERCIAL PARTNER

STAPLES



Implementation Model: Eco-Treasure Hunts at Fulfillment Centers

ORGANIZATION TYPE

Retail

BARRIER

Difficulty identifying and implementing comprehensive energy efficiency opportunities at fulfillment centers

SOLUTION

Partner with fulfillment center staff to conduct Eco-Treasure Hunts

OUTCOME

- 1) Energy use reductions of 20% or more at fulfillment centers participating in Eco-Treasure Hunts
- 2) Lasting collaboration with fulfillment center staff to improve energy efficiency

Overview

With over 580 ENERGY STAR[®] certified locations, Staples has a successful track record of energy efficiency improvements in its retail store portfolio. As its online business has grown, Staples has broadened its energy approach to focus on fulfillment centers, where millions of online orders are packaged each day. Building on a concept first introduced to them by General Electric (GE), Staples developed a program to conduct “Eco-Treasure Hunts” at several of its fulfillment centers in order to discover energy & water efficiency opportunities. The Eco-Treasure Hunt is an intensive 3-day energy & water audit and recommissioning exercise. Staples corporate energy management team, facility staff, and a multi-disciplinary team of experts in equipment and systems come together to uncover and prioritize the most effective energy & water saving opportunities at the target facility. The Eco-Treasure Hunts are also an opportunity to provide energy education to employees, and to develop best practices, which can be rolled out to other fulfillment centers across the country.



Policies

ENERGY STAR Label Goals

In addition to Staples 25% energy use reduction commitment through the Better Buildings Challenge, the corporate office has also set a goal of earning ENERGY STAR designations for 1,000 of its locations by 2016.

Energy Champions

Staples corporate office requires that each store and fulfillment center identify an Energy Champion. This person is typically the Maintenance Director for the location. The Energy Champion has the following responsibilities:

- Attend bi-monthly energy & water webinars
- Maintain energy & water bulletin board in associate break room
- Conduct quarterly training at all associate meetings
- Plan the Eco-Treasure Hunt.

Guaranteed Funding for Energy Treasure Hunt Findings

Staples corporate office committed to approve a budget for implementation of measures identified during Eco-Treasure Hunts that show a 36 month payback period and hurdle rate.



Process

The first step in setting up an Eco-Treasure Hunt is to have the right team in place. For Staples fulfillment centers this includes a lighting engineer, HVAC engineer, motor expert, conveyor expert, material handling specialist (think forklifts), and energy awareness/communications specialist. The team is rounded out with the facility manager and a member of the Staples Energy team.

Prior to the Eco-Treasure Hunt, the team typically participates in several conference calls to discuss their approach. About a week before the treasure hunt the corporate energy management team reviews drawings of systems and equipment, and installs dataloggers and submeters in conveyor panels and material handling equipment charging stations.

The Eco-Treasure Hunts are scheduled to take place over three days at the facility. The days are spent performing a combination of energy & water audits, equipment commissioning, and employee education. Because of the substantial amount of time that the team is onsite, cooperation of the facility managers and employees is critical.

Day One occurs on a day that the fulfillment center is not in operation so that the team can assess the facility when it is shut down and identify wasted energy, such as equipment and lights left on during off hours. The team breaks up into expertise sub-groups (lighting, HVAC, conveyors, etc.) and conducts a walk-through of the facility, noting energy-efficiency opportunities. After the walk-through, the team convenes to discuss each of their findings and identifies equipment that could or should have been turned off.

Day Two occurs when the facility is in full operation. The team is able to view all the equipment and systems operating and interacting with one another. At the end of the day, the team again convenes to discuss findings, narrow down energy-efficiency ideas, calculate potential savings from proposed changes, and update the facility manager on the progress of the Eco-Treasure Hunt.

Day 3 is comprised of a team meeting where all the data is analyzed and the list of potential energy & water saving opportunities is finalized. A summary of the Eco-Treasure Hunt process and final recommendations are then presented to a wider audience of Staples employees.

Tools:

- [Treasure Hunt Day Planner](#)
- [Energy Reduction Kick-off Presentation](#)
- [Eco-Treasure Hunt Video](#)



Outreach

The Eco-Treasure Hunts would not be possible without the cooperation of the facility managers and employees in facilities where they occur. Constant communication and dialogue with the onsite team is crucial to position the event as a corporate effort to support individual locations in energy conservation. Outreach for the Eco-Treasure hunts starts several weeks or months before the event with a presentation to the facility manager and maintenance director outlining the event timeline and agenda.

Outreach to employees in the fulfillment centers is also critical. Prior to the team's arrival, posters are placed at the facility highlighting the event. Employees arrive at their shift expecting the. The Eco-Treasure Hunt team also conducts a rally for all employees on Day3 to detail some of their findings, solicits additional ideas, and to offer steps individual employees can take to reduce energy use.

The team leaves the location a suggestion box so that employees can continue to provide feedback on improving energy efficiency at the fulfillment center. Employees working daily with the equipment are well-positioned to provide useful suggestions. Employees with top suggestions receive gift certificates.

Tools:

- [Eco-Treasure Hunt Posters](#)



Outcomes

The Eco-Treasure Hunts have been very successful for identifying potential improvements at the fulfillment centers, providing energy education to employee. Energy reductions have met or exceeded Staples' 20% reduction goal for most of the 11 Eco-Treasure Hunts conducted to date.

In all 11 cases, the Eco-Treasure Hunt team typically noted a 2-4% decrease in EUI in each fulfillment center immediately following the three-day event (and before any identified technical upgrades have occurred). This is largely attributed to the employee education that occurred during the Eco-Treasure

Hunt and to operational changes that went into effect immediately (such as turning off lights or shutting down conveyors when not in use).

The Eco-Treasure Hunts have served as test-beds for new technologies, such as LED lighting and energy management systems, that have subsequently been rolled-out across all facilities as standard operating procedure.

Tools:

- [ENERGY STAR Certification](#)



Measuring Success

The success of the Eco-Treasure Hunt is measured by the energy & water reduction from conservation measures identified during the event and implemented. Energy use at the fulfillment center is tracked closely prior to, during, and after the Eco-Treasure Hunts. Because dataloggers and submeters are installed prior to the three day hunts, Staples is able to closely measure and analyze energy use of the entire fulfillment center as well as systems within it.