

Green Stores

Another element of Staples' energy planning is the construction of stores that are pursuing certification under the Leadership in Energy and Environmental Design (LEED) program. This nationally recognized standard, developed by the U.S. Green Building Council, indicates that a building was constructed and will operate in an environmentally sustainable fashion. Staples completed construction of its first green store in Miami in 2007, and the store has registered for LEED certification. Construction materials used to build the store, such as drywall, carpeting, concrete, steel, and bathroom partitions, all consist of recycled materials.

The Miami green store features on-site recycling of paper, glass, cardboard, and plastic in addition to the standard Staples recycling programs for computers, electronics, and ink cartridges, and will minimize its environmental footprint through savings in both energy and water use. Highly reflective roofing will minimize cooling costs, an especially important measure in the Miami heat. A combination of rainwater collection, waterless urinals, and low-flow toilets will minimize water use and thereby reduce stress on the municipal water system and overused South Florida aquifers.

The store was built with bike racks and showers to encourage alternative forms of transportation for employees. A similar store was completed in Roslindale, MA in September of 2008, and three other stores implementing green building practices are in the planning and construction process. Staples hopes ultimately to revise its retail prototype to align with LEED standards, so that one day every new Staples store constructed will be built according to LEED guidelines.

STAPLES COMPANY PROFILE

Staples, the world's largest office products company, is committed to making it easy for customers to buy a wide range of office products, including supplies, technology, furniture, and business services. With \$27 billion in sales, Staples serves businesses of all sizes and consumers in 27 countries throughout North and South America, Europe, Asia and Australia. In July 2008, Staples acquired Corporate Express, one of the world's leading suppliers of office products to businesses and institutions. Staples invented the office superstore concept in 1986 and is headquartered outside Boston. More information about Staples (Nasdaq: SPLS) is available at www.staples.com.

ABOUT CLEAN AIR-COOL PLANET

Clean Air-Cool Planet is the leading science-based, non-partisan, non-profit organization dedicated solely to finding and promoting solutions to global warming. Through our Climate Policy Center we develop and promote economically efficient and innovative climate policies. CA-CP provides hands-on assistance to companies, campuses, communities and science centers throughout the Northeast to help them reduce their carbon emissions. We celebrate the commitment, innovation and success of our partners as they implement practical climate solutions that demonstrate the economic opportunities and environmental benefits of action on climate change.

Find out more at www.cleanair-coolplanet.org.



100 Market Street, Suite 204, Portsmouth, NH 03801
603-422-6464

161 Cherry Street, New Canaan, CT 06840
203-966-5429

1730 Rhode Island Ave. NW, Suite 707, Washington, D.C. 20036
202-775-5190

Case Study



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STAPLES, Inc: Sustainability is the Soul of Staples

INTRODUCTION

As corporations comprehend the seriousness of risks and opportunities posed by climate change, a trend is emerging of reducing carbon pollution from operations through creative production of renewable energy, combined with efficiency strategies.

Staples, a sector leader with more than 2000 office-supply stores around the world, has adopted just such a strategy, combining impressive returns through energy savings with a truly unique program to produce solar energy at dozens of their stores.

Staples 2007 Energy & Climate Program AT A GLANCE

15% Reduction in Staples' electricity consumption per square foot since 2001.

13% Reduction in Staples' Greenhouse Gas Emissions since 2001.

Saved 540,000 gallons of diesel fuel and 5,575 tons of CO₂ per year by installing electronic speed limits on its trucks.

2 LEED stores open; 4 more under construction.

20 of Staples stores and distribution centers use solar energy and 150 additional solar installations are under consideration through a partnership with SunEdison.

Nearly 24 million ink and toner cartridges recycled in 2007.

5 million kWh in reduced electricity usage by US distribution facilities.

Staples, which does not serve a particularly "environmental" consumer, has achieved those things while operating by a different business model: one that integrates sustainability into the very fiber of the business. The office supply giant has made environmental action both the responsible and the profitable thing to do, adopting a four-pronged strategy: investing in energy efficiency and renewable power; offering customers eco-friendly products; easy recycling; and environmental education for customers and associates.

The environmental agenda at Staples is managed by a senior level sustainability position reporting directly to the General Counsel. The program includes a variety of initiatives – from exploring renewable sources of energy to offering more than 3,000 "eco-preferable" products – exemplifying leadership in searching for new methods to improve both the environment and the bottom line. Those efforts earned Staples the 2007 Clean Air-Cool Planet Climate Champion award for corporate leadership on climate action in recognition of their commitment to reducing heat-trapping gases.

The Project

Purchasing, packaging, shipping, and building operations for the retail office-products business requires vast amounts of energy –

and electricity is 85 percent of the energy mix at Staples. Following a process of measuring, monitoring and managing consumption, the company was able to identify reducing electricity consumption as a priority.

With the assistance of a network of non-profit environmental groups including Clean Air-Cool Planet, the company developed a number of pragmatic solutions to reduce both consumption and the reliance on fossil-fuel-based electricity. At the core of this strategy is a partnership with Maryland-based SunEdison. Together, they have developed a unique business plan to drive construction of large-scale solar photovoltaic (PV) systems through a "solar services" model agreement. Their model eliminates a key obstacle in renewable energy production, the significant upfront investment.

RENEWABLE ENERGY

The Partnership

Despite improved efficiency, PV arrays come with such hefty price tags that few corporations have chosen to purchase and install them on site, despite the benefits. The partnership with SunEdison allows Staples to tap into solar energy while avoiding the financial risks that would otherwise make PV an unattractive investment when compared to traditional grid electricity. By mid-2008, Staples had twenty 200-500kW solar systems in full operation on stores and distribution centers in California, New Jersey, and Connecticut, with 150 more in various stages of evaluation, negotiations, planning or construction.

SunEdison handles the process of finding new opportunities, applying for all permitting and incentives, designing the systems, purchasing the equipment and warranties from a third party manufacturer, and installing and maintaining the PV array. In return, Staples provides the actual space for the PV array and enters into a Purchase Power Agreement (PPA) with SunEdison. By committing to the PPA, Staples agrees to purchase the solar energy from SunEdison at a set price for a fixed number of years. Staples uses the solar energy during peak hours in place of conventional electricity from the local energy grid, thereby “peak shaving” – reducing the maximum demand rate they will be charged for power by their grid supplier, saving money while reducing Staples’ greenhouse gas emissions. By “locking-in” energy prices with a PPA contract, Staples avoids unpleasant surprises during periods of utility rate hikes, which is an important way to help control operating costs in the low-margin retail sector.

Another important element of Staples energy planning is demand-side management (DSM), in which Staples works with utility companies to address potential brownouts and power shortages in the grid by decreasing the Staples load during peak hours. This is another way Staples saves on utility costs while also reducing its carbon footprint.

Among the most notable achievements in the partnership with SunEdison is Staples’ distribution center in Killingly, Connecticut, one of the largest solar energy systems in New England. The 433-kilowatt system is 1.5 times the size of a football field and generates 14 percent of the facility’s electricity requirements. The Connecticut Clean Energy Fund contributed \$1.7 million for the system, while SunEdison arranged to finance the rest through investments from third-party investors, with little direct investment from the host company.



The immediate focus of the project is to build large solar systems in states that have high electricity rates and that are willing to provide energy incentives to commercial entities, thus maximizing the financial benefits of the solar projects for Staples, and providing renewable energy to the grid when demand drops. Based on the success of the business model, Staples is exploring opportunities to expand the project and reach the core of its operations – their base of 1,400 retail stores across the US.

In the end, Staples has cut costs, better managed financial risks and reduced its reliance on imported fossil fuels and greenhouse gas emissions without tying up significant amounts of capital.

Solar array covers the roof of the Staples distribution facility in Killingly, Connecticut.

How a Purchase Power Agreement (PPA) Works

SunEdison & Investors



ROI
\$

Staples

Provides site
Uses solar energy during peak hours
Purchases power at reduced rate
Reduces GHG emissions

Finance construction
Build & maintain solar panels



Solar power



SunEdison provides financing for the construction of solar panels, and Staples benefits from low cost electricity and reduced emissions.

Wind Energy

Staples is exploring other energy alternatives on the road to becoming truly sustainable. The company has explored the feasibility of installing a 600 kW wind turbine at its corporate headquarters in Framingham, Massachusetts. That project could generate approximately 1.1 million kWh per year, about 10 percent of the energy needed to power the operations complex. Staples is also examining small-scale wind energy options that take advantage of the lower volume breezes rushing up the sides of buildings. At their fulfillment center in Ontario, California, for example, small modular turbines were integrated into the roof edge as an architectural element, without the need for an unattractive support tower.

ENERGY EFFICIENCY

Monitoring energy consumption at a fast-growing enterprise with a combination of owned and leased facilities in multiple states is a challenge. The solution demands state-of-the-art sophistication to provide management with accurate data to set goals and implement changes. Staples adopted a unique team approach that engages employees and vendors at all levels.

Energy Efficiency and Conservation

Staples bases key investment decisions on carefully collected data, obtained through sub-metering energy usage and tracking utilities costs. Staples uses a tool called Advantage IQ to review utility bills, energy use, and greenhouse gas emissions inventories each month. These energy reports are at the heart of Staples’ energy operations, and are used as a communications tool among corporate managers and facilities managers.

Each month, Staples reviews, in particular, the electricity consumption in its top 50 locations, and the company makes it a priority to facilitate the sharing of best practices between different facilities. Staples also reviews its prototype each year to determine if changes need to be made. This process helps ensure that the Energy Management System (EMS) is working as efficiently as possible, that HVAC systems are running efficiently and that new technologies are being incorporated effectively into stores.

Once the data has been collected and analyzed, energy efficiency programs at Staples are developed and implemented by a large team that includes not only corporate managers, but consultants, operations personnel, facilities managers, and vendors. Whether considering energy conservation in a retail store, data center, call center, or distribution center, a variety of decision-makers are always involved. For instance, by truly partnering with vendors to discuss company needs, Staples can exert a real influence on the vendor when it comes to product development. Since Staples is willing to pilot and test new products, vendors are more likely to work closely with Staples to supply them with new equipment in line with Staples’ goals. Staples also works closely with Energy Star, the Department of Energy, and other relevant groups and agencies when developing future programs and initiatives.

Successful measures

Two successful examples of energy efficiency measures at Staples have been lighting retrofits and new types of conveyors. In three fulfillment centers, Staples installed efficient T5 fluorescent fixtures along with motion sensors that turn off the lights automatically when aisles are not in use. These retrofits resulted in a 44 percent energy savings, making the payback period for their installation less than one year.

Another successful project was installing a “soft-start conveyor” in Hagerstown, MD, in 2006 that uses a more efficient motor. The new system reduced overall energy use by 45 percent, resulting in a savings of better than 631,000 kWh in electricity and \$76,895 in energy and operational costs.

Looking at the big picture, Staples’ total energy use in all operations grew by 28 percent between 2001 and 2007 because of company growth. But due to aggressive action on energy efficiency, Staples reduced electricity use by more than 10 percent per square foot, and net greenhouse gas emissions by more than 30 percent per square foot during that same time period. Pleased with their successes, Staples continues to look ahead and is currently aiming to complete a 10 percent overall reduction in greenhouse gas emissions from 2001 to 2010, a goal developed as part of their membership in the EPA Climate Leaders Program.

1 LEED standard “The LEED (Leadership in Energy and Environmental Design) Green Building Rating System® is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council representing all segments of the building industry developed LEED and continue to contribute to its evolution.” [From the U. S. Green Building Council]

