

# SUSTAINABILITY COMMITTEE RETAIL CASE STUDY



## Wal-Mart: “The Green Giant”

Global retail giant, Wal-Mart, has set the best practice standard in employing a variety of initiatives to minimise its environmental footprint. Interestingly, Wal-Mart has developed many of its sustainable ideas and strategies through contact with consultants, suppliers, NGOs and eco-friendly competitors such as Patagonia and Whole Foods. Beginning in 2005, Wal-Mart identified three ambitious but attainable green goals at the core of its sustainability efforts. These are:

1. To be supplied by 100 percent renewable energy;
2. To create zero waste; and
3. To sell products that sustain global resources and the environment.

### WAL-MART BY NUMBERS

- Wal-Mart is investing US\$500 million this fiscal year to reduce GHG with the goal of reducing GHG emissions at its stores, clubs and distribution centres by 2012.
- The company can realise an annual savings of US\$28 million simply by recycling its cardboard. It is also recycling hangers into lawn chairs and tables.
- Wal-Mart has a goal of making all of its energy-intensive products 25 percent more efficient by 2011. This will save approximately 10 billion barrels of oil.
- The ultimate goal: A US\$3 billion savings in its supply chain by 2012. (Textile Insight, 2008)

Specifically, Wal-Mart’s decision to be a leader in terms of environmental sustainability has led to the following changes in its operations (Peyraud, 2007):

- The purchasing of diesel-electric and refrigerated trucks with a power unit that is able to keep cargo cold without the engine running;
- Entering a five-year verbal commitment to buy only organically grown cotton from farmers, and to buy alternate crops that those farmers need to grow between cotton harvests; this has led to Wal-Mart becoming the world’s largest buyer of organic cotton; and
- By 2011, the promise of only carrying seafood certified as wild by the Marine Stewardship Council.

In 2007, Wal-Mart unveiled ‘Sustainability 360’ - a company-wide emphasis on taking sustainability beyond reducing the company’s direct environmental footprint to engaging associates, suppliers, communities, and customers. As an example, Wal-Mart has introduced “Global Innovation Projects” - one of which challenges Wal-Mart associates and suppliers to identify how the company can remove non-renewable energy from its products. Initiatives taking place at Wal-Mart’s operations in the UK through Asda also fit this idea, including reducing packaging on food



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products by 25 percent and selling more energy efficient light bulbs than standard bulbs by 2008. Similarly, Wal-Mart's goal is to work with suppliers to reduce packaging by five percent by 2013 - an effort that will be equal to removing 213,000 trucks from the road, and saving approximately 324,000 tonnes of coal and 67 million gallons of diesel fuel per year. Another Wal-Mart goal is to develop partnerships to help suppliers run more sustainable businesses and factories (Wal-Mart, 2008).

The success of 'Sustainability 360' therefore depends on active participation of several Wal-Mart stakeholder groups, and has led the company to form 'sustainable value networks' made up of Wal-Mart executives, suppliers, environmental groups and regulators. Fourteen networks, each with a specific focus - e.g. facilities or alternative fuels - meet regularly to share ideas, set goals and monitor progress. The company has also started to engage its customers, beginning with encouraging them to use energy-efficient light bulbs and concentrated laundry detergent. Wal-Mart employees are also being engaged through the introduction of Personal Sustainability Practices (PSP) - a personal commitment to one or more lifestyle changes which have a positive effect on themselves and/or society. These can range from personal fitness goals such as losing weight, to farther-reaching environmental goals such as recycling or saving energy (Forum for the Future, 2008).

Lighting has been top of mind for Wal-Mart and was one of the first avenues of environmental change the retailer pursued. In 2006, a test LED lighting system was installed in the refrigerated cases of two stores near the chain's headquarters in Bentonville, Arkansas. The energy savings proved so significant that the chain decided to install cases in more than 450 existing stores in 2007. The motion sensors detect motion in the store aisles, turning the case lights on as a customer approaches and soon after a customer leaves the area, the lights automatically turn off. The use of the sensors was made possible by switching from fluorescent lighting to LEDs in the cases. Unlike fluorescent lights, LEDs can be switched on and off in cold temperatures without any loss of life expectancy.

To maximise energy savings and LED life, the time delay for the sensors is set to the minimum of 30 seconds. Date loggers were installed in the two test locations to record on and off times over the course of six weeks. The results showed that the case lights remained off 44 percent of the time in one location, and 47 percent of the time in the second store. Based on the test, it was concluded Wal-Mart could expect that by installing sensors, the LED case lighting would be off in excess of 40 percent of the time. The total energy savings for the test installations were significant because LEDs use far less power than the fluorescents. Since the LEDs generate less heat than fluorescents, and no heat when turned off by the sensors, the compressors are not required to run as often to chill the cases. The overall energy savings that resulted after switching from uncontrolled T8 fluorescent lighting to occupancy sensor-controlled LED lighting was 92 percent. The savings represent close to three percent of the total-energy usage of the supercentre. In addition, the new lighting has improved product visibility and the sensor control has added an atmospheric element that appeals to customers. The store also benefited from reduced maintenance costs (Wilson, 2007).



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In order to meet its 'green' goals, Wal-Mart has also transformed its supply chain in cooperation with both suppliers and not-for-profit environmental organisations. In contrast to previous attempts, this new strategy required a more holistic approach, including a review of the entire supply chain. And as its sustainability efforts have taken shape, Wal-Mart's goals have expanded to include a requirement that all suppliers submit to sustainable efforts. The merchandise Wal-Mart stocks is made up of 92 percent vendor product, and so partnering with sustainable suppliers is imperative to Wal-Mart reaching its own environmental aims (Speer, 2007).

One of the first steps in this direction was the development of an environmental scorecard system, which details compliance elements that each of their 60,000 suppliers are audited on including their ability to conserve energy and produce environmentally sound packaging. The scorecard, implemented in early 2008, does not operate on a disciplinary system, but rather a way of rewarding suppliers who buy into and invest in the Wal-Mart philosophy (Berry, 2007; Plambeck, 2007). The focus is on the packaging elements of the home branded merchandise and this initiative has begun to influence buying decisions.

Through the scorecard, suppliers receive a score for each product relative to their competitors, meaning that suppliers are not judged by unilateral figures, but given a percentile score based on their performance in the category. To which degree a supplier's product packaging is environmentally friendly determines each product's shelf space (Berry, 2007; Hambeck, 2007). In a related move, Wal-Mart has launched a partnership with the Carbon Disclosure Project last year to measure the amount of energy used to create products down the supply chain and encourage suppliers to reduce their GHG emissions (Textile Insight, 2008). It was also announced this year that Asda would introduce a similar packaging score card in the UK by 2009 (Euromonitor, 2008).

Following are the steps taken by Wal-Mart and its network partners in working towards a more sustainable environment:

- Identification of goals, metrics and new technologies;
- Certifying environmentally sustainable products;
- Providing network partner assistance to suppliers;
- Committing to larger volumes of environmentally sustainable products;
- Cutting out the middle man;
- Consolidating direct suppliers;
- Restructuring the buyer role; and
- Licensing environmental innovations.



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In an effort to support locally grown producers, Wal-Mart recently announced a nationwide program designed to increase local produce lines across US Supercentres and Neighbourhood Market stores. Wal-Mart has increased the number of local US farmers that it works with by 50 percent in the past two years and plans to expand that figure at a double-digit rate. During summer months, locally sourced fruits and vegetables will make up a fifth of the produce available in Wal-Mart stores. As a forecast of the success of this strategy, Wal-Mart said that by sourcing peaches in 18 states instead of just two, as it did before, it saves 672,000 food miles and 112,000 gallons of diesel fuel - or more than US\$1.4 million dollars in transportation costs per season. In 2008, Wal-Mart expects to source around US\$400 million in locally grown fruits and vegetables from farmers across the country (Edwards, 2008).

As part of Wal-Mart's broader sustainable program, the retailer launched its first totally environmental store in mid-2005. The experimental site at McKinney, Texas, encompassed a number of sustainable initiatives; "This store contains many of the best resource conservation and sustainable design technologies currently available to minimise the use of energy and natural resources." The supercentre, offering a full line of groceries, bakery goods, deli foods, meat and dairy products, fresh produce, a Tyre Lube and Express and a vision centre just to name a few services, is open 24 hours a day, seven days a week and employs around 450 people. Since its grand opening, the McKinney store has profoundly changed the way the retail industry designs, constructs, and manages facilities as it relates to the environment, and has experimented with materials, technology, and processes, which include (Wal-Mart, 2005; 2007; 2008):

- Reducing the amounts of energy and natural resources required to operate and maintain the stores. For example, the waste cooking oil which had been used to fry chicken is recycled by mixing it with used automotive oil from the Tyre and Lube Express to serve as fuel to heat the building;
- Reducing the amount of raw materials needed to construct the facility; and
- Substituting, when appropriate the amount of renewable materials used to construct and maintain the facility.

While Wal-Mart McKinney was the springboard for environmental store design, subsequent stores in Aurora, Colorado (also an eco-experimental store), Rockton, Illinois, and Kansas City, Missouri, continue the chain's evolution into more efficient refrigeration, HVAC, and air distribution - using 20 percent less energy than a typical store. The Kansas City store, a 197,000 square foot supercentre, was the first store to bring some of the innovative technologies featured from the preliminary testing phase to a practical trial phase. The 20 percent reduction in the Kansas City store was achieved primarily by targeting two big energy consuming units: the HVAC, and the refrigeration system. The HVAC and refrigeration systems are fully integrated so that 100 percent of the heat rejected by the refrigeration system is reclaimed into the HVAC. The reclaimed heat is then converted into usable energy. By incorporating a loop-piping design, the advanced refrigeration system also reduced the amount of installed copper and the total refrigerant charge required. The stores other energy-saving technologies include ultra-efficient case fans, a daylight harvesting system and glass doors on medium-temperature grocery cases (Wilson, 2007).



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Wal-Mart has also begun test roof-top solar panels at 17 stores and distribution centres and plans to add them to a further five stores. Wal-Mart is also considering a far larger program that would put panels and other renewable technologies at hundreds of stores. Analysts are unsure how much power the rooftop projects could ultimately produce, but they say it could be enough to help shave total electricity demand. In many communities, retail outlets are among the biggest energy users. Depending on location and weather, the solar panels generate 10 to 40 percent of the power a store needs. If Wal-Mart eventually covered the roofs of all its Sam's Club and Wal-Mart locations with solar panels, figures from the company show that the resulting solar acreage would roughly equal the size of Manhattan, an island of 23 square miles (Rosenbloom, 2008).

To build on the successful marketing of their sustainability efforts, Wal-Mart recently launched a comprehensive environmental sustainability campaign, demonstrating it's serious about moving 'green' from costly exercise to a routine purchase for customers. 'Earth Month' ran during April 2008 and entailed marketing and merchandising campaign with TV, print, radio and online advertisements highlighting eco-friendly products at the stores. More than 50 products were featured as part of Wal-Mart's green initiative, including Coca-Cola co-branded T-shirts made out of recycled plastic bottles, energy saving light bulbs and rubber mulch made from recycled tyres and can be used as an alternative to traditional mulch. Wal-Mart.com also promoted 500 eco-friendly items at roll-back prices including apparel, baby products and home furnishings. The goal is to make sustainable products more accessible and affordable for lower income families and people on a budget (Wal-Mart, 2008). Currently, Wal-Mart is focusing on developing new green products in four key areas: waste improvement and recycling, natural resources, energy, and social or community impact. The retailer will continue to work with its suppliers to create more sustainable products, after the successful Earth Month campaign (Sustainable Life Media, 2008).

The aforementioned initiatives have not only enabled Wal-Mart to take a leadership role on the issue of environmental sustainability, but have also led to increasing profits. Specifically, the use of diesel-electric and refrigerated trucks has resulted in savings of nearly US\$75 million in fuel costs as well as eliminating an estimated 400,000 tonnes of CO<sub>2</sub> pollution in just one year. Wal-Mart's truck auxiliary power systems that keep drivers cool/warm whilst idling have also saved the company US\$277 million a year (Wal-Mart, 2007). Through its Zero Waste initiative, Wal-Mart has so far saved 478.1 million gallons of water, 20.7 million gallons of diesel fuel, and millions of pounds of solid waste. Through its 100 percent Renewable Energy program, the company further expects to reduce energy consumption by 30 percent at all of its new stores within seven years (Hochman, 2007). However, what appears to be a successful project may not remain so in the future. With increasing costs, sub-optimal product assortment and criticisms regarding employee rights and factory labour conditions - issues that need to be addressed for it to become a true business leader - Wal-Mart continues to face considerable challenges ahead (Plambeck, 2007). Nonetheless, Wal-Mart's focus will likely keep social responsibility and sustainability on retail agendas around the world.

\* Excerpt from "Environmentally Friendly Retailing", The Australian Centre for Retail Studies, 2008.

