

Case Study



Reducing the Corporate Carbon Footprint, One Step at a Time

The Timberland Company is a third generation run outdoor retail company with a rich history geared towards making product and business better. Boot, brand, and belief are three words that summarize Timberland's story. The boot, a workman's boot and Timberland's original product is what Nathan Swartz manufactured by hand when he started as an apprentice stitcher at the Abington Shoe Company, the forerunner to Timberland, in 1918. In 1955 Nathan bought the majority share in the company and welcomed his sons into the business. Sidney Swartz turned the Abington boot into a brand in the 1960s and 70s when he brought injection-molding technology to the footwear industry, creating a product that made life more pleasant for hunters, hikers and construction workers alike. This technology fused soles to the leather uppers without stitching, producing one of the first truly waterproof boots, and establishing Timberland as a brand internationally. Belief is what Nathan's grandson, Jeffrey Swartz, brings to Timberland today. It's a belief that commerce and justice go hand-in-hand or in Jeffrey's own words, "that doing well and doing good are inextricably linked." Timberland's approach to Jeffrey's challenge is to build and sustain strong communities using three primary strategies: engaged citizenship, global human rights, and environmental stewardship.



Timberland realizes that manufacturing its products and managing its business have an impact on the environment, and the company is committed to doing something about it. Climate change poses a particularly alarming threat given the magnitude and reach of its impacts. Timberland produces greenhouse gas emissions mainly from energy use and waste at its corporate offices, retail stores, showrooms, and from employee travel, both in the US and in 21 countries around

the world. Manufacturing activities, which include the harvesting of raw materials for products, transportation of goods, and the finishing of fabrics, leathers and plastics, are mainly out-sourced to overseas vendors. These activities are driven by Timberland, however, and require a significant amount of energy, which affects the company's bottom-line and produces greenhouse gases that cause global warming.

Timberland's outdoor orientation encourages its customers to be active in nature and in the community. Recognizing the conflict between product end-use and the impacts associated with the business's practices, Timberland set an ambitious goal of becoming carbon neutral. To achieve this objective, the company enlisted the assistance of a regional environmental group that is focused on developing innovative solutions to climate change, and educating various stakeholders on the risks and opportunities associated with global warming.

In 2001 the company signed a formal agreement with Clean Air – Cool Planet (CA-CP) to undertake an inventory of its green house gas emissions, establish a reduction target, and help educate its suppliers, vendors, employees and ultimately customers on the economic benefits of taking action to address climate change. The partnership would provide Timberland with access to CA-CP's extensive network of contacts in the fields of energy and environmental management, to assist the company in

CASE STUDY SNAPSHOT

Projects:

- Corporate wide emission inventory
- Facility energy efficiency upgrades
- Sustainable LEED certified building techniques
- Transportation management plan
- Renewable energy/Green tags

Funding sources:

Timberland's capital budget and incentives from electric utilities.

Lessons learned:

By developing a comprehensive environmental performance program that evaluates every level of business, this world class company has saved hundreds of thousands of dollars by trimming energy consumption while reducing the emissions of greenhouse gases at locations in 22 countries.

CO2 emission reductions: 10,000 tons annually

understanding community positions on climate and other issues pertaining to its global operations. As a result of implementing a variety of energy-efficiency programs at its facilities, and investing in renewable energy Timberland has dramatically reduced energy bills and, in addition, has cut carbon emissions by approximately 10,000 metric tons of CO₂ per year.

Starting Out

Identifying the sources and amount of emissions is the necessary first step in order to identify ways to improve efficiency, save money, and reduce greenhouse gas (GHG) emissions. Early on in the process with CA-CP it was determined that the majority of Timberland's GHG emissions are connected to energy use at corporate offices, retail stores, showrooms and employee travel.

Timberland began analyzing its energy and emissions profile at its largest U.S. facilities in 2001. The rough estimates produced by the exercise were used to develop long-range goals for facility improvements and sustainable business practices.

Energy-efficiency projects with fast payback periods were attacked first. The financial and environmental returns were large, in part due to utility incentives for relighting projects, encouraging an in-depth look into other areas for improvement. In 2003, Timberland began an extensive inventory of the energy consumed by the logistics, distribution, and sale of its products. This analysis tracks energy use for the company's corporate offices, showrooms, retail stores, subsidiaries, and distribution facilities globally. Using the GHG protocol developed by the World Resource Institute (WRI) to calculate direct and indirect emissions of greenhouse gases, Timberland identified the following sources and quantities of emissions at its more than 250 facilities worldwide.

Facility Type	Direct Emissions (metric tons)	Indirect Emissions (metric tons)	Total Emissions 2003 (metric tons)
Offices	960.35	2,961.37	3,921.72
Distribution Centers	756.06	3,729.40	4,485.46
Retail	254.58	8,237.73	8,492.31
Employee Transportation	-	13,034.37	13,034.37
Manufacturing	332.76	5,248.66	5,581.42
TOTAL	2,303.75	33,211.52	35,515.27

As a result of the exercise, Timberland learned that the majority of its emissions were produced through employee travel, which annually totaled to more than 25 million miles. Product designers alone travel nearly 20 million miles a year to meet with overseas manufacturers. While this activity slowed after 9/11, work-related travel is still a prevalent part of most headquarters and overseas staff job requirements. Improvements in IT infrastructure are reducing the need for face-to-face visits; the company is also looking to offset those emissions through energy efficiency and renewable power generation at its facilities.

Programs and Projects

Efficiency

When Timberland started to look seriously at energy conservation measures in 2001, the first big opportunities were not difficult to identify. Lighting retrofits at the company's corporate headquarters in Stratham, New Hampshire, and European distribution center in Enschede, Holland, provided large dollar and emission savings. 1,664 T12 lights were replaced with 1,277 T8 fixtures, skylights and windows were installed to increase natural lighting and parking light sensors were added, generating approximately 460,000 kWh savings.

Comprehensive audits of Timberland’s facilities in the U.S. through an energy service company recommended by CA-CP identified additional energy upgrade opportunities with payback periods of less than one year. Lighting retrofits at Timberland’s U.S. distribution centers dramatically improved the light quality in spaces while reducing energy use by nearly 50%, saving the company thousands of dollars each year and close to 1000 metric tons in carbon emissions



Daylighting at the Enschede distribution center

Facility	Project	Date Completed	Energy Savings/year	Carbon Emission Reductions/year
Corporate Headquarters, Stratham, NH	Lighting retrofit	November 2002	314,966 kWh	129 metric tons
	Parking light sensors	August 2002	19,929 kWh	8 metric tons
Distribution Center - Enschede, Holland	Daylighting	August 2002	160,000 kWh	72 metric tons
	Lighting retrofit	January 2004	1,011,488 kWh	280 metric tons
- Ontario, CA	Lighting retrofit	January 2004	782,360 kWh	713 metric tons
- Danville, KY	Lighting retrofit	January 2004	782,360 kWh	713 metric tons
Global	Installation of computer sleep mode software	Spring 2004	237,514 kWh	108 metric tons

Success from these projects has resulted in more detailed studies of energy use in office and retail operations. In 2003, Timberland installed a monitor energy savings program that puts computer screens into sleep mode when users are away from their desks. The effort is saving approximately 237,514 kWh of energy each year. More recently the company has begun auditing and upgrading energy use at its retail locations, switching out T12 lighting for T8 or better technologies, and improving lighting design for new stores with simpler, yet more efficient lighting schemes. The U.S. Green Building Council’s LEED (Leadership in Energy and Environmental Design) principles for environmental performance and sustainable design are now incorporated into all new specialty store construction designs. These principles call for efficient lighting and air handling as well as recycled content construction materials and water-use reduction strategies.

Transportation

Energy-efficiency projects have been carried into the transportation side of Timberland’s business as well. The company has joined Businesses for Social Responsibility’s Green Freight Program, which promotes sustainable product transportation by land, air, and sea. The program includes 20 percent of the top 50 U. S. importers, carrying a significant amount of leverage for implementing changes in the transportation industry. Through its involvement in this effort, Timberland is identifying opportunities for boosting efficiency and tightening environmental specifications and guidelines to improve the environmental safety and performance of shipping fleets. One recent project found that making a simple shipment shift from truck to barge along a Rotterdam to Enschede route resulted in one barge carrying a load previously hauled by 40 trucks. Modal shifts between 2003 and 2004 are estimated to have saved over 70,000 gallons of diesel fuel — the equivalent of 650 metric tons of carbon.

Environmental performance is evaluated at every level of Timberland’s business — down to an employee’s commute. As a result of a project developed with the assistance of CA-CP in 2004, the company launched a program offering a \$3000 cash incentive to its employees (nearly 6,000 people) to purchase a low-emissions hybrid vehicle. The money paid as salary in the form of taxable income, helps defray the difference between the cost of a regular car and a hybrid, which offers higher gas mileage and reduced tailpipe emissions. Additional incentive is given in the form of preferred parking for hybrid drivers, as well as alternative vehicle drivers and carpoolers. Recently the company converted its own small diesel truck to run off of biodiesel, a plant-based bio-fuel that produces fewer emissions than traditional diesel.

Renewables

Energy upgrades are an important step in reducing the company's emissions of greenhouse gases. To achieve its goal of becoming carbon neutral, however, Timberland wants to buy or generate clean, renewable energy to power its operations. Currently, opportunities for purchasing energy from renewable sources are limited to facilities in European countries.

Since grid-supplied renewable energy is not available in the areas where Timberland's largest facilities are located, Timberland is building its own renewable power generation capabilities to access cleaner power in the short-term. Wind power currently provides 100% of the power needs for the company's European distribution center. New wind power generation is under construction at Timberland's manufacturing facility in the Dominican Republic. Plans are also in development for switching the facility's diesel supply to lower-emissions biodiesel.

The company has installed smaller-scale solar power systems for both inspiration and education at its corporate headquarters and at a middle school in Stratham, NH. At present, Timberland is anxiously awaiting the installation of what will be one of California's largest corporate solar panel systems. The 400kW solar array will provide Timberland's Ontario, CA distribution center with 60% of its energy from clean, reliable power from the sun. Thanks to Southern California Edison's Self Generation Incentive Program, Timberland will receive a 50% rebate on the installed cost of the system. The solar array is expected to come on-line in October 2005.

To offset the emissions produced by other facilities, Timberland voluntarily began purchasing Tradable Renewable Energy Credits (T-REC's). Renewable energy credits are derived from the purchase of "green tags," which represent dollars paid for the development of renewable power sources or the actual generation of power from those sources. By purchasing the green tags, Timberland is "offsetting" the carbon dioxide and other emissions from the fossil fuel generation of the power it actually uses where renewable energy is not available on the grid. Native Energy's Windbuilder Partners Program (www.nativeenergy.com) allowed Timberland to support the development of new wind farms in exchange for these credits. Since 2002, Timberland has purchased the equivalent of over 4,000 metric tons of carbon dioxide credits. The company continues to make annual purchases of green tags to help offset emissions generated by its facilities globally. New company policy requires emissions generated by Timberland-sponsored events to be offset with green tags. Recent event-purchased green tags supported the Garwin McNeilus wind projects in Dodge Center, MN, which are two non-profit wind farms whose earnings support orphanages in Bangladesh and Southeast Asia. According to Adam Markham, Executive Director of Clean Air – Cool Planet, this is just one more example of the top-down commitment to the environment as demonstrated by Timberland.



Timberland T-REC purchases supported construction of this turbine on the Rosebud Sioux Reservation in South Dakota.

Innovation

Timberland supports employee ideas and innovation as it relates to improving Timberland's environmental performance. To this end, an annual environmental award was established in 2002 to reward a Timberland employee for meeting high standards for professionalism and humanity, and reflecting passion and commitment to the health and welfare of our planet. The reward is a cash donation to the employee and a local environmental organization of their choice.

Results

- Over \$300,000 in savings each year and climbing as utility prices escalate
- 7% of the company's global electric demand is being met with renewable energy
- 18% reduction in carbon emissions from 2003 baseline
- Improved lighting and working conditions for employees
- Winslow Management's Green2 Award 2004 for reducing a business's environmental footprint while increasing the value delivered to shareholders

Company Profile

Timberland is a global leader in the design, engineering and marketing of premium-quality footwear, apparel and accessories for consumers who value the outdoors and their time in it. Timberland products offer quality workmanship and detailing and are built to withstand the elements of nature. The Company's products can be found in leading department and specialty stores as well as Timberland retail stores throughout North America, Europe, Asia, Latin America, South Africa and the Middle East. More information about Timberland is available at www.timberland.com

Case Study: Efficiency, Renewables, and Transportation Improvements in Enschede, Holland

The Enschede distribution center is the hub for all of Timberland's European shipments, with some 10 million pieces of product passing through each year. Like all Timberland employees, Distribution Center Manager Henk Miltenburg is committed to environmentally friendly growth. When it became clear that the distribution center needed additional capacity, Henk wanted to ensure that the expansion was completed in a way that minimized the impact on the environment.

Henk turned to Terry Kellogg in Environmental Affairs at Timberland headquarters in Stratham, New Hampshire, to collaborate on a strategy that could positively impact the operating costs of the Enschede facility while effectively minimizing the environmental impact of the expansion. Working with the plant's designers, Terry and Henk developed a plan to install large-scale skylights that would substantially increase natural daylight and decrease energy usage in the facility.

These efforts built on existing state-of-the-art green-building features at Enschede, including a highly reflective roof that avoids heat loading in the summer and reduces the need for energy to cool the building; a permeable parking lot that minimizes water run-off; and the use of co-generated steam for heat in the winter. The co-generation uses waste heat from a power plant to create steam, reducing overall energy use and costs by about 20 percent over more conventional energy methods. Day-to-day operations also support environmental sustainability – from use of high-efficiency lighting systems to the reuse and recycling of shipping containers.

Henk's leadership and initiative produced environmental and economic benefits. By "letting the sun shine in," Henk lowered the plant's environmental impact and decreased energy costs. The use of natural light has also increased productivity and helped to reduce injury rates: As one Enschede team member commented, "Work becomes easier when you get to see the world outside."

Following the success of efficiency programs, Timberland introduced renewable energy to the plant to help further reduce power costs and emissions. Beginning in July 2002, 10 percent of the facility's power came from renewable wind power. Today 100 percent of the plant's energy is generated from wind, saving 2,205 tons of emissions each year.

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