



The Collins Companies, Portland, Oregon, USA

A Natural Step Network Case Study

Overview

The Collins Companies is a wood products company founded in 1855 and headquartered in Portland, Oregon. As a privately-held company with almost 900 employees and revenue in excess of \$200 million, Collins has developed a reputation for sustainable forestry practices that sets it apart from many of its competitors. Beginning in 1997, Collins actively embraced The Natural Step as one tool for guiding its sustainability efforts.

Background

In 1855, Truman D. Collins began the first Collins forest products operation at a site in northwestern Pennsylvania. Operations expanded westward in 1887 with the purchase of timberland in Washington and Oregon. In 1918 the headquarters was moved to Portland, Oregon.

The company currently has forest and/or timber operations in Pennsylvania, West Virginia, California, and Oregon with its largest manufacturing facility located in Klamath Falls, Oregon— a facility that was acquired from Weyerhaeuser in 1996. Collins remains a privately held company with all of its stock controlled by the Collins family and its descendants.

From its inception, the company has had an ethic of natural resource stewardship that grew out of the religious values of the founding Collins family. This ethic led to the creation of a set of sustainable forestry practices that has allowed the company to continue lumber production for over 150 years with the same set of privately owned forests. While other forest product companies have focused on maximizing the return from each acre of timber in a single rotation, Collins lets the forest grow at its natural rate, without the aid of fertilizers, and harvests trees selectively. It was the first forest-products company in the U.S. to become certified by the Forest Stewardship Council, an international organization that establishes standards for good forest management.

Introduction to The Natural Step

In March 1996, Collins was one of only five U.S. companies (and the only forest products company) to receive the Sustainable Development Award from the President's Council on Sustainability. Through the process of receiving this award, Jim Quinn, president and CEO of Collins, became acquainted with Molly Harriss Olson and Paul Hawken, founders of The Natural Step U.S. Shortly afterwards, Quinn was invited to attend a conference on The Natural Step in Sweden. Hosted by the King of Sweden, the conference gave Quinn the opportunity to meet Karl-Henrik Robèrt, founder of The Natural Step, and fellow countryman, Ray Anderson, president of Interface, a Georgia-based commercial carpet tile company. At that time Interface had become the first company in the United States to formally adopt The Natural Step. All of this made a positive impression on Quinn and motivated him upon his return to set up a presentation on The Natural Step in early 1997 by Natural Step U.S. Executive Director Molly Harriss Olson for both his senior staff and board of directors.

Besides being fully compatible with the company's stewardship ethic, Jim Quinn felt that The Natural Step could provide an important differentiation between Collins and its key competitors. Up until that time, most of Collins' sustainability efforts had been focused on stewardship of its forests. With the acquisition of the Klamath Falls facility from Weyerhaeuser, Collins had increased its manufacturing capability while still maintaining the same level of privately-held timberland. It was important to Collins to increase both the value and yield of the work done there. The Natural Step was seen as a process that would work well in a manufacturing setting and could help it meet these business and marketing objectives.

Introduction of The Natural Step within the Company

After the Molly Harriss Olson visit, the Collins board of directors and senior management team formally embraced The Natural Step (TNS) as a guide to its long-term sustainability efforts. As part of this commitment the group stated that the long-term goal of Collins would be for all business and operational decisions to be measured against the four TNS system conditions. To initiate the introduction of TNS, the Collins management chose its Klamath Falls facility. Klamath Falls is Collins' largest facility with over 300 employees. Morale had deteriorated prior to Collins acquisition from Weyerhaeuser, and Collins was particularly interested in changing that by imparting the Collins values and sustainability practices to that operation.

In the spring of 1997 Russ Barton, a consultant with TNS training, conducted a one-day training program on The Natural Step for half of the supervisors at Klamath Falls. Afterwards, Travis Wilson, a particleboard fiber buyer at Klamath Falls, was appointed Natural Step facilitator for that facility and was given the mandate to carry out the directive of Jim Quinn and senior management to implement the TNS principles. A TNS implementation plan was developed by Wilson (see the attached Exhibit 1: "Integration of Business Strategy and Sustainability for Collins Products") that called for educating all Klamath Falls plant employees within three months.

Wilson attended a week-long, national TNS train-the-trainer workshop in Santa Fe, New Mexico during May 1997. Upon returning, he formed a core team with four other employees who were highly respected at the Klamath Falls facility and brought credibility to the Natural Step effort.

As a part of their team-building process, Wilson and the other members of the Klamath Falls TNS core team attended EcoTech III, a sustainability conference held in Monterey, California in September 1997. The team's goal was to expand its knowledge about sustainability beyond what it had heard with TNS. Additionally it visited the 96,000-acre Collins Almanor forest in northern California to learn first hand about Collins sustainable forestry practices.

The team sees its mission as being responsible for implementing sustainable practices for as long as the members work at The Collins Companies. Its first task was to train the remaining Klamath Falls employees and solicit employee suggestions for environmental improvements. At first, team members met twice monthly to keep things moving; now they meet as needed.

Training of Employees

After its own training, the team of five used the national TNS training material as a foundation for developing a two-to-three-hour presentation for employees.

The training team calls its process "Journey to Sustainability" instead of The Natural Step. This is partly because it has modified some of the TNS material but also because the team wants to sell sustainability, not TNS per se. What it has retained is the scientific basis for TNS along with the four system conditions. It has added material about Collins' forestry practices and history of forest stewardship, and it has modified the training materials to fit its audience, which includes some employees who have not completed high school. The team completed the training of employees in October and November 1997. Each trainer/coordinator trained the employees in his/her department in groups of 25.

New hires receive a shortened version of the initial training, and each year Collins sends two employees (companywide) to the basic training workshop offered by the Network.

Application of TNS Principles

Because of the long-term impact of installing new capital equipment, one of the first decisions Collins made was to evaluate any changes or additions to its manufacturing systems and associated capital expenditures against TNS principles. A TNS evaluation document was created and is currently used whenever capital projects are considered.

The second area of interest was in product development, and one of the first TNS applications was in the development of particleboard. Particleboard must meet certain U.S. standards regarding the off-gassing of formaldehyde. After the TNS training, one of Collins' sales personnel lobbied for the company to raise its sights by meeting the European standard, which is three times more stringent than the U.S. standard. The company agreed to do so and feels that this not only gives it a competitive edge in the U.S. but also opens up new markets overseas.

After employees were trained, a system was established to take advantage of their ideas and enthusiasm. Employees could speak directly to a JTS Team member or put a note in a suggestion box at one of the JTS information centers. As interest coalesced around specific projects, teams formed to refine the ideas.

Results

By February 1999, employees had formed into teams, including energy, water, air, recycling, and product development and come up with innovative ways to turn waste into resources. Over 100 projects were suggested the first year.

Energy. Collins' first two capital projects reduced power use substantially. The heat from ovens that

cure hardboard coating is now reclaimed, run through a heat exchanger and sent back to heat the building. At the particleboard plant a new 300-horsepower motor now does the work previously done by six, saving \$118,000 per year in electricity costs. These projects had a financial payback of four and two years respectively. Two other first-year projects are below:

- By taking condensate from the veneer dryer and turning it into flash steam to heat water, plywood workers on the energy team saved the company \$152,000 per year.
- Making steam traps more efficient is saving \$25,000 per year. Finding one-third of the traps in disrepair, workers took them apart, cleaned, and rebuilt them and established a new preventive maintenance system. Now, much less natural gas and electricity are needed to pump water through the traps.

The energy team has continued to be active, and further projects, such as capturing waste heat, replacing equipment with more efficient models, and installing lighting controls have resulted in continued savings.

Waste. New equipment was installed that allows sander dust to be incorporated into particleboard. This dust, which was previously burned in a boiler, actually improves the appearance of the board in addition to saving \$563,000 per year and reducing air emissions. A decision was made to stop using the on-site landfill. Piles of old chips, which used to be landfilled, were sold to an energy recovery facility, a cleanup that generated \$18,000 in revenue. Waste products, such as wood and packaging, are reused, recycled, or burned for fuel. Cardboard is baled and resold. The hardboard plant returns pallets and other packaging to vendors for reuse and sent a letter asking vendors to use biodegradable packing material.

The particle board plant began purchasing glue in bulk rather than in 350-gallon totes. A bulk tank was installed, and tanker trucks now deliver 4,250 gallons at a time. Not only did this save in transportation fuel, but it also reduced the glue residue that was left in the totes, and the difficulty of cleaning it out so the totes could be reused. Cost savings amount to almost \$26,000 per year.

Water. A new main condensate line was installed that saves \$35,000 annually and 22,000 gallons of water per day. This is equivalent to the amount of water you would save if you did not take showers for three years. As a result of a contest for water conservation measures, a leak was found in the sort yard. Fixing it saved 525,000 gallons per year. As a test, one of 50 watercooled air conditioners, was replaced with an air-to-air type. Now, all of the water-cooled air conditioners are being replaced.

The water team in 1998 set itself a goal of eliminating the discharge of warm wastewater into the Klamath River within five years, and this has been achieved. A system of wetlands to accept all industrial waste water was designed by an expert internationally recognized in the field of constructed wetlands. The nutrients are taken up by plants, and the water soaks into the ground or evaporates. The previous flow of 800,000 gallons per day of waste water has been reduced to 450,000 gallons in order to meet the capacity of the wetlands.

As JTS matures, it is treated less as a separate program and is more integrated into all aspects of the business. Some teams are no longer active on an ongoing basis, but JTS project teams are organized as needed. Recent projects have incorporated aspects from more than one area, such as air and energy.

Eco-indicators. The original core team generated 80 eco-indicators to measure progress in saving resources, but after two years reduced these to eight. Three were for water—industrial waste water, potable water, and sanitary water—two for waste being landfilled, and three for energy—carbon dioxide emissions, steam/unit of production, and electricity/unit of production. Besides the zero discharge of waste water, three other goals were set: zero particle board and hardboard waste to the landfill, ten percent reduction in electricity/unit of product by 2010, and 15 percent reduction in carbon dioxide emissions by 2009. By 2004, CO₂ emissions had already been reduced by 12 percent. Water use, waste water (as noted above), and hazardous waste have all decreased significantly.

Results in other locations. After the successes in the Klamath Falls plants, JTS was started at the other locations. At the sawmill in Chester, California, forester Terry Collins traded both salaried employees and then hourly employees in TNS. Sensing that diesel use was the most significant issue, the Chester facility began tracking both diesel and electricity use by department by month and put these number up at the team meetings. Electricity use decreased by 33 percent per unit of production between 2002 and 2005 (part of this due to a new mill), and diesel use, by 32 percent between 2004 and 2005. At the Kane Hardwood mill in Pennsylvania, efforts have focused on new equipment that saves energy and gets more wood out of each log.

The corporate office in Portland made many small changes, such as eliminating disposable cups, composting lunch-room food waste, setting network printer to print double sided, and using Forest Stewardship Council (FSC) certified paper for brochures. When it remodeled its spaces, it was able to incorporate green design and materials:

* To maximize daylight and reduce artificial lighting, it designed in sky lights and glass partitions between office cubicles. Operable windows reduce demand for air conditioning.

- * FSC certified CollinsWood was used for flooring, doors, wall panels, cabinets, and desks.
- * Interface carpet squares were applied with no VOC adhesives; worn areas can be replaced and recycled instead of removing the whole carpet. Marmoleum, made of wood flour, linseed oil, and resin, was used in the kitchen floor instead of vinyl.
- * Armstrong ceiling tiles contain 79 percent recycled fiber and are recyclable.
- * A recycling center has containers for the traditional materials plus batteries, printer cartridges, and overhead transparencies.
- * Showers and lockers were designed in to encourage bicycle commuting. Other benefits. Employees appreciate Collins' commitment to the environment. A positive corporate image raises employee morale and increases the company's ability to attract and keep high caliber people.

Environmentally concerned customers are also attracted to the Collins' philosophy and see TNS as a concrete example of that philosophy at work. Notably, Nike used Collins FSC certified products in the construction of its European headquarters. The Joinery, a fine-furniture manufacturer in Portland, Oregon, extensively uses CollinsWood in its furniture. Collins' reputation has also made it easier for the company to form strategic alliances and develop innovative programs with other companies, government agencies, and non-profits.

Collins, The Joinery, and Neil Kelly Cabinets have done joint promotions at home and trade shows. World Wildlife's Climate Savers program invited Collins to participate; and the company made a carbon reduction commitment under that program. The constructed wetlands project received matching funds from the US Fish and Wildlife Service.

In the late 1990s, these policies attracted favorable attention from the media. Numerous articles were written about Collins in publications including the Washington Post, Christian Science Oregon Natural Step Network Monitor, Oregon Business magazine, and the Business Journal. In 1996, CEO Jim Quinn accepted a Presidential Award for Sustainable Development from Al Gore at the White House. And in 1997 he received the Green Cross Millennium Award for Corporate Environmental Leadership from Mikhail Gorbachev in Beverly Hills, California. Showing that the environment is becoming an important consideration in the wood products industry, Quinn was chosen as Man of the Year by Timber Processing in 1998.

Collins makes its TNS interests known to vendors through written purchasing policies and ongoing dialogue. Where there is supplier interest, the company takes the time to explain more fully what Collins is doing. For example, both paint and resin vendors helped supply more concentrated products to the Klamath Falls operation, thus reducing the number of trucks needed for transportation.

Costs and Savings

The first year of JTS achieved monetary savings of approximately \$1million. By 2003 the savings amounted to \$1,373,818 per year or a cumulative figure of over \$3 million. Costs for capital purchases, salary, seminars, and travel were estimated to be about \$50,000 or about six percent of the benefits.

Lessons Learned

- Support at the top is critical. Collins would not be as committed or as active in adopting TNS without the commitment and dedication of the Collins family, former CEO Jim Quinn, current CEO Eric Schooler, and Senior Vice-President, Wade Mosby.
- Training all employees seems like the best way to go. There are so many decisions that are impacted by TNS that the only practical way it will be effectively utilized is by training every employee.
- Do not make the training voluntary. At Collins CEO Jim Quinn directed that all employees would attend.
- Find some way to begin applying the principles at the employee level. Collins uses crossfunctional work teams and has each team think about how it can incorporate TNS principles in its work.

Sources

- Interview with Wade Mosby, VP of Marketing, Collins Pine and Cameron Waner, Sales Coordinator, Collins Pine, August 13, 1997
- Interview with Travis Wilson, Natural Step facilitator, Collins Products, Klamath Falls, Oregon, August 27, 1997 and February 1999
- Update notes from Dale Slate, Klamath Falls Plant Manager, April 1998
- Update notes from Lee Jimerson, Manager Manufacturing Accounts, April 2006

Exhibit I

Integration of Business Strategy and Sustainability for Collins Products

The Plan:

1. Tailor The Natural Step training material to fit Collins Products
2. Educate all Collins Products employees on TNS principles within 3 months
 - Management Group
 - Trainers for Individual Plants

- Balance of Employees
- 1. Define the framework for a “sustainable Collins Products”
- 2. Study plants and processes to identify system condition violators
- 3. Establish “suggestion program”, (promote employee awareness and involvement)
- 4. Establish “capital project” review system
- 5. Develop a “measurement system” to track progress
- 6. Manage Sustainability as a part of the business practice

TNS course outline:

- History of TNS
- History of Collins
- Scientific Principles
- Investing for the Future
- Case Studies
- Next Steps
- Feedback and Closing

This case study was prepared in 1997 by Duke Castle, The Castle Group, and updated in 2006 by Jeanne Roy, the Northwest Earth Institute, for the Oregon Natural Step Network.