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Going Green, Step by Step

A Carpet Manufacturer Reinvents Its Business Model

By Andrew G. Wright

In 1995, David Oakey hired a personal friend named Elva Rubio to design a headquarters building and studio for a carpet and textile manufacturer's LaGrange, Ga., operation. Oakey, a British expatriate, was chief product designer for Interface Inc. Rubio, a young unknown architect with big ideas and a thin portfolio. She had grown up in Florida and South Georgia and had strong ideas about how buildings should work. "Air conditioning is the worst thing that ever happened to the South," she says.

About a year earlier, Ray Anderson, Interface founder and CEO, had begun to rethink the company's business model. The company was beginning a radical transformation to a sustainable business model. Oakey realized that Anderson, a soft-spoken Southerner with a steely resolve and an engineer's attention to detail and execution was in dead earnest about mitigating Interface's environmental impact as much as possible. "I remember thinking that I was going to have to commit fully or start looking for another job," he says.

Rubio was a kindred spirit. She was determined to craft a simple structure, functionally elegant, in harmony with its environment. The contractor had his own ideas. Several weeks into the job, he took Oakey aside and said, "I can grade this slope, take out some trees, rotate the building 90 degrees and cut your costs by 40 or maybe 50%."



Interface designer David Oakey held his ground when the contractor building his LaGrange, Ga. design studio told him the project could be done much cheaper, but at a greater cost to the environment.

Differing approaches among owner, contractor and architect are hardly

uncommon. The particular one occurred because, Anderson, the man who would ultimately sign off on the building in its final version, had an epiphany. A business associate asked the founder of Interface Inc., the world's largest manufacturer of carpet tiles, to brief the Atlanta-based company's senior research staff on the firm's environmental vision. "It was somewhat of a shock to me to realize that we had no environmental vision," Anderson recalls. From its founding in 1973, Anderson says, Interface had always followed a policy of "comply, comply, comply to whatever state and federal environmental regulations there were. But an environmental vision? We didn't really have one."

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has become a model of sustainable business practices. It has reduced greenhouse gas emissions by 82% since 1996, the year it established a baseline for environmental audits. Process changes to eliminate waste have generated \$372 million in savings from avoided costs over that same period. Total energy use across the firm's carpet manufacturing plants, measured on a price-per-square-yard basis, has been cut nearly in half. The plants themselves,

situated on four continents, set standards for efficiency and green design. Today the company's global operations derive more than a quarter of its energy from renewables. The firm has invested in solar, wind and geothermal energy sources. All new facilities are designed to the U.S. Green Building Councils' LEED standards. The firm's legacy plant in LaGrange, Ga., which has been reconfigured and expanded 10 times, produces enough power from landfill methane to run the plant and sell excess energy to local utilities.

Along the way, Interface has converted its contractors, engineers and architects into green disciples. Even those who were initially skeptical now use their Interface work in their client reference portfolios. The company's in-house sustainability consultancy, InterfaceRAISE, advises firms much bigger than Interface on how to go green profitably. Clients include WalMart, Boeing and Ford Motor Co.

Net operating income is at an all-time high, running at a \$1.13 billion annual rate,

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according to the company's latest Securities Exchange Commission 10-K filing. Ray Anderson's philosophy of doing well by doing good hasn't hurt the Interface in the marketplace. "We had record earnings last quarter," says Daniel T. Hendrix, president and CEO. The stock is trading in the \$11-13 range (NASDAQ symbol IFSIA), off from a \$20 top in 2007. "Unfortunately the commercial industry is out of phase with Wall St. right now...From a results standpoint, we're clearly taking market share around the world and we're outperforming the industry."

The firm was a sector leader in the mid-1990s, when Ray Anderson "got religion" about sustainability. But many, including some within the corporation, were skeptical that he could transform a dirty 19th Century business like carpet manufacturing into a clean and sustainable 21st Century process. But Anderson has been beating the odds all his life. The son of an eighth grade dropout born during the Depression, Anderson leveraged gridiron speed and toughness into a Georgia Tech athletic scholarship. His heart wasn't really in football, but he credits an old-school, tough high school coach named Carlton Lewis for instilling discipline and a love of competition. Those traits would serve him well in the business world. His college football days ended when he blew out a shoulder, but Tech honored the scholarship. Armed with an industrial engineering degree, he joined the textile industry in the late 1950s.

But after he was passed over for a promotion in 1966 at Callaway Mills (later acquired by Deering Milliken), Anderson began looking for an opportunity to run his own company. He lined up investors, secured a loan, partnered with a UK-based firm called Carpets International and started Interface Inc. in 1973.

While at Milliken, Anderson had seen the future of commercial carpeting: European carpet tiles. He helped introduce the product to North America, and at Interface it became the cornerstone of the start-up firm's business. Under Anderson's leadership, Interface went public in 1983 and expanded its reach globally with a spate of acquisitions. One of the takeovers was Heuga, the Dutch company that invented carpet tiles in the early 1950s. By 1996 sales topped \$1 billion and Interface was the global leader in commercial carpet tiles.

Moment of truth

Anderson had started the company, put together a first-rate executive team and guided the business to the top of the leader board through pluck, luck and attention to detail. It was startling at age 58, when his colleague Jim Hartzfeld asked him to share the firm's corporate vision, and Anderson realized that an environmental vision was not part of his company's business plan. By coincidence, he happened to be reading a book that put everything into focus: *The Ecology of Commerce* by Paul Hawken. According to Anderson, a saleswoman in California had been rebuffed by an environmentally conscious corporate customer. "Your company doesn't get it," the prospect told her. When the saleswoman's 20-something daughter heard the story, she gave her mother Hawken's book, which she was reading at the time.

As soon as his employee read it, as Anderson tells the story, she said, "Ray's got to read this book." Hawken's 1993 environmental business guide, subtitled *A Declaration of Sustainability*, lays bare the environmental sins of late 20th Century industrial capitalism. The author also postulates that the same entities that are destroying the planet have the potential to save it. But business as usual will not work; radical change must occur.

Hawken's insights hit Anderson hard. Maybe it was the realization that in climbing to the top of the corporate carpet pile he had become, by his own admission, an environmental "plunderer...We have no right to rob the future from our children's children and the future generations yet to come," says the grandfather of five. He recounts the story in his 1998 memoir, *Mid-Course Correction*. Speaking in the soft drawl of a southern Protestant preacher, Anderson tells the tale again and again and makes the case for sustainability on camera in *The Corporation*, an award-winning 2003 documentary. Having loosed the reins of running the company day-to-day, he tells different versions of his conversion 125-150 times a year--on college campuses, at conferences such as Greenbuild, on *Charlie Rose* and other talk shows, at corporate retreats, anywhere he finds a receptive audience. I caught up with him in Vermont in August as he was on his way to New Zealand, Australia, Singapore and China.

In 1994, as Anderson decided to revolutionize his business model via an environmental vision, he quickly identified waste elimination as the "low hanging fruit." The carpet business in the 1970s was a stodgy, petroleum-guzzling process. The creel-beam-tufting machinery and process, conceived during the 19th century, is an energy-intensive and wasteful process, says John Bradford, Interface vice president of research and development and operations. The technology is inherently inefficient. "There is waste at each point" in the process, he says. "Our business model has been a take-make-waste model. From the oil pump to the landfill, we were trying to do more, more, more. Faster, faster, faster." With the existing process, improvements in automation meant more product, but also more waste."

The concept of waste reduction was an easy one to grasp, in theory, says David Oakey, a British transplant who is Interface's lead product designer. Actual implementation in the workplace proved a bit more daunting, at first. "For me, as a designer, I didn't understand how we were going to do it. We took fossil fuels and made our products as best we could." Anderson's outside consultants suggested that the company switch from high-Btu synthetic feedstock to natural fibers such as hemp or wool. Oakey was skeptical. He thought "What are we going to do? We're going to go back to natural products that wouldn't wear as well as synthetics. This is a billion-dollar business. Have they gone crazy?"

But Anderson the industrial engineer put the war on waste in an equation that made sense to the designer. By making the product one ounce lighter, the energy conservation on the production line for one year would create energy savings that would pay for running the line for three years. "We got on the bandwagon," Oakey says.

But the rest of Anderson's vision was harder to grasp, let alone implement. "When Ray rolled out his vision in 1994, when he said we're going to get off oil," recalls Hendrix. "I'm looking at our cost sheets and the company is more than 90% petroleum based. And I'm thinking, how the heck are we going to get off oil?"

Hendrix wondered whether his boss “had gone ‘round the bend. Ray had very few believers within the company in 1994. But Ray...never has taken ‘no’ for an answer from anyone in our organization. He convinced one person at a time.”

The most effective single step Anderson took to effect change, according to Hendrix, was to bring in an environmental Dream Team of consultants. The roster included an A-list of environmental thought leaders: Hawken, *Ishmael* author Daniel Quinn, Rocky Mountain Institute Chairman Amory Lovins, sustainable architect John Picard and biologist Janine Benyus. “They were very inspirational,” Hendrix says. “They helped Ray frame his vision.”

Another page from another book

Benyus’s book *Biomimicry* influenced Oakey as much as Hawken’s *Ecology of Commerce* affected Anderson. “That did it for me,” he said. “She asked the question, How would Nature do it?” Follow-up phone conversations with Benyus led Oakey to challenge fundamentals of manufacturing he’d been practicing for 20 years. Quality was defined as “making every carpet tile come out the same,” he said, but in the natural world “nothing’s exactly the same.”

Oakey engaged Bradford’s team to redesign the production line. Eliminating the middle piece of equipment, the beam, “allowed us to leapfrog straight to the portable creel and begin to concentrate on materials reduction, instead of labor,” Bradford says. Suddenly, diversity was allowed, even desirable. The end of one production run was the beginning of the next. Customers no longer had to purchase 10% of excess material to match patterns. The company launched a residential product line in 2003. By 2007 it accounted for 10% of the company’s overall business.

Interface’s move to a biomimetic product design platform was a “pivotal moment,” says Wells. “Building owners and people that run large facilities [no longer] had to buy extra. Today that product is the largest selling carpet tile product of all time.”

Architect vs. contractor

Anderson’s journey to sustainability gained momentum within the company and among outside contractors and designers as the waste reduction program generated results and other initiatives took shape. Oakey committed to Anderson’s bold goal of cutting Interface’s environmental impact to zero by 2010 by making Pond Studio, the new LaGrange, Ga., headquarters, the greenest building possible. He knew his architect Rubio believed as strongly as Benyus that the best design principles are found in Nature. “Elva is a brilliant architect, with integrity,” says Oakey, “The firm she was working for wouldn’t take this job, so she quit.” She worked with Oakey and Interface for two years on Pond Studios.

She sited the 15,000-sq-ft structure partially on stilts in a swampy bottom, with the foundation’s remainder tucked into a slope. The building is oriented to optimize natural light and ventilation. It’s environs, a pond and tree canopy, together function as a natural heating and cooling system, Rubio says. Oakey was seeing Benyus’s natural principles applied to a building. “I loved working with David,” she says. “He’s a technician. He understands.”

The contractor was a tougher sell. Langford Construction Co. was and highly regarded local firm with experience in school and hospital construction and a reputation for putting the client first. CEO Phil Langford’s offer to cut costs by grading the site and rotating the structure carried extra weight: he also happens to be Ray Anderson’s son-in-law. But the client declined the contractor’s offer and stood by his architect. After many discussions and a few compromises, the owner, architect and contractor agreed to follow, for the most part, Rubio’s vision. When it was done, a showcase to sustainable simplicity in Georgia was honored by the Chicago Chapter of the American Institute of Architecture for Distinguished Building and Interior Architecture. “We came in under the radar,” says Rubio, now vice president of creative design at Bruce Mau Design in Chicago. She also teaches architecture at University of Illinois

Chicago. "We beat entries from SOM and Helmut Jahn," she says.

The experience was a positive one for Langford, too. Instead of a low-bid, hard-dollar project, Pond Studios was a cost-plus job. There were frequent discussions among owner, architect and contractor. "It helped a lot that we could communicate with David, and negotiate and discuss changes." The job helped Langford adapt to an emerging climate of environmental sensitivity. "We were doing LEED before there was LEED," he says. "We learned a lot about cutting waste, recycling and other things that were rare then, but are commonplace today." Pond Studios started a sustainable portfolio for the contractor and led to other work, including a green roof and geothermal energy system for Interface.

Calling contractors on the carpet

Contractors on other Interface projects were also adapting. At the firm's Bentley Prince St. plant outside Los Angeles In the late 1990s, "we built in a photovoltaic array that was the largest solar power installation in North America at the time," says Wells.

A few years later, Interface put the sustainable stamp on its 30,000-sq-ft Prince St. showroom in City of Industry, Calif. The makeover added waterless bathroom fixtures and skylights. "They spent 50% more for the office lighting system, but it cuts energy costs by 50%," says Doug Dexter, who was project manager at the time for interiors contractor Fullmer Construction, Ontario, Calif.

Another California contractor, Tri City Builders, laid a concrete slab for a new inking machine at the City of Industry plant, some 18 miles east of Los Angeles. The firm squeezed the job in between projects for its line-up of blue-chip clients. Interface is as demanding as Toshiba, Advanced Medical Optics, Xerox or Kraft Foods, says Rick Sowski, vice president. The client required the contractor to document the percentage of demolition materials that are recycled. "We get receipts from the landfill," he says. As a result, the contractor became accustomed to sorting and re-using material much more than it had previously. "We're saving money on landfill tipping fees," Sowski says.

Hendrix says that Interface makes it very clear to design teams, contractors and architects that any new or remodeled production plants or showrooms will be to LEED standards, at a minimum. "They don't even have to ask," he says. "It's going to be LEED."

The company routinely specifies 100% recycled concrete and zero carbon footprint for all building materials, "and if you don't, we're going somewhere else," Hendrix says. The attitude extends beyond design and construction. "We are forcing that whole process through the supply chain and through our facilities management process. It's not even on the table whether it's going to be different than that."

Wells says the sustainability guidelines don't stop at the U.S. border. "We apply the same standards to our plants wherever they are, whether they're in LaGrange, Ga., or China or Thailand." When Anderson began what he calls the climb up Mt. Sustainable in the mid-1990s, the oil cost about \$30 a barrel. Anderson was predicting it would go to \$100, Wells recalls. "Now we're all wishing it would drop back down to \$100," he says.

Interface positioned itself to take advantage of current conditions by cutting waste, moving toward renewable energy, recycling raw materials, cleaning and/or eliminating smokestack emissions and process water, redesigning production process and facilities, introducing new product lines. Wells expects that there will be some sort of carbon tax imposed by the next president, regardless of who wins in November. By continuing on its sustainable course charted by Anderson, Wells says, Interface expects to prosper. There's no reason other U.S. corporations can't follow suit, he says. "When you think back on the Kyoto Protocol, calling for a 70% reduction of emissions by 2012...this little ol' carpet company can do it. Well, then, let's get after it."

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