

Greening the Supply Chain at SC Johnson

Case Study Summary

SC Johnson has set aggressive environmental goals as a company to reduce air and water emissions and waste. In addition to making improvements at its facilities, SC Johnson has spearheaded an effort that may well represent the single most important contribution the company can make in protecting the environment. The company developed the Greenlist™ process with the intention of making better products through improved understanding of material inputs, and reducing the company's footprint despite increases in production and sales. The Greenlist™ represents new opportunities for SC Johnson to achieve its environmental goals by focusing on improvements in its raw materials and supply chain.

SC Johnson Corporate Overview

SC Johnson started in 1886 as a parquet flooring company with a reputation for quality built upon the consumer product Johnson's Prepared Paste Wax. Today SC Johnson is a family-owned and managed business based in Racine, Wisconsin with international operations in more than 70 countries worldwide. The company has 12,000 employees and is one of the world's leading manufacturers of household cleaning products and products for home storage, personal care, air care and insect control. Well-known SC Johnson brand names include **Glade**® air fresheners, **Pledge**®, **Shout**®, **Windex**®, **fantastik**®, **Drano**® (cleaners), **Raid**® and **OFF!**® (insect control products), **Ziploc**® and **Saran**™ (home food storage).¹

SC Johnson markets products in more than 110 countries with international business representing an estimated 60 per cent of total sales. Despite an economic slowdown, SC Johnson achieved record sales and profits in 2002 (estimated sales of more than US \$5 billion²) and increased category share in a majority of categories.³

The company's vision is to be a world leader in delivering innovative solutions to meet human needs through sustainability principles. SC Johnson has set measurable goals to reduce pollution and waste in products and processes as a means of stimulating continuous progress toward sustainability. As a result of these commitments, the company has been recognized with over 40 awards for corporate environmental leadership from governments and non-governmental organizations, including the World Environment Center Gold Medal, and Environment Canada's Corporate Achievement Award. Most recently, SC Johnson received the first-ever Lifetime Atmospheric Achievement Award from the US Environmental Protection Agency.

¹ SC Johnson Corporate web site, "About SCJ." www.scjohnson.com.

² SC Johnson Corporate web site, "SCJ News."

www.scjohnsonwax.com/family/fam_pre_pre_news.asp?art_id=38.

³ SC Johnson, *Public Report 2003*, A Message from Our President and CEO.



Background and Drivers

SC Johnson was one of the first companies to join the World Business Council for Sustainable Development (WBCSD), a coalition made up of industry and other organizations committed to sustainable development. The WBCSD developed the concept of eco-efficiency in 1992.⁴ It is understandable then, that SC Johnson became one of the first companies to adopt the concept of eco-efficiency in the early 1990s and put eco-efficiency principles into practice, and has been fortunate to have senior management commitment from the beginning.

Once committed to eco-efficiency, SC Johnson looked for every opportunity to reduce, reuse, recycle and refill, in operations, products and packaging. By using fewer resources more efficiently, the company cut over 420,000,000 pounds of waste from products and processes over the last decade resulting in cost savings of more than US\$135,000,000.⁵ These results are quite impressive for a company of SC Johnson's size and have been a significant factor motivating the company to continue to look for opportunities. Realizing success both economically and environmentally has spurred continuous improvement through eco-effectiveness at SC Johnson. Based on early successes, the company has set aggressive goals to continue to reduce its air emissions, water emissions and waste by 15 per cent by 2005 and is currently ahead of schedule in meeting this goal.

In addition to the cost savings, the company realized another key driver for SC Johnson's eco-efficiency activities is the desire to be a leader in the sector. SC Johnson believes that business has the capability to go beyond what government dictates as necessary for compliance. For example, SC Johnson believes the company has a responsibility and the means to reduce its greenhouse gas emissions regardless of whether the Kyoto Protocol has been ratified by particular countries. SC Johnson has demonstrated that taking actions on environmental improvement benefits the bottom line and has worked to communicate this message to other companies. SC Johnson believes that it has been rewarded in the marketplace for having a long history of proactive environmental and social programs.

Because the company had made aggressive environmental goals to reduce emissions and waste, it has had to look beyond its facilities for potential operational improvements and has more recently focused efforts on product improvement. SC Johnson developed its Greenlist™ process with the intention of making better products through improved understanding of material inputs, greening the company's supply chain, and reducing the company's footprint despite increases in production and sales. Greenlist™ represents a new way for SC Johnson to work towards achieving its aggressive environmental goals, as the company has reached diminishing returns with other aspects of its eco-efficiency programs. For example, the company's facility in Racine, Wisconsin made tremendous initial strides in eco-efficiency improvements and now recycles 92 per cent of its process waste. This was

⁴ The WBCSD on Eco-efficiency. WBCSD web site. www.wbcd.org/templates/TemplateWBCSD2/layout.asp?type=p&MenuId=NzA&doOpen=1&ClickMenu=LeftMenu.

⁵ SC Johnson corporate web site. "About SCJ." www.scjohnson.com.

initially challenging, but it has become even more difficult to continue to find ways of improving upon this 92 per cent recycling rate. Greening the supply chain represents a natural extension of looking for new opportunities outside of the company's facilities.

Compliance is not a major driver for the company's continuous eco-effectiveness efforts and its more recent efforts to green its supply chain. The company believes that its supply chain programs should identify issues that need to be addressed long before these issues are addressed by regulations. To illustrate, restricted use materials in Greenlist™ deal with substances beyond those affected by regulations. This proactive approach ensures a smooth transition for the company (avoids having to react to legislation which can be costly) and results in the manufacture of better products.

Finally, SC Johnson indicated that retailers are becoming more interested in the environmental impacts of the products they stock on their shelves, and as a result are asking manufacturers for more information. This driver also influences the company in the sense that SC Johnson needs to be confident that it understands its products and is aware of any environmental impacts associated with its products.

Implementation

As mentioned previously, SC Johnson's eco-efficiency activities have evolved to now include efforts to green the company's supply chain as another mechanism to reach environmental goals within the company. The company developed a new tool, Greenlist™, which contains screening criteria for its major classes of raw materials, with a goal of eventually including all classes. Greenlist™ was designed to help the company make the best raw material choices for its products and is meant to supplement rather than replace the existing material review process, focusing on the environmental impact of raw materials used in the company's products.

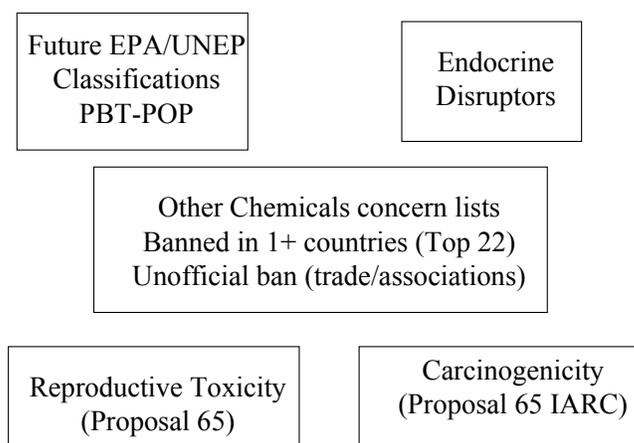
Raw material components are classified and evaluated according to category-specific criteria. The classification process identifies opportunities in the following five categories: surfactants (detergents), solvents, propellants, insecticides and resins. In each category, materials are typically rated using four to seven criteria. For example, surfactants are assessed according to the following six criteria:⁶

- Aquatic toxicity;
- Ultimate biodegradability;
- EU Environmental classification;
- Acute human toxicity;
- Source/Supplier; and,
- "Other significant concerns."

⁶ Greenlist™. Informed Choices for our Environment. Presentation by Dave Long, at China-US Cooperation in Industrial Pollution Prevention and Energy Efficiency. January 22, 2003.

Figure 1 illustrates what the company currently considers to be “other significant concerns.” These significant concerns may evolve over time as new information comes to the fore and SC Johnson expands its tool. If something is identified in the raw material as being “a significant concern” during the screening process, a point is taken off of the score. The “other significant concerns” criteria can have a major impact on the overall score for the raw material.

Figure 1: Other Significant Concerns for Surfactants⁷



Discriminating criteria applied to each category results in a Greenlist™ rating for each material. Ratings range from 3 for “Best,” 2 for “Better,” 1 for “Acceptable” and 0 for “Restricted Use Materials” (RUM). The process currently covers materials making up 80 per cent of the company’s raw material purchase volume. New categories and relevant criteria are reviewed and added as the tool is expanded over time and as new information emerges.

SC Johnson used data from its own internal database to build the Greenlist™ tool but it also consulted internationally recognized information sources such as the ECOTOX database to classify all the ingredients that go into products according to their impact on the environment and human health. The SC Johnson Greenlist™ process also encourages the use of “Preferred Base Starting Materials” by suppliers in the production of raw materials. Preferred Base Starting Materials are defined as sustainable, natural, natural identical, renewable, synthetic derivatives of natural/natural identical, or made by “green chemistry.”

The screening criteria used in Greenlist™ were developed and piloted in partnership with SC Johnson suppliers. The formulators and toxicologists at SC Johnson worked alongside their counterparts on the supply side to establish relevant global criteria for the screening and rating of raw materials used in SC Johnson formulas. Government and non-governmental organization partners reviewed the process and criteria to ensure overall relevance and completeness. SC Johnson worked with whichever organizations were interested in working

⁷ SC Johnson Presentation to the “Best Practice in Chemical Risk Screening Workshop.” SETAC 2002.

with the company, but it did note that it was not easy to find organizations that were considering these issues and had collected valuable information. The company recognizes that there has been more activity in this area in Europe than in North America.

The end goal SC Johnson is striving for is an annual increase in volume of environmentally preferred materials by utilization of “better and best” raw materials. SC Johnson has set a goal for 2002–2003 to achieve an 8 per cent kg volume improvement in the Greenlist™ score for total company purchases. To meet these goals, SC Johnson employees will have to again “think outside the box” by identifying potential replacements for RUMs, contacting suppliers and requesting data to fill data gaps, and replacing or eliminating RUMs as products are reformulated.

SC Johnson also uses other tools in efforts to green its supply chain such as its Supplier Quality Assurance (SQA) Program and the Environmental Management Questionnaire (EMQ). The SQA Program involves regular environmental site audits of supplier facilities. To ensure preferred supplier status with SC Johnson, suppliers must achieve an audit score of four to five (five being the highest possible score). The EMQ is one component of the Supplier Quality Assurance Manual. The Questionnaire consists of 12 questions that SC Johnson employees would fill out as a means of evaluating the environmental practices of its suppliers. Questions focus on a range of topics including environmental training, high-level responsibility for environmental activities, waste management activities and commitments, toxic releases, community involvement in environmental efforts, etc. Both of these initiatives were designed to ensure that SC Johnson suppliers share a similar commitment to the environment and act in an environmentally responsible manner.

Responsibility and Cost

Having senior management commitment to green the company’s supply chain catalyzed the development of the Greenlist™ process and allowed the organization to build capacity to roll the tool out across global operations. The tool was initiated in SC Johnson’s Office of Global Environmental Safety and Actions, where approximately six individuals tried out a number of different approaches or pilot tests over the span of two to three years. After a successful pilot was completed, senior management commitment to expand the process was obtained, and six more individuals were recruited to champion the current version of the Greenlist™ tool, facilitate roll-out of the tool across the company, and ensure continuous improvement of the scores. Roll-out of the tool across all business units was rapid and smooth because it was simple and easily fit into existing procedures.

A range of employees within SC Johnson receive training on Greenlist™, from those in global sourcing to those in marketing, and the tool is widely communicated to all employees.

While managing the Greenlist™ process requires full-time effort from one individual at SC Johnson, the tool is tied to many employee goals and incentives and has become embedded into daily business routines. As previously mentioned, Greenlist™ is such a simple tool to use that several employees use the tool regularly as part of daily tasks. For example, an

individual responsible for packaging selection at SC Johnson has to incorporate the Greenlist™ score into his or her selection of materials. When an employee pulls up a formula in the company's global formula information system, Greenlist™ scores for all of the raw materials are listed for that formula. If a material scores a zero rating, the individual will know to avoid that material. If they do elect to use the material, they will likely have to provide a plan for eventual phase-out of that material. Overall, SC Johnson does not find the ongoing management of Greenlist™ to be very resource-intensive.

The company has found that suppliers are generally willing to provide data, although there has been some concern over divulging too much information that is proprietary. Generally if the intended use for data is for internal safety and risk assessment, it is not perceived as a concern for suppliers. SC Johnson informs suppliers who are reluctant to share data that their materials might be labeled as RUMs. This often motivates suppliers to submit data, as it is obviously in their interest to maintain a good working relationship with customers. Through continued use of the Greenlist™ tool, SC Johnson expects to be able to consolidate its supply chain as more raw materials are purchased from preferred suppliers.

SC Johnson is making major strides in classifying all raw materials used in its global manufacturing of consumer products. The company views Greenlist™ as “possibly the single most important contribution it can make in protecting the natural environment.”⁸ The end goal is an annual increase in volume of environmentally preferred materials by utilization of a process to classify all ingredients that go into its products. SC Johnson continues to share its approach for greening its supply chain with suppliers, industry groups (i.e., Society of Environmental Toxicology and Chemistry or SETAC), and its peers, and is working towards applying for a patent for Greenlist™.

Business Benefits

Enhanced Brand Image — Having a strong brand image and reputation is the foundation of SC Johnson's business. Customers and consumers expect quality companies to manage environmental issues and to provide products for the marketplace that are safe for human health and the environment. As SC Johnson noted, building consumer confidence takes years to develop, and its new supply chain efforts are just one action of many the company is taking to ensure that it retains consumer trust.

Strong Relationship with Regulators — SC Johnson also noted that the company's strong relations with US Environmental Protection Agency (EPA) officials are due in part to Greenlist™, and the company's involvement with the PBT profiler. SC Johnson was the first consumer products manufacturer to participate in a new EPA pilot program called “PBT-Free.” PBT refers to chemicals that either persist (P), bioaccumulate (B) and/or present toxicity (T) in the environment.⁹ SC Johnson was extremely transparent and provided CAS numbers for all of its raw materials to the EPA for input into the PBT Profiler. After

⁸ SC Johnson, *Public Report 2003*, Our Family's Legacy.

⁹ SC Johnson Presentation to the Best Practice in Chemical Risk Screening Workshop, SETAC 2002.

processing the data, EPA returned a list of PBT chemicals to SC Johnson and the company is working diligently to screen out these chemicals. As a result of this open and transparent relationship, the US EPA gives SC Johnson extremely positive public recognition, which also helps the company build a strong brand image. As Bill Waugh from the US EPA Office of Pollution Prevention and Toxics stated: “In discussions here at the Agency, we often point to SC Johnson as an industry leader, willing to step forward and break new ground, to set the standard for product stewardship and to serve as a model that others will follow.”¹⁰

On March 5, 2003, SC Johnson received the Governor’s Award for Excellence in Environmental Performance, which recognizes achievements by Wisconsin industries and institutions for leadership in environmental performance. This achievement can be attributed to the company’s “use of a first-of-its-kind screening tool (Greenlist™) to help the business make cleaner, safer raw material choices for its products.”¹¹ And on April 22, 2003, the US EPA recognized SC Johnson with the first-ever Lifetime Atmospheric Achievement Award for innovation, leadership, and diverse approaches to environmental stewardship that are making a difference. Prestigious awards such as these enhance a positive brand image.

Reduced Operating Costs — Specific, measurable goals to reduce pollution and waste in products and processes have been part of SC Johnson’s continuous journey toward sustainability. The business case for the Greenlist™ process is also supported by reduced operating costs. For example:¹²

- Argentina replaced PVC blister packs with polypropylene for a cost savings of \$150,000/year;
- The UK, Spain and Turkey replaced PVC brass cleaner bottles and the new formula, package and warehousing collectively led to a cost savings of \$30,000/year; and,
- Piperonyl butoxide (naturally derived from the ocotea tree) has been replaced with a synthetic duplicate resulting in the avoidance of 600,000 kg of deforestation in China, Vietnam, and Brazil.

Innovation — A foreseeable benefit of the Greenlist™ tool cited by SC Johnson is ongoing innovation. The company’s 2003 Public Report identifies innovation as a key element of its legacy, and its new product development process. The report states, “Innovation is our lifeblood at SC Johnson. Our innovative spirit enables us to develop products known for their unique design and extraordinary consumer satisfaction.”¹³ As the company rules out certain materials or substances due to their Greenlist™ scores, it will have to either identify new materials or redesign products to eliminate substances of concern. Requiring employees and

¹⁰ SC Johnson’s 2003 Public Report. Page 14.

www.scjohnsonwax.com/annual_report/2003/SCJ_2003_REPORT.pdf.

¹¹ Brochure for the Seventeenth Annual Governor’s Award for Excellence in Environmental Performance, ENVIRONMENT 2003, The Milwaukee Hilton City Center, Milwaukee, WI, March 5, 2003.

¹² SC Johnson Presentation to China-US Cooperation in Industrial Pollution Prevention and Energy Efficiency, January 22, 2003.

¹³ SC Johnson’s 2003 Public Report. Page 8.

www.scjohnsonwax.com/annual_report/2003/SCJ_2003_REPORT.pdf.

suppliers to look at issues from different vantage points provides inherent value to the company. This leads to a competitive advantage in terms of bringing new and better products to market.

Lessons Learned

Challenges

SC Johnson identified two practical challenges with the adoption and integration of the Greenlist™ process. When the company introduced Greenlist™ to the external world, SC Johnson found it difficult to get input and feedback on the preliminary criteria. SC Johnson also recognized the general lack of credible and useful information when it began gathering data to feed into the screen. This lack of information was especially noticeable for criteria categorized as “other significant issues.” Thus, the tool is only as good as the information that is fed into the tool. This is an ongoing challenge that SC Johnson will face as the company advances its Greenlist™ tool and it will continue to look to suppliers and other organizations for assistance in generating quality data.

Developing an effective method for tracking progress and results of Greenlist™ is the other practical challenge that has demanded significant resources from SC Johnson. Because this is a new and innovative tool, there was nothing the company could look to for guidance in building a database. The company had to determine its own baseline, goals, and measures for success to ensure that it was delivering against its goals.

Success Factors

SC Johnson believes that senior management commitment is a critical success factor to advancing any environmental improvement program or tool. SC Johnson’s Environmental Plan 2001–2005 carries a lot of weight in the company as it is led by senior management and is tied directly to employees’ compensation structure. SC Johnson has corporate commitment and management support for its product stewardship, pollution prevention, and risk management, all of which are addressed through the Greenlist™ process.

SC Johnson believes one of the reasons the tool works so well is that it has been embedded into the company’s global formula information system. Greenlist™ is not an additional task performed by a separate group of people within the organization. The tool does not replace other processes already in place — it is purposely kept separate from the comprehensive risk and safety assessments that the company already conducts, despite the overlaps. The tool was also easy to incorporate into daily business practices because it is simple and easy to use.

An additional Greenlist™ success factor cited by SC Johnson is that it classifies raw materials by their function in SC Johnson’s products. Work is being done with the hope that, in the future, the company will be able to compare product formulations based on the Greenlist™ scores for each of the raw materials used in the formulations.

Supporting Processes, Policies and Information Sources

Concepts and tools such as eco-efficiency, design-for-environment and product stewardship have been used to advance SC Johnson's efforts to green its supply chain. Internally, the company has embraced these concepts and tools, which enhance the company's efforts to green its supply chain and compliment each other.

Linking Greenlist™ scores to employee compensation has been instrumental in ensuring that employees are using the tool as intended. Managers of product divisions have objectives related to Greenlist™ scores outlined in their performance agreements. If these reporting objectives are not met, their compensation is affected as a method to drive continuous improvement of Greenlist™ scores within product divisions. Employees responsible for material selection and formulation also have Greenlist™ accountabilities built into their performance objectives.

Also internally, the program is embedded into SC Johnson's global formulation system, and has been made very simple to understand. Greenlist™ is not an additional task or tool that employees have to use as it has been integrated into daily business routines. This has made it easy for employees and managers to accept and has facilitated smooth adoption.

SC Johnson indicated that it is committed to continuing partnership work with many groups to ensure the continued success of Greenlist™ in terms of data collection and identification of new scientific information. Membership and involvement in trade associations has been very helpful for SC Johnson as well as working relationships with research institutes, suppliers, and even NGOs with particular expertise in specific environmental issue areas.

References

Information in this case study was gathered through the following means:

- SC Johnson web site at — www.scjohnson.com.
- Interviews with Fred Martin, Scott Johnson, and Therese Van Ryne, all of SC Johnson.
- SC Johnson Presentation to China-US Cooperation in Industrial Pollution Prevention and Energy Efficiency, January 22, 2003.
- SC Johnson Presentation to the Best Practice in Chemical Risk Screening Workshop, SETAC 2002.
- *Environmental Management Questionnaire*. SC Johnson's Supplier Quality Assurance Manual: Appendix II.