

Environmental Quality

GOING GREEN

The movement toward "green sustainability" is gaining more momentum as many factors, beyond the use of chemicals, are now being considered for environmental friendliness.

By William R. Griffin, President, Cleaning Consultant Services, Inc.

Are you getting your share of green market dollars? You may be missing the boat on this reemerging trend. Green products, those that are manufactured, packaged, and marketed as beneficial to the environment, first appeared on the commercial market about ten years ago. Green got its start with the hippies of the 60s and is a holdover from the energy conservation days of the 70s. Initially, few people paid attention to the issue, unless they had a special interest in recycling, ecology, or environmental issues.

Today green is back with an expanded purpose. It is now a part of what is known as the "sustainability movement." Green has grown to include building design, construction, and operation, as well as all aspects of cleaning, maintenance, and energy and waste management.

For example, recycled or green materials can be used to construct a building, but this does little good when hazardous chemicals are employed to clean and maintain the facility. It becomes counter productive; the green efforts are negated by the actions taken to maintain the interior of the building. The emerging green trend has all the elements of a building working in sync to reduce the negative impact on employees, occupants, the community, and the environment.

In the past, recycling, waste reduction, and green chemicals were afterthoughts. Now, however, the approach raises sustainability concerns prior to building design so that these issues can be taken into consideration for the design, construction, operation, and decommissioning of the building. This approach is gaining popularity on a global scale. Sustainability looks at the big picture and is generally spear-

headed by the design architect who gives it credibility and focus. This, in the long run, can have a major impact on the cleaning and maintenance of a facility.

How Green fits into sustainability

Sustainability is defined by the World Building Congress as, "meeting our needs today without compromising the ability of future generations to meet their own needs." We are beginning to understand that our actions are damaging the Earth's capacity to support life. Some nonrenewable resources are being depleted while others are becoming contaminated and unusable because of pollution. There are increasing shortages of fresh water and diminishing amounts of top soil. The immune system is losing its ability to fight disease, birth defects are increasing, and species are becoming extinct. While there is considerable debate about the causes of such phenomena, many would agree that these changes are early warning signs of the impact that man's processes, systems, and materials have on the health of life on this planet.

We know that there is much waste in our society. Manufacturing building products and constructing buildings is no different. Some authorities estimate that over 90 percent of the material that goes into a product in the U.S. is waste before the product gets to the end user. Regardless of the exact percentage, this is an inefficient use of our natural resources. We need to incorporate a cycle that eliminates as much waste as possible and encourages reuse, recycling, and reduction. This includes reducing the use of scarce resources or those that cause considerable pollution, and considering the upstream history

and impact of a product.

Fortunately, there are relatively easy ways to improve work without increasing costs or making substantial sacrifices. For nearly all conventional building products or systems, environmentally-preferable alternatives are available. There are also a number of economic benefits, such as reduced maintenance and operational costs, increased comfort, health, and production of workers, and energy and water savings; not to mention any public relations exposure that may shed a positive light on the organization's green efforts.

What's behind the green movement?

A number of factors are responsible for driving the current resurgence of sustainability and the green movement.

Many people who were raised in the 60s and 70s grew up green and are now decision makers in positions of authority. They understand the relationship between environment and health, topics that are now taught from elementary school through college. The movement will pick up speed as the next generation of children begins teaching, writing, leading companies, and purchasing services and supplies.

Indoor air and environmental quality have become hot topics over the last ten years. We now know that what we breathe and where we spend our time impacts the quality and length of our lives. This concern for indoor air and environmental quality is a driving force behind the interest in green products and the sustainability movement.

The U.S. government is pushing the green issue on several fronts. Vice President Gore is a strong supporter of environmental issues. President Clinton issued Executive Order 12873

and updated it with Order 13101, which mandates that all Federal agencies evaluate and purchase products and services that have reduced effect on human health and the environment when compared to competing products or services that serve the same purpose. This comparison considers raw materials, products, manufacturing, packing, distribution, reuse operation, maintenance, and disposal of these products or services.

Federal agencies support such efforts with grants and research funding that promote the same agenda. As an example, the EPA and other agencies are funding projects that define and identify green products. This research is then made available to states, cities, and counties which follow suit and issue similar orders and edicts. This is happening in California, Massachusetts, Minnesota, Pennsylvania, Washington, and other states—and the trend is expected to continue.

Suppliers who don't have a line of environmental products meeting the criteria will not be invited to bid. Those who do have a line of green products are presented with a great opportunity to lead the way to set themselves apart from the competition.

Who's doing what?

Bob Kobet, Director of Green Building Services for Conservation Consultants, Inc. in Pittsburgh, PA, is in charge of the Pittsburgh High Performance Schools Partnership (PHPS). The partnership, initially a pilot project, was funded with \$200,000 from the Pennsylvania Department of Environmental Protection (DEP) to develop school design, maintenance, and retrofitting plans for energy efficiency and waste reduction. The idea was to start designing the state schools for the 21st century.

Kobet's project looks through a green lens at the way in which schools operate. This includes looking at such things as maintenance, waste stream, food service, purchasing, energy use, pest management, cleaning chemicals, independent contracts, indoor environmental quality, and physical facilities design and construction. Kobet's goal is to develop a team effort that brings together environmental stewardship with economic opportunity. "When

people realized there was an economic and a health return, that's when it really started to catch on," says Kobet. "It gets everyone's attention when you start to green the bottom line."

According to Joe Chaupa, Assistant Regional Director of DEP, "a school switching to energy efficient heating, lighting, and classroom design, as well as cutting waste from purchasing, use, and disposal of supplies and food, could save \$1 million dollars over five years."

Four city schools participated in the original pilot project, which has expanded to a second phase that includes developing a model to be used in schools citywide. The model will contain ideas on improving energy efficiency, reducing operating costs, and implementing green purchasing and procurement practices. It also includes ways to induce high performance school design principles, reduce school waste, enhance recycling programs, and incorporate environmental issues into the curriculum.

According to Kobet, the program has proved so successful in Pittsburgh schools that it is being considered for use on a statewide basis in schools and other State agencies. Pennsylvania Governor Tom Ridge has formed a Green Government Council and has directed all 27 State agencies to come up with a green plan for doing business.

Tom Barron, Consulting Engineer for Santa Clara County in Richmond, CA, has been involved for several years with his county's efforts to come up with a green purchasing policy. According to Barron, it takes approximately a year to generate a green plan. This will probably shorten in the future as more information becomes available and is circulated.

"Right now we are about half way through administering two \$50,000 Federal grants that are focused in the Bay area and funded by the EPA, that involve local and State governments," says Barron. "One study deals with small organizations such as carpet cleaners, janitorial services, and building custodians in churches, day care centers, and other small companies that hire their own janitors. The second project deals with large janitorial contractors, and manufacturing plants.

Each study has four parts. First we survey the organizations looking at the cleaning work

they do and the chemicals they use. Next, we will determine if there is a need for government agencies to publish and distribute information on environmentally-preferable cleaning products. Third, we will collect demonstration kits of alternative cleaning products for testing and evaluation; and finally we will tabulate and report on the results of our efforts. One study relates to a concern about zinc from floor finish getting into the sewer and ending up on the bay which is already contaminated and stagnant. The second study relates to long term exposure of workers to hazardous cleaning chemicals through absorption and other means. The results of the two studies will be published on the Web at the end of our two-year project."

According to Dean Kubani, Environmental Analyst for the City of Santa Monica, CA, the sustainable cities program started in 1991 when the City Council appointed a task force to develop an environmental policy. Eight years later, the policy is a way of doing business and a model that other cities can follow when they decide to deal with sustainability issues. "When our program was adopted, it included specific targeted goals upon which our success could be evaluated. The goal was to come up with a structure that would enable all city departments and the community to begin doing the same things with regard to environmental issues. We focused on such things as reducing energy use by 20 percent, increasing public transportation ridership by 10 percent, increased use of alternative fuels, improvement of our air quality, and reduction of water use by 15 percent. These were goals for the year 2000.

"With regard to green cleaning chemicals, it took about 18 months to involve the custodians, evaluate green products and come up with realistic bid specifications. In the end, 15 out of 17 product categories ended up with less toxic chemicals that met our requirements and we reduced our costs by five percent in the first year. More importantly, we have fewer human health concerns among our cleaning workers. We get good comments about the prod-

ucts from those doing the work. We also have fewer complaints about headaches, skin rashes, and burns, as well as fewer claims and costs or lost work time related to cleaning chemicals.

“In the City of Santa Monica, sustainability is a much broader issue than green cleaning products. Other things we are doing include using re-refined oil in city vehicles, nontoxic antifreeze and parts washing solvents and no oil-base paints or stains. Our integrated pest control management contractor focuses on prevention and we haven’t sprayed any pesticides in the city. We reduced the cost by 30 percent, with better results and greater satisfaction.

“We are working on the design for a new Public Works Building that is intended to be 24 percent more energy efficient than a conventional design. We are using recycled materials, and high efficiency lighting and energy systems in the design. For more information on our programs and specifications, people can visit our Web site at www.santa-monica.org/environment.”

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Results of a green chemical program

Harry Yarwood, Manager of Building Operations at the Brooklyn Public Library System, is responsible for cleaning at the fifth largest library system in the U.S., with over 60 locations and 1.3 million square feet of space. Yarwood says that green chemicals are part of the library system’s sustainability effort. “Our overall goal is to reduce pollution during construction and operations. We hadn’t realized how dangerous cleaning chemicals could be to our workers and occupants. We went to less hazardous products than what people are typically using to clean buildings. We also installed chemical proportioning systems which give us much better control. This means a higher level of safety and less cost. We used to buy in 55-gallon drums and at this point I would estimate that our chemical costs are down



The Searle Parkway Facility in Chicago benefited from a sustainability program that greatly improved the health and safety of its cleaning contractor and also provided significant cost savings.

as much as 50 percent over previous expenditures. We ended up purchasing Rochester Midland’s Enviro Care line of chemicals and the cost is very competitive,” adds Yarwood.

“One of the most significant benefits has been the formation and work of the Green Team Committee. It has given library staff the opportunity to participate in the positive change and allows the facilities department to become a member of a team whose mission is to improve the environment internally and externally”.

Over the last two years, Eric Friedman, Environmental Purchasing Coordinator for the Commonwealth of Massachusetts, has developed a statewide contracting program for the purchase of environmentally-preferable products.

Friedman says the process was complex, fairly long, and yet highly successful. “We wanted to look at what others had done and involve suppliers, end users, and health officials. We developed a Request for Response (RFR) for green chemicals and got nine bids back. Of the nine, five passed the review and were placed on the approved bidder list. We started buying and using products from these vendors in late 1998. Details about our RFR are on the Internet at www.commpass.com.”

According to Friedman, “There is no reason to reinvent the wheel since there is much information available on this subject. We did get some resistance from manufacturers that don’t offer a green line of products. We didn’t agree

and went ahead with our program and it was the right thing to do.”

Steven Schultz, Sustainability and Energy Manager for the Chicago region of Monsanto Company, says that going green was an interesting and rewarding experience. “We want our buildings to be as sustainable as possible within reason and cleaning must be tied into that goal or you lose the value of what you’re trying to accomplish. We start by being careful regarding which construction materials we use, and then move

onto other things that can impact the indoor environment and provide toxic exposure for workers and occupants.

“Our program was fairly easy to implement. It was almost turnkey at our Searle Parkway Facility. Three groups participated: Monsanto as the property owner, Rochester Midland as the chemical supplier, and LBR Consolidated Services, our cleaning contractor. For this to work, each partner has to get some benefits out of it. There was a learning curve, we had to evaluate products, train supervisors and workers, and then implement the program.

“The cleaning contractors benefited in three ways: they had less toxic products for their employees to use, there was a cost savings over the products we previously used, and they could sell the green concept to other customers.

Manufacturers see green

Steve Ashkin, Vice President of Rochester Midland in Rochester, NY, has been the leading edge of the green chemical movement for many years and is an often-cited authority on the subject of indoor environmental quality and sustainability. His efforts have helped move an interest in green chemicals out of the cleaning industry and into influential circles of government, architecture, and big business. Ashkin served on an ASTM (American Society for Testing and Materials, www.astm.org) task force of 70 members that, over the last two years, has developed ASTM E-1971, a national standard on Stewardship for Cleaning

Commercial and Institutional Buildings. The task force included members of the chemical industry, EPA, GSA, building service contractors, building owners and managers, State and municipal governments, environmental activists, labor unions, and even the Executive Director of the President's Council on Sustainable Development.

The standard is not a procedural manual, it is a guide for building owners and managers who want to maintain their facilities in a green and sustainable manner.

"Ten years ago, green chemicals weren't even on the map," notes Ashkin. "Today the cleaning and janitor industries are in a position to be one of the biggest beneficiaries of the green sustainability movement. It's no fad. It's an accelerating global movement that is picking up supporters everyday around the world.

"People don't want chemicals; they want a clean, safe, healthy environment. Green chemicals are just one part of an overall package that addresses every potential impact on the indoor environment. This includes such things as supervision, training, procedures, equipment, HVAC systems, and other factors. In the past, there has been too much emphasis on products only. It is a bigger and much more complex issue than green chemicals alone.

"If distributors, suppliers, and

manufacturers want to be successful in this arena they must be more concerned with the needs of the facility—the overall complete picture, not just one piece of the puzzle," says Ashkin. "You won't be successful on a long-term basis if your only goal is to sell chemicals and products. It's not that simple. It's a much more complex management issue. You must deal with all the impacts to the environment and the overall operations of the facility to get long-term results and a healthy environment. It's not that existing cleaning chemicals are bad, it's that environmentally-preferable products are just better."

Taylor Stewart, National Sales Manager for Alphen Products, a division of DynaChem, Inc., sees the environmentally-preferable angle as one of the primary marketing approaches for his company's product, an EPA-registered sanitizer/virucide. "Our H2Orange2 is a multipurpose, low toxicity cleaning system of biodegradable surfactants, orange oil, and hydrogen peroxide," says Stewart. "From a marketing standpoint, large distributors don't like our product because it cuts down on a number of products they can sell to a customer. Small distributors like our product as it gives them both the green and the one-product-does-all benefits, which is a good way to compete against the large distributors." The product was recently placed on the Massachusetts Environmentally Preferable Cleaners Contract list.

Distributors get green fever

Kevin Gray, Vice President of American Paper Towerl Co. in Hackensack, NJ, handles both Spartan Chemicals and Rochester Midland's Enviro Care line of products. According to Gray, "Rochester Midland really has its act together when it comes to its green line of products. What spurred us on was that the Durst Corporation, a real estate company in New York, NY and a major customer of ours, demanded we bring in a green chemical line. It has evolved into an area we believe we can target for good growth in the future. The line has gotten us some nice business and we are working on several other large customers. I don't think we could have gotten this business without a good green line of products.

"You have to take a different approach with a select group of customers, and it is not for everybody—the customer must have an interest. But it does appeal to a significant segment of the market and people give it a serious look once you show it to them. This is an area where everyone looks good promoting worker and building occupant safety."

A green line of cleaning chemicals is a good business decision for you and for your customers. It is the right thing and the profitable thing to do. In this environmentally-conscious world, what more can you ask for?

WHAT IS GREEN SEAL CERTIFICATION?

Green Seal Certification is an independent, nonprofit organization dedicated to protecting the environment by promoting the manufacture, sale, and implementation of environmentally responsible consumer products and practices. Green Seal allows the use of its certification mark on products found to meet its environmental standards, and also educates consumers on how to use their buying decisions to help the environment.

Green Seal develops environmental standards on a category-by-category basis, chosen according to the significance of the associated environmental impacts and the range of products available within the category. A cat-

egory study takes a life-cycle approach that includes material extraction, manufacturing, use and recycling or disposal. It identifies the environmental impacts and characteristics of a product, the points in the manufacturing process, and significant environmental effects from the use and disposal of the product. Performance elements are considered in concert with environmental impacts.

The study is then released in the form of a proposed standard, which is circulated for review and comment from manufacturers, trade associations, environmental and consumer groups, government officials and the public. After reviewing all comments, Green

Seal publishes a final standard. Products are Green Seal-certified only after rigorous testing and evaluation, including plants visits. Standards are then periodically reviewed and updated to incorporate advances in technology and industry practices.

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