

Greening Industry

By Eliot Ho

The use of environmentally preferable cleaning products and systems has swept North America and Europe and is now descending on Asia. Questions as to whether the current economic cloud hovering over the world will slow or deter the march to Green appear, at least at this time, to have been answered. The professional cleaning industry is going Green, regardless of the economic downturn. Most experts believe the tipping point has been passed and there is no going back.



However, this does not mean all types of facilities—schools, medical buildings, offices, industrial locations—have been marching in sync to the same Green beat. In most of the world, it has been schools and office facilities that were the first to go Green and are most enthusiastic about the

program. However, that is changing, and today more and more industrial locations are going Green as well.

We see extremes of this all over the world, and it typically involves much more than just the use of environmentally preferable cleaning products. For instance, when Delta, the world's largest provider of switching power supplies and DC brushless fans, decided in 2007 to build a Green factory in Rudrapur, Uttarakhand, India, they incorporated such things as:

- Natural light harvesting to reduce the need for electric lighting
- Solar panels, which help reduce energy use by 12 to 15 percent
- Waste management systems
- Use of low volatile organic compound (VOC) paints, cleaning chemicals, and building materials
- A variety of energy-saving systems and devices

According to Yancey Hai, Vice Chairman and Chief Executive Officer, Delta Electronics, Inc., the reasons to build and operate a Green facility are many. "We are committed to providing

energy-efficient solutions as well as being environmentally conscious, reducing wastes and carbon emissions,” says Hai. “But even more, it will provide a healthy and safe workplace for our employees.”

Defining Green

Before exploring the benefits of Green and Green cleaning, it is best to clearly define the terminology. Although there are different definitions, a very common definition of Green cleaning is "cleaning to protect health without harming the environment."

Formulating a Green cleaning strategy for an industrial or most any other type of facility involves understanding the unique requirements of the facility, such as how it is used, and examining the entire process of cleaning in the facility. This would include identifying areas of a facility where cleaning can be implemented, where the cleaning in general can be improved, developing a plan and procedure to implement Green cleaning and these improvements, executing the plan, and then measuring the results.

If done properly, a well-designed and well-implemented Green cleaning/improvement plan will have a positive impact on the cleanliness of the facility, the health and performance of occupants, and the facility's bottom line. The program is especially dependent on two components: the products selected and the training of the cleaning worker.

All products selected for Green cleaning should be tested and certified by a reputable, independent, third-party organization to confirm that they have a reduced impact on the environment when compared to similar or more conventional products. This rule applies to chemicals, equipment, and cleaning tools.

Reasons to Go Green

Industrial facilities are likely to be more “bottom-line” focused than most other types of facilities. If the economy takes a downturn, they are often quick to cut back on staffing and reduce worker hours—much more so than a school or office, for example. Conversely, when business is good, finding ways to produce more products—adding more staff and worker hours—is paramount.

Because of these economic concerns, factory owners and managers may question whether there really are economic benefits to going Green. We see this questioning not just in China but around the world. In 2005, 665 senior executives were surveyed by Turner Construction Co., one of the largest construction companies in the world, regarding their thoughts on Green issues. Most of the top business executives surveyed said they believe building and operating a Green facility (office or industrial) was more costly than a conventional building. Further, nearly half said they were unable to “quantify” the benefits or costs of building and operating Green. Essentially, they did not see an economic benefit to building or operating a Green facility.

Fortunately, new studies have been released that show there are benefits, and many of these quickly translate to an improved bottom line. For instance, in *The Economic Benefits of Green Buildings: A Comprehensive Case Study*,* conducted in 2006, the researchers reported that a Green-built and operated facility produced the following benefits:

- Manufacturing productivity increased by 25 percent.
- Energy usage decreased by 30 percent on a square

foot basis.

- There was “statistically significant” reduction in employee absenteeism.**

Because educational facilities, as mentioned earlier, were one of the first to develop Green cleaning systems, it is no surprise some of the most extensive studies of Green cleaning have been conducted in schools. One of the most comprehensive, *Greening America's Schools: Costs and Benefits*, was done in 2006 in the United States. Sponsored by the American Federation of Teachers, the American Institute of Architects, the American Lung Association, and the U.S. Green Building Council, the study found that once Green construction and operating systems were instituted in select school facilities, there were considerable savings, including the following:

- Energy costs were reduced by \$9 per square foot.
- Water and waste water costs were \$1 per square foot lower.
- Student earnings later in life were improved, \$49 per square foot.

- Asthma was reduced, resulting in a savings of \$3 per square foot.
- Teacher retention was improved, saving \$4 per square foot.

Overall, the financial savings were more than \$70 per square foot, and this did not include reduced teacher sick days, operating and maintenance costs, or such items as reduced social inequity and educational enrichment. These latter are very hard to quantify but are recognized as benefits that can be derived from Green schools.

Although comparing schools and industrial facilities is like comparing apples and oranges, what is clear is that once Green operating and cleaning systems are implemented, there are notable improvements that translate into economic benefits no matter what the location.

Beginning at the Beginning

Assuming enough questions about Green cleaning and its benefits have been addressed and a facility has decided to incorporate Green cleaning and other environmental practices into its facilities, the big question is: Where do we begin? Some of this was addressed earlier when we defined Green cleaning: evaluating the current cleaning situation, the products used, and the procedures now. However, like any program, there are specific steps in the implementation that must be followed and adhered to. These include:

- Form a team: The team will meet, discuss the Green cleaning system, and begin its implementation.
- Benchmark: Evaluate all cleaning products, tools, and equipment now in use to see which are Green and which can be replaced with Green equivalents.

- Develop a plan: Decide which areas of the facility can be Greened first and begin the process.
- Get everyone on board: Green is a team effort. If management or staff are not enthusiastic about the program, outcomes are uncertain.
- Acquire Green cleaning products: In some cases, vacuum cleaners, extractors, and floor machines will be retained until the end of their life cycle. However, the quicker all cleaning tools are replaced with Green equivalents, the healthier the facility will become.
- Implement: Begin the program per the plan. Train workers on the new cleaning tools, not only how to use them effectively but with the health of the facility in mind as well.
- Follow up: Many experts view Green cleaning as a journey, not a destination. We are always finding new areas and new ways to Green a facility. One of the best ways to do this is to conduct ongoing meetings of the

Green team with staff, managers, janitorial distributors—as well as all stakeholders. The Green “bar” is constantly being raised. New and often more rigorous guidelines and standards are continually being developed, and that helps protect our health, improve our environment, and bolster the bottom line.

Eliot Ho is a janitorial distributor servicing the Asian market in China, Thailand, and Hong Kong. He may be reached at: uni.fly@msa.hinet.net Or

Unify International, Inc.

Room 7A16,7F,No.5 Hsin-Yi Road,

Sec.5 Hsin-Yi District, Taipei City,

Taiwan R.O.C.

TEL : 886-2-23450010

FAX: 886-2-23450382

Sidebar: Among the reductions that facility managers may realize through Green cleaning are the following:

- Reduced insurance liability
- Reduced worker absenteeism
- Reduced occupant complaints
- Reduced tenant turnover
- Reduced vacancy costs
- Increased tenant satisfaction

- Increased tenant retention
- Increased marketability of the property

*

Robert Ries, Melissa M Bilec, Nuri Mehmet Gokhan, and Kim LaScola Needy. "The Economic Benefits of Green Buildings: A Comprehensive Case Study." *The Engineering Economist*. Norcross: 2006. Vol. 51, Iss. 3; pp. 259–296.

** The report did note that “results varied” depending on a variety of factors.