



EPP Update

Issue 9 | August 2001

ENVIRONMENTALLY PREFERABLE PURCHASING

Carpet Products and the Environment: Don't Sweep the Issues Under the Rug

Carpet is quiet, soft, slip-resistant, and often quite beautiful. These qualities make it an extremely common choice as a floor covering for office space. But carpet is also a problem for solid waste management programs around the country and contributes to concerns about poor indoor environmental quality. By considering a variety of lifecycle attributes, from the materials used to manufacture and install carpet to recycling and disposal issues, purchasers can make informed decisions about carpet options.

Key Health and Environmental Issues Associated With Carpet

Health and environmental concerns associated with carpet include indoor air quality, toxic chemical emissions from manufacturing and disposal operations,

and solid waste impacts. A variety of volatile organic compounds (VOCs) can be emitted from carpet materials. For example, 4-phenylcyclohexene has a very low odor threshold and has been associated with indoor air quality complaints after new carpet is installed. Other compounds emitted from carpet, such as formaldehyde and styrene, can present acute or chronic health concerns under certain exposure conditions. The manufacture and disposal by incineration of polyvinyl chloride, a common component of carpet backing, is a source of dioxin contamination in the environment. Dioxin is a potent carcinogen that is highly persistent in the environment and bioaccumulates through the food chain. About 4 billion pounds of carpet enter the solid waste stream in the United States each year, accounting for

< Continued on Page 6 >

Highlights

- Paper Sets the Standard
- WasteWise Update delivers EPP Theme
- King County Annual Report
- Sharing Responsibility for Sustainability
- New Eco-Labels Web Site
- Green Conferences
- Arizona National Guard Eco-Building
- EPP Database

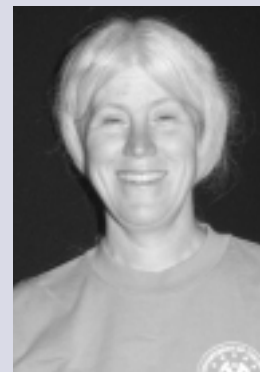
PROFILE OF A PIONEER:

Wanted: Good Home for Excess Supplies

Need some laboratory glassware, file folders, or a lamp for your office? Before they purchase any of these items, employees at the U.S. Geological Survey's (USGS) campus in Menlo Park, California, have learned to first check the stock at the "Supply Exchange."

Spearheaded by Susan (Sue) Hunt, a logistics management specialist at USGS's Redwood City Marine Facility, the

Supply Exchange is a place where employees can drop off and pick up unwanted, but still usable, office, field, and laboratory supplies. Sue



< Continued on Page 3 >

Paper Sets the Standard

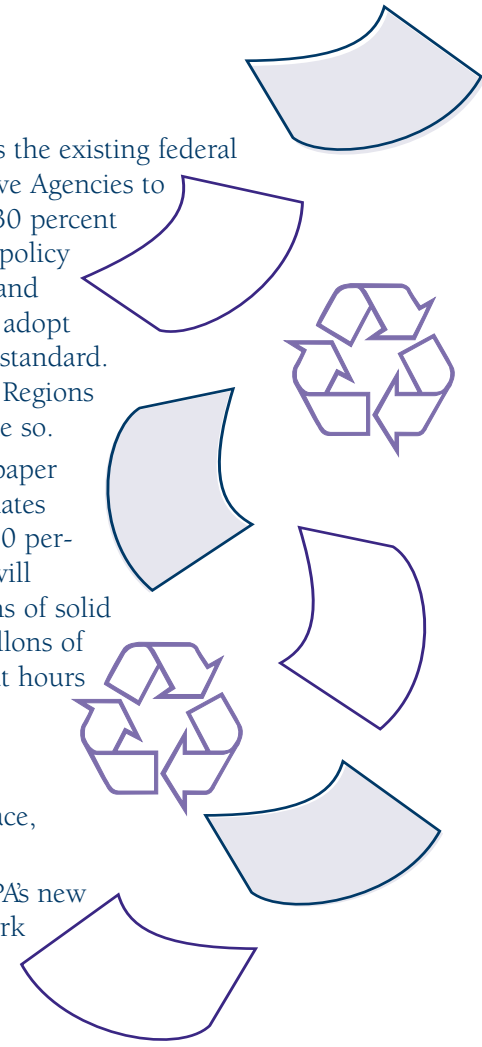
As many of our readers are aware, with each new issue, the *EPP Update* highlights a different type of paper determined by EPA to have certain positive environmental attributes. We are using this issue to highlight EPA's new paper standard for EPA publications and photocopiers—making it easier for everyone at EPA Headquarters (HQ) to print “green.” The new policy requires that paper used at HQ contain at least 50 percent postconsumer fiber and be bleached without the use of chlorine or chlorine-containing compounds whenever possible.

To ensure adherence to the new policy, EPA changed two of its direct-deal contracts with the Government Printing Office (GPO) to incorporate requirements for the new specifications. Due to availability issues with colored stock, the requirements apply only to white cover and text stocks. For one-time bids through GPO, EPA specifies the recycled content levels required by the new policy and encourages the use of process chlorine free paper, if available to meet the requested schedule. Therefore, although the paper used for this *EPP Update* is processed chlorine free, all EPA publications cannot be assumed to be.

EPA's new policy strengthens the existing federal standard requiring all Executive Agencies to use paper containing at least 30 percent postconsumer fiber. The new policy also encourages EPA Regions and other government agencies to adopt the 50 percent postconsumer standard. Some EPA Regions, including Regions 3, 4, and 10, have already done so.

Based on typical EPA copy paper usage and printing, EPA estimates that annual savings over the 30 percent postconsumer standard will equate to eliminating 71.7 tons of solid waste, conserving 157,872 gallons of water, saving 205,920 kilowatt hours of electricity, preventing the emission of 1,135 pounds of greenhouse gases, saving 396 cubic yards of landfill space, and saving nearly 1,600 trees.

For more information on EPA's new paper policy, contact Russ Clark at <clark.russell@epa.gov>.

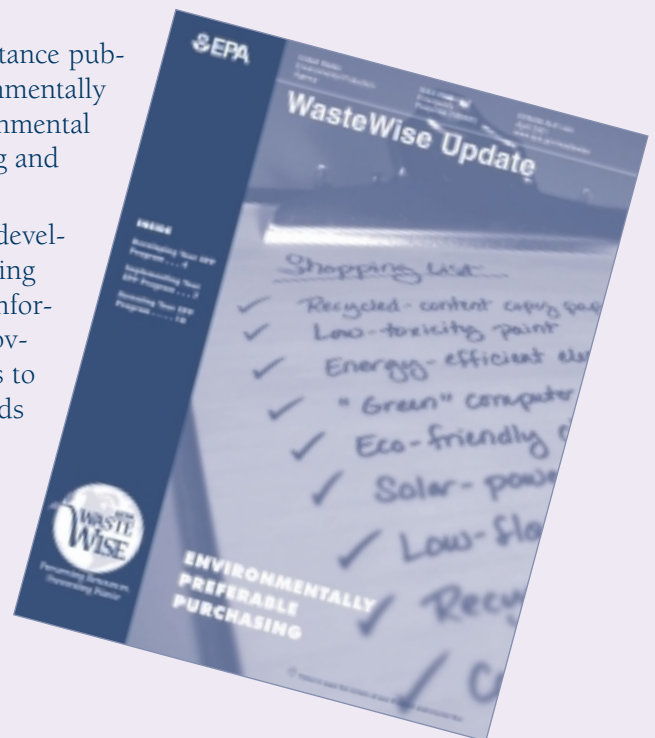


WasteWise Update Delivers EPP Theme

A recent issue of EPA's *WasteWise Update*, a technical assistance publication focusing on waste reduction, highlights environmentally preferable purchasing. The *Update* discusses the environmental and business benefits of environmentally preferable purchasing and provides guidance on setting up a green purchasing program.

WasteWise partners' success stories support suggestions for developing, implementing, and assessing an environmental purchasing program. To appeal to a larger audience, the *Update* presents information and examples that are useful to both businesses and government agencies. An extensive list of resources directs readers to additional sources of information on green purchasing standards and initiatives.

To obtain a copy of the *Update*, call the WasteWise Helpline at 800 EPA-WISE, or visit the WasteWise Web site at <www.epa.gov/wastewise>.



King County Reports EPP Successes

King County, Washington's Environmental Purchasing Program has had 9 years of success, spending \$3.5 million for environmentally preferable products and saving \$575,000. The county publishes an annual report that contains information about its EPP program, including implementation, challenges, and opportunities. The report also contains information about specific products that the county purchases each year and how its purchasing decisions lead to financial savings. For example, the Renton Maintenance Facility in King County is using recycled plastic sideboards for their dump trucks rather than the traditional wood sideboards. The plastic

sideboards are more impact-resistant and need replacing less frequently, which saves money in the long-term. Though the recycled plastic sideboards have a higher initial cost, replacement of the sideboards has been reduced from two wooden sideboards per week to fewer than one plastic sideboard per month, saving the county \$5,000 per year.

"The central message of the report is that users are making this success happen," says Eric Nelson, King County's EPP Program Coordinator. "The report shows that successful environmental purchasing is an incremental process—we haven't had any major breakthroughs but have seen

many small successes."

The 2000 annual report is available online at <www.metrokc.gov/procure/green>. For more information about the program and report, contact Eric Nelson at <eric.nelson@metrokc.gov> or 206 263-4278, or Karen Hamilton at <karen.hamilton@metrokc.gov> or 206 263-4279.



Pioneer < Continued from Page 1 >

explains that the Supply Exchange program, which is free to all participants, is an important part of the campus culture, saving both landfill space and trash collection fees, reducing procurement costs, and conserving government resources. Recently, the Supply Exchange received a White House Closing the Circle Award in recognition of its recycling and reuse accomplishments.

Sue and a group of colleagues were inspired by activities that they participated in during the 1990 Earth Day commemoration. The extensive USGS recycling program evolved from there, and in 1996, when the first of many office relocations began, the Supply Exchange was born. Since then, Sue has had to contend with several relocations of the Supply Exchange itself, because

the dedicated space required to make the program work is increasingly hard to come by on an ever-shrinking campus. However, she acknowledges that her efforts, which are above and beyond her normal job responsibilities, are well worth it when she sees the results. "It is satisfying," Sue says, "when someone tells me that they discovered something they really needed at the Supply Exchange. One lab manager said he picked up \$5,000 in laboratory glassware in one trip alone!"

Although the Supply Exchange does not accept furniture items or electronic equipment, Sue works with the agency property office to donate surplus office furniture and computers directly to schools that desperately need them. In addition, items that are no longer

in demand by USGS employees are made available to local schools and nonprofit organizations.

Sue, a 27-year veteran of USGS, grew up in Tucson, Arizona, and says she has always had a passion for not wasting things. A confessed pack rat, she also is an avid birder and native-plant gardener. In addition to the Supply Exchange, Sue has spearheaded several related efforts, including a program to collect items such as photographic negatives, blueprints, foam packaging, and ink cartridges, which are typically not collected as part of most office recycling programs.

For more information on the USGS Supply Exchange, contact Sue at 650 329-5860 or <shunt@usgs.gov>.

Sharing Responsibility for Sustainability

FNS Member Organizations:

- Navy
- Air Force
- Army
- Environmental Protection Agency
- Department of Energy
- National Park Service
- General Services Administration
- Bonneville Power Administration
- National Aeronautics and Space Administration

Recent energy shortages in the Western United States highlight the need for meaningful cooperation among federal government agencies in the areas of planning, purchasing, and managing valuable resources. The Federal Network for Sustainability (FNS), a voluntary group of representatives from several western federal agencies, aims to promote this type of interagency collaboration.

Sustainability—which means meeting current social, economic, and environmental needs without compromising the ability of future generations to do the same—has become a guiding principle in planning and operating strategies for many businesses, institutions, and governmental organizations. FNS capitalizes on the experiences and resources of its member agencies to efficiently implement sustainable practices in their regions.

On Earth Day 2000, 11 federal officials representing 6 government agencies in western regions signed a Statement of Unity, pledging to coordinate federal leadership efforts on sustainability and to demonstrate sustainable practices within the federal government. The officials formed FNS as an outgrowth of this signing ceremony to provide an operational focus for sustainability projects and programs, including environmental initiatives, resource conservation, and green purchasing, both within and among the signatory agencies.

Currently, FNS focuses on three goals: expanding the market power of “green” government purchasing, increasing the use of renewable energy sources, and developing and using environmental

management systems, which help businesses incorporate environmental management into everyday practices. After just 1 year, FNS touts several accomplishments in these areas. For instance, two green power summits were held in San Diego and Seattle, where more than 300 federal and utility sector participants learned about renewable energy resources and mechanisms for developing or purchasing these resources in a financially conscious manner. FNS also is reassessing purchasing specifications for recycled paper and electronic equipment to boost the market for these products.



The way FNS operates is effective. First of all, leveraging the expertise and resources of several western federal agencies maximizes taxpayer dollars. In addition, FNS members incorporate sustainability activities into their everyday work responsibilities, and in the end, each agency benefits from pooling resources. Voluntary participation ensures motivated, productive members, committed to pollution prevention and long-term sustainability. “Because of FNS,” says EPA’s Barbara Lither, “we don’t have to reinvent the wheel when we want to buy green power or research a green product.” FNS member agencies can provide support based on their past experiences, which, according to Curtis Framel of the Department of Energy, ensures efficiency and a “streamlined approach to sustainability that avoids duplication.”

For more information or to become a member of FNS, please visit www.federalsustainability.org or contact FNS Chair Alan Hurt at 619 524-6253.

How Well Do You Know Your Labels?

Do you know what it means when a product claims to be “organic” or “environmentally friendly?” Moreover, who monitors companies’ claims? A new “eco-labels” Web site helps consumers decipher labels on food and wood products so they can make more informed decisions about the products they buy.

Developed by the Consumers Union, the publisher of Consumer Reports magazine, the eco-labels site provides users with information about the products on which the eco-labels are used and the organizations and standards behind each label’s environmental claims.

Users can search the database three different ways—by label, product, or certifier—and are given a list of the associated eco-labels. For example, selecting “Sustainable Wood” in the label search box identifies three labels found on products claiming to use sustainable wood. Clicking on the specific label brings the user to a page of detailed information, including a program description, how a particular product qualifies to carry that label, and a

Consumer’s Union evaluation assessing the quality of the labeling program. The site also provides contact information for organizations and a list of products carrying that label.

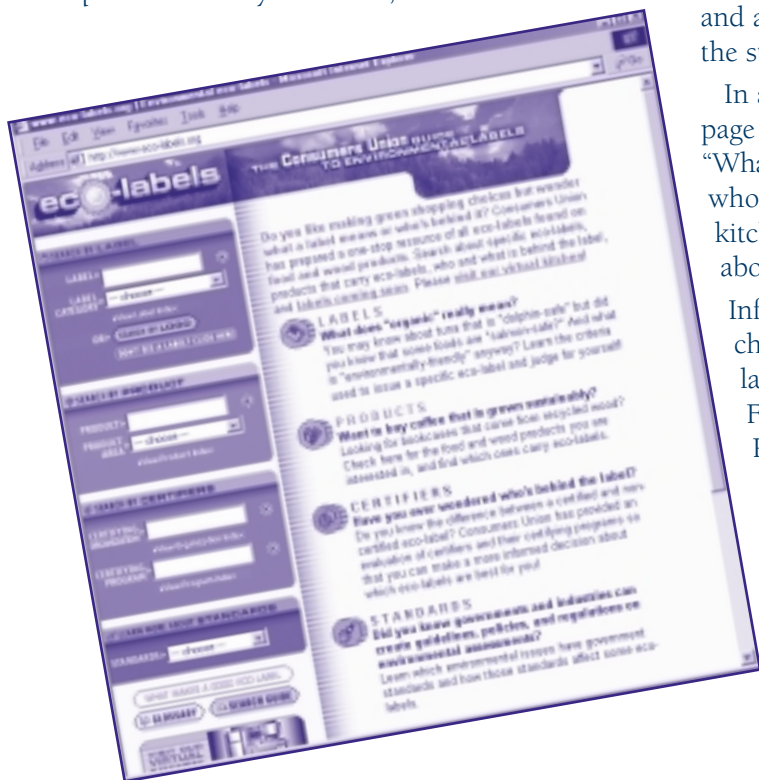
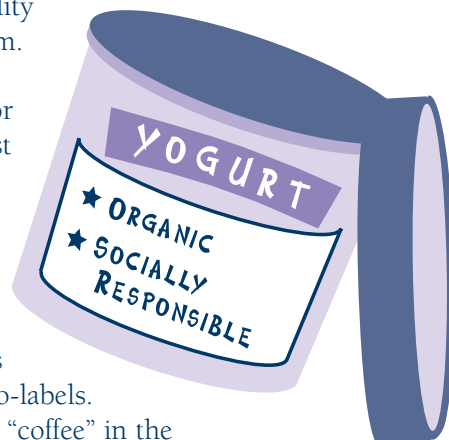
Searching by product provides users with another way to sort and access the information on eco-labels.

For example, entering “coffee” in the product search box identifies five different labels found on coffee. Each label represents a different positive environmental attribute, such as organic, bird-friendly, and social responsibility. The user can then access the same detailed information mentioned above. The site does not, however, evaluate specific product brands. Users also can search for a certifying organization or program, such as Rainforest Alliance, Green Seal, or the Department of Agriculture, and access information on standards at both the state and federal level.

In addition, the site provides a glossary and a page describing the criteria used to evaluate “What Makes a Good Eco-Label.” For users who like interactive learning, the virtual kitchen provides pop-up style information about food, wood, paper, and coffee products.

Information is still being added to the site, so check back often. You can visit the eco-labels Web site at <www.eco-labels.org>.

For additional information, contact Irvashi Rangan at 914 378-2351.



Carpet Products and the Environment

< Continued from Page 1 >

more than 1 percent by weight and about 2 percent by volume of all municipal solid waste. Furthermore, the bulky nature of carpet creates collection and handling problems for solid waste operations, and the variety of materials present in carpet makes it difficult to recycle.

Consideration of the Entire Life Cycle and Trade-off Issues is Important

Significant impacts can occur throughout the life cycle of carpet, and these impacts vary with the types of materials used, the pattern of carpet use and replacement, and the options available for reuse, recycling, or disposal. An approach for evaluating the lifecycle impacts of carpet and other floor coverings is included in the Building for Environmental and Economic Sustainability (BEES) tool, which can be downloaded from <www.epa.gov/oppt/epp/bees.htm>. BEES includes lifecycle impact data on nylon and recycled polyethylene terephthalate (PET) carpet. General information on lifecycle analysis and its role in environmentally preferable purchasing can be found in the EPP General Training Tool at <www.epa.gov/oppt/epp/gentt/>.

Nylon is the most popular fiber used in commercial carpet facing. Two closely related forms of nylon—“nylon 6” and “nylon 6,6”—are used in carpet facing. Recycled nylon 6 is available and is used by some manufacturers. Currently, there are no commercial sources of recycled nylon 6,6. Some manufacturers believe that nylon 6,6 provides better performance for certain characteristics such as stain resistance. Polypropylene and PET are also used in carpet face fiber. Recycled PET is widely available, but carpet made with PET face fiber is not as durable as nylon or polypropylene carpet and is usually recommended only for light to moderate wear conditions.

Carpet fibers can be “solution dyed” by the fiber manufacturer or dyed later at the carpet mill as the carpet is manufactured. Some believe that solution dyeing during fiber manufacture results in lower emissions and better color fastness than subsequent dyeing at the carpet mill. However, the differences between solution dyeing and mill dyeing depend highly on the particular processes used, and it is difficult to generalize about the advantages of one process versus the other.

Carpet backing is used to provide structural support to the face fiber. The primary materials used in carpet backing are jute, polypropylene, polyvinyl chloride (PVC), and polyurethane. Jute is a renewable biobased product but is not as durable as the

synthetic backings. Recycled-content (up to 100 percent) PVC backing is available, but dioxin and other chlorinated byproducts are formed during the manufacture and disposal (by incineration) of PVC.

Polypropylene avoids the chlorinated byproduct issues of PVC, but its manufacture requires more energy than PVC does, and recycled-content polypropylene backing is not readily available. A new polyurethane backing under development uses a polyol derived from soybean oil. In addition to the renewable resource advantage, it appears that soy-based polyurethane requires less energy during the curing step than polyurethane made from standard petroleum-based polyols.

Carpet cushion is placed underneath the carpet to provide additional comfort, insulation, and noise reduction. In some cases, the cushion is integrated with the backing. Materials commonly used in carpet cushion include polyurethane, jute, synthetic rubber, PVC, and other synthetic fibers. All of these substances can be obtained from recovered materials.

Because of its complex nature (typically at least three different materials bonded together), carpet is difficult to recycle. However, some manufacturers do have programs to collect used carpet for materials recovery and subsequent processing into a variety of products. Most of the carpet in the United States that is recycled is separated and processed into new products in Georgia by the DuPont Carpet Reclamation Program (800 4DUPONT). A few other carpet manufacturers incorporate postconsumer materials in their carpet. A description of recycling activities within the carpet industry can be found on the Carpet and Rug Institute’s (CRI’s) Web site at <www.carpet-rug.com>.

VOCs can be emitted from any or all carpet components, as well as from adhesives that are sometimes used during carpet installation. Field or laboratory testing is needed to identify and quantify the compounds emitted. Currently, it is not possible to predict the identities and quantities of these emissions based solely on the chemical composition of the materials used in the carpet.

The Choice is Yours

Environmentally preferable carpet choices each have their own merits, and choosing one depends on the specific need, location, and use for the carpet. Some questions to consider in determining the best choice for your situation include:

- **What are the durability requirements?**

Because increasing the durability of carpet generally requires a more resource-intensive manufacturing process and makes use of recycled material difficult, it is important to anticipate the expected use pattern and replacement schedule in order to make the best environmental purchase. For example, don't specify the most durable carpet for a temporary space with light use and frequent change in tenants and, therefore, frequent renovations and flooring replacement.

- **Tiles or broadloom?**

Tiles use more material initially because of the need for a thicker backing but, depending on the use pattern, they can save materials in the long run because worn or soiled tiles can be replaced individually rather than replacing the entire carpet. Also, keep in mind that broadloom carpet comes in standard widths—typically 6 and 12 feet. Because tiles are smaller, less carpet is wasted when tiles are installed in spaces with different dimensions.

- **What is the recycled content of the carpet face fiber, backing, and cushion?**

- **Is there a mechanism for recycling some or all of the carpet components?**

- **What are the chemical emissions from the manufacture and disposal of carpet materials?**

- **What are the emissions from the carpet itself or from other materials used during its installation (e.g., adhesives)? Do any of these emissions present indoor air quality concerns?**

Carpet Standards and Specifications

A number of states and EPA Regions have incorporated contract language that considers health and environmental factors when purchasing carpet. Massachusetts state agencies specify minimum levels of recycled content for carpet purchases; both Massachusetts and Minnesota allow only low-VOC adhesives; and Washington state specifies the maximum emissions allowed in the first 30 days following installation. EPA Region 7 specifications prohibit certain chemicals and require emissions to meet standards of CRI's "Green Label" program, which encourages manufacturers to reduce chemical emissions from carpet products. Region 10 allows only low-VOC and formaldehyde-free adhesives

and requires that any carpet unable to be reused must be recycled with the Dupont Carpet Reclamation Program or its equivalent.

EPA also is exploring the development of voluntary consensus standards, which would incorporate environmental factors into the product design and manufacturing process. In addition, under EPA's Comprehensive Procurement Guidelines (CPG), federal agencies are required to purchase carpet and carpet cushion, among other items, with recovered content. The CPG currently addresses only polyester carpet, but EPA is considering adding a requirement for nylon carpet and nylon carpet backing.

Purchasers can find contract language and other voluntary standards for carpet in the EPP Database at <www.epa.gov/oppt/epp/database.htm>. For CRI's Green Label Emissions Limits and additional carpet resources, go to <www.epa.gov/oppt/epp/carpetresources.htm>.



Other Activities, Future Directions

The Midwestern Workgroup on Carpet Recycling <www.moea.state.mn.us/policy/carpet/index.cfm> is a partnership of several states, the carpet industry, and EPA, which is addressing concerns about the large quantity of carpet that enters the solid waste stream. EPA's participation in the Midwestern Workgroup supports the Agency's Extended Product Responsibility Program, which calls on those in the product life cycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts of their products (<www.epa.gov/epr>). The Midwestern Workgroup concluded its meetings in January 2001 with the following outcomes:

1. Government partners committed to developing model procurement guidelines that address EPP in the context of carpet purchases by public entities.
2. Government and the carpet industry agreed to negotiate national outcomes for the end-of-life management of carpet, including the establishment of reuse and recycling rates. The process to create these outcomes began in March and is expected to conclude by fall 2001.
3. The carpet industry agreed to create, fund, and manage a third-party organization that will be responsible for achieving the negotiated outcomes.

Save Money and the Environ

[EPA has recently begun updating and expanding its green conferences/green meetings Web site, so keep checking it out at <www.epa.gov/oppt/greenmeetings>!]

Don't be left behind—more and more people are adopting the “green meetings” concept when planning events and conferences. Although some might view green meetings as a fad, current initiatives that are under way are proof to the contrary. Before going any further, however, it is important to identify what exactly a green meeting is, the environmental impacts of holding a meeting, and how to minimize those impacts. Then, this article profiles organizations that are helping develop the green meetings market, and shows how coordinated and collaborative this type of work is.

What makes a meeting green?

Bringing people together for meetings, often for multiple days at a time, can create a variety of environmental impacts—from the smog and greenhouse gas emissions associated with air and ground travel to the paper, plastic, and food waste associated with feeding attendees. Fortunately, however, more and more meeting planners are realizing that they can reduce these impacts and save money in the process, without sacrificing the quality of the attendees' experience.

The Oceans Blue Foundation, a Canadian coastal conservation group, defines green meetings as “an assembly or gathering of people for the purpose of the exchange of information, where, through careful planning, negative impact on the environment is minimized.” In the early 1990s, a green meeting might have meant that brochures were printed on recycled-content paper or that soda cans were collected for recycling. The costs associated with even these simple steps were often prohibitive for most meeting planners and

meeting service suppliers. Today, however, the opportunities to organize green meetings and events are almost limitless—often offering ways to save money and increase efficiency.

What can be done to minimize the impacts?

Depending on the size of a conference, incorporating environmentally responsible decisions into meeting planning can begin months, even years in advance. Start by carefully choosing the city and conference site that offers the most environmental advantages. This can be the most critical step in laying the groundwork for either a green or brown meeting. Other opportunities to reduce meeting-related impacts on the environment can be divided into six categories. The following lays out a few steps in each category:

Accommodations

- Choose a hotel that has energy and water conservation programs, including automatic controls for the HVAC system; fluorescent lighting and automatic lighting controls; low-flow taps, showerheads, and toilets; and gray water initiatives (the recycling and reuse of unpurified water).
- Give hotel guests the option to reuse towels and sheets.

Transportation

- To minimize vehicle emissions, plan a meeting so as to maximize the ability to reach meeting locations, accommodations, area restaurants, attractions, and the airport via mass transportation or by walking.

Food and Beverage

- Plan menus around abundant, locally produced ingredients and avoid threatened species.
- When possible, all surplus food should be donated to local shelters and food banks.
- Consider providing drinking water in pitchers or large reusable containers instead of small plastic bottles.

Meeting Facilities

- Look for facilities that invite meeting attendees to share in energy conservation and the waste reduction process—for example, by reducing paper towel use, supporting use of soap dispensers vs. individual soaps, avoiding waste, and participating in recycling programs that utilize visible signage



brochures were printed on recycled-content paper or that soda cans were collected for recycling. The costs associated with even these simple steps were often prohibitive for most meeting planners and



ment by Meeting Green

informing attendees on what is and is not recyclable.

Exhibits

- Use signage and evaluation bins that are reusable whenever possible.
- Discourage exhibitors from bringing to the show large quantities of excess materials, which often end up in the trash because exhibitors don't want to ship the excess back at the show's conclusion. Encourage exhibitors instead to refer clients to their Web site. Also, useful environmentally responsible gifts are preferable to items that will be discarded at the end of the show.

General Office Practices and Communications

- Take advantage of or promote the use of electronic communication, registration, and proceedings distribution.
- Use double-sided copies.

Who is working to green meetings?

Europe and Canada are far ahead of the United States when it comes to planning green meetings or providing green meeting services such as transportation, food and beverage, or lodging. For example, Fairmont Hotels, formerly Canadian Pacific Hotels, has created its own Eco-Meet program. There is an ever-increasing number of green meeting “pioneers” in the United States, but many meeting planners are still having a difficult time finding green services for their meeting. This is why it is important to remember that asking for green is key. It is the first step toward showing that there is a demand for reduced environmental impacts associated with a meeting. For example, when enough meeting planners ask for reusable mugs, nontoxic cleaning services, or energy-efficient lighting, then hotels, convention centers, and meeting service providers will begin to respond.

Several organizations have undertaken efforts to promote green meetings.

The U.S. Environmental Protection Agency's Green Conference Initiative

<www.epa.gov/oppt/greenmeetings>

The goal of this initiative is to develop a “one-stop shopping” location at which meeting planners and service providers can learn about green meetings.

The information is meant to help planners request, and help suppliers provide, green options for meeting planning. The Web site includes the following: a checklist of opportunities that minimize the environmental impacts of holding meetings; contract language for obtaining greener conference planning/support services; and links to information on other related initiatives.

Oceans Blue Foundation

<www.oceansblue.org>

Oceans Blue Foundation (OBF) is a Canadian environmental charity that was created in 1996 to help conserve coastal environments through environmentally responsible tourism. It is the first organization in North America to focus on developing and promoting best practices and standards for all sectors of the tourism industry, as well as the first to develop guidelines for green meetings. OBF will be leading an effort that will involve working with EPA and other stakeholders to develop a Web-based tool to help meeting planners plan green meetings.

The Coalition for Environmentally Responsible Economies (CERES) Green Hotel Initiative

<www.ceres.org/about/Programs/ghoverview.html>

The Green Hotel Initiative seeks to increase green lodging and meeting options by catalyzing market supply and demand. This multi-stakeholder effort—involving business, the hotel industry, nongovernmental organizations, labor, academia, and environmental advocates—promotes environmentally responsible hotel services and encourages meeting

< Continued on Page 12 >

Meetings Facts and Figures

- Approximately 93,000 federal travelers are traveling to 8,000 locations across the country on any given business day.
- Federal travelers use 24 million room nights of hotel space in the United States annually.
- An average hotel purchases more products in a week than 100 families purchase in an entire year.
- Travel and tourism is now the world's largest industry. Meetings make up a growing component of this industry, which weighed in a few years ago at \$280 billion annually, worldwide.

Greening the Guard in Arizona

Shattering the myth that green buildings cost more, this extraordinary building cost the Arizona National Guard only half of what a conventionally constructed office building would have. How did they do that? Creative use of reclaimed materials salvaged from buildings slated for demolition and inmate labor provided through a partnership with the Maricopa County Sheriff's office.



Worker preparing for placement of the final layer of dirt.

In an innovative project, the Arizona Army National Guard is making sustainable building practices a reality. The National Guard constructed a fully self-sustaining office building using recovered materials and energy-efficient practices that will serve to educate the public about sustainability. Walls made of scrap tires and compacted earth, a passive cooling design, a photovoltaic system to generate power, and a number of other features make the National Guard's new "Eco-Building" a showcase facility for other organizations.

The walls of the 5,200-square-foot facility are made from approximately 4,500 tires, weighing 300 pounds each when packed with dirt. The tires are stacked like bricks and packed with dirt. In addition to diverting tires from stockpiling or disposal, the tire walls store heat in the winter and absorb heat during the summer, reducing the amount of energy required to regulate the building's temperature. "Cool tubes" also were installed to cool the building during summer. These tubes are large pipes buried 10 feet below the building. Air is brought into the tubes through an external shaded opening and is cooled by the temperature of the earth. Cooled air is pulled into the building through the cool tubes when the air in the building gets hot and rises. Heating is not required due to the internal energy load from people, computers, and printers, as well as by strategic window placement.

With its energy and water systems, the building operates independently from utility companies. The Eco-Building gets all of its energy from a photovoltaic power system. The main sources of lighting are windows, six energy-efficient skylights, and solar tubes. The roof captures rainwater and funnels it into cisterns that supply water for drinking, bathroom sinks, and toilets. Water is heated by a solar hot water system, and all the water is supplied to the building with solar-powered pumps. Gray water, captured from the sinks, is filtered and used for watering the garden.

In recognition of its unique design and construction, the Eco-Building received the 2000 Arizona Governor's Environmental Leadership Award. "The construction concepts and principles used for this building are not revolutionary in and of themselves—what is revolutionary is the willingness of this organization and the innovative approaches it has taken to embrace environmental sustainability," said T.J. Roe, Eco-Building project manager. The National Guard was able to build the Eco-Building at half the cost of a conventionally constructed office building. The organization achieved cost savings by using reclaimed materials salvaged from buildings slated for demolition and inmate labor provided through a partnership with the Maricopa County Sheriff's Office. This partnership provided valuable technical skills to the inmates while minimizing construction costs, Roe said.

Photos and information about the Eco-Building are available at www.azecobuilding.com. For more information about the project, contact T.J. Roe at 602 267-2663 or tj.roe@az.ng.army.mil.

EPP Database Continues to Expand and Evolve

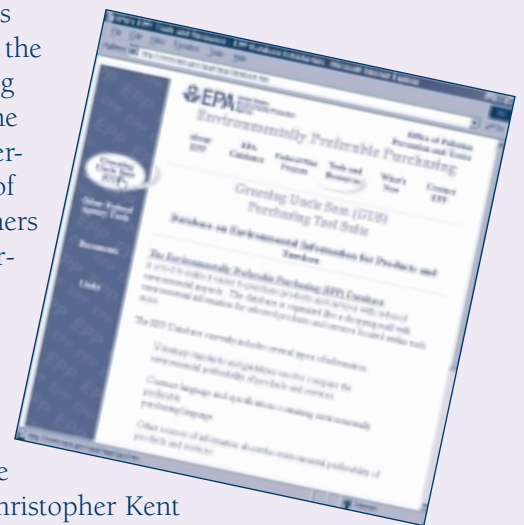
Whether you're looking to purchase a new fleet of energy-efficient vehicles or a less hazardous bathroom cleaner, EPA's EPP database <www.epa.gov/oppt/epp/database.htm> is your one-stop shop. For almost a year, the database has provided environmental information about a wide variety of consumer products. Users can search the database of more than 600 products—from computers and home electronics to toothbrushes and toilet tissue—in a “shopping mall” format by browsing a “store” or searching for a specific product.

The EPP database currently contains 10 speciality stores, including Furniture/Appliances, Computers, Hardware, Industrial Products and Services, Scientific/Medical, and Grocery/Miscellaneous. For more convenient “shopping,” the stores are further divided into “aisles.” For example, the “grocery store” is divided into aisles for cleaning supplies, food, toiletries, and pet products. Other stores may be added as the demand for information on a given product increases.

Several government agencies, as well as private sector groups and organizations, originally compiled the information in the database. The database contains a wealth of information, including the contract language created and used by federal and state governments to buy environmentally preferable products and services. It also provides the environmental standards and guidelines for certain products, as well as vendor lists of product brands that meet these standards.

To ensure that the database is meeting the needs of its users, the EPP program is actively seeking input from users to enhance the database and make it more user-friendly. Because the purpose of the database is to help consumers identify environmentally preferable products, EPP wants to ensure that it is including the most relevant information in a useful format.

Anyone with comments or suggestions on how to improve the database should contact Christopher Kent at <kent.christopher@epa.gov>.



Tires and dirt are used to construct the conference room walls.

The Eco-Building is a showcase facility for demonstrating:

- Sustainability
- Use of unwanted and waste materials
- Partnerships
- Energy efficiency and solar energy
- Costs and benefits of constructing self-sustaining office buildings

Green Meetings

< Continued from Page 9 >

planners and travel buyers to stimulate the hotel market.

Meeting Professionals International (MPI)— Green Meeting Task Force

<www.mpiweb.org>

In October 1997, Meeting Professionals International's Board of Directors authorized the creation of a task force on green meetings. The task force developed a white paper to address options for planning green conferences. Information includes recommendations to MPI planner members and MPI supplier members on how they can make their services and products more environmentally responsible. It also provides specific recommendations to MPI on how to make its own meetings more environmentally responsible.

Fairmont Hotels Eco-Meet Program

<www.cphotels.ca>

Fairmont Hotels (previously Canadian Pacific), the largest hotel company in Canada, has developed an environmental program, which is recognized as the most comprehensive in the North American hotel industry. Fairmont Hotels offers conference planners a "ready-made" green conference package called Eco-Meet.

Look for more details on these initiatives and for information on many other initiatives and activities focused on greening meetings and hotels at

<www.epa.gov/oppt/greenmeetings>. The descriptions can be found under the "Current Initiatives" button.

For more information on green meetings, contact Russ Clark of EPA at <clark.russell@epa.gov>.



United States
Environmental Protection Agency
(7409)
Washington, DC 20460

Official Business
Penalty for Private Use \$300