

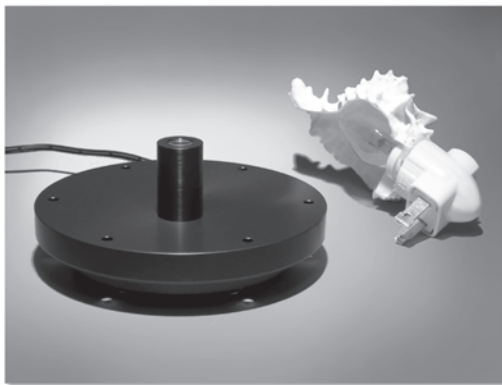
# Nuts and Bolts

## Green Design

by Paul Orselli

**Paul Orselli** is Chief Instigator of Paul Orselli Workshop. He may be contacted at [paul@orselli.net](mailto:paul@orselli.net).

As that well-known exhibit designer, Kermit the Frog, once remarked, “It’s not that easy being green.” And anyone who has ever tried to specify sustainable or eco-friendly materials for an exhibition project knows exactly how Kermit feels. Since there are currently no “official” designations to definitively label a product “green” it is often difficult to separate advertising hype (aptly labeled “green washing”) from real information about the materials and processes involved in the formation of specific products. For example, even if a material is produced in an ethical and sustainable manner, if it is shipped thousands of miles from Asia, is it truly “greener” than a locally sourced wood product?



Energy-saving LED illuminator for the Wentzscope, next to a small nightlight fixture. Each device uses only about 4 Watts of electricity. Courtesy of Budd Wentz.

Realistically, at this stage of the game, many green solutions can be too expensive to employ for every project. However, it is always worthwhile to explore the possibilities for employing green materials and techniques with your clients or museum. Rather than making this article just a checklist of green materials for every designer to consider

using, we’ll instead sort specific ideas about sustainable materials and techniques into the 5 Rs: Reduce, Reuse, Recycle, Rethink, and Resources. Under each of these categories will be some specific suggestions and examples that can help you to become a greener exhibit developer or fabricator. Think of this article as an overview, a start, to your explorations of green exhibition design.

### REDUCE

One of the easiest ways to reduce energy usage in a museum or exhibition is to carefully consider your lighting and electricity options. You can improve the energy efficiency of exhibition lighting by simply installing timers and sensors to manage usage. Many display or building elements that currently use incandescent lighting can be retrofitted with, or replaced by, either Compact Fluorescent Lighting (CFLs) or LED lighting. An example from the field is how Budd Wentz has replaced the halogen lighting fixture in the popular Wentzscopes with an LED lighting system. This reduces the electricity consumption from about 50 watts (halogen bulb & transformer) to just 4 watts. Another way to reduce energy consumption is to consider whether interactive elements that use computers or multimedia playback could be redesigned to use mechanical interactives instead. This can save both energy and money!

### REUSE

Our colleagues at the Science Museum of Minnesota (SMM) have made a conscious effort to save bins full of smaller scrap laminates and substrates and use (and reuse!) them as much as possible. They ask for the drop (smaller left over chunks from bigger cuts) from their substrate suppliers and from their own shop as well. The



*Triple Barrel water table constructed with recycled/reused materials by KidZibits. Courtesy of KidZibits.*

Graphics Department at SMM also asks for any graphic back before it gets thrown out. They then determine if they can salvage anything to get re-used. They have found that most of the time they can strip the old graphic off and re-use the substrate. The folks at SMM estimate that substrate use has been cut in half (at least) by this effort of reuse.

Also consider the design of modular exhibition components and furniture that can be easily recycled or reused. One simple way to aid in reuse of exhibit furniture is to use screws instead of glues.

Jim Clark from KidZibits was kind enough to share a new “reuse” direction that his company is pursuing for water tables. Previously the process KidZibits used to create water play components involved making a stainless steel frame, cladding it with Kydex or Sintra and then building a fiberglass tub with a gel-cote finish. However, a recent client had a very short timeline and a challenging budget, so Jim and his crew tried a different approach by using recycled plastic decking for the water table frame and skirting and used polyethylene 55 gallon drums for the water tanks. The result is somewhat industrial looking but the water activities work just fine and the cost is attractive. You can see the final results in the image in this article, or by checking out the KidZibits website: <http://www.kidzibits.com/Water%20Factory.html>

## RECYCLE

There is often a slight distinction between reuse and recycling, but here are a few concrete tips for using (or reusing) more eco-friendly materials

Try to save incoming packaging materials (peanuts, bubble wrap, kraft paper, boxes, etc) for shipping of graphics and exhibits materials. What you can’t reuse can often be recycled directly. If you need to find a place to recycle unusual exhibit materials in your area, a great website that can help is <http://www.Earth911.com>.

It is often difficult to separate advertising hype (aptly labeled “green washing”) from real information about the materials and processes involved in the formation of specific products.



*View of a rejuvenated and recycled magnification exhibit at Explorations V Museum. Courtesy of Explorations V Museum.*



Entrance to ECHO's **Think! Café**. Courtesy of ECHO Lake Aquarium and Science Center at the Leahy Center for Lake Champlain.

(continued from page 67)

Think of this article as an overview, a start, to your explorations of green exhibition design.

Explorations V Museum in Florida provides a simple example of how to rejuvenate and recycle an old display to create an entirely new exhibition. The exhibition folks at Explorations V cleaned and reused an old Wentzscope, and combined various types of simple magnifiers alongside it, for showing larger objects. Reusing resources, featuring technologies that use little or no electricity, and selecting equipment that is built for long term use rather than for rapid obsolescence, are prime examples of "green" exhibition planning that are sometimes overlooked. Another way to "recycle" old, but perfectly functional, exhibit components is to offer them to fellow institutions. Rather than sending an exhibit case that is no longer needed into the dumpster, take the time to call nearby museums or post an offering on a museum listserv like Museum-L or the CHILDMUS list.

### RETHINK

One way to rethink exhibition design and development is by trying "new" greener materials and techniques, rather than relying

on "old standbys" we may just automatically specify because we've used certain materials or techniques for years. "Green printing" is an area that most of us can improve upon. A few simple considerations:

- Use low solvent based inks on recycled paper.
- Try to employ materials such as Ecospun or BioFlex when printing banners.
- Avoid vinyl based signage products.

Smaller graphics can be printed on colored papers using a laser printer. If you avoid foam core and spray mount, and use recycled paperboards and non-toxic glues this is an effective, economical, and green way to produce graphics. Reusable clear acrylic covers rather than Polycarbonate laminates can protect the graphics beneath. (Wall-mounted reusable graphic covers can be purchased inexpensively at most office supply stores.)

Outside of the graphics and printing realm, a few simple choices related to exhibition fabrication can have a big ecological impact:

- Use Agri-fiber products such as "wheat board" rather than wood based particle boards when creating bases or similar exhibit furniture.
- Look for opportunities to use water-based finishes or low VOC (volatile organic compounds) paints. Powder coating is one durable solution that uses no VOCs in the coating process.
- When using wood-based products, try to select materials that are FSC (Forest Stewardship Council) certified: [http://www.fscus.org/faqs/what\\_is\\_certification.php](http://www.fscus.org/faqs/what_is_certification.php)

A great example of a green project that has employed many of the techniques discussed so far in this article is the **Think! Café** at the





Recycle and Weigh Station. **Think! Café** exhibit area where visitors can learn about recycling as well as weighing the "waste" from their lunch. Courtesy of ECHO.

ECHO Lake Aquarium and Science Center at the Leahy Center for Lake Champlain: <http://www.echovermont.org/echo/think.html>. The **Think! Café** is a place to purchase primarily locally-produced food, but it is also an exhibit area that gets visitors at ECHO to focus on the many types of decisions involved in making "green" choices. Throughout the **Think! Café**, information on the vendors and materials is highlighted alongside simple activities involving aluminum café trays, an interactive scale for weighing trash left from lunch, and a recycle-and-compost center, amongst other interactive opportunities. The **Think! Café** is a unique, green-themed experience, with Wi-Fi, and stunning views of the Adirondack Mountains and Lake Champlain. What better setting to help visitors to appreciate the importance of green choices?

## RESOURCES

As I mentioned at the beginning of this article, I wanted to provide some general starting points to jump into green design rather than calling out specific "green" materials. (And start a bunch of arguments about whether a particular material is truly "green".) To that end, the following are some good Web-based resources (including a few created by writers in this issue!) that every exhibition designer interested in green design should know about.

LEED - Leadership in Energy and Environmental Design

U.S. Green Building Council – [www.usgbc.org](http://www.usgbc.org)  
A great place to learn about LEED and related programs.

BEES - Building for Environmental and Economic Stability

National Institute of Standards and Technology  
<http://www.bfml.nist.gov/oae/software/bees.html>

BuildingGreen, Inc.—Publishers of Environmental Building News [www.BuildingGreen.com](http://www.BuildingGreen.com)

Forest Certification Resource Center –  
Searchable resource for certified wood products.  
[www.metafore.org](http://www.metafore.org)

[greenexhibits.org](http://greenexhibits.org) – Specifically focused on green exhibit design. Sponsored by the Madison Children's Museum. [www.greenexhibits.org](http://www.greenexhibits.org)

The Green Design Wiki <http://www.greendesignwiki.com/> was started by Tim McNeil from UC Davis, and is a great repository of green design information.

A new(ish) Wiki, called Green Museums has been started by author Sarah Brophy  
<http://greenmuseums.wetpaint.com/>

Also check out my ExhibiTricks blog: <http://blog.orselli.net> for regular postings and interviews about interesting new green products and projects.

In conclusion, perhaps one of the best ways to increase your green exhibit design activity is to inform your staff, your vendors and, most importantly, your visitors about your efforts. Ask all your stakeholders for ideas on how your institution or exhibit projects can become even "greener." After all, everyone has an interest in making our planet a safer and healthier place to live! ☀