

ANNUAL MEETING HANDOUT

Small(er) and Green(er) Sustainability on a Limited Budget

This session provided practical information and several short case studies to illustrate how museums can make changes in all areas of their operations that improve their sustainability. The session explored modestly-priced or even free ways in which even smaller museums can implement green practices and become sustainable.

Moderator

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Presenters

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Annual Meeting & MuseumExpo

As the museum field's premier professional development opportunity, the Alliance's Annual Meeting & MuseumExpo showcases the best thinking from practitioners and visionaries on major issues confronting museums and the communities they serve.

This session handout is from the 2013 Annual Meeting in Baltimore.

Provided for American Alliance of Museums Annual Meeting

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Green Museum Best Practices Guide

"Sustainability can be expressed in the simple terms....leave the world better than you found it, take no more than you need, try not to harm life of the environment, make amends if you do" - Paul Hawken"

INTRODUCTION

Museums are a natural springboard for the sustainable transformation of our society. By leveraging our knowledge, inspiration, and place in the community, museums of all sizes and disciplines have the opportunity to make an important contribution.

Our field is resource-intensive, but collectively, museums of all sizes and disciplines can make a positive impact in support of a healthy environment by adopting sustainable green practices.

Museums are uniquely situated to lead. As storytellers, educators, preservationists, and community gathering places, we can be models for sustainability. By 'telling the story' of sustainable practices, we play a vital role in creating sustainability in the communities we serve. Our efforts can and will make a tangible difference.

Think Green

The process of 'greening the museum' starts with brainstorming and researching together to create the Sustainability Initiative, or Plan. 'Thinking Green' is an effective approach toward creating this plan, requiring us to think critically and ask the right questions. Thinking Green incorporates both 'Systems Thinking' and the 'Precautionary Principle.'

Systems Thinking asks us to see our sustainability initiatives within the larger context of the museum and all its parts, locally and globally, while the Precautionary Principle requires us to consider the worst case scenario when making decisions: it is a risk management strategy guiding us to 'do no harm.'

Our actions do make a difference, and they create the world we live in. In Thinking Green, we accept that our actions today affect the museum, staff, and the community, as well as people we've never met and places we may never see. Like the global economy, we are all inextricably linked, and understanding this is crucial to our decision-making.



Example: Plastic never biodegrades, but gradually breaks down into toxic micro-particles. Once in our oceans, these are eaten by fish and other wildlife, resulting in death and toxicity in the food web. These particles are deposited as sand on beaches as far-flung as Hawaii, and form an enormous floating gyre within the Pacific Ocean, bigger than the state of Texas. Plastics are made from fossil fuels that impact the environment in countless other ways as well, including carbon emissions, global warming, climate change, war, air pollution, toxic spills, and destruction of wildlife and habitat.

What you can do:

- Think long-term.
- Think from the end results.
- Think with the whole system in mind.
- Think locally. Support the local community.
- Think of outcomes. Do your research.
- Think through your decisions and actions. Be sure the most sustainable choice is made. Understand that decisions can have global impacts
- Ask questions.

Questions to ask: 'Where did this come from? How was it produced? What are the by-products and consequences of its production? Where will it go after we use it? How does it affect our museum, neighborhood, community, and planet? What is the most sustainable option?

ADMINISTRATION

Sustainability begins with a strong commitment to social and environmental responsibility. The best plans are created inclusively, with leadership and staff from all departments involved. Developing a plan allows the museum to walk the talk in every part of its activities, even in areas like finances and marketing.

What You Can Do:

- Develop a sustainability plan with staff from each department.
- Rethink business practices.
- Adopt and maintain green values within the organization.
- Make each decision with a sustainable environment in mind.
- Develop a buying and vendor policy that ensures all products and services are sustainable.
- Choose vendors that support sustainability, including those who use green practices in their business.
- Be sure that investments reflect social and environmental values.
- Bank locally, supporting your immediate community. Consider Credit Unions.



- Seek support from sponsors and donors who share your green commitment.
- Choose products with small ecological footprints.
- Choose green, environmentally friendly, non-toxic cleaning supplies.
- For office supplies, buy only what is needed and work to find green alternatives. For example, consider refillable ballpoint pens over plastic throwaways.
- Use recycled paper with highest post-consumer content. Tree-free paper is another good alternative.
- When printing, be sure to request vegetable-based inks. Consider digital distribution where possible.
- Tell the Story: Promote awareness of sustainability and your museum's green achievements to visitors and other stakeholders through your website, newsletter, and onsite narrative panels.

Questions to ask: How can we reduce resources and products we are using? What is our ecological footprint? How is what we are doing affecting our community and the environment? Do we need this? Does this policy, idea, decision, product support our green commitment? What do we value?

BUILDINGS

Incorporating sustainable practices into day-to-day operations can make museum buildings more resource- and energy-efficient.

The U.S. Green Building Council (USGBC) statistics show that buildings account for 38 percent of all carbon dioxide emissions, and 72 percent of electricity consumption.

By building and operating sustainably, museums can significantly reduce their consumption and emissions. Going green also lowers operating expenses, increases the value of your facility, and allows more resources to go toward your core mission. A green museum improves quality-of-life for its employees, visitors, and the community. All museums can set an example of environmental stewardship and social responsibility by building and operating sustainably.

What You Can Do:

Day-to-Day operations:

- Commission an independent analysis of operations to create a baseline for resource use.
- Reduce electrical energy consumption by using dimmers, sensors and controls for lighting and HVAC systems.
- Install energy efficient lighting in non-exhibit spaces.
- Change uniforms to 100% organic cotton.
- Start a recycling or free-cycle program.
- Use non-toxic cleaning supplies.
- Install water conserving fixtures (Drinking fountains, kitchen, bath etc).



- Use IPM (Integrated pest management) for landscape and building care.
- Use reclaimed water for landscape.
- Sign on to the <u>Green Museums Accord.</u>

Remodeling or building new:

- Use the <u>USGBC's LEED</u> (Leadership in Energy & Environmental Design) Green Building rating system to guide a new building or remodeling plan.
- Look at the new building as an educational demonstration site for sustainability.
- When installing new lighting and HVAC systems, choose energy efficient models, such as Energy Star certified.
- Create climate zones so that some areas of the building can be regulated more stringently than others depending on requirements.
- Design sustainability into the new building.
- Use renewable or reclaimed resources where possible.
- Use energy-efficient systems.
- Use non-toxic materials. For instance, regular wood may be treated with formaldehyde, which is toxic and can off-gas for years.
- Choose sustainably-made furnishings.
- For new landscaping, consider installing cisterns that capture water for re-use, and bioswales that filter run-off before it goes into ground water.
- Landscape with native, drought-resistant plants. For Garden Museums, Kitchen Gardens, or Demonstration Gardens, use heirloom varieties if possible to support biodiversity.
- Collaborate with the education department to design into the building ways of 'Telling The Story' of the green building elements.

Question to ask: How deeply green can we be?

COLLECTIONS

Collection-care calls for stringent preservation and protection practices, in order to carefully preserve and protect objects and living collections. Collections require strict and energy-intensive climate and humidity controls, pest-management, and potentially toxic preservation techniques and supplies. In addition, collections are often shipped to other venues, at significant carbon cost. Today, Collection staff have many options available to green their work and create a sustainable environment.

What you can do:

- Use localized climate control monitoring and reusable microclimate exhibition casework to effectively reduce electrical demand, while maintaining a safe, consistent climate.
- For storage areas, use energy-efficient lighting, green construction materials, and natural contaminant and dust extraction.
- Additional insulation in new storage areas helps maintain a more stable envelope and reduce the need for heating and cooling.
- Test all materials before use to avoid off-gassing of harmful pollutants.



- Follow the Precautionary Principle: use the least amount of resources and the safest alternatives.
- For art or historical collections, use reversible treatments and non-toxic cleaners, adhesives, paints, sealants, and storage supplies.
- For botanical and zoological collections, use natural environments and enclosures, organic feeds, chemical-free environments, and non-toxic pesticides.
- To rid objects of pests, use freeing and oxygen-starving nitrogen processes instead of chemicals.
- Reduce transportation by sharing shipments with other museums.
- Crate collections using Forest Stewardship Council (FSC) certified untreated lumber, as well as recycled and toxin-free particleboards, and ether-foam packing materials.
- Reuse crates and containers, or share them with other museums.
- Negotiate less-restrictive climate control requirements on loan agreements for objects that don't require them.
- Use museum shipping and packing companies that commit to sustainability within their organization and carbon footprint reduction.
- Order supplies and materials from vendors who stock and support recycled and non-toxic products.

Questions to ask: Is there a more sustainable alternative? Ask not 'How much harm is allowable,' but 'How little harm is possible?'

EDUCATION

Educational content arises from our specific missions (for instance, wildlife habitat conservation at a zoo). By weaving green topics into this content, all institutions can increase sustainability awareness for staff, volunteers, trustees, donors, and visitors, while increasing community involvement. Orienting the goals and values of our education departments toward a sustainable vision is key.

Educators are the storytellers for green practices. Through well-crafted programs, storytelling, and leadership by example, educators can play a major role in greening the museum, and, by extension, the community.

What you can do:

- Tell the Museum's sustainable story
- Thread sustainability themes into all programs
- Use green practices in all programs.
- Buy educational supplies that are sustainably made, recycled, non-toxic and renewable resource based.
- Make a list of environmental organizations and green experts in your community. Call on them to brainstorm and participate in programs and/or partner on new initiatives.



- Understanding your museum's bio-region (its ecosystems, climate zone, land use
 patterns, seasons, and watershed) will help staff better develop and deepen sustainable
 practices, as well as develop new public programs
- Consider an on-site green art project, where visitors can be creative with a minimal ecofootprint.
- Talk to your visitors about their environmental concerns and what they can do at home and in their community.
- Examine content for opportunities for introducing sustainability programs and telling the green story.
- Tell the story of sustainability to all the museum's stakeholders, including the public
- Design narrative panels to explain the museum's sustainability program and actions.
- Create an on-line 'Sustainability' section to tell your green story
- Offer special on-line and on-site sustainable education events, workshops, and programs that tie in to your core mission and discipline.
- Offer a map of sustainable steps to visitors on line. For tech-savvy visitors, you might
 offer the opportunity to use Smart phone technology on-site.

Question to ask: How can the visitor experience with us inspire, illuminate, and encourage enlightened environmental stewardship? What resources do our programs use? How can they be reused, repurposed, or re-imagined to reduce our resource footprint?

EXHIBITS

Exhibits provide inspiration and education for a broad spectrum of visitors, but developing and installing them requires large amounts of construction materials, electrical energy, and transportation. In addition, the chemicals used in exhibit paints, glues, and graphic materials can pose environmental health concerns for staff and visitors. Even after installation, these products may continue off-gassing toxins into the closed museum environment. Many exhibits require twenty-four hour climate control, and complex lighting systems, which generally draws electricity from carbon-burning power plants, a primary cause of global warming.

Exhibitions are therefore positioned to play an influential role communicating environmental issues, as well as modeling sustainable initiatives and greener practices.

What you can do:

- In the exhibit design, specify green materials and products.
- Reduce your footprint by creating components (walls, display cases, furnishings, narrative panels) constructed from recycled or rapidly renewable materials.
- 'Close the Loop' and share left over materials, furniture, and shipping crates with other museums, local non-profits and city run programs.
- Design flexible, modular systems that can be repurposed and reconfigured for multiple future use.



- Use screws instead of toxic glues, allowing for disassembly and reuse.
- Find sustainable alternatives in the fabrication process.
- Use non-toxic, low VOC paints, glues, and graphic materials as much as possible.
- Educate visitors and 'tell the story' of the sustainable steps taken in the exhibit.
- Print on recycled or tree-free paper, or reused materials, using low-solvent or vegetablebased inks.
- Install energy efficient LED lighting components now that technological advances make this a viable alternative for all exhibition spaces.
- Use on-demand lighting controls for exhibition spaces that experience periods of none occupancy.
- Aim for a zero-waste, energy-neutral exhibition environment.

Question to ask: How can we think, innovate and design for a sustainable future?

FINAL THOUGHTS

When embarking on your museum's journey toward sustainability, here are some things to remember:

- *Inspire*. Dare to have a vision. Think Green. Approach planning and decision making and everything you do with sustainability in mind.
- Believe. Know that you can make a difference. This belief is contagious and powerful. It brings meaning and purpose to all your stakeholders, including staff, board, volunteers, donors and visitors.
- **Be inclusive.** A good plan includes all departments. Cross-Pollinate to thread sustainability into your programs and operations. Invite experts and thought leaders from outside the field and within your community.
- **Lead**. Make sustainability visible by example and through programming. Work deeply. Incorporate and implement your green vision into all you do.
- *Tell the Story.* Be generous with your knowledge, and share it with colleagues, the press, and most importantly, your community.
- Collaborate. Reach out to others to create innovative green practices and programs.
- Commit. Make the green commitment internally, as well as publicly. Join your colleagues in signing the Green Museums Accord and display the GMA seal on your door to show visitors your commitment.

JOIN TOGETHER



Cross-pollinate. Collaborate. Communicate with others including those outside your field. Invite leaders and innovators from your community, local business, and government into your process.

- The GMI online community provides a dynamic forum for you to share your green operations and programs, communicate inspiration and techniques, and discover what others are doing to green their museums.
- Your pledge to <u>The Green Museums Accord</u> signals a commitment to join with other museums, large and small, to create a sustainable future globally.



Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.



Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.



Designer and fabricator review checklist to find the best strategies for meeting goal.



After production, the fabricator fills out the GEC with the relevant material information.



Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see www.exhibitseed.org.

Exhibition Title:

Date:
Producing Facility:
Host Site:
Your Name:
Role/Title:

Ratings are awarded for the total score:



SILVER (11-14)



Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
ist any virgin materials (no recycled content, newly purchased,	Estimated % of total
not renewable):	exhibit (by volume):
	Total %:
SCORING:	SCORE:
\Box 4 points if AT LEAST 90% of the materials meet any one of these	e criteria.
3 points for AT LEAST 75 %	
2 points for AT LEAST 50%	
1 point for AT LEAST 10%	
0 points if LESS THAN 10% of the materials meet these criteria.	
WAYS TO IMPROVE SCORE:	
MAIO IO IIII HOVE GOORE.	

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- · Batch orders of goods to reduce packaging material.

ist all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):	
		Total %:	
ist all materials that were not sourced locally:	Source:	Applied to est. % of total:	
		Total %:	
SCORING:		SCORE:	
\square 4 points if AT LEAST 90% of the materials v	vere sourced locally.		
☐ 3 points for AT LEAST 75 %			
2 points for AT LEAST 50%			
1 point for AT LEAST 10%			
\square 0 points if LESS THAN 10% of the materials	meet these criteria.		
WAYS TO IMPROVE SCORE:			
MAIO 10 IIII HOVE GOORE.			
WATS TO IIVIPROVE SCORE:			

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- · Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:		nated % of total oit (by volume):
		Total	%:
List any materials that cannot be recycled or repurposed:	Destination:	Appli of tot	ed to est. % :al:
		Total	%:
SCORING:			SCORE:
\square 4 points if AT LEAST 90% of the materials of	can be repurposed or rec	ycled.	
☐ 3 points for AT LEAST 75%			
☐ 2 points for AT LEAST 50%			
☐ 1 point for AT LEAST 10%			
\square 0 points if LESS THAN 10% of the materials	s meet these criteria.		
\square -1 Deduct point for wasteful use of consum	ables or water.		
WAYS TO IMPROVE SCORE:			

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

ist all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
CORING:		SCORE:
\square 4 points if the exhibit is NET-ZERO ener	gy consumption.	
\square 3 points if SIGNIFICANT energy-conser	ving efforts are in place	
\square 2 points if SOME energy-conserving eff	orts are in place	
\square 1 point if exhibit USES energy-efficient Θ	electronics	
☐ 0 points if NO ATTEMPT to conserve e	nergy	
\square -1 Deduct one point if more than 75% of	the exhibit components	
are electronic		
VAYS TO IMPROVE SCORE:		

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

- · Choose zero/low VOC paints & finishes.
- · Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- · Avoid carpet with toxic materials.

	% of total exhibit:
	Total %:
ist any materials that do emit volatile organic compounds:	Applied to est. % of total:
	Total %:
SCORING:	SCORE:
☐ 4 points if ALL materials are low-VOC.	
☐ 3 points for AT LEAST 75%	
2 points for AT LEAST 50%	
☐ 1 point for AT LEAST 10%	
☐ 0 points if LESS THAN 10% of the materials meet these criteria.	
VAYS TO IMPROVE SCORE:	

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

ORING:	SCO	RE:
\Box 1 Bonus point for posting assessment on Ex	xhibitSEED website	
\square 1 Bonus point for creating big visual impact	with minimal materials:	
☐ 1 Bonus point for innovative end-of-life plan	for once the exhibit is retired:	
☐ 1 Bonus point for any new design approach increases environmental sustainability:	or construction method that	
INTS AWARDED:	CERTIFICATION:	
INTS AWARDED: Reduce new material consumption		
	CERTIFICATION: PLATINUM (20+ points)	
·		
Reduce new material consumption Use local resources	PLATINUM (20+ points)	
Reduce new material consumption Use local resources Reduce waste	PLATINUM (20+ points) GOLD (15–19 points) SILVER (11–14 points)	
Reduce new material consumption Use local resources Reduce waste Reduce energy consumption	PLATINUM (20+ points) GOLD (15–19 points)	

American Alliance of Museums Annual Meeting Smaller and Greener: The Funding Side

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New + Traditional

Just as with traditional funders, there are two kinds of *green* funders: those who support your institution generally, and those who want to support a special topic or project at your institution. This makes funding a green initiative very similar to funding any other museum project but, hopefully, with a few new funders in the mix. New supporters emphasizing green capital improvements, practices, and programming, will not displace/replace your regular mission-specific funders who already provide capacity building and core support. They will be added to those funders whose mission, audience, geographic focus, and programmatic interests matched yours before you discovered sustainability. New and old come together to make a more fertile prospect pool. (Brophy and Wylie 2013)

What to Keep in Mind

1. Creativity

Funding environmental sustainability offers more opportunities to be creative, and the funders often appreciate that creativity. This is because new practices require new ways of thinking and they attract those who enjoy thinking differently. People may think differently in terms of outcomes, timing of return on investment, and the relationship between funder and donor/supporter.

2. Self-promotion

Businesses and people are more aware of the value and importance of environmentally sustainable work and are looking for mutually beneficial alignments, but they don't know about you if you don't share. As you promote your green practices are cultivating the next funder or partner.

3. Federal/State Support

Federal support, and much state support, is still most common for projects involving innovative energy technologies, water quality and protection, and public education.

State funding often reflects federal interests if the federal agencies pass money to related state agencies. This means that a degree of special interest funding is often present, and it can change from one year to the next. Listen to your legislators to prepare your institution for changes, let the agencies know what you're planning even if there isn't a funding opportunity on the table, and be ready to mobilize quickly.

 National Endowment for the Humanities' Sustaining Cultural Heritage Collections program supports collections care and management projects for sustainable preservation planning, and implementation projects implementing preventive conservation activities in sustainable ways.

- Environmental Protection Agency is an excellent resource for information, expertise, grants, loans, and compliance information. Think any water source projects plus capital energy projects, and increasingly environmental research and education. So start with a grant for an environmental education program and work up from there.
- Department of Energy/State Energy Office: Make friends with the staff at your utility to learn what they now about grants and incentives; ask for a no/low-cost energy audit! And stay in touch with your state's energy authority. If they know what you're interested in doing, they can help align you with opportunities as they develop.

4. Private Foundations

Plan on changing hearts and minds one at a time unless you are part of a topic that is very active regionally or nationally: Save the Bay, Keep the Great Lakes Great, etc. Basic relationship-driven fundraising will work best here.

5. Think Beyond Grants: non-grant programs: rebates, credits, and tax options

- If you haven't already, see above: ask for a free or no/low-cost energy audit from your utility company.
- Ask your repair vendor, engineers, and building professionals direct you to funds and programs they know already.
- Does your state let nonprofits "sell" all or part of the value of the tax or renewable energy credit? Does it let you turn these credits into cash directly? or to sell a tax credit it has earned through use of an alternative energy approach.
- Can you get money back on Energy Star purchases or on a tankless hot water system? The www.DSIRE.org database will have the information for your state.
- Consider Kickstarter, Crowdrise and indiegogo for funding definable, small projects (under \$10,000) to get the green ball rolling.

6. Individual (donors, gift shop patrons, and rental patrons) and Green

Reach Advisors, a leading audience-focused research and strategy firm, has discovered that "museum visitors often seek out destinations and venues that offer opportunities to experience nature and the outdoors in meaningful ways. Additionally, these visitors are more willing to spend more to have these types of experiences, and to support efforts to ensure the future natural sustainability of these destinations and venues. They are also likely to practice sustainable habits, such as recycling, and expect the venues they visit to do likewise." (Brophy and Wylie 2013) That means that the people most likely to engage with your institution are also most likely to pursue green practices...so flaunt them...the practices, I mean!

Note: If you print this, it uses the font Century Gothic for 20-30% less ink

Go Green and Prosper!