Facilities Planning in the New Economy

This session presented the case study of the Art Institute of Chicago's 2006 Gallery Re-installation Master Plan, which aims to create the most beneficial display of collections, address visitor circulation and correct associated building deficiencies. Presenters focused on the experience of creating the plan, managing the planning process, the plan's format and content, and its execution.

Moderator

» **Meredith Mack**, Executive Vice President, The Rise Group, LLC

Presenters

» **Scott Newman**, Architect, Cooper, Robertson & Partners

» **Sara Urizar**, Director of Design & Construction, The Art Institute of Chicago
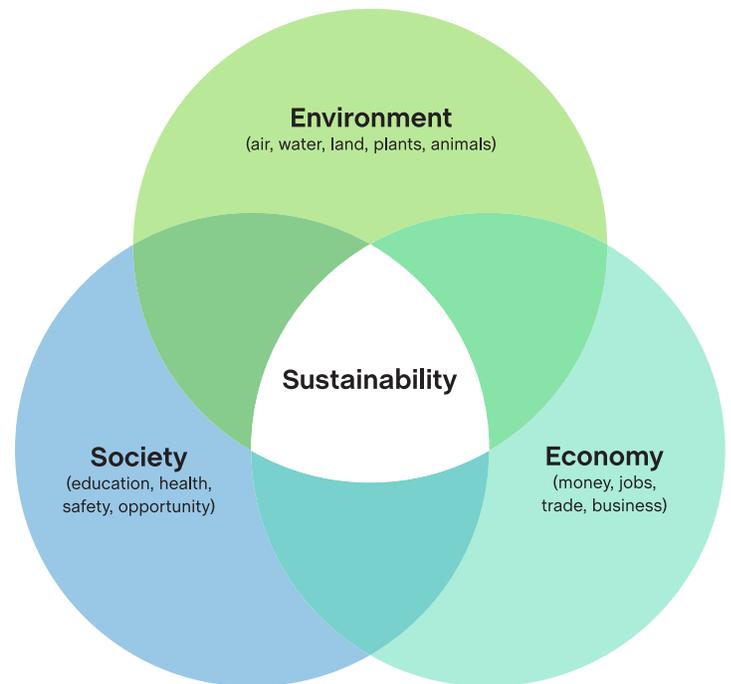
Annual Meeting & MuseumExpo

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.

What is exhibitSEED?

exhibitSEED.org is a place for exhibit and museum professionals to find resources for developing, designing, and building more sustainable exhibits. The resources on this website were developed from an interactive science museum perspective, but we hope the information will be valuable to exhibit professionals specializing in all types of museums. The Oregon Museum of Science and Industry (OMSI) developed exhibitSEED.org with input from local and national museum industry and design advisors.

Exhibit SEED resources are based on a three pillars approach to sustainability that includes environmental, economic, and social considerations.

Environment
(air, water, land, plants, animals)

Sustainability

Society
(education, health, safety, opportunity)

Economy
(money, jobs, trade, business)

What will I find at www.exhibitSEED.org?

- **Sustainable Practices:** Practical tips for incorporating social, economic, and environmental considerations into each phase of exhibit development: Proposal Writing, Project Management, Content Research & Development, Design, Prototyping & Visitor Testing, Production, Evaluation, and End-life.

- **Decision Making Tool:** An activity to use with your team, intended to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability.

- **The Green Exhibit Checklist:** a tool to evaluate the environmental sustainability of exhibits. It awards points in 5 key strategies for reducing the environmental impact of exhibit production, plus a sixth category for innovation.

- **Material Guide:** an online guide that was created to help exhibit designers and builders choose materials that are better for the environment, for visitors and workers, and make economic sense.

- **Case Studies:** Individual case studies of how museums are integrating the three pillars of sustainability into their operations.

- **Envisioning Sustainability:** An activity designed to help teams explore the concept of sustainability.

Green Exhibit Checklist

www.exhibitseed.org/green-exhibit-checklist

The **Green Exhibit Checklist** is a tool to evaluate the environmental sustainability of exhibits. The goal of the GEC is to inspire exhibit teams to plan exhibits with environmental considerations in mind. It awards points in 5 key strategies for reducing the environmental impact of exhibit production, plus a sixth category for innovation.

- Reduce new materials
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce toxic emissions
- Innovation

About the GEC

In 2007, designers at the Oregon Museum of Science and Industry looked to the LEED standards for buildings to try to create a similar scoring system for exhibits. LEED assesses a numerical score for the environmental sustainability of building construction. However, the LEED system has many categories that do not apply to exhibits and involves complex calculations that seemed overly complicated for busy museum professionals.

The exhibit designers and production staff worked together to try a simpler approach. They created the current scoring system, which is designed for easy assessment—just by walking through the exhibition, you can instantly score the exhibit based on simple observations.

Since its creation, OMSI has used the GEC to assess past exhibit builds and to set sustainability goals for future projects. The current version will continue to be revised as we move forward with the Sustainability project.

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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.

Step 1 Team sets the goal for the exhibit: Platinum, Gold, Silver, or Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting the goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 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:
- PLATINUM (20–24 points)
- SILVER (11–14)
- GOLD (15–19)
- BRONZE (8–10)

Envisioning Sustainability
www.exhibitSEED.org
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OMSI

Everyday Encounters with Science

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Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

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Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

PLATINUM (20–24 points)

SILVER (11–14)

GOLD (15–19)

BRONZE (8–10)

Reduce new material consumption.

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

STRATEGIES:
- 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 %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

☐ 4 points if **AT LEAST 90%** of the materials meet any one of these 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.

SCORE:

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

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

STRATEGIES:
- 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.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.

☐ 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.

SCORE:

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Reduce waste.

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

STRATEGIES:
- 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:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.

☐ 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.

☐ -1 Deduct point for wasteful use of consumables or water.

SCORE:

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
• 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.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

☐ 4 points if the exhibit is **NET-ZERO energy consumption.**

☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place

☐ 2 points if **SOME** energy-conserving efforts are in place

☐ 1 point if exhibit **USES** energy-efficient electronics

☐ 0 points if **NO ATTEMPT to conserve energy**

☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

SCORE:

WAYS 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.

STRATEGIES:
• 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.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

☐ 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.

SCORE:

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Innovation.

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

STRATEGIES:
• 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.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 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 or construction method that
increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED: **CERTIFICATION:**

Reduce new material consumption   ◯ **PLATINUM** (20+ points)

Use local resources   ◯ **GOLD** (15–19 points)

Reduce waste

Reduce energy consumption   ◯ **SILVER** (11–14 points)

Reduce toxic emissions   ◯ **BRONZE** (8–10 points)

Innovation

TOTAL points

Sustainable Decision-making Tool

Team or Project: _____

(ex: *Renewable Energy* exhibit)

Use this template to facilitate a discussion with your team. The goal of this tool is to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability. Before you begin, it may be helpful to review a shared definition of the three pillars of sustainability.

Environment
(air, water, land, plants, animals)

Sustainability

Society
(education, health, safety, opportunity)

Economy
(money, jobs, trade, business)

STEP 1

Define the question: work with your team to make sure that everyone agrees on the same question, or problem statement, and record it here:

Question or Task: _____

_____

_____

(ex: *Should we use computer electronics even though they use more energy than mechanical interactives?*)

Invite each member of the team to fill out the following table.

List all of the social, environmental, and economic considerations (large or small, good or bad) that come to mind regarding the question at hand. If more space is needed, attach an additional page.

3 PILLARS	CONSIDERATIONS
SOCIAL	
Considerations that affect the health, opportunity, and well-being of all people involved in the exhibit—from fabricators to visitors and community members.	*ex: Exhibits without immediate light or audio response may be less intuitive for visitors.*
ENVIRONMENTAL	
Considerations that affect the health and well-being of the natural environment—including impacts on land, air, and water quality, natural resources, and wildlife.	*ex: Using electricity may result in more carbon emissions over the life of the exhibit.*
ECONOMIC	
Considerations that affect the health and well-being of the project as well as the economy—from supporting local jobs and businesses to meeting the project's budget goals.	*ex: Engineering mechanical solutions may cost more than developing a computer interface.*

STEP 3

Discuss each realm of consideration as a team.
For each category (social, environmental, economic), go around the table and have each team member share the considerations that they wrote down. Invite discussion around which considerations are the most important and record them here.

SOCIAL

ENVIRONMENTAL

ECONOMIC

STEP 4

Identify any areas where more information is needed to make a well-informed decision and record them here. *(ex: Research possible new fabrication material)*

STEP 5

End the meeting by identifying next steps toward making final decisions and record them here.