Real Green Scenic Techniques

5 Parts To Explore

- **MATERIAL CHOICES**
  - What You Do For Your "Clients"

- **TECHNIQUES**
  - What You Do For Your Own Shop

- **FACILITIES**
  - How You Talk About It
Full Disclosure

- Greening is an ongoing process.
- You can never be GREEN, only GREENER.
- Showman is succeeding in some areas, falling behind in others.
- What follows is ideas & suggestions of how to build scenery greener. It’s not a statement of everything we’re doing all of the time.
Please:

- Ask questions along the way!
- Tell us what Greening methods your already doing.

General Principals Still Apply

3R’s

Reduce
Reuse
Recycle
Reduce

Still the Best Way of Being Greener

- Less Materials
- Less Raw Goods
- Less Energy
- Less Transportation
- Less Waste

Reuse

Colleges do it...
Regional theaters do it...
Even commercial scenery shops do it...

Components
- Platforms
- Flats
- Step Units

Materials
- Salvaged Plywood
- Steel
- Legs
- Light Fixtures
What can’t be reused can usually be re-cycled.

- Wood
- Glass
- Paper
- Aluminum
- Steel

Wood Recycling

Building energy independence from scraps of wood.

Georgia-Pacific uses woody leftovers and byproducts, called “biomass,” to generate more than half the energy needed to run our mills. Today, we’re responsible for approximately 1% of all the electricity in the U.S. generated from renewable woody biomass. That means less dependence on fossil fuels and fewer greenhouse gas emissions. It’s one small way to make the world a better place, starting in our own backyard.

GP.com
Materials and Resources (MR Credits)

Divert from Landfill: 90% of Waste Recycled or Reused:

<table>
<thead>
<tr>
<th>Donated for Reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom Partitions</td>
</tr>
<tr>
<td>Old Plumbing Fixtures</td>
</tr>
<tr>
<td>Doors and Frames</td>
</tr>
</tbody>
</table>

Things To Look For:
MATERIAL CHOICES
Understanding Recycled Content

- **Post Consumer Recycled Content (PCR)**
  - Products that have already been used by the consumer.
  - Highest Level of Recycled Content
- **Post Industrial Recycled Content**
  - aka Pre Consumer Recycled Content
  - Industrial scraps that were never used by consumer
- **Total Recycled Content (TRC)**
  - Total of Above
  - You need to dig further

**Recycling: It’s about energy, not just disposal**

- Recycling uses 93% less energy

**Upstream Impacts**
- Energy Use
- Greenhouse Gas Emissions
- Habitat Destruction
- Natural Resource Destruction

**Downstream Impacts**
- Air Emissions
- Greenhouse Gas Emissions
- Surface & Groundwater Contamination
- Contaminated Ash

**VIRGIN EXTRACTION & PROCESSING RAW MATERIALS**

*Source: NRDC 2006*
Getting down to specifics

NRDC has a long history of working with businesses and other organizations to help reduce the environmental impacts of their operations and events, from major corporations to professional sports teams to the Academy of Motion Picture Arts and Sciences.

Out of this work comes The NRDC Greening Advisor, a guide that can help any commercial business or organization to reduce its environmental impacts. The principles outlined here can help green commercial business operations and may even cut costs by showing how your business can produce less waste, consume less paper and energy, and use resources more efficiently. Greening an organization is a colloquial way of saying that we’re working to ecologically improve an institution’s supply chain and day-to-day operations.

Use the menu at right to pursue the Greening Advisor. Start by reading about the business reasons to green your company or office, or jump to specific topics.

NRDC Greening Advisor
www.nrdc.org/greeningadvisor

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Panels w/ High Recycled Content

- **MDF**
  - 100% TRC / 7% - 20% PCR
- **Particle Board**
  - 90% - 100% TRC / 25% - 100% PCR
- **Homosote**
  - 100% TRC / 100% PCR
- **Oriented Strand Board (OSB)**
- **Plastic Lumber / Decking**
  - 100% TRC / 50% - 100% PCR
Post-Consumer Recycled Content

Showman Carved Brick

100% Post Consumer Recycled Content

No VOC Paint

Recycled Content

3form Products

Eco-resin (40% recycled resin)

100% post consumer waste.
## STEEL RECYCLED CONTENT

<table>
<thead>
<tr>
<th>Blast Oxygen Furnace (BOF)</th>
<th>Electric Arc Furnace (EAF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hollow structural sections</td>
<td>beams and columns</td>
</tr>
<tr>
<td>steel studs</td>
<td>channels</td>
</tr>
<tr>
<td>steel deck</td>
<td>angles</td>
</tr>
</tbody>
</table>

- **Total Recycled Content (TRC):**
  - 25% to 30% on average

## ALUMINUM

- **Total Recycled Content (TRC):**
  - ~85% on average
- **Post Consumer Recycled Content (PCR):**
  - ~60%
The initial embodied energy in buildings represents the non-renewable energy consumed in the acquisition of raw materials, their processing, manufacturing, transportation to site, and construction. This initial embodied energy has two components:

Direct energy: the energy used to transport building products to the site, and then to construct the building; and

Indirect energy: the energy used to acquire, process, and manufacture the building materials, including any transportation related to these activities.
Rapidly Renewable Materials: Bamboo

Plyboo Edge Grain
Bamboo Panels

Plyboo Flooring

Plyboo Neopolitan
Bamboo Panels

Rapidly Renewable Materials

Kirei Panels:
Reclaimed sorghum straw (rapidly renewable and post industrial recycled)
No added Urea Formaldehyde

Dakota Burl:
Sunflower Seeds (Rapidly Rebewable and Post-Industrial Recycled Content)
No added Urea Formaldehyde

Wheat Board:
Rapidly Renewable
No Added Urea Formaldehyde
Assembled by Mo’olelo Performing Arts Company in conjunction w/ TCG

Plastics and Foams
Textiles
Wood Products
Metals
Glass, Ceramics, Earthen Materials
Paints, Adhesives and other Surface Treatments
Lighting
Audience Interface

SAMPLE TOOLKIT PAGE

WOOD

<table>
<thead>
<tr>
<th>Item</th>
<th>Pros and Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Luan products (non-FSC certified)</td>
</tr>
<tr>
<td>2</td>
<td>Engineered veneer (FSC certified)</td>
</tr>
<tr>
<td>3</td>
<td>Sustainable Forest Initiative (FSC) certification</td>
</tr>
<tr>
<td>4</td>
<td>Homasote is a brand name</td>
</tr>
</tbody>
</table>

- Luan is a group of tropical hardwoods that are being logged at an unsustainable rate with habitat destructive practices.
- Melamine is harmful if swallowed, inhaled or absorbed through the skin. Chronic exposure may cause cancer or reproductive damage. It is used in plastics and paper products. It is more toxic and harmful than other polymers.
Low/No VOC Finishes

- A range of rich theatrical colors made using artist quality ground pigments in a flexible casein binder.
- Completely bio-degradable natural protein replacing typical vinyl latex found in most paint products.
- Ultra-low VOC (<50 g/l) emissions meet both stringent California SCAQMD and LEED requirements.
- Concentrated formulation can be heavily diluted with water (6:1) decreasing the total amount of paint used and reducing the carbon impact associated with shipping.

Low and No VOC Finishes

- Benjamin Moore ECO Spec
- Benjamin Moore Aura
- Ivy Coatings
Low and No VOC Finishes

The only professional, bio-based, sustainable, zero VOC, multi-purpose scenic paints and coatings made from rapidly renewable resources and recycled content. For Interior & Exterior.

Titanium dioxide pigment is a proprietary soy-oxide formulation, with zero-VOC content
Utilizes soy and vegetable oil pigment technology that emulsifies more readily with its soy-alkyd-acrylic base
Soy-ester dispersion technology resin allows for better penetration of pigment, giving it a 45% - 48% higher dispersion efficiency than typical paints
Natural solvent chemistry provides the same smooth flow and thick consistency of oil-based paints

www.carbee.com

Powder Coating

• No solvents, fumes, or VOV's
• Less energy consumed
• Safer for Workers
• Longer Lasting Coatings

www.drylac.com
Real Green Scenic Techniques

Cradle to Cradle Certification

Cradle to Cradle Certified™

Silver

Alcoa, Inc.
Primary Aluminum Alloys

Expressed 08-12-2011

The following aluminum alloys (ingot, billet, rod, slab, etc.) are covered under this certification. Please see separate Alcoa documentation for a complete list of the alloy numbers included in this certification.

NOTF - 6111, 6262, and C278 are NOT covered by this certification.

For more information please visit:
https://alcoa.com/nr/rdonlyres/03987331-06E8-4C6C-A7A9-82104D283B3D/0/alcoa-producteanalysis.pdf

* Back to Cradle to Cradle Certified™ Product List

Who needs VOCs?
Showman has made a practice of using low and no VOC paint and cleaners when possible. When something else is specified we make every effort to find an alternative with the same result.

The Impact:
Not only do low VOC’s make a healthier workplace, but they also keep pollution out of our air and water. 75% of the paint we use has a VOC of <50 g/l. By years end, we will be able to reach 90%.
No Added Urea Formaldehyde (NAUF)

- **Wheat Board:** Rapidly Renewable
- **Kirei Panels:** Reclaimed sorghum straw (rapidly renewable and post industrial recycled)
- **Dakota Burl:** Sunflower Seeds (Rapidly Renewable and Post-Industrial Recycled Content)
- **MDF:** High Recycled Content
  - FSC Certified

Floor Score Products

**Low Emitting Flooring**
Fabrics and Textiles

- Rosebrand: Repreve Tent Liner
  - 100% Pre-consumer polyester fiber waste and post-consumer plastics.
  - For every pound of Repreve polyester yarn saves 80,000 BTU’s or equivalent .04 gallons of gasoline.

- Rosebrand: Verde Velour
  - Made from 75% Bamboo and 25% Cotton.
  - Woven using fibers of Bamboo grasses.
  - 100% biodegradable.
  - Naturally anti-microbial.
  - Flame Retardant.

- Dazien: Eco Micron Mesh
  - 100% recycled polyester

Green Label Plus

Carpet & Rug Institute (CRI)

Bottles to Carpet Process

1. Bottles are recycled into P.E.T. chips.
2. Mohawk reclaims more than 3 BILLION plastic bottles each year.
3. The P.E.T. chips are extruded into EverStrand fiber.

Carpet From Recycled Bottles
Light Boxes:
- Incandescent
- Fluorescent
- LED

Scenery Lighting

Lower Energy / Lumen
Lower Heat = Lower HVAC

How do you know what you’re getting?

Third Party Certification
Vs
Self Certification and Manufacturer’s Claims
Techniques

- Cleaning Steel w/Non Solvent Based
  - Simple Green/Citrus Based Products
Techniques

- Cleaning Steel w/Non Solvent Based
- Powder Coating

- Cleaning Steel w/Non Solvent Based
- Powder Coating
- Constructing For Deconstruction
Techniques

- Cleaning Steel w/Non Solvent Based
- Powder Coating
- Constructing For Deconstruction
- Maximize Material Usage

Techniques

- Cleaning Steel w/Non Solvent Based
- Powder Coating
- Constructing For Deconstruction
- Maximize Material Usage
- Optimize Structures
Techniques

- Cleaning Steel w/Non Solvent Based
- Powder Coating
- Constructing For Deconstruction
- Maximize Material Usage
- Optimize Structures
- Buying In Bulk To Reduce Packaging Waste
Wrapping & Protection

Re-using Blankets and Corners Instead of Paper and Bubble Wrap:

Re-using Packing Materials from Inbound Shipments:
- Packing Peanuts
- Cardboard Boxes
- Shipping Pallets and Crates

Techniques

- Cleaning Steel w/Non Solvent Based Powder Coating
- Constructing For Deconstruction
- Optimize Structures
- Buying In Bulk To Reduce Packaging Waste
- Re-Use Paint for Back Paint
Use Green Printing Techniques for Graphics

Sustainable Printing Technology

Recycling Program

Green Materials

Returning Old Marketing Graphics

Reusable Shipping Containers

Greener Graphics

Sustainable Printing Technology

Solvent Printing (TRADITIONAL): This ink chemically penetrates the surface of the substrate and fuses itself into the material. Solvent prints produce high-quality graphics and require complex vaporization systems to operate. The material after production and printing must go through a toxic process of stripping the ink from the material for reuse.

UV Printing (ECO): UV ink sits on the surface of the substrate and is then cured as it leaves the printer. The off-gassing VOCs (Volatile Organic Compounds) from a substrate printed with UV ink carries little noticeable smell and needs minimal ventilation for printer operation. UV ink is removed much easier and can enable the substrate to be recycled efficiently and effectively.

Aquous Pigment Printing (ECO): This form of printing utilizes similar technology to a solvent printer but uses Aquous Pigments producing no VOCs and needing little ventilation. The heat is also much closer to the substrate allowing for very accurate color placement with minimal waste.

UV and Aquous Inks help promote better air quality and also saves on energy needed to operate the machines.

Daggle leads the industry with 4 high resolution UV printers, including 3 purchased during the last 3 months as well as aquous pigment printers.
Greener Graphics

Duggal 10' Wide UV Printer

ECO Styrene:
- (up to 60” x 130”)
- Economical rigid durable substrate that comes in black, white, and translucent.
- Specialty colors are available for an additional cost.
- Highly impact polystyrene that produces superior ink receptive and is very flexible and usable.
- Applications: Events, Signs, Posters, Bus Shelters, Kiosks, and POP Displays.
- Biodegradable in less than 5 years
- ISO Certified 14000
- ASTM Certified 1991, D5338-05, E2099-91, 35111

ECO Foamcore:
- (up to 60” x 130”)
- Smooth natural white or black paper liner that produces superior ink holdout and excellent color give.
- High Warp resistant (3/16") foamcore with a coating that acts as a barrier to minimize ink and adhesive absorption.
- 100% biodegradable in less than 5 years
- Traditional Foamcore degrades in 80-100 years
- Certified: SFI Paper Liner

ECO Recycled Board:
- (up to 60” x 130”)
- Very durable indoor hard substrate that comes in a range of thicknesses and provides the option for double-sided printing, easily cut and scored to create unique one-of-a-kind displays.
- Applications: Packaging, POP Displays, Mounting, Exhibitions, Trade Shows, Lightweight Furniture, Posters, Events, Signs, Decoration, and Interior Design.
- 100% Recyclable
- Reusable
- 92% Recycled Material
- ISO Certified: 9001, 05000, 14001
**Indoor Environmental Quality**

**Work Site Air Quality:**
- **During Construction:**
  - IAQ Plan During Construction
  - Sealing Ducts to prevent dust in HVAC System
- **Before Occupancy**
  - Clean with HEPA Vacuums

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**Greening Up Your Own Act**
**FACILITIES**

**Sustainable Sites (SS Credits)**

<table>
<thead>
<tr>
<th>Site Service Type and/or Name of Establishment</th>
<th>Address</th>
<th>Distance</th>
<th>Map #</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. George Parsonage</td>
<td>600 Stuyvesant Ave</td>
<td>1.0 miles</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nicholas Hs Memorial Park</td>
<td>12 miles</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York Public Library</td>
<td>1 Central Ave</td>
<td>13 miles</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>St. George Theater</td>
<td>35 W 14 St</td>
<td>15 miles</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Mexico Asteca H - Grocery Store</td>
<td>17 Corner Ave</td>
<td>15 miles</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>A &amp; B Plaza</td>
<td>67 Stuyvesant Ave</td>
<td>0.04 miles</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Build &amp; Yoga Center</td>
<td>35 W 16 St</td>
<td>15 miles</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>South Bend Museum</td>
<td>27 Stuyvesant Ave</td>
<td>10 miles</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Ralph H. Moore Career Technology High School</td>
<td>200 3rd Market Place</td>
<td>10 miles</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Excellence's Blackstone and Friends</td>
<td>108 Victory Blvd</td>
<td>17 miles</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Residential Development</td>
<td>Address</td>
<td>Distance</td>
<td>Map #</td>
<td>Notes</td>
</tr>
<tr>
<td>YW Marks Hamilton LLC</td>
<td>201 Hamilton Ave</td>
<td>20 miles</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Connection to the Community:
Restaurants, Housing, Bank, Schools, etc
Sustainable Sites (SS Credits)

Alternative Transportation:
- Bus
- Rail
- Ferry

Sustainable Sites (SS Credits)

Bike Storage and Shower Facility
Sustainable Sites (SS Credits)

Parking for Car / Van Pools

Water Efficiency (WE Credits)

Water Reduction: 30% Savings Below Baseline

Dual Flush Toilets

Waterless Urinals

Low Flow / Sensor Faucets

Lower Flow Shower Head
Water

- Use of Gray Water
- Rain Water Harvesting
- Low Water Irrigation Plantings

Energy and Atmosphere (EA Credits)

**Lighting: 35% Savings**

- Energy Efficient Lighting
- Occupancy Sensors
- Daylight Harvesting and Controls
More Energy

- Day Light Harvesting
  - Skylights & Solar Tubes

Research has shown daylight increases productivity and reduces absenteeism.

Energy and Atmosphere (EA Credits)

HVAC

- Energy Efficient Air Handlers
- Controls for Each Different Room and Area
- Variable Frequency Drives (VFD’s)
Energy and Atmosphere (EA Credits)

Energy Star Appliances, Computers, and Printers

= Energy Efficient Equipment

90% of all Electrical Items

CFC Reduction
Eliminating CFC and Ozone Depleting Refrigerant in HVAC Units
Energy

- Properly insulated Buildings

Energy

- Naturally Ventilated Spaces

Cross-ventilation is an important part of effective natural cooling design.
Energy

Cool Roofs

- Black roof: low solar reflectance, high emissance
- Metal roof: high solar reflectance, low emissance
- White roof: very high reflectance, high emissance

Cool Roofs:
- Solar reflectance
- Emissance

Green Roofs

- Year: 2005
- Owner: Silvercup Studios
- Location: Long Island City, NY, USA
- Building Type: Commercial
- Type: Extensive, Test/Research
- System: Custom
- Size: 36,800 sq ft
- Slope: 1%
- Access: Inaccessible, Private
- Submitted by: John Shepley/Balmori Associates

Designers/Manufacturers of Record:
- Plant Supplier: Emery Knoll Farms/Green Roof Plants
- Modular Greenroof System: GreenTech
- Landscape Contractor: Greener by Design
- Architect: Skidelsky Architects
- Fundor: Clean Air Communities
- Green Roof Design and Project Management: Dana Balmori, Balmori Associates
- Monitoring Study: Earth Pledge
- Photographer: Joseph Mada
Energy and Atmosphere (EA Credits)

Commissioning:
Making sure it all works as it should

Materials and Resources (MR Credits)

Recycled Content of Materials:

- Carpet: 22%
- Wall Base: 10%
- Ceiling Tile: 70%
- Window Frames: 55%
- Tile: 57%
- Counters: 60%
- Bathroom Partitions: 81%
- Metal Stud and Frames: 33%
- Wallboard: 99%
- Metal Letters: 25%
- Millwork: 81%
Rapidly Renewable Materials:
Materials that take less than 5 years to regenerate such as Bamboo or Wheat

FSC Certified Wood:
Forest Stewardship Council
Indoor Environmental Quality (IEQ Credits)

**Air Quality:**
- MERV 8 Filters
- Increased Outdoor Air Delivery to Interior

**No Smoking**
- Inside Building
- Within 25 feet of Entrance and Air Intakes
Indoor Environmental Quality (IEQ Credits)

Low Emission Paints, Adhesives and Sealants:

Low Emitting Flooring
Indoor Environmental Quality (IEQ Credits)

Low Emitting Woods
No Added Urea Formaldehyde (NAUF)

Indoor Environmental Quality (IEQ Credits)

Low Emitting Furniture:

All furniture and furnishings must meet strict emissions standards of GREENGUARD Environmental Institute (GEI) including testing, allowable levels, and toxicity limits.
Indoor Environmental Quality (IEQ Credits)

**Indoor Pollution Control:**

Walk-Off Matte at Entrances to prevent outdoor dirt and contaminants from entering building.
Materials and Resources (MR Credits)

**Long Term Lease:**
- 10 Year Lease
- Less Frequent Moves
- Increases time between significant renovations
- Decrease consumption of construction materials and associated energy

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Energy

- Adjust Thermostats
Energy and Atmosphere (EA Credits)

**Green Power**
Purchase 100% of Power from Renewable Sources such as Solar and Wind

Renewable Energy Credits (REC’s)

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Energy Sourcing

- **On-Site Energy (Solar PV)**

NEW YORK CITY COMMERCIAL SOLAR INCENTIVES

- **Federal Solar Investment Tax Credit (ITC) / Solar Grant**
  30% of the cost of the solar property as a tax credit.

- **New York City Property Tax Abatement**
  33% of system cost after rebate, divided over 4 years, and capped at $62,500 per year

- **New York State Research and Development Authority (NYSRDA) Rebate**
  $17.75/watt up to maximum of 50kW*

*rebate cannot exceed 40% of the project cost
Paper

- Hand Dryers Instead of Paper Towels

- Recycled Content Toilet Paper & Copy Paper
Hand Dryers Instead of Paper Towels
Recycled Content Toilet Paper & Copy Paper
Duplex Printing

Paper
Paper

- Hand Dryers Instead of Paper Towels
- Recycled Content Toilet Paper & Copy Paper
- Duplex Printing
- Paperless Office
- Printing Only What’s Needed

- Reusing Paper for Scrap
Paper

- Hand Dryers Instead of Paper Towels
- Recycled Content Toilet Paper & Copy Paper
- Duplex Printing
- Paperless Office
- Printing Only What’s Needed
- Reusing Paper for Scrap
- Donating Old Shop Draftings To Elementary Schools for Art Projects

Green Cleaning Program

- Green Cleaning Products:
Potable Water

Materials and Resources (MR Credits)

Storage and Collection of Recyclables:
Disposal Practices

- Recycling Station

LDI Green Day 2010
Sponsored By Showman Fabricators
Disposal Practices

Finding a Carter That Recycles

Recycling is easier for us if it’s easy for them:
Our carter sorts our dumpster for recycling. They recycle metals, plastic, glass, wood, carpet, fabric, paper, and cardboard.
Between 80% and 90% of Showman’s Waste Stream is Reused or Recycled

Over the last 2 years over 411 tons were diverted from the landfill!

Disposal Practices

- Recycling Station
- Finding a Carter That Recycles
- Bulk Recycling of Plastics, Steel, Aluminum, Glass, and Carpet

Makes Money!!!
Toxic Chemicals

- Reduce Toxic Chemicals Use to Absolute Bare Minimum
- Collect and Dispose of All Toxic Chemicals per EPA and local Regulations

E-Waste / Batteries / Lamps

Where did the old monitors go?
They were recycled of course – we now recycle 100% of E-Waste at Showman including electronics, batteries, and fluorescents

The Impact:
E-waste contains heavy metals along with other toxic materials. Keeping these out of landfills keeps our groundwater from getting polluted.
Disposal Practices

Take Back What You Build

Take It Back Program:
Showman will take back any scenery we build to ensure it’s re-used and recycled as possible.

Healthier Work Environment

• Natural Lighting
• Good Ventilation
• Eliminating Toxins
• No Smoking
• Low VOC Paints
• No Added Urea Formaldehyde
Trucking Practices

- No Engine Idling
- Maximize Loads to Eliminate Extra Runs
- Keep Trucks Tuned Up
- Inflate Tires to Recommended Pressure
- Participate in EPA SmartWay

Long Distance Trucking

Clark Transfer / Touring Green:
- Partnership between Clark and Native Energy for Carbon Offsets
- 1.5 cents per mile (approximately $45 for a cross country load)
- Carbon Offsets help fund Wind Energy and Methane Digesters
Biodiesel runs in any conventional diesel engine.
No engine modifications are necessary to use biodiesel.
Employee Transportation

Encourage:
- Mass Transit
- Carpooling
- Biking

Both for getting to work and getting to jobsites

Carbon Offsets

Utilize a Carbon Calculator to determine your operations CO2 emissions
Offset through companies like Native Energy
Resource Library

**Greening up our samples:**
We are updating our sample catalogue to distinguish greener products, allowing clients to make greener choices.
You Can Never Be Green....

You Can Only be Greener

<table>
<thead>
<tr>
<th>Material Description</th>
<th>2010 Year To Date Totals</th>
<th>2009 Year To Date Totals</th>
<th>2008 Year To Date Totals</th>
<th>20 Month Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tons</td>
<td>%</td>
<td>Tons</td>
<td>%</td>
</tr>
<tr>
<td>Wood</td>
<td>16.98</td>
<td>5.56%</td>
<td>14.05</td>
<td>57.02%</td>
</tr>
<tr>
<td>Metal</td>
<td>0.00</td>
<td>0.00%</td>
<td>1.06</td>
<td>0.46%</td>
</tr>
<tr>
<td>Cardboard</td>
<td>2.09</td>
<td>0.66%</td>
<td>26.15</td>
<td>9.79%</td>
</tr>
<tr>
<td>Dirt</td>
<td>0.12</td>
<td>0.04%</td>
<td>2.89</td>
<td>0.56%</td>
</tr>
<tr>
<td>Paper</td>
<td>0.36</td>
<td>0.12%</td>
<td>10.47</td>
<td>3.43%</td>
</tr>
<tr>
<td>Plastic</td>
<td>0.00</td>
<td>0.00%</td>
<td>2.79</td>
<td>0.92%</td>
</tr>
<tr>
<td>Carpet</td>
<td>0.77</td>
<td>0.24%</td>
<td>0.00</td>
<td>0.00%</td>
</tr>
<tr>
<td>Scrap Metal - separate</td>
<td>3.07</td>
<td>11.64%</td>
<td>37.77</td>
<td>12.87%</td>
</tr>
<tr>
<td>Scrap Plastic - separate</td>
<td>0.00</td>
<td>0.00%</td>
<td>6.47</td>
<td>2.19%</td>
</tr>
<tr>
<td>Total Waste</td>
<td>2.96</td>
<td>0.96%</td>
<td>41.40</td>
<td>15.03%</td>
</tr>
<tr>
<td>Total Recycled</td>
<td>25.90</td>
<td>86.00%</td>
<td>305.23</td>
<td>100.00%</td>
</tr>
<tr>
<td>Recycled Subtotal</td>
<td>23.34</td>
<td>79.13%</td>
<td>263.94</td>
<td>87.47%</td>
</tr>
</tbody>
</table>

Showman Fabricators Environmental Initiatives

Client Education: Let Your Clients Know How You Can Help Them Be Greener.

Showman Fabricators is the leader in incorporating BEST PRACTICES of sustainability in its daily corporate life and is committed to making these practices standard in the entertainment industry. In order to reduce the impact of this project on our planet, Showman offers numerous options to make this project more ECO-friendly as well as meeting and in most cases surpassing the sustainability mandates required by most forward thinking corporations.
Showman Fabricators Environmental Initiatives

**Internal Communication:**
Showman is committed to informing our colleagues of all of our Greener Initiatives. More importantly, if they have ideas on how to improve our Greener efforts, we listen and implement.

**Advocacy: Getting the Word Out:**

- Leadership in the Broadway Green Alliance
- Organizing LDI Green Day Conference
- Panels at CUNY, USITT, and AAM
- Articles in publications like Live Design and ESTA’s Protocol
Green Case Study

21 Mercer is the new flagship store for the Nike Sportswear Brand. With an arrested pallet ranging from blackened steel to reclaimed wood, a conscientious move toward the use of raw and reclaimed material is made throughout the store.Nike specified the use of natural and reclaimed wood throughout the entire store. DeMilked was responsible for sourcing the reclaimed wood, from a kiln to retail store and counter. It is visible in every corner with a green hue visible on the cements, ceilings, wood and frames.

Real Green Scenic Techniques

Green Case Study

Riverhouse

One Rockefeller Park

PROJECT NAME: Riverhouse Children's Playroom, Battery Park, NYC
ARCHITECT: Clifton Rockwell
SHOWMAN FABRICATORS: Engineer, Draft, Fabricate and install architectural elements

Children's playroom consists of four play areas which are considered a nature development. The tan and green themed area is the perfect get away on a rainy day. It includes a unique lightbox structure in a waffle shape that allows children to see various play areas such as a fishing river, ocean and a forest.
Wrapping Up...

- Being Green Helps Your Budget
- Reduce What You Can...Offset The Rest
- Make It Easy
Climate Summit

What if it’s a big hoax and we create a better world for nothing?

- Energy Independence
- Preserve Rainforests
- Sustainability
- Green Jobs
- Livable Cities
- Renewables
- Clean Water, Air
- Healthy Children
- Etc. Etc.