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THE GLASS ART SOCIETY

2008

## PANEL: THE GLASS IS GREENER

Eddie Bernard, Moderator:

Panelists: Tracy Bochnak, Andi Kovel, Stanley Selengut, and Christian Thornton

### Energy Usage and Sources

Eddie Bernard

There are major incentives for us to reduce our use of energy and use more renewable, sustainable energy. Our atmosphere's carbon level is rising, causing the warming of our planet and changing climates. Dependence on fossil fuels has led countries into unnecessary wars over resources, while energy costs continue to rise as nonrenewable sources are depleted. It is imperative that we all see this issue as a personal endeavor and understand energy. Where does it come from? How is it stored and delivered? How and when is energy released? What are the effects of its use? How can its use be reduced?

Energy is defined as the capacity to perform work. The vast majority of the energy used on Earth comes from the sun. Calculations show that the sun provides enough energy every hour to support all of humankind's activities for an entire year. It heats the oceans and creates wind, and that creates waves. The sun's energy causes water to evaporate, and when it cools and condenses, it rains. Gravity, another source of energy, makes rainwater flow downhill providing a source of hydroelectric power. The sun enables plants to grow as they take in CO<sub>2</sub> from the air, releasing oxygen and storing carbon. For over 300 million years plants slowly changed the Earth's atmosphere from a carbon-rich composition to an oxygen-rich environment. When burned, carbon stored in fossil fuels is released back into the atmosphere. The difference between burning fossil fuels and renewable fuels (derived from today's plants and animals) is that the carbon was stored only as long as that plant lived, so the cycle is carbon neutral - neither exacerbating nor reversing the atmospheric level. Nearly every form of nonrenewable energy and its processing causes environmental harm (e.g. drilling, transporting, and burning of petroleum or coal, and nuclear waste). Minimizing distance for transporting materials (fuels) is key if we consider different values of chemical makeup, heat, size, pressure, or polarity. As a society, we build roofs to block the rain and let the rainwater drain into the river or lake, only to be cleaned and pumped back into the building by using energy (usually fossil fuels). That same roof blocks out sunlight, so we buy electricity for lighting. Meanwhile the sun dumps

energy relentlessly onto the earth.

To reduce energy consumption, several concepts are key: reduce, renewable, balance, insulation, local, and community. Communities, whether international or insular, must share information and ideas. The panelists, Tracy Bochnak, Andi Kovel, Stanley Selengut, and Christian Thornton, have reduced consumption, lowered fuel bills, marketed their products, and lowered their individual impact on the Earth's environment.

Christian Thornton is a cofounder of Xa-Quixe Glass Studio in Oaxaca, Mexico, where roughly 20 local residents create a product line and original artwork. Here the local community recovers glass from landfills for recycling. Labor is inexpensive so the processing is affordable. Employees sort and crush the glass, add fluxes and oxides, and melt it. The annealing ovens are heated by the furnace's exhaust. The community enables people to make their living from trash handling. People bring their plastics, cardboards, metals, and glass to Xa-Quixe. They are paid for it. When a large recycling truck passes through town, the plastic, metal and paper waste is traded for glass collected in neighboring towns. Xa-Quixe also buys up to 20 tons of glass at a time, from more distant distributors who save the glass until there's enough to justify a trip to Oaxaca. By using knowledge gained from large-scale glass plants, Christian is able to produce very nice glasses.



The recycling area at Xa-Quixe Glass Studio in Oaxaca, Mexico

Tracy Bochnak lives in Asheville, NC, and helps manage the Jackson County Green Energy Project. This is a capped-off landfill, where the methane from the decaying garbage fuels a blacksmithing studio (and proposed studios for glass and ceramics), warms greenhouses, and biodiesel production that runs vehicles for the Cherokee Indian Reservation.

At Esque Studio in Portland, Andi Kovel and her business partner take advantage of the resources in the Northwest. The studio runs two electric furnaces and re-uses its own glass waste and beer bottles.

Stanley Selengut is the founder of two resorts, Maho Bay Camps and Concordia, in the US Virgin Islands. The materials shipped in become waste that requires removal but this "garbage" is reused. His businesses reduce the amount of trash and the energy for disposal, converting into desirable products.

Like these projects, we, as a community, must continue to inform and inspire each other to reduce dependence on fossil fuels and to balance our give and take of resources.



**Eddie Bernard** is the founder of Wer Dog Glass, LLC, and through his company has built a multitude of glass studios around the world. He has worked with glass since 1988, as student, artist, teacher, and public access studio owner. He is currently a member of the GAS Board of Directors and of the New Orleans Creative Glass Institute. He is also the editor of the Technical Column in *GASnews*.

## The Jackson County Green Energy Park

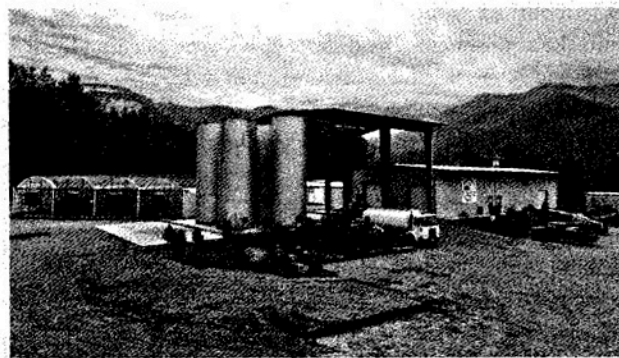
Tracy Bochnak

As glass artists, we have a responsibility to remain accountable for our energy use. No one is exempt from the economic and environmental impact of our work in glass. Rising fuel costs and increasing environmental concerns have made the exploration of alternative power sources a necessity. The glass community has been hard hit by these issues. Jackson County Green Energy Park, located in Dillsboro, views our current energy crisis as an opportunity. The Park captures methane gas to utilize as a clean, renewable energy resource. The project encourages economic development, provides environmental protection, and offers educational opportunities that lead toward a more sustainable future for western North Carolina. Mutually beneficial partnerships with institutions like Western

Carolina University have provided invaluable resources for the project and for the community schools. JCGEP, dedicated to creating economic opportunities, serves as a small business incubator by becoming an example of environmental conservation, alternative energy use, and an accessible lifestyle choice in the community. The project fosters appreciation, preservation, and education in the fine arts and traditional crafts of western North Carolina. Our artisan studios provide inexpensive studio spaces, free renewable fuel and resources for arts related entrepreneurs who use high-energy consuming media such as metals, ceramics, and glass. Visitors to the public access park can watch the artists create their work and purchase it.



**Tracy Bochnak** is a graduate assistant at the Jackson County Green Energy Park where she helped design the green glass studio. She graduated with a BFA in glass from Southern Illinois University in Carbondale and is an MFA sculpture candidate of Western Carolina University. She interned under Jan Thomas at SIUC and with Cameron Smith of The Douglass School Art Place. She blows glass at Fruit of the Fire glass studio with Victor Chiarizia, and has been a teaching assistant at Pilchuck Glass School.



The Jackson County Green Energy Park in Dillsboro, NC

Future plans include the construction of ceramics and glassblowing studios, as well as a retail gallery, a café, public classroom areas, and a conference room. Artists interested in more information about being a tenant should contact us at [www.jcgep.org](http://www.jcgep.org).

## Field Notes: Energy Usage Panel

Andi Kovel

I am an artist, a designer, and a craftsman. At Esque Studio in Portland, I share the responsibilities of running the company, designing products, blowing glass, and making decisions regarding the studio. Along with my partner Justin Parker, we produce handmade, modern, functional glassworks. Our focus is on conceptual work within a technical framework. Daily I feel the impact from our energy usage, physically, as well as philosophically. Our goal is to set a universal example for a sustainable studio practice.



Justin Parker and Andi Kovel, *Beer Bottles*, recycled glass, 2008, 9", 12"

We run a small art house-style studio with two benches, two furnaces, and two glassblowers in a 3000'sq steel structure. Justin and I redesigned the studio in 2004. Our plans revolved around environmental impact. The studio has a gigantic roll-up door that allows

for ventilation and cooling by the wind (and rain) and the ceiling's height. An industrial fan also takes out hot air. We chose two electric furnaces for our main pot and one dedicated solely to glass reuse. Electric furnaces produce no CO<sub>2</sub> output, and have been further revolutionized by our

furnace designer, Steve Stadleman ([www.stadelmanglass.com](http://www.stadelmanglass.com)). His furnaces are up to 10 times more efficient than a tradition gas furnace, drawing about 5500 kWh/month. They are so well insulated that we have ice on the floor most winter mornings. These furnaces utilize molybdenum disilicide heating elements that offer an extremely long life, because they're rated for operating temperatures of more than twice what is used in the studio. They also produce their own protective, glassy coating that helps shield them from the harsh process of melting batch. Our furnaces have a controller that allows us to set a melting program and runs unattended to produce flawless glass the morning after a charge. Less flux is burned out during the electric cook because of the even heat source and results in a longer working glass without any combustion gas or unsupervised flames. (We use Spruce Pine 97 pelletized.) It is so quiet in the studio!



Justin Parker and Andi Kovel, *Bud Vases*, recycled glass, 2008, 12 oz, 22 oz

It helps that Oregon has an alternative energy initiative. We buy wind-generated electricity from PGE and also donate monthly proceeds toward the research and development of future energy programs. In our secondary furnace, we melt beer bottles and any glass remnants to produce objects for our eco-glass line, which is designed to increase customer awareness of sustainability and eco-consciousness.

Conservation is applied to all aspects of our operations. Rainwater from collection barrels in the backyard is used to fill the block buckets and for rinsing and cleaning. In the office we use 100% recycled paper and shred wastepaper for packing filler. Our catalogs are printed on 100% recycled paper with soy based inks. The glass is packed with biodegradable peanuts and shipping boxes are bought from a surplus company. To contribute to other social and global concerns, we create one product each season and donate a percentage of



Justin Parker and Andi Kovel working at their Esque Studio in Portland, OR

the proceeds to a charity (Feed the Children, this year), and donate work to various charities throughout the year. Although glassblowing utilizes its share of natural resources, there are countless ways to minimize our impact, while still creating useful objects that are thoughtful, functional, and beautiful.

**Andi Kovel** ([www.esque-studio.com](http://www.esque-studio.com)) co-created Esque Studio, now located in Portland. She received a BFA in sculpture from the University of Colorado and a degree in art education from the School of Visual Arts, NY (1995). She learned glassblowing at Urban Glass and Pilchuck, and studied filmmaking at Brooklyn Community Access Television. She served on the board of The Brooklyn Waterfront Artists Coalition. She has taught for Urban Glass, the University of Long Island, the University of California, Tyler School of Art, the University for the Arts in Philadelphia, and was a visiting artist at Parson's School of Design, and the Museum of Glass in Tacoma. She has had a solo show at 55 Mercer Gallery and group shows.

## Recruiting the Art Community to Help Solve an Environmental Crisis

Stanley Selengut

A key component in the quest for a sustainable world is the preservation of nonrenewable resources. There is little doubt that such resources are rapidly being depleted by population growth and increased demand from emerging nations such as Russia, China, India, and Brazil. Given the situation, it is essential that more attention be directed at conservation, and the local remanufacture of components in the waste stream.



Trash to Treasures Art Center's Gallery, Maho Bay Resort on St. John in the US Virgin Islands

Trash byproducts, such as crushed glass bottles, melted aluminum cans, shredded paper and cardboard, discarded fabrics and similar waste, can now be converted into useful and saleable products at onsite craft centers.

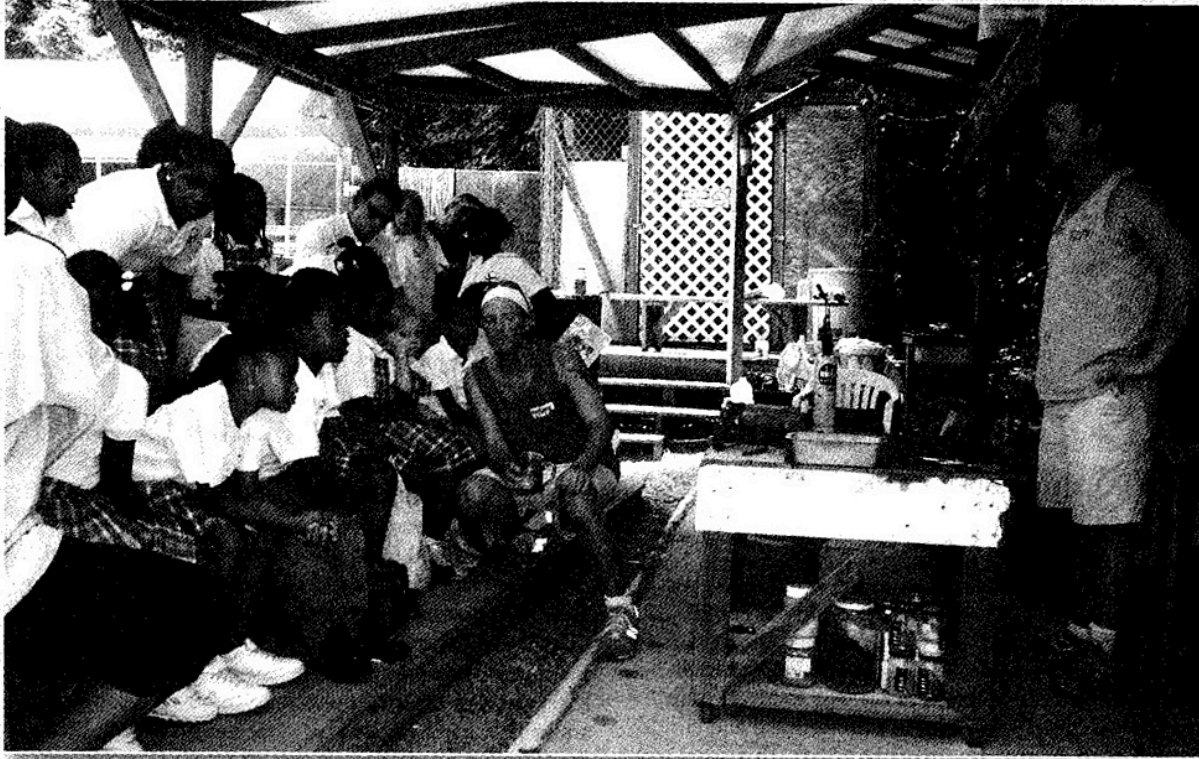
Several resorts are installing glass and aluminum can crushers, cardboard and fabric shredders and other equipment to convert trash into fresh raw material that glassblowers and other artists can use. The hospitality industry is in a unique position to exploit this potential. The average resort generates large amounts of non-soluble waste. A *Trash to Treasures Art Center* would not only save the industry money, but could also turn a profit. The 114 unit Maho Bay Resort ([www.maho.org](http://www.maho.org)) located on St. John in the US Virgin Islands is a case study. Opened in 1976, the 14 acre hillside resort is often considered "the granddaddy of eco-tourism." It was conceived as a close-to-nature camping experience with all the aesthetics, activities, and comfort of a resort. Elevated walkways help avoid erosion, as native plants and wildlife management create a healthy natural landscape. Site-sensitive construction maintains the views and the privacy with a feeling of immersion in natural beauty. The path toward sustainable consumption of resources began with the use of flow restrictors, energy efficient light bulbs, photovoltaic and wind-driven electric power systems, recycled building materials, and composting waste treatment systems.

### *The Visiting Artist Program: Spend a Month on St. John Creating Art*

The inspiration for our Trash to Treasures Art Centers grew over time. About 10 years ago, Maho Bay purchased a glass crusher, furnace, glory hole, and annealing oven to begin a program of converting our bottles into saleable objects. Glassblowing was so popular, we built bleachers at the studio and most nights only have standing room. We were encouraged by the guests, who watched the artists work and attended their classes. The craft classes are often sold out. Later, we initiated a visiting artist program, opened an onsite gallery and expanded the craft center. We now have a foundry that melts aluminum cans and molds jewelry, sculptures, and gift items. Shredded office paper is blended with water and lint from the laundry to make art paper used in children's painting and papier mâché classes. The fabric studio turns worn linens, towels, blankets, tablecloths, and discarded

fabric into a line of tie-dyes, batiks, silk screens, rugs, clothing, wall hangings, and accessories. Not surprisingly, the attraction of the studios stimulates gallery sales. Last year, Maho earned nearly \$250,000 in revenue from its arts and crafts. The driving force at the Center comes from our staff and visiting artists. Their initial challenge

is to produce unique art objects, but they also design production pieces that can be made by island residents. Such outreach programs, locally and for international artists in residence, offer an additional opportunity for our Trash to Treasure program to do its part in addressing a critical environmental problem.



Staff at Maho Bay Resort glass studio demonstrating glassblowing to local students



**Stanley Selengut** ([www.maho.org](http://www.maho.org)) is a civil engineer, who in the 1950s created an import company for South American crafts. He was recruited by the J. F. Kennedy administration as a staff consultant on craft development in the USA. In 1974, he built two luxury resorts on St. John, US Virgin Islands. The resorts are renowned for their conservation efforts and art centers, which focus on a Trash to Treasure program as a community outreach.