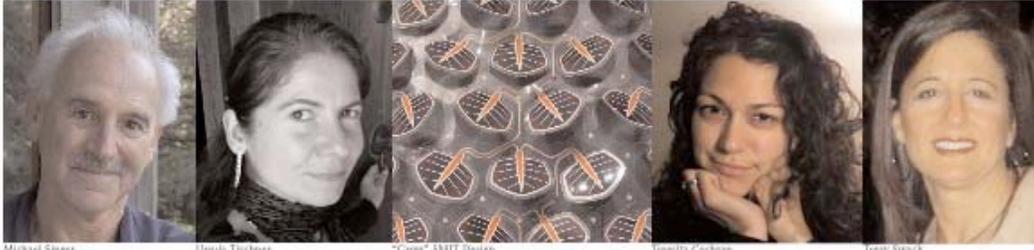


# PROCEEDINGS



Michael Singer

Ursula Tischner

"Grow" SMIT Design

Teresita Cochran

Terry Swack

## Symposium

# SUSTAINABLE DESIGN: AT THE CROSSROADS OF ART, POLICY AND SCIENCE

A symposium bringing together important voices in arts, product design and science that advocate sustainability in their work. Participants will explore sustainable design in the context of art, science and policy; and showcase methods and materials for the design and creation of environmentally responsible products and places.

**Saturday, March 29, 2008, 1-5 PM**  
**Hynes Convention Center, Boston - Room 100**

Admission to the symposium is free.

### Opening remarks

**Bryan Glascock**, director of Environment Department, City of Boston

### Key speakers

**Michael Singer**, artist/designer - internationally known for his commitment to sustainable practices

**Ursula Tischner**, founder of econcept - supporting companies, consumers on their paths to a more sustainable way of producing, consuming and thinking

### Panel Discussion

with **Michael Singer**, **Ursula Tischner** and **Teresita Cochran**, co-founder of SMIT Design

moderated by **Terry Swack**, CEO of Clean Culture

A joint program of Down:2:Earth (D2E) - a sustainable living expo, the UrbanArts Institute at Massachusetts College of Art and Design and the Goethe-Institut Boston.



massculturalcouncil.org

**SUSTAINABLE DESIGN:  
AT THE CROSSROADS OF ART, POLICY AND SCIENCE**

**Symposium organized by the UrbanArts Institute at Massachusetts College of Art and Design, the  
Goethe-Institut Boston and Down:2:Earth (D2E)**

**Hynes Convention Center, Boston, MA  
Saturday, March 29, 2008**

# **PROCEEDINGS**

**Issued by the UrbanArts Institute at Massachusetts College of Art and Design**

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# SUSTAINABLE DESIGN: AT THE CROSSROADS OF ART, POLICY AND SCIENCE

## PROCEEDINGS

### SUMMARY

**Sustainable Design: At the Crossroads of Art, Policy and Science** brought together important voices in arts, product design and science who advocate sustainability in their work. These individuals explored sustainable design in the context of art, science and policy, and showcased methods and materials for the design and creation of environmentally responsible products and places. Key speakers were artist Michael Singer, internationally known for his commitment to sustainable practices, and Ursula Tischner, founder of e(c)oncept in Cologne, Germany, which supports companies, consumers and other organizations on their path to a more sustainable way of producing, consuming and thinking. Teresita Cochran of SMIT Design | Sustainably Minded Interactive Technology introduced the company's brand new invention, GROW, a hybrid energy delivery device on view at the Museum of Modern Art in New York in spring 2008. Bryan Glascock, Director of the City of Boston's Environment Department, presented opening remarks and Terry Swack, founder and CEO of Clean Culture, moderated the discussion.

Sustainable design is not only a necessary commitment for a healthier future, but also a smart economic policy. However, environmental issues often receive secondary status and consideration. The danger of lip-service being paid to the environment was decried. As a countermeasure to this reality, a grassroots approach is most effective, while simultaneously gaining attention at the government level when votes are at stake.

It takes individual leadership and vision to improve the status quo. Bryan Glascock, who has been implementing effective new environmental and recycling policies in the City of Boston, observes that disciplines have been fragmented, and he urges increased cross-disciplinary dialogue.

Collaboration is key to achieving positive change, notes Ursula Tischner, who follows the principles of *participatory* design that involves all stakeholders. This team model integrates companies within *innovation circles* using scenarios to develop and implement radical solutions.

Michael Singer applies similar principles in his holistic, system-wide applications to achieve *regenerative* design, which offers comprehensive benefits for human and other habitats. Project research requires consulting with highly trained specialists and/or scientists to offer a solid process beginning with data collection and analysis, and later leading to design and implementation through a collaborative team process.

Change often occurs after moments of crisis. In many European countries, dwindling resources and consequently higher prices—particularly related to oil—changed political priorities and led to significant changes to energy policy. Major investment in reduction and conservation efforts combined with massive renewable energy ventures followed suit. Sustainable design is increasingly gaining momentum in the United States. Many initiatives and programs are based on voluntary commitments.

## **GENERAL RECOMMENDATIONS**

Everyone can contribute to improving the world in which we live. Artists and designers in particular are in a unique position to advocate for sustainability and to create positive change through their projects. The role of the designer is to understand opportunities and then present them to clients and/or stakeholders who must first understand issues and then identify outcomes through open dialogue. To create a sustainable lifestyle at all levels of society, work must begin with the individual, then enlist family, friends, work and leisure environments, and finally executives and policy makers at all levels of government. Consumers have the power. The creative sector can take simple steps to improve the status quo. Action steps may include:

- Educating yourself and your living environment on how to live sustainably
- Reusing and/or recycling as much as possible, and dropping off discards to municipal and/or private recycling facilities
- Using pre-consumer and post-consumer recycled materials whenever possible
- Purchasing environmentally friendly and/or energy-efficient products (e.g. energy label products)
- Requesting that your retailers and/or wholesalers carry certified organic and environmentally friendly products, produce, etc.
- Using materials without VOCs (paints, coatings, sealants, adhesives, etc.)
- Using FSC-certified wood products, or consider a rapidly-renewable product instead of wood.
- Promoting and/or using energy from renewable sources, such as solar and wind. In addition to large-scale renewable energy projects, small-scale projects are important, such as net metering for system owners who receive retail credit for electricity they generate.
- Using water responsibly to reduce overall water use (irrigate with reclaimed storm water runoff; native and/or drought-tolerant plantings)
- Buying locally produced goods, which reduces transportation costs

# Sustainable Living by Design: Designing products and services for more sustainable production and consumption

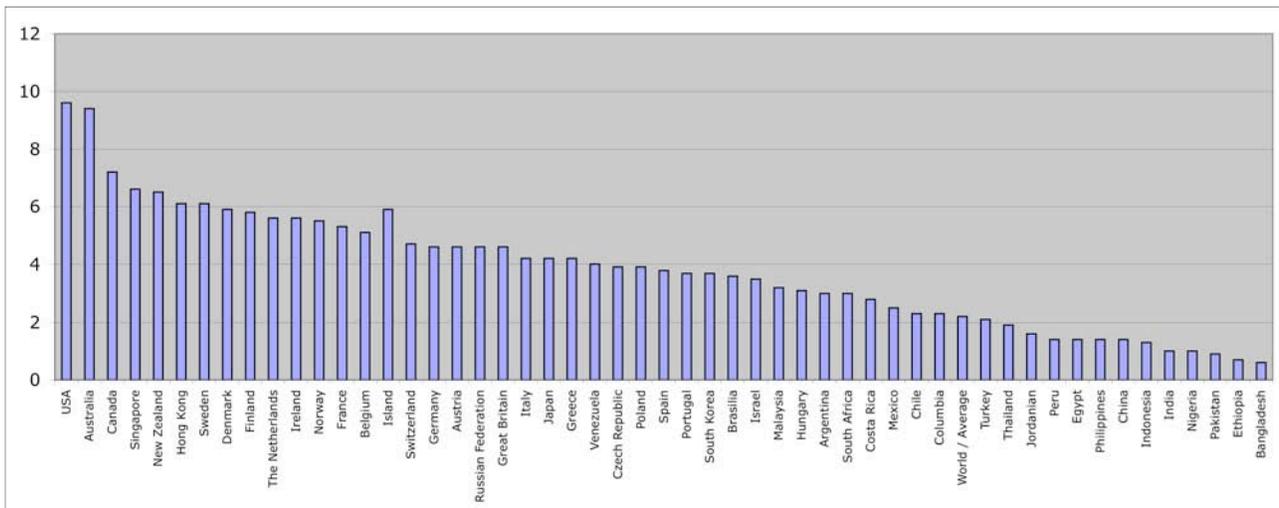
Ursula Tischner, Founder, e(c)oncept

Ursula Tischner holds a bachelor's degree in architecture and product/industrial design and a master's degree in industrial design. For several years, she served the Wuppertal Institute for Climate, Environment and Energy as a design research specialist with a focus on eco- and sustainable design. In 1993, she accepted her first teaching engagement for eco- and sustainable design. Since 2002 she has been Assistant Professor at the Design Academy Eindhoven, Netherlands. Tischner founded e(c)oncept, an agency for sustainable design in Cologne, Germany. A core group of six experts and a network of freelancers and partner organisations provide the following products and services:

- eco- and sustainable design
- research and dissemination
- company consulting
- education and training

Issues in today's society can be summarized as follows:

- Consumers are concerned.
- Environmental degradation is still increasing.
- Without a healthy environment, quality of life is lacking.



Environmental Footprint of people in different countries

Source: Mathis Wackernagel and Redefining Progress <http://www.rprogress.org>

Environmental disasters, global warming, and the resulting collective economic impacts continue to rise. According to the London-issued 'Stern Report' of 2005, the economic threat of global warming is greater than what occurred during the last world wars. Insurance companies already respond to more claims based on natural disasters than ever before.

Major imbalances exist. Twenty percent of the world's population (i.e. the industrialized countries) cause 80% of material and energy consumption worldwide, and thus the most environmental damage. At the same time, the population in developing countries is on the rise while it shrinks in industrialized countries.

The United States emits 21% of the world's greenhouse gases, the most of any nation in the world. The United States population also accounts for the highest environmental footprint: each person consumes ten hectares per person each year. Australia follows in second place. Global inequities also permeate production. For instance, in taking a social perspective on the fashion industry, it is a well-known fact that most products are produced under bad labor conditions in developing countries: Indonesians earn 15 cents/hour and, in the United States, sewers' wages are below \$5/hour. Food production offers cause for reflection, too. One of the least efficient sources of nutrition is meat, which is highly consumed in industrialized nations. Livestock production alone accounts for more than 50% of water consumption in the United States. The challenge is to develop communication, information, and motivation pressures to live more sustainably.

Sustainable development should follow the common market principle, *PPP = People + Planet + Profit*. Since designers are in the middle of the production and consumer worlds, they have the opportunity to further sustainable, social and humanitarian production and consumption systems. Trends shift slowly, but some noteworthy products and movements are:

- Energy-efficient products, such as the Toyota Prius hybrid car or the FRIA eco fridge
- Organic movement: increased popularity of organically and/or locally grown produce and farmers markets, currently with a 3% market share
- Biodegradable products, such as drinking cups or food containers, should replace polystyrene plastics
- Water-conservation, e.g. through installation of dual-button toilets

Designers are stylists. The old image of alternative, sustainable lifestyle donning hand-knitted, woolen socks has outlived its past and evolved into contemporary design. European case study companies are Freitag Bags (Switzerland), Kuyichi (Netherlands) or Bionade, now Germany's third-largest lemonade company. The latter, a family-owned business, hired designers to create a look and successfully expanded its markets with creative branding. Select American companies have introduced eco-products and related branding including

- Patagonia: its marketing specifically features recycling of polyester and an organic cotton line;
- American Apparel: it bases its business model on vertical integration – all fashion is produced in a Los Angeles factory;
- Levis: manufactures an organic cotton line, and;
- Nike: developed an eco-shoe line.

Designers also have the option to work with renewable materials, such as bio-plastics or intelligent construction. The affordable PICTO chair by Wilthahn or the Wabi Series by CAMPER shoes are examples, as well as SMIT Design's reliance on bio-mimicry in developing design solutions (see below). Designers are also meeting the challenge of new design criteria and specifications, such as

- Energy efficiency
- Renewable energy and/or human powered objects
- Longevity

With technological advances, the economy is shifting from a product to a service industry offering *Product Service Systems (PSS)*, such as the Apple iPod, rather than consumer products. Music CD's become obsolete through music downloads from the Internet.

The goal is to develop attractive design that is understandable to the consumer and then to substitute conventional products by better-designed sustainable products.

Online resources:

<http://www.econcept.org>

<http://sustainability.designacademy.nl>

<http://www.topten.info> - energy efficiency ratings for ten European countries

# Regenerative Design in the Public Realm

Michael Singer, Artist/Designer

Michael Singer's perspective is that of an artist. As such, his work offers inspiration to other creative professionals about what is possible in the public realm, specifically creative problem-solving and the practice of sustainable and regenerative thinking, process and design. Often, in the public realm, the reality is that artists like Michael Singer tend not to represent themselves solely as artists, mainly because of the state of the contemporary art world and the impression this has made on the professions and the public whom artists often have to work with. When asked Michael Singer usually describes himself as a creative thinker and problem solver who greatly enjoys questioning assumptions about almost everything, and constantly looking at why things are the way they are and how they might benefit from different points of view.

In 1971, after a sculpture solo exhibition at New York's Guggenheim Museum, he moved to Vermont to work in natural environments and explore the human relationship to nature. This formed his sense and understanding of ecological systems. He joined the beginnings of the environmental movement in the United States during this time. He began to recognize his work's relationship to understanding the systems of a place, responding specifically to that place, and learning from naturalists, biologists, engineers, scientists, social anthropologists, and historians about how the work addressed environmental and social concerns, and the ways it provided healing and promoted healthier outcomes. His water garden in Stuttgart, Germany, represents a prominent project from this period.

All subsequent works in Michael singer's 35-year project history relate to art projects, gardens, and architecture, offering early examples of what is now called sustainable-regenerative design. In this context, the Alterra Institute is noteworthy, because it represents a built project that demonstrate the integrated team design combining architecture, engineering, landscape, art and end users to address the air, water, habitat, waste, and comfort of a large building and landscape.

From his early "beautiful" places and projects Michael Singer moved on to tougher environments and issues in the public realm. In Grand Rapids, Michigan, he initiated and spearheaded the design of a sustainable floodwall, followed by the Solid Waste Transfer and Recycling Facility and the Center for Environmental Planning and Design in Phoenix, Arizona. The latter is an eco-industrial park based on Singer's plan which regenerated destroyed urban land comprised of a landfill, borrow pits and sewage percolation fields.

The projects of the Michael Singer Studio are important case studies that can offer insight and the basis for improved environmental policy. A recent publication, *Infrastructure and Community*<sup>1</sup> and free PDF download at

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<sup>1</sup> Michael Singer, Ramon J. Cruz, Jason Bregman. *Infrastructure and Community: How can we live with what sustains us?* New York, NY: Environmental Defense, 2007.

[http://www.edf.org/documents/7182\\_Infrastructure\\_and\\_Community.pdf](http://www.edf.org/documents/7182_Infrastructure_and_Community.pdf) serves as a manual to individuals, government agencies, community advocacy groups. This brochure offers a blueprint of the process to successfully achieve eco-sustainable facilities based on systems analysis. Recent Singer Studio projects and feasibility studies utilizing the systems design process are the Marine Solid Waster Transfer Facility on New York City's Hudson River, the West Palm Beach Waterfront, Whole Foods Market Shopping Center Analysis and Design, and a Seminole Gaming Facility.

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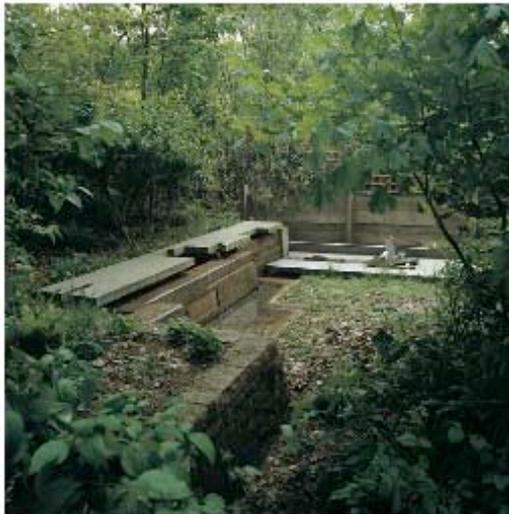
[http://www.edf.org/documents/7182\\_Infrastructure\\_and\\_Community.pdf](http://www.edf.org/documents/7182_Infrastructure_and_Community.pdf)

## Michael Singer Studio

### Memorial Garden

Stuttgart, Germany, 1992

The city of Stuttgart commissioned Michael Singer to design and construct a one-acre garden within a large city park. At the selected site two small streams converge, augmented by three wells designed by Singer. Two distinct spaces define a shaded area and one opening to the light. Water can be heard moving through both spaces in concealed troughs. The water collects in quiet pools, revealing forms and containers below the surface. Materials for the sculptural elements and garden include granite, stone, precast concrete, bronze and indigenous planting. The site is surrounded by an old apple orchard that was restored as part of the garden design. A poem found in 1945 among messages on a ghetto wall in Warsaw and written by Nachman of Breslow, circa 1800, is inscribed in a granite tablet in the memorial garden: "The world in its entirety is a narrow bridge, the main thing is not to be afraid."

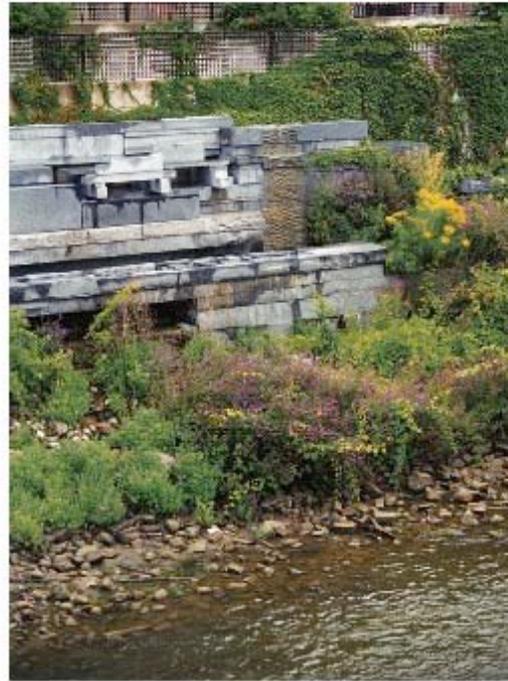


## Michael Singer Studio

### Grand Rapids Riverwalk Floodwall

Grand Rapids, Michigan, 1988-1995

The city of Grand Rapids invited Michael Singer to propose a public artwork in a site of his choice within the city. Singer chose 600 feet of riverbank between the Pedestrian Bridge and Fulton Street as an alternative to an Army Corps of Engineers' proposal for a sheer concrete floodwall and destruction of the old cottonwood trees along the bank. With the aid of Varusian Hagopian, Sasaki Associates' Civil Engineer, and the City Planner, Steve Pierpoint, Singer was able to realize a reclamation, preservation and sculptural project that focuses citizen attention on a natural and historic place central to Grand Rapids. A 300-foot granite sculptural element functions as a flood wall and fully accessible walkway to the river's edge. The sculptural flood wall is reminiscent of stone foundations from an earlier time, emerging through the steep side of the riverbank. Indigenous plantings as well as the patina of the stone encourage associations with the past. The Riverwalk Floodwall became the precedent for further development of the river's edge and walkways in Grand Rapids.



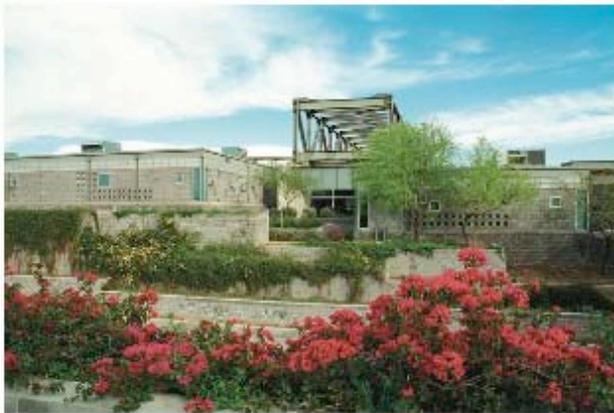
## Michael Singer Studio

### **Solid Waste Transfer and Recycling Center**

Phoenix, Arizona, 1989–1993

Michael Singer and Linnea Glatt were hired as artists by the Phoenix Arts Commission and the Department of Public Works to provide the architectural concept design for the 27th Avenue Solid Waste Transfer and Recycling Center, a twenty-five acre, 100,000-square-foot, \$18 million facility for the transfer and recycling of garbage. The artists were asked to design the site plan, landscape, architecture and structure for the facility. Singer and Glatt formed a design team with Sterling McMurrin and Richard Epstein, architectural consultants. During construction of the facility, Singer and Glatt were represented by architect Dino Sakellar to insure that the team's design remained intact. The engineering firm Black and Veatch, Inc. addressed technical concerns and were responsible for the construction drawings and the construction administration.

Singer and Glatt's design invites public involvement and understanding of recycling and waste issues in an infrastructure facility that would normally be closed to the public. Traditional designs of solid waste facilities promote expediency and a non-distinct design whose goal is to conceal the facility. In contrast, the Singer and Glatt design reveals the process of recycling as well as other issues related to disposal of garbage. The concepts of renewal and transformation are integral to all elements of the design: buildings, roads, landscape, water, and wildlife habitat. The project won several awards, was featured in many publications and is credited with promoting aesthetic design excellence for infrastructure in the U.S. In 1993, The New York Times chose the design as one of the eight most important architectural events of the year.



## Michael Singer Studio

### Concourse C, Denver International Airport

Denver, Colorado, 1994

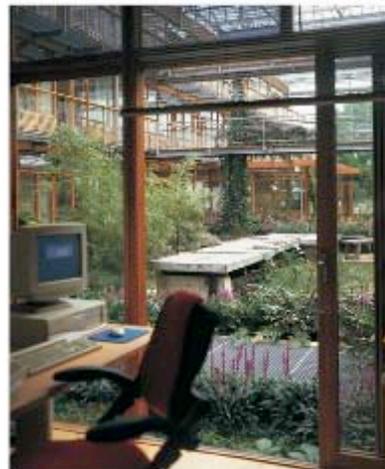
Michael Singer's work for Concourse C, Denver International Airport, includes the design of a 5,000-square-foot interior garden with sculptural and architectural elements as well as a 7,000-square-foot inlaid granite stone pattern drawing for the floor below. The materials for the garden level include wood, stone, individually cast concrete panels and plant materials. The garden is visible from the floor above and the floor below, built between the two trafficked levels of the airport concourse. The walls of the garden space are fifteen feet high and constructed at an angle. Specially selected vines climb and weave through the patinated walls and over the ground plane and sculptural elements. A moss garden is placed at the northeast end of the space. Water from the irrigation system also wets the surfaces of the sculptural elements. Bird feeders are set into the trellis and help maintain the garden as a habitat for small birds.



## Michael Singer Studio

### **Alterra Institute for Environmental Research** IBN-DLO Wageningen, Netherlands, 1999

The Alterra Institute and the Dutch government invited Michael Singer to collaborate on the design of the exterior and interior gardens for its new headquarters in Wageningen. Singer worked closely with architect Behnisch and Partner and landscape architect Copijn Tuin en Landschaps Architecten on this state of the art "green" building. The gardens function as the "lungs and kidneys" of the building, cleaning air and gray water as well as providing comfortable climate control without air-conditioning. Water is first diverted to an outdoor constructed wetland and pond. From that point it is piped into the first atrium garden pool next to the building's library. This pool contains fish and plantings that absorb toxins. From the library pool the water is sent to the second atrium water feature for its final cleaning. This pool has a shallow-patterned concrete plate with water plants growing on its surface. The water drips into a deep cistern for storage and recycling in the building's irrigation system. Singer's design also provides research and experimentation sites, within the garden, for some of the environmental scientists working for the institute.



## Sustainably Minded Interactive Technology (SMIT) Design

Teresita Cochran, Co-Founder/CEO



GROW, part of the exhibition *Design and the Elastic Mind* at MOMA, New York, in 2008

SMIT Design was founded in 2005 by the brother-and-sister team of Teresita and Samuel Cochran. In the past four years they developed GROW, a hybrid energy delivery device inspired by bio-mimicry which was developed at the Pratt Institute's Incubator for Social and Sustainable Enterprise in New York City and supported by a grant from the National Collegiate Inventors & Innovators Alliance (NCIIA).

The problem GROW addresses is that alternative energy devices are considered unattractive. For example, Cape Wind is a proposed wind farm project that has been highly debated because a portion of people living closest to the proposed site feel that the wind farm would be unattractive and decrease their property values. GROW provides power via the sun and wind, and takes the form of ivy leaves growing in an organic pattern on the façade of a building. It is an attractive energy delivery device that combines wind and solar energy in a well-designed product that appeals to aesthetic preferences, thus filling a market niche.

GROW appeals to quality-of-life concerns (environment, health, energy dependence) by providing a product that adheres to the values of environmental responsibility. Using a life-cycle analysis (LCA), GROW will utilize recycled and reclaimed materials wherever possible and insure, at the end of GROW's life-span, that sustainable methods of recycling and reclamation are carried out to minimize its environmental footprint. Also, GROW will allow the consumer to have a one-to-one relationship with their energy output by providing a display of GROW's wind and solar energy production.

The opportunity that GROW addresses is in bringing well-designed products to the alternative energy market. One market sector that this will impact is the green building sector, which represents architects, developers and builders who choose and promote the usage of environmentally conscientious products.

In a 2003 National Association of Home Builders Consumers Preference Survey, 88% of homebuyers indicated that they were concerned about their home's impact on the environment, with 17% willing to pay more for an environmentally friendly home. GROW intends to position itself as an alternative to products currently available on the market that address the issue of energy production without the added value of aesthetic design.

## SPEAKER BIOGRAPHIES

### **MICHAEL SINGER – Artist and Environmental Designer**

<http://www.michaelsinger.com>

Michael Singer's work has been instrumental in transforming public art, architecture, landscape and planning projects into successful models for urban and ecological revision and renewal. By "putting the land back into landscape" (*New York Times*), he has redefined the practice of art and broadened its applicability to the development of public places, buildings, and infrastructure. His works integrate community needs, sustainable building principles, land-use planning, environmental responsibility, and aesthetic design.

In 1993, the *New York Times* chose Singer's design of a massive waste recycling and transfer center in Phoenix as one of the top eight design and architectural events of the year. By revealing the process of recycling, the center invites involvement in a facility normally closed to the public. Renewal and transformation are integral to all elements of design: buildings, roads, landscape, water, and wildlife habitat. The project won several awards, and is credited with promoting aesthetic design excellence in the United States.

Singer's design of indoor and outdoor gardens for the Institute for Forestry and Nature (Alterra, IBN), Netherlands, has also been featured as a leading example of outstanding green sustainable design. The gardens work as the "lungs and kidneys" of the institute's headquarters, cleaning air and gray water as well as providing climate control without air-conditioning.

Among Singer's many other works are a sculptural floodwall and walkway that model river reclamation in Michigan, a large interior sculpture garden for the Denver International Airport, and co-generation power facilities. His plans define an "Urban Eco-Sustainable Network," with habitat creation, education, recreation, water preservation, and urban agriculture as part of the electric generation facility and site.

A graduate of Cornell University, Michael Singer has received fellowships and awards from the John Simon Guggenheim Foundation, the National Endowment for the Arts, the New York State Council on the Arts, and the Vermont State Governor's Award for the Arts.

In the greater Boston area, he has completed a woodland garden and sculpture for a two acre site on the Wellesley College campus. The EcoTarium in Worcester recently completed two phases (\$16 million) of a Singer-led master plan and design for the institution's 60-acre site. The design includes extensive renovation, new buildings, museum store, telecommunications center, exhibitions, major site and landscape improvements, and animal habitats. The project and Singer's work were a feature in the *New York Times*' Sunday Arts and Leisure Section.

### **URSULA TISCHNER - Director, e(c)oncept**

<http://www.econcept.org>

Professor Ursula Tischner studied architecture and industrial design in Aachen and Wuppertal, Germany. From 1992 to 1996 she worked at the Wuppertal Institute for Climate, Environment and Energy in the field of ecology and design. At the institute she was engaged in theoretical and practical projects and wrote a guide for environment-friendly product design on behalf of the Austrian Ministry for Science and Research, which was published in 1995.

She is the founder and president of e(c)oncept, a design and consulting agency in Cologne, specializing in eco-design. e(c)oncept offers advice in the field of ecology and design to support sustainable business activities, especially the development and design of environment-friendly and sustainable products and services.

Since 1998, she has been responsible for the annual course in ecological design at the University of Applied Sciences and Arts, Zurich (Department of Industrial Design). In September 2002, she was appointed Lecturer in Sustainable Design at the Design Academy, Eindhoven. Ursula is the author of several books on eco-design and sustainability.

### **TERESITA COCHRAN - Founder/CEO, SMIT Design**

<http://www.smitdesign.biz>

SMIT | Sustainably Minded Interactive Technology is a hot new start-up company that is developing a new approach to solar and wind power. SMIT provides a sustainable relationship between its clients, products, and the environment. Located in Brooklyn, New York SMIT was founded in the fall of 2005 by sister and brother, Teresita Cochran and Samuel Cochran.

The company developed GROW, on view in the exhibition *Design And The Elastic Mind* at the Museum of Modern Art in New York in spring 2008. GROW is a hybrid energy delivery device by the SMIT design group, that provides power via the sun and wind, and takes the form of ivy leaves growing in an organic pattern on the façade of a building.

### **TERRY SWACK, Founder / CEO, Clean Culture**

<http://www.cleanculture.com>

Ms. Swack is a 25-year veteran of the design and technology industries, a leading experience design strategist and an environmental entrepreneur. The focus of her career has been to make complex ideas and new technologies useful, usable and

desirable. Clean Culture, a customer experience research & strategy consultancy focused on cleantech and sustainable products is her latest venture. She is also on the Advisory Board for Down:2:Earth.

In 2005, Terry Swack founded GreenBuildingBlocks.com and The Beam (now BlueEgg.com), a venture-backed Web 2.0 marketplace for consumers, manufacturers, and service providers to power the demand for clean and green products and services.

In 2002, she became a founding team member of StillSecure, a network security software company. As VP Customer Experience, in a unique partnership with the VP Engineering, they managed the product teams to bring three successful products to market in less than two years.

Ms. Zwack's first company, TSDesign, was an Internet strategy and product design firm founded in 1994. The development of the User Experience AuditSM in 1996 was the first offering of its kind and positioned the company as the industry leader in design analysis and user experience strategy. Razorfish, a global digital services provider, acquired TSDesign in 1999.

Terry Swack is a popular speaker to business, technology and design audiences on designing effective digital business systems and the brand experience; and now on sustainability, business and culture.

## ABOUT THE PROGRAM SPONSORS

**Down:2:Earth (D2E)**, a sustainable living event for the eco-conscious consumer, was held March 28-30, 2008 at the Hynes Convention Center in Boston as an exploration into the movement that seeks answers on how to tread more lightly on the earth. Exhibitors responded to consumer wishes for products that combine sustainability with style and innovation as well as an education forum for learning about a greener lifestyle. <http://www.d2eboston.com>

**Goethe-Institut Boston** is the official cultural institute of the Federal Republic of Germany, one of 142 worldwide. The mission of the Goethe-Institut Boston is to foster international cultural cooperation and present a comprehensive picture of Germany by organizing and supporting a wide spectrum of events focused on cultural, political and social topics in Germany and Europe today. The institute also offers German language classes to promote the knowledge of the German language abroad. <http://www.goethe.de/boston>

**UrbanArts Institute at Massachusetts College of Art and Design** works to promote excellence in public art and design and has been proactive in sustainable design issues. This mission is accomplished through services that facilitate public art and design projects, through educational programs for professionals and students, and through public policy advocacy. <http://www.urbanartsinstitute.org>

## RECOMMENDED READING

Martin Charter, Ursula Tischner (eds.). *Sustainable Solutions: Developing Products and Services for the Future*. University College for the Creative Arts, UK: The Centre for Sustainable Design, 2000.

Paul Hawken. *The Ecology of Commerce: A Declaration of Sustainability*. New York, NY: HarperCollins, 1993.

Christina Lanzl. *Public Art and the State of Education: Sustainable Approaches To Public Art, Landscape Design And Community Arts*. Public Art Review, Spring 2006.

Peter Menzel. *Material World: A Global Family Portrait*. Sierra Club Books, 1994.

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Michael Singer, Ramon J. Cruz, Jason Bregman. *Infrastructure and Community: How can we live with what sustains us?* New York, NY: Environmental Defense, 2007.  
[http://www.edf.org/documents/7182\\_Infrastructure\\_and\\_Community.pdf](http://www.edf.org/documents/7182_Infrastructure_and_Community.pdf)