

Redesigning the Industrial Watershed: New Tools, New Markets for Ecological Engineering

First Announcement of the 7th Conference of the International Ecological Engineering Society

When: Fall, 2003

Where: Harvard University (tentative), Cambridge, Massachusetts, USA

This first announcement is intended as a platform for discussion. Your input on the specific content (or offers of financing or other help!) is welcome. The organizers are also looking for people to lead a number of workshops connected to the conference theme, immediately prior to the conference. These will be organized in cooperation with Harvard University. To give input or offer services:

[Go to the //debate// discussion tool of this newsletter](#)

Context

Industry has shaped urban spaces, landscapes, and mindscapes. Although the shift to a post-industrial society is proclaimed, industrial processes still determine the commercial metabolism formed by water, energy, and resource flows.

Terrestrial life has efficiently self-organized around water and the mineral-rich landforms through which water flows. The ecosystem that best describes life and all related activities within the water and landform context is called a watershed. A natural watershed synthesizes inputs of rainwater, solar energy, and minerals from within its physical, chemical, and biotic communities to produce an array of nutrients, raw materials, and products that sustains a certain quality of life for all its inhabitants.

The large land area which is occupied by commercial and industrial activities can be seen as a self-contained watershed, as it possesses all of the functional components of a natural watershed.

The Industrial Watershed is defined by its rainwater, wastewater, and process water flows and its interaction with the surrounding watershed.

Watersheds are basic functional natural landscape units. The regeneration of clear water, fresh air, fertile soil, renewable resources and stable climate form society's, industry's and nature's capital.

The three dimensions of the Industrial Watershed are:

- Surface Area: the skin of the industrial site with its architectural and landscape structures - buildings, pavements, soils and vegetation from which stormwater is drained.
- Topographic Area: the morphology determining the local watershed the industrial site is embedded in, process water is taken from and released to
- Metabolic Area: the watersheds with which the industry is intertwined via all other resource flows used by and released from its production processes.

The Industrial Watershed provides the context to create both long-term profits and stable conditions for manufacturers as well as a higher quality of life for the inhabitants. It does not preclude economic development or manufacturing efficiency. Rather, redesign, reuse, and conservation result in reduced dependence on scarce resources, higher efficiency in manufacturing processes, and long-term cost savings.

Scope

The conference shall promote a symbiotic relationship between industries/ manufacturers and their watershed communities.

The approach of ecological engineering and design will be introduced to a broad audience of potential appliers.

Tools and solutions from ecological engineering and design leading to new markets and marketing strategies will be presented.

An active dialog closing missing links between engineers, designers, and developers will be encouraged.

Alliances between designers, engineers, and developers shall be formed to create concrete and

visionary ideas for expressive projects.

The focus will be on practices and practitioners, with significant emphasis on project case studies.

Target Groups

Architects, Landscape Architects, Planners and Industrial Designers, Manufacturers, Business Consultants, Marketing Managers, Project and Land Developers, Foundations, Bank and Insurance Institutes, Engineers, Researchers and Constructors, etc.

Conference Themes

Stormwater Management and Reuse from Industrial Sites

Stormwater retention and evaporation
Stormwater treatment by phytoremediation
Stormwater reuse for production processes, irrigation, flushing...

Wastewater Management and Renewable Resource Production

Reuse of wastewater and waste heat to grow fuels and fibers
Chemurgy and the carbohydrate economy
Production processes releasing bathing water quality
Ecological engineering for landscape products (results from IEES conference 2001)
Sustainable agriculture practices for renewable resource cultivation

Eco-Industrial Parks and Landmarks

Reuse of industrial sites for ecological production and demonstration
Glasshouse structures as zero-emission systems
Image effects of ecological process, building and landscape design

Cash flow and Water flow

Savings of water supply and disposal costs
Paybacks from investments in sustainable systems
Market advantages with lifecycle cost assessment

Keynote Addresses

Keynote speakers will be leading industrialists, designers and scientists known for their engagement in sustainable development. They will present sustainable success stories, discuss barriers and draw visions.

Events

Brown Fields and Gray Waters: student exhibition of the Harvard School of Design

Biodome: A glass dome system will be built live during the conference enclosing tropical plants nourished by wash water

Project Forum: Project ideas could be presented to form alliances of implementation

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