

FIELD ACTION JOURNAL

SUSTAINABLE
NOMADIC
DESIGN

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SUSTAINABLE SYSTEMS

PARSONS THE NEW SCHOOL FOR DESIGN, FALL 17
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GLUE STRIP



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SOCIAL & SYSTEMS



The community gardens between 14th Street & Houston & the East River & the Hudson River

- COMMUNITY GARDEN
- PARK
- PLAZA
- BANK



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Growing Cities Q&A

Q. Why could community gardens be as flexibly used public open spaces that allow a nomadic lifestyle?

A. This is because there are many benefits for community garden as open space. It provides rich food nutritionally, opportunity to meet neighbors, recreation for children, and more. It means there are social benefits and economic benefits for community garden, that is why it is considered as public space.

Q. Describe how one community gardens in your hometown or a city that you visit or that you saw in the movie functions in regard to social and systems aspects?

A. There is a community garden in my hometown. I live in village that is composed with apartments. Each apartment buildings have each different community gardens. Community garden of my apartment building has only field of lettuce, this is because lettuce is very expensive nowadays in South Korea so that neighbors have agreed to focus on growing lettuce only.

Q. How is a community garden as an open space accessible to all a spatial expression of social and systematic aspects?

A. Community garden as an open space makes neighbors get close by working together and makes them to enjoy health food together.

Q. How could community gardens develop in the future of a “growing city”?

A. More community garden will be placed in the future.

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How the community gardeners are using their public open spaces in context with social and systematic sustainability issues?

The community gardeners are using their public open spaces in various ways with social and sustainability. There is the boundary between the community garden and other space for other use to protect of the public open space from other lands. And, the community gardener decorate the fence around the community garden that is located on the next to sidewalk with trash such as empty plastic or aluminum can. This decorated fence around the community garden catches people's eyes and make them be curious about the community garden. And, there are pretty gardens, ponds, tables, and benches that people can enjoy anytime in the community garden. Furthermore, there are free spaces to grow something such as vegetable, so people can use some spaces for their crop and also there are farms to raise animals such as chicken, so people can share these spaces and raise animals together. Also, there is the kitchen that people use jointly, so people cook at there and share food together.

Comfortable environment of the community garden that people can come in and take a rest anytime and doing something together such as raising animals or sharing food at the kitchen represent how the community garden is using socially. And, self-built space represents how the community garden is using in systematic sustainability.

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ENTRY



BASIC ROLE

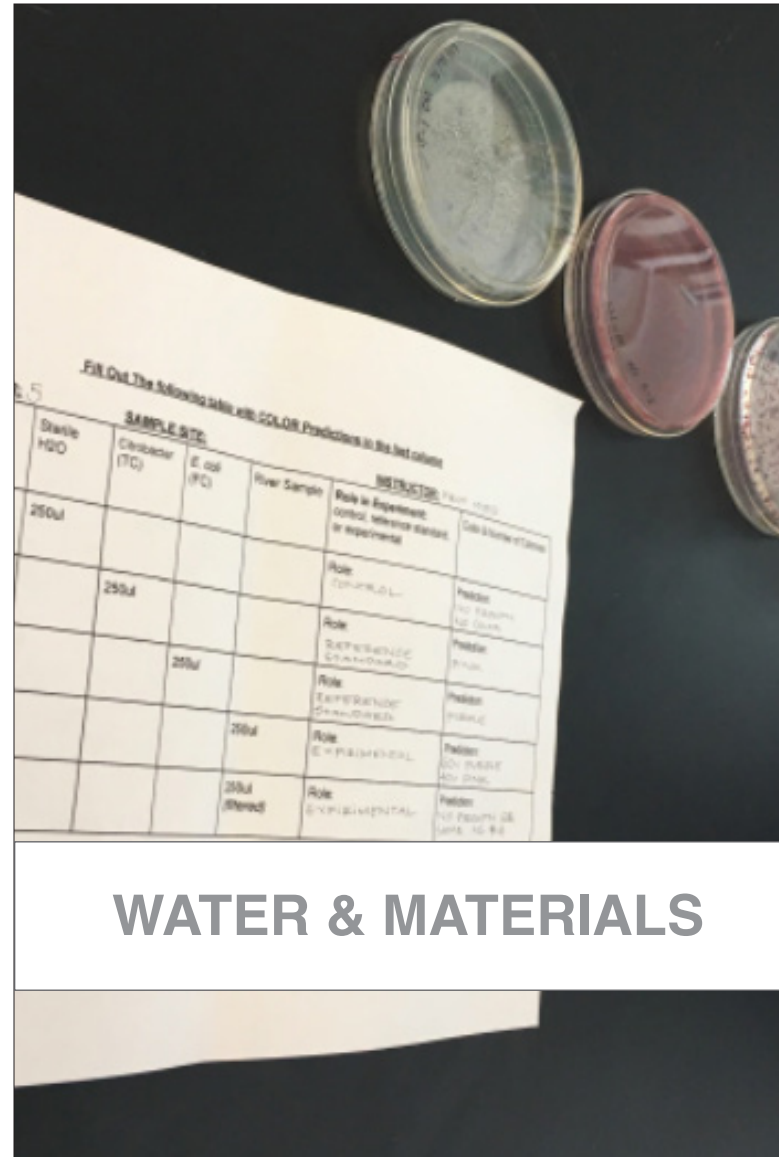


TABLE AND BENCH



FARM

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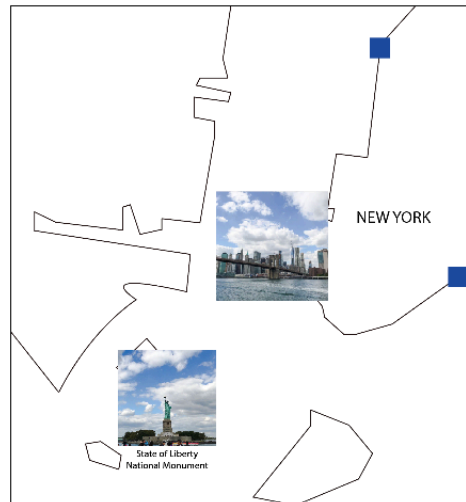
WATER & MATERIALS

Water

During I was on the circle line cruise, I saw the whole of New York city from a distance. New York City did not look as just fancy city, means there were lots of high buildings with busy atmosphere so that New York City seem as city that does not care about climate change. Generally, the view of New York City was calm.

I did not understand why New York City is growing city with urban agriculture that is resilient to flooding because I saw lots of buildings in shorelines. I thought people who live in there are dangerous when flooding coming. But, soon, I realized there are infrastructures for flooding.

And, at first, I thought New York City is kind of dangerous to live if flooding comes because there are many huge buildings and also they are in shoreline. I thought these buildings will be collapsed and danger for people in New York when flooding comes. However, I realized that high building is one of plans to be resilient to



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Materials

Structural

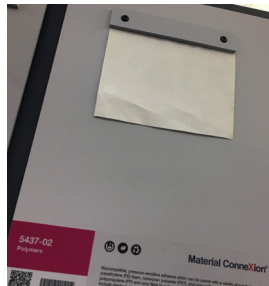


- recycled content



- lightweight - low toxicity

Food Production



- compostable - recycled content
- renewable content



- compostable - recycled content
- renewable content

Solar energy Collection



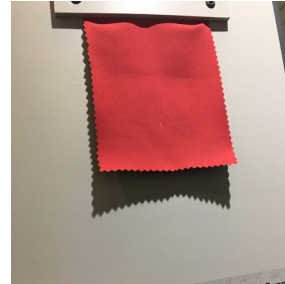
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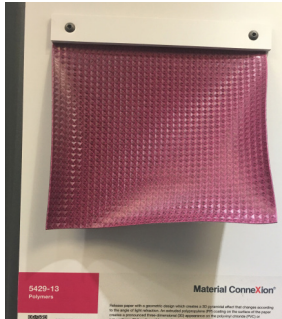
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Water Proofing



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Thermic Insulation and Cooling



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Tin in the City



A tin trashcan in the restroom in the cafe



Spam cans in h-mart



A spoon, a fork, and a knife in the stake house

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Research about Tin

Source of Raw Material:

There are nine tin-bearing ores found. Several other materials are often used to process and refine tin. These include limestone, silica, salt, and carbon. The presence of high concentrations of certain chemicals in the ore may require the use of other materials

The Manufacturing Process:

Mining → Concentrating → Smelting → Refining

Lifespan: 50 years

Physical Property:

Its tendency to give off a strange screeching sound when it is bent.

Chemical Property:

Tin is relatively unaffected by both water and oxygen at room temperatures. It does not rust, corrode, or react in any other way.

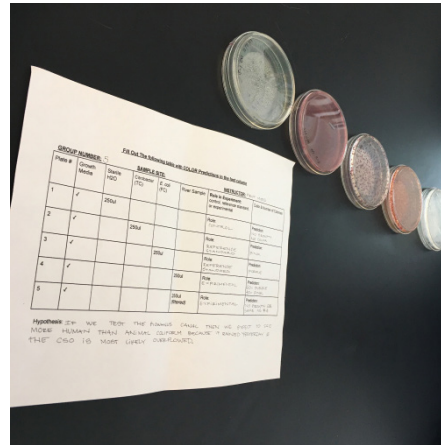
Recycling: Yes

Effects of Tin in the city and world:

Most compounds of tin are toxic. Tin compounds are most likely to present a hazard when they get into the air. Then, they may be inhaled, after which they can cause problems such as eye and skin irritations, headaches, nausea, vomiting, and cramps. The U.S. government has set a standard of 2 milligrams per cubic meter of air for most tin compounds. For organic compounds of tin the Limit is 0.1 milligram per cubic meter. Miners and factory workers are the most likely people to be exposed to these levels of tin. The amount of tin absorbed from canned foods is too small to be of concern to consumers. And, Tin is persistent and not fairly biodegradable, it is known to cause a great deal of harm to aquatic ecosystems.

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Experiment in the Lab



How could the experiment conducted in the lab or an experiment conducted under comparable conditions be informative for future sustainable design?

Experiment about bacteria gives necessary information for future sustainable design. It means that using bacteria is one of important parts for designing sustainable object so that bacteria experiment should be worked before making sustainable design.

What other experiments could you envision that would lead to interesting outcomes and data for sustainable design concepts? In the lab, we did experiment that is about thinking how to solve water flow system. With observation, question, synthesis, solution, we thought how to solve flowing wastewater out effectively. This experiment was great opportunity to see interesting outcomes and data for sustainable design concept. I think experiment like this may lead to intriguing results for sustainable design.



CLIMATE CHANGE & ENERGY



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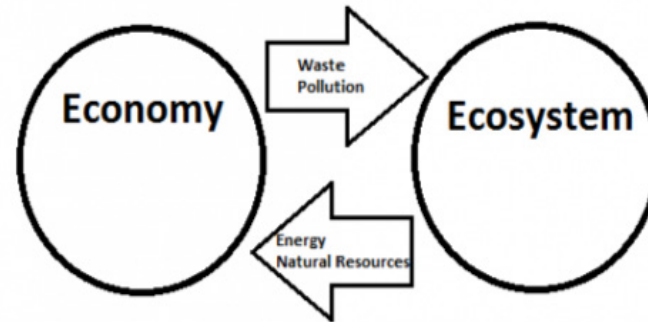
Flood



A flood occurs when water overflow or inundates land that is dry normally. Most common way is when rivers overflow their banks. Excessive rain and rapid ice melting in the mountains send a huge amount of water spreading over the adjacent lands. And, coastal flooding occurs when a large storm or tsunami causes the sea to surge inland.

Due to climate change, flooding occurs and being serious. Global warming makes temperature of air increase, and this hot atmosphere and vapor that evaporated from ocean make more cloud or become a tropical cyclone. Over recent decades, possibly due to global climate change, hundred-year floods have been occurring worldwide.

This Change Everything



To push economic growth, active economic activity is needed. Both production and consumption are main elements of economic activity, and they are related to the environment in two fundamental ways. People use resources from the environment to make a goods and services, but also people leave lots of wastes into the environment in the process of both producing and consuming. This cruel human activity makes conflict between human and environment.

Extreme climate is being serious because of human. There are lots of solution to against climate change. Factory should find substitute for fossil fuel and reduce use of fossil fuel and use natural resources or make something environmental friendly. People as global citizen should reduce, reuse and recycle; they should recycle plastic, paper, glass and so on, reuse if it can be, plug appliance into a power strip and turn them off when not in use, and eat less meat and fish.

Wind Energy: Wind turbines for energy generation



A. How does the specific energy production, energy storage, energy transmission, energy mitigation aspect works?

Wind power is the ability to make electricity using the air flows. Wind turbine blades capture kinetic energy from the wind and turn it into mechanical energy, spinning a generator that creates electricity.

While energy storage is not needed to integrate wind energy and is it is not cost-effective, having certain types of energy storage on the grid can reduce the cost of integrating wind. But, these types are not eco-friendly.

The turbines are connected so the electricity can travel from the wind-farm to the power grid. Once wind energy is on the main power grid, power operators will deliver the electricity where it is needed. Smaller transmission lines will collect the electricity generated at the wind project site and transport it to larger transmission lines where the electricity can travel across long distances to where it is needed, when finally the smaller lines deliver electricity directly to your town and home.

B. What are the benefits and/or complications? What is positive about this energy aspect and what needs to be improvement in context with it?

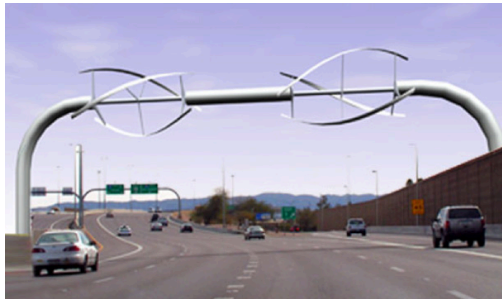
Wind energy is used for farmers and ranchers rely on to make a living and keep their land in the family. During 2016, U.S. wind projects paid \$245 million in lease payments to landowners. And, local taxes they pay help rural communities afford teachers, ambulances, and roads. Also, wind power reduces pollution and gives a huge health saving. It produced \$7.4 billion a year in public health savings in 2016 by reducing pollutants, according to the Harvard School of Public Health.

C. Who is involved with this or affected by it? Mention specific organization involved or, if applicable, impacts on humans, plants and animals.

Humans are affected by wind energy positively. People can live in clearer world that is created by wind energy that reduce pollutants and some people are given economical helps by wind energy.

D. What is crucial for its design or in a design context? Explain and find one innovative, fun design examples for each aspect that could inform parts/ features of your own structure.

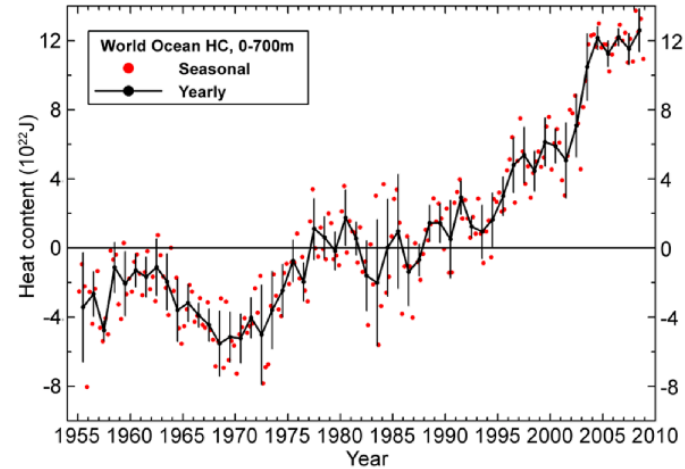
This is an idea of Arizona student, it is a highway wind turbine would harvest the wind created by fast-moving automobiles to send power back into the grid. If it is realizable, this wind turbine project could be easily placed to transform most of highways into endless power sources.



The United Nations Trusteeship Council Chamber

As a designer, you have to understand what makes climate change at first to design something. Then, you need to exploit energy systems to design, test and correct it several times to make design perfect, take a long-term view for changing world, and communicate with customer. Designer should do all of actions above to design something helps to reduce climate change, you must design something with use of nature system such as solar energy and wind energy. Designer can design sustainable system with innovative design.

Climate Change: Global Warming



The Electric Grid (Micro Grid)

A. How does the specific energy production, energy storage, energy transmission, energy mitigation aspect works?

Power plant such as the wind turbine generates electricity, transformer steps up voltage for transmission, transmission lines carry electricity long distance, neighborhood steps down voltage, and then distribution lines carry electricity to house. Electric grid is role of transmission here.

B. What are the benefits and/or complications? What is positive about this energy aspect and what needs to be improvement in context with it?

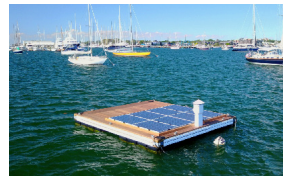
There are benefits for both customer and sociality. Customer are provided lower bills, improved reliability, improved customer service, and support in home networking displays. And, for sociality, electric grid reduces carbon emission, need for power plants, and provides infrastructure that can support renewable generation.

C. Who is involved with this or affected by it? Mention specific organization involved or, if applicable, impacts on humans, plants and animals.

Electric grid reduces carbon emission, so that humans, plants, and animals can live in bettern world environmentally.

D. How could you set up a Microgrid? What is crucial for its design or in a design context? Explain and find one innovative, fun design examples for each aspect that could inform parts/ features of your own structure or structural settlement.

I could set up a Microgrid on the top of structure. Microgrid should be away from water that can break it up.



Ant Colony



An ant colony is like a factory. places are all connected and they all have different purposes such as a place for keeping food and a place for laying eggs. And, ants have different jobs, younger ants work inside of the colony and take care of the queen ant and older ants go out to get food and defend the colony against enemies. Also, ants communicate with chemicals as colleagues living together.

This ant colony system is related to my structure. My structure also can connect with other same structures as one. And, there are short bridges between structures, so that people can communicate each other.