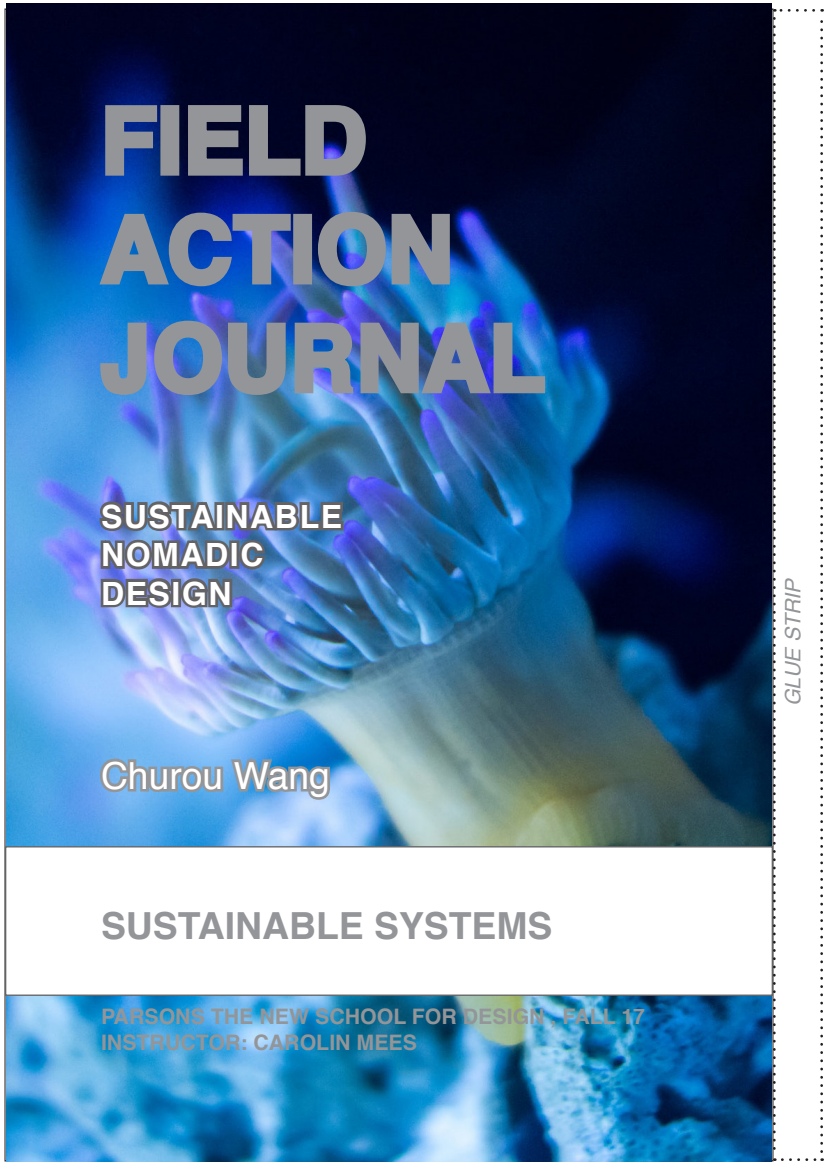
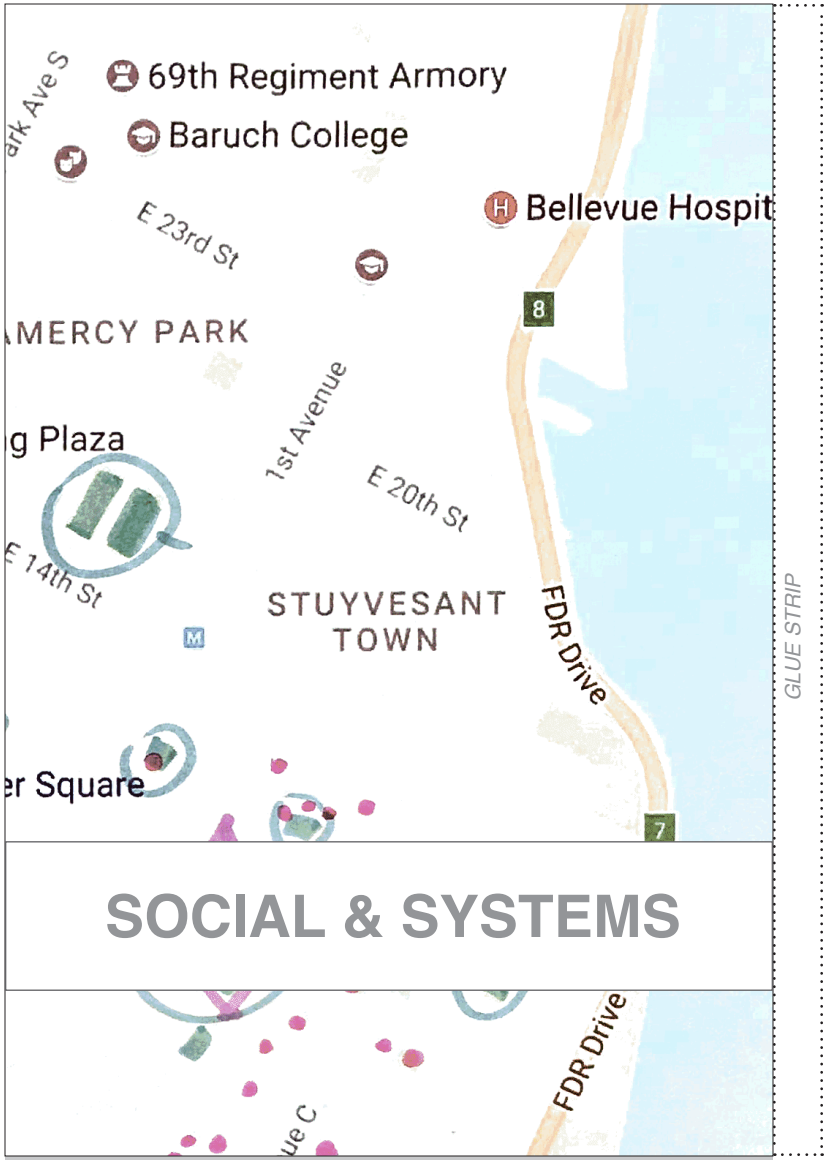
NOTE: PLEASE ADD PAGES AS YOU SEE NECESSARY

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SOCIAL & SYSTEMS
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Open Space (NYC Dept of city plan)

parks

community gardens

waterfront

city map with labelled public space and community gardens

GLUE STRIP

the community garden in NY

The community gardens have the characteristic of being flexible. When the area of empty space has not been sold, it could be used as community garden to harvest a season of produce. The harvest seem a little but could help the neighborhood to build a healthy and connected group. Community comes together to share not only the food ,but also their knowledge and experience of planting. At the era of digital communication, the community gardens provide a chance for everyone to step out the house and get know people around them. By plating food ourselves, people get to learn about the nutritious information about the vegetables and better control of the food quality we eat. Furthermore, the educational benefit out of this is people get to know how to cherish the food they planted themselves. This will greatly solve the problem of food waste we have nowadays. So far, the community garden idea hasn't been spread throughout the urban area. The vertical building area could be used to add more green between those stainless steal giants. For example, the rooftops, the side walls, the balcony.

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The upper picture was token at the community garden in New York. The lower one is the image of 2 compost bin.

GLUE STRIP

Image caption incl. reference webpage and/ or photographer

The community garden provides the neighborhood not only a self-planting space, but also a safe area for children to play, and neighbors could come in and having relaxing moment in the green. One woman in the community garden described the table chair set-up as “her Starbucks”. I get an assumption that the garden itself is budget-friendly to people. The composting bin gives an opportunity to have nutritious dirt for the planting and less pressure on degrade the waste in land. In general, it shows to people a chance to have sustainable living.

When the empty land is called to be government or private commercial use, in order to remain the land of community garden, the volunteers in the garden should advertise the benefits to the neighborhood who doesn’t know much about it. To gather more people and protest is one of the most powerful method to protect people’s right and environment. The internet of the community garden neighbor should be utilized to the maximum benefits. Contacting people in different area to get designers, engineers, and material suppliers can be very helpful.

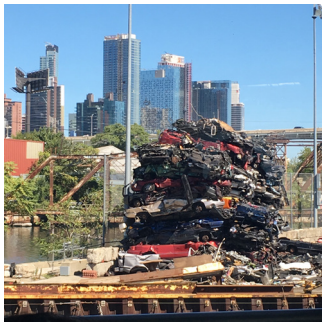
GLUE STRIP

WATER & MATERIALS

GLUE STRIP

New York City doesn't embody a lot of greens. In my opinion, we should efficiently utilized the building landscape. The rooftop garden can be the first choice. Planting salad green on the rooftop provides the building tenants a healthier life, meanwhile help strengthening the air pollution by adding more green to the city. (which further can have impact on the water quality of the city)

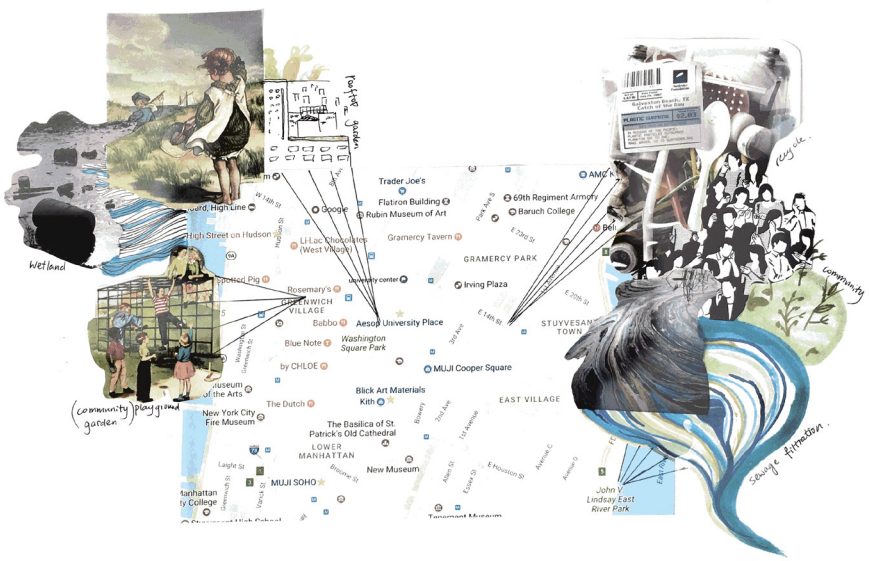
New York City has two rivers, Hudson river and East river. The flood is a threatening problem to the city. In order to prevent from the disaster, having a stronger bay protection is essential. Having a bay green park may help. Planting more trees at the bay not only give the citizens a place to rest from stressful city life, but also build up a natural barrier against the flood. I assume having greens other that the bay line is also necessary. So then New York City can have a multiple layer of protection which will eliminate the degree of harmless from the natural disaster.



images of New York Landfill

GLUE STRIP

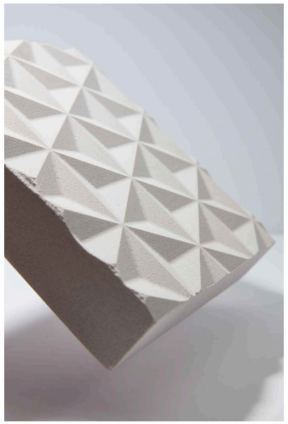
GLUE STRIP



the collage of imaging New York City as a growing city

A- structural = straight, rigid material (represented in model by bamboo sticks)

KartaPack™ Corrugated (MC 7682-04)
This is a sustainable and renewable material made by various type of recycled paper. It can bare 10 lb weight, and has a very lightweight itself. It has one smooth side and one course side. Normally, this type of material is used in packaging to protect from objects collapsing.



StoVerolith (MC 4838-04)
This material is mineral-based (volcano stone), was pressed at a high temperature and coated with a weather-resistant material. The surface can be very flexible. It can be modified into different texture. Meanwhile, there is a relatively big range of thickness it can reach. It is designed to be used for façade cladding and profiles.

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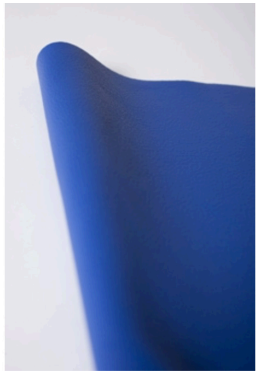
B - food production = skin material to be flexible or semi-rigid (represented by in model by paper

Bioleather (MC 6185-02)
This material is an substitute of natural leather. It was produced by the growth of bacteria and fed by sugar solution. It has a translucent, flexible texture. After the growing of the bioleather sheet, it turns thiner and stiffer after the drying process. It can be dyed into different colors of the choice.

Printable Rice Straw Paper (MC 7442-04)
This material is made from 100% natural rice straw. The surface is smooth. For the producing process, the rice straws were first cleaned and air-blowed to get rid of any contaminants. Followed by crushing process. Then soaking it into the water and lay on the drying surface.This material is environmental friendly. It is also printable on the surface.

GLUE STRIP

C - solar energy collection or solar energy reflection = skin material to be flexible or semi-rigid



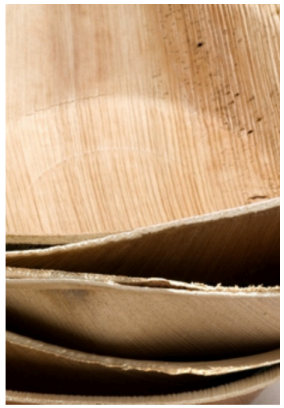
Xtreme Leather (MC 6591-02)
This leather has a special pigment coated to prevent the leather from cracking caused by solar heat. It is made of European bull hide. It is treated to have antibacterial, antimicrobial and mildew-resistant properties. It is used in the fields of

Liquid Silicone Rubber LSR 7070
This material has the property of high transparency, steam-sterilizability, and thermal -stability. It is a Platinum-catalyzed liquid silicone. It is flexible, and can bear high ozone and UV. It can be used in a variety of fields. For example, driving goggle, air mask, solar technology.

GLUE STRIP

D - water proofing and water collection or water drainage = skin material to be flexible or semi-rigid (re-

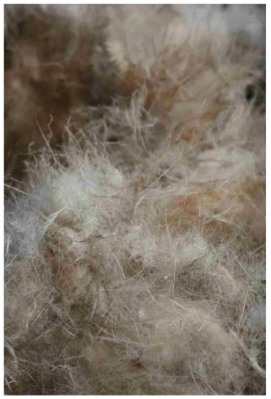
Biotre Film (MC 7349-01)
It is made of renewable wood pulp and other polyethylene additives for resistance. It is certified to be compostable according to EN13432 and ASTM D6400. The film makes it water and tear resistant.For specific needs, this material is printable. This material is usually used in packaging.



Naturesse - Kollektion Palmblatt® (MC 6235-01)
This material is made of palm leaves. So it is economically-friendly and compostable. The palm leaves were cleaned and mechanically pressed into the desirable shape. It was not coated by any film, and naturally provides a water-proof surface according to the natural characteristic of palm leaves. Usually, this material is used for tableware.

GLUE STRIP

E - thermic insulation and cooling = skin material to be flexible or semi-rigid (represented by in model by panels/ facets)



Coffee Charcoal Down Feather (MC 7523-01)
This innovative natural fiber has the coffee charcoal powder-infused polyester fibers combined in the natural down feather. Comparing to the normal down feather, this material provides a high heat retention. To produce such material, it needs the used grounded coffee, and grind it into nano-size. According to the natural components this material has, it is compostable.

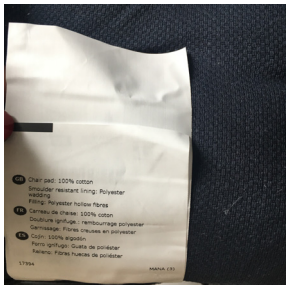
Milkweed Fabric (MC 7256-02)
This a mixture of fabric containing milkweed fiber, which is claimed to behave like cotton, feels like silk. It is very lightweight. It has a natural cream color, but can be dyed into other colors according needs. It is ideal for making fashion apparel, intimate apparel, and

GLUE STRIP

Cotton in Life around us

bed sheet, made out of 100% cotton

thread, made out of 100% cotton



chair pad, fill out by 100% cotton

GLUE STRIP

Cotton

Cotton is a soft and fluffy natural fiber. By the energy getting from the sunlight, water an air, the plant grows into a protective case, and forms a ball, where later comes out the cotton ball that could be harvest. After 25 weeks of planting the seeds of cotton into the ground, it would be ready to harvest those airy cotton balls. It usually grows in tropical and subtropical region, including the Americas, Africa, and India.

This material is usually made into yarn or threads, which are soft, strong, and breathable. The production of these could be dated back to 5000 BC.

Cotton is a perfect material for making garments and fabric. The growth of cotton is relatively economically friendly to the earth. However, nowadays people take the old recycled cotton cloth to deconstruct and make new cotton out of old pieces, leading the sustainability of using cotton into a higher level.

GLUE STRIP

Furthermore, sometimes the manufacturer add polyester and other non-nature fiber to make specialty fabric and use the natural resource more efficiently. A lot of time, people take cotton to replace goose down for a more friendly budget and being more animal protective. They both work great in keeping bodies warm, meanwhile share the similarity of light-weight,

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GLUE STRIP

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

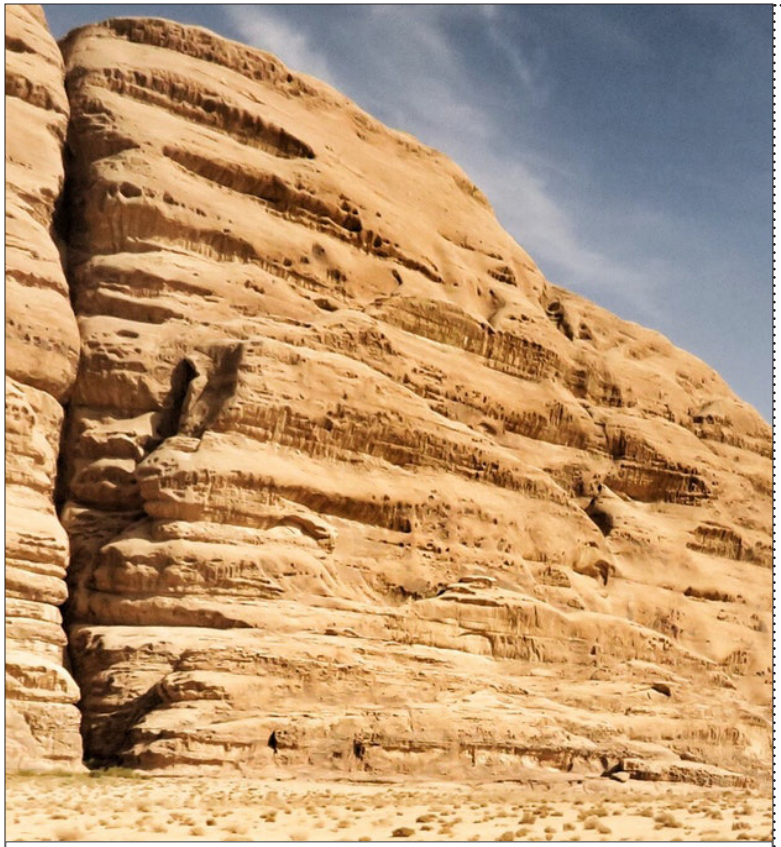
With the help of preference standards, people can evaluate the experimental outcomes and make reasonable hypothesis. Hypothesis is very important to sustainable design. With a logical pattern in our heads, when we have already gotten some answers to the material or the method we are using, the possible new assumption could help to reduce the time. And more importantly, not to waste any sources (essence of being sustainability, eliminating waste); or happen to get a harmful result out of it. Thus the comparable conditions enables all designers to get a more effective, more efficient, and safer process.

GLUE STRIP

2. What other experiments could you envision that would lead to interesting outcomes and data for sustainable design concepts?

There are a lot of options out there. For example, the air purification solution can be done by taking by using different plants (or other type of purifying medium) on same conducted air samples; how to come out the light-weight nutritious soil for the urban household planting work, by adding ingredients to the controlled soil samples, aiming to grow the same type of vegetables; how composting become more eco-friendly and efficient by using all different ratios of bokashi (same recipe though), with the temperature, moisture all controlled.

GLUE STRIP



CLIMATE CHANGE & ENERGY

GLUE STRIP

The living environment in the desert has always been extremely hard, comparing to the life in urban cities. However during recent years, the hot temperature and the low humidity have gone even worse. The chance of living biological environment for plants and creatures could not pleasing. The expert, desert ecologist Cameron Barrows suggested in an article posted on the Atlantic, the habitats warm has started to be harmful to lizards. Lizards are heat and dry resistant animals, so then no need to even mention how the other creatures would deal with the circumstance happening in the desert.

McDermott, Amy. "Climate Change May Be as Hard on Lizards as on Polar Bears." The Atlantic. May 23, 2016. Accessed October 27, 2017. https://www.theatlantic.com/science/archive/2016/05/climate-change-deserts/483896/.

GLUE STRIP

the image of wind energy

The density of the people living on earth enlarges the need for energy. When any needs come into the market, the industries realize the value of it. So then they reach out the goods we want for earning from human desires and needs. In order to be efficiently getting the source, there are industrial process, which leads to the pollution, later on, creates the climate change. The problem raised is that there aren't many people have been aware of what their desire for the energy has bring the earth such tragedy. Which will soon, and some have already come back to ourselves, the flood, the earthquake, the tornado, etc. The solution to the pollution while feed people's need is finding a substitute renewable source. Promoting wind energy and solar energy to every household could raise a better general image of the energy usage on the earth. There should be institution regulating the limit for the usage of energy, according to the knowledge of balancing the whole human and nature. More importantly, the knowledge should be spread out, so people gather together could make bigger impacts and build the future together.

GLUE STRIP

Local Famer's market

a- How does the specific energy production, energy storage, energy transmission, energy mitigation
aspect works?

Industrial agriculture usually takes a high energy cost for food transportation. There is a very strong data showed on the Wikipedia. “According to a study by Rich Pirog, the associate director of the Leopold Center for Sustainable Agriculture at Iowa State University, the average conventional produce item travels 1,500 miles (2,400 km), using, if shipped by tractor-trailer, 1 US gallon (3.8 l; 0.83 imp gal) of fossil fuel per 100 pounds (45 kg).” By doing urban agricultural, such as community garden, the energy of that can be saved. Furthermore, the increasing green area in the city helps the elimination of carbon dioxide.

GLUE STRIP

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?

The idea of urban agriculture should definitely been more advertised to each household. It is a great a mount of effort need if only the official government is taking the job to do this, and probably ending with insufficient result. The benefits out of urban agriculture not only eliminate the declining situation of global warming, but also strengthen the bond between people.

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

Everyone should be involved! This is a global action. Especially people should see the potential ability of the young kids. Adults should start to educate their kids with the knowledge of planting. Families can do urban agriculture as a activity.

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!

The idea of urban agriculture shows the possibility of planting not only on the flat ground but also on the wall and up at the top of the building. It inspires me to add planting sections on my survival shelter in the extreme desert environment.

GLUE STRIP

https://en.wikipedia.org/wiki/Urban_agriculture#/media/

GLUE STRIP

Reflection of the UN trip

The UN trip speech presented to the Parsons crowd the image of sustainable city Holland that is currently working on, in addition, the problem that the world is facing. I especially paid attention to two parts of the whole event.

First of all, the bicycle usage in Holland. From my personal experience in China, promoting biking as the usual commuting way is a social trend. We have organizations that provides the citizens with public easy-borrow bikes on the streets. According to my friend and my experience, biking saves time and energy. We see big future of biking. So do Holland people. The speaker shared their policy about biking. Different with narrow New York street, the biking pathways in Holland have been specially designed for safety and convenience. I strongly agree if any country would like to promote biking system (which they should have), the driving and biking pathways should be carefully considered.

GLUE STRIP

Furthermore, the dance that presented by Anjana was amazing. She is a friend of mine. I couldn't be more proud of her and was surprised how dance can be a way of supporting sustainable living. She is a great example of art students like us to be act more on the topic of sustainability.

GLUE STRIP

GLUE STRIP

a- specific energy production, energy storage, energy transmission, energy mitigation

The microgrid enables the storage and transmission of the energy in the local urban or rural area. The benefit of it is it can be operated separately without affecting the general macrogrid. The way that microgrid works minimize carbon footprint and green house gas emissions by maximizing clean local energy generation.

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?

-Provides power quality, reliability, and security for end users and operators of the grid
-Enhances the integration of distributed and renewable energy sources
-Cost competitive and efficient
-Enables smart grid technology integration
-Locally controlled power quality
-Minimize carbon footprint and green house gas emissions by maximizing clean local energy generation
-Increased customer (end-use) participation

GLUE STRIP

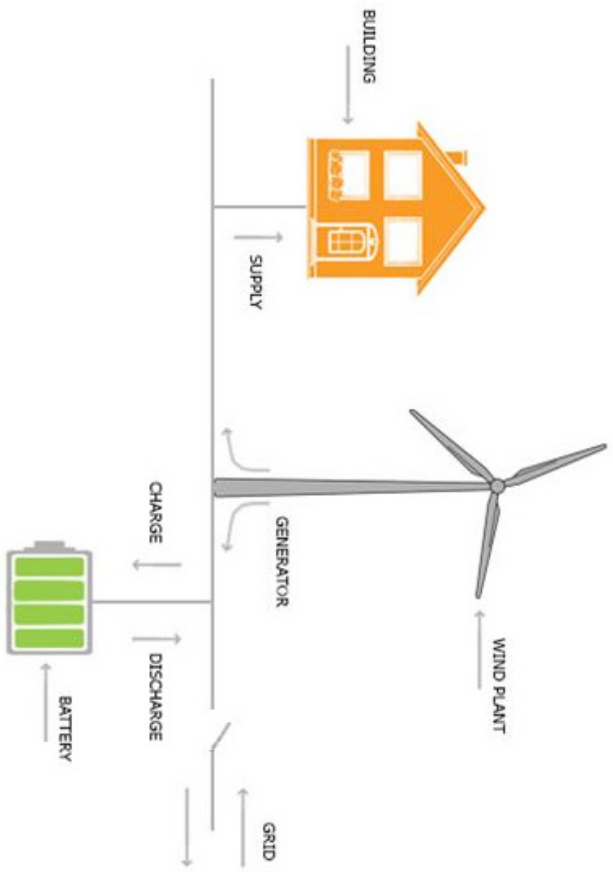
c- Who is involved with this or affected by it? Mention specific organization involved or, if applicable, impacts on humans, plants and animals.

Households are benefitted from the microgrid. And the producers are involved, for example, the electricity power station, digital data organizations. Beside the benefit from distributing the energy, the existence of the microgrid is eco-friendly, which apply to all humans, plants and animals.

d- How could you set up a Micro Grid? 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.

Power source, power management system, energy storage system, electricity consuming devices, utility connection are five components needed for building a microgrid. The crucial essence of building it is the maintenance of the modules.My structural shelter is able to maintain the moisture ness of the objects itself by using netting mesh fabric. Furthermore, the solar panel is portable and easy supplying energy source to the structural. The planting pocket which is embedded at the inside of the shelter enables the tenants to have a east and nutritious food source. The general object is a single cell but can be easily connected with more ceils to create a macrogrid of the system.

GLUE STRIP



A typical scheme of microgrid with renewable energy resources in grid-connected mode (graphic by: Le Anh Dao)

GLUE STRIP

Coral Living System vs. the Desert Structure

According to the information provided by National Geographic, corals are tiny organisms joining together as a group to form a colony.They are soft-bodied, and forms a limestone skeleton. The coral polyps attaches its self to the seafloor, then it divides into multiple cells to create a colony. The polyps are the connection between one cell to another. My desert shelter design is different from the living system of the corals. My structure cannot divided itself. However, it functions as individual, as well as the shelter colony. The structure of the same shape can be joint together to form a elongated slope. This shape is for protection from the strong wind at night in the desert. When the colony reaches a certain length, it can be a curvature, which shapes like a loop. The flexibility it has is similar to the coral system, how they form a seemingly random shape and how they deal with their outer environment.

GLUE STRIP

coral picture token in Mexico byUriel Soberanes

GLUE STRIP