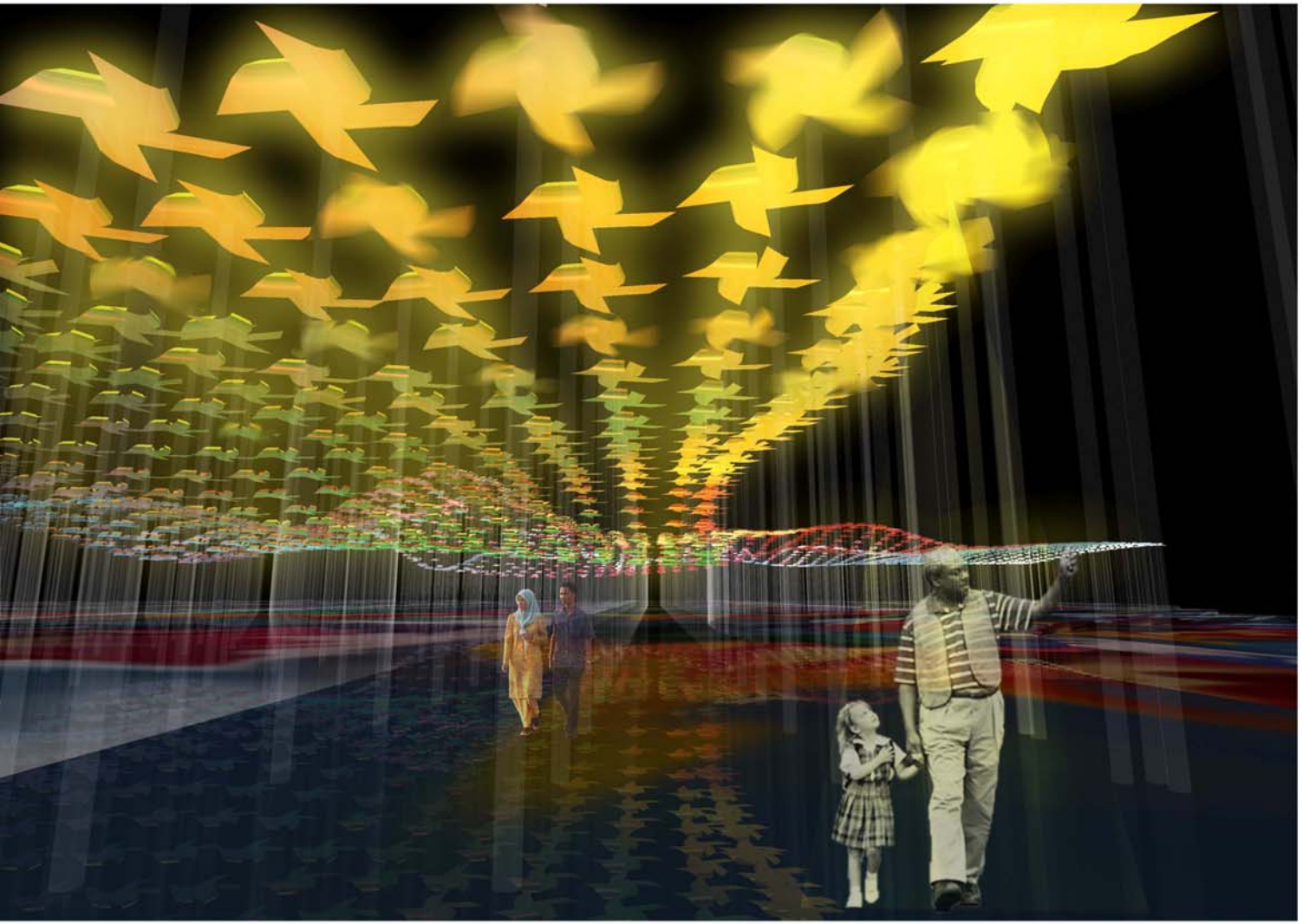
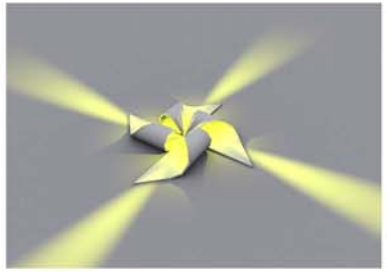




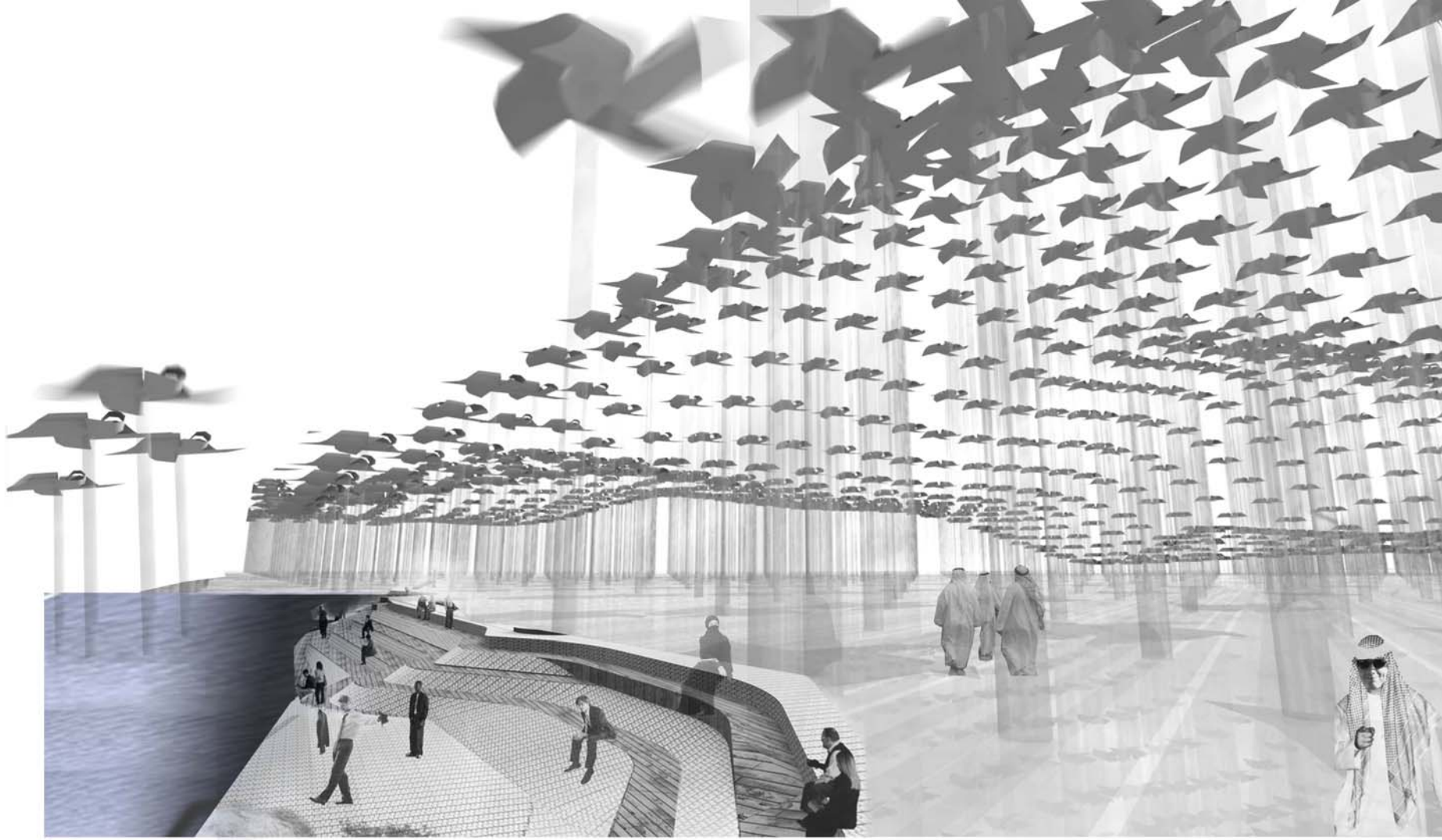
Land of
Sun, Water And Wind Interaction

Rarely a context has such dynamism and interaction between natural powers. Here should be a new concept of time, one that is ever-changing as nature. An uncertain strategy (rather than a finished composition) that responds to its context by integrating and fusing with it. Intervention must only take place to simplify actual operation of wind, water and sun. As the result of this interaction, form and function will co-evolve spontaneously resulting in mutable surfaces . This mutable surface will effect its immediate environment while it is effected by . The land art is composed of 20.000 colorful pinwheel modules containing motion (vertically and axially) and producing energy.

Land Art is known also as Earthworks, or Earth Art, is an artistic movement to heighten public awareness of Man's relationship with the natural world by intervening in the landscape in a series of thought-provoking constructions.Our land-based interventions took a variety of forms and motions and it covers part of whole islands in colored pinwheels. It supplies its needed power and shines during night as a model of Pinwheel Galaxy.During the days, it makes shadows underneath and while converting wind power to electricity, cools its immediate surroundings.We used topographic lines to draw our site lines and emphasized on the existing hill by heightening it, using the part of the land's soil that we removed from seashore. The hill now is our platform to view the land art

Natrural Paradigm

Pinwheel Land
MB4453



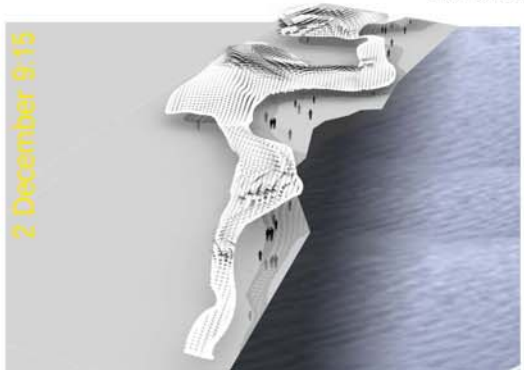
Land of

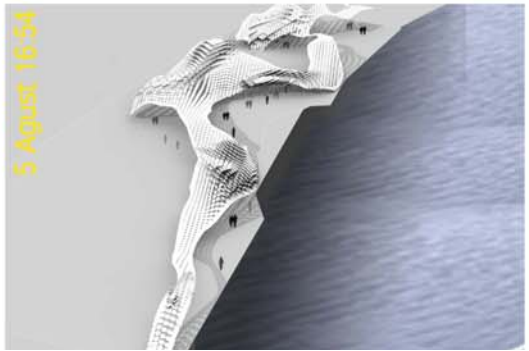
MB4453 Sun, Water And Wind Interaction

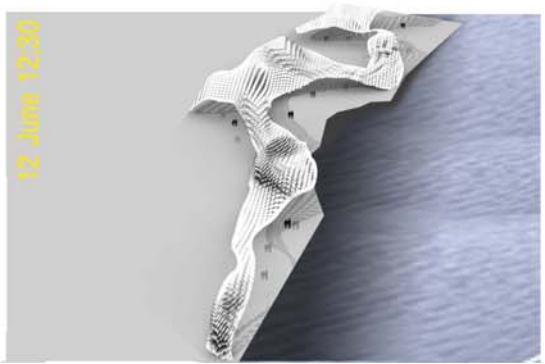
Site Location: Abu-Dhabi Between Yas and Saadiyat Islands

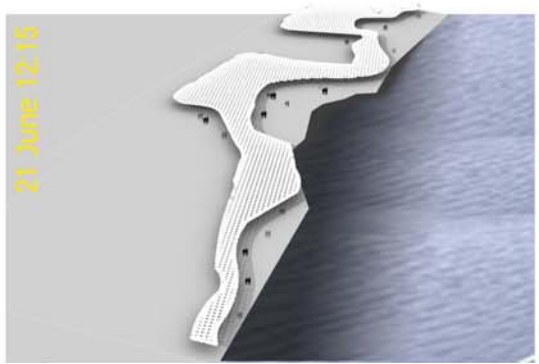
As a context , nature has subjective boundaries . Where sea ends green starts and where green ends soil starts. It seems that there is an interaction between blue, green and yellow. A color texture in the nature. The land is a transformative power of wind, sun and sea. And their interaction supplies life of 1000 residence with no need to excavate the land. Renewable energy isn't the future, it's now. Harvest the benefits of adopting the green way of living today.

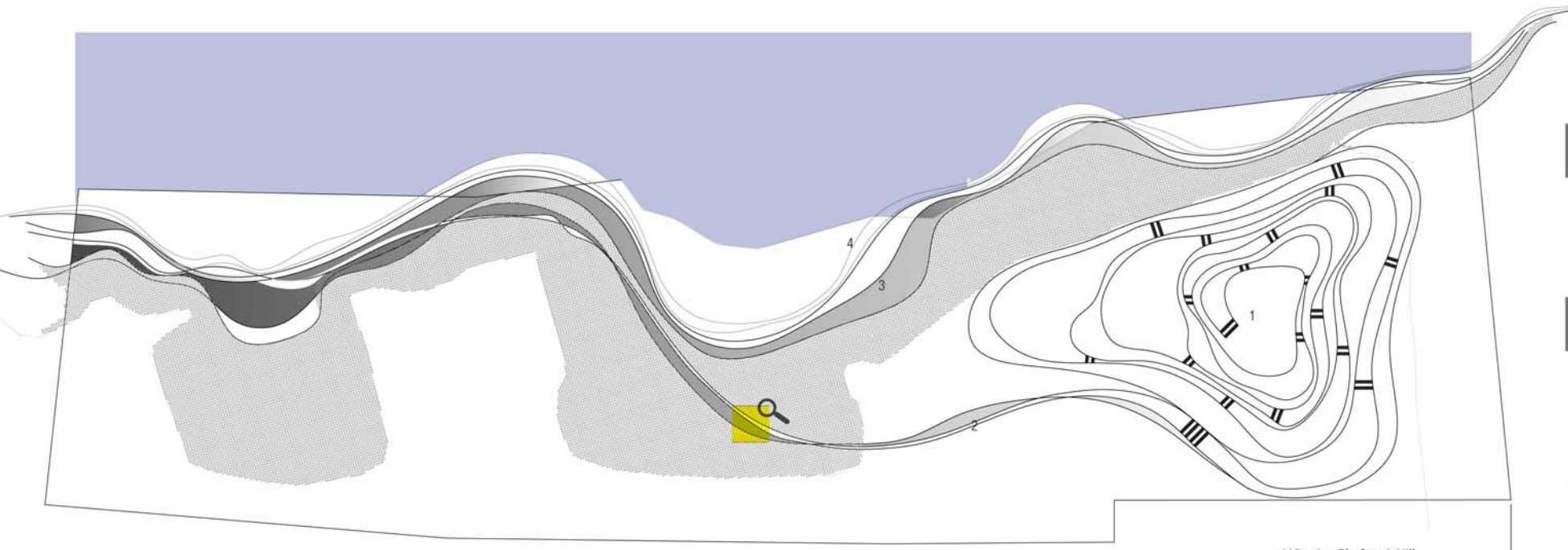
The climate of the UAE is uniquely suited to harness the energy of the sun, the waves, and the wind in ways that do not use nonrenewable material resources and do not pollute the atmosphere. The time is now to do every thing that we can to make the shift tocleaner forms of energy. Art has the power to reach the hearts andthe minds of the world, and it is this power that we must tap into if we are to see substantive change.

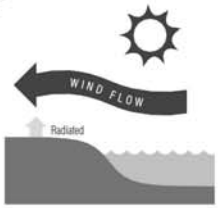


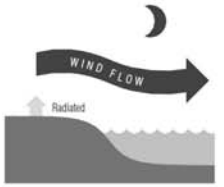


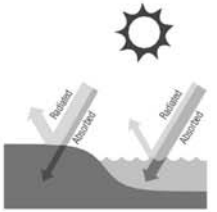










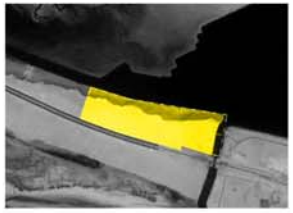


1 Viewing Platform's Hill

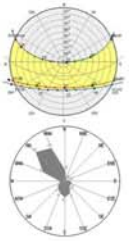
2 Sea to Sky Road

3 Vein of The Ground

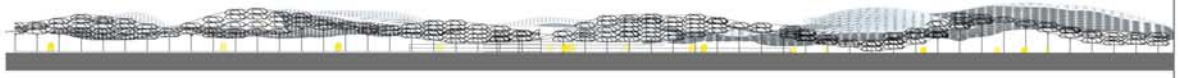
4 Along With The Wind and Water Road
For: Walking
Hikiing
Relaxing
Comunicating

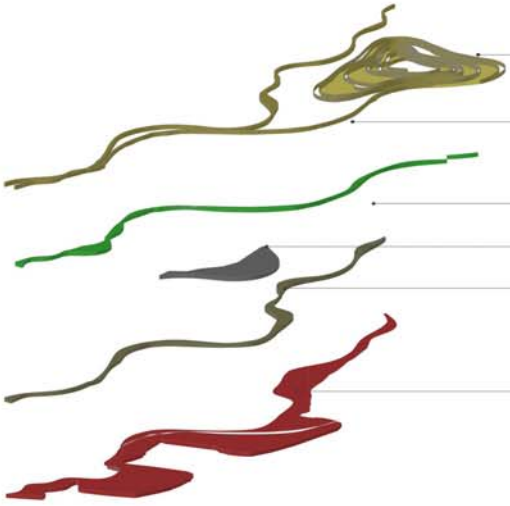


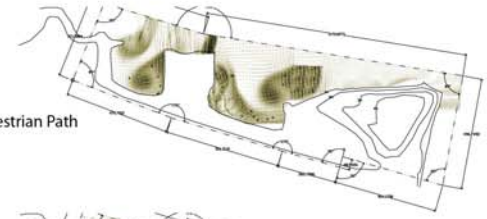
Site 2 Abu Dhabi
Between Yas and
Saadiyat Islands

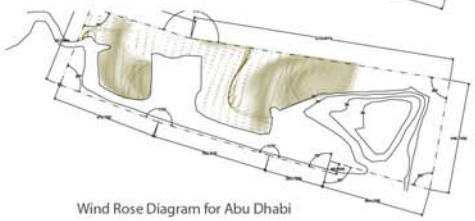


Sun, land, and water interact in complicated ways throughout each day and throughout the year, and the result is what we commonly refer to as weather. These interactions produce dailyas well as seasonal temperature, humidity, and wind patterns thatcan vary substantially between locations in close geographic proximity.

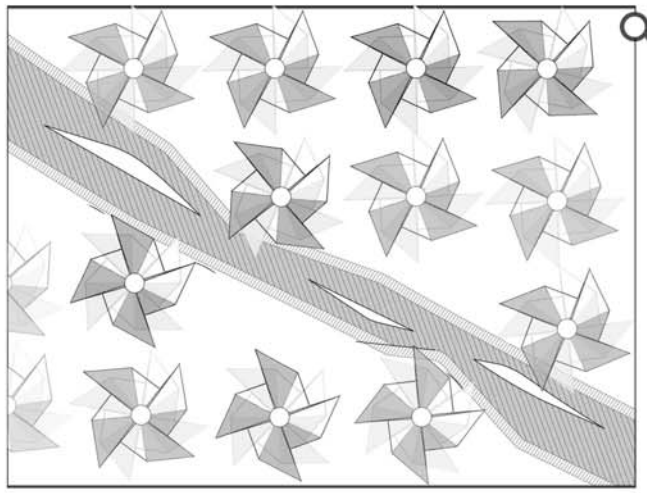








Wind Rose Diagram for Abu Dhabi



Wind flow direction changes between night and day where land meets water:Land heats up during the day more
quickly than water,causin warmer and more buoyant air to rise. Cooler air over the water begins to push inland creating a breeze.The rising warm air over the land cools and moves over the ocean to replace the cold air that moved inland.

Land and water absorb andreflect solar energy differently due to their differing specific heat and reflectance characteristics. It takes far more energy to raise the temperature of a pound of water by one degree than a pound of earth. Landmasses typically reflect more ofthe sun's energy while bodies of water tend to absorb more.This is illustrated by the fact that 12 to 30 percent reflectance is typical for meadows and fields, compared to 3 to 10 percent reflectance for water surfaces. The resulting temperature differentials ultimately lead to wind, clouds, and rain.

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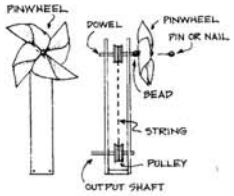
The Aim of this project is interaction with wind, solar energy and water as a environmental factor in natural environment.

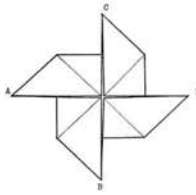
Interactive to the Wind

Windmills are being used all over the world!

Windmills

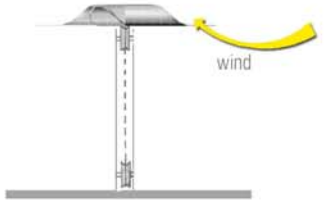
Single small turbines below 1000 kW capacity are used for homes, telecommunications dishes, or water pumping. Small turbines are sometimes used in connection with diesel generators, batteries, and photovoltaic systems. These systems are called hybrid wind systems and are typically used in remote, off-grid locations, where a connection to the utility grid is not available.

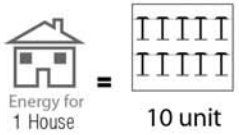


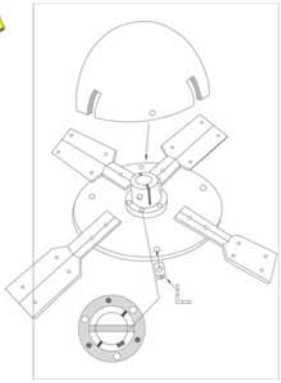


Making pinwheels is a simple, colorful, and creative craft that can easily be adapted for use with all age groups, and it links easily to the scientific study of wind energy.

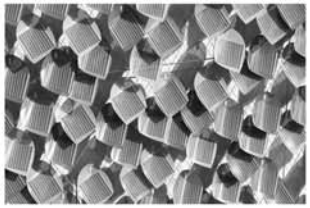
You can make a folded pinwheel. Cut two small 1/2" squares. Paste one over the center to catch the corners together . Stick a pin through the center of the pinwheel, then through the center of the second small square, and then push it firmly into a stick. Pull the flaps of the pinwheel open , and it is ready for a whirl in the breeze.



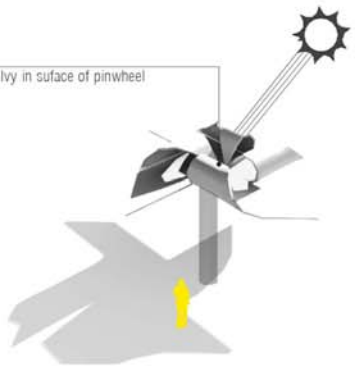




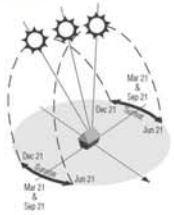
Interactive to the Soalr Energy

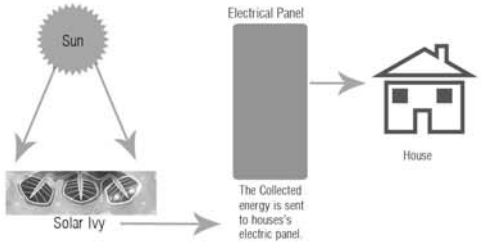


Using Solar Ivy in suface of pinwheel

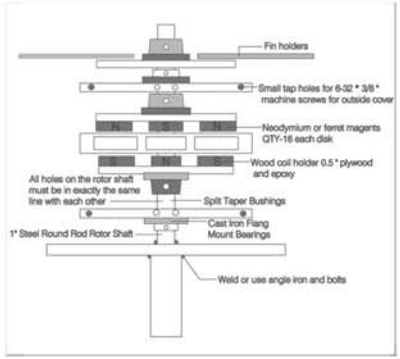


Light Source	Efficacy (lumens/watt)
Sun (altitude greater than 25 degrees)	117
Sky (clear)	150
Incandescent (150w)	16-40
Fluorescent (32w, T-8)	80-95
High Pressure Sodium	40-140





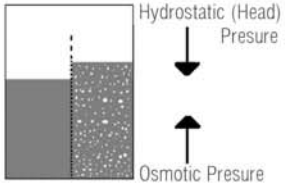
Solar Ivy is a solar energy-generation and delivery system inspired by ivy . Solar Ivy's unique visual appeal and flexibility brings a technology traditionally restricted to the any architectural surface. It has the ability to provide varying degrees of opacity to modulate heat gain, light transmission and view.In this project The leaves are made of 100% recyclable polyethylene and are available in a variety of colors and opacities which make the land art more lively.These solar Ivy will increase the pinwheel s urface friction in order to catch winds.



Wind turbines operate on a simple principle that is effectively the opposite of an electric fan. The energy in the wind turns two or three propeller–like blades around a rotor, whose shaft spins a generator to create electricity. The turbines are mounted on a tower to capture the most energy. At 30 meters or more above ground, they can take advantage of faster and less turbulent wind.This project aimed to design a portable wind turbine capable of generating 6000 kWhper year in a nominally 15 mph wind. The design is a vertical axis wind turbine with two half-cylinder blades and an interchangeable shaft to allow for a hand crank. The drive shaft powers a generator which stores electrical energy by charging a battery while a microcontroller monitors an ammeter to control rpms. The product can power a communication device in remote areas or in power-loss emergencies. Prototype performance isolated areas for improvement in further development and suggested a feasible product.

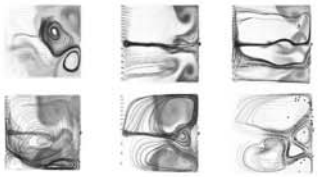
Interactive to the Environmental Element

Osmosi



Stronger Wind Power = Faster movement in pinwheel = absorbing water

This pinwheel water pump reduces atmospheric air pressure inside the pump chamber. Atmospheric pressure extends down into the sea level channels , and forces water up the pipe into the pump to balance the reduced pressure.



Using Organic lines as they are existe in Nature specially in movement of wind.