

Limited resources and unlimited usage.
How can we save it?

Newsletter



**Conserve the energy,
Save our climate!**

March, 2015

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Why ???

We the people on the earth are gifted with wonderful energy sources by the nature, which has made our routine much more smother & easier... However, this gift of the nature is ' limited '. What we have done is, with the growth of science & technology, we have started using it extremely, because of which the energy resources are going to finish in near future. Hence, let us take the pledge to conserve the energy - save the energy!!!

Tips of the Month



Remove weeds. They steal water needed by ornamentals.

Article - 1 : FLOATING AIRBORNE WIND TURBINE AS RENEWABLE ENERGY SOURCE

Airborne wind turbine is the model that generates electricity by floating in air. Altaeros Energies has published the first testing of its Airborne Wind Turbine (AWT) model that looks like a kind of airship windmill. where the AWT coasted 350 feet (107 meters) into the sky and effectively generate power, before returning to earth in a controlled arriving. The turbine was conveyed into the air from a towable docking trailer, while exhibiting that it can create over double the force at high elevations than produced at traditional tower stature. There are would like to energy expenses can be lessened by up to 65 percent by saddling stronger winds that happen at or more a height of 1,000 feet (305 meters).



*Image Source: <http://inhabitat.com/>

For quite a long time, wind turbines have required cranes and huge towers to lift a couple of hundred feet off the ground where winds can be abate and breezy. But in present day inflatable materials can lift wind turbines into all the more effective winds very nearly all over. That is less expensive and simple to setup from a delivery holder."

The AWT is float to higher altitudes where winds are more powerful than those nearer to earth's surface. The AWT prototype which has little impact on the environment while creating minimal noise pollution. When deployed, it's claimed that the AWT requires minimal maintenance and will displace expensive fuel used to power diesel generators at remote industrial, military, and village sites. Large air borne wind turbine floating over cities it looks like something from sci-fi movie but the concept is real not just an idea. Altaros has built the world's largest and highest wind turbine that can produce double the electricity compare to its ground based counterpart. Air borne turbine not only generates electricity but this power plant can provide data coverage, cell service and local weather data. The individuals have planned to installed this helium filled turbine over the city of Fairbanks, Alaska and will feed energy into the grid through cables that is connect it to the ground.

*Source: [http://www.gizmag.com/](http://www.gizmag.com;); <http://inhabitat.com/>

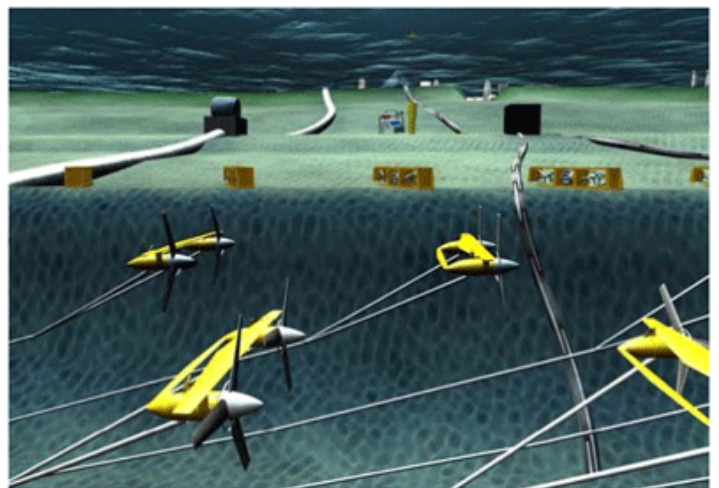
Article - 2 : OCEAN CURRENT TURBINE TO GENERATE ENERGY

People have explored generations of energy from wind turbines and wave power generators but the motion of ocean still remains one largely untapped energy source. The underwater ocean currents are largest source of energy and the researchers have developed the technology to use ocean currents into energy. Ocean currents have massive amount of energy that is hidden below the waves of ocean. Ocean current turbine has the ability to harvest this renewable resource.

The Bureau of Ocean Energy Management states that if we utilize 1/1000th of energy potential available from the Gulf Stream, we can supply 35% of electricity to Florida. There are many such oceans in the world which has potential to supply electricity to many parts of the World.

The design of turbines is diameter of about 100 feet and it is to be placed underwater in the middle of the ocean currents. These will be connected to a buoy that will hold the electricity generating equipment. The ocean can carry upto billions of gallons per minute and therefore the impact of turbines would be negligible compared to current itself.

Ocean current turbines are low speed and high torque generator equipment which sits in the oceans and utilizes steady power of the currents to generate electricity. The Ocean current turbine is having three bladed vertical axis turbines with large paddles and these blades are movable. It works on the ocean currents which push the paddle and the blades flip shut which provide more surface area for current to push against.



*Image source: <http://inhabitat.com/underwater-power-generating-ocean-turbines/>

As the paddle spins around this generates energy. Turbines are made that can withstand extreme conditions of ocean and minimizing impact on sea life. Ocean current turbines are designed by Florida-based Crowd Energy. It is safer equipment to the environment. Only thing is to take care about is the sea life moving around that area. The speed of turbine is maintained similar to swimming fish so that there is no risk to marine life. It produces less sound to avoid disturbances to aquatic life.

*source: <http://inhabitat.com/underwater-power-generating-ocean-turbines>

Article - 3 : TRANSPARENT SOLAR CELLS

Transparent solar cells generate clean electricity on see-through glass windows, by making use of the energy of natural sunlight. In future, you'll have the capacity to charge your phone just by setting it in the sun, and you'll create power through your windows, not simply from the boards on the top. Transparent solar cells that can be placed on windows, your phone screen—anything with a clear surface—without blocking the view.

Atoms in the film absorb energy and “lighten”. The shining infrared light is then pushed to the sides, where it's changed over to power utilizing edge-mounted segments of solar cells. Solar cells, particularly the photovoltaic kind, make energy by retaining photons (daylight) and changing over them into electrons (power).

Richard Lunt, assistant professor of chemical engineering and materials science at MSU's College of Engineering led a team, “that developed small organic molecules that absorb certain wavelengths of sunlight invisible to the human eye.” They can tune these materials to choose the ultraviolet and the near infrared wavelengths that then 'lighten' at another wavelength in the infrared.

As the materials do not absorb or emit light in the visible spectrum, they look exceptionally transparent to the human eye.” This is the one of reason that transparent solar cells are more attractive then photovoltaic cells. Solar cells absorb light from larger area without having to track the sun. Other than this, materials are also inexpensive compare to other solar power.

The applications for efficient transparent solar concentrators could be expansive. They could be put on skyscrapers with many of windows, or included into e-readers or tablets to maintain their battery life for longer, or sited on car windows to energize electric cars, and so on.

At the moment, only about 1% of incoming energy, compared to a typical rate of 20% for today solar panels. But research is going on to convert 5% of incoming energy.

The researchers are sure that the technology can be scaled all the means from large industrial and commercial applications, down to consumer devices, while remaining “affordable.” If large amounts of solar power from sheets of glass and plastic that look like ordinary sheets of glass and plastic, then that would be huge.

Source: <http://motherboard.vice.com/>;

<http://www.newenergytechnologiesinc.com>

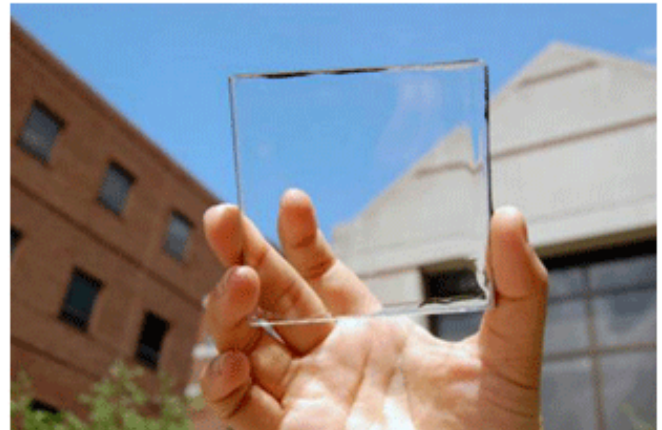


Image source: www.msutoday.msu.edu

Article - 4 : VERTICAL AXIS DYNASPHERE WIND POWER GENERATION

The 4th generation of vertical axis windmill is developed by Earthship Biotecture to generate electricity. It is highly efficient. These can be best placed in areas where there is lots of wind and rains.

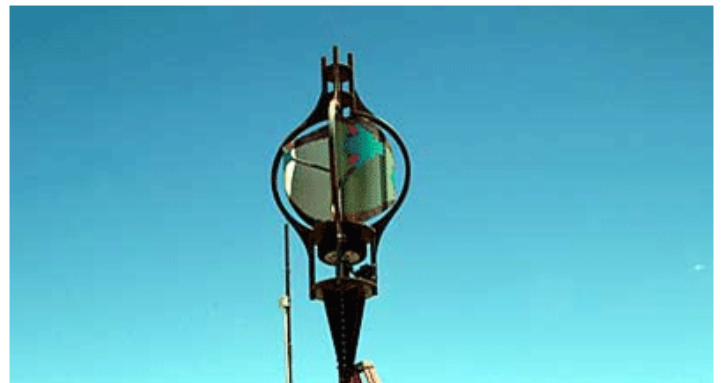
It converts moving energy of the wind into electrical energy by wind turbines. The wheel spins and creates mechanical energy which is connected to generator and the generator produces electrical energy.

Horizontal axis wind mills are conventional turbines. Drawback of the pinwheel is that it is facing towards the wind but when wind direction changes horizontal axis wind mill is less effective. Even the researchers have done changes but it still fails and the best result cannot be obtained.

A vertical axis wind turbine has many advantages. One of the biggest advantages is that it is not required to be pointing towards the direction of wind to obtain effectively and therefore it can harness wind power even when wind changes its direction.

One disadvantage is that it takes more energy for start spinning and slower rotational speed.

If the turbine spins too fast then the brake is provided to keep generator from burning or wearing.



*image source: <http://earthship.com/vertical-axis-wind-power-generation-prototype>

Two DC generators are mounted which provides two sources of continuous 7.5 amps if the wind is continuously blowing. Compared to solar panel this can provide power available to the outlets in the house. The petal art work on the turbine is created from reclaimed scrap metal as well as using other recycled pieces also.

The design is simple enough and can be placed anywhere in the world. This invention provides people to start harnessing clean free energy. Cloudy regions where solar power isn't an option for them they can use wind turbine instead for power generation.

*source: <http://earthship.com/vertical-axis-wind-power-generation-prototype>

Conserve the Energy,
Save our Climate!

Conserve™
The Energy



It's
Tomorrow™


Nanoland Ltd.

Mezzanine Floor, N. R. House, Nr. Popular House, Ashram Road, Ahmedabad - 380 009. INDIA

Tel : +91 79 27545254/5255/5256 Fax : +91 79 27545257/4167

Email : info@conservetheenergy.com

Web : www.conservetheenergy.com

 /cnsrv_enrgy

 /energyconserve

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