

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

Newsletter



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

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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





Daily newspapers generate a huge amount of waste. Even though they can be recycled it is better to eliminate the unnecessary use of paper entirely. Read the newspapers online instead of subscribing to newspaper services.



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Article - 1 : A CREATIVE OUTLOOK FOR A SUSTAINABLE JAPAN

The creative problem solvers at Osaka University in Japan have engineered a new type of paper that generates energy from sunlight. Apart from being the most technologically advanced country, it has also looked for ways to reduce carbon footprint and work towards a better and cleaner environment. We had imagined our windows turning into a sun-absorbing energy farms but this concept is totally innovative.

The first of its kind, this "Solar energy producing paper" is a transparent material made up of pulp fibers and silver nano wires. It also has invisible conductors that thread through its surface. The tiny solar panel is reported to be strong and flexible. It is proving to be one of the most energy efficient solar based energy producers till date. Since it is made from natural materials, even if it comes to the end of its life the paper can be safely and easily disposed of.

This revolutionary power source is currently scheduled to go into full production for practical use within the next three years. We always knew that the trees were vital for the survival of our planet but never knew that they could one day help us produce safe and clean energy!

There is a totally new way of energy creation by harnessing human power in everyday movement and could be the future solution of solving energy problems. Placed outside of Shibuya station, the tiles invite passer-by to step, jump and also walk across them. The result is transferring of power from the user to the tiles which in turn power the nearby Christmas lights. This is currently a small scale experiment and it is a test for both the creators and also a learning experience for the young Japanese. The concept of the course is to harness the energy humans expand on a daily basis and turn it into useful energy to power our lives.

The continental airlines completed a test flight using biofuels and a few weeks later Japan Airlines joined a (slowly) expanding number of airlines trying to green their fuel usage. The fuel used was a mixture of Jatropa oil, Algae oil, and Camelina oil (the first time that feedstock has been employed in a jet fuel). The most interesting and promising thing to come out of the test flight is that JAL Flight Confirms Continental's Efficiency Improvement Findings.



Image source:
<http://media.treehugger.com/assets/images/2011/10/20090130-boeing-747-300.jpg>

The exact composition of the biofuel mixture was 84% Camelina, less than 16% Jatropa, and less than 1% Algae. All of these are second-generation biofuel feed stocks which, it is claimed, will not compete for land on which food crops could be grown. That's certainly the case for algae and Camelina (which can be grown in rotation with wheat to improve wheat crop yields), but less so for Jatropa. Though Jatropa can grow on some seriously degraded land, there is evidence that to obtain consistent crop yields that such land is not ideal.

*source:www.treehugger.com en.rockethnews24.com

Article - 2 : SUSTAINABLE EVOLUTION : FOOTWEAR INDUSTRIES

The struggle for composting is just one of the many challenges faced by the designers, hoping to reduce the negative environmental impact of shoes. It is a challenge that designers and companies are taking on. Let us assume that around 330 million pairs are sold in a year, most will ultimately go to landfill even if some of them are stockpiled in wardrobes for years.

Leather causes trouble to landfill sites because of harmful products used in the tanning process. Some of the glues used in production are also hazardous as they contain VOCs like toluene and benzene. Biodegradable materials such as leather and wood also produce GHG methane if they are allowed to compost in landfill.

Scientists at Loughborough University have designed machines that break shoes into small pieces and separate different materials so they can be reused as building materials. The footwear materials are downcycled rather than recycled. It is better than sending it to landfill but the quality we get is poorer than what it was.

Nike, Marks & Spencer, Levi's, and Walmart are some of the high profile brands to confirm they are backing a new tool designed to measure sustainability across the footwear supply chain.

Designer named Aly Khalifa is determined to tackle these challenges. His shoe can be taken apart and remade without losing quality. He got inspired by the Japanese Shinto temples that can be taken apart and moved. His Love Your Footprint (LYF) shoes are made of pieces that are slit together a bit like Lego without the need of glue. Upper fabric of the footwear will be selected by the customers and the foot bed will be made from recycled cork from the wine bottles. The sole and heel are clipped together and held in place until the customer wants a different fabric or needs a new heel

If the shoes look good and are good for customers feet, they will wear them for longer rather than just getting rid of them and buying new ones. Recognized as leaders in the field, Nike developed an open source application to help designers assess their environmental impact and ways of reusing them since the 1990s.

Gucci sold a collection of shoes made from bio-plastic which is a biodegradable and recyclable shoe range last year.

Innovations are needed to be reproduced on a large scale if they are going to have a significant impact on footwear's negative impact on the environment. There is a lot of work which needs to be done in reducing the harmful use of chemicals in the production process and which we may not be far away from seeing take back boxes in more high street shoe shops, we are still 10 to 20 years away from seeing the collected shoes made back into new shoes.

*Source:www.theguardian.com www.businessgreen.com.



*Image Source: www.treehugger.com

Article - 3 : NEW GENERATION OF PHOTOVOLTAIC: ORGANIC PHOTOVOLTAIC

Comparison between conventional and organic photovoltaic technology clearly shows that organic technology permits more translucent and more flexible solar panels in a range of colors while conventional technology uses large, heavy, opaque, dark silicon panels.

Though silicon solar panels are not feasible yet to replace these, something is required which have greater efficiency, longer life period and also lower production cost. Inheritance of solar panels has not improved in decades and that is the reason why policy makers are exhausted by claims of how much money this will save.

Research to produce new material for the alternative of the current panel is going on at the IK4-Ikerlan research center which is working with the UPV/EHU-university of the Basque country. Main focus of this research is to analyze the capacity of new materials to absorb solar energy as well as to look for appropriate strategies to move from lab to actual operation. The research team has analyzed what can be the maximum size for the cells, which must have a large surface area to work properly.

For the above said purpose, various cells with different structure and surface have been designed. Once the results had been analyzed, "we found that in cells of up to approximately 6 cm² the power was in direct proportion to their surface area. On larger surface areas, however, the performance of the cells falls considerably," said Etxebarria. Her team reached to the conclusion that to be able to manufacture cells with a large surface area it is necessary to build modules, to which cells with a smaller surface will be connected in series or in parallel, on the substrate itself.

For this, the first step was to optimize the production process of cells based on different polymers, in order to achieve the maximum efficiency of these materials; secondly, polymers that absorb light at different

wavelengths have been used to produce cells with a tandem structure in order to make them more efficient.

"Each polymer absorbs light at a different wavelength. The ideal thing would be to take advantage of all the sun's rays, but there is no polymer capable of absorbing the light at all the wavelengths. So to be able to make the most efficient use of the sunlight, one of the possibilities is to build tandem-type structures, in other words, to fit the cells manufactured with different polymers one on top of the other," explained Etxebarria.

These tandem-type structures can be connected in series or in parallel. After many measurements they have reached to a conclusion that greater efficiency is achieved if the cells are installed in series and not parallel. The production of cells manufactured using polymers or new materials will be much more cost-effective and also these polymers are produced in the laboratory unlike silicon that has to be mined.

*Source: www.intechopen.com www.science20.com

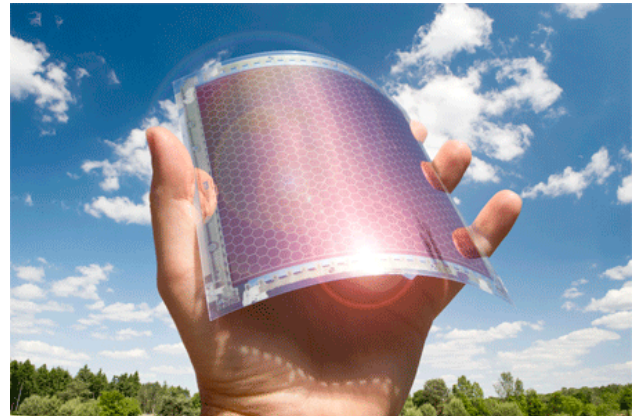


Image source: (*www.capitalotc.com)

Article - 4 : RWANDA ADAPTING TO SOLAR ENERGY

The Rwandan government is set to unveil the first utility scale photovoltaic power plant in the region. Total capacity of this utility scale project is 8.5 MW. The project has commenced its testing phase up to 20 percent of its total capacity.

Present scenario in Rwanda is less than one in five households has the access to electricity; this project will increase the country's electricity production capacity by 8%.

For economic growth and development, access to electricity is crucial. Electricity is essential for schoolchildren to study, for better health services, communications and also for the growth of the private sector. To put it simply, without electricity there can be no development.

Rwanda's Minister of Infrastructure, Prof. Silas Lwakabamba led a high-level assignment which visited the Gigawatt Global Rwanda Ltd construction site, the utility-scale solar power plant located near Agahozo-Shalom Youth Village (ASYV) in Rwamagana District, eastern Rwanda. Minister at the site said that generation and provision of electricity to all Rwandans is a priority for the Government of Rwanda. This initiative to produce 8.5 megawatts of clean energy is an important addition towards closing Rwanda's current energy gap.

Scatec Solar is the Engineering, Procurement and Construction (EPC) company responsible for building the power plant which is based in Norwegian, and Remote Partners is the local management and support firm. Funding of this project has been done by NorFund (Norwegian Investment Fund for Developing Countries) and KLP. Global developer of this project is a Dutch company named Gigawatt Global. Scatec Solar will operate and maintain the plant, once it is ready to go, which is going to feed electricity directly into the national grid.

According to the development policy, the government is encouraging private-public partnerships and private sector

involvement for the project. To fight against the poverty that is there in the majority of regions, energy is an important goal in the fight. Energy supply has to be affordable, reliable and also should be ideally clean and renewable. Solar energy is an important part of the energy mix along with hydropower and other sources of renewable energy in Africa



Image Source: <http://renews.biz/>

A report commissioned by United Nations Economic Commission for Africa (UNECA) on the state of energy and access and security in 14 states of the Eastern Africa Region states more gaps in access to electricity.

According to the report, the share of the population with access to electricity in Eastern Africa is among the lowest globally, with countries like South Sudan having a mere 1 percent of the population accessing energy, Burundi at 2 percent, DRC at 9 percent and Uganda at 12 percent.

In Rwanda, 85 percent of the overall primary energy consumption is from biomass, 11 percent is from petroleum products and a meager 4 percent is from electricity. Government plans to have at least 70 per cent of the households in the country access electricity by 2017.

*Source: www.rwandaenergy.com

Conserve the Energy,
Save our Climate!

Conserve™
The Energy



It's
Tomorrow™


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