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Riverside County to get Solar Power Plant

BrightSource Energy plans to build a 750-megawatt solar power plant in California, which would be its third and largest utility-scale project. The company said that the [Rio Mesa Solar Electric Generating Facility](#) will use its solar tower technology, where a field of mirrors reflects light onto a tower to create steam that drives a turbine to generate electricity. The project would generate enough electricity to power more than 300,000 homes, BrightSource said. The plan calls for installing three towers able to generate 250 megawatts each (before accounting for the energy consumed by their operation). The location is where most of the land had been owned by the Metropolitan Water District and some by the U.S. Bureau of Land Management. The site is close to high-voltage transmission lines, which is a crucial consideration, and had been used as military training grounds during World War II. BrightSource Energy's solar tower technology is different than traditional solar thermal systems where mirrored troughs generate heat for a steam generator.

The company said the Rio Mesa plant would use 33 % less land than a comparable solar photovoltaic power plant or a solar thermal plant with mirrored troughs. By using air cooling to turn steam back into water, the plant's water use will be less than 10 percent of that of competing technologies. They will use molten salt energy storage for its heat-driven solar power plants. With the storage, BrightSource solar power plants can deliver electricity to the grid consistently and into



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Tech Tip Of The Month - To Properly Clean LCD/LED's...

Here are a few helpful tips and guidelines to clean your TV and Monitor screens. As always, before doing any of this, check your owners manual first for any specific instructions.

1. Gather your cleaning items: Microfiber cloth, old T-shirt or handkerchief, and cleaning solution.
2. For your cleaning solution, you can use store bought cleaners such as Klear and iKlear, or you can mix your own.
3. To mix your own solution use a 50/50 mix of Isopropyl alcohol and distilled water or mix 1 Cup of Distilled Water and 1.5 Tbls Vinegar.
4. DO NOT use the following: Paper products, Glass Cleaner, Tap water. Some Plasma TV's

have an anti-glare coating - DO NOT use glass cleaner unless specifically recommended in the manual.

5. Unplug or turn off your TV or Monitor and closely examine the condition of the screen.
6. Take notice of any smudges or areas to be cleaned.
7. Let it cool completely prior to cleaning.
8. Use a Microfiber Cloth to gently brush off any dust or dirt.
9. Clean with Store Cleaners or a mix of Distilled Water/Isopropyl Alcohol or Distilled Water/Vinegar from above, using an old cotton T-shirt or handkerchief.

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Solar Curtains Provide Energy for Home

Kennedy & Violich Architecture (KVA), a firm founded by associate professor at the Harvard Graduate School of Design, Sheila Kennedy, is working on a project called the "Soft House". KVA Matx's Soft House uses curtains and textiles for energy harvesting, electricity generating, and distributing materials, capable of supplying over 50% of a household's energy needs by generating up to 16,000 watt-hours of electricity. The Soft House is not only energy-efficient and environmentally friendly, but also provides an adaptable living and working space.

The Soft House takes its name from the soft path, the concept of many different sources of energy in a distributed system working together. It's an idea authored by Amory Lovins of the Rocky Mountain Institute and it dates back to the 1970s. We asked ourselves how we could design a prefabricated house that could be affordable and that could have a point-of-purchase alternative energy system that a homeowner could tailor to her or his own energy needs and budget," explains Sheila Kennedy.

By developing prototypes of energy harvesting textiles for the Vitra Design Museum, KVA Matx presented their hybrid energy solution which provides renewable DC power for various work tools. The concept is based on existing material possibilities of organic photovoltaic (OPV) nanotechnology.

The Soft House will provide fluidic, adaptable space that can be adjusted to its owner's changing needs. The curtains along the house's perimeter can be moved or lowered so that a room is instantly created or removed. In accordance with the time of day and weather conditions, it is possible to move the curtains so that the house is enveloped by an insulating air layer. In addition, folding the central curtain upward transforms it into a suspended chandelier.

"A homeowner would be paying less money for electrical services because the Soft House allows a homeowner to take a number of different energy consumption



applications off grid, particularly those that have to do with portable work media: laptop computers, digital cameras, PDAs. These pieces of equipment that everyone uses do consume energy and they're very well suited for the DC ring, a direct current ring, which is the new hybrid distribution system that's proposed in the Soft House," says Kennedy.

Eventually, the fortunate house owner will be able to customize the energy density of the textiles according to his/her specific needs by using parametric design software that was developed especially for this project.

Also reported is the discovery of a new crystalline material called nano flakes, which are more efficient than solar panels, converting almost twice the amount of solar energy into electricity.



The SOFT HOUSE project won the IBA (International Building Exhibition) competition and will be constructed in 2013 in Hamburg, Germany. The SOFT HOUSE explores how domestic infrastructure can become supple—engaging low carbon soft wood construction, flexible live/work scenarios, a responsive energy harvesting textile cladding, smart building software and a set of mobile curtains which distribute solid state lighting and low voltage power.

Cool Techie Gifts for the Holiday Season



[VIOLight Cellphone Sanitizer](#)

We all already knew that our phones are absolutely disgusting when it comes to germs, but VIOLight has decided to actually do something about it. Their UV light gadgets will take care of 99% of germs and bacteria. That includes E coli, listeria, salmonella, step and the infamous H1N1 flu or piggy virus in all of 3 minutes. \$49.95 at VIOLight.



[P-Flip Foldable Solar Power Dock](#)

Travel all over the world and not have to worry about that iPhone dying! The P-Flip Foldable Solar Power Dock has a built-in lithium battery (with life indicator) that can be charged via the solar panel or with the included USB cable. It delivers an impressive 15 hours of video, 8 hours of talk time, and 60 hours of audio, yet weighs just 3 oz! Compatible with iPhone 4G, 3G and 3GS. \$79 at Dexim.



[Kodak PlaySport HD Waterproof Pocket Video Camera](#)

A pocket size rechargeable HD, waterproof video cam for \$129. Not only does it record video, it can also shoot 16:9 widescreen stills at 5-megapixels, with image stabilization. Once you're done with your video recording, just plug it in using its USB connector and you're good to go. All movies can be previewed through its 2" LCD display, and it even does slow motion playback to boot. Apart from that, you can have hours of recording thanks to its SDHC memory card slots.



[ATP EarthDrive](#)

This is the first recyclable USB drive-thanks to plant-based PLA plastics. But don't fear that the gadget will crumble and biodegrade while on the job: The waterproof drive is built to last a decade. Each drive provides between 1GB and 16GB of storage space, and enables password protection to keep your data safe at your fingertips. A portion of the sale price goes to fund tree planting, thanks to the nonprofit American Forests. It's price is \$16 to \$70, depending on capacity.



[Voltaic Converter Solar Backpack](#)

The \$200 Voltaic solar backpack includes a pair of 2-watt, detachable solar panels that can output up to 12 volts. The backpack provides compartments for your gadgets and a handful of connecting fobs for smartphones, MP3 players, digital cameras, and other small gizmos. The bag is designed to power up after 4 or 5 hours in the sun, at which point it can support 3 hours of talking for a cell phone. In a pinch, you can charge the solar panels via USB. Voltaic makes laptop bags as well if you're looking for something smaller.

Lower Your Energy Use with Power Shades

There are many people that underestimate the impact of how their homes' shades can be used to help manage energy, while adding natural light to a room during key points in the day. Manufacturers, such as Lutron, have devoted a lot of time, money and other resources to the topic. Lutron's newly released battery powered Sivoia QS cellular shades fill a need for a small, but growing amount of homeowners that are learning about the benefits of shade management. The shades took the company years to develop and they enter the shade market at price points that will enable a broader group of consumers to purchase the products than what was previously available. The shades incorporate Lutron's Triathlon battery life technology, which it says helps

the batteries to last up to three years. Lutron offers the shades in stand alone and automated versions, and they are available in a variety of sizes. In addition, the company offers the shades in a choice of fabrics and colors. With the shades homeowners can control the amount of light that enters their home at specific times and they can add a convenient means of privacy.



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the evening hours. That makes the solar power more valuable because utilities pay more for power during peak hours, which continues past nightfall.

BrightSource's solar tower technology generates steam from a field of mirrors called heliostats shining onto a tower. The steam is fed into a conventional turbine to generate electricity. After turning the turbine, the steam is condensed into water and fed back to the tower to be heated again.

In a plant with solar storage, the steam from the tower is fed into a heat exchanger that raises the temperature of so-called "solar salts" stored in large tanks. When electricity is needed, that heat stored in the salt is converted into steam and run through the turbine.

Adding storage to renewable energy at a reasonable cost is one of the toughest technical challenges for wide adoption of solar and wind. Molten salt is already being used in solar plants in Spain and one project in Nevada is in the planning stages.

Coupling solar photovoltaic panels, which generate electricity from sunlight, with batteries for storage is more expensive than using molten salt, according to BrightSource Energy. The high-temperature, high-pressure steam its towers

generate work better than competing trough-based solar thermal technology as well, it said. The salt storage system actually lowers the cost of solar plant operation because it raises the plant's capacity factor, or the amount of time over the course of a year it's delivering electricity to the grid, Wachs said. "By adding 6 hours of storage, the capacity factor increases to 50 percent and produces for approximately 4,300 hours, or twice as much as a PV farm," he said.

Demand for these utility-scale projects is being driven by California's renewable energy mandate, which requires utilities to get 33 percent of electricity from renewable sources by 2020.

The Rio Mesa SEGF will create more than 2,500 construction jobs at the peak of construction and approximately 150 operations and maintenance jobs.

BrightSource said it expects the Rio Mesa project to be completed by 2016.



Hands Off! – This Car Drives It's self

Granted it's no flying car, but Google's totally automated, self-driving vehicle does seem to hint that we've truly crossed the threshold between the present and the future.

A set of new legislative proposals could mean it's time for the automated cruisers to leave Google's nest and hit the road in Nevada. While it's not immediately clear why Google selected Nevada for the next stage of its transportation experiment, the company has reportedly hired a lobbyist to promote 2 bills that could make the robotic cars street legal in the state. One bill, that was recently passed, made Nevada the first U.S. state to make self-driving cars legal. The other bill would actually make an exception to the state ban on texting and driving - assuming your car is driving itself.

The real question is whether or not it will be safe. So what kind of results has Google tallied thus far? The company has racked up a whopping 190,000 miles on California's state roads, even braving the sometimes

treacherous Highway 1 stretch between San Francisco and Los Angeles. A total of seven test cars were used. During the testing, each vehicle has a human occupant who can take over in the event of trouble.



The fully automated cars are self-steering, and navigate along a route using a sophisticated combination of feedback from laser sensors, angled cameras, and advanced GPS to stay between the lines. Of course, a driver stays poised to take the wheel throughout the testing, just in case the experimental technology experiences an on-road hiccup.

The project has a serious side.

Robo-Car - Continues on pg. 6 ...



If you say 'Merry Christmas', 'Happy Holidays' or 'Season's Greetings', it's going to offend somebody. That's why we're advising our people to say 'Bah Humbug'!



Tech Tips - Continued from pg. 1 ...

10. Never spray any cleaning solutions directly onto the screen, spray it into the cleaning cloth.
11. Very, very gently wipe the screen in a circular motion. Do not press hard on the cloth. Let the cleaning solution do its job.
12. Don't leave any liquid on the screen, remove all excess moisture as it may damage your screen.
13. Let the LCD screen dry thoroughly before you switch it back on.
14. For hard to remove stains or ink marks you

may have to repeat this procedure several times. Don't apply hard pressure.

Monitor Maintenance Tip- Pressing and poking, whether with a dull object such as your finger, or a sharp object, such as a pen or knife, typically damages far more than one individual pixel. Imagine not being able to read lines of text on your screen, or lose image visibility in a section of your television!

Keep your fingers and other objects away from the display. If you need to point out text or image details to others, "point" them out electronically by using the mouse pointer.



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Robo-Car - Continued from pg. 5

Thrun and his Google colleagues, including co-founders Larry Page and Sergey Brin, are convinced that smarter vehicles could help make transportation safer and more efficient: Cars would drive closer to each other, making better use of the 80 percent to 90 percent of empty space on roads, and also form speedy convoys on freeways. They would react faster than humans to avoid accidents, potentially saving thousands of lives. Making vehicles smarter will require lots of computing power and data, and that's why it makes sense for Google to back the project, Thrun said in his keynote.

So when can you get one? Not any time soon. The technology is still in the early testing and development stage. It will be a few years before any type of production will be realistic. But who knows? We could make the 21st century much closer to the vision of science fiction than you might think.

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