American Solar Energy Society's

Solar@Work



Tesla Unveils its New Line of Camouflaged Solar Panels

Tesla CEO Elon Musk took to the stage at Universal Studios in LA this evening promising to make solar sexy. To that end, he unveiled a range of textured glass tiles with integrated solar cells that are nearly indistinguishable from conventional tiling, along with a sleek update to the company's energy-storing Powerwall. A couple hundred invited guests, mostly Tesla owners, ooh-ed and ahh-ed as Musk revealed that a row of suburban American houses on Wisteria Lane-the old set of Desperate Housewives-were all, in fact, topped with solar roofs. Each house's old roofing material had been stripped away, and replaced with one of four new styles of solar tile . From the street, it was virtually impossible to tell; the roofs retained a variety of traditional looks, from textured slate shingle to terra cotta tile. Musk said the secret to the tiles' appearance is a special coating that becomes more or less see-through depending on your viewing angle. He described it as a series of micro louvers that work like a privacy screen on a laptop, and said the company is working with 3M on the tech. The effect is dramatic in person. More

Why Have Solar Energy Costs Fallen?

MIT researchers have been awarded a grant of nearly $1.3 million through the U.S. Department of Energy's SunShot Initiative to study the reasons for solar energy's rapid and sustained cost decline and how to continue reducing costs in the future. The awarded project, which will examine features of photovoltaic (PV) devices, public policies, and private sector efforts, is titled "Modeling Photovoltaics Innovation and Deployment Dynamics." It will be led by principal investigator Jessika Trancik, associate professor in MIT's Institute for Data, Systems, and Society (IDSS), along with co-principal investigators Tonio Buonassisi, associate professor in mechanical engineering; and David Hs, assistant professor in urban studies and planning - all of whom are also faculty affiliates of the MIT Energy Initiative - and Robert Margolis of the National Renewable Energy Laboratory. Postdoc James McNerney and PhD student Goksin Kavlak, both of IDSS, are also involved. More

World's Largest Thermal Solar Plant Could Be Coming to Nevada

While thermal solar power plants have had a bit of trouble catching on in the US, solar energy company SolarReserve is hoping to change that. The company recently announced it's hoping to build a 2,000 megawatt facility in Nevada called Sandstone. With a planned 10 towers and more than 100,000 concentrating mirrors, the plant would be the largest of its type anywhere in the world. It would overshadow SolarReserve's

"I'm extremely confident that solar will be at least a plurality of power, and most likely a majority...in less than 20 years" Elon Musk

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Crescent Dunes plant, currently the largest in the US with 110 megawatts of capacity.The new report comes via the Las Vegas Review-Journal, which reports the plant would cost about $5 billion to build and would deliver enough power for 1 million homes-the same amount of energy generated by Hoover Dam. Its energy capacity would also put it solidly in line with many nuclear power plants which, in the US, generate anywhere from 479 to 3,973 megawatts. If this project is successful, it could prove once and for all that solar energy is competitive with more conventional power sources. More

These Solar Panels Can Literally Pull Clean Drinking Water Out of Thin Air

Our atmosphere contains approximately 3,100 cubic miles of water - enough to cover the entire planet in one inch of water. That water surrounds us in the form of vapor - water's gaseous, evaporated state. We're usually only reminded of this on especially humid days, but our air can actually be considered a water source. Zero Mass Water, a sustainable water startup, is trying to create an easy, off-grid way for anyone to harvest that liquid with its first product, Source.

Each Source unit looks like a solar panel resting on top of a metal box. Company CEO Cody Friesen, a material scientist and engineering professor at Arizona State University, says the device essentially uses sunlight to produce electricity and heat, and which allows a set of proprietary materials to passively catch the humidity in the air. Friesen won't say how those materials are engineered or what they're made of, but explains that they're designed to have an ideal binding energy for water vapor. More

Have We Already Won the Renewables Revolution?

Could we have already reached a point where current trajectories for renewable energy, energy efficiency and alternative transportation are clear enough that we can reasonably suggest that a revolution has occurred?

Yes. For the most part, the game is indeed won. We are on the path to renewable energy ubiquity -- and it's unlikely to be derailed even if policy support falters for these technologies. There are still some uncertainties, but let's start by examining the clearer trajectories. Renewable energy is trending rapidly toward ubiquity. Excluding large hydro, renewable electricity is still only at about 7 percent globally, and about the same in the U.S. Even at 7 percent globally, however, we can see the future fairly clearly because of the long-established relationship between installations and the falling price of renewable energy Swanson's law describes this relationship with respect to solar power, the renewable energy technology with the most promise. This "law" suggests, based on the last few decades of evidence, that the cost of solar power drops by about 20 percent with every doubling of installations. I've addressed this in detail in this article. And it's described in this podcast by Dick Swanson himself. More

What Would It Mean for Los Angeles to Go 100 Percent Renewable?

The Los Angeles City Council recently a unanimous passed resolution requiring Los Angeles Department of Water and Power (LADWP) - the largest municipally-owned utility in the country - to study how the city can achieve a 100 percent clean energy future. With help from research partners, including academic institutions, the U.S. Department of Energy, and environmental and consumer groups, the study has the potential to become a foundational road map for running the utility on only clean and renewable energy.

California currently has a goal to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030, with half of the state's energy supply powered by renewable electricity by 2030. To achieve these targets, it is imperative for the state to look seriously at how to get off of fossil fuel dependency for our energy needs. Utilities and cities can be the key to reaching those climate goals. Mayor Garcetti's LA Sustainability pLAn, sets even more stringent emission reduction targets than that of the state, calling on Los Angeles to reduce emissions by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050, all against a 1990 baseline. As one of 18 U.S. cities committing to a clean energy future, L.A. is demonstrating tremendous leadership for others to follow suit. More

EVENTS

Conference of parties COP22
November 7-18, Marrakesh, Morocco

Solar Power PV Conference & Expo
November 9, 2016 Chicago, IL

AWEA Wind Energy Fall Symposium 2016
November 15-17, 2016 San Antonio, TX

2016 National Summit on RPS
November 30- December 1, 2016 Washington D.C.

SOLARTR 2016
December 6-8, 2016 Istanbul, Turkey

Power-Gen International
December 13-15, 2016 Orlando, FL

MIREC Week
May 8-12, 2017, Mexico City, Mexico

ISES Solar World Congress 2017
October 29 - November 2, 2017 Abu Dhabi, UAE

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