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UNLV Students to Build Zero Net Energy Home; Boom & Bust report

Nevada Institute for Renewable Energy Commercialization (NIREC)

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From: NIREC - Nevada Institute for Renewable Energy Commercialization
Sent: Wednesday, May 30, 2012 5:22 AM
To:
Subject: NV Newsflash - UNLV Students to Build Zero Net Energy Home; Boom & Bust report



NEVADA CLEAN ENERGY
COMMERCIALIZATION
NEWSFLASH



U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

Team Las Vegas to Build Zero Net Energy Home for Solar Decathlon Competition

Design and build an approximately 800 square foot home that consumes zero net energy.

Those are the instructions for Team Las Vegas, after the University of Nevada, Las Vegas (UNLV) became one of only 20 schools worldwide to qualify for the 2013 Solar Decathlon, sponsored by the U.S. Department of Energy's National Renewable Energy Laboratory.

UNLV's entry, Autonomy House, is marketed as an "age-in-place" home for an empty nester whose children have grown up. The 730-square-foot home will use daylighting from windows, insulation and solar panels to produce more energy than it consumes. Additionally, it will filter rainwater for household use and recharging groundwater, and be fully wheelchair-accessible.



The rendering at left shows the Autonomy House sundeck which is adjacent to the living room and kitchen

The project is student-run from concept through construction, and will be judged in 10 categories:

- Architecture
- Market Appeal
- Comfort Zone
- Communications



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May 30, 2012

IN THIS ISSUE

[Team Las Vegas Begins to Build Zero Net Energy Home for Solar Decathlon Competition](#)

[High-Impact Innovation Workshop](#)

[YPE Nevada Members take an Electric Vehicle Test Drive to Nevada Solar One Installation](#)

[Beyond Boom and Bust: Will Lack of Policy Reform Crash the Clean Tech Industry?](#)

GRANTS AND OPPORTUNITIES

[U.S. Offshore Wind: Advanced Technology Demonstration Projects](#)

U.S. Department of Energy: Golden Field Office

Deadline: May 31, 2012

[HVACR to Home Performance-Heating, Ventilation, Air Conditioning and Refrigeration \(HVACR\) Contractor Expansion into Whole House Residential Energy Efficiency Services](#)

U.S. Department of Energy
Deadline: June 1, 2012

- Engineering
- Energy Balance
- Affordability
- Hot Water
- Appliances
- Home Entertainment

A truly interdisciplinary effort, Team Las Vegas is spearheaded by the School of Architecture and under the aegis of the Urban Sustainability Initiative, but includes students and faculty from across the university. The just concluded spring semester was devoted to schematic design. Summer's focus is design development. Fall and spring will move to construction, and next summer will involve operations testing before heading to California in fall 2013. For the first time, the Solar Decathlon will be held outside Washington, DC – in Irvine, California, October 3-13, 2013. (Details at www.ocgp.org).

That, as they say, is the trick: this sustainable, affordable home must be built, tested and then taken apart before being transported by truck to Irvine, where it will be re-assembled.

After the Solar Decathlon, the home will be sited somewhere in Las Vegas where it will become a learning tool for the public.

Learn more on [June 7](#) when YPE Nevada hosts Dr. Piechota who will spotlight some of UNLV's most exciting clean energy activities and projects.

Want to help? UNLV's Team Las Vegas welcomes help with funding the construction and transport of the Autonomy House, as well as in-kind donations of materials and the occasional expert opinion. Contact Team Las Vegas via the Urban Sustainability Initiative website at: <http://urban21.unlv.edu/decathlon/>

JIM ROSSI is currently a graduate student studying renewable energy at UNLV, and has written for the Los Angeles Times, Bike and many other publications.

Learn more about Solar Decathlon: www.solardecathlon.gov

You're Invited!

High-Impact Innovation

featuring
"Innovating Every Day" speaker: Holly Green
"A Culture of Innovation" panel discussion

June 25, 2012
3:00 - 6:00 pm

Desert Research Institute

[ECPA Regional Energy Competition: US Mission to Costa Rica](#)

U.S. Department of State
Award Amount: \$100,000 - \$250,000
Deadline: June 4, 2012

[Cleaner Production and Environmental Technologies: Promoting Green Growth through Private Sector Partnerships in Morocco](#)

Department of State, Bureau of Oceans and International Environmental & Scientific Affairs
Award Ceiling: \$396,000
Deadline: June 4, 2012

[National Clean Diesel Funding Assistance Program FY 2012 RFP](#)

Environmental Protection Agency
No. of Awards: 24
Awards: \$2,700
Deadline: June 4, 2012

[Plug-and-Play Photovoltaics](#)

U.S. Department of Energy SunShot Initiative
Total Funding: Up to \$25M over 5 Years
Deadline: June 18, 2012

[Light-Duty Fuel Cell Electric Vehicle Validation Data](#)

U.S. Department of Energy
No. of Awards: 7
Amount: \$500,000 to \$2,000,000
Deadline: June 18, 2012

[Improving the Accuracy of Solar Forecasting](#)

U.S. Department of Energy SunShot Initiative
Funding: Up to 49M over 3 years
Deadline: June 19, 2012

[Small Business Innovation Research \(SBIR\)](#)

U.S. Department of Defense
Deadline: June 27, 2012

[Regional Test Centers: Validation of Photovoltaic Modules and Systems](#)

U.S. Department of Energy SunShot Initiative
Deadline: June 30, 2012

[Small Business Innovation Research \(SBIR\) Small Business Technology Transfer \(STTR\) Phase 1 Funding Opportunity Announcement](#)

Award Funding: Up to \$150,000
Deadline: July 3, 2012

[Biotechnology, Biochemical and Biomass Engineering](#)

National Science Foundation
Deadline: September 18, 2012

[Autodesk Clean Tech Partner Software Grant](#)

Autodesk
Deadline: ongoing

[MORE OPPORTUNITIES >>>](#)

EVENTS

2215 Raggio Parkway
Reno, NV

Cost: \$45 early bird special; \$65 after June 18

[Register online](#)

A fast-paced, high-energy presentation outlining steps to incorporating a spirit of innovation into almost everything you do. The session focuses on:

- Exploring why & how our success gets us stuck
- Exposing our current decision making and thinking processes
- How to ask the right questions to drive results
- Changing our thinking to get clear on what is possible
- Unlearning tried and true innovation eradicators
- Practicing innovation techniques, including:
 - Balance the big picture and the details (video)
 - Focus on a target (hands on application)
 - Change your perspective (exercise)
 - Question the right answer (video)
- Expose yourself – to diverse data and your thinking process (checklist)

And, some of the area's most innovative CEOs will share how they have created a culture of innovation in their organizations, and how they are leveraging this innovation to gain a sustainable competitive advantage.

YPE Nevada Members Take an Electric Vehicle Test-Drive to Nevada Solar One Installation



YPE Nevada premiered with an electric vehicle caravan to Nevada Solar One on May 14, 2012. Three Chevrolet Volts and one Nissan Leaf were driven by YPE Nevada members, courtesy of NV Energy and Findlay Chevy/Nissan. (A big "thank you" to both of these companies for their support.)

The Leaf is a pure electric vehicle with about a 90-mile range. The Volt, meanwhile, is a unique plug-in hybrid: it runs 25-50 miles on a single electric charge, but possesses a backup gasoline generator to extend the range to over 350 miles – similar to a gasoline-powered car.

At Nevada Solar One, Plant Manager Bob Cable led a personal tour of the control room and mirror arrays of this pioneering solar thermal plant which opened in 2006. Operated by Acciona, it generates 69 megawatts of peak power for NV Energy.

Check out YPE Nevada upcoming events at www.ypenevada.org.

[Tribal Webinar: Today's Energy Supply -- Yesterday's Grid](#)

U.S. DOE Office of Indian Energy Policy and Programs; et.al.
(webinar)
May 30, 2012

[Nevada-Grown Energy Innovation](#)

YPE Nevada
(Las Vegas, NV)
June 7, 2012

[New Battery Chemistries & System Designs - Lithium & Beyond](#)

Next Generation Batteries 2012
(Las Vegas, NV)
June 7-8, 2012

[How to Win SBIR Awards Workshop](#)

Nevada Small Business Development Center & C4UBE
(Reno, NV)
June 11, 2012

[2012 Veteran Entrepreneur Training Symposium \(VETS2012\)](#)

National Veteran Small Business Coalition
(Reno, NV)
June 11-14, 2012

[Renewable Energy Finance: Trends and Innovations](#)

SCORE
(webinar)
June 13, 2012

[Electric Vehicle Gourmet Food Truck Scavenger Hunt](#)

YPE Nevada
(Reno, NV)
June 19, 2012

[High Impact Innovation](#)

DCA Partners
(Reno, NV)
June 25, 2012

[MORE EVENTS >>>](#)

Beyond Boom and Bust: Will Lack of Policy Reform

Crash the Clean Tech Industry?

Although clean energy technology (clean tech) has done favorably in recent years, without continued policy reform, the industry is at risk of crashing. After years of growth supported by tax incentives and other subsidies, a projected 75 percent drop in federal spending for clean technologies could propel the industry into a typical boom and bust cycle, according to "Beyond Boom & Bust: Putting Clean Tech On a Path to Subsidy Independence."

This report, written by members of the Breakthrough Institute, Brookings Institute and the World Research Institute, analyzes the current state of expiring federal programs and policies and the impact their demise will have on the clean tech sector; and it recommends sound policy reforms to help the clean tech sector reach the overall goal of cost competitiveness.



Policy and subsidy support for clean tech was strong from 2009 to 2014, mainly resulting from the American Recovery and Reinvestment Act (ARRA), which facilitated massive growth in the industry. But ARRA funds are expiring, along with many other tax incentives and programs that support clean energy. While federal spending on clean technology tripled from 2002 to 2008 reaching \$150 billion from 2009 to 2014, it is expected to decline 50 to 75 percent when ARRA funds and other programs expire. The report makes the case that the wave of subsidies, policies and programs are creating a boom and bust cycle for the industry.

In order to stop these boom and bust cycles, smart policy reform must take into account the recent price and performance of clean technologies. New policies should focus on technology innovation and industry maturation with the overall goal of building a strong, subsidy free, clean tech industry that is a substantial player in the global marketplace.

The levelized cost to produce clean energy has dramatically decreased, allowing greater competition with traditional forms of energy generation—in some cases even without subsidies and tax credits. For instance, wind power generated at optimal wind sites without the production tax credit is now cost competitive with natural gas generation. The levelized costs of energy for unsubsidized wind and natural gas are \$60 to \$90/MWh and \$51 to \$71/MWh respectively. Although wind and other forms of clean energy are becoming more cost competitive, it does not mean the industry is strong enough to suddenly go at it on its own. The report indicates that if the current policies suddenly expire without any replacement, new wind energy installations will decline by a whopping 80 percent.

Solar photovoltaic (PV), on the other hand, is farther from being cost competitive. The solar PV sector has seen major cost declines and efficiency upgrades in recent years, and only expects to be competitive by 2020, if sustained innovation and the right policies are in place.

The report suggests that policy support should not operate in perpetuity, but instead be adjusted to provide temporary support as an



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industry sector matures to help push it to the finish line. If policies are drawn down as technologies improve, the industry will be far stronger and reflect judicious use of taxpayers' money. One suggestion, for example, is to reduce incentives as improvements are made to the technology's price and performance until they reach a clearly defined goal.

The authors recommend a two-fold approach: create policies that drive market demand and innovation, and strengthen the innovation system to accelerate technology improvements and decrease costs. Ultimately, the industry must have enough certainty in these policies to plan a multi-year approach to success.



Nevada Institute for
Renewable Energy Commercialization
Nevada Newsflash
newsletter@nirec.org
775-881-7516



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