

10-18-2012

Sunvelope: A Nevada Company Revolutionizes Solar Hot Water Collectors

Nevada Institute for Renewable Energy Commercialization (NIREC)

Follow this and additional works at: https://digitalscholarship.unlv.edu/nv_newsflash



Part of the [Marketing Commons](#), [Oil, Gas, and Energy Commons](#), and the [Sustainability Commons](#)

Repository Citation

Nevada Institute for Renewable Energy Commercialization (NIREC) (2012). Sunvelope: A Nevada Company Revolutionizes Solar Hot Water Collectors. *Nevada News Flash* 1-5.

Available at: https://digitalscholarship.unlv.edu/nv_newsflash/11

This Newsletter is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Newsletter in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Newsletter has been accepted for inclusion in Nevada Newsflash by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.



October 18, 2012

Sunvelope: A Nevada Company Revolutionizes Solar Hot Water Collectors

Solar hot water is just not sexy to the general public—and that’s created a challenge for Pete Mokler, director of marketing at Sunvelope Solar. “Our technology can deliver more energy units per dollar invested—whether counted in therms, BTUs, or kilowatt hours—than photovoltaic, wind, geothermal and biomass,” says Mokler, “but you say ‘solar hot water’ and people yawn.”

While increasingly homeowners and developers are installing rooftop solar photovoltaic systems (which generate electricity), solar hot water systems (which create heat) should elicit more than a yawn from consumers. According to Mokler, his company’s system is about one fifth the cost of a solar pv system with the same energy output (before rebates).

Sunvelope’s innovative solar collector received certification last July through the Solar Ratings and Certification Corp (SRCC), which is a happy milestone for founder August Lemaire.



Sunvelope Solar founder Auguste Lemaire inspects the



**Don't miss the
SciTech event of the
year!**

Thursday, October 25

World Market
Center
Las Vegas

4:00 pm
Showcase & Mixer

6:30 pm
Dinner & Program

www.scitechhookup.org

GRANTS AND OPPORTUNITIES

[Small Business Technology Transfer \(STTR\) Program, Phase I Solicitation](#)
National Science Foundation

installation of Sunvelope collectors at Desert Research Institute.

Five years ago, Lemaire started work on a new style of collector that uses a sheet metal envelope, instead of the traditional tube and fin construction, to collect and heat water. The result of his work is a revolution in the collector technology—a technology that hasn't seen a major change for about 60 years.

Lemaire says developing a product is an evolution. "With our progress and our process, there has been a tremendous evolution. When we first started out, our collector pressurized to 10 psi, and now it routinely tests up to 160 psi. ...This changes the dynamic of the whole thing."

For the consumer, the silver lining is the cost savings. The Sunvelope technology has led to a more efficient and less expensive solar hot water system. In addition, the collectors can be connected directly to a standard hot water heater, eliminating the need for a heat exchanger. Another contributor to the lower price is that this new technology allows the collectors to be subjected to freezing weather without damage, a major milestone for this industry. This eliminates the need for systems such as drainback or glycol for freeze protection. In addition, the Sunvelope collector self-moderates in overheating by automatically reradiating excess heat to the atmosphere—another first for the industry.



Peter Mokler, director of marketing at Sunvelope Solar, points out the control station at the Desert Research Institute in Reno that will provide information about the company's revolutionary solar collectors in a side-by-side setup with traditional collectors.

When asked how the product evolved, Lemaire likened his work to typical research projects. One must do the work. Test and learn. Be an observer. Allow it to teach you. Consider 'what if?' And, as was learned with the discovery of penicillin, Lemaire said, "You really have to be able to identify cause and effect—and, identify the right cause for the effect you see."

Sunvelope's technology is currently in use side-by-side with traditional collectors as part of research projects at both Desert Research Institute in Nevada and at the University of Michigan. From these projects, Sunvelope will draw clear statistics about their collectors versus traditional flat plate glazed and evacuated tube models.

As Sunvelope prepares to begin mass production and sales, this Nevada-

Amount: Up to \$225,000
Letter of Intent Deadline: January 8, 2013

[First Look West \(FLOW\) Competition 2013](#)

U.S. Department of Energy

[Energy, Power, and Adaptive Services](#)

Deadline: November 1, 2012

[Research Coordination Networks \(RCN/SEES Track\)](#)

February 4, 2013

[Energy for Sustainability](#)

Award Amount: \$300,000

Deadline: February 19, 2013

[MORE OPPORTUNITIES >>>](#)

EVENTS

[Vegas Jelly](#)

(Las Vegas, NV)

October 18, 2012

[2012 BERCC Energy Symposium and Innovation Expo](#)

Berkeley Energy & Resources

Collaborative (BERCC)

(Berkeley, CA)

October 18-19, 2012

[Writing Persuasive Grant Proposals Workshop](#)

Nevada Small Business Development Center

(Reno, NV)

October 19, 2012

Intensive training on proposal writing techniques and tips-led by Michael Kurek, nationally recognized consultant with special expertise in SBIR proposal writing.

[Regional Energy Solutions: An Answer to 'Drill Baby Drill'](#)

Center for American Progress

(online)

October 19, 2012

[CrowdFundingLIVE: Bringing Ideas to Life](#)

Women for Women (and Men)

(Reno, NV)

October 20, 2012

[Clean Energy: The Economics of Why and How](#)

UNLV Brookings Scholar Lectures

(Las Vegas, NV)

October 23, 2012

[Pro Bono Legal Services at C4UBE](#)

Holland & Hart

based company could be sparking the change that revolutionizes the industry—and makes it much more sexy in the eye of the consumer.

RESOURCES:

NV ENERGY SOLAR HOT WATER REBATES While NV Energy's rebates for rooftop PV are oversubscribed, rebates for solar water heaters have been going unclaimed – and they can often save homeowners more money during a shorter payback period:
www.nvenergy.com/renewablesenvironment/renewablegenerations/solarwater/hotwater.cfm

Learn more about Solar PV and Solar Hot Water costs:
www.getsolar.com/blog/solar-hot-water-vs-solar-pv/9560/



BROOKINGS TALK: SHALE GAS & RENEWABLES:

John Banks' talk on Shale Gas & Renewables Gave Us A Lot to Think About

Since the 1973 Arab oil embargo, U.S. energy policy has been "silver buckshot, not a silver bullet," according to fellow John Banks during the latest [Brookings Mountain West fall lecture](#) last month at UNLV.

Supply solutions (a.k.a. find more) dominated before 1973, until scarcity made energy efficiency and conservation (demand solutions) a big part of the equation. Banks framed his talk on the shale gas boom and clean renewables in terms of the overlapping goals of national security, economic security and environmental security: reducing reliance on foreign oil, growing domestic industries, reducing pollution and mitigating climate change.

"Unconventional" shale gas recovered through hydraulic fracturing (fracking) has grown from less than 1 percent to over 23 percent of U.S. supplies over the past six years, according to Banks. And that is expected to double by 2035. These new supplies have dropped gas prices to historic lows, accelerating the retirement of coal plants nationwide. For example, Nevada got over 50 percent of its electricity from coal in 2000. Now it gets 67 percent from natural gas (EIA.gov, Banks slides).

(Reno, NV)
October 23, 2012

[NREL Industry Growth Forum](#)
(Denver, CO)
October 23-24, 2012

["The Styles of Communication" - Christopher Howard, NorthStar Investors](#)
Entrepreneurial Minds
(Reno, NV)
October 24, 2012

[Scitech Hookup Tech Expo and Dinner](#)
(Las Vegas, NV)
October 25, 2012

[Meet with Chevron Energy Solutions](#)
Environmental Business Cluster
(San Francisco, CA)
November 7, 2012

[Investing in Nevada's Wind Energy Resources](#)
YPE Nevada
(Las Vegas, NV)
November 8, 2012

[2012 Global Forum: The Academy Awards of Cleantech](#)
(San Jose, CA)
November 8-9, 2012

[Climate Change and International Trade: Conflict of Opportunity?](#)
UNLV Brookings Scholar Lecture
(Las Vegas, NV)
November 14, 2012

[Post 2012 Election: Energy Policy Implications](#)
YPE Nevada
(Reno area, NV)
November 15, 2012

[MANY MORE EVENTS >>>](#)

This same fracking technique is being applied to “tight oil” trapped deep in rocks, which cannot be easily recovered by conventional drilling. Tight oil fracking holds the potential for U.S. petroleum output to rival Saudi Arabia and Russia within a decade, according to a study by Citigroup. This could enhance energy independence and national security.

But at what cost—in the energy and money required to extract this oil *and* possible contamination to surface and aquifer water? Additionally, the methane released during fracking might possibly be worse than the greenhouse gases released by burning coal, according to Banks. Definitive research is difficult, because fracking goes on thousands of feet underground, and the fluids used may take years to reach underground aquifers, if ever. But that’s not the whole story either, as I expand on Banks’ points in more detail.

The fracking “revolution” began shortly after the process was exempted from the Safe Drinking Water Act—which requires listing any chemicals that might get into the water supply—under a provision inserted into the mammoth Energy Policy Act of 2005. In other words, states can regulate fracking, but the Environmental Protection Agency cannot. Companies argue that federal regulations create unprofitable burdens. But many of the most common chemicals used in fracking mixtures are known carcinogens, and now they are virtually untraceable. While the EPA can’t currently regulate, it is currently conducting numerous controversial studies.

And while many Western states have embraced fracking, Vermont has banned it, New York has imposed a moratorium, and cities like Cincinnati have banned fracking until the risks are better known. The costs to clean up contaminated water supplies would be astronomical or impossible. So, environmental risks beget economic risks.

Now consider the price of natural gas, historically the most volatile of fuels. Low prices are driving demand here, and for export to Asia. Historically speaking, a major price spike is almost inevitable, which will skyrocket electricity and heating prices. A supply disruption, possible if a study shows serious fracking pollution, would make things even worse. And job booms in natural gas can just as quickly go bust, as they have in numerous towns on Colorado’s Western Slope. “Our greatest challenge,” Banks quoted Duke Energy CEO Jim Rogers, “is to avoid all gas, all the time.”

Because of all this, Banks argues that the primary advantage to natural is to use it as a bridge to clean renewables, where prices are still higher but less volatile and falling fast. Solar capacity has tripled since 2008, and non-hydro renewables, including wind and geothermal, have doubled overall. But right now, complex regulations designed for fossil fuels and uncertain federal tax credits are slowing renewables. As Banks quotes an industry expert, “The technology is there, but the game is impossible to understand.”

Banks made two provocative conclusions:

1. States will continue to lead the way on renewable policies. Colorado and California are leading the way in the West, but Nevada has a chance to join them.
2. A carbon tax may eventually draw bipartisan support, according to former Secretary of State, Treasury and Labor George Shultz, who sees it as fiscal policy to reduce the deficit while fighting global warming.

“We have to have a system where all forms of energy bear their full costs,”



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



Shultz said at Stanford University this past July. “To me the most appealing way is a revenue-neutral carbon tax. You distribute all the revenue back to taxpayers, so there is no fiscal drag on the economy.” If successful—a big if—such a carbon tax would stimulate economic growth and overall tax revenue while keeping tax rates steady.

JIM ROSSI is a graduate student in UNLV's History Department and Urban Sustainability Initiative, works for NIREC and is writing his first book about solar energy in the Mojave Desert.

RESOURCES:

topics.bloomberg.com/shale-gas-and-fracking/
www.pbs.org/newshour/rundown/2012/08/fracking-is-it-safe.html
news.stanford.edu/news/2012/july/george-shultz-energy-071212.html



Members of Young Professionals in Energy-Nevada toured the Reid-Gardner Coal Plant on October 12. [YPE Nevada](#) is open to all energy professionals (regardless of age).

This message was sent to jackie.phillips@nirec.org from:

NIREC | 2215 Raggio Parkway | Reno, NV 89512

[Manage Your Subscription](#) | [Forward This Message](#)

Email Marketing by
iContact 
try it free