



NEWS	A&E	OPINION	SPORTS	BUSINESS	GAMING	POLITICS	PHOTOS	AUTOS	HOUSING	JOBS
----------------------	-------------------------	-------------------------	------------------------	--------------------------	------------------------	--------------------------	------------------------	-----------------------	-------------------------	----------------------

[Home News](#) | [History](#) | [Sahara Closing](#) | [Rebels](#) | [Hospital Care](#) | [Ralston](#) | [Today's Paper](#) | [SEARCH](#)

3 COMMENTS | PRINT | E-MAIL | SHARE | [Tweet](#) 24 | [Recommend](#) 32

Geothermal: It's not just for Northern Nevada



STEVE MARCUS

A circuit linking a series of vertical boreholes is shown at the site of a geothermal heat pump system near Pahrump Valley High School in Pahrump on Wednesday, March 30, 2011. The system, with 300 395-foot-deep boreholes, is being installed under an athletic field.

By [Delen Goldberg \(contact\)](#)
Friday, April 8, 2011 | 2:01 a.m.

Geothermal energy is an obvious fit in Northern Nevada, a region teeming with underground reservoirs of 300-degree brine waiting to be harnessed as electricity. In some places, the scalding water bubbles to the surface unaided.

In dirt-dry Southern Nevada, geothermal energy seems like a stretch. There are few hidden hot water aquifers, few underground Jacuzzis to be tapped.

But geothermal energy is as viable in Southern Nevada as it is in Northern Nevada — belying the south's reputation as a solar-only zone. The process just uses a different technology.

"The Las Vegas Valley is ideal for geothermal," said Stuart Lyle, project manager for EnLink Geoenergy, a California

Geothermal in Pahrump



PHOTO GALLERY »

FEATURED GALLERIES



VEGAS CELEB WEEKEND ROUND-UP
APRIL 22-24



VIVA LAS VEGAS
ROCKABILLY
WEEKEND 2011



JERRY LEE LEWIS AT VIVA
LAS VEGAS

[MORE PHOTOS »](#)

MOST POPULAR

[Viewed](#) | [Discussed](#) | [E-Mailed](#) | [Facebook](#)

1. Photos: Angel Porrino, Laura Croft host Easter Egg Hunt at Tao Beach
2. Steve Wynn, Andrea Hissom attend 'Absinthe' a week before wedding
3. Homeowner finds man dead in backyard swimming pool
4. Photos: AnnaLynne McCord hosts at Wet Republic at MGM Grand
5. Sands steps up counterattack against former executive
6. Police searching for man in probe into human remains
7. Casino giants' problem gambling efforts are shoddy
8. Will green energy raise your electricity bill?
9. Georges St. Pierre will enjoy crowd support like never before at UFC 129
10. Lewis Black plays the Mirage, and, wow, if he doesn't have company

[COMPLETE LISTING »](#)

geothermal contractor working on several Southern Nevada projects.

Geothermal projects outside Reno, Carson City and Ely use wells plunged miles underground to pump hot water stored near the Earth's magma core. The water is converted to steam, which powers turbines to generate electricity.

In Southern Nevada, geothermal projects use wells drilled only a few hundred feet deep. Tubing in the wells connects to a heat pump that replaces a building's heating and air-conditioning equipment. Engineers pump water into the system to facilitate heat transfers.

The system takes advantage of the fact that shallow ground remains at a constant temperature — around 68 degrees year round. In winter, the system absorbs heat from the ground and distributes it to the building through a conventional duct system. In summer, the system transfers heat from the building to the underground piping loop, where it is cooled by the Earth.

The Clark County School District installed geothermal systems to heat and cool three of its trade schools. The Las Vegas PBS building on East Flamingo Road has a similar system.

In Nye County, workers are boring into the ground to install geothermal systems that will heat and cool Manse Elementary and Pahrump Valley High schools. A third project is slated for Tonopah Elementary School.

The economic and environmental benefits of such projects have been studied by the Energy Department, which found they can lower energy bills up to 70 percent. The Environmental Protection Agency described geothermal heat pumps as "the most energy efficient, environmentally clean and cost effective space conditioning systems available."

Although they are more expensive to install than traditional systems, savings are typically realized within two to five years of a project being completed. Savings come quicker in bigger buildings.

Consider that one unit of energy generated by a heating oil boiler costs an average of \$49, while the same amount produced by a geothermal heat pump costs \$6 to \$8. The Nye County School District, for example, expects to save hundreds of thousands of dollars a year from the heat pump systems in Pahrump.

No transmission lines are needed, and the systems put no demand on the grid. The energy is also more reliable than solar or wind power because it's not weather-dependent. And it produces no greenhouse gas emissions.

Because the technology uses no evaporative cooling systems, its water usage is nil. After an initial input of water is placed into the closed-loop system, no more is needed. EnLink estimates that each geothermal project in Nevada saves 1 million gallons of water a year.

The majority of equipment used in geothermal heat pump systems is hidden. Pipes and tubes are buried, mostly under parking lots, buildings or athletic fields, as is the case in Pahrump.

The low profile is perhaps the reason why so few Southern Nevadans are familiar with the technology.

"It's invisible," said Mark Mizrahi, EnLink's president. "It's hard to take people on a tour when it's all underground. It's less sexy to look at."

Heat pump industry leaders admit they have a PR problem. "We understand people wonder: If it's so great, why isn't it used more?" Mizrahi said.

The answer is twofold.

First, the geothermal name can be misleading. As the Energy Department put it, the technology has a bit of an "identity crisis."

People automatically hear geothermal and think of the deep mining in Northern Nevada. They figure geothermal energy can't be used in Southern Nevada. In fact, geothermal simply means "Earth heat."

Second, unlike solar and wind power, companies working on geothermal heat pumps have few strong

Pahrump



Sun archives

- BLM geothermal lease sale nets \$500,000 in Nev. (3-25-2011)
- Nevada gaining in development of geothermal energy (8-14-2010)
- Feds snatch counties' share of money from geothermal leases (7-21-2010)
- Geothermal energy loses a bit of its steam (5-31-2010)
- Harry Reid, John Ensign work to reclaim rurals' geothermal revenue (3-9-2010)
- Senate amends bill to restore geothermal money to counties (3-9-2010)
- NV Energy plans renewable energy purchase from geothermal plant (2-11-2010)
- Financing lag holds up geothermal (10-1-2009)
- Neighbor's open door a boon to Nevada (9-23-2009)
- Nevada geothermal growth: Full steam ahead (4-17-2009)
- Location of geothermal plant in BC gets planners' OK (4-16-2009)
- Councilman urges city to consider geothermic power plants (3-24-2009)
- Steam seen as power's future (9-16-2007)

BLOGS

THE KATS REPORT

Lewis Black plays the Mirage, and, wow, if he doesn't have company (7 Comments)
14 hours, 55 minutes ago

In first Colosseum show, Janet Jackson goes solo -- and so does her wardrobe (3 Comments)
1 day, 16 hours ago

'Broadway Bares' is a different sort of midnight mass
2 days, 12 hours ago

Clint Holmes a hit with star-studded audience and the New York Times in Feinstein's appearance
2 days, 12 hours ago

POLITICS: RALSTON'S FLASH

State GOP, which wants to block Angle, gets legal opinion that could...block Angle (24 Comments)
2 days, 16 hours ago

Democrats try to make hay out of Senate appointment, make fools of selves (15 Comments)
2 days, 17 hours ago

Ralston: Nevada's special election laws not so clear, probably will result in lawsuit (9 Comments)
3 days, 3 hours ago

[MORE BLOGS »](#)

THE SUN

Locally owned and independent for more than 50 years.

- Contact Information
- Mobile edition: m.lasvegassun.com
- Search the archives
- Subscribe to the print edition

RSS FEEDS

 [Subscribe to The Sun's RSS feeds.](#)
[Learn more.](#)

- Homepage Stories
- News, Politics, Arts, Sports or Opinion
- Photos, Videos
- Site-wide Comments
- Events Calendar

advocates.

EnLink officials said they have never spoken with Senate Majority Leader Harry Reid, who has vowed to make Nevada the greenest state in the nation. Mizrahi asked, only half joking, if a reporter could facilitate a conversation.

In contrast, Reid has been a proponent of solar power in Southern Nevada and helped legislate incentives to make the projects more viable.

When asked about it, Reid seemed unfamiliar with the geothermal technology being used in Southern Nevada, although he mentioned he had heard of the project in Pahrump.

Heat pump technology is 70 years old (the science behind it is even older, as evidenced by the prehistoric use of caves as heat sinks and heat sources), and although the United States was once a leader in its development and use, Europe surpasses us in implementation almost three to one. Growth rates in China, South Korea and Canada also exceed those in the United States.

If more widely used, geothermal heat pumps could help ease Nevada's reliance on the grid, lessen its water demand and save governments and homeowners money.

The Energy Department recently suggested that "federal policymakers seriously consider aggressively deploying geothermal heat pumps nationwide, with programs commencing as soon as possible, given the need to rein in our nation's energy consumptions and carbon emissions, while at the same time stimulating our economy out of its most serious downturn since the Great Depression."

The effort has started in Southern Nevada.

3 COMMENTS PRINT E-MAIL SHARE  24  Recommend 32

Geothermal Enter Zip & Get 3 Free Local Geothermal HVAC Estimates.	Geothermal Heat Pumps Geothermal Heat Pump Quotes Enter Zip & Get 3 Bids In Seconds!
---	---

Ads by Google

DISCUSSION: 3 comments so far...

Comments are moderated by Las Vegas Sun editors. Our goal is not to limit the discussion, but rather to elevate it. Comments should be relevant and contain no abusive language. Comments that are off-topic, vulgar, profane or include personal attacks will be removed. **Full comments policy.** Additionally, we now display comments from trusted commenters by default. Those wishing to become a trusted commenter need to **verify their identity** or sign in with Facebook Connect to tie their Facebook account to their Las Vegas Sun account. For more on this change, **read our story about how it works and why we did it.**

Only trusted comments are displayed on this page. Untrusted comments have expired from this story.

Excellent article!

And well-timed, now that NVE has suggested THEY own the sun. LOL

A few decades ago we froze up backyards trying to discover how much here and how much there. Now, it's science and art.

Hippies used cheap, surface (6'deep) geo-thermal tubes hooked up with solar chimneys to pull cool air into their yurts and geodesic domes. Now it's SClence and ART!

We actually KNOW how these things are, how well they work and the overwhelming impact of building them right. They're so good they come with warranties of several decades as opposed to the expected life of an air ht pump at 15.

Let's hear it for snuggling down to Momma

By [airweare \(Joe Lamy\)](#)

April 8, 2011
4:04 a.m.

FLAG

These babies are really smart, but they're not cheap like the basic heat pump we are familiar with \$2-4,000. I saw one yesterday with two wells that replaced an oil fired furnace in a 4,000 square foot McMansion on the waterfront in Annapolis, Maryland.

The guy had been spending almost \$4,000 a year on oil. He spent \$30,000 on his geo-thermal heat pump and got back \$12,000 from the tax guys and plans to be KILLIN them in just 4 years. With his twenty-five year warranty on parts, labor and everything, he plans to die before his heat pump.

They have very good coefficients of performance, way out-performing ANYTHING we know about. Upfront costs are significant, but they disappear when ya take the long view and consider cost of heating and cooling, greenhouse gasses, reliability, resale value, simple beauty, etc.

By [airweare \(Joe Lamy\)](#)

April 8, 2011
3:49 p.m.

FLAG