

# Geothermal Energy Weekly

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**National News**

**Letter by Congressional Democrats Supports Grant in Lieu of Tax Credit**

[An opinion article in the Washington Times](#) reflects the sentiment of recent legislation introduced in Congress to pull subsidies for energy industries, saying they distort the free market, force consumption of higher-cost energy sources, and allocate capital to politically connected companies. But [a letter circulated by House Democrats](#) Reps. Earl Blumenauer (Ore.), Rush Holt (N.J.), Paul Tonko (N.Y.) and Mike Thompson (Calif.) points out that the Treasury Department's Section 1603 grant-in-lieu-of-tax-credit program has leveraged more than \$22.8 billion in private sector investment for 22,000 projects across the clean energy industry . . . in all 50 states," they wrote. The letter appeals to their colleagues to support an extension of the program, which is set to expire in the coming weeks.

**New Bill Requires Federal Agencies to Submit Accountings of RE Financial Support**

H.R. 3331, [a bill introduced by Rep. Jim Sensenbrenner, R-Wis.](#), would require independent audits of all renewable energy loan guarantees, loans, grants and direct payments, with a companion bill in the Senate. The Federal Accounting of Renewable Energy Act calls for the head of each federal agency to submit an account of all financial support toward the promotion of renewable energy use or production to Congress.



## **BLM: RE Projects Prioritized for 2012, Including Two Geothermal Plants**

The [BLM has announced priority status](#) in 2012 for 17 renewable energy projects . 2 geothermal, 9 solar, and 6 wind. The projects collectively represent about 7,000 MW of potential electrical generation. The projects were selected based on criteria such as progress of the necessary public participation and environmental analysis, as well as applicable state environmental laws. The geothermal projects included as priority projects are the 33-MW Casa Diablo project by Mammoth Pacific in California, which published its NOI on March 25 of this year; and the 62-MW New York Canyon project by Terragen in Nevada, with a pending EA.

## **COP 17: Discussions Include Climate Treaty, Green Climate Fund, Clean Energy Programs**

The UK, European Union, Japan, U.S. and others among the world's richest nations began discussions about putting off a global climate treaty before critical Conference of Parties talks began this week in Durban, South Africa. According to press coverage on the developments, a European Union representative named 2015-2020 as the target for climate treaty negotiations; a former UK chief scientist said he was not dismayed by this trajectory. International Energy Agency chief economist Fatih Birol [told \*The Guardian\*](#) an agreement must be in place by 2017 or the door to holding temperatures below 2C %will be closed forever.+

As the talks opened on December 1, the Obama administration released a new report on its financial support toward climate change efforts, showing the U.S. on a path to meet its unofficial 20% share of the official global \$30-billion-by-2012 commitment made between wealthy nations at the 2009 Copenhagen climate summit.

About \$563 million of the \$3.1 billion devoted to climate change efforts in 2011 by the U.S. went toward helping poor communities build resilience to weather disasters, while more than four times as much, about \$2.5 billion, went clean energy programs, mitigating carbon emissions and developing new renewable technologies. "We're certainly disappointed. It seems to be going in the wrong direction," David Waskow, international climate change policy [director at Oxfam America told press](#). The share of 2011 dollars toward making communities resilient to climate change was just 18%, he estimated.

While the U.S. promotes new systems to finance projects that combat or mitigate the effects of climate change, COP 17 discussions are now including the implementation of the Green Climate Fund (GCF) agreed to by many nations at the previous climate summit in Cancun, Mexico.

In prior discussions, the U.S. and Saudi Arabia both raised objections to the GCF which would raise funds to help developing nations reduce emissions and adapt to the adverse effects of climate change. U.S. deputy special envoy for climate change Jonathan Pershing indicated the GCF could potentially be accepted with some changed



language. "In our view, one of the really big new developments in climate financing is going to be private sector investment, and you want a fund like this to leverage investment as effectively as possible," [Pershing told press](#). "At the moment, it doesn't do it as well as it could. We think some shifts in the language could open up a door for that really large-scale financing that we'd like."

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## **Company News**

### **Atlas Copco: New Waterwell/Geothermal Drill Rig Introduced**

[Press Release](#), November 30 . Commerce City, CO . Atlas Copco introduced the new Series III of its T2W waterwell drill rig at the NGWA Expo in Las Vegas, Nevada, on November 30, 2011. The T2W-III is Atlas Copco's single-engine rig for rotary and down-the-hole (DTH) drilling in the 30,000 pound class. It is designed for both air and mud applications, and ships with an on-board 900/350 air compressor.

The swing up mud pit is a useful addition to the T2W-III for the geothermal driller. The 350 gallon mud pit allows for the mud and cuttings to be contained.

The Series III provides a 12 rod capacity in the carousel at 3.5 inches, with swing in/swing out back load capability· designed to allow single-person operation under appropriate conditions. A rod box, mounted to the rig, carries an additional 12 rods at 3.5 inches. Total depth capacity is 480 feet.

Another new feature is an optional 15,000 pound winch with two-part line, matching the pullback of the rig. This allows the operator to trip out of the hole with the winch or the head. Additional new features include an optional hydraulic front drive assist that delivers a functional 6x6 drive. The automatic transmission provides reduced fuel consumption as well as simplified operation and training.

Two three-speed options are available for the head. A gear-driven head constructed with oversized gears, shafts and bearings is offered for large torque applications, and a smaller, less complex hydraulic vane-driven head is offered for lower torque operation.

The new Series III has a single-cylinder cable feed system that is internal to the tubular derrick, protecting moving components from exposure to the typical drilling environment and rod handling operations. Major components of the feed system are engineered to be larger and more mechanically efficient, so as to reduce fatigue and maintenance. Series I of the T2W had a rack and pinion feed system, while the Series II shipped with a sheave and cable feed system.

An optional 500 horsepower engine is available, and selection between drill and drive mode is made through a split-shaft PTO drive system.



## **Lithium Corporation: Salt Wells Analytical Results Received**

Press Release [[See full story](#)], November 30, Reno Nev---Lithium Corporation (OTCBB: LTUM) (the "Company", or Lithco) is pleased to announce that it has recently received results from its drilling program on the Salt Wells playa prospect in Churchill County, Nevada.

During the October program the Company probed 31 sites, a total of 3,437 feet, and obtained 46 samples from various discrete intervals. Brines were encountered in 23 of the 46 samples taken, with another 4 samples being classified as near-brines, and 3 samples can be characterized as brackish water. The remainder of the samples taken were fresh water. The deepest hole drilled during the program was 155 feet and sampling depths ranged from 32 to 125 feet subsurface during the program. The average sample depth was approximately 68 feet. Due to extremely wet ground conditions the Company elected to use a lightweight, tracked machine that in many locations was not capable of penetrating the hard compact sands encountered in most locales below approximately 90 feet in depth.

The shallow drilling at Salt Wells has confirmed an elongate Lithium/Boron/Potassium/Phosphorous anomaly on the property that is proximal to the basinal feature delineated by the recently completed gravity geophysical survey. This lithium-in-brine anomaly is greater than 3 miles in length, and is from three-quarters to one and one half miles wide. Lithium values range from 20 to 30 milligrams per liter within this anomaly, and it is apparent that lithium concentrations are increasing with depth. Temperature anomalies were noted during the course of the program, which may be indicative of proximity to faults carrying geothermal fluids, a component considered necessary for the formation of a Silver Peak type lithium-brine deposit.

## **Nevada Geothermal Power: Quarter Results Reported**

Press Release [[See full story](#)], November 28 -- Nevada Geothermal Power Inc. (NGP) (TSX.V: NGP) (OTCBB: NGLPF) today announced results for the quarter ended September 30, 2011. The Condensed Consolidated Interim Financial Statements and Management's Discussion and Analysis (MD&A) are available at [www.sedar.com](http://www.sedar.com) and on the Company's website at <http://www.nevadageothermal.com>.

### Highlights:

- \$7.9 million grant received under the American Recovery and Reinvestment Act of 2009 ("ARRA").
- Blue Mountain production for the quarter (66,210 MWh (net)) lowered by an auxiliary pump failure and resulting outage of one of the three power modules.
- Second Anniversary payment of \$200,000 provided for under the Crump Geyser joint venture agreement received from Ormat Nevada Inc. during October 2011.
- Crump Geyser joint venture acquired state geothermal leases totaling 15,389 acres contiguous with existing private leases and covering highly prospective land in Warner Valley basin.



- Project work focused on the recently acquired New Truckhaven property, as well as on the North Valley and Pumpnickel projects.
- Discussions with EIG Global Energy Partners regarding potential restructuring of loan terms continued.

The Company adopted International financial reporting standards ("IFRS") during the quarter, and comparative numbers have been restated. Full reconciliations between previously published Canadian GAAP and restated IFRS numbers are provided in the Condensed Consolidated Interim Financial Statements.

### **Ormat Technologies: EPC Contract Signed for New Mexico Geothermal Plant**

[Press Release](#), Reno Nev., November 28---Ormat Technologies, Inc. (NYSE: ORA) announced today that on November 22, 2011, Ormat Nevada Inc., its wholly-owned subsidiary, signed a \$65 million engineering, procurement and construction (EPC) contract and a credit agreement with Lightning Dock Geothermal HI-01, LLC (LDG), a subsidiary of Cyrq Energy, Inc., in connection with the construction of LDG's geothermal project in New Mexico.

The EPC contract work is scheduled to be released in stages based on LDG's progress in the well field drilling and development necessary to support the project. Early engineering will be released as soon as the basic well field characteristics are confirmed in order to maintain the project schedule. Further work will be released based on the progress of the well field development. Under the credit agreement Ormat will provide financing in an aggregate principal amount not to exceed \$66 million that will be used to finance the project construction costs under the EPC contract with LDG. The project is expected to come online by the end of 2013.

Yoram Bronicki, President and COO of Ormat Technologies, said, "The Lightning Dock project is an opportunity to match Ormat's execution capabilities with Cyrq Energy's front-end development that we hope will enable swift project execution. This project is part of a broader initiative between our two companies to co-develop projects at a fast pace, while adhering to the traditional risk distribution between Owner and Constructor."

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## **Renewable Energy and Climate Change**

### **No Congressmen Attending UN Climate Change Conference**

The Conference of Parties talks began this week in Durban, South Africa with not a single member of Congress attending. A few congressional aides are in attendance, representing Senate Environment and Public Works Committee Chairwoman Barbara Boxer (D-Calif.), Senate Foreign Relations Committee Chairman John Kerry (D-Mass.), Senate Energy and Natural Resources Committee Chairman Jeff Bingaman (D-N.M.), and House Energy and Commerce Committee ranking member Henry Waxman (D-Calif.) U.S. lawmakers aren't attending this year because there isn't much for them to contribute absent U.S. domestic action,+Michael Levi, senior fellow for energy and the environment at the [Council on Foreign Relations told press](#).



At the 2009 U.N. negotiations in Copenhagen, then-House Speaker Nancy Pelosi (D-Calif.) led a delegation of more than 20 members.

### **OPIC Committed \$1.1 Billion for Renewable Resources in 2011**

The Overseas Private Investment Corporation (OPIC) announced financial results at the UN Climate Change Conference this week, showing about \$1.1 billion committed to renewable energy resources in FY 2011, tripling the previous year's commitments. "Climate change has required every nation to reevaluate the way we use the planet's natural resources and to find creative economic solutions so that all regions have the energy they need and the future we all want," Elizabeth Littlefield, [President and CEO of OPIC told press](#). "OPIC's success in FY2011 has shown it can be done, by mobilizing the innovation of the private sector to bring clean and sustainable energy to developing countries around the world."

### **Yale Releases New Poll on Energy and Climate Change**

A new poll on energy and climate change from Yale, the ["Public Support for Climate & Energy Policies"](#) document by the Yale Project on Climate Change Communication. Questions were centered around the priority that should be given to global warming and developing clean energy by the president and Congress; support of a revenue neutral carbon tax; opposition to subsidies; and support for other policies such as regulating carbon dioxide as a pollutant, signing an international treaty to cut emissions, and a renewable portfolio standard. The report also covers desire for action by corporate and government leaders, and measures how views have changed since June 2010, January 2010, and November 2008.

Development of clean energy sources was very popular, with 90% of Americans polled saying it should be a priority, and 54% saying a candidate's views on global warming would be important in determining their vote. In terms of action, 85% of Americans said protecting the environment improves economic growth and/or provides new jobs, and 66% said the U.S. should undertake large or medium-scale efforts to reduce the effects of global warming. And 69% of Americans opposed federal subsidies to the fossil fuel industry.

See additional results at: <http://environment.yale.edu/climate/publications/PolicySupportNovember2011/>.

### **Google: RE<C Efforts Closed**

Urs Hölzle, Senior Vice President, Operations & Google Fellow announced [in a blog entry last week](#) that the Renewable Energy Cheaper than Coal (RE<C) program was one of a number of products which haven't had the impact we'd hoped for and would be closed in an off-season spring cleaning.

This initiative was developed as an effort to drive down the cost of renewable energy, with an RE<C engineering team focused on researching improvements to solar power technology, according to Hölzle. At this point, other



institutions are better positioned than Google to take this research to the next level. So we've published our results to help others in the field continue to advance the state of power tower technology, and we've closed our efforts. We will continue our work to generate cleaner, more efficient energy- including our on-campus efforts, procuring renewable energy for our data centers, making our data centers even more efficient and investing more than \$850 million in renewable energy technologies.+

Google's efforts have supported work with Potter Drilling's geothermal drilling technology and research to develop the first Geothermal Map of the US showing the potential for geothermal energy. It has also been greatly involved in solar power technology.

Parag Chokshi, Google's [Clean Energy spokesman told talkingpointsmemo.com](#) that nobody had been laid off as a result of the initiative's closure, though Google's Green Energy Czar+Bill Weihl recently left on his own volition, and that the team already in place would continue Google's work with data center greening and investment in renewables.

## **State News**

### **Nevada: TMCC in Reno to Launch Geothermal Plant Operators Program**

Truckee Meadows Community College in Reno, Nevada, is planning to launch a program to train geothermal plant operators early next year that will extend for three semesters, thanks in part to a \$500,000 grant from the U.S. Department of Energy to develop the program. A 10-person advisory committee of industry experts helped to develop the 13-class, 34-credit program. Jim New, an associate dean of applied industrial technologies at [TMCC told press](#): "We've got to give credit to the industry people; this has moved much more smoothly than other projects we've undertaken.+ Some of the courses will be taught at TMCC's High Tech Center at the Redfield Campus adjacent to the Ormat Galena III geothermal plant, also in Reno.

### **Texas: Prototype Performing Well for Oil and Gas Geothermal Co-production Project**

An article published this week in Houston relates the status of an oil and gas geothermal co-production project in Texas using a free-piston-engine prototype that has been completed and is performing well as anticipated in laboratory tests, according to project leader and Mississippi inventor Bob Hunt. "I believe, at the end of the day, that geothermal will be the top renewable because of its 24/7-nature - it's there all the time,+Hunt said in the [interview with CultureMap Houston](#).

Hunt is working with Texas A&M at Galveston oceanographer William Merrell and investors with a company in Galveston. The systems are projected to cost roughly \$1.5 million each, with revenues targeted to split about evenly between gas and electricity sales. A commercial product is planned to come to market in late 2012 or 2013.



Hunt said in an email that it will be installed on a producing natural gas well having 3,000 psi geopressure located near Houston early next year. You can also watch Hunt talk about his work at a Tedx Talk in Austin:

[http://www.youtube.com/watch?feature=player\\_embedded&v=BgvX9M1ud60#](http://www.youtube.com/watch?feature=player_embedded&v=BgvX9M1ud60#)

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## **International News**

### **Americas**

#### **Chile and Peru: New Geothermal Development Sites Announced**

Transmark Chile SpA and ECM Geothermal SpA are jointly developing strategies [for geothermal resource development](#) at five different license areas in Chile, with exploratory drilling planned to begin by the end of 2012. Transmark Chile SpA is a 100% subsidiary of Transmark Renewable Products B.V., based in The Netherlands. ECM Geothermal SpA is a 100% subsidiary of ECM S.A, in Santiago.

The Philippines-based Energy Development Corp. will develop [four geothermal sites in Peru and Chile](#) with partner Hot Rock Ltd. of Australia. EDC would acquire a 70% interest and pay \$2.6 million to Hot Rock upon execution of the joint venture, and an additional \$1.4 million to Hot Rock upon receipt of certain consents and approvals from the Peruvian government. The sites are at Calerías and Longavi in Chile, and the Quella Apacheta and Chocopata regions in Peru.

And [Mustang Geothermal Corp. announced this week](#) it has acquired three more geothermal exploration concessions in southern Peru. The Atecata, Coline, and Condorama South properties were acquired through the government application process and are located in an area with high geothermal potential and close proximity to major commercial mining development. Peru does not currently have any operating geothermal power plants, and gets most of its 45,500 GWh of electrical power from hydro and fossil fuel sources.

### **Europe**

#### **Iceland and Russia: Geothermal Energy Cooperation Talks Continue**

Geothermal energy was one of the focuses of [agreement talks](#) between Össur Skarphéðinsson and Sergei Lavrov -- the Foreign Ministers of Iceland and Russia, respectively . this week. The two spoke about a joint task force between the countries to modernize the renewable energy sector, including the use of geothermal energy in the Kamchatka Peninsula, Krasnodar and elsewhere in Russia. Other topics of the discussions included a submarine communications cable from Russia to Iceland, an agreement on the adoption of children from Russia to Iceland, an Arctic affairs cooperation to continue to monitor the development of sea and air traffic in the region, development of academic links between institutions and universities in Iceland and Russia, and tourism.



## **Portugal: The Azores, MIT Studying Geothermal, Renewables**

The Azores are working together with the Massachusetts Institute of Technology on a project called Green Islands to experiment on new technologies. At an Assembly of European Regions conference in Ponta Delgada, Azores last week, Rodrigo Oliveira, Regional Undersecretary for European affairs in the Azores [told press the Azores government](#) is particularly interested in renewable energy and climate change issues. "The Azores are nine islands, 1,500 kilometres from the continental coast of Europe, we have 600 kilometres of ocean between these nine small islands so we have a huge economic exclusive maritime zone of one million square kilometres and we are," he said.

"We are volcanic islands so geothermal energy is very important. We started using geothermal energy in the 80s and now on this island, which is the biggest island and has half of the population of the Azores, we produce almost 50% of the energy by alternative energy, namely geothermal that represents 40%," Oliveira said.

## **Africa**

### **Ethiopia: EEPKO Geothermal Project to Commence**

The Ethiopian Electric Power Corporation (EEPCO) is set to [start construction on a geothermal](#) power plant project. The Aluto Langanjo Geothermal Project is expected to have a capacity to generate 70 MW. EEPKO will also begin six wind power projects, all part of plans to increase the country's electric power generation capacity to about 10,000 MW by the end of 2015 from the current 2000 MW.

### **Kenya: AfDB, CIF Fund Menengai Geothermal Project**

The Menengai geothermal steam field in Kenya, with estimates of power generation capacity up to 400 MW has gotten recent financial boosts from the African Development Bank (AfDB) and the Climate Investment Fund (CIF). The total cost of the project will be around \$746 million and could increase national electrification rates by 26% and reduce emissions of almost two million tons of CO<sub>2</sub> annually.

"A project to develop a geothermal steam field at Menengai, Kenya got the go-ahead on November 17, 2011 from the governing body of the Scaling Up of Renewable Energy Programme in Low Income Countries (SREP), a programme coming under the Climate Investment Fund (CIF). It approved \$25 million in grants and concessional loans, which will be channelled through the African Development Bank (AfDB) along with the AfDB's own co-financing of \$80 million," [according to AfDB](#).



## Asia

### China: Pipe-within-a-Pipe Designed for Oil and Gas Geothermal Co-production

An [article published](#) by Xianbiao Bu and colleagues from the Chinese Academy of Sciences in Guangzhou in the journal *Renewable Energy* proposes a design for an oil and gas geothermal co-production retrofit.

The team proposes a pipe-within-a-pipe design, with water flowing down one pipe, heating up and then being pumped up an inner pipe to the surface to drive a turbine. A typical well could produce around 54 kilowatts of electricity, [according to Xianbiao](#).

### Pakistan: Potential Geothermal Energy Discussed in Seminar

Experts at a seminar organized by the Pakistan Muslim League-Nawaz Youth Wing and Water & Power Action Committee [named geothermal energy](#) as one of Pakistan's best alternatives to thermal power along with solar and wind. Dr. Qaiser Iqbal, assistant professor at the University of Engineering & Technology, said the country had 100,000 MW of potential geothermal power.

## Pacific

### Australia: South Australia Geothermal Projects Underway

Geodynamics Limited and joint venture partner Origin Energy will commence drilling in the first quarter of 2012 at the geothermal project Habanero 4 in outback South Australia. The target depth is approximately 4,170 m, with drilling to take place in stages.

And Petratherm [has increased its estimates of power potential](#) at its Paralana geothermal project, also in South Australia, and is expected to produce 5.4 MW, with 1,300 MW expected over the next three decades. "These results are excellent for Petratherm and our joint venture and they are also of major significance to the wider geothermal energy sector in Australia," said Petratherm managing director Terry Kallis, who also told press, "The next step now is to drill the Paralana 3 well next year and complete the fluid circulation system, which will enable us to close the loop and begin unlocking the enormous commercial potential of Paralana's vast resources."

### Indonesia: Geothermal Drilling to Begin in Solok Selatan

Drilling is scheduled to begin in the first quarter of 2012 for a geothermal power plant project by PT Supreme Energy in Solok Selatan, West Sumatra. Yulian Efi, head of the Solok Selatan [energy and mineral resources agency told press](#) the project could potentially reach 400 MW. "Under the contract, the power which will be produced reached 2x110 megawatts in 30 years," he said.



### **Japan: Report Estimates Renewable Energy Could Produce 38% of Country' Power Output**

Japan's Energy and Environment Council [estimates in a new report](#) that 38% of Japan's power output could come from geothermal, wind, and solar renewable energy sources. The council said potential geothermal output for the country is estimated at 26 billion kWh/year, with a 93 billion kWh estimate for solar power production, and potentially 270 billion kWh/year for wind power.

### **Malaysia: PPA Signed for Geothermal Plant at Tawau**

Sabah-based Tawau Green Energy ([TGE](#)) signed a 21-year PPA this week with Sabah Electricity Sdn Bhd power grid. The company's 30-MW single flash plant could be the first geothermal power plant operating in Malaysia in three years if all goes according to plan. Andrew Amaladoss, [project director for TGE told press](#) the plan includes drilling 12 wells to a depth of between 1.8 km and 2 km. "It is only now that someone has come forward to develop, utilize and commercialize this resource for the benefit of Sabahans," he added.

"We hope the cooperation sealed today will be further strengthened in time, to ensure the surrounding community enjoys quality and stable electricity supply, while providing positive economic returns for the people in Tawau and Sabah as a whole," SESB [managing director Datuk Baharin Din said](#) at the signing of the PPA.

### **New Zealand: New Scholarships Available for U of Auckland Geothermal Program**

Up to 25 new scholarships to study geothermal energy at The University of Auckland will be available next year for international postgraduate students. About half will be allotted to Indonesians. "The University and New Zealand have a long history of sharing its geothermal expertise with developing countries," Faculty of Engineering Dean [Professor Michael Davies told press](#). The scholarships are funded by the New Zealand Ministry of Foreign Affairs and Trade's Aid Program.

### **Philippines: Mt. Makiling Assessment Shows Ample Geothermal Reserves; Indonesian Medco Eyes East Java Partnership**

Trans-Asia Oil and Energy Development Corp., a consulting company based in New Zealand [told the Philippine Stock Exchange](#) their resource assessment of the geothermal reserves in Mt. Makiling indicated a 90% likelihood of supporting Maibarara Geothermal Inc.'s proposed 20-MW power facility over the next 25 years, and could potentially support up to 28 MW. In the third quarter of this year, Maibarara Geothermal signed a 20-year electricity sales agreement with Trans-Asia Oil, an engineering, procurement and construction contract with EEI Corp., and an operations and maintenance agreement with Fuji Electric.

PT Medco Geothermal Indonesia is exploring possibilities of geothermal exploration in the Philippines. President director S.J. Aries Pardjianto [told press he was meeting with Philippine President Benigno Aquino III](#) and other geothermal companies. He and indicated plans to attend The World Geothermal Energy Summit 2011 in Manila



next week and added that he was keen to discuss a possible partnership with energy firm Petroenergy Resources Corp. for a project in Ijen, East Java, estimated to cost about US\$35 million.

**Cities Worldwide Work to Harness Geothermal Technology**

Mashable.com's Global Innovation Series recently [featured five cities using geothermal energy](#) technology. Boise, Idaho; Reno, Nevada; Reykjavik, Iceland; Masdar City, UAE; and Perth, Australia %e present the wave of the future,+according to the article. The City of Boise runs the largest direct use system in the United States and is expanding to Boise State University. About 100 MW of geothermal power is permitted and produced within the City of Reno, enough to supply the residential load of the city. Reykyavik has been using geothermal for over 70 years of use, and it is regarded as the answer to Iceland's economic recession. Masdar City has partnered with Reykjavik Geothermal on a system for heat and electricity using Enhanced Geothermal Systems. And a project at Perth is testing the potential of hot granite, with temperatures over 400°F, for geothermal energy use.



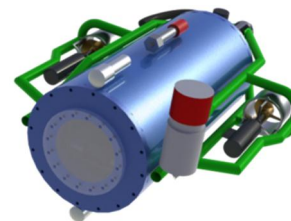
<http://www.geo-energy.org/updates.aspx>

**Notices**

**Current Notices**

**Project Aysse Seeks Support to Build Remote-Controlled, Mine-Shaft Submarine for Geothermal Implementation**

*From Project Aysse:* We are 20 engineering students from the University of Sherbrooke that are conceiving and building a remote-controlled submarine capable of navigating in a submerged mine shaft and measuring the temperature of the surrounding water. The objective of our project is to promote the use of geothermal energy. Having the thermal gradient of a mine shaft can potentially lead to geothermal implementations.



3D rendering of the submarine



We are currently looking for sponsors to help and encourage us in our endeavors, both on the financial side, as well as technical support. Any technical information or monetary or material donation would be greatly appreciated.

If you wish to help us in any way, you can contact Mathieu Couture at:



[Mathieu.G.Couture@USherbrooke.ca](mailto:Mathieu.G.Couture@USherbrooke.ca), or Stephane Labadie at: [Stephane.Labadie@USherbrooke.ca](mailto:Stephane.Labadie@USherbrooke.ca). For more information regarding the project, visit our Web site: [www.projetabysse.com](http://www.projetabysse.com).

### **Is Your Company Interested in Providing a Geothermal Internship?**

If your company working in the geothermal industry has provided internship opportunities in the past, or is interested in doing this in the future, GEA can help. Contact Alison Holm: [Alison@geo-energy.org](mailto:Alison@geo-energy.org). To see some of the work that GEA has done connecting and providing resource for students who are interested in geothermal careers, visit GEA's networking database, the Geothermal Web: <http://geothermalweb.org/Students.aspx>.

### **For Sale: Binary Cycle Geothermal Power Plant**

U.S. Geothermal Inc. is seeking indications of interest to purchase the 4.8 MW (gross) binary cycle power plant located near Empire, Nevada. The plant was built in 1986 and consists of four 1.2 MW Ormat Energy Converters (OECs), a wet cooling tower, electrical equipment and controls, and associated spare parts, including a spare turbine. After substantial refurbishment during 2009 and 2010, the plant is fully operational, and achieved 98.8% operating availability in 2011. Sale of individual OEC units will be considered. Please contact: Mr. Doug Glaspey at 208-424-1027 or Mr. Chris Harriman at 208-645-2600.

### **Site Needed for DOE Demonstration, Chena Power**

Chena Power is in need of a site location for their DOE Demonstration incorporating a [Pratt & Whitney](#) 280 kW power module and 3 evaporative coolers, placed on 2 low boy trailers, with satellite monitoring. The system requires 20 gallons per minute of water for cooling. Here's an opportunity for testing the production of a reservoir over the next few years and produce electricity for onsite use. Contact Bernie Karl [recycle@polarnet.com](mailto:recycle@polarnet.com).

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## **Employment**

### **New This Week**

#### **Reservoir Engineer, CALPINE, The Geysers, Middletown, CA**

Position Summary: Create and maintain reservoir-steamfield-powerplant simulation models. Monitor reservoir performance. Apply expertise to reservoir management, operational problems, and forecasting at The Geysers, the world's largest geothermal field. Calpine is North America's leading geothermal power producer. At The Geysers, about 100 miles northeast of San Francisco, Calpine harnesses naturally heated steam from the earth to create electrical power. This renewable "green" power is available to consumers throughout California. This position reports to the Manager of Geothermal Production Analysis. Please apply online at <http://www.calpine.com/careers/>



#### Essential Duties and Responsibilities:

1. Build and maintain calibrated numerical simulation models of the reservoir-pipeline-power plant system. Use the model to forecast steam flows under different operational scenarios.
2. Develop conceptual models of the reservoir. Prepare estimates of field reserves and forecasts of future production and generation. Prepares related reports as needed.
3. Provide support on forecasts of future capital improvements, generation and revenues.
4. Contribute insight to the broader team's thinking about the nature of The Geysers resource and the appropriate strategy for managing this unique asset within Calpine's stated "Next 50 Years+" initiative.

#### Qualifications and Experience:

1. Education: Bachelor of Science degree (BS) and graduate degrees (MS or PhD) in GeoScience or Engineering, with background in oil/gas/geothermal reservoir engineering.
2. Geothermal Reservoir Simulation: Expertise in large-scale numerical simulation of heat and mass flows in geothermal reservoirs, including understanding of numerical modeling techniques and underlying physical principles. Ability to integrate the reservoir simulation with a steam gathering system model and turbine performance curves in order to produce valid generation forecasts.
3. Reserves and Economics: Ability to translate current reserves and production forecasts into economic projections that meet financial reporting standards.
4. Other Reservoir Engineering Skills: Deep understanding of water-steam thermodynamics. Experience with decline curve analysis, wellbore flow modeling, flow test techniques, pressure build-up testing, interference testing, and other standard reservoir engineering methods applied to geothermal reservoirs.
5. Safety Consciousness: Commitment to following safe work practices that minimize risks to people, property, and the environment.

## Employment Opportunities

### **Chief Reservoir Engineer, CalEnergy, Calipatria (Imperial Valley), CA**

Applicants should apply via our careers Web site (full job description available there):

<http://www.calenergy.com/common/careers/taleo.asp?c=cal>

#### Primary Job Duties and Responsibilities

- Maintain an accurate and current reservoir engineering database for the areas of responsibility. This includes maintaining a current set of well production histories, observation of well data, geochemical trends and relevant geological data for the assigned fields.
- Prepare authorization for expenditures (AFE's) and economics for well work and equipment.



- Conduct and supervise well-field related activities that include but are not limited to the following: well acidization, well surveys (static, pressure-temperature-spinner (PTS), caliper), coiled tubing cleanouts, capillary tubing installations and tracer enthalpy testing.
- Develop new and innovative technical solutions to resource and/or drilling related issues as required.
- Diagnose well problems and engineer solutions. This includes using simulation tools to model downhole flow conditions to diagnose well problems and be proactive in preventing possible problems.
- Monitor well-field performance of MidAmerican Energy Company geothermal fields to determine potential problems that could arise and simulate current trends to the future to determine needed changes in operating procedure.
- Coordinate with all professional resource sources to provide a comprehensive interpretation of the company's geothermal and mineral reservoirs. Interpretation should be fully documented for financing.
- Responsible for data collection and analysis of Region 1 shallow heat anomaly to meet regulatory obligations and provide an appropriate management program.
- Responsible for coordinating the development of appropriate software tools to manage the reservoir and production data gathered from the field.
- Provide monthly reporting to California department of oil, gas and geothermal resources on production and injection as well as quarterly reporting to environmental agencies.
- Collect/analyze Pressure-Temperature-Spinner (PTS) and capillary tubing data.
- Must have working knowledge of reservoir simulation to oversee, direct and troubleshoot outside simulations of reservoir for financing and development.
- Develop well flow performance curves.
- Provide engineering analysis and economic models for exploration, development, workover and acquisition projects.
- Provide engineering technical support to CalEnergy Operating Corporation and global MidAmerican Energy Company operations as required.

#### Qualifications

- Bachelor's degree or higher in engineering, preferably petroleum.
- At least fifteen years of related experience and/or additional resource engineering-related training. Geothermal resource engineering experience is required and some petroleum engineering experience in oil and gas is also desired.
- Effective oral and written communication skills. Ability to read, write, analyze, and interpret technical procedures or regulations. Ability to effectively present information and respond to questions from managers and employees.
- Effective analytical, problem-solving and decision-making skills. Ability to work with mathematical concepts such as probability and statistics and complex equations including algebra, trigonometry, geometry, calculus, as well as differential equations. Must have basic computer programming ability and be very fluent in



spreadsheet analysis. Must have a solid understanding and be proficient in economic analysis. Must be able to work with math in an abstract way. Must be able to modify and/or derive mathematical equations from physical processes and relationships.

- The employee should be able to solve tough problems and deal with a variety of variables in situations where only limited standardization exists. Employee needs to synergize several inconsistent partial data sets to arrive at abstract answers. Employee should be able to interpret a variety of instructions furnished in written, oral, diagram or schedule form. Ability to visualize and comprehend the dynamic conditions and possibilities that occur during power plant and well-field development and the changes to the process that will occur over time and with proposed changes.
- A valid California driver's license is required.
- Project management skills; ability to prioritize and handle multiple issues and projects concurrently.

### **Research Geologist/Geophysicist, United States Geological Survey**

The USGS in Menlo Park, California, has an opening for a Research Geologist/Geophysicist to conduct research in support of geothermal energy assessments, with a focus on the structural, geomechanical, thermal, and hydrologic properties of fault-hosted hydrothermal systems. Detailed information on the position can be found at <http://tinyurl.com/USGSGeothermalJob>. Individuals must apply online at <http://www.usajobs.gov/> to receive consideration. For more information about the USGS, visit: <http://www.usgs.gov/ohr/great.html>.

### **Tenure-line Position, Energy Resources Engineering, Stanford University, CA**

The Department of Energy Resources Engineering at Stanford University [invites applications for a tenure-line faculty appointment](#). The position is at the assistant professor level. It is desired that the selected candidate be able to start by January 2012. (Application reviews began April 15, 2011)

The Department of Energy Resources Engineering focuses on a wide range of activities related to the recovery of the Earth's energy resources (e.g., hydrocarbons, geothermal, and renewables). The Department also has active research programs on carbon sequestration and clean energy conversions. ERE offers degrees in both energy resources engineering (B.S., M.S., Ph.D.) and petroleum engineering (M.S., Ph.D.). The ideal candidate should have research and teaching interests beyond traditional petroleum engineering disciplines.

We seek scholars with a Ph.D. in a relevant field with novel and innovative research interests in energy resources, such as in one or more of the following areas:

1. Energy systems modeling and optimization, for example integration of energy recovery and carbon sequestration
2. Engineering of enhanced geothermal systems
3. Recovery of unconventional energy resources, such as coalbed gas, shale gas or gas hydrates
4. Renewable energy resources



Please apply online at <https://academicjobsonline.org/ajo/jobs/685/> in electronic format (pdf only) with the following application material:

- cover letter
- curriculum vitae
- a statement outlining research and teaching interests
- the names of three references including e-mail addresses
- copies of up to five selected papers published in refereed journals over the past three years

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## **Requests for Proposals**

### **Proposal Announcements**

#### **Financial JV Partner Needed, Geothermal Power Generation Project in Indonesia**

The promoters were awarded the bid to build a 65 MW Geothermal Working Area (GWA) and the mining permit (IUP) of Geothermal in West Nusa Tenggara Province, Indonesia, in July 2010. The IUP is valid up to 35 years, with 3 years for exploration, 2 years for feasibility study & construction, and 30 years for commercialization. Each stage could be extended by government approval.

Promoters can sell electricity to the PLN (National Electricity Grid of Indonesia) at USD 9.65 cents per kWh. The promoters have entered a long-term Power Purchase Agreement (PPA) for 25 Years. Promoters must conduct exploration within the next 6 months.

The recommended activities of exploration stage consist of magneto telluric, gradient temperature drilling and exploration drilling. The outcome of the exploration stage is to confirm the status of probable reserve from the hypothetical resource at 65 MW. The estimated capital expenditure for the exploration stage is US \$15 million, which is required to determine the location for drilling the exploitation wells.

After confirming the location of the exploitation wells, 5-10 production wells will be drilled to produce 50 MW steam. The steam shall be converted into electricity power by constructing the steam gathering facilities, piping, infrastructures and power plant within 2 years. A mix of equity and debt finance of the total amount of the capital expenditure will be about USD \$150 million.

Projected forecasts can be disclosed during the initial conversation with potential JVC financial and EMC partners. Yearly Projected Net Profit is estimated to be \$12 Million USD with an IRR of 16.2%. Please contact Dr. Tom Lannin at [tlannin@gmail.com](mailto:tlannin@gmail.com) to discuss details and terms. The opportunity is open for 90 days. (*Posted ~Nov. 17, 2011*)



### **Service Procurement Notice, Commonwealth of Dominica (December 5)**

Publication reference, TA2010055 DM IF2, International restricted tender. Feasibility study regarding a submarine interconnection of Dominica with Martinique and Guadeloupe. As per the Practical Guide to Contract procedures for EU external actions, which is being followed for the procurement of this contract and which is available from the following Internet address:

[http://ec.europa.eu/europeaid/work/procedures/implementation/services/index\\_en.htm](http://ec.europa.eu/europeaid/work/procedures/implementation/services/index_en.htm), the award of the contract will entail a two-step process with: 1) applications sought at this stage and until December 5, 2011 (as per item 23); followed by: 2) an invitation to tender, expected in January 2012 (as per item 18), to those candidates whose applications are short-listed in step 1 (as per item 17).

#### **Contracting Authority**

The Geothermal Project Management Unit  
Ministry of Public Works, Energy and Ports

Government Headquarters, Roseau

Commonwealth of Dominica

Tel: (767) 266-3616/7/8; Fax: (767) 448-0182;

Email: [geothermal@dominica.gov.dm](mailto:geothermal@dominica.gov.dm); [pmu.geothermal@gmail.com](mailto:pmu.geothermal@gmail.com)

The applications must be received by the Contracting Authority no later than 10:00 hrs, local time on December 5, 2011. Provisional date of invitation to tender: January 2012; Provisional commencement date of contract: April 2012. Applications must be submitted using the standard application form, available from the following Internet address: [http://ec.europa.eu/europeaid/work/procedures/implementation/services/index\\_en.htm](http://ec.europa.eu/europeaid/work/procedures/implementation/services/index_en.htm), whose format and instructions must be strictly observed.

### **People, Prosperity and the Planet, EPA (December 22)**

The U.S. Environmental Protection Agency requests proposals for the National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet (P3). The P3 Awards program was developed to foster progress toward sustainability by achieving the mutual goals of economic prosperity, protection of the planet, and improved quality of life for its people. Areas of interest include: Energy; Built Environment; Materials and Chemicals; Water; Agriculture; Green Infrastructure; and Clean Cookstoves. \$1.05 million expected to be available, up to 45 awards anticipated. Responses due 12/22/11. For more info, contact Cynthia Nolt-Helms at [nolt-helms.cynthia@epa.gov](mailto:nolt-helms.cynthia@epa.gov) or go to: [http://www.epa.gov/ncer/rfa/2012/2012\\_p3.html](http://www.epa.gov/ncer/rfa/2012/2012_p3.html). Refer to EPA-G2012-P3. (Grant.gov 10/2/11)

### **Industry/University Cooperative Research Centers, NSF (February 1)**

The National Science Foundation requests proposals for Fundamental Research Program for Industry/University Cooperative Research Centers. Areas of interest include, but are not limited to: Energy and Environment;



Advanced Manufacturing; Biotechnology; Advanced Materials; and Fabrication and Process Technology. \$1.6 million expected to be available, up to 10 awards anticipated. Responses due 2/1/12. For more info, contact Rathindra DasGupta at [rdasgupt@nsf.gov](mailto:rdasgupt@nsf.gov) or go to:

[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf11570](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11570). Refer to NSF 11-570. (Grants.gov 8/10/11)

### **Sustainable Energy Pathways, NSF (February 1)**

The National Science Foundation requests proposals for Sustainable Energy Pathways. This RFP will support interdisciplinary efforts by teams of researchers to address the challenges of developing efficient pathways towards a sustainable energy future. \$34 million expected to be available. Responses due 2/1/12. For more info, including agency contacts, go to: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf11590](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11590). Refer to Sol# 11-590. (Grants.gov 9/22/11)

### **Environmental Engineering, Energy for Sustainability, and Environmental Sustainability, NSF (February 17)**

The National Science Foundation requests proposals for the following programs, with responses due 2/17/12. :

- Environmental Engineering. The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and environmental quality. \$9.4 million expected to be available, up to 44 awards anticipated. For more info, contact Paul Bishop at [pbishop@nsf.gov](mailto:pbishop@nsf.gov) or go to: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=501029](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029). Refer to Sol# PD-12-1440. (Grants.gov 6/8/11)
- Energy for Sustainability. This program supports fundamental research and education in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. Sources of sustainable energy include: Sunlight, Wind/Wave, Biomass, and Geothermal. \$9.2 million expected to be available, up to 42 awards anticipated. For more info, contact Gregory Rorrer at [gorrer@nsf.gov](mailto:gorrer@nsf.gov) or go to: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=501026](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501026). Refer to Sol# PD-12-7644. (Grants.gov 6/8/11)
- Environmental Sustainability. This program supports engineering research with the goal of promoting sustainable engineered systems that support human well-being and that are also compatible with sustaining natural systems. \$5.4 million expected to be available, up to 45 awards anticipated. For more info, contact Bruce Hamilton at [bhamilto@nsf.gov](mailto:bhamilto@nsf.gov) or go to: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=501027](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501027). Refer to Sol# PD-12-7643. (Grants.gov 6/8/11)



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## **Events**

### **Happening This Week**

#### **ACORE Phase II of Renewable Energy in America National Policy Forum (December 6-7)**

*From ACORE:* ACORE's annual Phase II Policy Forum has never been more important. With an industry whose growth and economic potential is being called into question, Phase II will be a critical meeting geared to formulate an over-arching strategy for the continued success and support of the industry. The forum will explore issues of national and energy security, economic development, capital raising, and jobs for the many under and unemployed Americans. The thought leaders from the global stage will join leaders from the national and state level to assess the status of renewable energy policy today, the range of policy options available, and help to advise on a best case policy framework for 2012 and beyond. Your attendance is critical to formulating a well-rounded energy policy for America's future.

#### **Turkey Renewable Energy and Energy Efficiency Trade Mission, U.S. DOC, Ankara-Istanbul-Izmir (December 5-9)**

Turkey's renewable energy investments will exceed US \$20 billion during the next 5 years. The country ranks Number 2 geothermal energy development potential in Europe and 5th in the world. A new Renewable Energy Law passed on December 12, 2010 increasing guaranteed prices for renewable energy resources, and additional incentives are in place.

Participants in this Trade Mission will gain:

- A senior U.S. Department of Commerce executive will lead the mission and facilitate valuable introductions to key Turkish energy industry decision-makers;
- A U.S. Export-Import Bank representative will travel with the delegation in all three cities and advise the participants on trade finance solutions;
- 10-15 pre-scheduled meetings with potential partners, distributors, end users, or local industry contacts;
- Meetings with key government decision makers and private sector firms;
- Pre-travel webinars on subjects ranging from industry briefings to business practices in Turkey;
- Meetings with CS Turkey's energy specialists in Ankara, Istanbul and Izmir, Turkey;
- Transportation to all mission-organized meetings inside Turkey (all air transportation within Turkey is the responsibility of the mission participant);
- The Trade Mission visit will provide visibility for participating American firms at networking receptions at the U.S. Ambassador's residence and U.S. Embassy press releases

Who should participate?: U.S. renewable energy equipment and systems manufacturers, RE project developers, engineering firms, energy efficiency systems and equipment suppliers, project finance companies, and any other



RE & EE companies. Cost for small and medium size firms: \$3.285; large companies: \$4.055. To apply, go to: <http://export.gov/california/kern/trademissions/>.

Contact:

Glen Roberts, Director, Bakersfield & Fresno U.S. Export Assistance Centers  
2100 Chester Ave., Ste. 110, Bakersfield, CA 93301  
Tel: 661 637-0136, [Glen.Roberts@trade.gov](mailto:Glen.Roberts@trade.gov), [www.buyusa.gov/kern](http://www.buyusa.gov/kern)

Serdar Cetinkaya, Renewable Energy Specialist, American Embassy - Ankara, Turkey  
Dir. Tel. +90-312-457-7203, Cell: +90-532-311-6885, [Serdar.Cetinkaya@trade.gov](mailto:Serdar.Cetinkaya@trade.gov)

## **GEA and GEA-Sponsored Events**

### **GEA Geothermal Energy Finance Forum, San Francisco, CA (January 18)**

GEA will be hosting its next Geothermal Energy Finance Forum at San Francisco's Marriott Marquis on January 18, 2012. This event will highlight the leading companies in the geothermal market, as well as examine the risks and benefits to investing in geothermal energy.

The program will feature discussions with geothermal leaders including Karen Douglas, Commissioner, California Energy Commission; Dan Nastou, Power and Infrastructure, John Hancock Financial Services; John Marciano, Chadbourne & Parke LLP; Rick Rodgers, Managing Director and CEO, Montgomery Street Financial; Mark Taylor, Lead Analyst, CCS & Geothermal, Bloomberg New Energy Finance; Shinji Yamamoto, Chief Investment Officer, IFC; CJ Arrigo, Advisor, Glacier; David Watson, Hudson Ranch I, EnergySource; Jonathan Weisgall, Vice President of Legislative and Regulatory Affairs, MidAmerican Energy Holdings Company; Kent Burton, National Environmental Strategies; Jonathan Zurkoff, VP of Finance, U.S. Geothermal; Louis Capuano Jr, Chairman of the Board, ThermaSource; Subir Sanyal, President and Manager of Reservoir Engineering, GeothermEx; Anders Kruss, Alterra Power Corp.; Craig Mataczynski, CEO, Gradient Resources; Lenny Hochschild, Managing Director, Evolution Markets, Inc.; and more.

Event partners for the event are American Council on Renewable Energy (ACORE) as well as sponsors GeothermEx and Pratt & Whitney Power Systems.

If you are interested in being a participant in or sponsor of this event, please contact Kathy Kent at [kathy@geo-energy.org](mailto:kathy@geo-energy.org). To register for the event, please visit: [http://geo-energy.org/events/finance\\_forum\\_2012.aspx](http://geo-energy.org/events/finance_forum_2012.aspx). Discounted registration is available through December 23<sup>rd</sup>. Significant discounts for GEA Members and Students are available. For more information or to receive media credentials, please contact Shawna Seldon, 212 255 7541 or [Shawna@rosengrouppr.com](mailto:Shawna@rosengrouppr.com).



### **\*Updates: Geothermal Track, Renewable Energy World North America Conference and Expo, Long Beach, CA (February 14–16)**

The 2012 Renewable Energy World North America Conference and Expo event will take place February 14-16 in Long Beach, California · please save the date! GEA is on the planning committee and will be exhibiting on the Expo floor. Additional participation and sponsorship opportunities are available. Contact: Leslie Blodgett at GEA, [leslie@geo-energy.org](mailto:leslie@geo-energy.org).

The Geothermal Track sessions will highlight:

- Geothermal Policy and Economics
- Geothermal Plant Systems and Technology
- Geothermal Energy and Waste Heat Recovery
- a pre-conference introductory workshop on geothermal energy in California and beyond

Speakers from the geothermal community will include: Louis Capuano, Jr., ThermaSource; Halley Dickey, TAS Energy; Karl Gawell, Geothermal Energy Association; Joe Lillard, Atlas Copco Mafi-Trench; John McCaull, Geothermal Energy Association; John McIlveen, Jacob Securities Inc.; John McKinsey, Stoel Rives; Josh Nordquist, Ormat Technologies; Maria Richards, Southern Methodist University; Mike Ronzello, Pratt and Whitney Power Systems; Bruno Vanslambrouck, HOWEST, University College of West Flanders; Kelsey Walker, TAS Energy; A. Scott Weber, University of Buffalo; Harvey Wen, Bechtel Power Corp.; and Gary Zyhowski, Honeywell.

### **Sponsorship Opportunities for GEA Events**

Your company has the opportunity for high visibility at GEA® events. In addition to providing the financial support needed for GEA to undertake successful events, GEA events feature media availabilities with sponsors which garner extensive coverage in mainstream press outlets. Events are updated at: <http://geo-energy.org/events.aspx>.

Events currently listed for 2012 are:

- January 18, 2012 GEA Geothermal Energy Finance Forum - San Francisco, CA
- February 14-16, 2012 Renewable Energy World Conference and Expo - Long Beach, CA (GEA is a supporting organization for this event)
- May 23, 2012 GEA International Geothermal Energy Showcase - Washington, DC
- August 7-8, 2012 GEA National Geothermal Summit 2012 - Sacramento, CA
- Sept. 30-Oct. 2, 2012 GEA Geothermal Energy Expo® and GRC Annual Meeting - Reno, NV



## Other Events

### **DOE Webinar, Geothermal Power Plant Operation and Maintenance (December 14)**

The Department of Energy's Geothermal Technologies Program (GTP), in partnership with Western Area Power Administration, is offering this free one-hour webinar covering key topics, issues, opportunities, and challenges associated with geothermal development in the U.S. The intended audience includes developers, utilities, Native American tribes, state officials, and other stakeholders interested in promoting cost-effective renewable energy development. The purpose is to educate the audience on geothermal energy development and utilization.

Geothermal Power Plant Operation and Maintenance (O&M) . Blundell Plant History 10 am MST . In operation since 1984, Blundell is a 34-megawatt geothermal facility near Milford, Utah. It was the first geothermal electric plant outside of California. Its energy source is a hydrothermal reservoir that lies 3,000 feet below the Earth's surface. The plant uses four production wells and three injection wells that are distributed across an area approximately 4 miles long. About 6 miles of brine piping and 2 miles of steam piping tie the system together. The webinar will include information on the plant operation, performance, and changes over the past 27 years, such as the addition of a bottoming cycle in 2007 to increase power output. If you are interested in registering for the December webinar, please contact Guy Nelson, Western's contract employee, at [energyguy@utilityforum.org](mailto:energyguy@utilityforum.org) or (541) 994-4670.

### **Geothermal Lease Sale, BLM, Nevada (January 24)**

The BLM is holding a competitive oral sale of Federal lands in the State of Nevada for geothermal leasing on January 24, 2012 at the Nevada State Office, 1340 Financial Boulevard, Reno, Nevada.

Leases issue for a primary term of 10 years. Annual rental is \$2 per acre for the first year (paid to BLM), \$3 per acre for the second through tenth year, and \$5 per acre per year thereafter. Once the site is producing for commercial generation, royalty rates are 1.75% for the first 10 years of production and 3.5% thereafter. Lands that do not receive a bid are available for a two-year period beginning the first business day after the sale.

To pre-register by mail or fax, mail the bidder registration form to the above address or fax to (775) 861-6710. On the day of the sale, bidders can register from 8:00 a.m. until 8:45 a.m., and the sale starts at 9. Bring a photo ID to the sale.

Contact: Justin Abernathy, (775) 861-6504. View the parcel list and other available documents, and check back for changes at:

[http://www.blm.gov/nv/st/en/prog/minerals/leasable\\_minerals/geothermal0/ggeothermal\\_leasing.html](http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/geothermal0/ggeothermal_leasing.html). The bid form for successful bidders (Form 3000-2, dated August 2007) can be found at:

<https://www.blm.gov/FormsCentral/show-home.do>



## Two Geothermal Leases Up for Bid, BLM, Colorado (February 9)

At its quarterly oil and gas lease auction, the BLM in Colorado will offer two parcels allotted for geothermal energy development. The sale is on February 9 at the BLM State Office, 2850 Youngfield Street, Lakewood, Colorado 80215; Telephone 303-239-3600.

Leases issue for a primary term of 10 years. Annual rental is \$2 per acre for the first year (paid to BLM), \$3 per acre for the second through tenth year, and \$5 per acre per year thereafter. Once the site is producing for commercial generation, royalty rates are 1.75% for the first 10 years of production and 3.5% thereafter. Lands that do not receive a bid are available for a two-year period beginning the first business day after the sale.

The first geothermal parcel includes 4,587.77 acres of BLM land. The second geothermal parcel includes about 3,765.49 acres of U.S. Forest Service land. The BLM's resource management plan for Gunnison includes stipulations for geothermal leasing that protect geologic hazards, the Gunnison sage-grouse, and senior water rights.

Contacts: Ms. Sharon A. Sales, [sharon\\_sales@co.blm.gov](mailto:sharon_sales@co.blm.gov), (303) 239-3987; Mrs. Rebecca Skinner, [rebecca\\_skinner@co.blm.gov](mailto:rebecca_skinner@co.blm.gov), (303) 239-3780; or Mr. Kristian Lee, [kristian\\_lee@co.blm.gov](mailto:kristian_lee@co.blm.gov), (303) 239-3786.

Additional lease sale information can be obtained online at:

[www.blm.gov/co/st/en/BLM\\_Programs/oilandgas/leasing.html](http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/leasing.html), or by contacting the address above. The bid form for successful bidders (Form 3000-2, dated August 2007) can be found at:

<https://www.blm.gov/FormsCentral/show-home.do>

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### GEOTHERMAL ENERGY WEEKLY

A newsletter for the geothermal industry written by Leslie Blodgett and Karl Gawell

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