

# Geothermal Energy Weekly

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**National News**

**Senators Tester, Risch Introduce Legislation to Streamline RE Development on Public Lands**

A bipartisan bill introduced this week by Senators Jon Tester (D-Mont.) and Jim Risch (R-Idaho) seeks to streamline leasing and permitting renewable energy on public lands. Title I of this bill extends the geothermal trust fund, which funds BLM work through the federal royalty share, through 2020. The fund was created by the 2005 Energy Bill and had expired in 2010. Title II of the bill established new procedures for solar and wind projects on public lands.

The bill could also help local governments see increased revenue and certainty by establishing a more predictable and direct royalty system from renewables. “Our bill is a common-sense way to create jobs and give renewable energy the same opportunities as oil and gas. And by responsibly developing our energy resources, we will also increase our energy security,” [Tester said in a statement](#).

The 2005 legislation took the federal share of geothermal royalties and placed them in an off-budget fund to support activities by BLM and other agencies to administer geothermal leasing, permitting and related work. This fund was used to pay state-level geothermal staff, fund various EIS documents including the programmatic EIS, and pay for work related to leasing and permitting by both Forest Service and the BLM.



"I don't think it is a coincidence that when Congress created a geothermal program trust fund, BLM finally moved forward aggressively to address its backlog of geothermal lease and permit applications; nor is it a coincidence that when the trust fund lapsed in 2010 the BLM stopped having a national geothermal program," said Karl Gawell, GEA's Executive Director. "Restoring dedicated funding for geothermal leasing and permitting is vital to ensure the promise of agency streamlining."

Additional streamlining of the leasing and permitting process is still needed, but this legislation would at least make sure that BLM and other agencies will be able to support staff and necessary work for geothermal activities. The House Resources Committee reportedly may consider similar legislation under development. View the bill online [PDF] at: <http://tester.senate.gov/Legislation/upload/FLO11737-Renewable-Energy-Bill-11-1-11.pdf>.

### **Reichert, Blumenauer Introduce Bipartisan Extension of RE Tax Incentive**

Press Release, November 2 — *Bill extends production tax credit through 2016* — Washington DC – U.S. Representatives Dave Reichert (R-WA) and Earl Blumenauer (D-OR), members of the tax-writing House Committee on Ways and Means, today introduced the American Renewable Energy Production Tax Credit Extension Act (H.R. 3307). This bipartisan bill extends the tax incentive for the production of wind power, geothermal power, hydropower, and other forms of renewable energy through 2016.

"Extending this long-standing tax incentive will leverage private investment to bring proven energy projects online, bolster domestic manufacturing, and reduce electricity costs for businesses and families," said Rep. Reichert. "Renewable energy resources play an important and increasing role in America's total energy supply and reducing our reliance on foreign energy resources controlled by hostile nations. The certainty this bipartisan bill will provide can further spur growth in this vital sector, increase economic development, and create jobs."

"Tax credits for renewable energy development are an essential part of powering America's clean energy future," said Rep. Blumenauer. Investing in the renewable energy industry is vitally important for the American economy, creates jobs, and helps curb America's dangerous dependence on foreign oil."

"American wind energy jobs are something that we can all agree are vital for our economic well-being and energy security," said Denise Bode, CEO of the American Wind Energy Association. "The recent stability of production tax credit (PTC) has provided the foundation of wind energy's transformation of a new manufacturing sector based on American ingenuity. Over the last six years, U.S. domestic production of wind turbine components has grown 12-fold to more than 400 facilities in 43 states. Extending the PTC will keep growing U.S. wind energy manufacturing jobs, rather than losing them to other countries."

"Extending hydropower tax incentives provides developers financial certainty and will bring additional clean, affordable and reliable hydroelectric power to more American families," said Linda Church Ciocci, Executive



Director of the National Hydropower Association. "A long-term PTC extension sends a market signal supporting project development, in turn leveraging significant private investment."

"The Reichert-Blumenauer bill [will] help diversify our nation's energy sources while employing thousands of Americans and providing hundreds of megawatts of new clean energy," said Bob Cleaves, President and CEO of Biomass Power Association. "Biomass power promotes sustainable forestry and farming while providing predictable, long-term energy solutions that contribute to rural economies across the country."

"Extending federal tax incentives through 2016 is vital for the future of the US geothermal industry," said Karl Gawell, Executive Director of the Geothermal Energy Association. "We are already seeing a slow-down in projects unable or unlikely to meet the current deadline. This legislation would stem this downturn and sustain growth in the US geothermal industry."

### **Geothermal Energy Expo Draws Community Interest**

This year's annual GEA Geothermal Energy Expo wrapped up on October 26 with over 2,500 attendees from 33 different states and 13 different countries.

San Diego, home of this year's Expo and the corresponding GRC Annual Meetings is near some of the world's fastest growing geothermal resource sites in the world, with several geothermal plants in Imperial Valley under construction that are scheduled to come on line in 2012 and beyond.

Along with the buzz created around the event itself, a tour of several of these facilities as well as a new



report by GEA: "Energizing Southern California's Economy: The Economic Benefits and Potential for Geothermal Energy in Southern California" (October 2011) raised the interest of the southern California community.

San Diego State university's [KPBS quoted GEA's Executive Director Karl Gawell](#), "The state's continued support for expanding renewable power production is extremely important to geothermal and all of the renewable industries." Gawell told them, "It means that there will be a growing market for these technologies," and added, "It drives not just new power plants in California, but also drives the growth of the industries and the research and the technology development that supports that."

Gawell said especially with today's uncertain national political climate, California's renewed commitment is welcomed more than ever, and that there is much more room to expand on the state's 2,500 megawatts of



geothermal power: “We could easily double and triple that,” KPBS quoted, “The ultimate potential could be even greater.”

Bastian Poux, a geologist with EGS, Inc. won a drawing for a Kindle from GEA by visiting all 44 booths of GEA member companies that showed on the Expo floor and completing a “passport” card. Winners were also chosen from among all exhibitors for Best in Show Booth Prizes.

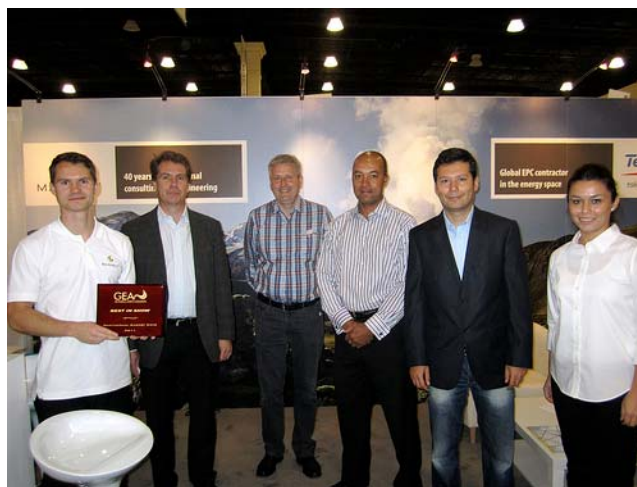


**I**Best in Show: Large Booth — UKTI/Cornwall



**II**Best in Show: Audience Choice — Islandsbanki

*Winning booths were chosen from among the exhibitors at the 2011 GEA Geothermal Energy Expo*



**III**Best in Show: Small Booth — Mannvit and Technip



Additional press coverage around GEA's Geothermal Energy Expo 2011 is available from: Sign On San Diego: <http://www.signonsandiego.com/news/2011/oct/24/geothermal-still-outpowers-wind-solar-california/>, and Imperial Valley Press: [http://articles.ivpressonline.com/2011-10-22/megawatts-of-geothermal-energy\\_30311903](http://articles.ivpressonline.com/2011-10-22/megawatts-of-geothermal-energy_30311903). Video footage of Cal Energy's Vonderahe-1 in Imperial County, the world's largest geothermal well, is available from San Diego's 10 News: <http://www.10news.com/news/29555213/detail.html>. The GEA report, which points out the enormous influence of geothermal energy in California, is available on the GEA Web site at: <http://geo-energy.org/reports.aspx>.

Read more about the GEA Expo and geothermal energy in southern California in this issue:

- **National News** — “New GEA Report Finds Southern California is World Leader in Geothermal Production”
- **Company News** — “GEA: Geothermal Energy Expo 2011 Closes with Record Attendance”
- **State News** — “California: GEA Hosts Geothermal Plant Tour of Imperial Valley”

### **So. Cal. is World Leader in Geothermal Production, Says New GEA Report**

Press Release, San Diego, October 21 — Today, the Geothermal Energy Association (GEA) hosted a tour of geothermal power plant complexes based in Imperial Valley, Calif., as a preview to the GEA Geothermal Energy Expo, which begins Sunday night. Today's tour of CalEnergy U.S. and Ormat facilities provided access to two of the leading geothermal plants that supply Southern California with renewable, baseload energy. In conjunction with the Expo, GEA has released a report on Southern California and its geothermal resources, titled "Energizing Southern California's Economy: The Economic Impacts and Potential for Geothermal Energy in Southern California."



“The facilities in the Imperial Valley exemplify the vast geothermal potential of Southern California and the nation,” said Paul Thomsen, GEA Board President and Director for Ormat Technologies, Inc. “The GEA tour and report are critical tools in educating the public and policy makers about the importance of this cost-effective, indigenous, base-load renewable energy resource.”

The GEA report cites both stops on the GEA tour as geothermal companies with projects in development. At CalEnergy U.S., the tour stopped at the world's largest geothermal well Vonderahe-1 and the Black Rock project site. According to CalEnergy U.S., the development of its Black Rock geothermal projects will employ several hundred workers during the peak of construction. Once on-line, these power plants will permanently employ operations, maintenance, engineering and administrative professionals.

“The GEA Geothermal Energy Expo is a wonderful opportunity for industry leaders to convene and discuss opportunities for moving our industry forward,” said Steve Larsen, president of CalEnergy U.S. “The Southern



California report shows the opportunity presenting itself in our region. The Black Rock project is another step in that direction.”

The GEA report finds that if California were a separate country, it would be the world leader in geothermal power production, with more than 2,500 MW of installed geothermal capacity. Southern California alone would rank fifth in installed geothermal capacity behind Mexico (958 MW), and ahead of Italy (843 MW). Millions more California homes and businesses could have their energy needs met through the geothermal energy that is waiting to be tapped in Southern California.

The report also finds:

- **Energy Mix:** In 2010, geothermal energy provided approximately 42 percent of California’s commercial in-state renewable electricity generation. In addition to its large potential capacity, geothermal energy offers advantages over other forms of energy. It is ideally suited to provide baseload (24/7) power that intermittent renewable resources cannot provide. Additionally, when compared to other forms of baseload thermal generation, geothermal offers major advantages in fuel price stability, since it does not require a fuel supply, significantly reduces air emissions, and has a smaller footprint per installed MW.
- **Additional Resources:** Southern California benefits from geothermal production from power plants located around Coso and the Imperial Valley. Today, Southern California provides substantial power from these regions, meeting the needs of approximately 1 million California households. The region also has substantial undeveloped geothermal resources. Developing these resources would bring significant amounts of reliable power to meet the state’s energy, climate, emissions and renewables goals.
- **Economic Boost:** Geothermal companies are developing additional geothermal resources for energy production in Imperial County. Currently, five geothermal projects – with a combined estimated installed capacity of 239 MW – are being developed by CalEnergy U.S., Energy Source and Ormat Technologies in the area around the Salton Sea. In addition to providing additional energy to Southern California’s power markets, the development and operation of these geothermal power plants will provide an economic boost to the region. The projects could bring hundreds of new jobs and billions of dollars of economic development in some of the most economically challenged areas of the state.

The report also reviews transmission, research and development, and geothermal technologies. The complete report can be accessed at [www.geo-energy.org](http://www.geo-energy.org).



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## **Company News**

### **AltaRock Energy: Video Details EGS Demo Project**

AltaRock Energy has published a video to their Web site explaining the process of Enhanced Geothermal Systems and details of their Newberry EGS demo project in Oregon. View the video at:

<http://www.altarockenergy.com/>.

The video explains how a natural hydrothermal geothermal system works, and points out the advantages EGS could bring the geothermal industry, such as the ability to enhance geothermal sites and make the energy source available virtually anywhere. Details covered include the cold-water injection fracturing system, exploring the most cost-effective way to create an EGS reservoir and the best technologies to use, and the three-phase structure of the project at Newberry. The video is narrated by Ed Begley, Jr., the Emmy award-nominated actor.

The Newberry Volcano EGS Demonstration is being conducted by AltaRock Energy in partnership with Davenport Newberry and is partially supported by the DOE, with \$21.5 million grant matched by an additional \$22.4 million from the AltaRock-Davenport partnership. Also adding their efforts to the project are faculty and students at Oregon State University, the University of Utah, Lawrence Berkeley National Laboratory, Texas A&M, and Temple University.

### **Cornell Univ.: Prof. Tester Receives GRC Special Achievement Award**

Jefferson W. Tester in October received the Geothermal Special Achievement Award from the Geothermal Resources Council. [Cornell reports](#) Tester is the Croll Professor of Sustainable Energy Systems in the School of Chemical and Biomolecular Engineering and is director of the Cornell Energy Institute and associate director for energy in the Atkinson Center for a Sustainable Future and has published extensively in the energy field.

Tester was recognized for over three decades of contribution to the geothermal sector, including pioneering work on thermal energy conversion and utilization, tracer methods for characterizing reservoir thermal hydraulic behavior and geothermal systems analysis. Tester chaired the 18-member international panel that produced a major report in 2006, "The Future of Geothermal Energy." And from 2009 to 2011, Tester served as the U.S. representative for geothermal energy to the Intergovernmental Panel on Climate Change working group.



## GEA: Geothermal Energy Expo 2011 Closes with Record Attendance

Press Release, San Diego, CA — October 31 — *Amid Exciting Industry Growth, a Call for Leadership from Washington — Industry will reconvene in Reno in 2012* – More than 2,500 attendees from 33 different states and 13 different countries came together in San Diego last week for the GEA Geothermal Energy Expo, the largest gathering of geothermal energy leaders in the world. The sold out Expo Hall featured 160 exhibitors. Leading companies including Ormat, NALCO, Siemens, Geothermal Resource Group, POWER Engineers, Íslandsbanki, Pratt & Whitney Power Systems, Mitsubishi Power Systems and TNG Energy Services were in attendance. The event provided a unique opportunity for exhibitors to showcase their projects, equipment, services and state of the art technology to the geothermal community.



The United States is the world leader in geothermal generation, with approximately 3,100 MW online. And a new map from Southern Methodist University's Geothermal Lab, created with help from a grant from Google's philanthropic arm Google.org, estimates the U.S. could potentially generate nearly three million megawatts using the Earth's heat, or about ten times the installed capacity of coal power. Since 2005, geothermal power projects have expanded from 4 states into 15 states from the Pacific to the

Gulf Coast. While the number of states with geothermal installed capacity and projects in development is significant, the reach of the geothermal industry is even more extensive. A total of 43 states have companies involved in geothermal development operations. With the growth of the geothermal industry, the Expo has been rapidly expanding, with the number of exhibitors more than doubling since 2008.

"In California, geothermal is already providing over 40% of the renewable energy mix and we're barely scratching the surface. The industry has the potential to be a jobs creator while lessening America's dependence on fossil



fuels. But just like any fledgling sector, we need long term stable policy to continue this growth,” said GEA Executive Director Karl Gawell.

Expo attendees expressed energy and optimism even despite the current challenges faced by the industry. The extension of the renewable energy production tax credit (PTC) to geothermal energy in the Energy Policy Act of 2005 has been a principal factor in the growth of the industry. But, many geothermal projects will not be completed by the current tax credit expiration deadline at the end of 2013, which could undermine future industry growth.

“We have about 700 megawatts of projects in the near-term pipeline, but projects coming on-line after 2013 needs signals now about what to expect from federal and state policies. With geothermal projects taking three to five years to get through the permitting and into construction, the two most important actions that would spur sustained geothermal development are extending the federal tax incentives to 2016 and finding ways to cut project time-lines in half,” Gawell said.



In addition to its large potential capacity, geothermal energy offers advantages over other forms of energy. It is ideally suited to provide baseload (24/7) power that intermittent renewable resources cannot provide. Additionally, when compared to other forms of baseload thermal generation, geothermal offers major advantages in fuel price stability, since it does not require a fuel supply, significantly reduces air emissions, and has a smaller footprint per installed MW.

The 2012 Expo will be held in Reno from Sept. 30-Oct. 2, 2012. For more information about exhibitor and sponsorship opportunities, please contact Kathy Kent at (202) 454-5263 or [kathy@geo-energy.org](mailto:kathy@geo-energy.org).

### **Google, SMU: Project Confirms Vast Potential for Geothermal Energy**

As [reported by Forbes](#), new research funded by Google.org and compiled by Southern Methodist University, using data from over 35,000 sites, builds on existing knowledge of potential for geothermal energy. The results show three million megawatts of potential geothermal energy below the surface of the U.S. — ten times the amount of energy from coal plants on line in the country today.

Enhanced geothermal system (EGS) mapping on Google Earth is available here: <http://www.google.org/egs/>.

In the September 16 *Geothermal Energy Weekly*, GEA had reported from SMU that: “This multi-year effort, supported by a generous grant from Google.org, includes the addition of thousands of new data points (over



30,000) and has allowed us to improve the precision and detail of heat flow and temperature-at-depth maps for the United States. There was particular focus on the eastern US resources at a regional level. Graduate students Zach Frone, Joe Batir, Andrés Ruzo, Ryan Dingwall, Mitchell Williams, and Nicole Sica worked on this project.”

### **Siemens: Steam Turbines Ready for Geothermal Plants**

[Bloomberg reported on](#) Siemens' 60-MW steam turbine designed for geothermal power plants: “We are optimally set up with this machine to be well-positioned in the marketplace,” Markus Tacke, chief executive officer of the Industrial Power Business unit of Siemens Energy Inc., said in a statement. The Munich-based company works in wind turbine and solar energy equipment and showed its geothermal offerings at the GEA Geothermal Energy Expo in San Diego last month.

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## **Renewable Energy and Climate Change News**

### **ORC Poll Shows Public Support for Renewables Subsidies Over Fossil, Nuclear**

A new polling of 1,049 people by ORC International for the Civil Society Institute found that 38% of Americans support federal subsidies for wind and solar, as opposed to 13% in favor of support for the nuclear and fossil fuel industries. Of those polled, 70% supported a shift in federal loan guarantees from nuclear power to wind and solar, and 77% also said the U.S. needs to be a "clean energy technology leader" by investing in research and domestic manufacturing of renewable energy and energy efficient technologies.

"The survey we are releasing today shows that Congress and the White House ... with their continuing priority on fossil fuels and nuclear power ... are out of touch with views of mainstream America," CSI's president and founder Pam Solo [said in a statement](#). "There is a strong desire for more attention on safe, renewable energy and concern for protecting water resources."

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## **State News**

### **Alaska: Mount Spurr Project Sees Setback**

After disappointing results from drilling of a 4,000-foot test well at the proposed Mount Spurr geothermal project, Ormat Technologies is now reevaluating the project, [reports the Alaska Journal of Commerce](#).

Ormat has been working with the Alaska Energy Authority, which provided a \$2.1 million grant, although Ormat's own investment was significantly higher, the article said. The company had expected to find volcanic rock based on all available data, but found inferior conglomerate rock, as well as a lower temperature gradient than expected, according to the article. The company is expected to conclude its final report on the 2011 drilling will. The project site is 75 miles west of Anchorage.



## California: CARB Adopts Key Element of State Climate Plan

Press Release [[See full story](#)], Sacramento, October 20 — *Cap-and-trade will work with other climate programs to drive innovation and jobs and promote efficiency, clean energy* — The California Air Resources Board today adopted the final cap-and-trade regulation, putting into place another key element of the state's pioneering climate plan.

The cap-and-trade program will now join a suite of other major measures including standards for ultra-clean cars, low-carbon fuels and renewable electricity. The program also complements and supports California's existing efforts to reduce smog-forming and toxic air pollutants and improve energy efficiency in homes and businesses.

"Cap-and-trade is another important building block in California's effort to create a clean and vibrant economy," said ARB Chairman Mary D. Nichols. "It sends the right policy signal to the market, and guarantees that California will continue to attract the lion's share of investment in clean technology. When the nation addresses the growing danger of climate change, as I believe it must and will, California's climate plan will serve as the model for a national program."

The Board also approved an adaptive management plan to closely monitor the effect of the program on localized air quality and forests, in particular.

The regulation sets a statewide limit on sources responsible for 85 percent of California's greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest-cost options to reduce emissions.

The regulation will cover 360 businesses representing 600 facilities and is divided into two phases: the first, beginning in 2013, will include all major industrial sources along with electricity utilities; the second, starting in 2015, brings in distributors of transportation fuels, natural gas and other fuels.

Companies are not given a specific limit on their greenhouse gas emissions but must supply a sufficient number of allowances (each the equivalent of one ton of carbon dioxide) to cover their annual emissions. As the cap declines each year, the total number of allowances issued in the state drops, requiring companies to find the most cost-effective and efficient approaches to reducing their emissions. The first compliance year when covered sources will have to turn in allowances is 2013.



### California: GEA Hosts Geothermal Plant Tour of Imperial Valley

Press Release, San Diego, Calif., October 21 — New GEA report finds Southern California is world leader in geothermal production — Today, the Geothermal Energy Association (GEA) hosted a tour of geothermal power plant complexes based in Imperial Valley, Calif., as a preview to the GEA Geothermal Energy Expo, which begins Sunday night. Today's tour of CalEnergy U.S. and Ormat facilities provided access to two of the leading geothermal plants that supply Southern California with renewable, baseload energy.

“The facilities in the Imperial Valley exemplify the vast geothermal potential of Southern California and the nation,” said Paul Thomsen, GEA Board President and Director for Ormat Technologies, Inc. Photos from the Press Tour are available at: <http://www.flickr.com/photos/geo-energy/sets/72157627898623379/>.





## California: County Geothermal Royalty Share at Risk

The [Lake County Record Bee reported](#) County Administrator Kelly Cox's work to oppose a move by the House Democrats' Natural Resources to eliminate the county share of geothermal royalty payments as part of its own deficit reduction plan. Cox brought the issue to the Lake County Board of Supervisors who approved drafting letters to federal representatives, and had been in touch with other county governments throughout the country about the issue. Lake County would lose more than \$1.5 million per year.

## Colorado: Pagosa Springs Could be Geothermal Research Site

[Pagosasan.com reported](#) the town of Pagosa Springs looks forward to the possibility of welcoming up to 60 graduate students and faculty from the Colorado School of Mines in mid-May to conduct a geological survey of the local geothermal aquifer. Research in the area would include directing large sound waves beneath the Earth's surface that are then received as echoes of shapes and depths; and measuring electrical signals by the movement of water in porous, fractured materials.

Town officials, members of the Geothermal Greenhouse Partnership (GGP), Pagosa Geothermal Advocates (PGA), geothermal stakeholders, the Pagosa Springs Community Development Corporation, the Pagosa Springs Chamber of Commerce, the Archuleta Board of County Commissioners and interested local residents recently spoke with Colorado School of Mines team leaders supporting the area as a target for the research.

## Hawaii: Geothermal Push in Waimanalo

[Honolulu's Civil Beat reported a meeting](#) at Bellow's Air Force Base in Waimanalo to discuss the potential for geothermal development in the state in the midst of dependency on fossil fuels. Those in attendance included Mike Kaleikini from Puna Geothermal Venture; Scott Seu from Hawaiian Electric Co.; Richard Ha and Ted Peck of Kuokoa, which is looking to take over HECO and include a large portion of geothermal in its plans, although HECO has not announced plans to sell; Sen. Mike Gabbard, chair of the Senate Energy and Environment Committee; and Mililani Trask, who led protests against geothermal development in the 1980s but has since flipped and supports development.

## Nevada: Reno a Hot Spot for Geothermal Recruitment

[Northern Nevada Business Weekly reports](#) that the City of Reno and the Economic Development Authority of Western Nevada have seen the impact of geothermal companies being drawn to Reno, Nevada as one of the centers of the geothermal sector. Five geothermal companies — Gradient, Nevada Geothermal Power, Terra-Gen, Oski Energy and Ram Power — are within a half mile of one another in South Meadows; several others — Ormat Technologies, Magma Energy, and Geothermal Development Associates — are clustered near the NV Energy office in south Reno. Peter Wallish, the city's economic development manager, told the publication geothermal programs at University of Nevada, Reno and Truckee Meadows Community College will continue to



help draw geothermal jobs to the region. "Our No. 1 is job creation," Wallish said. Representatives from the City and EDawn took part in October's GEA Geothermal Energy Expo and GRC Annual Meetings.

### **Texas: The Controversial Plan for Drawing Clean Power From Old Oil Wells**

[The Atlantic interviewed](#) Bob Hunt, formerly a nuclear engineer, who is now testing a system for geothermal energy at oil and gas wells. Beyond nuclear, Hunt has also worked with solar materials, wind turbines, and a wave generator. His geothermal work now consists of building test units on oil and gas wells near Houston, which he expects to be running this year. "The U.S. only has 3,000 megawatts of geothermal energy installed, so doing 1,500 wells would double that," Hunt told the publication. "This has potential for rapid expansion because you can build these modular units within a factory environment, and we've got thousands of abandoned oil and gas wells."

### **Utah: Hatch Requested Federal Funds for now-Bankrupt Firm**

[The Salt Lake Tribune reported](#) that Sen. Orrin Hatch's office reviewed his earmark requests finding they had requested seven earmarks for Raser Technologies, which filed for Chapter 11 bankruptcy in May. Hatch's spokesman Matt Harakal told press they wanted to set the record straight, and also stressed that the requests were for the vehicle efficiency component of Raser, which is operating under a new name. "To err is human and that's what happened here," Harakal said. "This was an honest mistake that Senator Hatch insisted be set straight. He's got a long history of supporting Utah businesses and showcasing Utah's vibrant economy, and he will continue to do so."

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## **International News**

### **Americas**

#### **Argentina: PPA Signed for Copahue Project**

Earth Heat Resources has [signed a power purchase agreement](#) with Electrometalurgica Andina SAIC for an initial 30 MWe per year from its Copahue geothermal power project in Argentina, with potential for expansion. The company has seen solid progress at Copahue and is positioned to be the first ASX listed geothermal company to complete a Bankable Feasibility Study. The company is "genuinely excited to be in a position to announce the signature of another LOI for power offtake in Argentina," Earth Heat's managing director, Torey Marshall, told press. "We also have an extremely positive outlook on the overall intentions of Electrometalurgica Andina in terms of developing existing and new projects in the country via potential direct investments."



## **Chile: Ormat Technologies to be Awarded 5 New Exploration Concessions**

[Press Release](#), October 24 -- Ormat Technologies, Inc. (NYSE: ORA) announced that the Committee on Geothermal Energy Analysis recommended the Minister of Energy to award Ormat Andina SA., a subsidiary of Ormat Technologies, Inc., five exploration concessions in Chile.

According to results released on October 19, 2011 by the Chilean Ministry of Energy regarding the latest tender for 20 new areas of geothermal energy exploration concessions in Chile, The Committee, has recommended to award Ormat Andina SA., all five concessions in which the company participated. The said concession areas are respectively called "Aroma", "Quinohuen", "Marimar" "San Jose II" and "Sollipulli." In order to maintain the development rights in these concessions, Ormat has to make certain investment in an exploration program in the next two years. Successful exploration results will be followed by an exploitation license, which is the first step for power plant construction.

Studies indicate Chile has a large untapped geothermal energy potential and is expected to lead geothermal development in the region.

Commenting on the award, Dita Bronicki, CEO of Ormat, said, "To be awarded with five-out-of-five exploration concessions reinforces Ormat's position as a leader in the geothermal industry as well as demonstrates our experience as a vertically integrated technology provider with a strong commitment to the development of green-field geothermal projects throughout the world. While we know not all exploration sites result in commercial projects, we are happy to increase our potential development in Chile. These concessions add to Ormat's diverse portfolio of interests and developments in Latin America and worldwide, which include activities as owner and operator of power plants in Nicaragua, Guatemala, Kenya and the U.S."

## **Nicaragua: Commercial Ops at San Jacinto-Tizate Expected this Year**

[Reuters reports commissioning](#) for Phase I expansion has begun at Ram Power's San Jacinto-Tizate project. Commercial operations are expected to begin in December, adding 36 MW of capacity to the current 10 MW.

## **Europe**

### **Iceland: Mannvit and Verkís to Design Two New Geothermal Plants; Alcoa Cancels New Smelter**

Last month, Landsvirkjun and Þeistareykir ehf signed a contract with engineering companies Mannvit and Verkís for design and consulting services at [two new geothermal power plant sites](#) in Northeast Iceland, at 90 MW each, a total contract value of around \$25 million USD. Next steps include an immediate review and preliminary design, and full project design is expected to begin in early 2012. "The decision to start construction on these new geothermal power plants in Northeast Iceland is a cause for celebration and we are immensely proud to have been chosen to engineer these important projects," Eyjólfur Árni Rafnsson, Mannvit CEO told press.



Meanwhile, long-time plans of Alcoa , the largest U.S. aluminum producer, to develop a new smelter in Iceland have been canceled. "At this time, we are unable to acquire the amount of power we need at a competitive price, in order to consider building a smelter in Bakki," Tomas Sigurdsson, managing director of [Alcoa in Iceland told press](#).

### **Russia, Iceland: Geothermal Energy Agreement Signed**

Russian Energy Minister Sergei Shmatko and Icelandic Minister of Industry, Energy and Tourism Katrin Juliusdottir last week signed an agreement to cooperate on geothermal energy production. [Shmatko told press](#) Russia expects to take equity stakes in Icelandic renewable energy companies and to implement joint projects in the Russian far eastern Kamchatka peninsula, where three geothermal plants are already in operation.

### **UK: Lack of ROC Support Could Drive Geothermal Investment Elsewhere**

[Businessgreen.com reported](#) a consultation of the government Renewable Obligations proposes maintaining current level of saleable Renewable Obligations Certificates issued to geothermal power plants at 2 ROCs/MWh, before cutting the level to 1.9 ROCs in 2015-16, and 1.8 ROCs in 2016-17. Meanwhile the industry has said subsidies will have to increase, not decrease, to give the UK a chance in the global geothermal playing field.

But potential investment in geothermal energy could be passed up in the UK in favor of more development-friendly governments elsewhere: "The new German tariff is €300/MWh - double the UK's," Ryan Law, managing director of Geothermal Engineering, told BusinessGreen. "We're not going to see much of a sector in the UK when investors can go abroad ... it leaves the industry in a very difficult position," he said.

## **Pacific**

### **Australia: Geothermal Collaboration in Western Aus.; Geelong Plant Wins State Grant**

An agreement between Green Rock Energy and New World Energy means they will jointly develop geothermal exploration permits owned by both companies in the North Perth Basin. The joint venture will focus on identifying the most prospective drilling target for two wells that can be connected to existing power infrastructure, with the goal of an initial ~5 MW of power generation capacity.

"Green Rock considers the Mid West Geothermal Power Project a strong contender for State and Commonwealth funding towards drilling the first two wells," Green Rock's Managing Director, [Richard Beresford told press](#).

"Working jointly with New World Energy further strengthens our prospects and we look forward to further progress on funding over the next few months," he said.



The Sustainable Energy Association's [Ray Wills told press](#) that mine sites have a growing electricity need in the region. "As they build they'll need electricity and what we're saying is that will be the fastest growing market, so it simply represents a great opportunity for geothermal to bid into a market that will be very quickly growing."

Meanwhile, a \$25 million state government grant, two years in the making, will go to the 12-MW Geelong geothermal pilot project by Greenerth Energy. The first \$5 million will go towards drilling a 4-km-deep test well. Managing director [Mark Miller told The Age](#) the company would seek cash from the federal government's \$126 million Emerging Renewables Program to fund the remaining \$18 million needed for the first exploration well, which is expected to be drilled in early 2013.

### **Indonesia: Government Working to Attract Investment**

[RenewableEnergyWorld.com reports](#) that while Indonesia has made aggressive moves to build its geothermal industry, it must do more to meet the target of 9,000 MW of installed capacity, estimated to cost \$30 billion, by 2025.

The country lacks enough foreign investment to meet the goal, and tariffs are still too low, company experts told press. But the government did recently issued a law allowing foreign developers to pursue their own projects as long as they set up a consortium that includes at least one Indonesian company with a 5% or greater stake in the project. The new law could open up new investment, as companies were previously limited to partnering with state energy group Pertamina.

### **Philippines: EDC Working at Mt. Kanlaon, Northern Negros**

EDC is working to replace the 40-MW Northern Negros Geothermal Power Plant in Bago City with a smaller unit that could produce 5 to 10 MW with support from the geothermal buffer zone in Mt. Kanlaon park. NNGP vice president Dwight Maxino [told press NNGP](#) is committed to fulfill all the environmental conditions in the buffer zone set by the Provincial Board.

The [Philippines' Sun Star reports](#) that the action group Countdown Movement is calling for the termination of the Energy Development Corp (EDC)'s contract to operate its geothermal power plant at Mt. Kanlaon. The EDC was given until December 2011 to operate at the site, the article said. The movement plans to count down from November 1.



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## **Geothermal Heat Pumps and Direct Use**

### **Contract Set for Aspen Geothermal Drill Test**

A drilling contract for a project to test geothermal energy potential [under Aspen was recently finalized](#). The well is expected to be 6 to 8 inches wide and up to 1,000 feet deep, and will take 19 to 31 days to complete. The city had to adjust the original contract to allow for a higher decibel noise limit, from the 55-decibel noise limit to an 80-decibel limit, by recategorizing the project as a "construction" site. The final contract also allows for a drill-site footprint of about 3,500 square feet, up from the original bid's estimate of about 400 square feet of surface infrastructure.

### **EnLink Wins \$3.8 M Contract for Work at Ball State Univ. GHP System**

Press Release [\[See full story\]](#), November 1 -- EnLink Geoenergy Services, a leading builder of geothermal heat pump (GHP) HVAC systems, announced today that it has won a \$3.8 million contract for a portion of the award-winning Ball State University GHP system, the largest district heating and cooling system in the country.

Ball State has won state and national awards for its use of GHP to heat and cool more than 40 buildings in this \$65 million to \$70 million project. The funding is from state construction bonds and a \$5 million grant from the Department of Energy.

"We are very pleased to be part of this historic project that will showcase the value of using geothermal heat pump systems to heat and cool a large part of the campus," said Mark Mizrahi, president and CEO of Enlink.

"This project is putting people to work, saving energy and setting a new standard for district heating a cooling. This will be a great model for public and private sector building designers and managers who want to have the most efficient HVAC systems possible."

Officials estimate the project will save \$2 million annually in energy costs and cut greenhouse gas emissions by half. Four on-campus coal-fired power plants will be shut down.



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



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## **Notices**

### **Current Notices**

#### **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 ("OEC"), 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) for more information.

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## **Employment**

### **Employment Opportunities**

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

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**

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**

### **New This Week**

#### **Federal Register: Seeking U.S. Applicants for U.S.–Brazil CEO Forum (November 4)**

Candidates must be U.S. citizens (or legally authorized to work in the U.S.) and CEOs/Presidents of U.S.-owned or controlled companies incorporated in and with main HQ in the U.S. that is currently doing business in both Brazil and the U.S.

In March 2007, the Governments of the United States and Brazil established the U.S.-Brazil CEO Forum. This notice announces membership opportunities for up to three individuals for appointment as American representatives to the current U.S. Section of the Forum. The current U.S. Section term will expire on August 12, 2013. Applications should be received no later than November 4, 2011.

Please send requests for consideration to Lorrie Fussell, Office of South America, U.S. Department of Commerce, either by e-mail at [lorrie.fussell@trade.gov](mailto:lorrie.fussell@trade.gov) or by mail to U.S. Department of Commerce, 1401 Constitution Avenue, NW., Room 3203, Washington, DC 20230. Telephone: (202) 482–4157.

#### **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 and to define the optimal power rating of the new link

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.

## **Proposal Announcements**

### **Graduate Fellowships for the Environment, EPA (November 8)**

The U.S. Environmental Protection Agency requests proposals for Graduate Fellowships, for master's and doctoral level students in environmental fields of study. Areas of interest include, but are not limited to: Environmental Entrepreneurship; Global Change; Built Environment and Land Use/ Protection; Tribes and American Indian/Alaska Native/Pacific Islander Communities; Green Energy/Natural Resources Production & Use; and Green Engineering/Building/Chemical Products & Processes/Materials Development. \$4.5 million expected to be available, 80 fellowships anticipated. Responses due 11/8/11. For more info, including contacts, go to: [http://www.epa.gov/ncer/rfa/2012/2012\\_star\\_gradfellow.html](http://www.epa.gov/ncer/rfa/2012/2012_star_gradfellow.html). Refer to Sol# EPA-F2012-STAR. (Grants.gov 9/15/11)

### **Environmental Education Sub-Grants, EPA (November 8)**

The U.S. Environmental Protection Agency requests proposals for the Environmental Education Sub-Grants Program. The RFP will provide support to recipients that make and manage sub-awards to organizations, other than their own, to design, demonstrate, and/or disseminate environmental education practices, methods, and/or techniques. \$1.5 million expected to be available, up to 10 awards anticipated. Responses due 11/8/11. For more info, including Regional contacts, go to: <http://www.epa.gov/enviroed/grants.html>. Refer to Sol# EPA-EE-11-03. (Grants.gov 9/12/11)



### **SCE Launches 2011 Renewable Auction Mechanism Solicitation (November 15)**

*From SCE* — SCE is pleased to announce that it has launched its 2011 Renewable Auction Mechanism [RAM] Request for Offers [RAM RFO] from owners of eligible renewable resource [ERR] Generating Facilities. Information regarding the RAM RFO can be found on the RAM RFO Web site at <https://sceram.actionpower.com>.

The RAM RFO is open to projects utilizing ERRs with contract capacities not less than 1 MW and not greater than 20 MW. Additional Offer qualification criteria can be found in the RAM RFO Participant Instructions [RFO Instructions], available in the Documents section of the RAM RFO Web site.

To participate in the RAM RFO, Offerors must register on the RAM RFO Web site as an Offeror and complete prequalification in the Offer Management tab of the RFO Web site. Only those participants who have completed and met the prequalification criteria may submit an Offer using the Offer Form. Offerors will be notified once the Offer Form has been posted on the RFO Web site.

Offer Submittal Deadline: Tuesday, November 15. For an Offer to be considered in SCEs 2011 RAM RFO, Offerors must submit complete Offer[s] via the RAM RFO Web site no later than 12:00 pm Pacific Prevailing Time on Tuesday, November 15, 2011.

RFO Web Conference: SCE will host a RAMRFO Conference via Webex to discuss the RAM RFO process on Tuesday, October 25, 2011. Conference details will be made available on the RAM RFO Web site.

All inquiries regarding the RAM RFO must be posted in the Q and A section of the RAM RFO Web site. SCE representatives will post responses to participants' questions on the RAM Web site.

### **RE&EE Awards, State Energy Program, DOE**

The U.S. Department of Energy requests proposals for the State Energy Program. This program provides formula grants to State and Territorial energy offices to design and carry out renewable energy and energy efficiency priorities. \$39 million expected to be available, up to 56 awards anticipated. Due dates based on state/territorial program years. For more info, contact Sheldon Funk at [sheldon.funk@netl.doe.gov](mailto:sheldon.funk@netl.doe.gov) or go to: <https://www.fedconnect.net/fedconnect/?doc=DE-FOA-0000507&agency=DOE>. Refer to Sol# DE-FOA-0000507. (Grants.gov 6/23/11)



### **Open Public Tender for Geothermal Exploration, Greece (November 21)**

The Greek Ministry of Environment, Energy and Climate Change announced an International Open Tender for the leasing of the right to explore the Geothermal potential of four (4) areas: the Sperchios basin, regional unit of Fthiotida; Akropotamos, regional units of Serres & Kavala; Sousaki, regional units of Western Attica & Korinthos; and Ikaria, regional unit of Ikaria. Areas will be leased for a period up to five (5) years from the date of the signing of the lease. The tender will take place on Monday, November 21, 2011, at 10:00 am before the Tender Performance Committee.

Interested parties may contact the Ministry for the Environment, Energy and Climate Change – General Secretariat for Energy and Climate Change: 119 Mesogion Avenue, 3rd floor, Office 351  
tel.: 210 6969347 & 349, fax: 210 6969346, e-mail address: [d9geotherm@eka.ypeka.gr](mailto:d9geotherm@eka.ypeka.gr)  
Hours: 9.00 am to 4.00 pm on working days

Detailed documents of the call for the tender are found at the Ministry link:

<http://www.ypeka.gr/LinkClick.aspx?fileticket=DU3DrXYrleA%3d&tabid=37&language=en-US>

### **Invitation to Bidding: Consumables for Geothermal Drilling, Ethiopia (November 28)**

The Ethiopian Electric Power Corporation (EPCO) now invites sealed bids from eligible and qualified bidders for the procurement of Drilling Consumables under 6 lots. Bidding will be conducted through the International Competitive Bidding (ICB) procedures specified in the World Bank's Guidelines: Procurement under IBRD Loans and IDA Credits dated January 2011, and is open to all bidders from Eligible Source Countries as defined in the Guidelines. Interested eligible bidders may obtain further information from Ethiopian Electric Power Corporation Ethiopian, Aluto Geothermal Power Plant Expansion Project Office; Mexico square, Addis Ababa, Tel.: +251-115-51 25 64 Fax: +251-115-52 57 10 27 or email: [eepcogeothermal@yahoo.com](mailto:eepcogeothermal@yahoo.com) to receive tender documents. Advertisements are available on the UNDB and dgMarket Web sites.

### **Sustainability Research Networks, NSF (December 1)**

The National Science Foundation requests proposals for the Sustainability Research Networks Competition. Through this competition, NSF, in partnership with other agencies, international efforts, and the private sector, aims to support members of the academic research community for projects which produce discoveries and knowledge that will inform decisions leading to environmental, energy, social and cultural sustainability. \$36 million expected to be available, up to 4 awards anticipated. Preliminary proposals due 12/1/11, final proposals due 4/1/12. For more info, including contacts, go to:

[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf11574](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11574). Refer to NSF 11-574. (Grants.gov 8/25/11)



### **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**

### **New This Week**

#### **Webinar Announcement, DOE Geothermal Technologies Program (Nov. 16 and Dec. 14)**

The Department of Energy's Geothermal Technologies Program (GTP), in partnership with Western Area Power Administration, is offering two free one hour webinars 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 of the webinars is to educate the audience on geothermal energy development and utilization.

- November 16, 2011: Exploration and Geothermal Power Development - Navopache Electric Cooperative Experience 10am MST — Navopache Electric Cooperative (NEC) began assessing geothermal potential in its service territory over 25 years ago. The webinar will cover the challenges and progress in NEC's plans to develop a geothermal power plant, including the goal to meet the state renewable energy standard. Topics include exploration, land acquisition, siting, environmental studies, economic analysis, funding, geothermal field design, balance of plant construction, and transmission issues and opportunities. Register now by clicking <https://www1.gotomeeting.com/register/769398208>. After registering you will receive a confirmation e-mail containing information about joining the Webinar.
- December 14, 2011: 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.

## **GEA-Sponsored Events**

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

GEA will be hosting its next Geothermal Energy Finance Forum in San Francisco 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. We plan to make a preliminary agenda available soon. 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).

### **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 looks forward to highlighting geothermal energy at the event. If you have attended this in the past and would like to discuss next year's event or offer suggestions for the planning committee please contact Leslie Blodgett at GEA, [leslie@geo-energy.org](mailto:leslie@geo-energy.org).

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

Your company has the opportunity for high visibility at GEA's 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, GEA Geothermal Energy Finance Forum - San Francisco, CA
- May 23, GEA International Geothermal Energy Showcase - Washington, DC
- August 7–8, GEA National Geothermal Summit 2012 - Sacramento, CA
- Sept. 30–Oct. 2, GEA Geothermal Energy Expo® and GRC Annual Meeting - Reno, NV



## Other Events

### **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:

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**GEOTHERMAL ENERGY WEEKLY**

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

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