

# Geothermal Energy Weekly

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<b>National News.....</b>	<b>3</b>
Annual GEA Expo Opens Next Week with GRC's 35 <sup>th</sup> Annual Meeting .....	3
Bingaman, Others Continue Push for Clean Energy Standard .....	4
<b>Company News.....</b>	<b>4</b>
Atlas Copco: High-Speed Geothermal Drilling Technology Gets DOE Grant .....	4
Calpine Corp: Geysers 98-MW Expansion Awaits Approval .....	5
<b>Renewable Energy and Climate Change.....</b>	<b>6</b>
RE Investment by U.S. Military to Reach \$10 Billion Annually by 2030 .....	6
Obama Administration Fast Track for Transmission Projects Does Little for Western Geothermal Interests.....	6
Voters Support EPA Air Pollution Rules .....	8
<b>State News .....</b>	<b>8</b>
Alaska: Akutan City Pursues Geothermal Potential at Hot Springs Valley.....	8
California: County Supports Coexistence of Conversation, Geothermal Projects.....	9
Colorado: Low-flying Helicopter to Scan for Buried Faults .....	9
Hawaii: Utility Studying Local Issues to Increase Support for Geothermal.....	10
Idaho: Construction Underway on Boise Geothermal Heating Expansions .....	10
<b>International News .....</b>	<b>11</b>
Americas .....	11
Argentina: Copahue Project Moves Forward .....	11
Nicaragua: Commissioning Underway for San Jacinto-Tizate Expansion .....	11
Europe.....	11
Hungary: Geothermal Potential Found at Unexploitable Oil and Gas Sites .....	11
Iceland: Mannvit Adds 90 MW to Hellisheidi Plant; Clean-Sourced Data Centers Industry Grows.....	12
Pacific.....	12
Australia: Clean Energy Legislation Passes House .....	12
Japan: Government Plans to Ease Rules for Geothermal and Support Development.....	13
New Zealand: Tauhara Trust, Contact Sign Geothermal Partnership .....	13
Philippines: Environmental Permit for Maibarara Venture Moves Forward .....	13
Africa .....	13
Djibouti: Government Announces \$19.6 M toward Geothermal Power .....	13



**Notices ..... 14**

Current Notices ..... 14

    Registration for PG&E's RAM Bidders' Conference due October 25..... 14

    For Sale: Binary Cycle Geothermal Power Plant ..... 14

    Site Needed for DOE Demonstration, Chena Power ..... 14

**Employment..... 15**

Employment Opportunities..... 15

    Chief Reservoir Engineer, CalEnergy, Calipatria (Imperial Valley), California..... 15

    Research Geologist/Geophysicist, United States Geological Survey ..... 16

    Tenure-line Position, Energy Resources Engineering, Stanford University..... 16

**Requests for Proposals..... 17**

New This Week..... 17

    Call for Projects for Pilot Webinar, EPA Green Power Partnership (Summaries due October 20) ..... 17

    Open Public Tender for Geothermal Exploration, Greece (November 21) ..... 18

Proposal Announcements..... 19

    \*Update: Invitation for Prequalification, Ulubelu and Lahendong Plants, PGE, Indonesia (October 28)..... 19

    Graduate Fellowships for the Environment, EPA (November 8)..... 20

    Environmental Education Sub-Grants, EPA (November 8) ..... 20

    SCE Launches 2011 Renewable Auction Mechanism Solicitation (November 15)..... 20

    RE&EE Awards, State Energy Program, DOE..... 21

    Sustainability Research Networks, NSF (December 1) ..... 21

    People, Prosperity and the Planet, EPA (December 22) ..... 21

    Industry/University Cooperative Research Centers, NSF (February 1)..... 22

    Sustainable Energy Pathways, NSF (February 1) ..... 22

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

    ..... 22

**Events..... 23**

GEA and GEA-Sponsored Events ..... 23

    Geothermal Energy Expo® and GRC Annual Meeting 2011, San Diego, CA (October 23–26)..... 23

    Sedimentary Basins Geothermal Workshop, National Science Foundation, Salt Lake City, UT (November 7–9) ..... 24

    Renewable Energy World North America Conference and Expo, Long Beach, CA (February 14–16, 2012). 24

Other Events ..... 25

    Public Meeting on Geysers EGS Project, US DOE and Calpine Corp., Middletown, CA (November 4)..... 25

    Geothermal Power Plant Tour at The Geysers, Calpine Corp. (November 4)..... 25



CanGEA's Annual Geothermal Power Forum, Calgary, AB (November 4) ..... 25

Turkey Renewable Energy and Energy Efficiency Trade Mission, U.S. DOC, Ankara-Istanbul-Izmir  
(December 5–9)..... 25



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

**National News**

**Annual GEA Expo Opens Next Week with GRC’s 35<sup>th</sup> Annual Meeting**

The 2011 GEA Geothermal Energy Expo is nearly here — from October 23 to 26, key industry companies and geothermal experts from around the world will convene in San Diego to display technological advancements in geothermal resource exploration, characterization, development, production and management to the geothermal community to an anticipated 2,500 participants — a record for the show.

Over 160 businesses from around the world will show on the Expo floor, including Ormat Technologies, NALCO, Siemens, Geothermal Resource Group, POWER Engineers, Íslandsbanki, Pratt & Whitney Power Systems, Mitsubishi Power Systems, Calpine Corporation, BM Holdings Company and TNG Energy Services. Exhibitors are coming from 29 U.S. states and Washington, DC, and 11 countries: Australia, Canada, Chile, France, Germany, Iceland, Japan, New Zealand, Switzerland, the United Kingdom, and the U.S.



What the exhibitors are saying:

“Ormat is thrilled to be the Platinum sponsor and exhibitor at the Expo,” said Paul Thomsen, GEA Board President and Director for Ormat Technologies, Inc. “We consider the Expo the must-attend networking event of the year bringing the entire geothermal business community together under one roof.”

“At NALCO we are focused on differentiated services and technologies that save water and energy, enhance production and improve air quality while reducing total costs of operation,” said GEA Expo exhibitor Jim Boak, Sr Industry Development Manager, NALCO. “For geothermal power plants, we are excited to share a recent treatment we developed to prevent silica scale formation in process piping and injection wells that can significantly improve mega watt production.”



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). Requests for media credentials should be directed to Leni Schimpf at The Rosen Group, 646-695-7045 or [leni@rosengrouppr.com](mailto:leni@rosengrouppr.com). Additional information is available in the **Events** section of this newsletter.

GEA Geothermal Energy Expo 2011 Web site:

<http://www.geothermalenergy2011.com/>. The GEA Expo is co-located with the Geothermal Resource Council's 35th Annual Meeting, visit: <http://www.geothermal.org/meet.html>.



## **Bingaman, Others Continue Push for Clean Energy Standard**

As President Obama and several members of Congress continue the push for a clean energy standard, the Energy Information Administration is expected to provide the results of studying eight different design models for a policy framework by early next month. The report is expected to lay the groundwork for the legislation.

Speaking of the need for such legislation, [Sen. Jeff Bingaman](#) said, "I have concerns that the free market will not by itself drive us toward greater diversity in energy supply in the private sector, and I also have concerns that the free market will not by itself drive us to continue to deploy new clean energy technologies that we will need to ... reduce our emissions and greenhouse gases," [according to E&E](#). The senator supports a clean energy standard that provides a simple and transparent framework policy, gives credits to clean generation sources according to their carbon intensity and drives greater diversity in the nation's energy supply.

But despite his work to design the policy in a way that would work best, Bingaman has his doubts about it. "It's hard to see how we get the votes to pass it," he told reporters.

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## **Company News**

### **Atlas Copco: High-Speed Geothermal Drilling Technology Gets DOE Grant**

Press Release [\[Full story\]](#), October 12 — Atlas Copco Secoroc LLC and Sandia National Laboratories have been awarded MUSD 3.4 (around MSEK 20) by the U.S. Department of Energy (DOE) for a joint research project. The aim is to develop technology that would significantly increase the speed of drilling deep geothermal wells and reduce the cost of investment in this renewable energy source.

Geothermal energy has great potential as an environmentally friendly source of energy in many parts of the world, but developments are constrained by the high costs related to drilling deep wells in hard rock and high temperatures. Percussive tools, or down-the-hole hammers, are a promising technology for geothermal



exploration and development as they rely on mechanisms well suited for the type of rock normally found in geothermal formations. Compared to conventional geothermal drilling methods, down-the-hole hammers could quadruple the penetration rates.

“We look forward with great anticipation to the results of this project,” said Bob Fassl, Business Area President, Atlas Copco Mining and Rock Excavation Technique. “Atlas Copco already offers a wide range of products and services for geothermal development projects and this is clearly a future growth market for the Group.”

During the three-year project Atlas Copco Secoroc will design, develop, and test equipment. Sandia National Laboratories will provide computer models to evaluate hammer performance, materials and components. Sandia will also develop a high temperature test cell to evaluate hammer prototypes.

The grant is one of 32 research and design projects for geothermal power production funded through an initiative by the DOE's Office of Energy Efficiency and Renewable Energy. These projects are designed to meet the challenge to generate 80% of U.S. electricity from clean energy sources by 2035. Atlas Copco was awarded the second largest contract in the DOE initiative, which totaled MUSD 38.

### **Calpine Corp: Geysers 98-MW Expansion Awaits Approval**

[Calpine Corporation](#) is working on plans for two new geothermal power plants at [The Geysers steam field](#) that would add a combined 98 MW of generation. The \$700 million investment is expected to employ 191 local, union construction jobs and 19 new full-time, long-term jobs.

The Sonoma County Permitting Resource Management Department says the proposed projects present no significant effect on the environment, and on October 20, the county's Planning Commission will vote on two land use permits; assuming they pass, there will be a 30-day period for appeals. A tentative timeline puts construction on the first of the two plants beginning in 2012 and operations as early as 2014; the second plant would begin construction two years later or more.

[Gevan Reeves, Strategic Origination Director with Calpine told press](#) the company had planned to utilize the 30% ITC that expires in December 2013, but by February 2011 had determined the permitting process was too lengthy to meet the deadline. “Consequently, funding has been obtained from other sources,” Reeves said.

The site was previously developed in 1989 with a capacity of 135 MW, but was decommissioned in 1990. Calpine acquired the steam field leases in 2004 from the Wild Horse Ranch and has been injecting reclaimed wastewater, a process to produce additional steam from abandoned well sites.



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## **Renewable Energy and Climate Change**

### **RE Investment by U.S. Military to Reach \$10 Billion Annually by 2030**

*Sustainable Energy Coalition/SUN DAY Campaign* — [According to a recent report from Pike Research](#), annual spending on renewable energy by the Department of Defense will reach \$10 billion by 2030. While a significant portion of this will be spent on Facilities operations, including permanent bases, the majority of the spending will be for Mobility applications including portable soldier power as well as land, air, and sea vehicles. Pike Research estimates that the DOD currently spends approximately \$20 billion per year on energy – 75% for fuel and 25% for facilities and infrastructure.

Among the key sectors that will receive significant Pentagon attention and investment over the next two decades are solar power for both permanent bases and temporary facilities; fuel cells for individual soldier power; microgrids for military facilities; and biofuels for military vehicles, particularly the Navy's "Great Green Fleet" initiative to shift to a largely biofuels-driven fleet by 2016. The total market for renewable energy for mobile power for forward bases and temporary installations, for instance, is forecast to reach \$6.1 billion by 2030. By way of comparison, the total annual expenditure by China on renewable energy for military applications will reach \$4.5 billion in 2030.

### **Obama Administration Fast Track for Transmission Projects Does Little for Western Geothermal Interests**

*By John McCaull, GEA Western States Representative, October 18* — As part of the campaign to gain support for the American Jobs Act, the Obama Administration has recently identified 7 major transmission projects for expedited permit streamlining. According to Nancy Sutley of the Council on Environmental Quality, this move will "speed the creation of thousands of construction and operations jobs while transforming the nation's electric system into a modern, 21st century grid that is safer and more secure, and gives consumers more energy choices."

The choice of these transmission projects is touted as a means to increase grid reliability and to integrate renewable energy resources. An analysis of these selected transmission lines by the Geothermal Energy Association (GEA) shows little to no benefit from these projects to expanded transmission access to geothermal resource areas in the western states. Although several of these projects make reference to potential access and transport of geothermal energy, GEA could find no specific commitments from any of these transmission projects to actually facilitating project development.

[Boardman-Hemingway Line](#) — The new 500 kilovolt (kV) transmission line proposed by Idaho Power would create an approximately 300 mile long, single-circuit electric transmission line from a proposed substation near Boardman, Oregon to the Hemingway Substation near Melba, Idaho—known as the Boardman to Hemingway



Transmission Line Project or B2H Project. The power imported on the proposed transmission line would come from a variety of northwest sources including hydroelectric, natural gas, coal, nuclear, and wind resources.

**Gateway West Project** — Jointly proposed by Idaho Power and Rocky Mountain Power, this project would add approximately 1,150 miles of new, high-voltage transmission lines between the Windstar Substation near Glenrock, Wyoming and the Hemingway Substation near Melba, Idaho. According to the developers, “the electricity that will be transported over the new transmission lines will come from a variety of existing and future sources including coal, hydroelectric, geothermal, natural gas and wind resources in Wyoming and Idaho.” The [July 2011 Draft Environmental Impact Statement for](#) the project does reference several geothermal leasing areas in Wyoming and Idaho as within the Project area, and the document also notes that the Raft River Geothermal Power Plant operated by U.S. Geothermal is within the project area. However, the Draft EIS goes on to state that “As of June 2011, all of the generators requesting transportation on Gateway West were wind energy (PacifiCorp 2011).”

**Cascade Crossing Line** — Portland General Electric’s proposed Cascade Crossing Transmission Project includes approximately 210 miles of 500 kV transmission line from Boardman to Salem, Oregon—for the construction of four new substations, expansion of three existing substations, and upgrades to the existing transmission systems near Salem. According to the developer, Cascade Crossing is expected to create about 450 jobs during peak construction, and “would provide transmission to wind projects that are planned but are not currently served by transmission.”

**SunZia Transmission** — SunZia Transmission, LLC plans to construct and operate up to two 500 kV transmission lines originating at a new substation in Lincoln County in the vicinity of Ancho, New Mexico, and terminating at the Pinal Central Substation in Pinal County near Coolidge, Arizona. According to the developer, this project will provide access to geothermal, solar and wind resources. However this line is primarily designed to access the remote wind-rich region in central New Mexico that is estimated to contain over 11,300 MW of power. Solar interests in Arizona and New Mexico are also interested in utilizing the line, but there is no specific reference to where the commercially viable geothermal resources of Arizona or New Mexico are located that could access this interstate transmission line.

**TransWest Express** — TransWest Express LLC plans to construct and operate a more than 700 mile, 600 kV, transmission line. According to the developer, “This project will facilitate the development of new wind projects in Wyoming.”

Two of the “fast tracked” projects are in the eastern United States where there are no commercially operated geothermal power plants.



**Susquehanna to Roseland Line**— PPL Electric Utilities (PPL) and Public Service Electric and Gas Company (PSE&G) have proposed the Susquehanna-Roseland power line project which includes an approximately 145 mile long 500-kV transmission line from the Susquehanna Substation in Pennsylvania to the Roseland Substation in New Jersey, and several 500–230 kV substations in both Pennsylvania and New Jersey.

**Hampton-Rochester-La Crosse Line**— This double-circuit capable 345 kV transmission line will run between a new substation near Hampton, Minnesota, a new substation north of Pine Island, Minnesota, and continue on to cross the Mississippi River near Alma, Wisconsin. A single circuit 345 kV line will be built in Wisconsin to a new substation in the La Crosse area. Two 161 kV lines will be built between the new substation near Pine Island and existing substations northwest and east of Rochester.

### **Voters Support EPA Air Pollution Rules**

*Sustainable Energy Coalition/SUN DAY Campaign* — A new, nationwide poll [shows that by a wide margin](#), voters of both political parties and in all regions of the U.S. disagree with Congress' anti-Environmental Protection Agency agenda and support the EPA's new rules to limit air pollution from coal-fired power plants. Two-thirds of the respondents - 67 percent - oppose Congress delaying implementation of the air pollution rules, according to the national survey of 1,400 voters conducted by Hart Research Associates and GS Strategy Group and sponsored by Ceres. The poll found that 88% of Democrats, 85% of Independents, and 58% of Republicans oppose Congress stopping the EPA from enacting new limits on air pollution from electric power plants. Further, 65% of voters surveyed are confident that the health and environmental benefits of air pollution standards outweigh the costs of complying with them.

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### **State News**

#### **Alaska: Akutan City Pursues Geothermal Potential at Hot Springs Valley**

The Aleutian Islands city of Akutan along with the local Trident Seafoods plant are exploring nearby Hot Springs Valley, where interest in the possibility of geothermal development has been a factor for 30 years. The town has about \$10 million toward the project and is seeking another \$15 million from government sources and \$45 million in private sector investments.

Consultant for the city of Akutan Ray Mann said, "We hit water as hot as 350 (degrees)-plus at 500 feet," adding that because these temperatures reflect the outflow resource the scientists will have to go further up the valley. "And the estimate is we could achieve anything between 15 and 100 megawatts, with a minimum of 8 megawatts, to provide power," he added.

Jo Mongrain of the University of Alaska Fairbanks Geophysical Institute spoke to press about possibilities for making geothermal projects more sustainable, including sealing exploratory drill holes and lining open shafts to



keep cold water out of hot zones, as well as separate wells in systems that return cooling water to underground deposits.

Listen to radio stream: [http://kcaw.org/modules/local\\_news/index.php?op=sideBlock&syndicated=true&ID=2033](http://kcaw.org/modules/local_news/index.php?op=sideBlock&syndicated=true&ID=2033)

### **California: County Supports Coexistence of Conversation, Geothermal Projects**

The county Board of Supervisors unanimously approved a letter supporting a U.S. Army Corps of Engineers conservation project restoring shallow water habitat for fish and birds, as long as it allows geothermal development in the area. “Our (county) position is they (state) should design and construct the project (giving) equal consideration of both habitat and renewable energy potential,” Andy Horne, deputy county executive officer for natural resources [told press](#).

CalEnergy owns rights to the land, leased from the Imperial Irrigation District. It is “critical” to have restoration of habitat, but the Salton Sea has to be open for geothermal exploration and development, said Supervisor Gary Wyatt [told press](#) it is “critical” to allow both restoration of habitat and geothermal exploration and development. “We (county) have to make sure that it stays that way,” he said.

### **Colorado: Low-flying Helicopter to Scan for Buried Faults**

[Press Release](#), October 17 — Citizens and visitors should not be alarmed if they witness a low-flying helicopter, with a large boom extending from its nose, flying back and forth in the northern San Luis Valley or near Salida during October and November.

Starting on or near Thursday, Oct. 20, and lasting for four to six weeks, a low-flying helicopter under contract to the U.S. Geological Survey will begin collecting and recording geophysical measurements for scientific research purposes. The helicopter will fly low to the ground in a back and forth pattern to passively measure the magnetic properties of the earth’s crust. The survey area will extend over the northern part of Great Sand Dunes National Park, Poncha Pass and vicinity, and the communities of Crestone, Villa Grove, Saguache, and Salida.

This study should help answer a variety of scientific questions about the subsurface of this area, such as: Where are ancient faults buried? Do the faults act as a plumbing system for groundwater or geothermal hot springs? Are lava flows that erupted millions of years ago in the nearby mountains also present underneath the valley fill? These answers could potentially refine existing knowledge about the nature of aquifers, the potential for geothermal energy resources, and the likelihood of seismic hazards.

Several USGS programs and the Colorado Geological Survey are funding the helicopter survey, which is the second in a series of airborne geophysical surveys to be conducted in and around San Luis Valley this fall. It is similar to one conducted in 2008 over the Poncha Springs area to research the science behind potential



geothermal energy resources, and is part of a larger USGS study of the geology of the San Luis Valley that has been active since 2005.

The company conducting the geophysical survey under contract to the USGS is EON Geosciences Inc. headquartered in Montreal, Canada. The helicopter is controlled by experienced pilots from New Air Helicopters, LLC, based out of Durango, Colo., who are specially trained for low-level flying. The companies are working with the Federal Aviation Administration to ensure flights are in accordance with U.S. law.

### **Hawaii: Utility Studying Local Issues to Increase Support for Geothermal**

A [Honolulu Star-Advertiser editorial](#) says that the issues that prevented geothermal energy from becoming more widespread in Hawaii several years ago have now changed, and that support for the local, renewable energy resource is now higher among native Hawaiians. Hawaiian Electric Co., which benefits from the 25-MW Puna Geothermal Venture on the Big Island, wants to expand its geothermal usage and has requested information on cultural, historical and environmental issues related to geothermal development in the state.

Honolulu-based [Innovations Development Group](#) is involved in the geothermal focus, and is working with a New Zealand partner on a native Maori land trust it plans to use as a “native to native” model for a Hawaii project. Former Office of Hawaiian Affairs chief of staff Patricia K. Brandt, Native Hawaiian Robbie Cabral, and Hawaiian activist Mililani Trask are all prominent local figures involved in the company.

[Puna, the one on-line geothermal](#) project in Hawaii, supplies 17% of Hawaii island's total generating capacity, and a current expansion project is expected to increase that to 20%. The company pays royalties of up to \$3 million a year, or one-tenth of the project's revenue, to the state, county and the Office of Hawaiian Affairs for land lease permits.

### **Idaho: Construction Underway on Boise Geothermal Heating Expansions**

Construction underway at Boise State University will increase the city's geothermal district heating by about half a million ft<sup>2</sup> of building space (from ~4 million to ~4.5 million). Over the next year, nine buildings on campus will make the switch to geothermal, and future buildings will be planned with geothermal in mind. "Boise is the home of the largest direct use geothermal heating district in the United States," Kent Johnson, a City of Boise [geothermal coordinator told press](#).



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## **International News**

### **Americas**

#### **Argentina: Copahue Project Moves Forward**

[Earth Heat Resources](#) moves forward with its Copahue Project, and could be the first ASX listed geothermal company to complete a Bankable Feasibility Study for a commercial geothermal project. The company has [signed an agreement](#) for a power purchase offtake with Electrometalurgica Andina SAIC. The agreement has an initial allotment of 30 MWe/year with potential for expansion.

The company completed a resource review of the project indicating a significant upgrade of around 150%, and also completed a Stage 1 Environmental Impact Assessment which suggested no major issues. It has established an operational team in country, and has given the community full educational access to the project's planned development.

"The company has been extremely active in taking its investments to the next level in Argentina," Torey Marshall, managing director, [told press](#). "We are satisfying the criteria of project financiers, receiving enormous interest for power off take, and receiving strong support from the Provincial Government in what is a fantastic administrative jurisdiction." The company also has Operations progressing in Djibouti, Kenya, and South Australia.

#### **Nicaragua: Commissioning Underway for San Jacinto-Tizate Expansion**

Commissioning for the Phase I expansion of the San Jacinto-Tizate geothermal power plant, led by Ram Power, has begun. The expansion adds 36 MW to the existing 10-MW operation. The new unit is scheduled to [start commercial operations](#) in December.

### **Europe**

#### **Hungary: Geothermal Potential Found at Unexploitable Oil and Gas Sites**

Geoterm Invest, owned by venture capital fund Morando, [plans to invest HUF 1 billion this year in geothermal](#) energy projects. The firm has acquired a majority stake in Matern, a project with plans for a geothermal district heating system and a spa for the city of Makó, and a similar project is in the works for Csongrád. The company is able to make use of documents on unexploitable oil and gas deposits, which will decrease the amount of exploratory drilling necessary.



## **Iceland: Mannvit Adds 90 MW to Hellisheidi Plant; Clean-Sourced Data Centers Industry Grows**

The fifth phase of development for the Hellisheidi geothermal power plant is complete. Led by mechanical and overall plant designer Mannvit, the team added an additional 90 MW of power at a cost of \$197 million. The total capacity of the plant is now at 303 MW of power and 133 MW for space heating and hot water. Future plans include two more heating plant phases of 133 MWth each. See footage of the plant:

<http://www.mannvit.com/MannvitMediaCenter/Videogallery/Hellisheidivideo/>

Meanwhile, Iceland may be situated to advance in the world of powering data centers using clean energy. An [article on ScientificAmerican.com](#) discusses Iceland's advantages — it has the cheap, renewable resources needed and is already connected to large market infrastructures. And a new cable system, the Emerald Express, will make Iceland even more accessible by connecting it to the United States, Ireland, the United Kingdom and mainland Europe.

Iceland's contributions to the clean-sourced data center industry include that of Thor Data Center, which opened last year 6 miles from Reykjavik. And this quarter, Verne Global's data center, about 30 miles from Reykjavik, is expected to come into service with 100 MW of server power capacity. IT firm Datapipe has signed on.

And the challenges? Iceland's tech scene is fairly unknown in the world, according to the article, and is still recovering from 2008's financial collapse. "We think it's important to have a variety of businesses," Invest in Iceland Agency official Einar Hansen Tómasson told press. "We have to diversify and distribute the risks."

The article also mentions why the United States has less potential for clean-sourced data centers: much of the renewable energy that is used is intermittent, and data centers run 24-hours/day. Also, since a grid contains a mix of energy sources, it would be impossible to ensure that a data center is running on renewable-only electricity.

## **Pacific**

### **Australia: Clean Energy Legislation Passes House**

The Australian Clean Energy legislative package passed the House of Representatives and will go to the Senate. If the legislation passes by the end of the year there could be over US\$13.2 billion in investments made in renewable energy and other low-carbon options.

Geothermal developer [Geodynamics' Managing Director Geoff Ward told press](#): "The passing of the clean energy future legislation provides vital long term support for the transformation of the Australian energy market. It is a major initiative that clearly addresses energy security and foreshadows a necessary transition, likely to take place



over several decades. The legislation gives Australia the policy backbone it needs to build renewable energy alternatives while continuing to provide affordable electricity on reliable, high quality networks.”

### **Japan: Government Plans to Ease Rules for Geothermal and Support Development**

The government of Japan has announced new plans to promote geothermal development. Under Natural Parks Law, government permission is required before test drilling, and open bidding for the lease of a targeted development is held on sites five hectares or larger. [New measures would relax restrictions](#) if the purpose is geothermal development, and could shorten the exploration and development of geothermal plants in Japan from the current 15 years to 10 years.

The government also plans to select 10 or more potential development sites within the year, and plans to provide financial support for these sites. The targeted sites for development are mainly in the Tohoku region. In its fiscal 2012 budget request, the [Economy, Trade and Industry Ministry](#) sought 10.25 billion yen for subsidizing test drilling and 8 billion yen for contributions or debt guarantees for full-scale drilling.

### **New Zealand: Tauhara Trust, Contact Sign Geothermal Partnership**

Tauhara Moana Trust of the North Island has signed an agreement with geothermal Contact Energy, giving a share in the value to each of the trust's 1700 owners. Contact has resource consent for a power station there.

“Tauhara Moana Trust sees the value of working alongside a team of experts that know the system, that know the taonga so rather than trying to do something ourselves or with a new player it was an obvious place to start a dialogue with Contact and grow the pie rather than cut the pie up,” [trustee Topia Rameka told press](#).

### **Philippines: Environmental Permit for Maibarara Venture Moves Forward**

Maibarara Geothermal, a joint venture developing the P3.22-billion, 20-MW geothermal project in Laguna and Batangas has [signed an agreement](#) with the Department of Environment and Natural Resources to form a monitoring team and a supporting fund to monitor environmental compliance as part of its permit requirements. Members of the team will come from the DENR, Maibarara Geothermal, Laguna Lake Development Authority, provincial governments of Laguna and Batangas, and local government units. The first unit of the power plant in the project is planned to be commissioned in the second half of 2013.

## **Africa**

### **Djibouti: Government Announces \$19.6 M toward Geothermal Power**

Energy Minister Ahmed Fouad Ay [told reporters this week](#) Djibouti plans to help address its electricity shortage with \$19.6 million toward geothermal exploration activities over the next two years. The Global Environment Facility, the World Bank and the Organization of Petroleum Exporting Countries are also providing financial



support for geothermal activities. A 56-MW geothermal power plant could begin operations by 2018, with drilling expected to be completed by 2013.



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

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## **Notices**

### **Current Notices**

#### **Registration for PG&E's RAM Bidders' Conference due October 25**

*From SCE* — The Offer Form and Developer Form (Appendix A) for the RAM program is available on PG&E's Web site at [www.pge.com/rfo/RAM](http://www.pge.com/rfo/RAM). PG&E will be hosting a Bidders' Conference on October 28 from 9:00 am–1:00 pm (PPT) at PG&E's facilities located at 245 Market Street. If you plan on attending the Bidder's Conference, the [Bidders' Conference registration form](#) is available on the Web site and is due by 5:00 pm on October 25<sup>th</sup>. Note that only in-person attendees need to register. Webex details will be posted online prior to the Conference. For more on SCE's 2011 Renewable Auction Mechanism Solicitation, see "SCE Launches 2011 Renewable Auction Mechanism Solicitation (November 15)" in the **Requests for Proposals** section of this newsletter. For questions regarding this program, please send all emails to the [RAMRFO@pge.com](mailto:RAMRFO@pge.com).

#### **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**

#### **Call for Projects for Pilot Webinar, EPA Green Power Partnership (Summaries due October 20)**

EPA's Green Power Partnership (GPP) is seeking proposals from renewable energy project developers to fill presentations slots for the "Aligning Green Power Partners with New Renewable Energy Projects" Pilot Webinar. The webinar will be November 10<sup>th</sup>, 2011, 1–2:30 PM (EST) and will provide a forum for GPP's network of Green Power Partners to learn about new renewable energy projects that may align with their energy and environmental objectives. To join the audience for the webinar, please go to the webinar [registration page](#).

The webinar will feature seven to ten short project presentations (seven minutes each plus Q&A). Presentations will include project details, business models, and participation opportunities for Green Power Partners.



Stakeholders are invited to submit project proposals to GPP for possible inclusion in the webinar using the [Project Proposal Submittal Form](#) (MS Word Document). The form includes all anticipated criteria that GPP will use to select projects for the webinar. Submittals that do not include complete information will be automatically disqualified from further consideration. Projects must be for eligible, new green power resources as defined by the [GPP Program Requirements](#) (PDF).

Project summaries are due to GPP **no later than October 20** and must be submitted electronically to Blaine Collison, Program Director; [collison.blaine@epa.gov](mailto:collison.blaine@epa.gov).

EPA will use the summary project-specific information to select projects to showcase on the project alignment pilot webinar. EPA and its designated agents will be solely responsible for selecting projects. Selection of a project for the webinar does not constitute endorsement or recommendation by EPA. The webinars are provided solely as an information service to Green Power Partners. At the conclusion of the webinar, EPA will provide a mechanism for Green Power Partners to indicate their interest in specific projects. EPA will forward Partners' opt-in choices to the projects identified.

Selected projects will be notified by EPA by November 1. Project presentations are due back to EPA no later than November 7. EPA anticipates that more projects will be submitted than there are presentation slots available. The selected presentations will be archived on the GPP site and a recording of the webinar will be available for download.

All submitted projects that meet minimum requirements for data completeness and basic eligibility will be posted on the GPP website by the end of November. Questions can be directed to Blaine Collison, Program Director; 202-343-9139, [collison.blaine@epa.gov](mailto:collison.blaine@epa.gov).

### **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>

## Proposal Announcements

### **\*Update: Invitation for Prequalification, Ulubelu and Lahendong Plants, PGE, Indonesia (October 28)**

IBRD Loan No. 8082-ID; CTF Loan No. TF10407-ID — PT Pertamina Geothermal Energy (PGE) has applied for financing from the International Bank for Reconstruction and Development (IBRD) and Clean Technology Fund (CTF) toward the cost of the Geothermal Clean Energy Investment Project, and it intends to apply part of the proceeds toward payments under the contracts for:

1. Geothermal Clean Energy Investment Project EPC Contract for Steam Gathering System and Power Plant for Ulubelu 3&4 with the expected output of 110 MW; and
2. Geothermal Clean Energy Investment Project EPC Contract for Steam Gathering System and Power Plant for Lahendong (Tompaso) 5&6 with the expected output of 40 MW.

PGE intends to prequalify contractors and/or firms for EPC Contract for Steam Gathering System and Power Plant as above mentioned. It is expected that invitations to bid will be made in March 27th, 2012.

Prequalification will be conducted through the procedures as specified in the World Bank's Guidelines: Procurement under IBRD Loans and IDA Credits, (May 2004, revised in October 2006 and May 2010), and is open to all eligible bidders as defined in the guidelines.

Interested eligible bidders may obtain further information, and inspect the prequalification documents from PGE at the address below during office hours from 08.00 AM to 03.00 PM Jakarta Time or download the file in our website. A complete set of prequalification documents in English may be available free of charge.

Applications for prequalification should be submitted in clearly marked envelopes and delivered to the address below latest at 03.00 PM Jakarta Time on Oct 28, 2011. Late applications will be rejected.

PT Pertamina Geothermal Energy/ Attn: Biding Committee/ Menara Cakrawala, 8th Floor/ Jl. MH Thamrin No 9/ Jakarta 10340, Indonesia

Tel: +62 (21) 398 33222, Fax: +62 (21) 398 33230

E-mail: [pge.group.procurement@pertamina.com](mailto:pge.group.procurement@pertamina.com), Web site: [www.pge.pertamina.com](http://www.pge.pertamina.com)



### **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)

### **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)



## Events

### GEA and GEA-Sponsored Events

#### **Geothermal Energy Expo® and GRC Annual Meeting 2011, San Diego, CA (October 23–26)**

The GEA Geothermal Energy Expo is the world's largest gathering of vendors providing support for geothermal resource exploration, characterization, development, production and management. It provides a unique opportunity for exhibitors to showcase their projects, equipment, services and state-of-the-art technology to the geothermal community. The Expo hall will be open from Monday, October 24 at noon until Wednesday, October 26th at noon. The 2010 Expo in Sacramento featured 162 exhibitors coming from 34 different states and 10 different countries.



Exhibitors include Ormat, NALCO, Siemens, Geothermal Resource Group, POWER Engineers, Íslandsbanki, Pratt & Whitney Power Systems, Mitsubishi Power Systems, Calpine Corporation, BM Holdings Company and TNG Energy Services. The complete exhibitor list is available at <http://www.geothermalenergy2011.com/exhibitors.asp>. The general public can visit the Expo Hall for a \$50 registration fee per day, and student registration is complimentary with valid student ID.



“The 2011 Expo is certain to be the largest-ever gathering of the geothermal community,” said GEA Marketing and Events Director Kathy Kent. “Each year the growing geothermal industry comes together for this event and it has become the most vital gathering for companies and leaders developing geothermal resources around the world.” Please contact Kathy Kent, [Kathy@geo-energy.org](mailto:Kathy@geo-energy.org) for information, registration, sponsorship opportunities, etc. or visit <http://www.geothermalenergy2011.com/>. The GEA is also on Twitter

@geoenergist, please join the conversation with the Twitter tag #GEAExpo. For more information, to schedule an interview or to request media credentials, please contact Leni Schimpf at the Rosen Group, 646-695-7045 or [leni@rosengrouppr.com](mailto:leni@rosengrouppr.com).



### **Sponsorship Opportunities Available 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. Sponsorship details are posted online: <http://www.geo-energy.org/images/GEA2011SponsorshipOpps9.pdf>.

### **Sedimentary Basins Geothermal Workshop, National Science Foundation, Salt Lake City, UT (November 7–9)**

Cosponsored by GEA: the "Tracking an Energy Elephant: Science and Engineering Challenges for Unlocking the Geothermal Potential of Sedimentary Basins" NSF-sponsored workshop will be held November 7–9 in Salt Lake City, Utah. Visit [www.SedHeat.org](http://www.SedHeat.org) or contact Devri: [DevriRoubidoux@boisestate.edu](mailto:DevriRoubidoux@boisestate.edu).

The goal of this workshop is to focus on an under-studied portion of the renewable energy portfolio - the geothermal energy of sedimentary basins. The workshop will provide a road map for how NSF's community, through fundamental research, facilities development, data sharing and cyberinfrastructure, and education, can help make the vast geothermal potential of sedimentary basins a significant part of the nation's renewable energy portfolio.

The ability to translate that potential into productive use lies in the application of basic science and engineering to overcome challenges that currently restrain the utilization of these complex systems for electrical base load. Effective use also lies in reducing the economic risk of geothermal exploration and development which inhibits attracting financial investors to this energy sector. In addition, it is also important to provide federal and state decision makers and agencies with the information they require to make sound decisions about geothermal energy. Thus, the long-term vision is integrate NSF-sponsored research, education and cyberinfrastructure to build a partnership among researchers, industry, and state and federal agencies to insure that geothermal energy can meet its potential as a major and sustainable contributor to our nation's energy grid. This workshop is a step toward that goal.

### **Renewable Energy World North America Conference and Expo, Long Beach, CA (February 14–16, 2012)**

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).



## Other Events

### **Public Meeting on Geysers EGS Project, US DOE and Calpine Corp., Middletown, CA (November 4)**

The Department of Energy and Calpine Corp. plan to hold public meetings on the EGS demonstration projects underway at the Geysers. The venture will present progress reports at 2 p.m. Friday, Nov. 4. The meeting will be held at The Calpine Geothermal Visitors Center, 15500 Central Park Road, Middletown. Phone 707-987-4270. For more information on the program, visit [www.geothermal.energy.gov](http://www.geothermal.energy.gov).

### **Geothermal Power Plant Tour at The Geysers, Calpine Corp. (November 4)**

Calpine is offering free tours of a geothermal power plant at The Geysers. Reservations are required and can be made by going to [www.geysers.com](http://www.geysers.com). Friday, November 4, Calpine Visitors Center, Middletown CA, Calpine's Geothermal Education Day, 9 a.m. – 1 p.m.

### **CanGEA's Annual Geothermal Power Forum, Calgary, AB (November 4)**

CanGEA takes part in the upcoming Global Clean Energy Congress in Calgary November 1–3 (<http://globalcleanenergycongress.com>; CanGEA promo code GCE3U) through a geothermal panel and booth, and will hold its Annual Power Forum on November 4. "Today, several Canadian oil and gas companies are involved directly and indirectly in R&D efforts for utilizing existing technologies for providing geothermal power to Canadians, so it is with great pleasure that we are able to hold our annual Geothermal Power Forum in Calgary," said [Alexander Richter, Director](#), Canadian Geothermal Energy Association. Details at: [www.cangeaevents.ca/calgary](http://www.cangeaevents.ca/calgary).

### **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)

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### GEOTHERMAL ENERGY WEEKLY

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

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