



# GEO THERMAL ENERGY ASSOCIATION

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## National News

### **Geothermal Industry to Benefit from Federal Tax Incentives**



“The need for long-term investment certainty is one of the key challenges facing the geothermal industry today. With the need for longer planning and construction, the industry must either obtain a long-term production tax credit or else look to create other tools and financial incentives to create a long-term steady demand for this resource,” said Jonathan Weisgall from MidAmerican Energy at the Geothermal Energy 2008 Conference and Expo.

The House extended renewable energy tax credits in a 263-171 vote as part of HR 1424, the \$700 billion bailout bill. President George W. Bush signed the bill into law. The Energy Improvement and Extension Act of 2008 extends production tax credits for geothermal power plants for another two years, or through 2010. New geothermal projects coming on line before December 31, 2010 will receive the full 2.0 cent/kWh production tax credit for each of their first ten years of production.

Brent M. Cook, Raser's CEO, told press, "We applaud the vision of our Congressional leaders to renewable energy and believe that this important piece of legislation will stimulate the continued growth of economical and environmentally friendly geothermal energy production. The extension of the production tax credits encourages aggressive growth in renewable energy development and supports our rapid deployment strategy for building a number of geothermal power plants over the next decade."

For heat pumps, homeowners receive a \$2,000 tax credit for installing heat pumps until 2016, and for nonresidential systems, up to 10% of the total geothermal system costs. Both residential and nonresidential systems are exempt from the Alternative Minimum Tax.

“I am encouraged that Geothermal received a two-year extension of the PTC and that the tax incentives were expanded,” Matt Ferguson, Principal & Practice Leader of National Renewable Energy at the Reznick Group, said at the Geothermal Energy 2008 Conference and Expo. “However, I am concerned about two things – first, two years is not enough; developers, the supply chain, and the American people need certainty. We need an infrastructure of laws, incentives, and penalties that we can rely upon and plan our affairs. The second area of concern is the fact that the value of tax credits and accelerated depreciation are conditioned upon corporations having tax liability. I anticipate that U.S. corporate income tax liability will be at least 15% lower than last year. It’s time that we make renewable energy a priority that is not contingent upon unrelated matters.”

See

[http://www.redorbit.com/news/business/1582920/oklahoma\\_citybased\\_lsb\\_industries\\_sees\\_benefits\\_from\\_federal\\_geothermal\\_heat/](http://www.redorbit.com/news/business/1582920/oklahoma_citybased_lsb_industries_sees_benefits_from_federal_geothermal_heat/) and <http://www.marketwatch.com/news/story/raser-technologies-praises-congress-energy/story.aspx?guid={5B32FAF0-BFB2-447C-B303-791C9D66C9A4}&dist=hppr>.

## **DOE Announces EGS Awards Recipients at Conference Opening Session**

At the Geothermal Energy 2008 Conference Opening Session, several high-profile speakers addressed a room filled beyond seating capacity. Among them was Steve Chalk of the Department of Energy. He expressed his appreciation of the optimism in the room despite the crisis facing America in energy and finance. Chalk went on to announce the recipients of funding awards provided by DOE to support Enhanced Geothermal Systems development:

Press Release—October 6, DOE Funds 21 Research, Development and Demonstration Projects for up to \$78 Million to Promote Enhanced Geothermal Systems

RENO, Nev. – Today at the National Geothermal Conference in Reno, Nev., Deputy Assistant Secretary for Renewable Energy Steve Chalk announced the U.S. Department of Energy’s (DOE) awards under a Funding Opportunity Announcement (FOA) for research, development and demonstration of Enhanced Geothermal Systems (EGS) for next-generation geothermal energy technologies. Subject to annual appropriations, the Department will provide up to \$43.1 million over four years to 21 awardees, including a record 13 awards to first-time recipients. With cost-share by the recipients, the public-private investments will be up to \$78 million. Increasing the use of geothermal resources supports President Bush’s goals diversifying the nation’s energy sources to reduce greenhouse gas emissions and strengthen national energy security.

“Our office is proud to expand our public-private partnerships with first-time applicants and award recipients. We consider this excellent proof of the growing opportunities and interest in geothermal technology research and project development,” Deputy Assistant Secretary for Renewable Energy Steve Chalk said. “With these awards, we are growing our geothermal community to include the technical expertise of our valued national laboratories, innovative industry partners and the very best of academia. This robust team will help us meet our aggressive departmental goal to prove the technical feasibility of Enhanced Geothermal Systems by 2015.”

Combined with the minimum industry cost-share of 20 percent, and subject to annual appropriations, up to \$78 million is slated for public-private investment in these 21 projects over the next four years. Geographic diversity makes these projects appealing as DOE looks to expand the perception of EGS potential, new site locations may reveal new opportunities. Additionally, these partnerships with universities will encourage innovation, while the added value of our national laboratories will lend expertise to project development.

The FOA solicited applications in two topic areas: component technologies research and development, and system demonstrations. DOE announced 17 awards in research and development that will address aspects of engineered reservoir creation, management and utilization at high temperatures up to 300°C and depths as great as 10,000 meters, including 12 awards to first-time recipients. The four recipients selected under systems demonstration, including one award to a first-time recipient, will allow testing and validation of stimulation techniques for improving productivity of wells or increasing inter-well connectivity at existing geothermal fields.

A list of award recipients by topic areas follows:

Component Technologies R&D: DOE awarded \$8.7 million to fund these projects for a total of up to \$19.1 million over four years, subject to annual appropriations. Award recipients will contribute up to \$11.2 million for a total of up to \$30.3 million in public-private research and development activities.

- Baker-Hughes, Inc (Houston, Texas): to develop an ultrasonic borehole televiewer that can operate at a temperature of 300°C and at a depth of 10,000 meters. The proposed tool will provide a means to detect fractures in the subsurface and is critical for the commercialization of EGS (up to \$3,139,364)
- Colorado School of Mines, Boise State University, Flint LLC, Mt. Princeton Geothermal LLC (Golden, Colo.): to conduct a geophysical characterization of a geothermal system taking advantage of the latest developments in Self Potential Method and Seismic Interferometry (up to \$867,564)
- Composite Technology with Wood Group ESP and New England Wire Technology (Lafayette, Colo.): to develop and demonstrate Electric Submersible Pump (ESP) motor coil designs that utilize proprietary inorganic insulation materials. These materials can be applied to motor coil winding conductors using conventional motor fabrication processes and provide superior electrical performance at elevated temperatures (up to \$987,739)
- Foulger Consulting and U.S. Geological Survey, Geosystem with WesternGeco, US Navy, Magma Energy US Corporation, and DOE's Lawrence Berkeley National Laboratory (Menlo Park, Calif.): to develop high-resolution micro-earthquake tools and methods suited to monitoring EGS-induced geothermal micro-earthquakes. The ultimate goal is to develop an industrial tool to obtain detailed seismic structure of geothermal areas without the need for major active-source seismic surveys (up to \$561,729)
- GE Global Research with Auburn University and GE Energy (Niskayuna, N.Y.): to develop a platform of electronics technologies that can operate at 300 °C and 10 km depth enabling the measurement of temperature, flow, pressure and seismicity in an EGS reservoir (up to \$1,599,934)
- Hattenburg, Dilley, and Linnell, LLC with University of Utah/Energy and Geoscience Institute (EGI) (Anchorage, Alaska): to identify open fracture systems by their Fluid Inclusion Stratigraphy (FIS) chemical signature; differences based on the mineral assemblages and geology of the system; and chemical precursors in the wall rock above open, large fractures (up to \$313,858)
- Hi-Q Geophysical Inc., Ormat Technologies, Inc. and Stephen Muir with DOE's Lawrence Berkeley National Laboratory (Ponca City, Okla.): to develop surface and borehole seismic methodologies using both compression and shear waves for characterizing fractures in EGS. Both VSP and surface multi-component acquisition geometries will be evaluated (up to \$817,757)
- Massachusetts Institute of Technology, Chevron and DOE's Los Alamos National Laboratory (Cambridge, Mass.): to combine detailed high-resolution analysis of microseismicity accompanying the stimulation of an EGS reservoir with a state-of-the-art geomechanical model of the reservoir to investigate the relationship between the seismicity and flow characteristics (up to \$508,633)
- Massachusetts Institute of Technology, New England Research with ENEL North America (Cambridge, Mass.): to combine the use of geophysical methods for reservoir and fracture characterization with a rock physics model calibrated via advanced laboratory measurements made on reservoir rocks under in situ conditions of temperature (up to 300°C) and pressure (up to \$1,019,769)
- Perma Works and Frequency Management International, ElectroChemical Systems Inc, Draka Cableteq, Pacific Process Systems Inc, Tiger Wireline Inc, Viking Engineering, Kuster Company, Electronic Workmanship Standards Inc, Eclipse NanoMed, Honeywell SSEC (Albuquerque, N.M.): to commercialize the Sandia/DOE HT SOI chipset by addressing the most troubling issues found when designing for long-term exposure to the geothermal well environments such as inter-metallic growth, printed circuit board delamination, ceramic capacitors shorting, and the lack of a safe HT battery (up to \$2,200,000)
- Schlumberger (Sugar Land, Texas): to extend the internal operating range of Electrically Submersible Pump (ESP's) to 338°C for application in both geothermal and the increasingly hotter Steam Assisted Gravity Drainage (SAGD) wells and to develop a heat transfer model that will adequately predict the ESP's internal operating temperature (up to \$1,245,751)

- Schlumberger (Sugar Land, Texas): to develop a downhole monitoring system to be used in wells with bottom hole temperatures up to 300°C for measuring parameters of an Electrically Submersible Pump (ESP) and well conditions (pressure and temperature) and develop a heat transfer model for the motor that will adequately predict ESP internal operating temperature (up to \$1,253,959)
- Stanford University (Stanford, Calif.): to develop wellbore tools including a downhole enthalpy meter and reservoir engineering approaches including nanotechnology, Resistivity Computer Tomography (RCT) method, and nonparametric regression for fracture characterization in both near well and interwell regions (up to \$967,541)
- Texas A&M University with AltaRock, DOE's Lawrence Berkeley National Laboratory and University of Mississippi (College Station, Texas): to develop an improved seismicity-based reservoir characterization (SBRC) technology by combining rock mechanics, finite element modeling, geo-statistical concepts, and state-of-the-art stochastic inversion techniques to establish relationships between micro-seismicity, reservoir flow and geomechanical characteristics (up to \$820,198)
- Texas A&M University with AltaRock, DOE's Sandia National Laboratory and University of Mississippi (College Station, Texas): to develop a 3-D numerical model for simulating tensile, shear, and out-of-plane propagation of multiple fractures and fracture clusters to accurately predict geothermal reservoir stimulation using the novel approach of Virtual Multi-dimensional Internal Bond (VMIB) (up to \$690,953)
- University of Utah (Salt Lake City, Utah): Demonstrate absorbing tracers, measure near-well fracture surface area via tracer modeling, and develop a tool that measures fluid flow via tracers (up to \$1,091,039)
- University of Utah (Salt Lake City, Utah): to investigate the effect of proppants on fracture stability and their interactions with injected fluids at geothermal temperatures in environments that simulate stresses within the reservoir. The use of proppants to both maintain open fractures, as well as their potential to divert fluids from fracture pathways detrimental to long term sustainability (e.g. fast paths), will be assessed (up to \$978,180)

System Demonstrations: DOE awarded \$3.7 million to fund these projects, for a total of up to approximately \$24 million over four years, subject to annual appropriations. Industry alone will contribute an additional \$23.7 million, an almost 50 percent cost-share. This total of up to \$47.7 million shows tremendous cooperative effort in EGS development. The success of these projects could result in over 400 MWe in new grid capacity within the next five years.

- AltaRock Energy Inc. and Northern California Power Agency, University of Utah, Texas A&M University, Science Applications International Corporation, Temple University (Seattle, WA): to use an innovative stimulation process to create an EGS reservoir that will drill below the permeable zone, stimulate in the contained zone with infrastructure in place, and increase power production (up to \$6,014,351)
- Geysers Power Co., LLC and DOE's Lawrence Berkeley National Laboratory (Middletown, Calif.): to deepen wells into a high temperature zone and thermally stimulate with cold water to increase power production (up to \$5,697,700)
- ORMAT Nevada, Inc. and GeothermEx, DOE's Lawrence Berkeley National Laboratory, University of Utah, Pinnacle Technologies, GeoMechanics International, University of Nevada - Reno, TerraTek/Schlumberger (Reno, Nev.): to stimulate multiple wells at Brady Field to access existing fracture system (up to \$3,374,430)
- University of Utah and U.S. Geothermal, APEX Petroleum Engineering Services, HiPoint Reservoir Imaging, Chevron (Salt Lake City, Utah): To perform a monitored hydraulic stimulation of an existing injection well at Raft River (Selected for negotiation of award in FY09) (up to \$8,928,999)

DOE's geothermal technologies program works in partnership with U.S. industry to establish geothermal

energy as an economically competitive contributor to the U.S. energy supply. Learn more information about these awards on the Geothermal Technologies Program website:  
<http://www1.eere.energy.gov/geothermal/>.

## **Company News**

### **Glitnir Bank: U.S. Geothermal Energy Market Report Released**



Glitnir Bank, based in Iceland, has released a new *U.S. Geothermal Energy Market Report*, headed by Alex Richter, Director of Sustainable Energy for Glitnir and geothermal analyst, pictured at left. Richter's analysis notes drastic spikes in production that have taken place over the last year and includes several easy-to-read charts that compare data taken from GEA's own August 2008 *Update on U.S. Geothermal Power Production and Development* against the Western Governors' Association market predictions from 2006 and the USGS September 2008 geothermal report.

From Glitnir's Web site:

It is our pleasure to present our second annual U.S. Geothermal Energy Market Report. The overall development of geothermal energy is very positive in the US. The installed geothermal power generation capacity has increased by 4% to 2,958 MW. The overall number of projects has increased and projects currently underway would expand installed capacity in the U.S. by a 100-130% in the years to come. Compared to last year the industry is better positioned and availability of drilling rigs has improved. The joint efforts of the Bureau of Land Management (BLM) and the U.S. Forestry Service to speed up the process for leasing geothermal resources on lands they manage will also have a significant impact on the industry. Recent lease auctions by the BLM have shown the increasing interest in geothermal development and in developers' confidence in the sector. On August 5, 2008 the BLM auctioned 35 parcels over leases on 105,312 acres for a total sales price of USD 28 million which is up from last year's record of USD 12 million for 122,850 acres. This should increase the geothermal project pipeline in the U.S. even further. Increased renewable energy portfolio standards on state level play a positive role, as is the fact that both campaigns for the 2009 U.S. presidential elections are now including "geothermal energy" when discussing renewable energy and energy security. The availability of financing will have an impact how quickly current projects will be developed. In the near-term financing cost are set to increase, impacting owners anticipated return. Overall, the outlook is positive and the geothermal energy industry should enjoy continuous growth in the years to come. We are proud to be a member of this exciting industry and take part in the development in the United States. More information on our activities in the sector and our Global Geothermal Energy Team can be found on our website at [www.glitnirusa.com/energy](http://www.glitnirusa.com/energy).

Main findings:

- The overall outlook for geothermal energy development in the United States has improved greatly with now more projects under way than ever. In short these are the key developments in the U.S.:
- Overall installed capacity has grown from 2,851 MW to 2,958 MW, or about 4%.
- California represents 86% or 2,555 MW of overall installed geothermal power generation capacity in the U.S. followed by Nevada with 11% or 318 MW.
- There are now 7 states generating electricity with geothermal energy. Idaho and New Mexico have joined the pool of geothermal power generation states, with Oregon and Wyoming to follow shortly.
- The number of projects currently in development in the U.S. has increased by 40%, from 69 projects to 97 projects today, (103 with unconfirmed projects).
- Geothermal projects in development represent a maximum capacity of 3,950 MW or an increase of 54% to last year.

- The State with the most number of projects remains Nevada with now 42 projects, followed by California with 20 and Oregon with 11 projects.
- The state with most of the geothermal power generation capacity in development is Nevada with 1,100-1,900 MW, followed by California with 900-1,020 MW.
- Current projects under way require investments of 14-16 billion USD, with more than half of that amount needed in 2011 and 2012.

## **Raser Technologies: New Video Provides Update on Developments**

Raser Technologies released the 9th installment of its online video news report called Up to Speed, found on their Web site (note: Flash 8+ required). In the video, Raser's CEO, Brent Cook, answers common questions about funding (particularly the recent agreement with Merrill Lynch), current projects, and outlook. The narrative is directed at shareholders, providing them an update on initiatives, business plans, and operations. Additionally, Lenny Hochschild, Managing Director of Evolution Markets, discusses the energy market and that green power pricing could be over \$100 MWh<sup>-1</sup> for many of Raser's future projects.

See *Up to Speed – Volume 9* at <http://www.rasertech.com/uptospeed/>.

## **Renewable and Climate Change News**

### **GEA Sums Up Geothermal Energy 2008 Conference and Expo**



The Geothermal Energy 2008 Conference and Expo, hosted by the Geothermal Energy Association and the Geothermal Resources Council, was held in Reno, Nevada, October 6–8. At the current estimate, about 1,800 people visited the Expo Hall – compared to only around 1,000 at last year's Expo (formerly Trade Show)!!

The timing coincided with the passing of a 2-year extension on geothermal tax credits (see story, this issue, under **National News**). The Energy Improvement and Extension Act of 2008 extends production tax credits for geothermal power plants for another two years, good news for the companies participating in the Expo.

GEA's staff regularly interviewed Expo participants to gauge feedback. Nearly everyone said that the program was well organized and results exceeded their expectations—many had multiple opportunities to create business deals and network. Very few weren't completely happy with the contacts they were able to make, but even those few were still getting a lot out of the Expo in general and had good things to say. On the final day of the Expo, GEA awarded prizes to what were voted as the best booths:

- TNG Energy Services for Best in Show Creative Giveaway at Booth
- STORK H&E Turbo Blading for Best in Show Small Booth
- Geysir Green Energy/ENEX, for Best in Show Large Booth
- ThermaSource, for Best in Show Audience Choice (see photo)

To request information on next year's Geothermal Energy Conference and Expo, to be held once again in Reno on October 4–7, 2009, please email Kathy Kent, [Kathy@geo-energy.org](mailto:Kathy@geo-energy.org).

For further coverage of the Conference and Expo, visit [http://www.kmph.com/Global/story.asp?S=9133594&nav=menu612\\_2\\_7](http://www.kmph.com/Global/story.asp?S=9133594&nav=menu612_2_7), <http://www.renewableenergyworld.com/rea/news/podcast?id=53793>, and <http://www.renewableenergyworld.com/rea/news/story?id=53805>.

## **Google Releases Clean Energy Plan to Reduce Fossil Fuel Dependence**

"Geothermal has long been the sleeping giant of renewable energy. The giant is stirring. The time is now! This is a great time to be in the industry," said Dan Reicher, Director for Climate Change and Energy Initiatives at Google.org, speaking to the Geothermal Energy 2008 Conference Opening Session audience.

Google.org has released a new \$4.4 trillion plan, Clean Energy 2030, which aims to reduce dependence on fossil fuels and foreign oil through cutting the amount of oil used for vehicles by 40% and by pushing wind, nuclear, and geothermal energy sources. The plan would save a net of \$1 trillion over 22 years and would create new jobs.

The Official Google Blog compares the plan to other energy plans, such as from Al Gore and from T. Boone Pickens. From the blog: "Our goal in presenting this first iteration of the Clean Energy 2030 proposal is to stimulate debate and we invite you to take a look and comment -- or offer an alternative approach if you disagree. With a new Administration and Congress -- and multiple energy-related imperatives -- this is an opportune, perhaps unprecedented, moment to move from plan to action."

See <http://googleblog.blogspot.com/2008/10/clean-energy-2030.html>.

## **Geothermal Industry Needs Improved Resource Assessment and Research**

*From William Glassley, California Geothermal Energy Collaborative Executive Director, at the Geothermal Energy 2008 Conference and Expo*

Geothermal energy has become the phantom renewable resource. It is seldom mentioned, and generally is poorly understood. There are several reasons why this is the case, one of which stems directly from how we have estimated the resource.

Because it is underground and difficult to detect (much like oil resources), we have estimated the size of the resource using a variety of approaches. In some cases we have tried to be conservative and produce estimates based on what could be immediately exploited. In other cases we have tried to realistically estimate what is available over the long term, but have employed different assumptions regarding cost and technology. This has resulted in different estimates of the resource size that can differ by more than a factor of ten.

We have complicated the problem by using metrics that do not allow us to directly compare an online geothermal resource with other renewables. Because of the fact that geothermal is a baseload resource, available 24 hours a day, while other renewable resources are intermittent, the only realistic way to compare them is to use megawatt-hours, rather than megawatts, when discussing what each resource can provide. But, we have not consistently done this.

The result is confusion and profound underestimates of what geothermal can contribute to meeting RPS and greenhouse gas reduction goals. It also has made it extremely difficult to establish reasonable transmission corridors that will allow the most effective exploitation of renewable resources. Finally, underestimating the resource has discouraged the establishment of aggressive incentives for encouraging the development of geothermal resources – if the resource is small, why waste time and effort on it?

The U.S. Geological Survey will soon release a new resource assessment for the U.S. The methodology they have employed needs to be adopted by all of the states and formalized as the standard approach for doing geothermal resource assessments. But, it must be recognized that, as science and technology change, and remote sensing techniques improve (better geophysics and geochemistry), assessments must be updated. For that reason, it is imperative that each state maintain an active assessment program that periodically updates resource estimates as new information becomes available.

## **Article Explains Geothermal as a Better Form of Nuclear Power**

An article on Renewable Energy World compares nuclear and geothermal energies, describing how geothermal is the better way to produce energy using the same idea as the more dangerous nuclear plants: through the power of boiling water.

“Uranium and thorium are distributed in the rocks of the earth,” says the article, explaining nuclear power. “Their radioactive decay produces so much heat that it makes the core of the earth hotter than the surface of the sun! (about 6,000 °C). This heat rises to the surface unevenly with molten rock actually reaching the surface in volcanoes. In fact, 99.9% of the earth's volume is hot enough to boil water!

“Boil water? Wait a minute! That's what nuclear power is all about! The reason we go to all that trouble digging up and crushing rocks and refining out the uranium is simply to boil water to drive steam turbines. Why not skip all that effort and danger and just use the hot rocks of the earth to boil water directly? It works! And it's called geothermal power.”

The article goes on to note problems with nuclear energy which it says marks the decline of the market: delayed plant prototypes, construction costs, and waste problems.

“We should redirect the money currently being spent to revive fueled atomic power to EGS geothermal development. In just a few years we could be building significant amounts of clean, safe, dependable EGS geothermal power plants,” the article concluded.

See <http://www.renewableenergyworld.com/rea/news/reinsider/story?id=53803>.

## **Geothermal Energy to Increase Market Share**

An article on seekingalpha.com describes how geothermal energy is set to increase its market share. Fossil fuel prices are above the historical average and geothermal is likely to “increase substantially its share of the energy mix,” the article said. The article gave costs for geothermal electricity production at a range from 4.5 to 7.3 cents/kWh, very competitive with other energy sources. The next few years will be a critical time for proving EGS development and lowering costs.

For the full article, visit <http://seekingalpha.com/article/99254-geothermal-energy-poised-to-increase-market-share>.

## **State News**

### **Colorado: Mount Princeton Drill Sites Ready for Permit Approval**

Mount Princeton Geothermal had announced six proposed drill sites for geothermal resources, according to themountainmail.com. Fred Henderson III, chief scientist, told press that a geophysical survey of the area was complete and that drilling 300-ft holes is the next step. He also said that if heat sources are identified, surface plant construction could begin in 2010.

"This is the test case," Henderson said. "If it works here, we can apply these techniques statewide."

Drilling requires a permit approval from the Colorado Division of Water Resources, and a comment period for landowners is open until October 24.

See <http://www.themountainmail.com/main.asp?SectionID=4&SubSectionID=4&ArticleID=14949>.

## **Nevada: Hawthorne Army Depot to Build Geothermal Plant**

Secretary of the Army, Pete Geren has announced that Hawthorne Army Depot will be the site of a new 30-MW geothermal project, which will provide Hawthorne with all its energy needs, according to [krnv.com](#). The announcement came at the Association of the United States Army annual conference. The plant should be completed by December 2012.

Benefits of the project include enhanced energy security, increased knowledge of geothermal technology, and income estimated at \$13.5m over the next 25 years, the article said. The Army estimates it will collect \$631,000/year for surplus energy sold to the grid. The plan is a pilot project of the Senior Energy Council's efforts to increase energy conservation. Other projects are also in the works.

"I am excited that Hawthorne Army Depot, Nevada has been selected to enter into a pilot energy savings performance contract with the private sector and serve as a model for monitoring and reducing energy consumption," LTC Kimberly Gilbert-Mason, Hawthorne Army Depot commander, told press.

See [http://www.krnv.com/Global/story.asp?S=9141587&nav=menu113\\_2](http://www.krnv.com/Global/story.asp?S=9141587&nav=menu113_2).

## **Utah: Shoshone Nation Breaks Ground on First Geothermal Plant**

Shoshone Nation tribal leaders broke ground for a 100-MW geothermal power plant on Thursday, October 2, according to the [cleantech.com](#). The plant will provide up to 64 MW of power to the city of Riverside, California. Utah's Idatherm and Ireland's LotusWorks are working with the tribe on plant development. LotusWorks and Boston's Meridian Investments will work on finance, building, and operation.

The first phase of the project is set to begin producing 32 MW of energy by early 2010. Two more phases will follow. Additionally, four more geothermal plants are in the works for this partnership arrangement.

See <http://www.cleantech.com/news/3629/shoshone-start-work-geothermal-plant>.

## **International News**

### **Australia: Western Australia Grants Nine Permits for Geothermal Drilling**

New World Energy company director John Libby has announced plans to drill nine sites in regional Western Australia, according to an article on [moora.yourguide.com.au](#). The State Government has granted permits to drill near Binningup in the South West and Dongara, Jurien Bay and Eneabba in the Midwest. Exploratory drilling should begin in about a year, after permits are ratified and studies are completed, the article said.

See <http://moora.yourguide.com.au/news/local/news/general/geothermal-energy-potential-in-region/1329728.aspx>.

### **Chile: Geothermal Venture to Develop 400 MW Over 10 Years**

ENAP, Chile's national oil company, has announced a geothermal joint venture with Antofagasta Minerals, according to [petroleumworld.com](#). ENAP will hold 40%, with Antofagasta Minerals holding 60%. Over the next ten years, the partnership plans to develop 400 MW of geothermal power in Chile.

"We have been working for two years in the diversification of our sources and this agreement with Antofagasta Minerals will contribute to reinforcing our role in geothermal activity, an energy that is our own, and that is renewable and clean, with a great future," Enrique Dávila, CEO of ENAP, told press.

"Chile has great undeveloped geothermal potential and, with this association with an expert in energy resources as is ENAP, we wish to take advantage of an opportunity that has opened up for us and contribute to meeting a growing energy demand that concerns us as a mining company," Marcelo Awad, exec. VP of Antofagasta Minerals, told press.

See <http://www.petroleumworld.com/story08100913.htm>.

### **Germany: Renewable Energy Delegation Visits Nevada**

A German delegation visited Nevada last week for renewable energy technology, according to ktvn.com. Members of the government and private sector, as well as scientists and economists, attended workshops and visited geothermal plants to learn more about the industry. Al DiStefano, director of global trade and investment for the Nevada Commission on Economic Development, told press the delegation "is specifically interested in geothermal technology and municipal waste management."

Nevada has worked with international delegations in the past, the article said.

See [http://www.ktvn.com/Global/story.asp?S=9139991&nav=menu549\\_2](http://www.ktvn.com/Global/story.asp?S=9139991&nav=menu549_2) and <http://www.marketwatch.com/news/story/german-delegation-visits-nevada-seeking/story.aspx?guid={30D061DC-E128-43CE-854B-183CAF317421}&dist=hppr>.

### **Germany: Atlas Copco, Exorka Developing Geothermal Plant**

Atlas Copco will supply an expansion turbine for a 5.5-MW geothermal power plant in Mauerstetten, southern Germany, according to rttnews.com. It will also work with Exorka International Limited of Iceland to develop technology for the plant.

"There are numerous other projects planned in the future, and we continue to see great potential in this market," Ronnie Leten, Business Area President of Atlas Copco told press.

See <http://www.rttnews.com/ArticleView.aspx?Id=733109&SMap=1>.

### **Guam: Public Utilities Commission Authorizes Geothermal Research**

The Public Utilities Commission recently authorized Guam Power Authority to search for renewable sources of energy, according to pacificnewscenter.com. Guam Power Authority General Manager Kin Flores commented to press that the potential of geothermal energy in Guam is exciting and environmentally friendly, and that a bid for prospects to research geothermal technology for Guam will go out within 90 days.

See [http://www.pacificnewscenter.com/index.php?option=com\\_content&view=article&id=3759:guam-power-authority-comments-on-lineman-arrest-geothermal-power&catid=34:guam&Itemid=141](http://www.pacificnewscenter.com/index.php?option=com_content&view=article&id=3759:guam-power-authority-comments-on-lineman-arrest-geothermal-power&catid=34:guam&Itemid=141).

### **Kenya: Energy Minister Announces Transmission and Geothermal Companies**

Kiraitu Murungi, Kenya's energy minister, wants to establish state-owned electricity transmission and geothermal power companies to help the country's energy security, according to Bloomberg.com. The country will invest 4.5 billion Kenyan shillings (\$61 million) in 12 geothermal wells for as much as 7,000 MW of electricity and will invest 750 million shillings on the transmission company. The current electricity capacity of Kenya barely meets the peak electricity demand.

"My ministry intends to develop 630 MW of geothermal power between 2012 and 2019," Murungi told press, adding that the companies will be set up by the end of January.

See <http://www.bloomberg.com/apps/news?pid=20601116&sid=aV6.edPTven4&refer=africa>.

### **Nevis: International Geothermal Energy Conference to be Held Next Month**

The Nevis Island Administration will host an International Geothermal Conference on November 7, 2008, according to sknvibes.com. Policymakers, regulators, environmental consultants, property developers, contractors, and more are invited to discuss topics such as Challenges and Solutions for the Energy Sector and Renewable Energy, The Legal Framework for Renewable and Geothermal Development in The OECS (The Nevis Case), and Geothermal Development in Iceland and Geothermal Exploration and Development (The Nevis Model).

To register for the Conference, persons may contact Permanent Secretary, Mr. Ernie Stapleton, via email at [planningministry@yahoo.com](mailto:planningministry@yahoo.com) or by telephone at 869-469-5521 ext 2176.

See <http://www.sknvibes.com/News/NewsDetails.cfm/6795>.

### **Philippines: Mindanao Geothermal Plant Restored After Outage**

LOPEZ-LED Energy Development Corp. has recommissioned its Mindanao 1 Geothermal Plant (M1), according to bworldonline.com. M1's transformer was damaged after an internal inspection last July, but is now up and running at 48 MW.

See <http://www.bworldonline.com/BW101408/content.php?id=054>.

## **Notices and Employment Opportunities**

### **Employment: Research Associate II, SMU Geothermal Laboratory**

Position: The SMU Geothermal Laboratory, Dallas, Texas, has an opening for a Research Associate II for an appointment of 2 years. The research is supported in part by a grant from GOOGLE.org to SMU. The activities associated with the position relate to the temperature field of the U.S. lithosphere. The outcome is the ability to make sound resource related renewable energy decisions. This research will build on the extensive thermal data sets used to produce the 2004 Geothermal Map of North America by collecting new data and modeling the regional thermal structure.

Qualifications: A PhD in geosciences is strongly preferred or an MS in geophysics and 3 years of work experience. Candidates must demonstrate strong analytical/critical thinking skills to identify issues and information requirements, apply appropriate research and analytical procedures, and review data with a strong focus on attention to detail and accuracy.

Apply online at <http://smu.edu/hr/recruit/> search for "geothermal"

Contact: Dr. David Blackwell, [blackwel@smu.edu](mailto:blackwel@smu.edu), 214-768-2745

### **Employment: Renewable Energy Employment Opportunities, Ram Power, Inc.**

Exciting Renewable Energy Employment Opportunities with New Geothermal/Solar Thermal Energy Project Company

Ram Power, Inc., a recently formed renewable geothermal and solar thermal project development company, with offices in Reno, Nevada and Los Angeles, California has openings for professionals with a minimum of five years experience in the following fields:

Mechanical Engineer – renewable energy power generation

Geologist/Geophysicist/Geochemist – geothermal or mining  
Environmental/Permitting – federal and state regulations  
On-site Drilling Supervisor – well field operations

These positions will be based in either Reno or Los Angeles and include a full employment benefits package with salaries based on experience. Send resume to Attn: Human Resources, Ram Power, Inc. 691 Sierra Rose Drive, Suite B, Reno Nevada, 89511 or email to [info@ram-power.com](mailto:info@ram-power.com).

### **Employment: Geothermal Engineering Analyst, National Renewable Energy Laboratory**

Geothermal Engineering Analyst—Requisition #114BR or 115BR—Washington, D.C.

**Job/Research Summary:** This position performs technology, market and economic analysis, with an emphasis on geothermal energy technology, systems, and infrastructure. Work carried out will support R&D and decision-maker support activities within the Geothermal program through the use of analysis methodologies such as economic feasibility, market transformation, risk, portfolio balance, and cost-versus-benefit. Design novel approaches for systems and infrastructure analysis. Deliver quality products that synthesize the inputs of team members, researchers, market players, and other analysts. Innovate new methods, tools, and approaches that enable greater understanding of geothermal systems.

**Job Duties:** Combines broad, in-depth knowledge of chemical and/or mechanical engineering with an emphasis on process, heat transfer, and fluids engineering with strong economic analysis capabilities. Performs engineering/economic analyses of geothermal systems and electric transmission in cooperation with research community to gather and understand field data. Documents work in detailed technical memos and internal milestone reports; publishes and presents key results in peer-reviewed journals and at regional, national, and international scientific meetings and conferences. Supports the development of annual operating plans and assists with strategic planning efforts. Works with Department of Energy on technology goals and opportunities.

**Minimum Qualifications:** Bachelor's Degree in science and/or engineering, or equivalent/relevant education/experience. 3 years of relevant R&D experience.

**Preferred Qualifications:** Multidisciplinary research exposure to both chemical and mechanical engineering systems, especially those related to the development of cost-effective geothermal systems for utility-scale applications. Familiarity with value chain analysis, risk analysis, and dynamic modeling. Experience in the development and evaluation of applied technology aimed at entering the marketplace. Previous industry experience in renewable energy and geothermal technologies, with experience in related analysis. Established base of contacts with individuals and institutions relevant to energy analysis. Experience working with the federal government. Some experience with computer modeling of energy markets.

Pre-employment drug testing required.

Please visit our website for more information and to apply online: [www.nrel.gov/employment/](http://www.nrel.gov/employment/)  
NREL is an equal opportunity employer committed to diversity and a drug-free workplace.

### **Employment: Senior Geologist, VP Exploration, Sierra Geothermal**

**Responsibilities:** design and manage exploration programs, lead new project generation, prepare and manage budgets, develop geological and resource models, site exploration and production/injection wells, manage and build the geological team

**Requirements:** M.Sc. Geology professional certification status, over 10 years proven experience in exploration & development of geothermal resources preferred, oil & gas or mining background will be considered, strong structural understanding, strong geophysical and geological interpretive skills, strong computer skills and familiarity with 3D software, good multitask management and reporting skills

Location: Vancouver, BC with expected travel to the U.S. and project sites

Please send resumes to [Chris@redfishtech.com](mailto:Chris@redfishtech.com).

### **Employment: Vice President of Business Development, Ormat Technologies**

Ormat Technologies has an immediate opening for a full time Vice President of Business Development located in Reno, NV. The ideal candidate will 10+ years in sales, marketing and business development in the energy/renewables industry.

Position Title: Vice President, Business Development; Department: Business Development; Location: Corporate Office; Reports to: President/COO; Position Summary: The Vice President of Business Development is responsible for overseeing the Business Development function in North America.

Essential Functions: Direct and execute the business development strategy to achieve company goals and objectives, Identify and develop key strategic partnerships, both internally and externally, Responsible for negotiating PPAs and contract changes, Evaluate and analyze market expansion opportunities, Ability to build and lead a business development team that will assist the company towards completion of company goals, Build relationships with internal departments so that all areas of the company are ready to execute when necessary.

Other Responsibilities: Provide ongoing training and development to business development team to obtain a high level of performance

Education, Experience and Skills Required: Bachelor degree, ideally in business or engineering disciplines; 10–15 years experience in Sales, Marketing, Business Development or Operations roles (preferably a mix of sales and operations in energy industry); Willingness to travel up to 60% nationally and internationally; Ability to negotiate contracts with potential business affiliates; Experience in the renewable energy field a strong plus; Proven track record maintaining confidentiality and dealing with company proprietary information

Physical Requirements: In office walking and standing 20% of the time, seated 75% of the time; Ability to stand, walk and sit for varied degrees of time associated with travel

To apply for the position please send a resume to [Chris@redfishtech.com](mailto:Chris@redfishtech.com).

### **Employment: Sales Manager, Ormat Technologies**

Ormat Technologies has an immediate opening for a full time Sales Manager located in our Reno, NV. The ideal candidate will 10+ years in related Sales experience in the energy/renewables industry.

Position Title: Manager of Sales, Geothermal Development; Department: Business Development; Location: Corporate Office Reno, NV; Reports to: Director, Geothermal Development; Position Summary: The Manager of Sales, Geothermal Business Development, will be responsible for the sales and marketing of renewable energy products. The selected candidate will help lead the commercialization and sales efforts for Ormat's latest geothermal supply of geothermal plant equipment, electrical power generation projects, as well as the supply of engineering and construction services for 3rd Party power projects.

Essential Functions: Develop detailed sales and marketing strategies to grow sales within the power generation industry; Conduct market segmentation research, identify lead databases and determine sales channels to establish customer opportunities and spearhead direct sales efforts; Manage customer relationship from initial feasibility trials through to field deployment.

Other Responsibilities: Work flexibly within a dynamic, multidisciplinary team.

Education, Experience and Skills Required: Minimum of 10 years experience in a similar position; Bachelor's degree in Marketing or related field or equivalent experience and/or technical qualifications relevant to the geothermal applications, as well as Engineering and Construction; Experience in marketing or application engineering; Experience working directly with customers in a sales organization with strong communication and interpersonal skills.

Physical Requirements: Must be able to travel regularly

To apply for the position please send a resume to [Chris@redfishtech.com](mailto:Chris@redfishtech.com).

### **Employment: Engineer V, Geothermal Experience Preferred, Northern California Power Agency**

Performs engineering tasks relating to plant reliability/ performance efficiency, primary technical resource for CMMS, supervises implementation of system/equipment repairs/upgrades, PM for plant efficiency upgrade/retrofit projects, construction mgr for public works projects, supervises plant chemical lab & environ, health/safety staff. First 4–6 months, position assigned to NCPA HQ office/Roseville, then GEO Plant, Middletown, CA thereafter. During initial period in Roseville, temp housing provided if required.

Requires BA in electrical/mechanical engineering; MA preferred; and min 10 yrs exp plant/production engineering, preferably within geothermal industry; 2 yrs experience plant reliability/ maintenance engineering & 2 yrs mgmt. exp preferred. Requires knowledge/experience in industry codes/standards; CMMS, Root Cause Failure Analysis, Reliability Centered Condition Based/Mntc, CBM equip; steam turbine plant monitoring & power plant electrical sys; writing, analyzing/interpreting scientific/tech info.; making presentations and some travel in CA. Starting salary: \$96 to \$121K plus exc employer benefits inc CalPERS retirement/medical.

Application at [www.ncpa.com](http://www.ncpa.com), submit to NCPA HR, 651 Commerce Dr., Roseville, CA 95678. Open until filled.

### **Employment: Engineering Manager, Western GeoPower, Inc.**

Western GeoPower, Inc. (WGPI) has an immediate opening for a full time Engineering Manager to be located in our Healdsburg, CA office. WGPI is looking for a flexible and entrepreneurial person who can assist in a variety of tasks to grow WGPI into world class renewable power developer/operator. The ideal candidate will possess 5+ years of technical design, project engineering and operational support in the geothermal power industry. Must have geothermal power and experience working in the Geysers and Salton Sea or similar geothermal field. H2S abatement strategies, steam quality, production/injection systems and plant operations are all a plus.

The Engineering Manager will be report to the Operations Manager and be responsible for the following key tasks: Technical support for Project Permitting; Technical oversight of the Detailed Engineering Contract (power plant and gathering system); Evaluation of Value Engineering and Technical Betterment Projects; Technical support for Project Construction issues (technical support for WGP's Construction Manager); Technical support for New Development Projects; Technical support for future Plant Operations, Reporting, Plant Optimization, Environmental; Compliance, Safety and Training

To apply for the position, please send a Word formatted resume to Redfish Technology [Chris@redfishtech.com](mailto:Chris@redfishtech.com).

## **Requests for Proposals (RFPs)**

### **RFP for Geothermal Hot Water Well, OIT Campus (October 20)**

Oregon Institute of Technology (OIT) is seeking proposals to drill, case, pump test (rig test), and complete a well up to 6,000 feet in length on campus to produce geothermal hot water/steam around 300 degrees Fahrenheit to supply energy up to an approximately three megawatt (MW) geothermal power plant. Proposals are due by 4:00 PM PDT, October 20, 2008. The bid document can be found at: [www.ous.edu/bapp/bopps](http://www.ous.edu/bapp/bopps) - the Oregon University System Business Opportunities website (RFP #OIT\_GHC001\_0001).

The well will be located near the high-angle normal fault on the east side of campus in the vicinity of the existing geothermal wells in NE ¼ of Sec. 20, T38S, R9E, WB&M. The specific site is based on geophysics and geologic evidence determined prior to awarding the contract, and is situated on State of Oregon property controlled by OIT. The actual drill site is in the upper southeast parking lot on campus.

The estimated time for drilling, rig testing and completing the project is two months, estimated to start around November 3, 2008. Final demobilization should be completed no later than December 31, 2008. These dates may be changed by mutual agreement between OIT and the successful bidder.

The following documents are available for review by potential bidders on the Geo-Heat Center website at: <http://geoheat.oit.edu/greenoit.htm>:

1. Feasibility study, including geology and OIT well logs,
2. Active source seismic investigation of OIT fault (the drilling target), and
3. Final environmental assessment report (USDOE EA).
4. Permit to Drill Geothermal Well (OR Dept. of Geology and Mineral Industries)
5. Site map of campus and photograph.

A site visit, at no cost to OIT, can also be arranged by contacting the Geo-Heat Center at 541-885-1750; email: [geoheat@oit.edu](mailto:geoheat@oit.edu). Questions can be directed to John Lund or Toni Boyd at the Geo-Heat Center.

### **RFP for Global Climate Change Modeling and Early Career Projects, U.S. EPA (October 21)**

The U.S. Environmental Protection Agency requests proposals, under a joint solicitation, for 1) Adaptation for Future Air Quality Analysis and Decision Support Tools in Light of Global Change Impacts and Mitigation, and 2) Early Career Projects. Through this initiative, EPA seeks the development of modeling capability to provide: Insights to the air quality planning community; a capability to account for uncertainty and variability in the projections of a future world that includes global change and; an evaluation of the robustness of predictions made with improved tools when applied to relevant scientific and policy questions. This research must link from local to the global scale and back for predictions out to 40 years into the future. Additionally, this initiative includes the opportunity for early career projects. \$5 million expected to be available, up to 7 awards anticipated. Responses due 10/21/08.

For more info, contact Bryan Bloomer at [bloomer.bryan@epa.gov](mailto:bloomer.bryan@epa.gov) or go to [http://es.epa.gov/ncer/rfa/2008/2008\\_star\\_adaptation.html](http://es.epa.gov/ncer/rfa/2008/2008_star_adaptation.html). Refer to Sol# EPA-G2008-STAR-J1 and EPA-G2008-STAR-J2. (Grants.gov 7/22/08)

### **RFP for Global Climate Change Education, NASA (October 24)**

The National Aeronautics and Space Administration (NASA) requests proposals for the Global Climate Change Education (GCCE) project. The GCCE is designed to improve the quality of global climate change and Earth system science education at the elementary, secondary, and undergraduate levels. Funded

projects are expected to take advantage of NASA's contributions in climate science to enhance students' academic experiences and/or to improve educators' abilities to engage and stimulate their students. Up to 24 awards anticipated, award range \$150K to \$500K. A Notice of Intent is required and is due 8/29/08, final proposals due 10/24/08.

For more info, contact Diane Clayton at [diane.clayton-1@nasa.gov](mailto:diane.clayton-1@nasa.gov) or go to <http://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId=%7bA0A2FB8B-E96B-7579-5530-2709EE450F3F%7d&path=open>. Refer to Sol# NNH08ZNE005N. (Grants.gov 7/18/08)

### **RFP for Transit GHG Strategies, U.S. Department of Transportation (November 3)**

The U.S. Department of Transportation requests proposals for the Transit Greenhouse Gas (GHG) Emissions Management Compendium. Through this initiative, DOT seeks a compendium of strategies for transit agencies to reduce the GHG intensity of their services. The compendium will serve as a central information point, as well as a useful handbook to transit managers in planning and decision-making. \$175K expected to be available, 1 award anticipated.

Responses due 11/3/08. For more info, contact Jarrett Stoltzfus at [Jarrett.Stoltzfus@dot.gov](mailto:Jarrett.Stoltzfus@dot.gov) or go to: [http://www.fta.dot.gov/funding/grants\\_financing\\_7829.html](http://www.fta.dot.gov/funding/grants_financing_7829.html). Refer to Sol# D2008-GHG-TRI. (Grants.gov 9/16/08)

### **RFP for Small Business Innovation Research and Small Business Technology Transfer, DOE (November 20)**

The U.S. Department of Energy requests proposals for Phase I of the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs. SBIR/STTR seeks to increase private sector commercialization of technology developed through DOE supported R&D, stimulate technological innovation in the private sector, and improve the return on investment from Federally-funded research for economic and social benefits to the nation. Areas of interest include, but are not limited to: Advanced battery electrode development, advanced materials and technologies for cooling and waste heat recovery, energy efficient membranes, technologies related to energy storage for hybrid and plug-in hybrid electric vehicles, energy savings technologies for commodity manufacturing industries, production of biofuels from biomass, advanced water power technology development, wind energy technology development, geothermal technologies, hydrogen, fuel cells, and infrastructure technologies, solar energy, improved motor designs and power electronics, advancements for hybrid and plug-in hybrid electric vehicles, and climate control technology for fossil energy applications. The complete list of topics is posted at: [http://www.science.doe.gov/sbir/solicitations/FY%202009/C27\\_topics.pdf](http://www.science.doe.gov/sbir/solicitations/FY%202009/C27_topics.pdf). \$36 million expected to be available, up to 360 awards anticipated.

Responses due 11/20/08. For more info, contact Carl Hebron at [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov) or go to: <https://e-center.doe.gov/iips/faopor.nsf/UNID/9648EC9FBF2AAE36852574C70063CD09?OpenDocument>. Refer to Sol# DE-PS02-08ER08-34. (Grants.gov 9/17/08)

### **RFP for Environmental Info Exchange, U.S. EPA (November 21)**

The U.S. Environmental Protection Agency requests proposals for the Exchange Network Grant Program. The Network is an Internet and standards-based, secure information network that facilitates the electronic sharing, integration, analysis, reporting, and use of environmental data from many different sources. This program provides support to organizations to develop the information technology and information management capabilities needed to actively participate in the Exchange Network. \$11 million expected to be available, up to 50 awards anticipated.

Responses due 11/21/08. For more info, contact Edward Mixon at [mixon.edward@epa.gov](mailto:mixon.edward@epa.gov) or go to: <http://www07.grants.gov/search/search.do?&mode=VIEW&flag2006=false&oppId=42875>. Refer to Sol# EPA-OEI-09-01. (Grants.gov 9/17/08)

### **Request for Renewable Energy, Massachusetts (December 1)**

Taunton Municipal Lighting Plant seeks up to 260,000MWh per year of energy and dependable capacity starting in the calendar year 2009 from eligible renewable resources to meet the Massachusetts RPS requirements. Responses due 12/1/08.

For more info, contact Scott Whittemore at [Renewables@TMLP.com](mailto:Renewables@TMLP.com) or go to <http://personal.tmlp.com/tmlpesp/RFP08-01-renewable-resource/>. (Green Power Network 7/28/08)

### **RFP for Climate Change and Sustainability Conferences, EPA (December 9)**

The U.S. Environmental Protection Agency has issued a Broad Agency Announcement for Conferences, Workshops, and/or Meetings. EPA seeks applicants for the planning, arranging, administering and/or conducting of conferences and workshops in areas including, but not limited to: Economics and sustainability; air and global climate change; and technology. \$500K expected to be available, up to 15 awards anticipated. Proposals due 12/9/08.

For more information, contact Bernice Smith at [smith.bernicel@epa.gov](mailto:smith.bernicel@epa.gov) or go to [http://es.epa.gov/ncer/rfa/2008/2008\\_baa.html](http://es.epa.gov/ncer/rfa/2008/2008_baa.html). Refer to Sol# EPA-C2008-BAA. (Grants.gov 12/6/07)

### **RFP for Environmental Fellowships for Undergraduate, U.S. EPA (December 11)**

The U.S. Environmental Protection Agency requests proposals for Greater Research Opportunities. GRO provides undergraduate fellowships in environmental fields of study. Areas of interest include, but are not limited to: Green Building Engineering, Environmental Engineering, and Urban and Land Use Planning. \$930K expected to be available, up to 20 awards anticipated.

Responses due 12/11/08. For more info, contact Georgette Boddie at [boddie.georgette@epa.gov](mailto:boddie.georgette@epa.gov) or go to: [http://es.epa.gov/ncer/rfa/2009/2009\\_gro\\_undergrad.html](http://es.epa.gov/ncer/rfa/2009/2009_gro_undergrad.html). Refer to EPA-F2008U-GRO-(P1-Q2). (Grants.gov 9/5/08)

### **RFP for Student Design Competition for Sustainability, U.S. EPA (December 23)**

The U.S. Environmental Protection Agency requests proposals for the 6th Annual P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet. This program supports science-based designs developed by interdisciplinary student teams that benefit people by improving their quality of life, promote prosperity by developing local economies, and protect the planet by conserving resources and minimizing pollution. P3 seeks to respond to the technical needs of the world while moving towards the goal of sustainability. Areas of interest include: Agriculture, Materials and Chemicals, Energy, Information Technology, Water, and the Built Environment. \$950K expected to be available, up to 50 awards anticipated.

Responses due 12/23/08. For more info, contact Cynthia Nolt-Helms at [nolt-helms.cynthia@epa.gov](mailto:nolt-helms.cynthia@epa.gov) or go to: [http://es.epa.gov/ncer/rfa/2009/2009\\_p3.html](http://es.epa.gov/ncer/rfa/2009/2009_p3.html). Refer to Sol# EPA-G2009-P3-Q(1-6). (Grants.gov 9/23/08)

## **RFP for Energy Efficiency, Renewable Energy, and Transmission Technologies, DOE (December 31)**

This solicitation announcement (DE-PS01-08LG00001) invites the submission of applications for loan guarantees under Title XVII of the Energy Policy Act of 2005, 22 U.S.C. 16511-16514 (“Title XVII”), from the U.S. Department of Energy in support of debt financing for projects in the U.S. that employ energy efficiency, renewable energy, and advanced transmission and distribution technologies that constitute New or Significantly Improved Technologies. Copies of related regulations may be found at <http://www.lgprogram.energy.gov/>.

DOE is actively promoting projects that fall within the following three general but distinct project type categories: (1) manufacturing projects, (2) stand-alone projects, and (3) large-scale integration projects that may combine multiple eligible renewable energy, energy efficiency and transmission technologies in accordance with a staged development scheme.

The applicant is requested to specify which, if any, of the following project types and technology categories most accurately represents its project: (1) Alternative Fuel Vehicles, (2) Biomass, (3) Efficient Electricity Transmission, Distribution and Storage, (4) Energy Efficient Building Technologies and Applications, (5) Geothermal, (6) Hydrogen and Fuel Cell Technologies, (7) Energy Efficiency Projects, (8) Solar, and (9) Wind and Hydropower.

With questions, email the LGPO at [lgprogram@hq.doe.gov](mailto:lgprogram@hq.doe.gov). Please include in the subject line “RETDEE Solicitation Question.” Completed applications must be submitted no later than 11:59 pm (ET) on Wednesday, December 31, 2008. Full announcement can be found at <http://www.lgprogram.energy.gov/keydocs.html>.

## **RFP for Small Business Technology Transfer, National Science Foundation (February 25)**

The National Science Foundation requests proposals for the Small Business Technology Transfer Program (STTR). STTR seeks to stimulate technological innovation in the private sector by strengthening the role of small business concerns in meeting Federal R&D needs, increasing the commercial application of federally supported research results, and fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses. Areas of interest include: Materials for Sustainability, Bio-inspired Materials and Systems, Smart Materials and Structures, and Nanostructured Materials. \$5 million expected to be available, up to 35 awards anticipated. Letters of Intent are required and are due 1/14/09, final proposals due 2/25/09.

For more info, contact Cheryl Albus at [calbus@nsf.gov](mailto:calbus@nsf.gov) or go to: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf08608](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08608). Refer to Sol# 08-608. (Grants.gov 9/22/08)

### **Upcoming Events**

#### **International Geothermal Conference, November 7 (Nevis Island)**

The Nevis Island Administration will host an International Geothermal Conference at the Four Seasons Resort on November 7, 2008. The theme is “Nevis Taking Leadership in Renewable Energy Development in the OECS” and is designed for anyone with interest in renewable energy systems, including policymakers, regulators, environmental consultants, property developers, and contractors.

Topics: Challenges and Solutions for the Energy Sector and Renewable Energy, The Legal Framework for

Renewable and Geothermal Development in The OECS (The Nevis Case), Geothermal Development in Iceland and Geothermal Exploration and Development (The Nevis Model)

To register for the Conference, persons may contact Permanent Secretary, Mr. Ernie Stapleton, via email at [planningministry@yahoo.com](mailto:planningministry@yahoo.com) or by telephone at 869-469-5521 ext 2176.

### **NZ Geothermal Workshop & NZGA Seminar 2008, November 11–13 (Taupo, New Zealand)**

The NZ Geothermal Workshop will be held November 11–12 and the New Zealand Geothermal Association Seminar 2008 will be held on November 13. Both events will take place at the Great Lake Centre in Taupo, New Zealand. The events mark the 30<sup>th</sup> anniversary of the Geothermal Workshop, which is New Zealand's longest running energy conference. This year's workshop will celebrate New Zealand's people and past achievements as well as the exciting future of geothermal energy use around the world. Particular focus will be on New Zealand's contributions to the research, education, and development of geothermal energy.

NZ Geothermal is calling for papers related to the history of achievement and the future potential of geothermal energy as well as paper on all aspects on Wairakei. The paper deadline is August 25 and must be submitted via email to [geothermal08@auckland.ac.nz](mailto:geothermal08@auckland.ac.nz).

Workshop registration began June 1 and online registration will continue until November 4. Discounted rates will be available until early registration closes on October 12. For more information or to register, please visit <http://www.nzgeothermal08.com/nzgeothermal/index.cfm>.

### **XVI Annual Congress of the Mexican Geothermal Association, November 14 (Morelia, Mexico)**

The XVI Annual Congress of the Mexican Geothermal Association (AGM: Asociación Geotérmica Mexicana) will take place in the city of Morelia, Mexico, on November 14. The AGM is calling for papers related to geothermics. Please send abstracts to Luis Gutiérrez-Negrín ([luis.gutierrez@geotermia.org.mx](mailto:luis.gutierrez@geotermia.org.mx)) before July 25. Ten to twelve papers will be selected for oral presentation during the congress. Papers and presentations can be in Spanish or English.

The AGM is the Mexican association affiliated to the International Geothermal Association (IGA) It holds an annual technical congress and a general assembly, restricted to its membership, usually in a city of Mexico related to geothermics. The events are cosponsored by the geothermal division of the Comisión Federal de Electricidad, whose headquarters is in Morelia.

For more information, please visit the AGM Web site (<http://www.geotermia.org.mx>), and/or send a message to Luis Gutiérrez-Negrín.

### **Geothermal Finance & Investment Summit, November 17–19 (Palm Springs, CA)**

The U.S. Department of Energy's Edward J. Wall, of the DOE's Geothermal Technology Program Office, will keynote the Geothermal Finance & Investment Summit. The conference will look into geothermal developer perspectives, geothermal transmission, investment perspectives on geothermal energy and challenges faced in the geothermal energy community. This is a great opportunity to learn more about geothermal investment.

Many renewable energy project developers—and investors—are looking to the DOE for a range of issues. Mr. Wall is expected to provide answers and clarity to these market players. Interest in geothermal development has never been higher—evidenced by the record 400% increase in land lease prices garnered earlier this month at auction by the Bureau of Land Management—as everyone searches for the next big

play in renewable energy. Mike Olson of the U.S. Department of Interior and Kermit Witherbee of the Department of Interior/Bureau of Land Management will also address the summit on issues of the backlog of land leases and the royalty framework. Both issues are considered critical to geothermal energy projects.

As an annual event, the Geothermal Finance & Investment Summit is one place where developers, investors, power purchasers, technology experts and other players are turning to find out where, when and what geothermal projects will happen in the coming year.

Also scheduled to appear:

- o Mike Marelli, Manager of Contract Origination & Analysis, Renewable & Alternative Power Department, Southern California Edison, and David Lewis, Director—Competitive Solicitations, Pacific Gas & Electric;
- o John C.S. Anderson, Senior Managing Director, John Hancock Financial Services, and Rohan Singh, Vice President, HSH Nordbank;
- o John Eber, Managing Director—Energy Investments, JPMorgan Capital Corp.; and Martin Torres, Associate, Morgan Stanley Capital Markets
- o Gary Thompson, President & CEO, Sierra Geothermal Power Corp.

## **Utah Geothermal Lease Sale, BLM, Rescheduled for December 16**

The Utah State Office has scheduled a proposed competitive geothermal lease sale on December 16, 2008 (rescheduled from the November date).

Relevant announcements and forms can be found at

<http://www.blm.gov/ut/st/en/prog/energy/geothermal0.html>.

If you have questions regarding this notice, please call Judy Nordstrom at 801-539-4108; facsimile at 801-539-4200; write to attention at the address on this letterhead; or send electronic mail to [judy\\_nordstrom@blm.gov](mailto:judy_nordstrom@blm.gov).

## **2nd African Rift Geothermal Conference, November 25–29 (Entebbe, Uganda)**

The second International Geothermal Conference on the African Rift will be held in Entebbe, Uganda. The conference is designed as a forum for the exchange of information on the African Rift Geothermal Resources and for discussion of the current state of scientific knowledge and understanding of all aspects of exploration and development of geothermal resources, including exploration, field and conversion technology, design and construction, environmental considerations, financial, marketing, and operational aspects.

The Scientific Program of the conference consists of Plenary Lectures, Poster presentations, Workshop and Field Trips. The following will be the themes for oral and poster sessions: (1) Exploration: Geology, Geophysics, Geochemistry, and Hydrology, (2) Drilling and well design: Shallow and deep, Production and Injection, (3) Field development, Production Technology, Power generation & Operation, (4) Reservoir Engineering: Well Testing, Injection, and Modeling, (5) Case Histories, (6) Economics and Financing, (7) Environmental, Social, Legal and Institutional Aspects, and (8) Direct Use: Agri- and aquaculture, Mineral extraction, Manufacturing, Air conditioning.

For more information and to register, contact Department of Geological Survey and Mines, Plot 21–29, Johnstone Road, P.O Box 9, Entebbe, Uganda. Phone: +256 712 812231, +256 712 835843, +256 773 129941. Fax: +256 414 320364. E-mail: [argeoC2@minerals.go.ug](mailto:argeoC2@minerals.go.ug) or [bahati@minerals.go.ug](mailto:bahati@minerals.go.ug).

## **Featured Event: Renewable Energy World Conference and Expo North America 2009, March 10–12, 2009 (Las Vegas, NV)**

North America's Premier Renewable Energy Conference & Expo Is Now in its 6th Year!

The Renewable Energy World Conference & Expo North America (formerly POWER-GEN Renewable Energy & Fuels) has a proven track record—now in its 6th year— as renewable energy's leading conference. It offers a worldwide audience who will hear papers, panel discussions and presentations during technical sessions related to technology, markets, business strategies and policy covering the wind, solar, biomass, hydro, geothermal, ocean/tidal/wave, bio-power, bio-fuels hydrogen and energy sectors. There has never been a better time to be a part of the exciting, ever-growing world of renewable energy!

Connecting 5,000 renewable energy power professionals with 300 exhibitors for three days of networking, new business negotiation, and the exchange of important ideas and information impacting the renewable energy industry today.

REenergize with new technologies, new companies, new strategies and new views!

The Geothermal Energy Association will be cosponsoring this event, with panels on geothermal energy soon to come. For more information and to register, visit <http://rewna09.events.pennnet.com/fl/>.

## **Canadian Geothermal Energy Association Conference and AGM, April 16–17, 2009, (Vancouver, B.C.)**

Canadian Geothermal Energy Association Workshop, Conference and AGM, April 15–17, 2009, (Vancouver, BC)

The Canadian Geothermal Energy Association (CanGEA) announces their Workshop, Tradeshow, Conference and AGM on April 15–17, 2009 in Vancouver, BC.

CanGEA also announces that its 2009 membership drive has begun. CanGEA welcomes all members interested in advancing the development of Canada's vast resources. In addition, members receive premium benefits on one of the world's most popular geothermal websites.

Visit the Web site for information: <http://www.cangea.ca/>.



### ***GEA Update***

A newsletter for GEA Members written by Leslie Blodgett and Karl Gawell.  
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