



# GEO THERMAL ENERGY ASSOCIATION

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## **National News**

### **Obama Urges Senate Action on Climate Legislation; Bill Expected on Senate Floor by Fall**

After the House approved its energy and climate bill last week, the Senate begins its debate on how to combat global warming and increase renewable energy development. Four of President Barack Obama's top environmental and energy officials (the heads of the Energy Department, Agriculture Department, Interior Department and Environmental Protection Agency) urged a Senate panel on Tuesday to pass climate change legislation to impose limits on greenhouse gases.

"We will not fully unleash the potential of the clean energy economy unless this committee, and the Senate, put an upper limit on the emissions of heat-trapping gases that are damaging our environment," Interior Secretary Ken Salazar said in prepared testimony.

“The administration and Congress need to work together to spur a revolution in clean energy technologies,” according to Energy Secretary Steven Chu.

The Senate is expected to come across trouble getting enough votes to pass the package, but leaders are pushing to pass a version of the bill before the end of the year. "As a legislator, everything is negotiable," Senate Majority Leader Harry Reid (D-Nev.) told press. Reid has tasked a handful of committee chairs with completing the legislation by Sept. 18 and plans to get the package to the floor in late fall.

See

<http://www.google.com/hostednews/ap/article/ALeqM5ikDdeQAFXXOzwm6Fp5UeSjZuUc6wD999N4N83>, [http://www.monstersandcritics.com/news/usa/news/article\\_1488336.php/US\\_Senate\\_takes\\_up\\_landmark\\_climate\\_bill\\_for\\_first\\_time\\_#ixzz0Kam8LrOR&D](http://www.monstersandcritics.com/news/usa/news/article_1488336.php/US_Senate_takes_up_landmark_climate_bill_for_first_time_#ixzz0Kam8LrOR&D), and <http://www.washingtonpost.com/wp-dyn/content/article/2009/07/06/AR2009070603514.html?hpid=moreheadlines>.

## EPA Sees Limited Renewable Energy Growth under Waxman-Markey

From Sustainable Energy Coalition/SUN DAY Campaign

A new analysis by the Environmental Protection Agency suggests that the Waxman-Markey climate bill could actually result in slightly less new renewable energy generation capacity by the year 2020 than if the U.S. continued on a business-as-usual path with no emissions caps. The reason for this, the EPA says, is twofold. First, the bill's efficiency measures — such as those that requiring more efficient buildings and appliances - would reduce overall electricity demand "significantly." Less demand means less need for new generation, including power from the wind, sun and biomass. The bill also won't sufficiently drive up the price of dirty fossil fuels to encourage a big switch to renewables, the analysis says.

See [http://www.enn.com/top\\_stories/article/40118](http://www.enn.com/top_stories/article/40118).

## Company News

### GEA Member Feature! Atlas Copco Gas and Process Geothermal Solutions — Producing Tomorrow's Energy



June 30, 2009 – For many years, Atlas Copco Gas and Process has helped customers around the world to unlock the vast potential of sustainable energy sources. For us, Energy Recovery Solutions are yet another sector in which we help our customers achieve superior productivity through constant commitment and innovation. Our experts have contributed to groundbreaking pilot projects in the geothermal industry, collecting invaluable experience in the process. This is why Atlas Copco Gas and Process can now help lead the market with manufacturing capacities and engineering expertise for turbomachinery in the geothermal energy recovery through binary cycle.

#### *Customer benefits:*

- Customized solutions according to customer needs and international standards
- Capacities 1-15 MW
- Binary Cycles (Kalina / Organic Rankine)
- Partnerships with expert companies for complete cycle



design/complete recovery solutions

- Maximum efficiency and availability
- Strong list of reference projects and state-of-the-art applications
- Global service network with strong presence in over 120 countries

Atlas Copco Gas and Process supports both the Kalina and Organic Rankine Cycle (ORC) processes. And we provide partial or complete solutions, from the core turboexpander to a complete “binary cycle” system.

***Technology highlights:***

- Single or multi-stage turbines
- Customized turbines design
- Designed for long life, minimal downtime and easy maintenance
- Binary Cycle solutions (ORC, Kalina)
- Highly-efficient radial inflow turbine
- ISO 9001 certified production



***Committed to Clean Energy***

Atlas Copco is committed to clean energy and the environment. In 2009, the company was recognized for the fourth time as part of the Global 100 list of the world’s most sustainable corporations. In addition, Atlas Copco is a member of the Dow Jones Sustainability Indexes and the FTSE4Good Index. The FTSE index measures the performance of companies that meet globally recognized corporate responsibility standards. Atlas Copco is ISO 9001 certified and ISO 14001 compliant.

Photo captions: (top) Atlas Copco Mafi-Trench expander generator with an integral gearbox. (middle) Atlas Copco Mafi-Trench turboexpanders produce up to 15 MW per machine. (bottom) Installed expander generator near Fallon Nevada.

Learn more about Atlas Copco Gas and Process geothermal solutions at: [www.atlascopco-gap.com](http://www.atlascopco-gap.com).

*Are you a GEA member? Feature your company in the GEA Weekly Update and on our Web site for free. Email Leslie Blodgett, [research@geo-energy.org](mailto:research@geo-energy.org).*

## **Sierra Geothermal: Benefits to Come from Stimulus Spending**

Midasletter.com posted an article on how Sierra Geothermal and other companies (U.S. Geothermal, Nevada Geo, and Western GeoPower were also named) will benefit from the American Reinvestment and Recovery Act. Sierra Nevada has announced its intention to apply for funds. The company has three projects with completed environmental assessments and a fourth project with its assessment nearing completion. Since these assessments can take over two years, this may help it in applying for DOE grants, according to the article.

“The plan right now is to advance our prefeasibility stage projects to bankable feasibility,” president and CEO Gary R. Thompson told press. “We’re talking around 200 MW of potential power generation just from our top four projects combined, we’re targeting 50 MW coming on line in 2012, and between 2012 and 2015, we hope to have the full 200 MW up and running. So in terms of cash flow, 30 MW generates about \$25 million a year but this depends on the power sales contract and other project specifics, so by 2012 we’re looking at just over US\$40 million a year, and by 2015, that should grow to \$160 million a year in gross cash flow. There a number of project specifics that can change the economics just as there are in any resource development projects. Our strategy is to have a complete range of projects at each stage of development, power generation, construction, advanced stage, intermediate stage and early exploration

stage projects so that we can have a reasonably steady flow of new generation coming on line year after year providing growth and value to shareholders.”

See [http://www.midasletter.com/news/09070201\\_Sierra-geothermal-to-benefit-from-stimulus-spending.php](http://www.midasletter.com/news/09070201_Sierra-geothermal-to-benefit-from-stimulus-spending.php) and <http://www.sierrageopower.com>.

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

### **Amidst Budget Crisis, California Proposals to Boost Renewable Energy Production Bog Down**

By John McCaull, Western States Representative

July 6, 2009. Amidst a rash of cancelled hearings, soaring deficits and frayed nerves, the California Legislature took up a bold proposal this past week: should the state codify a mandate that at least 33% of the energy produced or purchased by utilities and other energy providers should come from renewable resources by 2020?

On a sunny November afternoon, the legislative leadership of both houses joined Governor Schwarzenegger in the signing of [Executive Order S-14-08](#) that called for all retail sellers of electricity to serve 33 % of their load with renewable energy by 2020. The stakes were raised, and California seemed poised to expand its existing “renewable portfolio standard” (RPS) targets to coincide with the levels set for the state’s ambitious greenhouse gas reduction plan. The backdrop to the RPS policy announcement was the state’s decision to base much of the success of the [AB 32 Climate Change Scoping Plan](#) on the state meeting various renewable energy procurement goals.

Senate President Pro Tem Darrell Steinberg pledged legislative action “within the first 90 days” of the 2009-2010 session to implement the Governor’s Executive Order. Two bills were introduced -- [SB 14 \(Simitian\)](#) and [AB 64 \(Krekorian\)](#) – and passed out of their houses of origin in May. The basic premise of each bill is to set procurement targets. For instance, SB 14 eliminates the requirement that retail sellers procure 20% of their electricity by 2010 and instead requires that following procurement targets:

- (a) 20% by 2012,
- (b) 23% by 2014,
- (c) 26% by 2016,
- (d) 30% by 2018, and
- (e) 33% by 2020.

Along the way, each of these bills got longer and more complicated with each committee hearing. Each bill has already been amended five times, and each has reached over 50 pages in length. We are now officially on Day 106 of the session, and what was once a chorus of enthusiasm and a seeming done deal has turned into a case study of unprecedented fragmentation of political consensus.

In 2002 legislation was enacted to require California’s “independently owned utilities” (e.g. Pacific Gas & Electric, Southern California Edison, San Diego Gas and Electric Company) and the private companies that compete with the utilities to increase their annual purchases of electricity from renewable resources by at least 1 percent so that 20 percent of their sales would come from renewable sources by 2017. In 2006 legislation was enacted to accelerate the 20 percent requirement to the end of 2010. Current law exempts publicly owned utilities (POUs) from the RPS program and instead requires these utilities to implement and enforce their own renewable energy purchase programs that recognize the intent of the Legislature to encourage increasing use of renewable resources.

In a recently released [July 2009 Report on RPS Implementation](#), the California Public Utilities Commission (CPUC) reports that for 2007, the state’s independently owned utilities (IOU’s) have achieved varying

levels of progress toward the 20% by 2010 goal: PG&E - 11.4%; SCE - 15.7%; SDG&E - 5.2%. The numbers actually declined from 2006 due primarily to load growth. All agencies and stakeholders agree that the IOUs will not meet the 2010 deadline. However, the CPUC reported in October, 2008 that an evaluation of the IOUs progress, including generation developed and contracted for, would result in compliance in or around 2013.

So despite the current lag, the political assumption was that all the major players had agreed that we needed to look beyond current market constraints, and send a positive signal to renewable energy developers, the energy market and customers that the state was not wavering in its commitment to a shift away from more carbon-intensive sources of energy. As Governor Schwarzenegger said back in November, "Raising the bar is absolutely necessary to reach our greenhouse gas reduction targets under AB 32. In fact, going to 33 percent is included in our AB 32 scoping plan, so that we reach our overall goal of reducing our greenhouse gases by the year 2020 by 25 percent and roll it back to the 1990 level."

Back to the case study in how consensus is so illusive even when everyone agrees on the big picture goal. During the Assembly Utilities & Commerce Committee hearing on SB 14, representatives from the state's energy utilities, environmental organizations, energy developer trade groups, state agencies and local government officials all made one thing clear: they each have a very different version of the bill they would like to see move forward. Everyone's support is qualified with an (\*if amended), and there appear to be too many drafts, revisions and proposed amendments to even keep track. How did this happen, and what are the main issues dividing the stakeholders?

Once you get past the procurement percentage targets, the difference of opinions center around the following main issues:

***What does "delivering" renewable energy to California really mean?***

To count toward a retail seller's RPS obligation, the renewable facility must meet several requirements including that the facility be located in California or deliver its electricity to California. SB 14 potentially limits the amount of out-of-state generation that can count toward the RPS by changing the definition of "deliver." The new definition would require that electricity from an out-of-state facility that is not directly interconnected to a California control area must be simultaneously scheduled into California. This new definition prevents a utility from counting transactions toward the RPS where it purchases wind generation from an out-of-state generator but then sells that electricity to another out-of-state entity and instead imports electricity from a fossil fuel facility. This also touches on the controversy around renewable energy credits, or REC's.

***How can retail sellers get cost containment protection?***

Current law provides that if the above-market costs of renewable electricity exceed set limits, an IOU is not required to acquire any additional renewable resources that are priced above the market price. The market price is determined by the PUC based on forecasts of the estimated cost of running a natural gas fired power plant plus the cost of carbon emissions from a natural gas facility. The market price is referred to as the market price referent (MPR).

Over the past year, there has been significant debate over how to best contain costs of renewable contracts under a mandatory renewable procurement program. Parties have settled on two basic approaches. The first is leave the structure of the current system in place but alter the MPR so it is not based so heavily on natural gas forecasts, and then increase the caps on above-market costs to reflect the actually expected costs of complying with a 33% mandate. The second approach is to eliminate the cap on the total cost of the RPS and instead have the CPUC make "just and reasonable" findings on individual procurement contracts.

***Should the California Energy Commission (CEC) be authorized to regulate the publicly owned utilities (POU's) compliance with the RPS?***

Most of the POU's do not object to creating a specific POU RPS mandate. However, they believe that they should be allowed to make most of the procurement decision on their own and the requiring the CEC to establish an RPS and regulations for enforcement is unnecessary and hinders their local control. The POU's

have also argue that all penalty costs would simply result in a rate increase for their customers and would not result in helping that POU actually procure renewable resources.

***How are these laws actually enforced, and what is the appropriate compliance test?***

To pick AB 64's treatment of this key issue, the bill retains the CPUC's fining authority for non-compliance with RPS procurement targets, but it eliminates what has become more commonly known as the "transmission off-ramp" and other flexible compliance mechanisms. Instead the CPUC would be permitted to waive penalties if a retail seller in two instances: (1) if they could show a reasonable effort to procure renewable resources and were unable to do so as a result of circumstances beyond their control, or (2) if the CPUC determines that they have made investments in energy efficiency that resulted in significantly less demand for electricity.

Many parties express concern and opposition to what they see as vague standard of reasonableness to measure RPS compliance efforts. Some opine that the retail seller should be required to provide clear and convincing evidence of the effort to comply with the RPS and also include specific qualifying circumstances for a waiver of penalties such as insufficient transmission. There is also substantial concern with the introduction of energy efficiency investments into the RPS program.

***What qualifies as a renewable?***

While the definition of renewable resources is generally accepted, there is debate over the definition of what types and size of hydroelectricity facilities can count toward the RPS.

These are just the issues related to actual implementation of the RPS. The legislation has also touched upon siting barriers, streamlining the transmission approval process and a variety of technical issues. As the legislative session continues, it remains to be seen if parties can put aside all their differences and just agree on an RPS expansion, or whether this will not be the year for expanding this program.

**SMUD Announces Withdrawal from Northern California Transmission Project**

The Sacramento Municipal Utility District (SMUD) has withdrawn from a 600-mile long transmission project, according to [redding.com](http://redding.com). SMUD was the largest shareholder in the project, and the transmission project may not be able to continue unless another utility takes SMUD's place, the article said. The Transmission Agency of Northern California (TANC) will continue planning the project.

Elisabeth Brinton, director of communications and community relations for SMUD, told press the concerns were over economic and environmental studies of renewable energy transmission and a rapidly-changing legislative and regulatory environment.

See <http://www.redding.com/news/2009/jul/01/smud-will-withdraw-power-line-project/>.

**U.S. Environmental Protection Agency Grants California Greenhouse Gas Waiver**

*From Sustainable Energy Coalition/SUN DAY Campaign:*

EPA is granting California's waiver request enabling the state to enforce its greenhouse gas emissions standards for new motor vehicles, beginning with the current model year. The first California waiver request was made in December 2005 and was subsequently denied in March 2008. This previous decision was based on an interpretation of the Clean Air Act finding that California did not have a need for its greenhouse gas emission standards to meet "compelling and extraordinary conditions." However, with the decision to grant the California waiver, EPA returns to its traditional legal interpretation of the Clean Air Act that has been applied consistently during the past 40 years. EPA finds that California continues to have a need for its motor vehicle emissions program, including the greenhouse gas standards. EPA also finds that the California program meets legal requirements regarding the protectiveness of public health and welfare as well as technological feasibility.

See

<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/5e448236de5fb369852575e500568e1b!OpenDocument>.

## **NREL Feed-In Tariffs Analysts Draw from World-Wide Experience**

NREL energy analysts are putting out a series of technical reports to aid policy makers, clean energy investors, utilities and other stakeholders on feed-in tariffs (FITs), according to [renewableenergyworld.com](http://renewableenergyworld.com). FITs guarantee long-term payments, which encourages renewable energy development by reducing risks for investors. They are the world's most widely used policy for renewable energy development, according to the article.

The NREL studies found that around the world FITs have effectively been shown to expand renewable energy deployment, remove barriers, create jobs, and help meet renewable energy standards. NREL analysts say that FITs are most effective when tailored to local context.

A second NREL study of FITs suggests that the policy can work effectively with renewable portfolio standards (RPS). A third report, due later this year, will focus on best practices for feed-in tariff policies.

See <http://www.renewableenergyworld.com/rea/news/article/2009/06/nrel-energy-analysts-dig-into-feed-in-tariffs?cmpid=WNL-Wednesday-July1-2009>.

## **Solar Initiatives Popular in California**

A report issued by the California Public Utilities Commission shows success in the multi-billion-dollar "California Solar Initiative" program to expand solar power production, according to *San Jose Mercury News*. Federal and state tax credits are expected to propel businesses and homes to install 156 MW of solar energy this year. The program seeks to install 3,000 MW of new solar power in 10 years and began in January 2007. The annual rate for new installed solar capacity in California nearly doubled between 2007 and 2008.

Meanwhile, California's \$3.3-billion solar subsidy program is approaching the legal limit for how much power state utilities can buy from customers. Bill AB 560 by Assemblywoman Nancy Skinner (D-Berkeley), currently endorsed by the solar industry, would lift the cap from 2.5% of the maximum generating capacity to 10%. Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric oppose the bill, wanting lawmakers to wait til to raise the limit until the California Public Utilities Commission tallies up the program's costs and benefits. The incentives would come at the expense of the utilities' other customers.

See <http://www.cpuc.ca.gov/PUC/energy/Solar/apa09.htm>,  
[http://www.mercurynews.com/greenenergy/ci\\_12726846?nclick\\_check=1](http://www.mercurynews.com/greenenergy/ci_12726846?nclick_check=1) and  
<http://www.latimes.com/business/la-fi-solar6-2009jul06,0,3147897.story>.

## **State News**

### **Colorado: Mount Princeton Geothermal Highlighted at Clean Tech Open**

June's Colorado Cleantech Initiative includes the Rocky Mountain Clean Tech Open (CTO), where Mount Princeton Geothermal offered the first company pitch of the evening, with a case study on the company's project. According to the article:

“The company's project at Mount Princeton may serve as the first commercially viable geothermal project to generate electricity in Colorado. The project seeks to generate electricity through a

closed-loop process where water heated in the earth generates steam which powers a turbine before being returned to the earth, a process known as non-consumptive pump and dump. The location offers several benefits including high temperature water, easy access to high tension power lines, and a shorter development timeline because of prior geothermal exploration completed in the 1970's. The project, however, has proved somewhat complex from a political and legal perspective due to the need to navigate both state and federal laws and assuage land owners. Among the complications was the fact that rights to the geothermal resources were owned by the Federal government and not the landowners interested in leasing these rights to the company as originally believed. The company has several electric utilities interested in purchasing the power or buying the project outright when completed. Held stated the development offers a 22% ROI without tax considerations and 42% if the tax benefits are taken into account.

The CTO brings together 12 teams who offer a variety of clean tech solutions. These were selected from 64 applicants and go on to compete on a national level in October.

See <http://www.rockyradar.com/2009/07/01/june-colorado-clean-tech-initiative-highlight-clean-tech-open/2068>.

## **International News**

### **Australia: Southern Gold Granted 18 New Geothermal Exploration Licenses**

Press Release—July 5, [Southern Gold Expands Geothermal Project Footprint](#)

Southern Gold Ltd (ASX:SAU) has announced that the granting of a suite of 18 new Geothermal Exploration Licenses (GELs) in South Australia has delivered a five-fold increase in its Roxby geothermal project (RGP) footprint as well as a dominant hot rocks energy opportunity in an area acknowledged as one of the State's main mining, mineral exploration and electricity grid corridors.

Southern Gold had previously held only four non-contiguous granted GELs in an area directly west of Lake Torrens.

The additional licences now gives the company a total of 22 granted GELs covering an area of 10,000 sq kms over one of Australia's largest geothermal hotspots.

The company recently established a large estimated Inferred Geothermal Resource of 260,000 petajoules within GEL302 - a tenement in the southeastern area of its RGP holdings and representing just 5 per cent of the total project's now granted geothermal footprint.

See <http://www.istockanalyst.com/article/view/StockNews/articleid/3332019>.

### **Australia: KUTh Completes Geothermal Surface Heat Flow Estimation Program**

KUTh Energy Ltd. has completed a two-year surface heat flow estimation program across two of its three Tasmanian tenements, according to energycurrent.com. Surface heat flow data "clearly indicate the existence of a significant thermal anomaly in central Eastern Tasmania," the company said in a statement. "The size, distribution and location of this anomaly are consistent with the current geological model of buried high-heat-producing granite batholiths at depth in the location."

Surface heat flow data has enabled 3D geothermal models for future reference. The area of about 4,170 km<sup>2</sup> will be the prime target area for geothermal development in Tasmania, according to the article.

See <http://www.energycurrent.com/index.php?id=3&storyid=19216>.

## **Iceland: Landsvirjkun Encounters Magma**

A press release was recently distributed (including in the *GEA Weekly Update*) from UC Davis concerning the well IDDP-1 well at the Krafla geothermal field in Iceland. A correction indicates it was only a coincidence that a faculty member from UC Davis happened to be visiting Krafla when the drill hole entered molten rhyolite. The well is actually being drilled for Landsvirjkun, the National Power Company of Iceland, by Jarðboranir, the Icelandic Drilling Company.

Results on samples and data from the well are posted at [www.iddp.is](http://www.iddp.is).

## **Nevis: Island Hosts First Caribbean Geothermal Conference**

The first-ever Eastern Caribbean Geothermal Conference was held in Nevis beginning June 30, according to *Caribbean Net News*. Premier of Nevis Joseph Parry spoke at the opening, noting that geothermal possibilities have been presented in the islands of Nevis, Dominica and St. Lucia. "It offers the opportunity for investment, local jobs and revenue for further development," commented Parry.

"An establishment of linkages is of major importance from this experience," said the Premier, referring to the conference. "We must have a place especially set up to hold seminars and training sessions at local, regional and international levels."

Parry thanked all of the organizations who assisted the Nevis Island Administration for establishing the first ever Eastern Caribbean geothermal conference - The Organizations of American States (OAS), the United Nations, the Government of Iceland, CARICOM, West Indies Power Ltd and all other agencies who have supported the geothermal energy development on Nevis.

See <http://www.caribbeannetnews.com/news-17453--35-35--.html>.

## **Nevis: Geothermal Energy Plan Pitched to U.S. Virgin Islands Senate**

The Nevis Island Administration and West Indies Power have pitched a plan to sell geothermal energy produced in Nevis to the U.S. Virgin Islands, according to *Caribbean Net News*.

"The production of geothermal energy in Nevis is expected to be from mid- 2010 and WIP is expected to produce all of the electricity used on Nevis," Nevis Minister of Communications Carlisle Powell told press. "Studies have been done more than 10 years ago by the U.S. Energy Department and the Organization of America States indicated that Nevis has the potential to produce 900 megawatts of electricity using geothermal power," he added.

Powell along with General Manager of West Indies Power Rawlinson Isaac presented the plan before the USVI Senate's Economic Development, Energy and Technology Committee.

See <http://www.caribbeannetnews.com/news-17408--35-35--.html>.

## **Philippines: EDC Resets Business Strategies, Outlook Good**

The Energy Development Corporation (EDC) has re-crafted business strategies to "emerge as the premier renewable energy company in the Philippines and possibly in Asia," EDC president and CEO Paul A. Aquino told press. He added that the company used "risk management measures, limited exposure to currency fluctuations and implemented augmentation programs" to overcome economic adversities.

In the near-term, the company will bid for the privatization of the 112-MW Tongonan and 192.5-MW Palinpinon geothermal plants and upgrade the Pantabangan Masiway hydro power plants by 18 MW

around 2011. Also up is the proposed 86-MW wind farm in Burgos, Ilocos Norte. And, the company has set up its business development office in Indonesia.

See <http://www.mb.com.ph/articles/209390/edc-recasts-strategy-become-asia-s-top-renewable-energy-firm>.

## **Notices**

### **DOC Seeks Participation for Clean Energy Policy Mission to Indonesia (July 10)**

The International Trade Administration of the U.S. Department of Commerce is hosting a clean energy policy mission to Indonesia and is seeking U.S. private sector participation.

Indonesia has the potential to produce an estimated 27,000 MW of electricity from geothermal sources. The Indonesian government is pushing energy expansion in support of 20,000 MW of new energy from renewable sources, with 4600 MW set aside for geothermal development.

The mission is scheduled for July 27–29 and will take place in Jakarta, Indonesia. Mission participants will join a delegation of U.S. Government officials for meetings with key Indonesian Ministries on policy challenges facing the development of Indonesia's considerable renewable energy resources. Participants will have the opportunity to shape the agenda to fit their company's or their industry's needs.

If you are interested in participating in the mission, please contact the International Trade Administration as early as possible so appropriate arrangements can be made on the size of the delegation. The deadline for participating is July 10. Participants are welcome to attend the July 27, U.S.-Indo Society event on renewable energy and climate change, as well as the policy summit on July 28. Both speakers and participants are sought. Companies can purchase "gold-key" service from the embassy in Jakarta following the event at an additional cost.

There is no fee to participate in the mission, but companies will be expected to pay for the associated travel costs.

If you have additional questions, contact Shalizeh Nadjmi (202.482.3832) or Ryan Mulholland at 202-482-4693.

Ryan Mulholland  
International Trade Specialist  
U.S. Department of Commerce  
[Ryan.Mulholland@mail.doc.gov](mailto:Ryan.Mulholland@mail.doc.gov)  
(202) 482-4693

### **SMU Geothermal Laboratory Promoting Networking for Geothermal Projects**

The SMU Geothermal Laboratory is willing to continue to help network people/companies together for geothermal projects. If you have been thinking about a project, but only have one or two aspects of it, let me know and we'll help you find others to build a team. See the funding opportunities related to coproduction and geopressure (DE-FOA-0000109) and Geothermal Heat Pumps (DE-FOA-0000116) .

- **Geothermal Technologies - Recovery Act** - The U.S. Department of Energy requests proposals for the Geothermal Technologies Program for geothermal systems research, exploration, demonstration, and development. Areas of interest include: 1) Validation of Innovative Exploration Technologies, 2) Geothermal Energy Production from Low Temperature Resources, Co-produced Fluids from Oil and Gas Wells, and Geopressured Resources, and 3) Geothermal Data Development, Collection, and Maintenance. \$170 million expected to be available, up to 60 awards anticipated. Responses due 7/22/09. For more info, contact Genevieve Wozniak at [genevieve.wozniak@go.doe.gov](mailto:genevieve.wozniak@go.doe.gov) or go to:

<http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47584>. Refer to Sol# DE-FOA-0000109.

- **Ground Source Heat Pumps – Recovery Act** - The U.S. Department of Energy requests proposals for the Geothermal Technologies Program: Ground Source Heat Pumps. Through this RFP, DOE seeks to increase the deployment of ground source heat pumps through new commercialization strategies that incorporate: 1) Innovative commercial-scale or residential community technology demonstration projects; 2) Data gathering and analysis related to system costs, performance, and installation techniques; and 3) A national GHP certification standard. \$50 million expected to be available, up to 21 awards anticipated. Responses due 8/6/09. For more info, contact Genevieve Wozniak at [genevieve.wozniak@go.doe.gov](mailto:genevieve.wozniak@go.doe.gov) or go to: <http://www.grants.gov/search/search.do>.

## **DOE Announces New Geothermal Funding Opportunities (July 17, 22, 30)**

*From the Office of Geothermal Technologies, DOE:*

The Geothermal Technologies Program (GTP) at the U.S. Department of Energy (DOE) would once again like to bring your attention to THREE funding opportunities announcements (FOA) for awards in geothermal technologies. On May 27, 2009, President Obama announced \$350 million of American Reinvestment and Recovery Act funding in support of geothermal technologies. GTP would like to encourage you to review the opportunities and to register at [www.fedconnect.net](http://www.fedconnect.net) as soon as possible. By registering, you will receive automatic notifications of amendments and modifications to the open FOAs. These are wonderful opportunities to explore projects that reflect the broad portfolio of geothermal technologies with the potential to exponentially advance deployment. Information on all three announcements can be found at:

[https://www.fedconnect.net/Fedconnect/PublicPages/PublicSearch/Public\\_Opportunities.aspx](https://www.fedconnect.net/Fedconnect/PublicPages/PublicSearch/Public_Opportunities.aspx)

1. Recovery Act: Geothermal Technologies (attached) will close on July 22, 2009 at 11:59pm (EST). Application forms and instructions are available at: [https://www.fedconnect.net/Fedconnect/PublicPages/PublicSearch/Public\\_OpportunitySummary.aspx](https://www.fedconnect.net/Fedconnect/PublicPages/PublicSearch/Public_OpportunitySummary.aspx)
2. Enhanced Geothermal Systems Component Research and Development/Analysis (attached) will close on July 17, 2009 at 11:59pm (EST). Application forms and instructions are available at <https://e-center.doe.gov/iips/faopor.nsf/UNID/762FF27668B2EE82852575C30070422D?OpenDocument>.
3. Enhanced Geothermal Systems Demonstration (attached) will close on July 30, 2009 at 11:59pm (EST). Application forms and instructions are available at <https://e-center.doe.gov/iips/faopor.nsf/UNID/DFEA0DAF24386352852575C30077E428?OpenDocument>

Please forward this message widely to interested parties. The Geothermal Technologies Program looks forward to receiving your applications and growing our partnerships.

## **CEC Cost Share Grant Solicitation, American Recovery and Reinvestment Act (July 24 & 29, August 6)**

The California Energy Commission has released a new funding solicitation - Program Opportunity Notice PON-08-011. The solicitation is to cost share Energy Commission Public Interest Energy Research (PIER) Program funds with federal funding from the U.S. Dept. of Energy under the American Recovery and Reinvestment Act of 2009.

This solicitation is specific to cost-share PIER funding with the following four federal solicitations:

- Enhanced Geothermal Systems Component Research and Development/Analysis, DE-FOA-0000075; Jul. 7, 2009 (pre-applications); Jul. 24, 2009 (final deadline).
- Enhanced Geothermal Systems Demonstration, DE-FOA-0000092; Jul. 20, 2009 (pre-applications); Aug. 6, 2009 (final deadline).
- Geothermal Technologies Program, DE-FOA-0000109; Jul. 10, 2009 (pre-applications); Jul. 29, 2009 (final deadline).
- High Penetration Solar Deployment, DE-FOA-0000085; Jul. 16, 2009 (pre-applications); Aug. 6, 2009 (final deadline).

The official announcement and description of this opportunity may be found on the funding agency's Web site: <http://www.energy.ca.gov/contracts/pier.html#PON-08-011>.

### **TANC Transmission Project EIR/EIS Public Scoping Comment Period Extended (July 30)**

TANC and Western Area Power Administration have further extended the scoping comment period by 60 days. The public scoping comment period for the TTP Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will now close on July 30, 2009.

The TTP is a proposal to build and upgrade approximately 600 miles of high-voltage electric transmission lines and substations in northern California to increase reliability, reduce congestion, and facilitate the development and transmission of renewable electricity in Northern California.

For the most current information about the proposed project, including project overview, maps, facts sheets and other documents visit [www.tanc.us](http://www.tanc.us) and [www.wapa.gov/transmission/ttp.htm](http://www.wapa.gov/transmission/ttp.htm).

Written comments should be submitted to Mr. David Young, NEPA Document Manager at: Western Area Power Administration, Sierra Nevada Region, 114 Parkshore Dr., Folsom, CA 95630; fax 916-353-4772; or email [tpeis@wapa.gov](mailto:tpeis@wapa.gov).

Questions/concerns call the project hotline, 916-353-4777 or email [tpeis@wapa.gov](mailto:tpeis@wapa.gov).

### **USDA Announces REAP Grant/Loan Guarantee Funding (July 31)**

Today USDA announced the long-awaited availability of funding for the 2009 program year for the Rural Energy for America Program (REAP). The Department is now accepting REAP applications for grants and loan guarantees for renewable energy and energy efficiency systems, and also is including funding for feasibility studies. The deadline for applying for REAP funding is July 31. This year \$60 million is available for projects. USDA has made some changes to the application process for REAP, incorporating statutory changes from the 2008 Farm Bill. A summary of these changes and the full notice may be found here: <http://farmenergy.org/news/usda-announces-reap-funding-for-2009>.

### **Airborne Hyperspectral Surveys of Geothermal Areas, Nevada (August 1–4)**

The Aerospace Corporation, a non-profit company which operates a Federally Funded Research and Development Center (FFRDC), will be conducting airborne hyperspectral surveys in Nevada later this summer (early August). The survey will focus on several geothermal areas of interest -- particularly in Esmeralda and Churchill Counties, Nevada. Aerospace would like to collaborate with geothermal companies and apply R&D funds to conduct airborne surveys for geothermal resources. Two powerful state of the art hyperspectral sensors will be on board the aircraft: Aerospace's SEBASS hyperspectral sensor; combined with SpecTIR's ProspecTIR sensor. The airborne survey will also include a FLIR long wave bolometer.

SEBASS captures mid to long wave infrared spectral measurements within the thermal emissive range and SpecTIR's ProspecTIR captures the very near infrared to short wave infrared. The combined sensors provide an unrivaled full spectral hyperspectral capability. This co-locating of hyperspectral sensors can collect over 600 channels of spectral information from the visible to long-wave infrared.

With enough surveys in a general area, clients can share nonrecurring costs (e.g., deployment costs). The insight gained could be extremely valuable to companies that are exploring for geothermal resources in and around the state of Nevada.

Approach:

A - Fly over a known geothermal area of interest and create a "baseline" of the site -- using shortwave, and mid-long wave hyperspectral sensors.

B - Based upon discussions with a geothermal company, the Twin Otter aircraft (with the same combined sensor platform) subsequently flies over a prospective area of interest and map various epithermal spring deposits - such as sinter and note other mineralization features which could be indicative of a hydrothermal system.

C - Work with geologists to discuss and evaluate how hyperspectral airborne surveys can contribute to the conceptual model of a hydrothermal system.

To learn more about how the hyperspectral airborne survey can help with geothermal exploration - please contact: Karen L. Jones; 703 812-0623; [karen.l.jones@aero.org](mailto:karen.l.jones@aero.org).

### **Call for Papers, Renewable Energy World North America (August 7)**

Renewable Energy World Conference & Expo is now accepting abstract submittals for the 2010 conference program. Submit your abstracts by August 7, 2009 and take advantage of the opportunity to share your insight with the renewable energy industry.

For more information including topics of interest and how to submit abstracts, visit <http://poe-media.com/portal/wts/cgmcrBbvuaqzjBajjBrycjsE9u8a>.

### **Submit Nominations Power Engineering Projects of the Year Award (August 28)**

Nominate your outstanding project for Power Engineering magazine's Projects of the Year Awards. Nominations accepted for projects in the renewable energy, nuclear, coal and natural gas power sectors. Details at <http://poe-media.com/portal/wts/cgmcrBbvuaqzjBajjBficjsE9u8>.

### **Labor Department Offers \$500 Million for Clean Energy Job Training (August–September)**

*From EERE Network News:*

The U.S. Department of Labor recently launched five grant competitions, totaling \$500 million, to fund projects that prepare workers for green jobs in the energy efficiency and renewable energy industries. Four of the competitions serve workers through various national, state, and community outlets. These include Energy Training Partnership Grants, which aim to train workers in green industries, with some money earmarked for those leaving the auto industries; Pathways Out of Poverty Grants, which seek to engage national nonprofits, as well as local agencies that have networks for re-educating workers; State Energy Sector Partnership and Training Grants, designed to help states refine their energy sector strategies to build up a trained workforce, particularly in areas hurt by auto industry upheaval; and Green Capacity Building Grants, which beef up existing Labor Department programs to ensure that there's a large enough pool of green-trained workers to meet demands.

The fifth competition, for State Labor Market Information Improvement Grants, will fund state workforce agencies that collect, analyze, and disseminate labor market information, while also encouraging collaboration among states. Those grants are also meant to help direct individuals to careers in green industries. The five grant solicitations were published in the June 24 edition of the Federal Register, and the grants will be funded through the American Recovery and Reinvestment Act. In an effort to earn the maximum return on each investment, the Labor Department is encouraging grantees to align their work with other federal agencies' Recovery Act investments intended to create jobs and promote economic growth. Combining funds from different agencies can help worker training programs get more bang for the buck and put more people to work in the clean energy industry. See the [Labor Department press release](#) and the grant solicitations for [Energy Training Partnership Grants](#), with applications due September 4; [Pathways Out of Poverty Grants](#), due September 29; [State Energy Sector Partnership and Training Grants](#), due October 20; [Green Capacity Building Grants](#), due August 5; and [State Labor Market Information Improvement Grants](#), due August 14.

See [http://www1.eere.energy.gov/geothermal/news\\_detail.html?news\\_id=12619](http://www1.eere.energy.gov/geothermal/news_detail.html?news_id=12619).

## **EPA Extends Comment Period for Renewable Fuel Standard Program (September 25)**

Washington – The U.S. Environmental Protection Agency is extending the comment period by 60 days on its proposed rule revising the national Renewable Fuel Standard program, commonly referred to as RFS2. The original comment period was to end on July 27, 2009 and will now end on September 25, 2009.

The proposed rule would dramatically increase the volume requirements for renewable fuels, establish four categories of renewable fuels, and require some renewable fuels to achieve greenhouse gas emission reductions compared to the gasoline and diesel fuels they displace. These revisions were mandated by the Energy Independence and Security Act of 2007.

With the 60-day comment period extension, EPA seeks to provide the public adequate time to provide meaningful comment while finalizing and implementing the standards in a timely manner.

Contact Information: Cathy Milbourn (News Media Only) milbourn.cathy@epa.gov (202) 564-7849 (202) 564-4355

More information and instructions on submitting comments:  
<http://www.epa.gov/otaq/renewablefuels/index.htm>.

See  
<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/0bba7d28cf79a38e852575e7005a9eed!OpenDocument>.

## **Resource Development Opportunity, Contact, Nevada**

Seeking someone to do a feasibility study and/or development of property to generate commercial electricity. The property is 30 acres of commercial property on highway 93, approximately 15 miles from the Idaho/Nevada border in Contact, Nevada. The property is in a hot water zone.

In the mid 1970's Phelps Dodge had many drilling sites for copper approximately three quarters of a mile from the property. Phelps Dodge was drilling and hit hot water that was too hot for them to continue drilling.

The property is also three quarters of a mile from high power transmission lines running north and south.

Please contact Ted Reddy, at 25653 S. Brentwood Dr. Sun Lakes, AZ 85248, by phone 480-707-2574, or by email, [reddyteddy@hotmail.com](mailto:reddyteddy@hotmail.com).

## **Hannon Armstrong Announces Advisory Services for DOE Loan Guarantees**

The American Recovery and Reinvestment Act expanded DOE Loan Guarantees and U.S. Treasury Tax Grants, providing renewable energy project developers a path for project funding, according to the Hannon Armstrong Web site. The company has launched an advisory service offering for industry members seeking to apply.

Vice President of Analytics and Structuring Nate Rose told press, "The outcomes vary rather substantially from existing project finance models, and vary between solar, wind, geothermal and biomass projects."

"Given our team's experience with DOE and OPIC loan guarantees, and our appreciation of how challenging this process is, we decided it makes sense to expand our Federal finance offer to include not just the application and its negotiation, but also the monetization of the capital required with this new structure," said Jeffrey Eckel, President and CEO.

See [http://www.hannonarmstrong.com/index.php?option=com\\_content&task=view&id=28](http://www.hannonarmstrong.com/index.php?option=com_content&task=view&id=28).

## **Resource Development Opportunity, Rosebud Sioux Tribe, Rosebud, SD**

The Native American Tribe near Mission SD has a deposit of geothermal energy under their large Rosebud Reservation in South Dakota. See U.S. News & World Report, November 7, 2007, DOE map of U.S. Geothermal Hotspots, p. 52, reference to deposit p. 50.

Leigh Bryant-Zarse, the architect, engineer, and consultant in Wisconsin who is submitting this solicitation, attended a meeting of the Tribe Council on September 16, 2008. The Tribe presented him with a resolution to approach developers with free exploration rights on their reservation, and agreed to split 1/10 of 1% of the energy profits for a period of 2 years, if found. These parties are looking for help to develop the resource. The reservation exists under a sole ownership, making it easy to deal with.

Contact: Leigh Bryant-Zarse, Architect-Engineer-Consultant, 1812 Mountain Ave., Wauwatosa, WI 53213-2336, phone and fax: 414-259-1812

Rosebud Sioux Tribe: Chief Rodney Bordeaux, PO Box 430, Rosebud, SD 57570, phone 605-747-2381

## **Employment Opportunities**

### **Vice President of Engineering, Ram Power, Inc.**

Ram Power, Inc., a recently formed renewable geothermal and solar thermal project development company, with offices in Nevada and California has an immediate opening for a Vice President of Engineering. The candidate will be responsible for managing all aspects of Engineering and Procurement as it pertains to the company's current and future Solar and Geothermal Projects. This position reports to the President and CEO and works closely with other functional leaders in the company, including those in finance, business development, and marketing.

#### **Responsibilities:**

- Assist in developing strategic planning for and direction and control of project development activities.
- Provide technical direction and guidance, as well as hands-on project management for all solar and geothermal project development.
- Ensure the optimal application of technology and engineering resources to meet project development requirements.
- Direct the definition and procurement of geothermal and solar thermal power plants, and provide oversight of power plant and surface facility construction.

- Hire and direct a team of engineers from different disciplines to acquire necessary resources and plan to meet scheduled commitments.
- Ensure implementation of formal processes to support project development, including interconnection and transmission agreements.

Requirements:

- Strong operational and project management skills to manage logistics and time, as well as people and materials for multiple projects.
- Solid understanding of engineering technical issues/needs, financial, sales, and marketing as related to project design and development.
- Successful candidate must have at least 10 years engineering experience in the energy/renewables industry with primary experience in power plant technologies. Prior work experience in the area of steam power plants and Organic Rankine Cycle is an advantage. Prior work experience in solar and geothermal is preferred.
- Strong Engineering experience in Design, Analysis and Development of Renewable Energy Projects, as well as Proposal Drafting.
- Excel software knowledge to create estimates and manage projects to improve project profitability. Fluency in AutoCAD is essential.
- Knowledge of PPA's (Power Purchase Agreements), related building codes and NEC, as well as permitting process and ability to manage specification, procurement and delivery of equipment and material.
- Minimum of Bachelors Degree in Electrical or Mechanical/Chemical or Civil Engineering and 10 years demonstrated project management experience. PE (Professional Engineer) certification is an advantage.

Email resumes to [info@ram-power.com](mailto:info@ram-power.com) or fax to: (775) 828-0904

### **Drilling Program Manager, Major Geothermal Power Company in CA**

A Geothermal Energy Company in Northern California is seeking a Drilling Program Manager to oversee all drilling operations of an 800+ acre expansion project. Please send updated resume and salary requirements. Experience as follows:

1. Experience managing successful geothermal drilling programs.
2. Leadership experience and management of drilling and support personnel.
3. Experience managing compliance with safety and environmental regulations.
4. A successful track record of improving business performance and meeting and managing against operating goals and budgets.
5. Exposure to drilling technology, service providers, contracts and risks.
6. Relationships with relevant parties within the geothermal drilling industry including, but not limited to: rig providers, contractors, vendors, consultants and qualified company men.
7. Thorough understanding of the contracting and procurement processes required for cost effective drilling program management.

Contact: Mike Erney, Project Director – Alternative Energy, The Carmon Group:

(216) 328-9060 EXT 102

[michaelerney@carmongroup.com](mailto:michaelerney@carmongroup.com)

[www.linkedin.com/in/michaelerney](http://www.linkedin.com/in/michaelerney)

### **Senior Director, Business Development, Major Geothermal Company**

The Senior Director, Business Development is responsible for overseeing the Business Development function in North America for geothermal market. This role could quickly grow into a VP role and will oversee a sales team currently consisting of 8 sales reps and will grow it by 50%.

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
- 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.

Education, Experience, and Skills Required:

- Bachelor degree in engineering and MBA
- 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

Contact:

Paige Carratturo  
 Executive Recruiter  
 Richard Wayne & Roberts  
 877-236-0899 (direct)  
 206-855-9746 (fax)  
[paige@rwr.com](mailto:paige@rwr.com)  
<http://www.linkedin.com/in/paigecarratturo>

### **Geothermal Project Supervisor, Central American Bank for Economic Integration, Costa Rica**

The Central American Bank for Economic Integration (Banco Centroamericano de Integración Económica, BCIE) is looking for an expert in geothermal energy to supervise a project in Costa Rica. It is called Las Pailas and it is financed through BCIE.

Contact:

Ana Karina Rubi de Reyes, Oficial de Consultorias, BCIE-Tegucigalpa, Honduras  
 Tel. +504-240-2243, Ext. 5214  
 Fax. +504-240-2228

Visit the BCIE Web site, [www.bcie.org](http://www.bcie.org) - [www.cabei.org](http://www.cabei.org)

### **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

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

### **RFP for State Energy Program, DOE (Due Dates Vary)**

The U.S. Department of Energy requests proposals for the State Energy Program (SEP). This program provides formula grants to State and Territorial energy offices to design and carry out renewable energy and energy efficiency priorities. \$25 million expected to be available, up to 56 awards anticipated. Due dates based on state/territorial program years. For more info, contact Lisa Kuzniar at [lkuzni@netl.doe.gov](mailto:lkuzni@netl.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=46791>. Refer to Sol# DE-FOA-0000073. (Grants.gov 4/14/09)

### **RFP for Contribution of Cost Share for Transportation Related Recovery Act RFPs, CEC (Due Dates Vary)**

The California Energy Commission requests proposals for the American Recovery and Reinvestment Act Cost Share: Alternative and Renewable Fuel and Vehicle Technology Program. Through this RFP, the CEC will contribute cost share to applicants who are submitting proposals to the Federal government in response to a transportation-related Recovery Act funding opportunity announcements. All projects must be based in California. Eligible Recovery Act solicitations include, but are not limited to: Transportation Electrification (Round 1), DOE, DE-FOA-0000028; Energy Efficiency and Renewable Energy Research – Electric Drive Battery and Component Manufacturing Initiative, DOE, DE-FOA-0000026; Clean Cities (Rounds 1 and 2), DOE, DE-PS26-09NT01236-04; and Transit Investments for Greenhouse Gas and Energy Reduction, DOT, FTA-09005-TIGGER-TRI. \$176 million expected to be available, due dates vary by solicitation. For more info, contact Sarah Williams at [skawilli@energy.state.ca.us](mailto:skawilli@energy.state.ca.us) or go to: <http://www.energy.ca.gov/contracts/transportation.html#PON-08-010>. Refer to PON-08-010.

### **RFP for Renewables Purchase in Southwest, U.S. Navy**

The U.S. Department of the Navy announces its intent to request proposals for the purchase of competitively priced renewable electrical power through power purchase agreements at Naval and Marine Corps installations in the Naval Facilities Engineering Command Southwest AOR. The Navy seeks systems that are constructed, owned, operated, maintained and repaired by the successful offeror(s) on Government property located within the installation boundaries. Up to 5 awards anticipated. For more info, contact Russell Dominy at [Russell.dominy@navy.mil](mailto:Russell.dominy@navy.mil) or go to: [https://www.fbo.gov/?s=opportunity&mode=form&id=2d9716078bff363ae320d7e111d4b2d0&tab=core&\\_cview=1](https://www.fbo.gov/?s=opportunity&mode=form&id=2d9716078bff363ae320d7e111d4b2d0&tab=core&_cview=1). Refer to Sol# N6258309R0085. (FBO 4/17/09)

### **RFP for Technology and National Research Priorities, Recovery Act (Ongoing)**

The National Institute of Standards and Technology requests proposals for the Technology Innovation Recovery Act Measurement Science and Engineering Research Grants Program: Providing the Technology Infrastructure to Address National Priorities. Priority research areas include, but are not limited to: Energy, environment and climate change; manufacturing; and physical infrastructure. \$35 million expected to be available, up to 60 awards anticipated. Responses accepted on a continuous basis. For more info, contact Christopher Hunton at [christopher.hunton@nist.gov](mailto:christopher.hunton@nist.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=46063>. Refer to Sol# 2009-NIST-ARRA-MSE-RESEARCH-01. (Grants.gov 3/16/09)

## **RFP for Industrial Energy Efficiency Grand Challenge, DOE (July 14)**

The U.S. Department of Energy requests proposals for the Industrial Energy Efficiency Grand Challenge. This RFP will support the development of transformational industrial processes and technologies that reduce the energy intensity or greenhouse gas emissions of the system by a minimum of 25 percent while providing a return on investment of 10 percent or greater. \$15 million expected to be available, up to 50 awards anticipated. Responses due 7/14/09. For more info, contact Michael Schledorn at michael.schledorn@go.doe.gov or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47812>. Refer to Sol# DE-FOA-0000113. (Grants.gov 6/4/09)

## **RFP for Industrial Energy Efficiency, Recovery Act, DOE (July 14)**

The U.S. Department of Energy requests proposals for the Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment. This RFP will enable deployment of industrial technologies that provide 25% or greater improvement in energy efficiency over the currently-utilized equipment. The amount of funding available and number of awards anticipated not available at the time of this writing. Responses due 7/14/09. For more info, contact Debra Ball at ball@netl.doe.gov or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47763>. Refer to Sol# DE-FOA-0000044. (Grants.gov 6/2/09)

## **RFO for Renewables Portfolio Standard (RPS) Solicitation, PG&E (July 17)**

From PG&E:

Today PG&E issued its 2009 Renewables Portfolio Standard (RPS) Solicitation. PG&E will be seeking to procure an additional 1-2% (800-1600 GWh/year) of its customers' electricity needs from RPS-eligible renewable resources. PG&E will host a pre-bid general conference on July 21, 2009 from 1:00 -3:00 pm (PPT) followed by the Imperial Valley pre-bid conference from 3:00 – 4:30 (PPT) in the auditorium of PG&E's headquarters at 245 Market Street in San Francisco. Please submit a non-binding Notice of Intent to Bid and an RSVP for the pre-bid conference by July 17, 2009. All bids are due on August 24. Copies of the solicitation protocol, power purchase agreements and related information and materials are now available on PG&E's Web site at: <http://www.pge.com/b2b/energysupply/wholesaleelectricissolicitation/renewables2009/index.shtml>.

We look forward to your participation. If you have any questions, please send an e-mail to [RenewableRFO@pge.com](mailto:RenewableRFO@pge.com).

## **Request for Renewables, California (July 20)**

The Marin Energy Authority seeks 170 MW of renewable energy resources. Responses due 7/20/09. For more info, contact Jamie Tuckey at jtuckey@co.marin.ca.us or go to: <http://www.marinenergyauthority.org/>. (Green Power Network 5/12/09)

## **RFP for Geothermal, China Lake California (July 20)**

The Naval Air Warfare Center announces its intent to request proposal for geothermal investigations at China Lake, CA. The RFP will be issued on or about 6/22/09, responses due 7/20/09. For more info, contact Sue Casey at sue.casey@navy or go to: [https://www.fbo.gov/index?s=opportunity&mode=form&id=63f04b8b682a086a0c1592e216fe2a53&tab=c&\\_cview=0](https://www.fbo.gov/index?s=opportunity&mode=form&id=63f04b8b682a086a0c1592e216fe2a53&tab=c&_cview=0). Refer to Sol# N6893609R0076. (FBO 6/7/09)

## **RFP for Smart Grid Interoperability Standards and Harmonization Effort, DOC (July 20)**

The U. S. Department of Commerce, National Institute of Standards and Technology announces its intent to request proposals for Support of Smart Grid Interoperability Standards and Harmonization Effort. Work will support NIST in coordinating the development and harmonization of standards to enable widespread deployment of an interoperable and secure Smart Grid (SG). As part of this requirement, the Contractor will be required to engage all relevant SG stakeholders to ensure credible results. The RFP will be posted on or about 6/20/09. For more info, contact Joseph Widdup at [joseph.widdup@nist.gov](mailto:joseph.widdup@nist.gov) or go to: [https://www.fbo.gov/?s=opportunity&mode=form&id=5b6e4ec676429e89839caded727c4848&tab=core&\\_cview=0](https://www.fbo.gov/?s=opportunity&mode=form&id=5b6e4ec676429e89839caded727c4848&tab=core&_cview=0). Refer to Sol# SB1341-09-RP-0070. (FBO 6/5/09)

## **RFP for Energy Efficient ICT, Recovery Act, DOE (July 21)**

The U.S. Department of Energy requests proposals for Energy Efficient Information and Communication Technology (ICT). Through this RFP, DOE seeks the development of new technologies to dramatically improve energy efficiency in ICT systems with an the emphasis on new technologies that can be commercialized within the next 3 - 5 five years, and to demonstrate through field testing highly energy efficient, emerging technologies that are ready for or are in the initial stage of commercial introduction. \$50 million expected to be available, up to 15 awards anticipated. Responses due 7/21/09. For more info, contact Michael Schledorn at [michael.schledorn@go.doe.gov](mailto:michael.schledorn@go.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47742>. Refer to Sol# DE-FOA-0000107. (Grants.gov 6/2/09)

## **RFP for Regional Sequestration Technology Training, Recovery Act, DOE (July 22)**

The U.S. Department of Energy requests proposals for Regional Sequestration Technology Training. This initiative will support the development of regional training that facilitates transfer of knowledge and technologies required for site development, operations, and monitoring of CCS technologies. \$6.970 million expected to be available, up to 7 awards anticipated. Responses due 7/22/09. For more info, contact Michael DeStefano at [Michael.DeStefano@nefl.doe.gov](mailto:Michael.DeStefano@nefl.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47720>. Refer to Sol# DE-FOA-0000080. (Grants.gov 6/2/09)

## **RFP for Geothermal Technologies, Recovery Act, DOE (July 22)**

The U.S. Department of Energy requests proposals for the Geothermal Technologies Program for geothermal systems research, exploration, demonstration, and development. Areas of interest include: 1) Validation of Innovative Exploration Technologies, 2) Geothermal Energy Production from Low Temperature Resources, Co-produced Fluids from Oil and Gas Wells, and Geopressed Resources, and 3) Geothermal Data Development, Collection, and Maintenance. \$170 million expected to be available, up to 60 awards anticipated. Responses due 7/22/09. For more info, contact Genevieve Wozniak at [genevieve.wozniak@go.doe.gov](mailto:genevieve.wozniak@go.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47584>. Refer to Sol# DE-FOA-0000109. (Grants.gov 5/27/09)

## **RFP for Renewables and Energy Efficiency Improvements, DOA (July 31)**

The U.S. Department of Agriculture requests proposals for Renewable Energy Systems and Energy Efficiency Improvements. This program will provide support to agricultural producers and rural small businesses to purchase and install renewable energy systems and make energy efficiency improvements. \$51.6 million expected to be available, up to 1,100 awards anticipated. Responses due 7/31/09. For more

info, including Regional contacts, go to: <http://edocket.access.gpo.gov/2009/pdf/E9-12178.pdf>. Refer to Sol# RDBCP-09-REAP-RES-EEI. (Grants.gov 5/29/09)

### **RFP for Renewable Energy Feasibility Studies, DOA (July 31)**

The U.S. Department of Agriculture requests proposals for Renewable Energy Feasibility Grants. This program will provide support to agricultural producers and rural small businesses to conduct feasibility studies for renewable energy systems. \$6 million expected to be available, up to 150 awards anticipated. Responses due 7/31/09. For more info, including state specific contacts, go to: <http://www.grants.gov/search/search.do?oppId=47628&mode=VIEW>. Refer to Sol# RDBCP-09-REAP-FEASIBILITY. (Grants.gov 5/29/09)

### **RFP for Ground Source Heat Pumps, Recovery Act, DOE (August 6)**

The U.S. Department of Energy requests proposals for the Geothermal Technologies Program: Ground Source Heat Pumps. Through this RFP, DOE seeks to increase the deployment of ground source heat pumps through new commercialization strategies that incorporate: 1) Innovative commercial-scale or residential community technology demonstration projects; 2) Data gathering and analysis related to system costs, performance, and installation techniques; and 3) A national GHP certification standard. \$50 million expected to be available, up to 21 awards anticipated. Responses due 8/6/09. For more info, contact Genevieve Wozniak at [genevieve.wozniak@go.doe.gov](mailto:genevieve.wozniak@go.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47731>. Refer to Sol# DE-FOA-0000116. (Grants.gov 6/2/09)

### **RFP for Carbon Capture and Sequestration, Recovery Act (August 7)**

The U.S. Department of Energy requests proposals for Carbon Capture and Sequestration (CCS) from Industrial Sources and Innovative Concepts for Beneficial CO2 Use. The industrial sources include, but are not limited to, cement plants, chemical plants, refineries, steel and aluminum plants, manufacturing facilities, and power plants using fuels such as petroleum coke and municipal waste. \$1.421 billion expected to be available, up to 20 awards anticipated. Responses due 8/7/09. For more info, contact Raymond Johnson at [johnson@netl.doe.gov](mailto:johnson@netl.doe.gov) or go to: <http://www.grants.gov/search/search.do?mode=VIEW&flag2006=false&oppId=47854>. Refer to Sol# DE-FOA-0000015. (Grants.gov 6/8/09)

### **RFP for Electric Energy Proposals, Southern California Edison (August 21)**

Southern California Edison seeks electric energy proposals from eligible renewable energy resource suppliers. Proposal Structure Letter, Seller's Proposal Template and Term Sheet due August 14, 2009; hard copies of complete and conforming Proposal Binders due August 21.

RFP materials and schedule available on <http://www.sce.com/AboutSCE/Regulatory/qualifyingfacilities/renewable-rfp.htm>.

### **RFP for Smart Grid Demonstrations, DOE, American Recovery and Reinvestment Act (August 26)**

The U.S. Department of Energy announces its intent to request proposals for Smart Grid Demonstrations. Through this RFP, DOE seeks regionally unique demonstrations to verify smart grid technology viability, quantify smart grid costs and benefits, and validate new smart grid business models, at a scale that can be readily adapted and replicated around the country. Areas of interest include: Smart Grid Demonstrations, Synchronphasors, and Energy Storage. \$615 million expected to be available, up to 36 awards anticipated. Closing date to be announced with release of RFP. For more info, contact Keith Carrington at

keith.carrington@netl.doe.gov or go to:

<http://www07.grants.gov/search/search.do;jsessionid=9x3VJydGP2TfWHPRK9mfnpLqsWpm1TQmDJTzS6XLDp1QJKpb2SM!-1267850137?oppId=46836&flag2006=false&mode=VIEW>. Refer to Sol# DE-FOA-0000036. (Grants.gov 4/16/09)

### **RFP for Environmental Implications of Emerging Technologies, NSF (September 15)**

The National Science Foundation requests proposals for Environmental Implications of Emerging Technologies, for research to develop and test the environmental effects of new technologies. Areas of interest include, but are not limited to: The development and refinement of sensors and sensor network technologies; innovative production processes, waste reduction, recycling, and industrial ecology technologies; and evaluation of the effect of increased usage of renewable resources on water supply and land use. Individuals awards generally NTE \$80K each. Responses due 9/15/09. For more info, contact Paul Bishop at pbishop@nsf.gov or go to: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=501030](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501030). Refer to Sol# PD-09-1179. (Grants.gov 3/23/09)

### **RFP for Energy for Sustainability, National Science Foundation (September 15)**

The National Science Foundation requests proposals for the Energy for Sustainability Program. This program supports research and education in energy production, conversion, and storage, and is focused on energy sources that are environmentally friendly and renewable, including solar, wind and biomass. Average individual awards \$100K. Responses due 9/15/09. For more info, contact Trung Nguyen at tnguyen@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-09-7644. (Grants.gov 3/6/09)

### **RFP for Thermal Transport Processes, National Science Foundation (September 15)**

The National Science Foundation requests proposals for the Thermal Transport Processes Program, for engineering research aimed at gaining a basic understanding of the microscopic and macroscopic levels of thermal transport phenomena (heat and mass transfer) underlying energy conversion and conservation, the synthesis and processing of materials, cooling and heating of infrastructure and equipment, and more. An active understanding of thermal transport in energy conversion and conservation processes is vital to reduce the nation's dependence on petroleum. Awards NTE \$100K. Responses due 9/15/09. For more info, contact Theodore Bergman at tbergman@nsf.gov or go to: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13367](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13367). Refer to Sol# PD-09-1406. (Grants.gov 3/9/09)

### **RFP for National Lab Partnerships for Energy Research, DOE (November 9)**

The U.S. Department of Energy requests proposals for Experimental Program to Stimulate Competitive Research (EPSCoR); Building EPSCoR-State/National Laboratory Partnerships. This RFP will support collaborative partnerships between National Laboratories and academic or industrial researchers to conduct nationally competitive, energy-related research. \$1.7 million expected to be available, maximum awards generally \$600K. Pre-applications are required and are due 6/5/09, final proposals due 11/9/09. For more info, contact Marilyn Oyler at marilyn.oyler@science.doe.gov or go to: <https://e-center.doe.gov/iips/faopor.nsf/UNID/33EE94649665FEA8852575A1006CCB0A?OpenDocument>. Refer to Sol# DE-PS02-09ER09-11. (Grants.gov 4/23/09)

### **RFP for Renewable Energy Resources, Los Angeles (March 11, 2010)**

The Los Angeles Department of Water and Power (LADWP) has issued a rolling request for proposals (RFP) designed to seek renewable energy proposals on a continuous basis throughout the year. The rolling

RFP calls for proposals for approximately 1,000 GWh per year of renewable energy resources such as solar, wind and geothermal power. This amount represents nearly 4% of LADWP's power sales.

LADWP is looking to acquire renewable energy resources through either immediate ownership of power generation facilities or through long-term power purchase agreements. Under the terms of the new RFP, green power providers can submit their proposal anytime throughout the year. LADWP will open and consider the proposals on a monthly basis, and could then begin evaluation and negotiation of a particular project right away.

LADWP says it will give preference to proposals that offer immediate facility ownership or to long-term PPAs that have an ownership option. Additionally, LADWP is targeting solar projects located in the high deserts of California, close to LADWP's existing transmission system. The application deadline is March 11, 2010.

### **RFP for Smart Grid Investments, DOE, American Recovery and Reinvestment Act (March 31, 2010)**

The U.S. Department of Energy announces its intent to request proposals for the Smart Grid Investment Grant Program. Through this program, DOE seeks to stimulate the rapid deployment and integration of advanced digital technology that is needed to modernize the nation's electric delivery network for enhanced operational intelligence and connectivity. The program will support projects that promote deployment, including development of component technologies. Individual award range anticipated to be \$500K to \$5 million. The RFP will open on or about 6/17/09. Three due dates anticipated: 7/29/09, 12/2/09, and 3/31/10. For more info, contact Donna Williams at Smart-Grid.NOIComments@hq.doe.gov or go to: <https://e-center.doe.gov/iips/faopor.nsf/UNID/39C0D96768F2083F8525759A0068F216?OpenDocument> <http://www07.grants.gov/search/search.do;jsessionid=9x3VJydGP2TfWHPRK9mfnpLqsWpm1TQmDJTzS6XLDp1QJKpb2SM!-1267850137?oppId=46833&flag2006=false&mode=VIEW>. Refer to Sol# DE-FOA-0000058. (Grants.gov 4/16/09)

### **Upcoming Events**

#### **Geothermal Lease Sale: California, Nevada, and Utah, July 14 (Reno, NV)**

The U.S. Bureau of Land Management has announced new geothermal lease sales in California, Nevada, and Utah in July 2009. The "competitive oral sale of Federal lands for geothermal leasing" will take place on July 14, at the BLM Nevada State Office in Reno.

In Nevada, 112 parcels with a total of 337,000 acres are offered. See BLM Nevada: [http://www.blm.gov/nv/st/en/prog/minerals/leasable\\_minerals/geothermal0/geothermal\\_leasing.html](http://www.blm.gov/nv/st/en/prog/minerals/leasable_minerals/geothermal0/geothermal_leasing.html).

In California, 19 parcels with a total of 11,390 acres are offered. Check for updates: <http://www.blm.gov/ca/st/en/prog/energy/geothermal.html>.

In Utah, one parcel of 228 acres is for sale. See BLM Utah: [http://www.blm.gov/ut/st/en/prog/energy/geothermal0/july\\_2009\\_geothermal.html](http://www.blm.gov/ut/st/en/prog/energy/geothermal0/july_2009_geothermal.html).

#### **Indonesian Clean Energy Policy Mission, U.S. Department of Commerce, July 27–29 (Jakarta, Indonesia)**

The International Trade Administration of the U.S. Department of Commerce is hosting a clean energy policy mission to Indonesia and is seeking U.S. private sector participation.

Indonesia has the potential to produce an estimated 27,000 MW of electricity from geothermal sources. The Indonesian government is pushing energy expansion in support of 20,000 MW of new energy from renewable sources, with 4600 MW set aside for geothermal development.

The mission is scheduled for July 27–29 and will take place in Jakarta, Indonesia. Mission participants will join a delegation of U.S. Government officials for meetings with key Indonesian Ministries on policy challenges facing the development of Indonesia's considerable renewable energy resources. Participants will have the opportunity to shape the agenda to fit their company's or their industry's needs.

Contact Ryan Mulholland, International Trade Specialist at the U.S. Department of Commerce, [Ryan.Mulholland@mail.doc.gov](mailto:Ryan.Mulholland@mail.doc.gov) or (202) 482-4693.

### **GEA: Direct Use/Small Power Finance Workshop, Oregon Institute of Technology (OIT), August 12-13 (Klamath Falls, OR)**

Klamath Falls, Oregon will be the site of a workshop intended to promote two exciting growth areas for geothermal energy in the U.S. On August 12 the Geothermal Energy Association and the Oregon Institute of Technology's Geo-Heat Center will be holding a workshop focusing on direct heat and small power utilization. Pratt & Whitney Power Systems, maker of the PureCycle® Power System, is the Gold Level Sponsor of the event and the Oregon Department of Energy is a co-sponsor.

"This workshop will bring together -- for the first time ever -- those interested in using geothermal energy for distributed generation and direct heating purposes across the West," noted Karl Gawell, Executive Director of GEA. "New technology developments, state and federal laws and incentives, and growing concern about climate change are driving a strong growth trend in both areas," he added.

In the last few years, small power technology has been leading geothermal power production into several new states. Alaska, Florida, New Mexico, Oregon and Wyoming have each seen or will soon see geothermal power produced for the first time. In each of these cases the power is being used locally for distributed generation, and the geothermal power plants have capacities of less than one megawatt. In many states, special incentives are being offered for small, renewable power generation less than 10 MW.

OIT's Klamath Falls campus is a world-class example of both geothermal direct use heating and small power production. "Our 280 kW Pratt & Whitney power plant will be up and running by the time of the workshop," noted John Lund, Director of the OIT Geo-Heat Center. "This will be the first geothermal power generation in Oregon, and together with our geothermal heating systems OIT's campus will be a practical showcase for those interested in these technologies," he said.

The GEA-OIT Workshop is planned for August 12 in Klamath Falls, in addition OIT has organized a field trip for the following day. Registration for the August 12 Workshop is \$195 for the general public and \$95 for GEA Members, non-profit groups, government employees. Registration includes workshop materials, snacks, and lunch. Registration for the August 13 Field Trip is an additional \$75.

The Preliminary Agendas for the Workshop and Field Trip follows. For more information, or to register for the workshop or field trip, visit:

[http://www.geo-energy.org/workshops/GEO\\_Small\\_Power\\_Direct\\_Use\\_Workshop\\_Aug12.asp](http://www.geo-energy.org/workshops/GEO_Small_Power_Direct_Use_Workshop_Aug12.asp)

### **GEA: Geothermal Energy Expo/GRC Annual Meeting, October 4-7 (Reno, NV)**

The 2009 Geothermal Energy Expo and GRC Annual Meeting will be held October 4-7 at the Peppermill in Reno, Nevada. For more information about the Geothermal Energy Expo, visit: <http://www.geo-energy.org>.

## **Renewable Energy Indonesia 2009 Trade Show, October 14–17 (Jakarta, Indonesia)**

Indonesia has 45% of the world's geothermal energy resources. Renewable Energy Indonesia 2009 is the 5th international exhibition for all renewable energy technologies. It will be held at the International Exhibition Centre at Kemayoran, October 14–17, 2009.

For more information: [www.pamerindo.com](http://www.pamerindo.com).

## **SMU Geothermal Conference, November 3–4 (Dallas, TX)**

SMU Geothermal Laboratory has announced new dates for this year's conference, Geothermal Energy Utilization Associated with Oil and Gas Development. From SMU: We postponed the June 18–19 conference to November to give more time for working with companies responding to the many requests for proposals, and to give new projects time for installation so they can report the progress. We apologize for any inconvenience by changing the dates. Looking forward to seeing you in November!

Topics Presented: Power Generation Technology Advancements, Geothermal Resource Exploration and Assessment, Reservoir Engineering, Fracturing, Geopressure Development, Tight Gas Sands Development, Enhanced Geothermal Systems – International, Green Power for Utilities, Renewable Energy Credits and Tax Incentives, Economics and Business Plan, Transmission Needs, Regulation Laws and Leasing, Financing, Demonstration Sites

Submit abstracts for consideration to: [blackwel@smu.edu](mailto:blackwel@smu.edu) or call 214-768-2745 to discuss an idea. Deadline for submission is September 1, 2009.

More conference details online - <http://smu.edu/geothermal>.

## **XVII Annual Congress and Annual Assembly, Mexican Geothermal Association, November 13 (Mexico)**

The Mexican Geothermal Association (AGM: Asociación Geotérmica Mexicana) will hold its XVII Annual Congress and Annual Assembly by November 13, 2009, at the CFE (Comisión Federal de Electricidad) offices in Morelia, Mich., Mexico.

Preliminary program:

9:00 – 10:00 hours: Registration  
10:00 – 13:00 hours: Technical presentations  
13:00 – 14:00 hours: Lunch  
14:00 – 17:00 hours: Technical presentations  
17:00 – 18:30 hours: Ordinary Assembly

Fees: AGM's members: 750 Mexican pesos (~55 USD). Non-members: 1,100 Mexican pesos (~85 USD). Students and retired: 50%. Fee includes lunch, transactions and coffee breaks.

Deadlines:

Submission of abstracts: July 24  
Acceptation notification: August 7  
Submission of extended papers: September 4  
Pre-registration: November 3

Complete call for papers (in Spanish) at: <http://www.geotermia.org.mx> (See: Congreso 2009)

More information: Luis C.A. Gutiérrez-Negrín (AGM's secretary): [l.g.negrin@gmail.com](mailto:l.g.negrin@gmail.com).



***GEA Weekly Update***

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