

Geothermal Energy Weekly

A publication of the
Geothermal Energy Association

~formerly the GEA Weekly Update~



This Week

January 22, 2010

<i>National News</i>	3
Geothermal Energy Association Welcomes New Interest in Geothermal Energy at NYC Finance Forum	3
Senate Majority Leader Harry Reid Delivers Keynote Address at GEA Finance Forum	6
Energy Department Outlines Geothermal Drilling Safeguards	9
Senator-Elect Brown's Win Influences Senate Climate Debate	9
<i>Company News</i>	10
GreenFire Energy Announces a Technology Sublicense Agreement with AltaRock Energy for the Purposes of Developing CO2-Based Geothermal Energy Production at the St. Johns Dome	10
Magma Energy Reports Successful Soda Lake Geothermal Well Flow Test	10
Reykjavik Geothermal Announces Strategic Investment by Ambata Capital Partners	11
<i>Renewable Energy and Climate Change</i>	11
U.S. Climate Envoy Urges Nations Pledge Carbon Cuts.....	11
New Report Shows Recovery Act Supported 63,000 Clean Energy Jobs Last Quarter:	12
Does Geothermal Drilling Cause Earthquakes?	12
<i>State News</i>	15
Oregon: PGE Plans to Switch Fuels at Coal Fired Power Plant	15
<i>International News</i>	15
Canada: Con Mine Geothermal Projects Among Several to Receive Federal Funding	15
Indonesia: Government Scraps Import Duties on Equipment for Power Plants	15
New Zealand: Mighty River Power Tests \$430m Geothermal Project	15
Philippines: Basic Energy Starts Geothermal Project in Mabini.....	16
UK: Cornwall Invests £3.5m in Geothermal Energy	16
<i>Notices</i>	16

Closing This Week 16
 Request for Information Regarding Categorical Exclusions, Department of Energy (January 25) 16
 Notices 17
 Colorado ARRA Grant Schedule Posted, Governor’s Energy Office 17
 EPA's RE-Powering America's Lands Web Site Updated..... 17
 BLM’s Colorado State Office Posts List of Proposed Parcels for Upcoming Oil and Gas Lease Sale; Geothermal Offered
 for First Time (February 11) 18
 DOE Issues Final Renewable Energy Loan Guarantee Rules 19
 2009 Excellence in Renewable Energy Awards, Renewable Energy World (February) 19
***Employment*..... 20**
 Added This Week..... 20
 Geothermal Project Manager Opportunity, Idaho 20
 Project Manager Geothermal Exploration, Europe 20
 Employment Opportunities 21
 Exploration Geologist, Western U.S..... 21
 Senior Director, Business Development, Major Geothermal Company 22
 Geothermal Project Supervisor, Central American Bank for Economic Integration, Costa Rica 23
***Requests for Proposals*..... 23**
 Closing This Week 23
 Climate Adaptation and Disaster Resilience – Indonesia (January 25 and July 26)..... 23
 RFP Announcements 24
 Seeking Investor, Geothermal Project, Oregon 24
 Climate Adaptation and Disaster Resilience – Indonesia (January 25 and July 26)..... 24
 Geothermal Energy Development, Department of the Navy..... 24
 Request for Bids: Pilgrim Hot Springs Property Sale Extended (February)..... 25
 Environmental Management Fellowship Program, EPA (February 5, 2010)..... 25
 Power, Controls and Adaptive Networks, National Science Foundation (February 7, 2010)..... 25
 Electric Efficiency Research – California (February 9) 26
 International Development Grants (February 12) 26
 Environmental Video Contest (February 16)..... 26
 Clean Energy Deployment, Recovery Act, New York (February 16, 2010) 26
 Thermal Transport, National Science Foundation (March 3, 2010)..... 26
 Energy for Sustainability, National Science Foundation (March 3, 2010) 27
 Environmental Engineering, National Science Foundation (March 3, 2010)..... 27
 Environmental Sustainability, National Science Foundation (March 3, 2010) 27
 Environmental Implications of Emerging Technologies, National Science Foundation (March 3, 2010) 27
 Technology Solutions, 2010 Tech Awards Nominations (March 31, 2010)..... 28
 Emerging Frontiers in Research and Innovation (March 31, 2010) 28
 RFP for Smart Grid Investments, DOE, American Recovery and Reinvestment Act (March 31, 2010)..... 28
 U.S. DOE Office of Science (September 30)..... 28

Events..... 29

GEA Events..... 29
 Renewable Energy World North America 2010, February 23–25, 2010 (Austin, TX)..... 29
 CGEC California Geothermal Energy Summit, May 12, 2010 (David, CA)..... 29
 GEA Geothermal Symposium, May 21, 2010 (Washington, DC) 29
 GEA Geothermal Energy Workshop, July 22, 2010 (Las Vegas, NV)..... 29
 GEA Geothermal Expo and Conference, TBA 29
 Why Should You Attend GEA Events? 29



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



National News

Geothermal Energy Association Welcomes New Interest in Geothermal Energy at NYC Finance Forum

The Geothermal Energy Association (GEA) on January 14 held their first event, a Finance Forum in New York City, since the October 2009 annual Geothermal Energy Expo. And the crowd in New York was much different this time.

“More than half the attendees were brand new to us,” said Kathy Kent, events and marketing manager for GEA. “That’s a lot of new faces.”



The United States is the largest producer of geothermal energy in the world, but one theme cropping up across sectors of the industry is simply that more needs to be done. Upfront costs tend to be high, but support from federal agencies combined with a marked rise in development in recent years renders a situation increasingly appealing for investors interested in the payoffs with this trusted baseload alternative energy resource. Despite the recession, geothermal energy added 750 full time jobs and 2,827 construction-related jobs due to roughly \$800 million investment in 2009.

Against this backdrop, the Geothermal Energy Association (GEA) on January 14 welcomed financiers, politicians, and industry developers, including many faces brand new to the industry, to a finance forum

complete with model case studies, discussion of federal policies, and a keynote address from Senator Harry Reid (D-Nev). Industry members were pleased to share project developments and opportunities with a slew of fresh faces. Mayor Michael Bloomberg issued an official proclamation for the day as “New York City Geothermal Energy Day,” and officers and members of GEA joined Executive Director Karl Gawell in ringing the NASDAQ closing bell.



© 2009, The NASDAQ OMX Group, Inc.
Reprinted with permission.

Mayor Michael R. Bloomberg of New York City issued an official proclamation for January 14th, 2010 as New York City Geothermal Energy Day. “Geothermal energy is gaining momentum in our country as a clean, economically feasible alternative to fossil fuels. And as we invest in geothermal resources, we will not only help to improve our environment, but also strengthen our economy and create jobs,” according to Bloomberg’s proclamation.

The mayor added, “As New York City pursues its sustainability goals, we’re grateful for organizations like the Geothermal Energy Association, which is dedicated to supporting companies that are developing geothermal resources and helping to expand the use of geothermal power.”

The mayor’s proclamation also stated, “Our administration is working hard to attract companies that are interested in investing in clean energy – just one of the many steps we’re taking to make New York City a leader when it comes to mitigating the effects of climate change and protecting the environment for future generations. On behalf of all New Yorkers, I applaud the Geothermal Energy Finance Forum for helping us build a healthier and more sustainable future for our city. My best wishes for a productive forum and continued success.”

In Senate Majority Leader Harry Reid’s keynote address, he outlined areas for the industry’s political and financial partnerships to improve and declared his own commitment to geothermal energy and improvements

on the energy front. Reid noted potential for improvement in federal research and development, extending and expanding tax credits, transmission efforts, a needed national renewable electricity standard, lowering of oil consumption, and the need for Congress to send the market a clear signal on the costs of global warming pollution. **See the full text of the Senator's speech in this issue.**



Presentations on “Recent Models of Geothermal Success” provided examples of what is being developed, from a variety of companies representing areas of the industry. “Federal Financial Incentive for Geothermal Development” speakers discussed impacts of the American Reinvestment and Recovery Act, the U.S. Treasury grant program and the U.S. Department of Energy Loan Guarantee program. Grant and tax subsidies are on time constraints, strong indication that quick action is needed for developers to get the full benefits. And at the time of the event, four geothermal

energy award winners had already received their ARRA awards.

“Geothermal 201: Examining Key Issues for Investors” speakers covered areas of risk associated with geothermal development. This included discussion on potential of the resource base, success of drilling, associated costs, and rates of return. The afternoon “Finance and Investment Dialogue,” explored the experience of panelists in geothermal energy investments. “Federal and State Legal and Regulatory Issues” tied in issues from levels of property and permitting to transmission connection and power purchase agreements.

Participants took home the insight of the geothermal industry's top experts and experienced a celebration of the alternative energy resource. For more information on geothermal energy and the Geothermal Energy Association, visit <http://geo-energy.org/Default.aspx>.



Senate Majority Leader Harry Reid Delivers Keynote Address at GEA Finance Forum

Senate Majority Leader Harry Reid's remarks as prepared for delivery, Jan. 14, 2010 at the Geothermal Energy Association's Energy Finance Forum, New York City.



Senator Reid. I want to thank Karl Gawell and all of you who are responsible for putting together this vital forum. Karl cut his teeth working for the late Senator Paul Wellstone, a great leader in his own right, a great champion of the environment, and a great friend who I miss to this day.

We have all we need to make substantial progress down the road toward energy independence – a path that will put Americans back to work and lead our economy back to prosperity.

Harnessing geothermal energy and turning it into green jobs can strengthen our national security, protect our environment and help our economy bloom once again. The work done so diligently by your companies is planting the seeds of sustainable growth. And that's why making smart investments in that growth is so critical to our recovery. But the future of clean power is a classic test of willpower.

We have millions of megawatts of renewable energy potential just waiting to be developed. We have millions of hardworking Americans just waiting to fill good-paying, green-collar jobs – jobs right here in America, jobs that can never be outsourced.

The only question is whether we will create the right investment environment to make it a reality.

GEOHERMAL IS AVAILABLE AND SUCCESSFUL

Despite the downturn in other parts our economy, clean-energy jobs have been among its bright spots.

Geothermal power production went up last year, and I'm confident that trend will continue in this new year.

Nevada already has about 450 megawatts of conventional geothermal power in production. In the next three to five years – with the right mix of incentives and policy – my state alone could add 64 new projects that would bring that number up to nearly 2,500 megawatts. When you take into account the rest of the West, that number could easily double. That's a lot of clean power. That's a lot of jobs.

RECOVERY ACT

Our success so far has been aided, in large part, by the economic recovery plan we passed almost exactly one year ago – as well as the landmark energy bill we passed in 2007 and the extension of important tax incentives.

The recovery plan – what many call the stimulus – set aside an unprecedented \$67 billion investment in clean energy research and development. \$400 million of that was specifically dedicated to geothermal energy

research and development. And by the end of next year, as many as 5 million homes in America could be powered by renewable energy.

Things will only go up from there. The statistical arm of the Department of Energy – the Energy Information Agency – projects that geothermal generation will increase by 10 percent between next year and 2013. We shouldn't take that for granted. The agency noted that absent the recovery act, there would have been zero growth – geothermal production would have completely stalled – until at least 2021, more than a decade from now.

All told, the investments from the recovery plan will create more than 250,000 jobs – and additional, smart investments could bring that number to half a million. That would put us well on our way to meeting the goal of doubling our nation's renewable energy output – including solar, wind and geothermal – in just the next three years.

MORE NEEDS TO BE DONE

But I know more has to be done to create the long-term certainty that this important industry needs. If we're going to address our combined economic, environmental and energy security challenges, we can't stop now.

I've never believed government to be the answer to all our problems. But I do think that in this case, government must at the very least create the right conditions for businesses to invest in renewable energy. It's also important that those conditions include support for local communities and workers in the resource development process.

We all know that geothermal projects take a long time to develop – from the drilling and exploration to the generation of the energy itself, to its transmission into our homes and businesses. So we must get moving. There are several areas ripe for improvement.

1. First, we must adequately and consistently fund federal research and development to support rapid exploitation of all types of geothermal resources – from drilling technology to resource characterization to integration with other energy resources. That includes opening up access to federal lands and supporting policies that help speed the development of geothermal energy there. Secretary Salazar is already doing a commendable job in this regard.
2. Second, we must make it easier for more businesses to produce and invest in geothermal power. That means extending and expanding tax credits, and a better-funded DOE loan guarantee program that works better for both developers and investors.
3. Third, we know that the same renewable resources aren't available everywhere across our vast country. That's why we must improve the way we transmit that energy from where it is produced to where it is consumed. I'm leading two efforts right now to do just that. One is a job-creating energy



transmission bill I wrote to help develop clean energy in the remote areas where it is most readily available and send it to the major cities around the country where it is most needed. The other is a tentative agreement I announced earlier this week in Las Vegas along with the Western Area Power Administration, NV Energy and LS Power. We have a plan to build a new transmission project that will share energy between the northern and southern ends of my state. That will help bring thousands of megawatts of renewable power to market and create many new jobs in the process.

4. Fourth, Congress must enact an aggressive national renewable electricity standard that will save consumers billions of dollars on their energy bills. We tried to do this in our energy legislation two years ago, but I'm sorry to say some put their political priorities ahead of this national need.
5. Fifth, we must more quickly wean ourselves off of oil by electrifying our cars, trucks and trains. We can't afford to continue importing 21 million barrels of oil per day. That really hurts our national security. So we really need to reduce our oil consumption with clean and renewable power
6. Finally – and perhaps most importantly – Congress needs to send the market a clear signal on the costs of global warming pollution to drive far greater investments into geothermal and every other form of renewable energy and energy efficiency.

We have to rely on markets for innovation and significant investments. We need the markets on our side. We know they generally encourage much more efficiency than any regulations can enforce. To paraphrase my friend John Doerr at Kleiner-Perkins, more money moves through private capital markets in one day than the federal government spends in one year.

LEGISLATIVE OUTLOOK

As you know, the House has passed a comprehensive clean energy and climate bill that does many of these things. I support addressing each of these issues in the Senate's version, and I expect that to happen this spring.

We have a lot on our plate. We have to finish reforming health insurance and Wall Street, and also must help bring Americans out of unemployment. But we are not so busy that we can't find the time to address comprehensive energy and climate legislation.

Senators Kerry, Graham and Lieberman have taken a lead in trying to craft a framework that would get more than 60 votes. We will need at least that many for two reasons. One, because any bill that seeks to rein in global warming pollution will be fought very hard by the same companies that profit most heavily from polluting. And two, because the rules of the Senate make it easy for a determined minority to stand in the way of all the good ideas you're hearing at this forum.

For example, next week Senator Murkowski of Alaska may offer an amendment – to a completely unrelated bill, it should be noted – that would stop the EPA from protecting Americans from global warming pollution. It's a highly political move, and a highly hazardous one to our health and the environment.

If this Senator succeeds, it could keep Congress from working constructively in a bipartisan manner to pass clean energy legislation this year. That's why I will work hard to defeat this misguided amendment.

I hope that doesn't come to that. It would be an embarrassment for the United States to fall any further behind other countries, competitors of ours in the global economy whose governments strongly support their own renewable energy companies.

America finds itself today staring up at countries like China that are moving far ahead of us in developing a clean energy economy. As others accelerate ahead of us, the choice we face is whether we will lead or lag. I say: Let's lead.

CONCLUSION

To succeed, we need two critical ingredients to come together: the political will and the financial investment. America is home to bountiful and clean renewable resources – but our own commitment to achieving energy independence may be the most important renewable resource we have.

If we can bring both to bear – if we find the will within us to unlock the immense potential that lies beneath us – geothermal energy can supply a quarter to a half of the nation's power in the next few decades.

In my role as Majority Leader, I am committed to making the federal government a better partner, one that can help this industry continue to know the great success it has enjoyed over the last few years. In my role as a Senator from Nevada – a state I like to call the Saudi Arabia of renewable energy – I am committed to realizing geothermal's full potential.

And though turning around the effects of years of recklessness might be the most difficult issue we tackle, taking on the clean-energy challenge also may be the most important policy we will ever pass. And we cannot afford to wait any longer to act.

Energy Department Outlines Geothermal Drilling Safeguards

An article in the New York Times points to safeguards from the U.S. Energy Department. Project managers are required to monitor ground-motion sensors and other data and have an approved plan to shut down if earthquakes induced by the drilling are too powerful. Companies must also file estimates of expected earthquake activity and submit project proposals to outside experts for a review of the risks and the likelihood of success.

See <http://www.nytimes.com/2010/01/16/science/earth/16alta.html?partner=rss&emc=rss>.

Senator-Elect Brown's Win Influences Senate Climate Debate

Republican Scott Brown's victory in Massachusetts takes a guaranteed "yes" vote off the board for a mandatory cap on greenhouse gas emissions. It also could serve as a warning shot for moderate senators nervous about voting for a sweeping new government program headed into their own tough re-election campaigns. Climate bill advocates noted that the Massachusetts special election never ventured into a debate on global warming policy. But many climate opponents said it marked a repudiation of Obama's big-government agenda, including climate change. The Senate climate bill remains in a holding pattern, with Majority Leader Harry Reid (D-NV) putting health care, Wall Street regulatory reform and other economic recovery measures at the head of the

line. But Reid is also saving time later this spring for a comprehensive energy and climate package that is in the hands of Sens. Kerry (D-MA), Lindsey Graham (R-SC) and Joe Lieberman (I-CT).

See <http://www.nytimes.com/cwire/2010/01/20/20climatewire-sen-elect-browns-win-adds-more-question-mark-48190.html>.



Company News

GreenFire Energy Announces a Technology Sublicense Agreement with AltaRock Energy for the Purposes of Developing CO₂-Based Geothermal Energy Production at the St. Johns Dome

Press Release, January 13, Salt Lake City – GreenFire Energy (GreenFire) today announced that it has entered into a technology sublicense agreement with AltaRock Energy (AltaRock) for the core patent for using CO₂ as the working fluid in a geothermal energy plant. The technology, which GreenFire refers to as “CO₂G™,” will produce renewable geothermal energy while also sequestering large volumes of CO₂. GreenFire intends to be the first company in the world to commercialize this technology. The sublicense gives GreenFire exclusive rights to the technology across a broad region centered on the St. Johns Dome, located in Apache County, AZ and Catron County, NM. It also gives GreenFire national non-exclusive access to the technology for the purposes of developing other sites, some of which have already been identified.

GreenFire intends to first use the technology at the St. Johns Dome. In September 2009, GreenFire entered into a joint venture agreement with Enhanced Oil Resources, Inc. (EORI), which holds extensive CO₂ leases at the dome and which granted GreenFire exclusive access to CO₂ within the dome for CO₂G™ development.

For more, see <http://www.earthtimes.org/articles/show/greenfire-energy-announces-a-technology,1117913.shtml>.

Magma Energy Reports Successful Soda Lake Geothermal Well Flow Test

Magma Energy Corp. reported this week that it has successfully completed flow testing of its Soda Lake geothermal production well 45A-33, which will have the capacity to produce 3 megawatts (MW) of net power once a turbine system is installed at the site.

The well was drilled in June 2009 and, following a field optimization program, the flow test was completed in December. The recent test demonstrated the well to be capable of 1,200 gallons of sustained flow per minute at 385°F.

The well is in the process of being connected to the Soda Lake facility which was successfully refurbished in September and October, 2009 in preparation for additional production from the well field. The refurbishment

program contributed an additional 1 MW of net output to the site. The facility has a nameplate capacity of 23 MW and steady base load power production at 90–95% availability.

For more, see <http://www.renewableenergyworld.com/rea/news/article/2010/01/magma-energy-reports-successful-soda-lake-flow-test>.

Reykjavik Geothermal Announces Strategic Investment by Ambata Capital Partners

Press Release, January 18 — Reykjavik Geothermal, a pioneer in geothermal power development, today announced at the World Future Energy Summit that it has entered into a partnership with Ambata Capital Partners to explore, develop and operate utility scale geothermal power generation focusing on emerging markets.

Reykjavik Geothermal also announced the intention to establish a headquarters in Masdar City. The company is currently active in Iceland, India, Kenya, Nicaragua, Russia, Rwanda and the United Arab Emirates.

Mr. Gudmundur Thoroddsson, Founder and CEO of Reykjavik Geothermal, commented, “Geothermal is becoming an increasingly important part of the renewable energy mix worldwide. This is particularly true in emerging nations, many of which possess the best quality geothermal resources and have very attractive market dynamics.” Mr. Thoroddsson also added, “Our partnership with Ambata will be highly accretive as we execute on our plans. With their deep experience in our target markets – particularly the Middle East and Africa – combined with their sector expertise and capital raising abilities, Ambata is uniquely qualified to accelerate our strategic plans globally.”

For more, see <http://www.albawaba.com/en/countries/UAE/259595>.



Renewable Energy and Climate Change

U.S. Climate Envoy Urges Nations Pledge Carbon Cuts.

From Sustainable Energy Coalition/SUN DAY Campaign.

The top U.S. climate envoy Todd Stern is urging other countries to set carbon emission targets to fight global warming by the end of this month. The accord struck at the end of last month's climate talks in Copenhagen set a January 31 deadline for rich countries to submit emissions targets for 2020 and for developing countries to present voluntary actions on cutting emissions. U.S. environmental groups said they thought the Obama administration would meet the deadline, but the targets likely would be provisional since Congress has not yet passed legislation mandating the pollution controls. An administration official said the White House's late November announcement of carbon reductions in the range of 17 percent by 2020, from 2005 levels, was "still operative." Compared to the 1990 base year used by the European Union and many other countries, that corresponds to a 3 to 4 percent cut in 2020. In addition to the nearly 30 countries that had officially signed up

to accord, another 20 to 30 are stating their willingness to associate themselves with it and 30 to 40 more are privately pledging that they will.

See <http://planetark.org/wen/56361>.

New Report Shows Recovery Act Supported 63,000 Clean Energy Jobs Last Quarter.

The White House Council of Economic Advisers has released a new quarterly report highlighting the success of the American Recovery & Reinvestment Act at creating jobs and fueling economic growth. The report, which includes analysis from outside economists, shows that the Recovery Act has saved or created 1.5 to 2 million jobs through last quarter. 63,000 clean energy jobs were created by the \$5 billion (out of approximately \$90 billion total) in clean energy investments spent under the Recovery Act so far. The report estimates that, in total, the Recovery Act's clean energy investments will create 719,600 job-years (one person employed for one year) through 2012.

See http://action.sierraclub.org/site/MessageViewer?em_id=153181.0.

Does Geothermal Drilling Cause Earthquakes?

by Karl Gawell, Geothermal Energy Association (GEA)

Article published in Renewable Energy World's "Ask the Experts" Column

Does geothermal drilling cause earthquakes? -- Stacey E., Elko, Nevada

Thanks, Stacey, for the question. I welcome the chance to discuss this issue, which has raised concerns lately in the press. The answer is no, geothermal drilling does not cause earthquakes. Geothermal energy facilities have been providing clean renewable power to America's electricity grid for nearly fifty years without any significant earthquake events. Unlike other renewable energy sources, geothermal energy is available night and day, regardless of whether the wind is blowing or the sun is shining. That's one important reason why geothermal resources are the leading renewable electricity source in California.

Although geothermal drilling does not cause earthquakes, there has recently been heightened concern about induced seismicity because of the development of Engineered Geothermal Systems (EGS) technology. EGS can (but does not always) involve the deliberate fracturing of deep reservoir rock to create a permeable geothermal reservoir so that the Earth's heat can be recovered more easily. Oil and gas companies have used deep fracturing to increase the production of fossil fuels since the 1950s, and today it is a routine practice in that industry.

Researchers are working to apply similar techniques to geothermal systems. It's worth noting that development of EGS technology is an important key to unlocking the vast reserves of energy available from the heat of the earth. A report prepared by the Massachusetts Institute of Technology (The Future of Geothermal Energy,

January 2006) estimates that hundreds of thousands of megawatts of geothermal power could be produced in the United States alone as a result of pursuing research into EGS systems.

To better understand the issue, let's start with some basics about earthquakes, which are usually triggered by the release of underground stress along fault lines. According to the United States Geological Survey, "An earthquake is the shaking of the ground caused by an abrupt shift of rock along a fracture in the Earth, called a fault." Low-magnitude seismicity can also be generated whenever rocks are fractured. The injection of fluids into hot rock, as is called for in some new and advanced geothermal techniques, can cause fracturing.

Australia is a leading country in the development of EGS. Regarding the seismic risk from EGS, the Australian Government states in its report, *Induced Seismicity and Geothermal Power Development in Australia*, that: "Experience in Australia and elsewhere in the world to date suggests that the risks associated with hydrofracturing induced seismicity are low compared to that of natural earthquakes and can be reduced by careful management and monitoring."

GEA feels that induced seismicity is an area where there is a clear role for government action to support both a sustained research program on this issue and to ensure that appropriate actions are taken to minimize any risk, including the use of standard protocols that address any public safety concerns. It also needs to be recognized that EGS projects may not be appropriate for all communities, and the appropriateness of an EGS project for any particular site should be evaluated on a case-by-case basis, considering the technology to be utilized and the location involved.

The U.S. Department of Energy (DOE) is actively working to address these issues. Federal agencies, together with international groups such as the International Energy Agency, have developed monitoring protocols to address the risk of induced seismicity. For any particular site, these protocols establish standards for assessing natural seismic hazards and the potential for induced seismicity, and for establishing a microseismic monitoring network and implementing procedures for evaluating any damage. They also incorporate criteria for interacting with the local authorities and with the community at large. To minimize risk to the public, the Department is requiring all DOE-funded EGS projects to meet or exceed the protocols during their operations.

DOE is also working to support induced seismicity research to gain a better understanding of causal relationships and appropriate mitigation issues. Under the American Recovery and Reinvestment Act of 2009, the DOE has announced over \$4.5 million dedicated to induced seismicity research, with an additional \$2 million for monitoring and mitigation, development of best practices, and public education and outreach including an informational website on induced seismicity.

Turning briefly to more conventional geothermal development and operation, small seismic events known as microearthquakes have been recorded and monitored in the immediate vicinity of some injection sites. These

usually have Richter magnitudes below 2 or 3* and are ordinarily imperceptible to people unless they are quite close to the epicenter. Microearthquakes are not a significant hazard to the surrounding communities or to the power plant.

Geothermal power has been in production for decades at dozens of sites around the world, and the industry is proud of its safety record. Based on considerable experience with geothermal power plants (more than 10,000 MW installed worldwide to date), there is no reason to believe that they pose a serious threat to communities or the environment from their operations.

Geothermal energy can sustain strong growth for decades into the future by tapping both identified and undiscovered geothermal resources as well as expanding into new applications like low-temperature resources and oil and gas co-production. There are tens of thousands of megawatts of undeveloped potential that do not require major technological breakthroughs to provide clean, reliable and inexhaustible 24/7/365 power for the nation. DOE should proceed with research efforts to develop EGS technology for the long-run, recognizing that there is plenty of time to refine the scientific knowledge and technology needed to address any risks from future EGS development.

For more details, including references for the quotes and statements above, see "GEA Issue Brief: Geothermal Energy and Induced Seismicity."

* When comparing different earthquake events, it's important to understand that the Richter scale can be a confusing measurement. For example, an earthquake of magnitude 3.5 has a "shaking amplitude" ten times larger than an earthquake of magnitude 2.5. To make it even more complicated, the Richter magnitude of an earthquake is proportional to the logarithm of the "radiated seismic energy" -- which means that an earthquake of magnitude 3.5 releases 32 times as much seismic energy as one of magnitude 2.5. To use a recent example for perspective, California's Central Coast experienced an earthquake recorded at magnitude 4.0 in early September, and according to the press reports, there were "no reports of any damage or injuries." This recent Central Coast event had a shake magnitude one hundred times more than a magnitude 2.0 microearthquake, and released one thousand times more energy!

See <http://www.renewableenergyworld.com/rea/news/article/2010/01/does-geothermal-drilling-cause-earthquakes>.



State News

Oregon. PGE Plans to Switch Fuels at Coal Fired Power Plant

Portland General Electric Company intends to pursue a plan for the utility's Boardman Power Plant to either close the plant in 2020 or discontinue the use of coal as a fuel source, according to pennenergy.com. "Our preliminary analysis shows that an alternative plan may be the best option for our customers, and we intend to pursue that," said Jim Piro, President and CEO. "We need to complete our analysis and determine whether we have enough support to move forward, but we feel it's important to let people know that this is our preferred path." PGE submitted its most recent integrated resource plan to the OPUC on Nov. 5, 2009.

See http://www.pennenergy.com/index/articles/display.articles.electric-light-power.generation.coal.2010.01.pge-plans_to_switch.html.



International News

Canada. Con Mine Geothermal Projects Among Several to Receive Federal Funding

The City of Yellowknife's is planning a project for geothermal heat from a defunct gold mine, slated to get at least \$10 million from the federal government, according to cbc.ca. The Con Mine geothermal project is one of 19 developments across Canada to be promised money Monday from the government's \$1-billion Clean Energy Fund. The Yellowknife plan is expected to receive between \$10 million and \$20 million.

See <http://www.cbc.ca/canada/north/story/2010/01/11/con-mine-geothermal.html>.

Indonesia. Government Scraps Import Duties on Equipment for Power Plants

The government will scrap import duties on equipment needed to build power plants, according to thejakartaglobe.com, with a presidential decree that was signed last week. This is part of an effort to encourage independent companies to build plants in the second phase of a "fast-track" electricity generating program. "The construction of power plants will be exempt from import duties and enjoy other facilities that will be regulated by the Finance Ministry," the decree said.

See <http://thejakartaglobe.com/home/indonesia-sweetens-deal-for-private-power-companies/352775>.

New Zealand. Mighty River Power Tests \$430m Geothermal Project

Mighty River Power is close to completing its \$430 million Nga Awa Purua geothermal power station; testing was conducted over the weekend and electricity was added to the national grid, according to nbr.co.nz. The company has lodged consents for another \$400 million geothermal station at Ngatamariki, near Taupo. The 132

MW station north east of Taupo is a joint venture between Mighty River and the Tauhara North No. 2 Trust and is a welcome new addition to electricity reliability to the peak North Island, the company said.

See <http://www.nbr.co.nz/article/mighty-river-power-tests-430m-geothermal-project-lodges-consent-another-117218>.

Philippines. Basic Energy Starts Geothermal Project in Mabini

Basic Energy Corp. will commence geophysical and geological studies for its geothermal project in Mabini, Batangas in the first quarter, the company said Thursday, according to manilastandardtoday.com. "We shall be commencing the geophysics and geological studies in our geothermal service contract area in Mabini, Batangas in the first quarter of 2010. Drilling schedule will depend on the results of these studies," Basic Energy said.

See

<http://www.manilastandardtoday.com/insideBusiness.htm?f=2010/january/15/business4.isx&d=2010/january/15>.

UK. Cornwall Invests £3.5m in Geothermal Energy

Cornwall Council is supporting two geothermal projects which hope to provide geothermal energy from beneath the earth's surface. "We are firmly committed to a low carbon Cornwall and to making the most of the economic opportunities that this low carbon future presents," Carolyn Rule, council cabinet member for the economy and regeneration told press. EGS Energy Ltd, based in Penzance, is to get £2.011m for their proposed exploratory borehole at the Eden Centre. Geothermal Engineering Ltd will receive £1.475m for their proposed exploratory borehole at Redruth, for about £3.5m of government investment in both projects.

See <http://www.energydigger.com/archives/article.asp?id=1263740000-4688>.



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



Notices

Closing This Week

Request for Information Regarding Categorical Exclusions, Department of Energy (January 25)

10 CFR Part 1021

AGENCY: Department of Energy.

ACTION: Request for information.

SUMMARY: The U.S. Department of Energy (DOE) intends to update its National Environmental Policy Act (NEPA) categorical exclusions, and seeks input from interested parties to help identify activities that should be considered for new or revised categorical exclusions.

DATES: Responses should be e-mailed or postmarked by January 25, 2010. Late responses will be considered to the extent practicable.

ADDRESSES: E-mail submissions are encouraged due to the delivery time required for mail, and should be sent to yardena.mansoor@hq.doe.gov.

Alternatively, submissions may be faxed to 202-586-7031 or mailed to Yardena Mansoor; Office of NEPA Policy and Compliance (GC-54); U.S. Department of Energy; 1000 Independence Avenue, SW., Washington, DC 20585.

Additional information on this Request for Information, including what information should be submitted and how to submit responses, may be found at <http://www.gc.energy.gov/nepa/>.

FOR FURTHER INFORMATION CONTACT: Yardena Mansoor, Office of NEPA Policy and Compliance (GC-54), 202-586-9326, yardena.mansoor@hq.doe.gov.

SUPPLEMENTARY INFORMATION: Categorical exclusions are classes of actions that DOE has by regulation determined do not individually or cumulatively have a significant effect on the human environment and, therefore, normally require neither an environmental impact statement nor an environmental assessment. DOE's categorical exclusions are listed at 10 CFR part 1021, appendices A and B to subpart D.

Notices

Colorado ARRA Grant Schedule Posted, Governor's Energy Office

The Governor's Energy Office (GEO) has posted a schedule of anticipated American Reinvestment and Recovery (ARRA) grants to begin in January of 2010. The GEO plans to hold a webinar for each grant solicitation approximately one week after the official posting date. Note: the timeline is subject to change; grants may be pushed back to later dates, but will not open earlier. The schedule is available at <http://www.colorado.gov/energy/index.php?/resources/category/funding-opportunities/>.

EPA's RE-Powering America's Lands Web Site Updated

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency's (EPA) RE-Powering America's Land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites initiative Web site has been updated.

Highlights include:

- The Google Earth interactive mapping tool, national and state maps and public spreadsheet have been updated to incorporate the following new information:

New sites – all EPA tracked sites in Puerto Rico and landfill sites tracked by EPA's Landfill Methane Outreach Program (LMOP) New renewable energy technologies analyzed – sites with potential for geothermal (flash and binary power plants and geothermal heat pump); landfill gas energy projects; and photovoltaic (PV) policy driven, which includes sites that have solar potential due to solar-specific state policies in place

- The Google Earth interactive mapping tool and public spreadsheet now include basic information on whether a state has a renewable portfolio standard (RPS), RPS goal, solar set-aside, solar multiplier, or distributed generation provision.
- New renewable energy on contaminated land success stories have been added.

Download the new Renewable Energy Interactive Map at

http://www.epa.gov/renewableenergyland/mapping_tool.htm.

BLM's Colorado State Office Posts List of Proposed Parcels for Upcoming Oil and Gas Lease Sale; Geothermal Offered for First Time (February 11)

Press Release, December 11, Denver--The Bureau of Land Management Colorado State Office posted its list of parcels for the quarterly competitive oil and gas lease sale scheduled 9 a.m., Feb. 11, 2010, at the State Office. The 11 oil and gas parcels in the sale include 3,511 total acres and are located within BLM Colorado's Royal Gorge (Cañon City) Field Office.

For the first time in Colorado, the sale will also include geothermal leasing. One parcel of 799 acres with subsurface Federal mineral rights will be offered for geothermal development in Chaffee County, near the Mt. Princeton Hot Springs Resort west of Buena Vista. This single parcel was deferred from the November 2009 sale to allow time for the Colorado Department of Natural Resources to confer with BLM Colorado on topics relating to geothermal development.

Protests of parcels being offered for lease must be in writing and delivered by 4 p.m., Wednesday, Jan. 27, 2009, by hand, postal delivery, or fax, (303) 239-3799, to the BLM Colorado State Office, 2850 Youngfield St., Lakewood, Colo. 80215.

The BLM manages 253 million acres – more land than any other Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western states, including Alaska. The Bureau, with a budget of about \$1 billion, also administers 700 million acres of sub-surface mineral estates throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

Lease sale information can be obtained online at

http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/leasing.html, at each of the Bureau's field offices, and the BLM Colorado State Office Public Room, 2850 Youngfield St., Lakewood, Colo

DOE Issues Final Renewable Energy Loan Guarantee Rules

Federal Register — Office of the Chief Financial Officer, Department of Energy

On August 7, 2009, the Department of Energy (DOE or the Department) published a Notice of Proposed Rulemaking and Opportunity for Comment (NOPR) to make certain changes to the existing regulations for the loan guarantee program authorized by Section 1703 of Title XVII of the Energy Policy Act of 2005 (Title XVII or the Act). Section 1703 of Title XVII authorizes the Secretary of Energy (Secretary) to make loan guarantees for projects that “avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.” Section 1703 of Title XVII also identifies ten categories of technologies and projects that are potentially eligible for loan guarantees. The two principal goals of section 1703 of Title XVII are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. DOE believes that commercial use of these technologies will help sustain and promote economic growth, produce a more stable and secure energy supply and economy for the United States, and improve the environment.

Through experience gained implementing the loan guarantee program authorized by section 1703 of Title XVII, and information received from industry indicating the wide variety of ownership and financing structures which participants would like to employ in implementing projects seeking loan guarantees, DOE believes it is appropriate to make certain changes to the existing regulations to provide flexibility in the determination of an appropriate collateral package to secure guaranteed loan obligations, facilitate collateral sharing and related intercreditor arrangements with other project lenders, and to provide a more workable interpretation of certain statutory provisions regarding DOE’s treatment of collateral, consistent with the intent and purposes of Title XVII. Having considered all of the comments submitted to DOE in response to the NOPR, the Department today is issuing this final rule.

DATES: This rule is effective December 4, 2009.

FOR FURTHER INFORMATION CONTACT: David G. Frantz, Director, Loan Guarantee Program Office, 1000 Independence Avenue, SW., Washington, DC 20585–0121, e-mail: lgprogram@hq.doe.gov; or Susan S. Richardson, Chief Counsel for the Loan Guarantee Program, Office of the General Counsel, 1000 Independence Avenue, SW., Washington, DC 20585–0121, e-mail: lgprogram@hq.doe.gov.

2009 Excellence in Renewable Energy Awards, Renewable Energy World (February)

Presented by the editors of RenewableEnergyWorld.com and Renewable Energy World North America magazine, these awards recognize the most outstanding projects, programs and technologies in the wind, solar, biomass, geothermal and hydroelectric energy sectors. Awards will be presented during Renewable Energy World North America Conference & Expo in Austin, Texas, February 23–25, 2010. Submit your nominations today! See <http://www.renewableenergyworld.com/partner/rew/online/2009-11-17/>.



Employment

Added This Week

Geothermal Project Manager Opportunity, Idaho

Large national engineering firm has an immediate opening for a Geothermal Project Manager and Sr. Geothermal Engineer for its Renewables Generation Group in Idaho. This group provides owner's engineering and detailed design for renewable energy projects including geothermal, solar PV and solar thermal. Geothermal project technologies include dry steam, single and multi-flash as well as organic ranking cycle plants.

At least 15 years of geothermal power industry experience is required as well as either a BsChE, BSME or a degree in Geosciences. PE is a plus. Knowledge of geothermal process and plant design and experience in a construction or operating plant environment is a plus. Demonstrated experience leading and managing multi-disciplined engineering teams is required for the Project Manager Opportunity

Interested Candidates, please contact:

Bernadette Klaft at BK Consulting Group Inc.

770-317-2351 bbklaft2@yahoo.com

Project Manager Geothermal Exploration, Europe

Job Description

We are a new geothermal energy company, focused on the exploration and development of geothermal power resources in Europe. In 2010, we will be expanding our investigations of several regions that may host economic geothermal resources. Our principals are based in Canada and the US and have successfully developed oil & gas, mining and geothermal resources.

We require a project manager with field experience in geothermal exploration to coordinate in-country staff, consultants and contractors. This individual will have broad responsibility for project planning and management, budgets, liaising with government agencies, characterizing resources with appropriate exploration methods, and preparing detailed reports to describe a number of geothermal aquifers and their relative potential.

We are now interviewing candidates for this assignment. This is a contract position based in Europe that will require in-country and international travel. The initial term of this contract will be one year with the potential of extension for a second year. We will provide an excellent compensation package to the right person including equity incentives. This is an attractive and rewarding opportunity for an entrepreneurial professional.

Responsibilities

- Design and manage the exploration programs
- Prepare and manage budgets
- Manage local staff, consultants and contractors
- Liaise with land owners and local and national governments
- Coordinate geological, geochemical and geophysical studies
- Develop geological and resource models
- Supervise exploratory drilling operations
- Prepare detailed assessments of target geothermal resources
- Prepare funding applications for development and technical assistance

Requirements

- Geology or Geophysics degree, professional certification
- Over 10 years experience in the exploration of geothermal resources
- Oil & gas or mining background will be considered
- Proven leadership and project management abilities
- Proven negotiation and communication skills
- Strong geological and geophysical interpretive skills
- Experience using computer software applicable to exploration
- A problem solver, “get it done” attitude

Location: Europe

Contact: droberts@penderfinancial.com

Employment Opportunities

Exploration Geologist, Western U.S.

The Exploration Geologist is responsible for overseeing the planning and execution of geothermal projects including compilation and evaluation of existing data, new file data acquisition and mapping, integration of disparate data sets, and development of geological occurrence models for geothermal resources. The exploration focus is the Western U.S., principally California, Nevada, Oregon, and Utah. This role could grow into Exploration Manager for a major geothermal development company.

Essential Functions: Candidate must have a demonstrated capability to work with a team of geoscientists to achieve corporate goals. The ability to communicate in writing and through speaking is essential. Candidate must be able to identify potential resources in known geothermal districts and to identify possible new occurrences in novel settings.

Education, Experience, and Skills Required:

- Bachelor’s in Geology from an accredited university is a minimum requirement.

- 10–15 years experience in geothermal exploration, drilling and logging of exploration holes, and conduct of field surveys.
- The successful candidate may be required to spend up to 50% of their time in the field and must be able to withstand the rigors of extreme heat, cold, and wind for short periods of time.
- Travel within the U.S. will be required.

This is a fulltime position that will be located in Reno, NV. A benefit package is available and includes medical, dental, vision, 401(k), and long-term disability. Salary is negotiable, but dependent on experience and qualifications.

For consideration please email or fax resumes to: kborgna@magmaenergycorp.com, 775.787.7069 (fax)

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
<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 Integracion Economica, 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 - www.cabei.org



Requests for Proposals

Closing This Week

Climate Adaptation and Disaster Resilience – Indonesia (January 25 and July 26)

The U.S. Agency for International Development, Mission in Indonesia, requests proposals for Climate Adaptation and Disaster Resilience (CADRE). Indonesia is particularly vulnerable to climate change and disasters. CADRE supports projects that address climate change and disasters by efficiently, effectively and sustainably addressing the needs for disaster risk reduction and climate change adaptation together, among vulnerable populations in Indonesia. Multiple awards ranging from \$500K to \$1.5 million anticipated. Concept Papers are due 1/25/10 and 7/26/10. For more info, contact Johanna Gardjito at aps10-005@usaid.gov or go to:

<http://www.grants.gov/search/search.do?mode=VIEW&oppId=50515>. Refer to Sol# APS10-005. (Grants.gov 12/7/09)

RFP Announcements

Seeking Investor, Geothermal Project, Oregon

“Oregon investment group performing feasibility work at SE Oregon location is seeking one additional early round investor, knowledgeable in geothermal energy exploration preferred, but not required. Project has secure land block, initial financing, and access to extensive historical database of target site. If interested, contact Peter Hall at Pueblo Valley Geothermal (pbh@bendbroadband.com) for additional details”.

Climate Adaptation and Disaster Resilience – Indonesia (January 25 and July 26)

The U.S. Agency for International Development, Mission in Indonesia, requests proposals for Climate Adaptation and Disaster Resilience (CADRE). Indonesia is particularly vulnerable to climate change and disasters. CADRE supports projects that address climate change and disasters by efficiently, effectively and sustainably addressing the needs for disaster risk reduction and climate change adaptation together, among vulnerable populations in Indonesia. Multiple awards ranging from \$500K to \$1.5 million anticipated. Concept Papers are due 1/25/10 and 7/26/10. For more info, contact Johanna Gardjito at aps10-005@usaid.gov or go to:

<http://www.grants.gov/search/search.do?mode=VIEW&oppId=50515>. Refer to Sol# APS10-005. (Grants.gov 12/7/09)

Geothermal Energy Development, Department of the Navy

Department of the Navy Naval Air Systems Command Naval Air Warfare Center Weapons Division Dept. 3a Recovery Act - The purpose of this Broad Agency Announcement (BAA) is to solicit proposals for investigations of geological properties associated with active geothermal systems within select regions of Naval Air Station (NAS) Fallon, NV; Naval Air Facility (NAF) El Centro, CA; Chocolate Mountains Gunnery Range (Chocolate Mountains), CA; and Hill Air Force Base (AFB), UT. The object is to perform geological investigations that could potentially lead to the discovery of a geothermal resource. This notice constitutes a BAA as contemplated in FAR 6.102(d)(2). A formal Request for Proposal (RFP)/Solicitation will not be issued. The Naval Air Weapons Division (NAWCWD) will not issue paper copies of this BAA. NAWCWD reserves the right to select for award, all, some, or none of the Proposals in response to this BAA. NAWCWD reserves the right to fund all, some, or none of the Proposals received under this BAA. NAWCWD provides no funding for direct reimbursement of proposal development costs. Technical and Cost Proposal (or any other material) submitted in response to this BAA will not be returned. It is the policy of NAWCWD to treat all Proposals as competition sensitive Bid and Proposal Information and to disclose their contents only for the purpose of evaluation. Awards will be to United States (U.S) companies only. All contracts resulting from this announcement are subject to the federal Acquisition Regulation and the Department of Defense Federal Acquisition Regulation Supplement. SEE ENCLOSED ATTACHMENT FOR SPECIFIC INFORMATION AND FORMATTING THAT MUST BE FOLLOWED WHEN PREPARING PROPOSALS FOR THIS CONTRACTING EFFORT. This enclosure calls out another document "Genetic Occurrence Models for Geothermal Prospecting, N68936-04-C-0057", which is attachment 2 to this

notice.Place of Performance (if applicable): Naval Air Station (NAS) Fallon, NV; Naval Air Facility (NAF) El Centro, CA; Chocolate Mountains Gunnery Range (Chocolate Mountains), CA; and Hill Air Force Base (AFB), UT.

See <http://www.tradingmarkets.com/.site/news/Stock%20News/2650824/>.

Request for Bids. Pilgrim Hot Springs Property Sale Extended (February)

The December 10, 2009 deadline for bids on Pilgrim Hot Springs near Nome, Alaska has been extended. The Catholic Bishop of Northern Alaska, owner of the property, is selling the Pilgrim Hot Springs property and is requesting bids to be submitted toward the end of February.

If you would like to be notified when the bid package is available, please send a reply by email to Tom Buzek (tom@cbna.org) or George Bowder (finance@cbna.org). Thank you for your interest in the Pilgrim Hot Springs property

Environmental Management Fellowship Program, EPA (February 5, 2010)

The U.S. Environmental Protection Agency requests proposals for the National Network for Environmental Management Studies Fellowship Program. This program provides students an opportunity to participate in a fellowship project that is directly related to their field of study. Fellowship categories include: Environmental Policy, Regulation, and Law; Environmental Management and Administration; Environmental Science; and Public Relations and Communications. \$400K expected to be available, up to 40 awards anticipated. Responses due 2/5/10. For more info, go to: <http://www.epa.gov/education/students.html>. Refer to Sol# EPA-EED-10-01. (Grants.gov 11/5/09)

Power, Controls and Adaptive Networks, National Science Foundation (February 7, 2010)

The National Science Foundation requests proposals for Power, Controls and Adaptive Networks. This program supports distributed control of multi-agent systems with embedded computation for sensor and adaptive networks. This program emphasizes electric power networks and grids, including generation, transmission and integration of renewable, sustainable and distributed energy systems, such as fuel cells and micro-turbines in large power networks; high power electronics and drives; and understanding of associated regulatory and economic structures. The program also emphasizes energy scavenging and alternative energy technologies, including solar cells, ocean waves, wind, geothermal, low-head hydro, and the hydrogen economy. In addition, the program supports generation and integration in the National Grid (InterGrid), and interdependencies of critical infrastructure in power and communications. Responses due 2/7/10. For more info, contact Radhakishan Baheti at rbaheti@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13380. Refer to Sol# PD-10-1518. (Grants.gov 11/16/09)

Electric Efficiency Research – California (February 9)

The California Energy Commission requests proposals for Energy Innovations Small Grant Program (EISG) – Electricity Program, to conduct research that establishes the feasibility of new, innovative energy concepts. Project must address one of the following research areas: Industrial/Agriculture/Water end-use efficiency; building end-use efficiency; environmentally preferred advanced generation; renewable generation; energy-related environmental research; and energy systems integration. EISG provides \$95K for hardware projects and \$50K for modeling projects. Pre-proposal abstracts are optional and are due 1/8/10, final proposals due 2/9/10. For more info, go to: http://www.energy.ca.gov/contracts/smallgrant/09-03_electricity/index.html. Refer to Sol# 09-03.

International Development Grants (February 12)

The U.S. Agency for International Development requests proposals for the Development Grants Program, which supports development activities in the following areas: Climate change adaptation, microenterprise, water and sanitation, and dairy. DGP recipients will be responsible for ensuring achievement of the program objectives in specified countries. Applications should consider Agency priorities in Food Security, Global Climate Change, and Global Engagement with new partners. \$40 million expected to be available, individual awards NTE \$2 million. Responses due 2/12/10. For more info, contact Roderick Watson at rwatson@usaid.gov or go to: <http://www.grants.gov/search/search.do?mode=VIEW&oppId=50806>. Refer to Sol# M-OAA-GRO-EGAS-DGP-10-001. (Grants.gov 12/22/09)

Environmental Video Contest (February 16)

The U.S. Environmental Protection Agency is sponsoring a video contest titled "Our Planet, Our Stuff, Our Choice," that challenges filmmakers to produce short, creative videos that highlight the "Three Rs" of individual consumption: Reduce, Reuse, and Recycle. Entries should be 30 to 60 seconds in length. Award range \$500 to \$2.5K. Videos accepted through 2/16/10. For more info, go to: <http://www.epa.gov/osw/wycd/video.htm>.

Clean Energy Deployment, Recovery Act, New York (February 16, 2010)

The New York State Energy Research and Development Authority seeks proposals for Project Implementation Funding for State Energy Program American Recovery and Reinvestment Act. This RFP will support the implementation of energy conservation measures including energy efficiency, renewable energy, and clean fleet projects. \$74 million expected to be available. Responses due 10/26/09, 12/21/09, and 2/16/10. For more info, contact Ben Fox at bf2@nyserdera.org or go to: <http://www.nyserdera.org/funding/1613rfp.asp>. Refer to RFP# 1613.

Thermal Transport, National Science Foundation (March 3, 2010)

The National Science Foundation requests proposals for Thermal Transport Processes. This program supports engineering research aimed at gaining a basic understanding of the microscopic and macroscopic levels of thermal transport phenomena (heat and mass transfer) in energy conversion and conservation, the synthesis and processing of materials, cooling and heating of infrastructure and equipment, the interaction of industrial

processes with the environment, the propulsion of air and land-based vehicles, and thermal phenomena in biological and environmental systems. Responses due 3/3/10. For more info, contact Theodore Bergman at tbergman@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13367. Refer to Sol# PD-10-1406. (Grants.gov 11/16/09)

Energy for Sustainability, National Science Foundation (March 3, 2010)

The National Science Foundation requests proposals for Energy for Sustainability. This program supports fundamental research and education in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. Sources of sustainable energy include: Sunlight, Wind/Wave, Biomass, and Geothermal. Responses due 3/3/10. For more info, contact Gregory Rorrer at grorrer@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501026. Refer to Sol# PD-10-7644. (Grants.gov 11/16/09)

Environmental Engineering, National Science Foundation (March 3, 2010)

The National Science Foundation requests proposals for Environmental Engineering. The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and environmental quality. Responses due 3/3/10. For more info, contact Paul Bishop at pbishop@nsf.gov or go to:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029. Refer to Sol# PD-10-1440. (Grants.gov 11/16/09)

Environmental Sustainability, National Science Foundation (March 3, 2010)

The National Science Foundation requests proposals for Environmental Sustainability. This program supports engineering research with the goal of promoting sustainable engineered systems that support human well-being and that are also compatible with sustaining natural systems. Research in Environmental Sustainability typically considers long time horizons and may incorporate contributions from the social sciences and ethics. Responses due 3/3/10. For more info, contact Bruce Hamilton at bhamilto@nsf.gov or go to:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501027. Refer to Sol# PD 10-7643. (Grants.gov 11/16/09)

Environmental Implications of Emerging Technologies, National Science Foundation (March 3, 2010)

The National Science Foundation requests proposals for Environmental Implications of Emerging Technologies. This program provides support to develop and test the environmental effects of new technologies. The program also supports research on the development and refinement of sensors and sensor network technologies. Responses due 3/3/10. For more info, contact Cynthia Ekstein at acekstein@nsf.gov or go to:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501030. Refer to Sol# PD-10-1179. (Grants.gov 11/16/09)

Technology Solutions, 2010 Tech Awards Nominations (March 31, 2010)

Nominations are invited for the 2010 Tech Awards. This program awards individuals, organizations, and companies from around the world that are utilizing innovative technology solutions to address issues pertaining to health, education, the environment, economic development, and equality. Individual awards \$50K each. Responses due 3/31/10. For more info, go to: <http://techawards.thetech.org/>. (Foundation Center RFP Bulletin 11/6/09)

Emerging Frontiers in Research and Innovation (March 31, 2010)

The National Science Foundation requests proposals for Emerging Frontiers in Research and Innovation. Through this new funding opportunity, the NSF seeks proposals from interdisciplinary teams of researchers, with transformative ideas that represent an opportunity for a significant shift in fundamental engineering knowledge with a strong potential for long term impact on national needs or a grand challenge. Areas of interest include: 1) Renewable Energy Storage, and 2) Science in Energy and Environmental Design (SEED): Engineering Sustainable Buildings. This solicitation is in coordination with the U.S. Department of Energy and the U.S. Environmental Protection Agency. \$29 million expected to be available, up to 14 awards anticipated. Letters of Intent due 10/9/09, preliminary proposals due 11/13/09, final proposals due 3/31/10. For more info, go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf09606. Refer to Sol# 09-606. (Grants.gov 8/13/09)

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)

U.S. DOE Office of Science (September 30)

The U.S. Department of Energy, Office of Science, announces its continuing interest in receiving grant proposals in areas including, but not limited to: Basic Energy Sciences, Biological and Environmental Research, and Advanced Scientific Computing. Proposals accepted through 9/30/10. For more info, including program-

specific contacts, go to: <https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000179&agency=DOE>. Refer to Sol# DE-FOA-0000179. (Grants.gov 12/4/09)



Events

GEA Events

Renewable Energy World North America 2010, February 23–25, 2010 (Austin, TX)

<http://www.renewableenergyworld-events.com>

Austin Convention Center

CGEC California Geothermal Energy Summit, May 12, 2010 (David, CA)

<http://cgec.ucdavis.edu/>

UC Davis Campus

GEA Geothermal Symposium, May 21, 2010 (Washington, DC)

GEA Geothermal Energy Workshop, July 22, 2010 (Las Vegas, NV)

GEA Geothermal Expo and Conference, TBA

GEA's annual Geothermal Energy Expo, date and location to be announced

Why Should You Attend GEA Events?

As the national trade association for the geothermal industry, the Geothermal Energy Association (GEA) strives to create and deliver educational events involving the full range of the geothermal industry, reflecting the dynamic growth of the geothermal market, and communicating the benefits of geothermal energy to all. GEA events offer important opportunities to learn and network within the geothermal community, and to inform and educate companies and organizations outside today's industry that are interested in learning more about geothermal energy. The revenue generated from GEA events is used to advance the goal of the GEA, "to expand the production and use of geothermal energy in the United States and around the world." The revenue supports GEA's workshops and events, communications activities, outreach efforts, policy related activities and analysis, internet publications, and other initiatives designed to help achieve this goal. ONLY GEA puts your dollars to work in all of these ways to advance the future of the geothermal energy industry. And, GEA does not sell your email or postal address to junk mailers or spammers.

To keep track of new events and changes to this calendar go to: www.geo-energy.org

Geothermal Energy Weekly

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

209 Pennsylvania Avenue SE, Washington, D.C. 20003

Phone 202-454-5261 Fax 202-454-5265

research@geo-energy.org

