

Geothermal Energy Weekly

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



National News

GEA Global Showcase Welcomes Representatives from 19 Countries

On the heels of the 2010 World Geothermal Congress, the Geothermal Energy Association was joined by representatives from 19 countries for a first-ever international showcase of developing projects, related policies, and research advancements on Friday, May 21 at The Ronald Reagan Building and International Trade Center in Washington, D.C.

The backdrop to the GEA Global Geothermal Showcase and Forum included the release of the GEA's *Geothermal Energy: International Market Update 2010*, a comprehensive study detailing the state of the geothermal industry around the world. Participants and attendees included 21 U.S. Governmental Agencies or Organizations and 19 International Governmental Agencies or Organizations.

Attendees learned from experts in areas of technology and development, policy and incentives, and saw footage of geothermal development fields. Each attendee also received a copy of the brand-new international report as well as the latest Update on U.S. Geothermal Power Production and Development, released last month. The international report provides an overview of the state of geothermal energy in each nation where development has or will soon occur, while the U.S. details projects going on in each U.S. state and provides overviews of trends and technologies.

Countries represented:

Argentina
Australia
Belgium
Canada
Columbia
Ecuador
France
Honduras
Iceland
India
Indonesia
Japan
Kenya
Nevis
Peru
Philippines
Switzerland
USA
Venezuela

Visitors to the GEA Global Geothermal Showcase and Forum learned about geothermal developments and policies occurring across the globe.



U.S. governmental agencies and organizations:

- California Energy Commission
- Congressional Research Service
- Department of Energy - LBNL
- House Committee on Science and Technology
- Idaho National Laboratory
- National Renewable Energy Laboratory
- National Academy of Sciences/National Research Council
- Office of Senator Harry Reid
- Office of Senator John Tester
- Senate Energy Committee
- US Agency for International Development
- US Department of Agriculture
- US Department of Commerce
- US Department of Energy
- US Department of State
- US Department of the Interior - Bureau of Land Management
- US Environmental Protection Agency
- US Export-Import Bank
- US International Trade Commission
- US Navy
- US Trade and Development Agency

Opening remarks on the U.S. and international geothermal markets were presented by Gawell. "The geothermal energy industry is a key player in today's global market, and this is a very exciting time for geothermal as we watch exponential growth throughout the industry," GEA Executive Director Karl Gawell said. "This conference explores how good business and policy have driven the industry's growth and how support for long-term and robust funding of DOE's geothermal technologies program, as well as a 6-year extension of geothermal tax credits, will continue that progress for years to come."

C.J. Arrigo of Glacier Geothermal, Mark Taylor of Bloomberg New Energy Finance, and Alexander Richter of Islandsbanki began with a panel discussion on U.S. and international market trends.

Mark Taylor, Bloomberg New Energy Finance, and CJ Arrigo, Glacier Geothermal, provided insight on geothermal trends.



Arrigo noted that projects currently seem to be in financing stages and will be moving toward more production later in the year. Taylor commented that companies are noting positive trends and jumping in to compete, moving the market forward. Richter noted similar interest from large investors who are attracted to the geothermal industry; "It is up to the industry to promote it better internationally," he remarked.

Project showcase presentations featured projects in development from Enel North America, MidAmerican Energy, Raser Technologies, US Geothermal, Nevada Geothermal Power, Ram Power, and Magma Energy Corporation. Companies provided footage and details on projects emerging in the U.S. while also encompassing development going on in foreign markets such as Chile, Nicaragua, and Iceland.

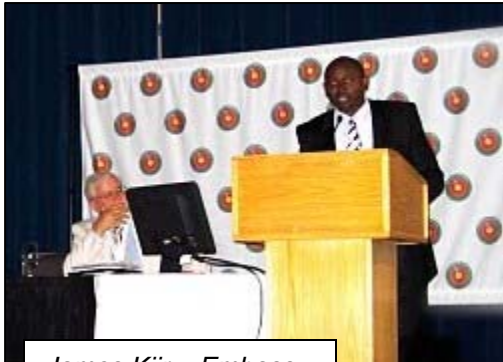
International overviews were presented via the European Geothermal Council, West Indies Power, the Embassy of the Republic of Kenya, Star Energy, the Philippines Department of Energy, and the Australian Trade Commission.

"The U.S. is the number one choice for foreign investment for Australia," said Duncan Cole, consul general and trade commissioner for the Australian Trade Commission.

Marissa Cerezo, OIC Assistant Director of the Philippines Department of Energy



Philippe Dumas, manager for the European Geothermal Council praised the good work going on in the European scene. He observed the work going on in enhanced geothermal systems in France, Germany, Switzerland, the UK, France, Spain, Portugal, Slovakia and Hungary.



James Kiiru, Embassy of the Republic of Kenya, speaks joined by Karl Gawell, executive director of GEA.

New geothermal technology developments were discussed by representatives from Pratt & Whitney Power Systems, TAS, ThermaSource, PermaWorks, and Ormat Technologies, covering a wide range of areas covered by geothermal technology including small power units, drilling, operations, and turbine supplies. The range of technology covered by geothermal development hints

at the variety of jobs made available in geothermal operations; "One hundred million dollars of business creates 1800 jobs," Halley Dickey, director of geothermal business development at TAS observed.

The role of geothermal energy and its potential to address climate change was discussed at length by Charles Baron, geothermal program lead at Google.org, Bernie Karl, owner of Chena Hot Springs, and Dr. Jefferson Tester, Croll professor of sustainable energy systems at Cornell University.



Bernie Karl's Chena Hot Springs resort in Alaska utilizes geothermal power, geothermal district heating, and geothermally heated greenhouses.

Baron reviewed geothermal needs in areas of R&D, drilling, and demo projects. He addressed a growing need for global cooperation and mentioned a need for cooperative technology sharing with the oil and gas industry. Karl spoke vehemently on working toward higher goals and on working together with young people in the industry.

International governmental agencies and organizations:

- Australian Consulate
- Australian Trade Commission
- Embassy of Canada
- Embassy of France
- Embassy of Iceland
- Embassy of India
- Embassy of Japan
- Embassy of Switzerland
- Embassy of the Republic of Kenya
- European Geothermal Energy Council
- Global Environment Facility
- Inter-American Development Bank
- Kenya Power and Light
- Ministry of Energy and Mines - Peru
- National Development Planning Agency - Republic of Indonesia
- Office of the Secretary of Energy - Argentina
- Philippines Department of Energy
- The World Bank
- UPME - Columbia



Global Showcase attendees included industry, political, academic, and financial representatives from 19 nations.

Representatives from the Senate, the Environmental and Energy Study Institute and the Bureau of Land Management joined to speak on policies and programs to support U.S. geothermal progress. Allyson Anderson, professional staff of the Senate Committee on Energy and Natural Resources spoke of her work on several measures promoting geothermal energy. She expressed the progress made in preparing measures that would ensure the work to follow, and purported the need to bridge the divide between younger and older generations in all sectors of energy fields.

The U.S. Department of Energy Geothermal Technology Research and Development panel was moderated by Jay Nathwani, acting program manager of the DOE Geothermal Technologies Program. George Alcorn, CEO of Universal GeoPower and Martin Saar, assistant professor and Gibson chair in hydrogeology and geofluids at the University of Minnesota presented details on geothermal projects underway with funding through DOE.

The closing panel broke down governmental and inter-governmental policies supporting geothermal development. Representatives spoke from the U.S. Department of Commerce, Export-Import Bank, Global Environment Facility, The World Bank, and the US Trade and Development Agency.



Carol Werner, EERE; Kermit Witherbee, BLM; Allyson Anderson, Senate Committee on Natural Resources; Chris Miller, Senior Advisor to Senator Harry Reid.

For more information on GEA's Global Geothermal Showcase and Forum, visit http://geo-energy.org/workshops/workshop_may21.aspx. GEA's next event will be a Geothermal Energy and Utilities Workshop in Las Vegas on July 22. Visit http://geo-energy.org/workshops/workshop_July22.aspx or email Kathy Kent (Kathy@geo-energy.org) for details.

US Maintains Geothermal Power Lead; Germany Fastest Growing, New Industry Report Concludes

Washington, D.C. (May 21, 2010) – Geothermal power is growing rapidly across the globe, according to a new report by the Geothermal Energy Association (GEA). *Geothermal Energy: International Market Update* found that between 2005 and 2010 the United States retained its leadership in production with most MW installed, while Germany was the fastest growing geothermal power producer.

According to the report, the countries with the greatest increase in installed capacity (MW) between 2005 and 2010 were: (1) US - 530 MW, (2) Indonesia - 400 MW, (3) Iceland - 373 MW, (4) New Zealand - 193 MW, and (5) Turkey 0 62 MW. In terms of percentage increase the top five countries were: (1) Germany - 2,774%, (2) Papua-New Guinea - 833%, (3) Australia - 633%, (4) Turkey - 308%, and (5) Iceland - 184%.

While there was an overall 20% growth in geothermal power on line between 2005 and 2010, seventy nations currently have projects under development, a 52% increase in just the past three years. Projects under development grew the most dramatically in two regions of the world: Europe and Africa. Ten countries in Europe were listed as having geothermal projects under development in 2007, but in 2010 this has more than doubled to 24 nations. Six countries in Africa were identified in 2007, compared to 11 now actively working to produce geothermal power.

In these two regions, policy and geothermal development showed evidence of working favorably together to stimulate growth, the report concluded. "In 2010, global geothermal development is being driven in part by a number of regional institutions which, in addition to financing geothermal projects, are enhancing regional cooperation within an emerging renewable energy sector," according to GEA. "Examples include the African Rift Geothermal Energy Development Facility (ARGeo), which underwrites drilling risks in six African nations and is backed by UNEP, and the World Bank and the geothermal initiatives of the European Bank for Reconstruction and Development supported by European Union climate policies," the report stated.

"The question appears to be whether the policy and financial support for geothermal development will be sustained over time and increased to meet the needs of future stages of development," noted Karl Gawell, GEA's Executive Director.

Geothermal development also appeared to be trending beyond traditional hydrothermal reserves prevalent along the Ring of Fire. With development of low-temperature power and enhanced geothermal technologies, the geothermal market is expanding to encompass the world's nations.

This is especially true among European countries, notably France, Germany, Latvia, and the United Kingdom, all of which are currently exploring and developing local resources by employing EGS. These developments are supported by government policies (such as feed-in tariffs), which make higher-risk and higher-cost projects more feasible and are typically components of broader climate initiatives.

The full report is available at <http://www.geo-energy.org/>.

GEA Exhibits Geothermal Jobs at Congressional Expo

The GEA participated in planning the Sustainable Energy Coalition's 13th annual Congressional Renewable Energy & Energy Efficiency EXPO + Forum, which took place this week on May 27, bringing together nearly 50 businesses, sustainable energy industry trade associations, government agencies, and energy policy research organizations. Exhibits showcased the variety of renewable energy (biofuels/biomass, geothermal, solar, water, wind) and energy efficiency technologies, revolving around the theme of *Efficiency + Renewables = Green Jobs!*

GEA's exhibit focused on jobs created in the geothermal realm and featured a photographic slideshow of workers provided by GEA members. Karl Gawell, executive director of GEA spoke on a panel for green jobs and sustainable energy.

"The people who approach GEA at the congressional Expo are really seeking us," Leslie Blodgett, GEA editor commented. "All day we answer very specific questions about every aspect of the business, and visitors constantly comment on what they are going to do next with the information we provide. From members of Congress to congressional staff to consultants to business owners, there is a sense of awareness and curiosity about geothermal energy."

The SEC Expo is an annual coalition event that attracts hundreds of visitors from congressional offices, federal agencies, and various organizations. Keynote Speakers at the event included Representatives Van Hollen, Ehlers, Bartlett, Giffords, Inslee, Israel, Lujan, McMorris Rodgers, Tonko and Welch. Speakers representing the Executive Branch were Philip Moeller of FERC, Matt Rogers from the US Department of Energy, Jane Oates of the Department of Labor and Heather Zichal from the White House.



~ Leslie Blodgett, Alison Holm, Karl Gawell, and Dan Jennejohn ~

GEA staff greeted hundreds of visitors wearing the many hats of Power Engineers, Atlas Copco, Raser Technologies, Calpine, Geothermal Resource Group & Ram Power.

The day-long event focused around the importance of jobs in geothermal and other technologies to the economy.

President Asks Senate Republicans for Support on Energy Bill and More

This week President Obama visited Senate Republicans to discuss his agenda for the rest of the year, according to E&E News. Energy policy was one of the topics discussed. Following the meeting the White House released a statement in which is said the president told the caucus that the Gulf of Mexico oil spill should bring quicker action.

Republican senators told press that Obama called on them to support the climate change legislation sponsored by Sens. John Kerry (D-Mass.) and Joe Lieberman (I-Conn.), the war supplemental, the tax extenders package, and immigration reform.

David Axelrod, Obama's top political adviser, this week commented on the greater need for a sweeping energy and climate bill due to the Gulf of Mexico oil spill. "I would like to think that this will increase the sense of urgency in Congress, because it underscores the value in developing alternative sources of energy," Axelrod said on MSNBC. "So I hope that it will give added impetus to Congress to come up with and pass a comprehensive plan."

Senate Majority Leader Harry Reid (D-Nev.) is planning to meet on energy and climate legislation with key committee leaders early next month and will spend increased time on energy and climate with the larger caucus of 59 Senate Democrats.

See http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=d165fbf9-802a-23ad-47a9-43d0c9fb5298 and <http://www.eenews.net/EEDaily/2010/05/25/2/>.

Vote Pending on Tax Extenders Bill, Includes Provisions for County Geothermal Royalties

The House is expected to vote today, May 27 on H.R. 4213, the American Jobs and Closing Tax Loopholes Act of 2010. This legislation includes provisions to restore the county share of geothermal royalties that was enacted in the 2005 Energy Bill. That provision provides that 25% of geothermal royalties go to the local county involved to help assist with the costs and impacts of development. If the bill passes, the Senate is expected to act on it before going home for the Memorial Day recess/work period.

See <http://www.eenews.net/EEDaily/2010/05/24/1/> and <http://www.eenews.net/EEDaily/2010/05/26/5/>.

Senate to Vote June 10 on Murkowski's EPA Disapproval Resolution

The Senate will vote June 10 on a resolution led by Sen. Lisa Murkowski (R-Alaska) to determine whether the EPA should regulate greenhouse gases under the Clean Air Act. Murkowski and Majority Leader Harry Reid (D-Nev.) agreed to call for a floor vote after the weeklong Memorial Day recess. The disapproval resolution needs 51 votes to pass the Senate, and has 41 cosponsors including Murkowski. The measure would face an uncertain future in the House, and would likely yield a presidential veto.

See http://www.eenews.net/EEDaily/most_read/2010/05/25/1/.



Company News

EnergySource: Construction of 49 MW Hudson Ranch Power Project Commences

Press Release, May 17 — EnergySource LLC, an independent power producer that develops renewable energy resources, today announced the commencement of construction of its Hudson Ranch I project, a 49 MW high temperature geothermal power generation project in Imperial County, California. The project has been under development since 2006 by Catalyst Renewables and Hannon Armstrong, the majority owners of EnergySource (formerly CHAR).

"We are very encouraged by the response of the project finance market to a new generation of high temperature flash-technology geothermal power projects that will serve utility customers with base load renewable energy," remarked Dave Watson, President of EnergySource. "The Hudson Ranch Power I project will commence construction in one of the best geothermal resources in North America, as well as create much-needed employment opportunities in Imperial County."

Debt financing for the nearly \$400 million project was raised by an eight member bank syndicate led by ING Capital, Societe Generale and West LB, and included Union Bank, MetLife, CIBC, Siemens Financial and Investec. Additional equity was raised from GeoGlobal Energy LLC (GGE), a privately held geothermal energy-

focused investment firm backed by Mighty River Power, a state-owned New Zealand utility. Hannon Armstrong represented EnergySource in raising both the debt and equity.

Eric Spomer, President of Catalyst Renewables and an EnergySource director said, "We have enjoyed tremendous local support in the Imperial Valley for this project from the Imperial Irrigation District, the Imperial County government and from the quality local contractors who will make this project a success." Spomer also cited Salt River Project, the purchaser of the plant's power for "extraordinary cooperation and faith in the project's ultimate success."

For more, see <http://www.energysource.us.com/>.

GeoGlobal Energy: Major Interest Acquired in California Geothermal Power Project

Press Release, May 20 — GeoGlobal Energy LLC (GGE), a privately held geothermal investment and development company, today announced it has become the largest investor in the first stand-alone, high temperature flash technology geothermal power project to be developed in 20 years in California's Imperial Valley, one of the hottest and largest geothermal resources in the world.

The project will produce 49 megawatts (MW) of baseload power after its expected completion in two years. The entire electric output will be sold under a 30-year power purchase agreement with the Salt River Project, a municipal utility serving nearly one million people in the Phoenix, Ariz. area.

GGE is investing \$90 million for the construction of the nearly \$400 million Hudson Ranch project, alongside the project financing debt. With this equity investment, GGE is also becoming a 20 percent investor in EnergySource, a renewable energy development company founded by Catalyst Renewables and Hannon Armstrong.

"We are experiencing a shift toward greater demand for clean, renewable sources of electricity such as geothermal energy," said A. Michael Van Vleck, GGE president. "With this investment GGE has invested in the nation's most attractive U.S. geothermal resource."

For more, see <http://www.prnewswire.com/news-releases/gge-acquires-major-interest-in-california-geothermal-power-project-94453749.html>.

Northern California Power Agency: Celebration Honors 50 Years of Geothermal Production

In tandem with the dedication of its new 1-MW solar array, representatives and invitees of Northern California Power Agency (NCPA) gathered in celebration of renewable energy efforts and 50 years of production at The Geysers geothermal field, which coincided with the dedication, according to lakeconews.com. NCPA has been involved in the geothermal business since 1983 and since operates two 110-MW geothermal power plants at The Geysers.

See <http://lakeconews.com/content/view/14163/919/>.

Potter Drilling: Hot Rock 'Water' Drill Tests Expected in August

In August, the first tests on water-based drilling technology from Potter Drilling will be tested. The technology, funded in part by Google aims to make EGS more economical by drilling holes that are more simple and cheaper, using heat to break rock apart rather than mechanical abrasion. The company has drilled holes of 1 and 4 inches in the past 18 months. For August, "A realistic target for this type of intermediate development would be 5km," said Potter. "Eventually our goal is to be able to drill to 10km."

"Every time you take the bit in and out, if it's a deep hole, you may lose a day of time - that has to be factored into the cost as well," Potter told press. "Our technology doesn't have a bit, can drill continuously and we can drill 3-5 faster than they can. We can drill 30ft an hour and they're drilling 5-10ft an hour. And we're not taking the bit in and out of the hole. Our energy is right at the rock face."

See <http://www.guardian.co.uk/environment/2010/may/19/google-drill-geothermal>.

Vulcan Power: Chief Financial Officer and Senior VP Development Appointed

Press Release, May 25 — Vulcan Power Company (“Vulcan”), a developer of geothermal energy projects, announced today that Richard Atkinson has been appointed chief financial officer and Joseph Lessard has been appointed senior vice president of development. Both hires will report to Vulcan’s Chief Executive Officer Craig Mataczynski.

“Richard and Joe both possess deep knowledge of the energy sector with hands-on experience to back it up”

“Richard and Joe both possess deep knowledge of the energy sector with hands-on experience to back it up,” said Mataczynski. “With the additions of Richard and Joe, Vulcan now has a world-class executive team with the credentials to enable the Company to meet its operational and financial goals.”

Mr. Atkinson has 30 years of public company, corporate finance experience. Prior to Vulcan, he spent over 23 years with Sierra Pacific Power Resources, currently known as NV Energy. As vice president and CFO, he was responsible for regulatory issues and capital market activities including funding ongoing operations, refinancing maturing obligations, and monitoring construction expenditures for Nevada Power Company and Sierra Pacific Power Company, two of the fastest growing utilities in the US.

For more, see

http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20100525005155&newsLang=en.



Renewable Energy and Climate Change

Senate Climate Bill Would Create Decade of Job Growth

From EESI Climate Change News — On May 20, the Peterson Institute for International Economics released an 18-page study on the economic impact of the *American Power Act*, a climate bill released by Sens. John Kerry (D-MA) and Joe Lieberman (I-CT) on May 12. The study found that from 2011-2020, the bill would spur \$41.1 billion in investments each year in nuclear and renewable energy, as a cap on greenhouse gas emissions would shift the economy away from carbon-heavy energy sources such as coal and oil. Over this same time frame, an average of 203,000 jobs would be created each year as a result of increased investment in these sectors. Longer term, the analysis found that job gains from the first decade of the bill’s implementation “are clawed back” as energy prices rise and “additional power sector investment becomes more inflationary.” Overall, the study found that the legislation would “significantly alter the way the United States produces and consumes energy.” Following the release of the report, Kerry commented, “What greater incentive for action is needed than creating jobs and reducing our foreign oil dependency.”

For additional information see: [New York Times](#), [Reuters](#), [Bloomberg](#), [Peterson Institute Press Release](#).

Over 6,000 U.S. Companies Back Climate Legislation

From EESI Climate Change News — On May 19, American Businesses for Clean Energy (ABCE) released its analysis which found that over 6,000 large and small U.S. businesses have called on Congress to enact clean energy and climate legislation. The group compiled data to calculate the number of companies that are a part of one or multiple joint initiatives (such as ABCE, the We Can Lead campaign, U.S. Climate Action Partnership, etc.) and found that the businesses collectively represent 3.5 million U.S. employees, and \$3.5 trillion in combined revenue in 2009. Christopher Van Atten, a spokesperson for ABCE said: “This unprecedented outpouring of business support for real leadership from the White House and U.S. Senate on clean energy and climate should be a wake-up call for elected officials in Washington. Thousands of American businesses . . . and they want that action now.”

For additional information see: [ABCE Press Release](#).



State News

California: Geothermal Energy Poised to Benefit from Next Phase of Renewable Energy Transmission Planning

By John McCaull, GEA's Western States Representative, john@geo-energy.org

May 25, 2010. After several years of work in identifying "competitive renewable energy zones," California utilities and state regulators are poised to complete a statewide transmission plan designed to meet the 33% renewable energy by 2020 procurement target established by Governor Schwarzenegger. In his [September 2009 Executive Order](#), Governor Schwarzenegger charged the California Air Resources Board (CARB) with developing and approving regulations to meet a 33% "Renewable Electricity Standard" (RES) pursuant to the Board's authority under AB 32 ([the Global Warming Solutions Act of 2006](#)). Almost two years prior to the issuance of this Executive Order, a consortium of state agencies, utilities, environmental organizations, renewable energy advocates and other stakeholders began laying the groundwork for the very specific transmission planning needed to access these "zones" in the most cost-effective, reliable, and environmentally-sound manner possible.

For the last two years, the Geothermal Energy Association (GEA) has participated as a member of the [Renewable Energy Transmission Initiative \(RETI\)](#) Stakeholder Steering Committee. The Renewable Energy Transmission Initiative (RETI) is a statewide planning process to identify the transmission projects needed to accommodate California's renewable energy goals. Phases 1 and 2 of the RETI project resulted in the identification and refinement of Competitive Renewable Energy Zones (CREZs) that hold the greatest potential for cost-effective and environmentally responsible renewable development.

With the publication of RETI's [Phase 2A](#) and [Phase 2B](#) Reports, the necessary renewable resource and transmission system data was developed to allow electric utilities, transmission owners, and operators such as the California Independent System Operator (CAISO), to develop a coordinated "conceptual transmission plan" for California. In 2009, the [California Transmission Planning Group \(CTPG\)](#) was formed to conduct joint transmission planning and coordination of transmission activities to meet the needs of California consistent with FERC Order 890. The CTPG members include both transmission owners and transmission operators and are subject to North American Electric Reliability Corporation (NERC)/Western Electricity Coordinating Council (WECC) transmission planning standards. As the CTPG website states,

"The CTPG was formed as a result of discussions facilitated by FERC to address California's transmission needs in a coordinated manner that would respect various business models. The CTPG includes transmission owners with an obligation to serve and transmission operators, and these parties have the technical capability to perform detailed transmission planning.

CTPG is committed to developing a California state-wide transmission plan to meet the state's 33% by 2020 renewable portfolio standard (RPS) goal. This transmission plan will seek to leverage a diverse portfolio of renewable energy generation technologies (wind, geothermal, hydro, biomass and solar) available to supply projected electricity demand in California from now to beyond 2020. In this effort CTPG is utilizing the Renewable Energy Transmission Initiative (RETI) conceptual plan as a starting point."

Transmission planning generally consists of three main elements: an estimate of the load that is expected in the planning horizon; modeling of the supply resources that will be interconnected to the transmission grid; and the identification of alternative transmission facilities that can meet reliability, economic, and policy objectives, such as the Renewable Portfolio Standard (RPS). The CTPG is using planning information and stakeholder input from efforts such as RETI to develop and analyze a number of scenarios as a basis for a state-wide conceptual transmission plan. In turn, CTPG expects that the conceptual plan will provide the foundation for "least regrets" decisions in the subsequent planning phases by CTPG members.

The backdrop to CTPG's work is the annual transmission planning process of the CAISO. The CAISO has recently released a ["Revised Transmission Planning Process"](#) (Revised TPP) that indicates how far planning for renewable energy development has come in the past few years. The Revised TPP is a new combination of the

process for planning transmission to access renewable resources to meet the state's renewable portfolio standard (RPS) with the activities and objectives of the ISO's existing transmission planning and generator interconnection processes.

Under the revised TPP "the unified planning effort will produce a single, annual, comprehensive transmission plan for the ISO balancing authority area that includes the transmission additions and upgrades driven by environmental policy goals as well as those driven by the other needs and objectives (such as reliability and meeting load demands) that transmission planning must address." In collaboration with the CTPG, the CAISO will produce by July 2010 a statewide conceptual transmission plan aimed at achieving the 33 percent RPS goal. In Phase 1 the ISO will also conduct its own stakeholder process to develop the unified planning assumptions and study plan that comprise the first part of the ISO's existing annual transmission planning process (now completed for the 2010/2011 planning cycle).

What does all this transmission planning mean for accessing geothermal resources in various "best CREZ" areas identified by RETI such as the Imperial Valley and Northern Nevada? Over the past several months, GEA has submitted detailed comments to RETI and the CTPG emphasizing several key points:

1. Import path assumptions to access Nevada geothermal resources for the California market do not adequately consider transmission options that utilize existing infrastructure in the Owens Valley. For example, the CTPG analysis includes an explicit "Owens Valley" scenario, with 5,000 MW of solar generation proposed by the Los Angeles Department of Water and Power for the Owens Lake area. The Owens Valley is also a potential "gateway CREZ" for northern Nevada geothermal generation.
2. The opportunities to access much greater levels of geothermal energy from the Imperial Valley require that CTPG analyze several options that will remove transmission constraints into the San Diego, Los Angeles and Arizona markets.

By coupling the "best CREZ" information generated by RETI, and by considering a range of new transmission scenarios submitted by stakeholders, the CTPG is poised to consider most of the major transmission options long considered necessary by the geothermal industry. These include:

- the North Gila-Imperial Valley 2 line that would link the geothermal resources of the Imperial Valley to Southern Arizona
- the Path 52 upgrades mentioned above to access Nevada geothermal resources
- The Great Basin line to access Nevada geothermal resources
- The Sierra Green Link proposal to access Northwest and Nevada renewable resources
- A variety of upgrades to the Southern Nevada-Southern California interconnections that will help improve system operations and allow for more out of state generation to connect to the CAISO system

All of these stakeholder-generated projects and scenarios will be studied by CTPG in the next few months to answer the following questions:

- Does the alternative satisfy the transmission need identified in the CTPG studies?
- How does the electrical performance of the alternative compare to the transmission solution identified in the CTPG studies?

GEA will continue to participate in the RETI and CTPG processes, and will continue to advance transmission proposals that help address long-standing "bottlenecks" for geothermal energy development.

California: Climate Change Program Faces Increasing Legal and Political Attacks; Cap and Trade Program and RES Hang in the Balance

By John McCaull, GEA's Western States Representative, john@geo-energy.org

May 25, 2010. Over the last six months, California's ambitious program to implement the state's [AB 32 Climate Change Scoping Plan](#) has been facing increasing criticism and attack. An initiative measure to "suspend" AB 32 turned in a reported 800,000 signatures, and is seeking final approval for the November 2010 ballot. The "[California Jobs Initiative](#)" is backed by a broad-based industry coalition that includes the Western States Petroleum Association, the California Chamber of Commerce and the California Manufacturers and Technology

Association. The initiative effort comes on the heels of a March 2010 economic impact report released by the [“AB 32 Implementation Group”](#) that paints the law as a “job-killing” drain on California’s economy, a likely source of “leakage” of businesses out of California due to increased energy and regulatory costs and an unacceptable hit to already strained household and business budgets for energy, home and transportation costs.

California Air Resources Board (CARB) Chair Mary Nichols, -- and the Schwarzenegger administration -- have not backed down. In response to the AB 32 Implementation Group March 2010 economic impact report, Nichols said, “This study was conducted by a group dedicated to protecting oil companies and fighting environmental laws that hold them accountable for polluting our environment.” Former Secretary of State George Schultz also recently lined up with Governor Schwarzenegger and a broad-based labor, environmental and business coalition to co-Chair [“Californians for Clean Energy and Jobs”](#), which has been established to counter the anti-AB 32 campaign as nothing but a “dirty energy proposition sponsored by Texas oil companies that will kill jobs and new investment.”

In recent weeks, the attacks have broadened with the first-ever lawsuit filed over AB 32 implementation. At issue is CARB’s attempt to institute a “Cost of Implementation” administrative fee (COI Fund) to provide \$39 for FY 2010-2011, and to recover over \$56 million in personnel costs for the last few years of work on AB 32 from “sources” of emissions. Estimates of administrative costs to implement AB 32 range from \$30-60 million per year. In early May, many of the California Jobs Initiative backers filed a lawsuit in Sacramento Superior Court alleging that CARB has refused to disclose requested financial information pursuant to the Public Records Act.

“The law allows CARB to impose regulatory fees under AB 32, but at the same time they must account for the staff salaries, travel, consultants and other expenses accrued to implement this law,” said Dorothy Rothrock vice-president of the California Manufacturers & Technology Association. “It’s too bad that the agency didn’t supply this information, and we need to litigate to obtain it.” The regulatory package authorizing the administrative fee is in [the final approval stages with the California Office of Administrative Law](#), and is set for adoption with the new FY 2010-2011 state budget.

According to CARB data, many of the regulatory “puzzle pieces” that will allow the state to meet the AB 32 Scoping Plan goal of reducing greenhouse gas emissions by 169 million metric tons of CO₂e by 2020 are already in place. An [April 2010 Report](#) by CARB indicates that 14 of 30 ARB regulations contemplated in the Scoping Plan are approved, including all nine “Discrete Early Actions.” CARB asserts that these measures will provide approximately 78 MMTCO₂e by 2020, which is almost halfway towards the overall statewide emissions reduction target.

The other half of the GHG emissions reductions are projected to come from three regulatory programs slated for adoption in 2010 and 2011. As the Legislative Analyst Office recently summarized, “The three largest programs, which account for roughly half of planned GHG emission reductions, are the Cap and Trade program, the Low Carbon Fuel Standard (LCFS) and the adoption of a 33% by 2020 Renewable Electricity Standard (RES).” The question over the next few months is whether CARB can hold to its adoption deadlines, or whether the pressure to slow down, phase in or delay implementation will actually succeed.

Complicating matters is that the California Legislature is also weighing in somewhat critically through the budget process. The Democratically-controlled budget committees [recently made cuts to the Governor’s proposed \\$39 million FY 2010-2011 budget for AB 32 implementation](#), and adopted recommendations by the Legislative Analyst’s Office that:

“Beginning with the 2011–12 budget, the Legislature should step back and reevaluate the base funding requirements of AB 32 program implementation. As part of the 2011–12 Governor’s Budget, a zero–based budget and workload analysis should be prepared for the AB 32 program implementation across all state agencies. The administration should be directed to justify all expenditures proposed to support AB 32 implementation. This would enable the Legislature to better understand the overall size of the program and how funds are being allocated and prioritized for particular programs and functions, as well as how the proposed expenditures will further the goals and objectives of AB 32.”

In this pitched battle over the appropriate scope and cost for implementing AB 32, a key compromise seems to have been reached with CARB and California’s major electric utilities on the cap and trade program. CARB

intends to adopt regulations for the RES by July 2010, and for the cap and trade program in October or November 2010. In a March 2010 letter to CARB, a coalition calling themselves “The Joint Utilities” called for a recognition that the electricity sector was being asked to shouldered with a “disproportionate responsibility” for GHG emissions through the RES and cap and trade programs. As the letter stated,

“Some of the Scoping Plan measures will be costly and will impose a disproportionate GHG emission reduction obligation on the electric sector that is well above the sector’s contribution to the state’s overall GHG emissions. To contain this disproportionate economic burden on electricity consumers and to manage the transition to a low carbon economy, the Joint Utilities recommend an administrative allocation of cap-and-trade allowances to local distribution companies (“LDCs”) on behalf of their customers. LDCs are an effective and proven delivery mechanism for investments in renewable energy sources, energy efficiency, and programs for assistance to low-income and other consumers while ensuring protection for all consumers through regulatory oversight.”

On [May 17, 2010 CARB held a cap and trade public workshop](#), and the electric utilities’ proposal first outlined in their March letter for an “administrative allocation” of allowances to help them offset costs for achieving the 33% by 2020 RES target was featured by CARB as their preferred framework for the electricity sector. Actual regulatory language will be released in June and July, but in a season of discontent with AB 32, the utilities openly praised CARB for their work on the cap and trade, and reiterated their support for “the greenhouse gas emission reduction goals of AB 32 and...the ARB’s Scoping Plan to achieve GHG emissions reductions through a broad range of emission reduction measures.” Comments on the allowance allocation framework are requested by June 7, 2010 and can be filed at: <http://www.arb.ca.gov/cc/capandtrade/comments.htm>

If the utilities have successfully advocated for an allowance allocation and economic cost-recovery formula for complying with RES and cap and trade, this may herald some hope for a projected July 2010 adoption of the RES standard. In adopting the 33% by 2020 procurement mandate, CARB is facing several challenges. Again, the Legislature is poised to weigh in via the budget process and legislation ([SB 722 Simitian](#)). The Assembly Budget Subcommittee has proposed that “ARB immediately cease spending funds for the purpose of developing a new renewable energy standard or similar requirement absent the enactment of legislation that authorizes such activities.” In addition, the [May 6, 2010 decision of the California Public Utilities Commission to suspend their previous approval of the use of “tradable renewable energy credits \(TREC’s\)”](#) has left this thorny aspect of the renewable energy market squarely in CARB’s RES regulatory process.

CARB has released a [RES preliminary draft regulation](#) (May 14, 2010 version), and the comment period on the draft regulations and accompanying environmental document is currently open. Go to <http://www.arb.ca.gov/energy/res/comments/comments.htm> to file comments.

As the California budget process heats up in June and July, and as we move closer to the approval deadlines for the RES mandate, it should become clear if CARB has the political momentum needed to keep their program up and running through this challenging time, or whether the calls for “suspension” or delay will succeed.

California: Lake County to Repay Mistaken Geothermal Royalties

New legislation enacted late last year was supposed to stop payments of geothermal royalties, but Lake County still received a check from the federal government, according to lakeconews.com. The Department of the Interior Minerals Management Service is now asking the country to return the \$256,000 it was paid either immediately or before December 31 to avoid interest. County Administrative Officer Kelly Cox took the repayment agreement to the Board of Supervisors, which reportedly approved it in the consent agenda.

See <http://lakeconews.com/content/view/14126/919/>.

Idaho: Idaho Power Company to Purchase Geothermal Power from Oregon Plant

The Idaho Public Utilities Commission has given approval for Idaho Power Company to purchase electrical power from US Geothermal’s 22-MW geothermal power plant Neal Hot Springs in Oregon, to be completed by late 2012, according to brighterenergy.org. US Geothermal’s power will sell at \$96 per MWh. It will rise by 6% each year early in the contract and by 1.33% toward the end of the 25-year agreement.

The price of the energy was "higher than most sales agreements", Idaho Power said in its submission but added that the benefits to customers included the right to renewable energy credits as well as the right to ownership of possible future site development.

See <http://www.brighterenergy.org/10873/news/geothermal/idaho-power-company-cleared-for-22mw-geothermal-contract/>.



International News

Australia: Panax Geothermal Reports New Results at Penola

Press Release, May 20 — Panax Geothermal (ASX: PAX) has reported a troika of good news from the Salamander-1 well in South Australia that is expected to enhance the potential of the Penola Geothermal Project:

- Geothermal temperature data;
- 3D seismic data; and
- Well transmissivity estimates

Bertus de Graaf, managing director of Panax said that "indications are that, subject to the well productivity tests planned for next month, the Salamander-1 well remains a candidate for producing clean base-load power for thousands of homes in the region."

"The new results not only boosted the geothermal potential of the Penola Trough, but it also lifts the potential of the other three troughs of Panax's larger Limestone Coast Project."

In a statement the company said well clean-up flows are continuing and further data will become available from the well productivity test planned for next month.

Temperature data

The recently announced 15.4°C increase in the measured bottom hole temperature (BHT) of the Salamander-1 well, from 156°C to 171.4°C, has confirmed predictions of the regional 3D temperature data by Hot Dry Rocks Pty Ltd (HDRPL).

The 3D modeled temperature at 4,025m for the Salamander-1 well of 172°C is very close to the recently measured BHT at 4,000m of 171.4°C. Projected temperatures at 4,000m increase to the south and south-east into Panax's GEL484, reaching 180°C within 4km of Salamander-1.

De Graaf said the new BHT of Salamander-1 combined with the new 3D temperature data is likely to increase the geothermal resources of GEL223.

He said it upgrades the overall regional potential of the Penola Geothermal Project, with higher temperatures alleviating the pressure on high production rates."

For more, see <http://www.proactiveinvestors.com/companies/news/6042/panax-geothermal-lifts-on-trifecta-of-good-news-at-penola-geothermal-project-6042.html>.

Indonesia: Australia Provides Grant for Geothermal Policy

Australia will support development of geothermal resources in Indonesia through a grant worth A\$ 2.5 bn (US\$ 2.05 bn), according to rechargenews.com. Australia aims to help Indonesia implement its geothermal policy and develop a financing scheme for climate change mitigation. "The government's aim to add 4,000 MW of geothermal capacity from the existing 1,189 MW by 2014 is truly challenging," says Surya Darma, Indonesia's Geothermal Association chief.

See <http://www.rechargenews.com/energy/geothermal/article215924.ece>.

Indonesia: Commerce Secretary Leads Delegation of Energy Companies

A delegation of 10 energy companies led by Commerce Secretary Gary Locke visited Indonesia this week to hold meetings and talks with business leaders and government officials. President Obama will visit Indonesia in June and is expected to sign a strategic partnership.

"Our meetings with Indonesian officials were productive, providing first-hand knowledge of clean tech opportunities and Indonesia's business environment," Locke told press. "US companies on our trade mission look forward to pursuing new business opportunities in Indonesia that will benefit the economies of both our countries while creating a more sustainable environment." The delegation included representatives of General Electric, Lockheed Martin Global, Oshkosh Corporation, Peabody Energy and Pratt and Whitney Power Systems. See http://www.google.com/hostednews/afp/article/ALeqM5grorFXu5ydHqR_3gUAMgFXVLZHhQ.

Japan: U.S. Expert Says Japan Should Develop Geothermal Energy

Speaking at the Foreign Correspondents Club of Japan, Lester Brown, president of the US-based Earth Policy Institute hailed Japan's geothermal energy potential and encourage the nation to become a world leader in the field.

"Japan could make geothermal energy the centre of its new energy economy just as the US or China will make wind the centre of theirs," Brown said. "There are no leaders in the world today in this field. There is no industrial country in the world that now has a well established geothermal industry." See http://www.google.com/hostednews/afp/article/ALeqM5hTaFnc0koF5F7I25WW_O_u1BFFkQ.

Kenya: KenGen and Kenyatta University to Train Geothermal Engineers

KenGen will work with Kenyatta University to train geothermal engineers starting September, according to businessdailyafrica.com. KenGen and the Geothermal Development Company (GDC) are expected to produce an output increase from the current 200 MW to 2,000 MW by 2020, meaning geothermal engineers will be in short supply. GDC currently employs 40 geothermal engineers and recently recruited 100 more engineers, 40 of whom have been trained further in China. "The need for geothermal engineers will increase tremendously because of the high potential of the planned geothermal fields," Eddy Njoroje, KenGen CEO told press.

Students training will occur both at the Kenyatta University School of Engineering. After a semester in their second year at KenGen field operations, they will go back to university for another year for practical skills. "We have adopted this partnership from what is practiced in Canada. It is a private public partnership that works well there," said vice -chancellor Prof. Olive Mugendi.

See

<http://www.businessdailyafrica.com/Company%20Industry/KenGen%20in%20deal%20with%20university%20to%20train%20engineers/-/539550/922648/-/46cico/-/>.

New Zealand: Contact Energy's Geothermal Station Completed Early

Tauhara One, Contact Energy's new 23-MW geothermal station near Taupo was completed three weeks ahead of schedule and under budget, according to nzherald.co.nz. The \$100 million project was the first step in a \$600m investment program by the company. Operations are expected to begin next month.

See http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10647323.

Philippines: Makiling Geothermal Project Joint Venture Signed

Petrogreen Energy Corp's PHP2.8bn (US\$61m) geothermal power project on Mount Makiling will be developed under a joint venture agreement with Trans-Asia Oil and Energy Development Corp, according to ifandp.com. The service contract was awarded to PEC in February. Work in the first two years will include the environmental permit, road rehabilitation, old well workovers, new well drilling, flow tests, detailed engineering design and initial civil works. PEC holds 65% with Trans-Asia Oil at 25% and PNOC-RC with 10%.

See <http://www.ifandp.com/article/004369.html>.

UK: GeoScience Looks to Government for Geothermal Funding

Cornwall-based GeoScience has completed technical preliminary work on its pilot project near Redruth and is hoping to secure planning permission next month, according to businessgreen.com. However, the project will likely rely on government funding.

"We have a lot of investors who have expressed interest in coming on board once we have successfully drilled the first hole, but in the current climate they are understandably a bit worried about the risk involved with drilling the first hole," according to Peter Ledingham, operations director for GeoScience. "As a result, we are looking to the government to fund the first phase of the project." The project is expected to require a £10m investment for the first phase of the project and a further £30m for the second two bore-holes and the geothermal power plant. The project will generate an estimated initial 10-MW of electricity.

See <http://www.businessgreen.com/business-green/news/2263344/geoscience-urges-government>.



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



Notices

Current Notices

Geothermal Power Plant Technician Program in Iceland

From the Keilir Institute of Technology: Recent developments within the technologies of geothermal power plants have led the expansion of technical training in Iceland to cope with the demand for technicians. The Geothermal Power Plant Technician course at the Keilir Institute of Technology is set to address the growing need for skilled geothermal power plant technicians as well as health, safety and environmental issues.

The Geothermal Power Plant Technician course at Keilir is split into two separate programs, which are then spread across two years. The first year is an Associate of Applied Science Degree (worth 60 ECTS), where students receive hands-on training in running and maintaining power plants. The second year is an Associate of Science Degree (also worth 60 ECTS), which is more focused on the academic methods and techniques used for planning daily operations, maintenance and purchasing equipment/spare parts – the combination of the two results in a total of 120 ECTS.

Students will show a great deal of initiative, implement improvements and perform follow-up actions throughout the program. Students will also be trained with a 'sense of ownership' towards running, operating and maintaining geothermal power plants. This will of course be beneficial towards the impact of long-term employment opportunities.

In addition, students will learn how to significantly reduce maintenance costs through specialized training, without the need for a manufacturer's service. The Geothermal Power Plant Technician Program is available from September 2011 at the Keilir Institute of Technology in Keflavik, Iceland.

To find out more regarding geothermal power in Iceland, the course and Keilir visit: <http://en.keilir.net> or contact Arnbjorn Olafsson, Department Manager at Keilir Institute of Technology.

California Transmission Planning Group Releases Phase 2 Study Plan

The 2010 CTPG Phase 2 Study Plan incorporates "comments and recommendations of many stakeholders and entities with roles in the planning, development, and implementation of transmission facilities, most notably the California Renewable Energy Transmission Initiative and the State's principal energy agencies," states the report.

“As more resource procurement scenarios become available and clearer, CTPG envisions that the transmission plans it develops will require additional reviews and further studies to reflect such updated scenarios as well as other relevant updates, including renewable resource development progress and changes in circumstances or regulations.”

The report is available at http://www.ctpg.us/public/images/stories/downloads/2010-05-07_final_phase_2_ctpg_study_report.pdf.

Íslandsbanki's Releases Iceland Geothermal Market Report

From Íslandsbanki: Recently, Íslandsbanki published its first geothermal energy market report on its home market Iceland.

In the current economic environment, Iceland is looking more than ever to the energy sector as one of the potential key drivers for economic development and foreign investment. At the same time, there is a vigorous political debate about issues surrounding the development of new power generation capacity, foreign involvement, environmental aspects and the general impact of new development in the broader scheme of development.

The report aims to provide a constructive look at investment needs for geothermal power development in Iceland. It also seeks to highlight available opportunities and the depth of the experience in this sector in Iceland.

It comprises an overview of the current Icelandic energy market, geothermal energy in Iceland, the outlook for the energy market and geothermal energy, and investment needs.

With current installed electricity generating capacity from geothermal energy of 575 MW, Iceland ranks number 7 in the international context, deriving 62% of its primary energy consumption from geothermal sources. Current projects represent additional capacity of 1,080 MW with an overall potential of about 4,300 MW.

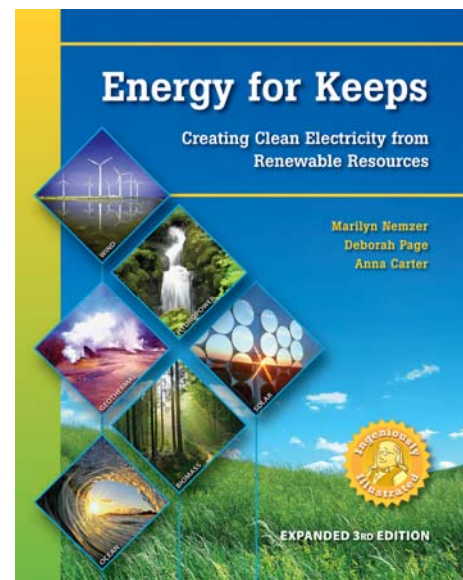
The report can be accessed via the website of the energy team at: www.islandsbanki.is/energy.

Award-Winning *Energy for Keeps* Introduces Expanded 3rd Edition

Energy for Keeps: Creating Clean Electricity from Renewable Resources is an illustrated guide for everyone who uses electricity. From students to energy policymakers, it helps readers of all ages understand the energy issues that now loom large in our daily news. With clear language and engaging illustrations, this book covers all renewable energy sources, the science of electricity generation, energy history, environmental considerations, and energy conservation and efficiency.

This not-too-technical book truly explains all the renewables in a comprehensive, impartial and even-handed manner. It includes biomass, geothermal, hydro, ocean, solar and wind. In its prior editions, *Energy for Keeps* won the 2004 Innovation Award by the Interstate Renewable Energy Council and the 2006 Green Power Leadership Award by the U.S. Environmental Protection Agency, the U.S. Department of Energy, and the Center for Resource Solutions.

Marilyn Nemzer, M.A., developer and editor of *Energy for Keeps*, has produced award-winning energy education projects and materials since 1990. She serves on several state and national advisory boards that focus on energy and the environment, is a trustee of the Marin County Board of Education and directs the Geothermal Education Office and the Energy Education Group. She is joined by lead write Deborah Page and technical editor Anna Carter. *Energy for Keeps* is available at www.energyforkeeps.org.



BLM Seeks Comments on Geothermal Lease Applications North of Magic Reservoir (June 3)

Press Release, May 3 — The Bureau of Land Management (BLM) Shoshone Field Office is asking for comments or concerns about two geothermal leases requested for public lands at the north end of Magic Reservoir as part of its consideration under the National Environmental Policy Act. Comments should be submitted by June 3, 2010 and will be used to determine whether special stipulations to the leases will be needed, should the BLM decide to issue them.

The requested parcels are located near Highway 20 at the north end of Magic Reservoir in Blaine and Camas counties. The total area under consideration is 2,840 acres. The management plans currently in effect for these lands were amended to allow for geothermal energy activity by the 2008 programmatic environmental impact statement (PEIS) for geothermal leasing in the Western United States.

The BLM Idaho Renewable Energy Support Team is reviewing these applications as part of a Bureau-wide effort that recognizes the importance of renewable energy resources on the public lands. RE support teams and RE coordination offices allow the BLM to focus staff resources on processing geothermal, wind and solar energy applications and applications for electric transmission facilities on public lands.

For more, see http://www.blm.gov/id/st/en/info/newsroom/2010/may/blm_considers_geothermal.html. To submit comments, concerns or issues specific to these leases, or with other questions, contact Rebecca Lange, BLM Idaho State Office (208) 373-3861, or email at Rebecca.Lange@blm.gov. Additional information about the applications is also available on the BLM.

BLM Seeking Public Comments on Nevada Geothermal Exploration Proposal

The Bureau of Land Management is accepting written comments following an environmental assessment (EA) for the Coyote Canyon/Dixie Meadows Geothermal Exploration. The two projects, proposed by Terra-Gen Power Dixie Development Company are in the western portion of Dixie Valley. Comments will be accepted through May 10 and should be sent to: Desna Young, planning and environmental coordinator, Stillwater Field Office, 5565 Morgan Mill Road, Carson City, NV 89701. Comments may also be submitted via email to desna_young@blm.gov.

Email should include "Coyote Canyon/Dixie Meadows" in the subject line. The EA and supporting documents are posted at http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html. A printed copy of the EA can be provided upon request. A copy of the EA is also available in the BLM Carson City District Office during the comment period.

The Department of Energy Wants to Hear Your Stories

Energy Empowers (<http://www.eereblogs.energy.gov/energyempowers>) is all about your stories from the clean energy economy. This blog and multimedia site, run out of DOE's Office of Energy Efficiency and Renewable Energy, seeks to put a human face to the people, places, technologies and developments that will define our energy future – showing everyone that these advancements are real, growing and becoming part of our communities around the United States. We encourage everyone working in the energy space to visit and share their own success stories at <https://www1.eere.energy.gov/pnp/stories/stories.aspx>.

These stories can include DOE and ARRA projects, but we are also eager to see communities, private citizens and businesses taking the initiative in building America towards a clean energy future.

DOE Geothermal Technologies Database Available On-Line

The Geothermal Technologies Program's (GTP) projects database details various GTP-funded projects throughout the United States. You can search this database by keyword, state, project title, technology, awardee, partner, Funding Opportunity Announcement (FOA) number, or funding source. For each project you will find a profile that includes background information, objectives and milestones, and a listing of participants.

See <http://apps1.eere.energy.gov/geothermal/projects>



Employment

Employment Opportunities

Geologist, Ormat Technologies, El Centro, CA

Position Summary

Employee will conduct geological evaluations of geothermal projects throughout the world. Assist Project Manager in preparing reports, drilling records, and daily costs. Conduct geothermal exploration programs utilizing geological, geochemical, and geophysical methods as directed by Project Manager. Aid with execution of contract exploration and drilling programs as defined by Project Manager. Help in planning, reporting, and documentation of activities.

Essential Functions

- Prepare geologic maps that incorporate geochemical/geophysical data.
- Prepare technical reports.
- Compile data sets and evaluate data.
- Coordinate contract drilling and exploration services.
- Prepare lithological and temperature logs,
- Oversee drilling operations under supervision of Project Manager.
- Research existing literature and prepare summaries for project evaluation.
- Prepare subsurface and structure geological maps under supervision of Project Manager.
- Learn drilling operations.

Other Responsibilities

- File reports.
- Maintain well and prospect files.
- Aid drilling staff.

Education, Experience and Skills Required

- Bachelor Degree in Geology/Engineering.
- Lithological mapping of boreholes.
- Field mapping experience.
- Proficiency in computer applications such as CAD and MS Office.

Physical Requirements

- Ability to navigate and work in remote field locations.
- Work outdoors in difficult weather conditions.
- Ability to lift 75 pounds.
- Travel approximately 60% of time.
- Drive in remote terrains using 4 wheel drive vehicles.

To apply click here: <https://home.eease.adp.com/recruit/?id=487718>

Staff Geologist, Ormat Technologies, Reno, NV

Position Summary

Conduct geologic field evaluations of geothermal exploration projects and integrate with existing published data to assist in definition of new development projects. Assist Manager in preparation of geologic/geophysical reports and conduct independent mapping, sampling, drilling and geophysical programs as directed by Manager. Assist with execution of contract geophysical and drilling projects as defined by Manager. Assist in planning, reporting and documentation of geologic investigations.

Essential Functions

- Prepare geologic maps and presentations of geophysical/geochemical data
- Prepare technical reports under supervision of Project Manager
- Compile data sets and evaluate data quality using statistical and graphical methods
- Coordinate contract field crews performing geotechnical evaluations
- Prepare lithologic and temperature logs of boreholes
- Sample outcrops, soils, springs and wells for geochemical analysis
- Oversee gradient and slimhole drill site operations
- Perform structural interpretations and stress-field analysis of prospect areas
- Schedule and arrange environmental site clearance for drilling activities
- Research existing literature and prepare summaries for project evaluation
- Assist in acquisition of remote sensing imagery and integration into mapping and GIS data bases.

Other Responsibilities

- File reports and samples with regulatory agencies
- Maintain well files and other geotechnical files
- Assist drilling staff in location of access roads and well pads
- Maintain inventories on exploration materials and equipment

Education, Experience and Skills Required

- Masters Degree in Geology, preferred
- Field mapping experience with structural background
- Geophysical or geochemical training
- Proficiency in visual presentations using computer applications such as CAD, Rockworks, Surfer, as well as MS Office Applications

Physical Requirements

- Ability to navigate and work in remote field locations
- Work outdoors in difficult weather conditions
- Ability to lift 50 lbs periodically
- Travel approximately 40% of time

To apply click here: <https://home.eease.adp.com/recruit/?id=495811>

Geophysicist, Calpine, The Geysers, California

Essential Duties and Responsibilities:

Continuously evaluate and update the state of seismicity in The Geysers. Report to management and staff on the progress of such evaluations. Interface with researchers at the national laboratories (e.g. Lawrence Berkeley National Laboratory), the U.S. Geological Survey and universities conducting investigations of Geysers seismicity and related phenomena (e.g. subsidence). Assist in the planning and execution of drilling programs and injection strategies. Assist in the evaluation of geothermal reservoir performance.

1. Evaluation of induced seismicity in The Geysers steam field. This will be an ongoing effort to constantly upgrade and update our understanding of the relationship between seismic activity and production/injection.
2. Report to staff and management on the progress of seismic evaluation.
3. Interface with researchers at the national laboratories, the USGS and universities conducting studies of induced seismicity in The Geysers. Facilitate the exchange of information useful in advancing knowledge of Geysers seismicity.
4. Work with Resource and Reservoir Engineering staff to evaluate injection strategies with respect to their potential effects on seismicity. Conduct and/or assist in the design of reservoir injection tests to evaluate effects on seismicity of various injection strategies.
5. Supervise the work of consultants in preparing periodic reports on Geysers Seismicity in fulfillment of stipulations in use permits and environmental documents.
6. Assist in the planning and execution of injection strategies.
7. Participate in the planning and execution of drilling programs for new wells, redrills of existing wells and workovers. Develop drilling targets and casing program recommendations.

8. Develop (with the assistance of Resource staff) a working knowledge steam field reservoir geology and geochemistry. Acquire proper field techniques of obtaining geochemical samples.
9. Assist in evaluating potential geothermal properties acquisitions.
10. Conduct or assist in geotechnical evaluations of potential landslides and mitigate risks to Calpine assets in the Geysers.

Qualifications:

1. Strong academic background in seismology, supported by a sound geological background, especially in structural geology and petrology.
2. Highly developed computer skills. Expertise with databases, spreadsheets, mapping programs, etc.
3. Ability to represent Calpine at community meetings in which steam field seismicity may be a major topic. Presentation skills, in particular, ability to convey technical concepts to "laymen" are a necessity.
4. Ability to clearly, effectively and concisely communicate, both orally and in writing, at all levels within the Corporation.

Education:

M.S. or PhD. degree in Geology/Geophysics required from an accredited academic institution that has an active Geology Department.

Experience:

Minimum of three to five years in the following experience is considered highly desirable:

1. Prior work experience with a resource based company, state or federal geological survey or national laboratory.
2. Participation in study or studies relating to induced seismicity.
3. Geological/geophysical field work, including installation/maintenance of seismic array, geologic mapping or geotechnical studies.

To apply online, see

https://www.hrapply.com/calpine/AppJobView.jsp?link=3645&page=AppJobList.jsp&skimSessionName=com.hrlogix.view.cont.app.JobListTable&skimName=requisition.requisition_id&skimNdx=4&op=reset.

Program Manager, Office of Geothermal Technologies, U.S. DOE, Washington, DC (June 1)**Job Summary:**

The U.S. Department of Energy is an excellent, family friendly employer and an exciting place to work. Our overarching mission is to advance the national, economic and energy security of the United States, to provide scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national weapons complex. Winning more R&D awards than any private sector organization and twice as many as all other federal agencies combined, DOE is the Nation's top sponsor of research and development in fields such as alternate fuel vehicles, energy efficiency, gene research, supercomputers and microelectronics.

Key Requirements:

- * U.S. Citizenship
- * Background and/or Security Investigation required.
- * Position involves travel

Duties:

The mission of the Office of Geothermal Technologies Program (OGT) is to provide the overall policy, management, and direction necessary for a balance program of technology planning, research, development, test, analysis, evaluation, and communication that will increase the viability of geothermal technologies. The outcome of these efforts will be to provide clean, competitive, reliable power options for use in all energy supply and end-use sectors of the economy.

The OGT Program represents and provides the national leadership in geothermal technologies for the formulation and execution of national energy policies and programs, and is responsible for the establishment of priorities and maintaining program balance among sub-programs with the Office. The OGT Program works closely in

partnership with the U.S. geothermal energy industry to advance the technology, reduce development and operating costs, and maintain a competitive position in domestic and international markets for renewable energy.

The incumbent manages and directs the development, implementation, and evaluation of a national program that involves geothermal technologies including technology planning, research, development, demonstration and regulatory strategies. The incumbent also identifies and interprets legislative requirements for the OGT Program, and manages the implementing activities that satisfy these needs. Oversees the development and implementation of geothermal technology transfer plans; the review, evaluation, and modification of technology transfer performance; and coordinates with the Federal Energy Management Program to demonstrate these technologies at DOE sites and federal facilities.

The incumbent manages and works closely in partnership with the U.S. industry, academia, and national laboratories to advance the technology, market, and policy needs to create and maintain a robust industry for the development of geothermal technology.

For more information, visit http://www1.eere.energy.gov/office_eere/jobs.html.

Project Engineer, Magma Energy, Reno, Nevada

Position Summary:

In line with Company policy and accepted government and industry guidelines, provide engineering design and construction expertise and direction in support of Magma's advanced stage development projects. As Senior Project Engineer the candidate shall be responsible for managing geothermal power plant development projects from feasibility stage through detailed design, construction and commissioning. This includes technical oversight, scope development, managing all aspects of design and engineering and ensuring that project development activities are conducted to the highest standards of safety and health, conforming to Magma Energy Corp's mission, goals and objectives for safety and health.

Major Responsibilities and Essential Duties:

- Responsible for the design and construction of new projects and the preparation of conceptual studies for geothermal exploitation and expansions.
- Retain the required contractors and service providers to undertake aspects of the design and construction of the projects' infrastructure as well as the preparation of conceptual project studies for geothermal expansions.
- Manage employees and consultants involved with exploration, construction and expansion work.
- Prepare daily, weekly and monthly reports and schedules as required and take on other duties related to the ongoing operations or projects of the Company as may be reasonably required and assigned from time to time.
- Interact with project staff and business unit managers as required to ensure that corporate guidelines and procedures are followed.
- Work effectively with other functional areas in a proactive manner, maintaining a customer-focused perspective

Job Specific and/or Technical Skills Required:

- University degree in mechanical or chemical engineering (electrical may be considered) combined with professional registration (PE) in the State of Nevada (preferred).
- Minimum of 10 years practical experience, with a strong emphasis and grounding in engineering design including experience working in an engineering consulting environment and managing engineering consultants and contractors.
- EPC or EPCM experience working on projects from conceptual stage through construction and commissioning is essential.
- Proven record in contract administration and in supervision of engineering and construction services.
- Candidate must have a solid technical background and be able to understand and ideally develop heat and mass balance models for power plants.
- Experience with geothermal power plant engineering and operations is an asset but is not essential;
- Candidate shall have first-hand experience with corrosion control and mitigation systems in geothermal plants.
- Must be able to develop and maintain project schedules using Microsoft Project or other scheduling software.

- Preparation of daily, weekly and monthly reports and other duties related to the ongoing operations or projects may be required and assigned from time to time.
- Excellent communication skills (both written and verbal) and team leadership skills are important and the ability to manage employees and consultants involved with exploration, construction and expansion work. Spanish would be an asset.
- Interacting with project staff and business unit managers as required ensuring that corporate guidelines and procedures are followed.
- Frequent travel may be required but work will initially be focused on project development activities at the facility in Fallon Nevada

Software Knowledge Requirements:

- Microsoft Office Suite
- Microsoft Project

Contact: Kim Borgna, Magma Energy, at 775.787.7050 ext. 2006 or kborgna@magmaenergycorp.com

Geothermal Operations Manager, CalEnergy Operating Corporation, Calipatria, CA

Purpose of Position:

The geothermal operations manager is accountable for the development and execution of the CalEnergy Operating Corporation (CEOC) Operations Business Plan. This individual develops the department's annual budget and is accountable for CEOC power generation revenues and operations sites. The geothermal operations manager develops and implements long range plans, provides leadership and direction to plant operating personnel and is responsible for the overall safe, environmentally clean and effective performance of power production facilities for CEOC. Responsibilities and duties are carried out in accordance with the company's policies and procedures, as well as all applicable governmental regulations and guidelines. Work is performed under the direction of the president of CalEnergy Generation U.S.

Direct Reports:

- Operations site managers
- Technical trainer
- Administrative specialist

Primary Job Duties and Responsibilities (Essential Job Functions):

- Adhere to, support and enforce all safety and environmental rules, policies and procedures, regulations and statutes.
- Develop both long and short term strategic operating direction and establish implementation plans to achieve targeted goals.
- Commit the sale of megawatts to established buyers to maximize company profit.
- Perform administrative activities necessary for the effective management of the department, including employee safety, selection and development of employees, salary administration, budget administration, employee counseling and motivation, organization goals and objectives and planning, organizing, integrating, measuring and reporting the work performed within the department.
- Maintain focus on critical plant parameters and programs.
- Make recommendations and decisions that support the company goals and business needs.
- Define, communicate, and acquire resources needed to most effectively operate the facilities.
- Define technical support needed.

Qualifications:

- Bachelor's of science degree in electrical, mechanical, chemical, industrial or petroleum engineering from an accredited university or equivalent training/experience. (Typically six years of related, progressive work experience would be needed for candidates applying for this position who do not possess a bachelor's degree.)
- Six or more years of related experience in plant operations and maintenance with five or more years of experience at the managerial level is required.
- Knowledge of PC software applications including spreadsheet, word processing, and database.

- Effective verbal and written communication skills, including presentation skills.
- Effective analytical, problem solving and decision-making skills.
- Ability to prioritize and handle multiple tasks and projects concurrently.
- Ability to read and interpret written documents such as accounting reports, safety rules, policy manuals, and professional periodicals/journals. Ability to write routine reports, business correspondence and manuals. Ability to effectively present information and respond to questions from groups of managers, clients, customers, and employees at all levels.
- Ability to define obscure and incomplete problems, collect data, establish facts, and draw valid conclusions. Able to conceptualize and develop creative alternatives to problem resolution. Capability of interpreting an extensive variety of technical instructions in written, oral, diagram or schedule form. Ability to deal with abstract and concrete concepts.
- A valid California's driver license is required upon employment.

***Note: New Contact Number:** Contact Lori Rinkert, Sr Recruiter, MidAmerican Energy at 515-281-2707 or lsrinkert@midamerican.com

Environmental & Permitting Manager, Raser Technologies, Provo, UT

Job Summary: This position is primarily responsible for obtaining, coordinating and managing all of the company's permitting and environmental compliance activities.

Essential Functions:

- Works with department heads in the project planning process to coordinate and manage all of the company's permitting and environmental compliance activities.
- Prepares and submits all federal, state and local permit applications across department lines e.g. drilling, air, storm water, water rights, CUP, Haz Mat, ROW, construction, etc.
- Prepares and tracks permitting budget.
- Procures the services of and manages environmental contractors who perform permit related activities e.g. Phase I, EA, cultural resource and wildlife surveys, hydrologic and soil studies, etc.
- Prepare compliance matrices (punch list) to be utilized by on-site personnel in maintaining regulatory/permit compliance.
- Provide regular training to on-site managers and personnel to allow them to correctly and effectively comply with regulatory/permit requirements.
- Conducts environmental site reviews, manages permit issues, incident reporting, as well as auditing contractors and other on-site third parties for compliance to regulatory requirements.
- Continually evaluate the status of permitting and compliance activities of each project and plant site with the objective of ensuring that all required environmental permits are in place and that all the requirements and applicable Federal, State and Local rules are in compliance.
- Regularly travels to project locations as well as to meet with stakeholders.
- Management of Occupational Health and Safety.
- Coordinates and collaborates with other departments of the corporation in establishing and carrying out responsibilities.
- Maintains appropriate communications within area of responsibility.
- Consults with all segments of management responsible for policy or action. Ensures compliance within area of responsibility. Makes recommendations for improving effectiveness of policies and procedures.
- Assumes other activities and responsibilities from time to time as directed.

Qualifications:

- Bachelor's Degree in related field e.g. environmental engineering, environmental science or other related science discipline.
- Five or more years related experience in permitting and environmental compliance.
- Demonstrated success in environmental permitting and regulatory compliance activities, particularly working with; BLM and other federal agencies, state agencies; e.g. oil & gas, state engineers, AQ and environmental quality and local rural governments.
- Excellent technical writing skills.
- Strong negotiation skills.

- Proficient in Microsoft Word and Excel. GIS and Primavera a plus.
- Geothermal renewable energy experience is preferred but not required.

Competencies:

To perform the job successfully, an individual should demonstrate the following competencies to perform the essential functions of this position.

- Strong work ethic, with a high level of energy and commitment to the position.
- Effective leadership skills which demonstrate the ability to participate in strategic thinking and problem solving.
- Excellent communication and presentation skills, both oral and written, with the ability to communicate with individuals at all levels both internally and externally.
- Well-developed interpersonal skills. Ability to get along with diverse personalities. Tactful, mature.
- Ability to establish credibility and be decisive—but able to recognize and support the organization's preferences and priorities.
- Ability to function effectively and efficiently in a fast-paced and changing environment with multiple priorities and objectives.

Compensation will include base salary and performance-based stock incentive based on level of experience. We also offer a full range benefit package.

Further information on Raser may be found at: www.rasertech.com.

Resumes can also be directly submitted to: jobs@rasertech.com.

Renewable Energy Mechanical/Systems Engineer, Idaho International Laboratory

Idaho National Laboratory is seeking a Renewable Energy Mechanical Systems Engineer. This position will involve the assessment of the overall design and operation of geothermal power plants, as well as individual processes and components within a plant. It will also support development of power system performance assessments and designs. The candidate must be able to apply and interpret standard theories, principles, methods, concepts, tools, and technologies associated with electrical power generation from renewable power sources. Work will include evaluation of the effects of innovative concepts and components on power generation costs. The candidate will make preliminary selections and adaptations of technical alternatives. The candidate will provide technical support to the DOE and Work for Others (WFO) customers, which will vary in nature, but will include planning, engineering design, data analysis and analytical support activities as well as monitoring of DOE field research projects. In addition to interfacing with customers, the candidate is expected to document, report and present results on work performed, contribute to program progress reports, participate in peer review work of others and manage individual cost and schedule performance metrics. The candidate will contribute to development of new capabilities within the division as well as contribute to scientific and technical products such as patents, software, journal papers, reports, proceedings, and policies. The candidate may also contribute to the development of intellectual property leading to patents, publications, and/or copyrights.

Qualifications

S&E Scientist/Engineer 2. A PhD in Mechanical Engineering with relevant experience in power generation is preferred. Applicants with a MS in Mechanical Engineering with two years of relevant post graduation experience in power generation or a related field will be considered. Applicants with Chemical Engineering degrees and documented experience in Geothermal Power Plant design and operations will be also considered, though a Mechanical Engineer degree is preferred. Ability to obtain and maintain and Department of Energy Q security clearance. Must be a United States citizen.

Job ID: #5414, Interested Candidates, please contact:

Vanessa Van Dyk at Idaho National Laboratory: Vanessa.VanDyk@inl.gov, 208-526-6325

OR apply on line at: www.inl.gov/careers

Project Manager

Summary: Responsible for implementation of all aspects of project development from project inception through turn-over to engineering for final design and construction and provide assistance after turn-over to engineering as needed. Will manage multi-disciplinary teams, focused on executing company developmental plans and achieving project goals.

Duties and Responsibilities:

- The PM's two fundamental responsibilities are preparing and maintaining project schedules and budgets. As necessary the PM draws on resources (Development, Senior Scientists, top management) to meet the master project schedule and budget as approved by top management.
- Responsible for oversight, facilitation and implementation of all aspects of project development from initial prospect evaluation to turn over to engineering for final design. Key project factors (schedule, budget) are set by top management. PM's role is to ensure that top management policy is met.
- Negotiates contracts and other agreements related to the sale and transmission of electricity.
- Assists in preparation of financial documents to raise funding necessary to fund project
- Manages Project Development team
- Manages Consultants through the selection process, task assignment, coordination of actions, and quality control.
- Oversee all project land/lease acquisition activities, including contract negotiations.
- Oversees selection of transmission line routes, locations and corresponding transmission agreements
- Provide support to geoscience, drilling, legal, finance, engineering and other departments as needed.
- Meets with government officials and public as necessary.

Supervisory Responsibilities:

- Oversee various project managers, engineers and consultants to facilitate the timely completion of geothermal projects. Direct staff will consist of 3-6 employees.

Qualifications:

- Bachelor's degree (B.A. /B.S.) in related field or equivalent preferred.
- Six or more years related experience.
- A broad understanding of permitting on federal lands, drilling, resource development, power plants and transmission systems.
- Ability to gather project information sufficient to create very detailed project development schedules and to build detailed project budgets and financial models to facilitate implementation of the schedules.

Contact: Andrew Matkovic / Vice President
The Carmon Group Inc.
andrewmatkovic@carmongroup.com
(216) 539-7668

Development Engineer

Job Title: Development Engineer

Summary: Responsible for taking the lead on negotiating the technical sections and provisions in all major project contracts and agreements including; Power Purchase Agreements, Transmission Service Agreements, Interconnection Agreements, EPC contracts and project financing agreements.

Duties and Responsibilities:

- Work closely with the VP of Project Development and Legal Department to develop and negotiate the technical provisions in all major project contracts and agreements including PPAs, TSAs, LGIAs, EPC contracts and project financing agreements.
- Negotiate the technical provisions of the major project contracts.
- Coordinate with Management to acquire the technical information required to negotiate all major contracts and agreements.
- Provide progress reports to upper management

Qualifications:

- Demonstrated strong negotiation skills

- Minimum 10-15 years of power plant engineering and construction experience, geothermal or other renewable energy experience desired.
- Minimum of 5 years experience negotiating major contracts for the development of power plant projects.
- Strong knowledge of power plant O&M requirements including scheduling & dispatching energy, metering, maintenance & outage planning.
- Strong knowledge of Nevada and California Utility requirements and concerns with negotiating with Independent Power Producers.
- Strong knowledge of ISO requirements (particularly Nevada and California)
- Strong knowledge of selling power and Renewable Energy Credits on the open market.
- Self starter, excellent problem solving skills, excellent people skills
- Proficient oral and written communication skills
- Proficient computer skills
- Bachelor degree in engineering or equivalent

Contact: Andrew Matkovic
Vice President
The Carmon Group Inc.
andrewmatkovic@carmongroup.com
(216) 539-7668

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

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

RFP Announcements

State Energy Program, U.S. DOE (May 18 — August 3)

The U.S. Department of Energy requests proposals for the State Energy Program (SEP). This formula grant program provides support to states and territories, for the design and implementation of energy efficiency and renewable energy priorities. Lead applicant must be the state or territorial energy office administering the annual SEP. \$25 million expected to be available, up to 56 awards anticipated. Due date range 5/18 – 8/3/10. For more info, contact Sheldon Funk at sheldon.funk@netl.doe.gov or go to: <https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000308&agency=DOE>. Refer to Sol# DE-FOA-0000308. (Grants.gov 3/26/10)

State PUCs and Energy Efficiency, DOE (June 7)

The U.S. Department of Energy requests proposals for Stimulating Energy Efficiency Action from State Public Utility Commissions. This RFP will support PUCs or equivalent state regulator agencies develop an energy efficiency resource goal and the policies and programs needed to implement that goal. \$2 million expected to be available, up to 8 awards anticipated. Responses due 6/7/10. For more info, contact Kelly McDonald at kelly.mcdonald@netl.doe.gov or go to: <https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000266&agency=DOE>. Refer to Sol# DE-FOA-0000266. (Grants.gov 4/28/10)

Efficiency and Renewables in Rural America, DOA (June 30)

The U.S. Department of Agriculture requests proposals for Renewable Energy Systems and Energy Efficiency Improvements, under the Rural Energy for America Program. This RFP will provide support to agricultural producers and rural small businesses to purchase and install renewable energy systems and make energy efficiency improvements. \$51.5 million expected to be available, up to 2,000 awards anticipated. Responses due 6/30/10. For more info, go to: <http://www.grants.gov/search/search.do?mode=VIEW&oppld=54175>. Refer to Sol# RDBCP-10-REAP-RES-EEI. (Grants.gov 4/30/10)

Department of Energy Announces \$20 Million to Boost Development of Innovative Geothermal Technologies (July 9)

From DOE – U.S. Department of Energy today announced up to \$20 million for research, development, and demonstration of cutting-edge geothermal technologies that could reduce U.S. demand for fossil fuels and significantly cut greenhouse gas emissions. DOE's objective through this funding opportunity is to demonstrate the technical and economic feasibility of non-conventional geothermal energy technologies in research areas including low-temperature fluids, geothermal fluids recovered from oil and gas wells, and highly pressurized geothermal fluids. Through this research, the Department hopes to provide clean, low-cost renewable energy by proving and commercializing technologies that might otherwise remain out of reach.

Funding will be available in the following topic areas:

- A. Low-temperature geothermal fluids at temperatures up to 300° Fahrenheit (F) or approximately 150° Celsius (C)
- B. Geothermal fluids produced from productive, unproductive, or marginal oil and gas wells, mining operations or other hydrocarbon or mineral extraction processes.
- C. Highly pressurized or "geopressured" fluid resources that show potential for cost-effective recovery of heat, kinetic energy, and gas.

Potential project proposals might include innovative cooling systems – for example, air-cooled, water-cooled, or hybrid systems – or use innovative working fluids. Other concepts might utilize more efficient heat exchanging materials or maximize of energy output through a combination of electricity generation and direct-heat technologies.

Prospective applicants for this Funding Opportunity Announcement are encouraged begin developing partnerships, formulating ideas, and gathering data for potential applications. The expected close date of this announcement is July 9, 2010.

The complete Funding Opportunity Announcement can be viewed on FedConnect:

www.fedconnect.net/FedConnect/PublicPages/PublicSearch/Public_Opportunities.aspx

DOE's Geothermal Technologies Program works in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply.

For more information on these awards, please visit:

http://www1.eere.energy.gov/geothermal/low_temperature_resources.html

Manufacturing Innovations, DOC (July 15)

The U.S. Department of Commerce, National Institute of Standards and Technology (NIST), requests proposals for the Technology Innovation Program, in the area of "Manufacturing." Through this RFP, NIST seeks to create significant improvements in new and existing products and in their manufacture by accelerating the utilization of materials advances and overcoming critical manufacturing process bottlenecks to improve the competitiveness of U.S. manufacturers in the global marketplace. \$25 million expected to be available, up to 25 awards anticipated. Responses due 7/15/10. For more info, contact Deborah Dubeau at deborah.dubeau@nist.gov or go to:

<http://www.grants.gov/search/search.do?mode=VIEW&oppld=53791>. Refer to Sol# TIP-2010-B01. (Grants.gov 4/15/10)

Climate Adaptation and Disaster Resilience – Indonesia (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&oppld=50515>. Refer to Sol# APS10-005. (Grants.gov 12/7/09)

Greenhouse Gas Mitigation, Indonesia (September 15)

The U.S. Agency for International Development Mission in Indonesia requests applications for the Greenhouse Gas Mitigation Program. This RFP will support projects to reduce greenhouse gas emissions in both the land use/forestry sector and the energy sector. \$1.5 million expected to be available, up to 2 awards anticipated. Responses due 3/30/10 and 9/15/10. For more info, contact Dominicus Soenarno at aps10-011@usaid.gov or go to: <http://www.grants.gov/search/search.do?mode=VIEW&oppld=51783>. Refer to Sol# APS-INDONESIA-10-011. (Grants.gov 2/12/10)

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)

Power, Controls and Adaptive Networks, NSF (October 7)

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 10/7/10. 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 2/17/1)



Events

Added This Week

Geothermal Energy Utilization Associated with Oil and Gas Development, SMU Geothermal Laboratory, Dallas, TX (June 13–15, 2011)

GEA Events

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

GEA will be holding a one-day "Geothermal Energy and Utilities Forum" in Las Vegas, NV on Thursday, July 22nd at Bally's. The program seeks to address issues related to geothermal examined from a utility perspective. Participants will hear the most recent updates available on the U.S. geothermal market, accompanied by expert presentations on approaches to utility scale projects in the U.S., federal and state support for utilities and renewables, reducing costs through time reduction, risk assessment, technology options, oil gas and co-production, small power, transmission issues, and more.

You'll find out information and perspectives on project development, technology, finance, community and environmental issues. Come join the collaboration between leading geothermal experts from around the nation to collectively increase geothermal energy's production output.

To register: <http://www.gifttool.com/registrar/ShowEventDetails?ID=1872&EID=7126>

To view the preliminary draft agenda: <http://www.geo-energy.org/workshops/UtilityWSPreliminaryAgenda5.13.2010.pdf>

If you are interested in sponsoring the Geothermal Energy and Utilities Forum: <http://www.geo-energy.org/workshops/LasVegas2010Sponsorships.pdf>

With any questions, please feel free to email Kathy Kent at kathy@geo-energy.org.

For media credentials, please contact Garret Drexler at 646-695-7042 or garret@rosengrouppr.com.

GEA Geothermal Energy Expo and GRC Annual Meeting, Sacramento, CA (October 24-27)

Exhibitor Registration is open. Booth spaces are more than 75% sold out, please book soon!! Register at <http://www.geothermalenergy2010.com/>.

Every year, the Geothermal Energy Expo® hosts the world's largest gathering of vendors providing support for geothermal resource exploration, characterization, development, production and management. It provides a unique opportunity for exhibitors to showcase their projects, equipment, services and state of the art technology to the geothermal community. The Expo is held in conjunction with the GRC Annual Meeting, www.geothermal.org.

Last year's count was 2300 participants and planning shows this year's numbers will top it. This year the Expo will be held in Sacramento, CA at the Sacramento Convention Center Complex, a component of the City of Sacramento Convention, Culture and Leisure Department.

Exhibitor Benefits include:

- * 50-word company listing in the official event guide
- * Exhibit Booths are 10' x 10' and has an 8' high back drape and 3' high side drapes

- * A 7" x 4" identification sign with the Exhibitor's name and space number
- * Each booth will also include a table, two chairs and a wastebasket.
- * Enhanced Exhibitor Listing on event website, www.geothermalenergy2010.com
- * For every 100 sq ft exhibitors receive 3 booth staff passes
- * Complimentary Expo Hall passes to distribute to your clients and customers

To view the floor plan for the 2010 Expo, please go to: http://www.geothermalenergy2010.com/floor_plan.asp

To register as an Exhibitor, please go to: <http://www.geothermalenergy2010.com/registration.asp>

To view the Exhibitors contract for 2010, please go to: <http://www.geothermalenergy2010.com/contract.asp>

More information including sponsorship opportunities, room block, and special events coming soon. We are looking forward to another great Expo! Please do not hesitate to let us know if you have any questions.

Contact: Kathy@geo-energy.org

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.

Other Events

Policy Event – Breakfast on Parliament Hill, CanGEA, Ottawa, ON (June 17)

Canadian Geothermal Energy Association

<http://www.cangea.ca/>

CanGEA's Third Annual Conference & Trade Show, CanGEA, Vancouver, BC, (August 9 & 10)

Canadian Geothermal Energy Association

<http://www.cangea.ca/>

Geothermal Investment Forum and Networking Event, CanGEA, Toronto, ON, (September 14)

Canadian Geothermal Energy Association

<http://www.cangea.ca/>

Geothermal Investment Forum and Networking Event, CanGEA, Calgary, AB (December 3)

Canadian Geothermal Energy Association

<http://www.cangea.ca/>

Geothermal Energy Weekly

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