

Geothermal Energy Weekly

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National News

DOE Announces Geothermal Program Manager

The Department of Energy has named [Doug Hollett](#), from the oil and gas community, as the new [Geothermal Technologies Program](#) Manager. Hollett was previously with Marathon Oil since the 1980s, where he held leadership positions in research, exploration, and business development. He has also served as Chairman of the Board at Petroleum Research Atlantic Canada.

Hollett was an exploration geologist at Union Oil Company prior to working at Marathon. He has a Master's degree in Geology from the University of Utah and a B.S. in Geology from Williams College.

Simbol Materials: Geothermal Lithium Extraction Method Underway

Simbol Materials is working at a demonstration facility to produce lithium from existing geothermal plants in an effort that could revolutionize the future of the new energy economy and turn the United States into a major lithium exporter. The facility is located at the Salton Sea in Imperial Valley, California, where the materials are extracted from a byproduct of conventional geothermal productions. Water is then added to replace the material, and the brine is reinjected. "You can produce 16,000 metric tons of lithium carbonate for every 50-megawatt geothermal power plant," Simbol CEO [Luka Erceg told press](#).

Simbol's work includes purifying the lithium as is needed for battery materials and electrolyte solutions in Electric Vehicles and other clean-energy storage applications. The company also plans to capture manganese and zinc. Both lithium and zinc have been called energy-critical elements in an American Physical Society report [\[PDF\]](#).

"With the electric vehicle battery industry set to take off, the demand for premium quality lithium, manganese and zinc – building blocks for the next generation of energy storage, including EV batteries – requires an urgent and high performance solution, one that Simbol Materials provides," Erceg [said in a company release](#).

Simbol received an American Recovery and Reinvestment Act awarded through the DOE Geothermal Technologies Program [grant for their work](#) in Extracting Valuable Metals and Compounds from Geothermal Fluids. Simbol plans to sell its lithium products through ITOCHU Corporation in Japan.



Company News

Concepts NREC and GeoTek: Up to \$2.4M Announced for Gravity Head Energy System

Press Release [\[See full story\]](#), White River Junction, VT, September 26 — *Turbomachinery engineering, design and manufacturing company helps prove Gravity Head Energy System conceptual and commercial viability* — Concepts NREC (CN), a world leader in turbomachinery design, research, engineering and manufacturing, announces that the GeoTek Gravity Head Energy System on which CN collaborated in support of Midland, Texas based GeoTek Energy, LLC has been chosen to receive \$450,000 for the initial design and up to \$2.4 million in additional funding for design validation and further development. Concepts NREC's role was to work with GeoTek in the early stages to prove the GHES concept viability for technical and commercial success by providing engineering and mechanical design support. The GHES project is part of the US Department of Energy Geothermal Technologies Program to advance innovative geothermal technologies. Geothermal is a renewable energy source that uses the heat from the earth to produce steam or vapor to drive turbines that generate electricity. Geothermal power is produced 24 hours a day, seven days a week, making it a reliable source of renewable baseload energy for utilities.

"We value CN's expertise and reputation in the turbomachinery arena," said Dave Marshall, chief financial officer of GeoTek. "That's the primary reason we chose CN. You can't underestimate the importance of selecting from the beginning a technical partner with such experience to increase the likelihood of success."

GeoTek has turned to CN for similar engineering, design and analysis support since 2009. For this project, CN's role was to assist GeoTek in achieving higher efficiencies while reducing the size of the GHES, which was originally developed in the 1970s. CN applied the advanced computer modeling capabilities of its Agile Engineering Design System® software to engineer and analyze a more compact system and was instrumental in achieving GeoTek's goals.

GEA: Growing Geothermal Industry Offers Choices for Up-and-Coming Professionals

GEA Video Series Features Career Pathways in the Geothermal Energy Industry — Washington, DC (September 27, 2011) — The geothermal industry is hiring, and many people want to know where they can go to start a career in geothermal energy. GEA, the industry trade association, has recently produced an education and training guide, a green jobs report, and is now releasing nine video interviews highlighting the opportunities and career paths in the geothermal



UNLV geology student Beverly Laag interviews Stephen Hirsch, Director of New Program Development at Geothermal Development Associates



industry.

Filmed at the inaugural GEA National Geothermal Summit in August 2011, “Focusing on Jobs in the Geothermal Community” is a series of interviews with geothermal experts who come from a variety of backgrounds — from engineering and geology to communications and history. These videos will especially appeal to anyone interested in a career in geothermal energy or other renewable sectors, and perhaps to individuals who didn’t even know they were interested.

“Geothermal energy is growing today and the industry will continue to expand in the future to meet our clean energy needs,” said GEA Executive Director Karl Gawell. “As it does, there is a critical need for new thinking and a new generation of professionals to advance the field.”

“Focusing on Jobs in the Geothermal Community” features the following videos (please feel free to use embed codes):

- Welcome by Leslie Blodgett, GEA.
http://www.youtube.com/user/GeoEnergyisHot?feature=mhee#p/u/17/j-Atr_e_1BQ
- Geologist Kim Niggemann — UNLV geology student Beverly Laag interviews Kim Niggemann, currently VP of Resource Operations for Nevada Geothermal Power. Kim talks about a geologists’ perspective, working in geothermal energy vs. working in mining, being a woman in geology, and working hard no matter what you do.
<http://www.youtube.com/user/GeoEnergyisHot?feature=mhee#p/u/16/SULQeUKKeDk>
- Renewables Advocate Carl Zichella — GEA’s Kathy Kent interviews Carl Zichella, currently Director of Western Transmission for the Natural Resources Defense Council. Carl talks about advocating for policies and procedures that make geothermal and other renewables possible, including getting the Clean Air Act amendment passed in 1990, and about the wide variety of opportunities available to people interested in working in renewable energy and environmental sectors.
http://www.youtube.com/user/GeoEnergyisHot?feature=mhee#p/u/14/nofVe_BOg-U
- Utilities Leader Stephen Ponder — GEA’s Alison Holm interviews Stephen Ponder, Director of Renewable Energy Development at NV Energy. Steve talks about coming to an “unknown” industry after starting in oil and gas, drilling deep wells in Nevada, getting a complete education combined with on-the-job training, and opportunities with small companies.
<http://www.youtube.com/user/GeoEnergyisHot#p/u/13/iBR3ZKp6xx8>
- Business Developer Halley Dickey — UD’s Center for Energy and Environmental Policy student Christopher Richard interviews Halley Dickey, Director of Geothermal Business Development at TAS Energy. Halley talks about being involved in a “tight community where people know each other,” introducing technology to geothermal that was originally developed for commercial air conditioning, and



making a difference for the environment and the economy.

<http://www.youtube.com/user/GeoEnergyisHot#p/u/12/EcCy4h2Mg2s>

- Geologist/Engineer Charlene Wardlow — Reno resident Linda Peri interviews Charlene Wardlow, Director of Business Development for Ormat Technologies. Charlene talks about being interested in geology from a young age, experiences in many different aspects of geothermal development, similarities to oil and gas development, and doing what you love.
<http://www.youtube.com/user/GeoEnergyisHot#p/u/11/tjp2gIsm064>
- Electrical Engineer Sean Geffert — ThermaSource's Caitly Johnson interviews Sean Geffert an Electrical Engineer with Geothermal Development Associates. Sean talks about human/computer interaction software in geothermal and opportunities for travel in his geothermal work.
<http://www.youtube.com/user/GeoEnergyisHot#p/u/10/xLM8uaRwDp0>
- Engineer/Educator Bill Harvey — GEA's Leslie Blodgett interviews Bill Harvey, Ph.D, P.E., who works with Power Engineers. Bill talks about coming to geothermal from the nuclear industry, experience with geothermal district heating in Iceland while teaching there, and getting a variety of different experiences to keep your options open. <http://www.youtube.com/user/GeoEnergyisHot#p/u/9/Wdj3yq24ZYc>
- Project Developer Stephen Hirsch — UNLV geology student Beverly Laag interviews Stephen Hirsch, Director of New Program Development at Geothermal Development Associates. Steve talks about exciting opportunities in the burgeoning geothermal market of the East African Rift region and about being dedicated to your work.
<http://www.youtube.com/user/GeoEnergyisHot?feature=mhee#p/u/9/GBrWIRFajWM>
- Program Manager Betsy Kauffman — GEA's Leslie Blodgett interviews Betsy Kauffman, Senior Program Manager with Energy Trust of Oregon. Betsy talks about a nontraditional approach to joining the renewable power field, being a woman in a male-dominated industry, and non-technical skills that are important to anyone looking to get into the industry.
<http://www.youtube.com/user/GeoEnergyisHot?feature=mhee#p/u/8/2qKEs9PvqRs>

Additional resources:

- 2011 Geothermal Education and Training Guide (August 2011) — <http://geo-energy.org/reports/2011GEAGeothermalEducationandTrainingGuide.pdf>
- Green Jobs Through Geothermal Energy (October 2010) — http://geo-energy.org/pdf/reports/GreenJobs_Through_Geothermal_Energy_Final_Oct2010.pdf

The National Geothermal Summit in Reno, Nev., featured intense discussions related to large-scale exploration, equitable tax treatment, reducing development times, and funding science and education needs, as well as an Exhibit Hall. Government agencies, universities and leading geothermal developers from the growing geothermal industry presented. The next GEA event will be the annual GEA Geothermal Energy Expo 2011, the largest annual geothermal Expo in the world in San Diego, Calif., October 23–26, 2011.



Nevada Geothermal: Industry Veteran Joins the Team

Press Release [\[See full story\]](#), September 27 — Nevada Geothermal Power Inc. (OTCBB: NGLPF, TSX-V:NGP), a provider of geothermal power in the United States, similar to companies like Ormat Technologies Inc. and U.S. Geothermal Inc. recently hired industry veteran Stuart Johnson to help implement its Blue Mountain and other resource development programs in a move that could unlock tremendous value.

Johnson Brings Academic and Field Experience

Stuart Johnson recently joined the company from Engeocon, where he helped reverse start-up reservoir production declines by redistributing injection fluids at the Dixie Valle and Stillwater geothermal fields in Nevada. He also directed field development work at Steamboat Hills, Nevada that enabled expansion of production capacity from 35MW to 90MW today under Ormat's control.

Mr. Johnson also has extensive research experience within the industry. Recently, he co-authored a report for the U.S. Department of Energy on the role of new technologies in EGS resources. With this combination of research and field experience, Mr. Johnson is uniquely positioned to help Nevada Geothermal unlock the value of its fields.

Ormat Technologies: Loan Agreement Finalized

Press Release [\[See full story\]](#), Reno, Nev., September 24 -- Ormat Technologies, Inc. (NYSE: ORA) today announced that its wholly-owned indirect subsidiary, OFC 2 LLC, and its project subsidiaries have finalized and signed the loan documentation for a 20-year loan for up to \$350 million under a financing with John Hancock Life Insurance Company (USA). The transaction will be guaranteed by the U.S. Department of Energy's Loan Programs Office in accordance with and subject to the Department's Loan Guarantee Program under Section 1705 of Title XVII of the Energy Policy Act of 2005.

The financing will support clean, sustainable power generation from three geothermal power facilities located in the State of Nevada, which are scheduled to be built in two phases and expected to generate up to 113 MW of power. The capacity of the first phase is expected to be up to approximately 60 MW.

Ram Power: Shuman Moore Hired as Chief, Selby F. Little Acting CFO

Ram Power Corp. has hired Shuman Moore as president and Chief Executive Officer, replacing Walter M. Higgins, who has been interim president and CEO since February following founder Hezy Ram's departure. Higgins will remain a director. Moore was previously CEO of Oski Energy LLC.

Additionally, Ram Power announced John F. O'Neill has resigned as Vice President and Chief Financial Officer and Selby F. "Bud" Little has been appointed as Acting Chief Financial Officer. Little was most recently Executive Vice President and Chief Financial Officer of CLP Resources, Inc., a staffing company focused on construction



and energy producing companies, and Chief Financial Officer of the Skilled Trades Group of CLP's parent company TrueBlue, Inc., a multinational blue collar staffing company listed on the New York Stock Exchange.

Renewable Energy and Climate Change

Is Geothermal the “Charlie Brown” of Alternative Energy?

An [E-The Environmental Magazine article](#) calling geothermal energy “the Charlie Brown of alternative energy” says due to lack of long-term government commitment from the government, as well as the recession, other countries have been racing ahead of the U.S. in terms of geothermal development. Author Ethan Goffman asks: “With signs of climate change accelerating, why do we continue to pour money into pipelines for shale oil and natural gas and into deepwater ocean drilling? Why not, instead, invest in geothermal and other clean sources that ensure a stable future for humans on planet Earth?” The article features comments from Craig Mataczynski, CEO of Gradient Resources and Geothermal Energy Association Vice President.

State News

Hawaii: Energy Advisory Commission Discusses Geothermal Future

The Hawaii County Energy Advisory Commission met last week for a legislative update. State Rep. Denny Coffman, D-Kona, discussed a series of bills he is working to introduce that support a unified energy plan and decreased state dependence on imported oil. Geothermal and waste-to-energy are important components, [he told the commission.](#)

Hank Banquer, a member of the commission voiced his support. "Other places, they're way ahead of us and we just stick our heads in the sand," he said. "We keep looking for something that we should have, something new, when we've got geothermal." Other comments reflected resistance from the community: Commissioner Steven Burns said the Big Island may not want to become the “industrial component to serve the entire state.”

Oregon: Council Looking at Geothermal Energy; DOE Funding to Support Method for EGS Monitoring

Oregon City Administrator Mike Beazley [has confirmed](#) the city council is meeting with the Port Authority to explore providing geothermal power to local government, school, business and residential buildings to “help create value for Oregon residents and businesses.” Beazley said: “We’re looking at the Port Authority’s analysis. It’s especially applicable in those places where they’re not really served by natural gas. We started looking at parts of Oregon, really the northwest portions and some to the south and east that really don’t have natural gas options available. They’re served by propane or heating oil. So we’re looking at alternatives, and maybe even lower energy costs for residents and businesses.”



Meanwhile, researchers from the National Energy Technology Laboratory, Oregon State University, and Zonge International have been selected to receive DOE funding on collaboration to develop a new method for monitoring and assessing the effectiveness of enhanced geothermal systems.

According to reports, [the study will apply](#) high-resolution gravity surveys, repeat electromagnetic imaging, and a portable, millimeter-resolution, ground-based radar system to a reservoir under controlled production and recharge conditions. Well-field operators will be able to obtain information necessary on reservoir flow-pathway restrictions, reservoir temperature variations, and key geochemical information. They will then be able to determine whether a flow blockage is related to mineralization.

The first phase of the research effort was awarded \$770,000 in support for one year, and could receive another \$1,374,000 over two additional years to deploy the model at a test site in Newberry. See the full list of university recipients at: <http://energy.gov/articles/24-universities-receiving-funding-train-next-generation-energy-efficiency-experts>

West Virginia and Pennsylvania: EGS Research Project Awarded DOE Funding

Researchers from the National Energy Technology Laboratory will partner with scientists from Penn State, West Virginia University, and the University of Pittsburgh in a two-year effort to improve enhanced geothermal systems technologies.

The project, supported by up to \$1 million in DOE funding, [seeks to improve the ability to predict behavior](#) and performance of fracture networks. The work involves pre-characterization of fluid-rock samples, flow modeling, monitoring of fluid composition, post-characterization of the samples, and coupling isotopic behavior to fluid-rock reactions. See the full list of university recipients at: <http://energy.gov/articles/24-universities-receiving-funding-train-next-generation-energy-efficiency-experts>

International News

Europe

UK: IEA Geothermal Group Welcomes New Member

The UK has joined the International Energy Agency's Geothermal Implementing Agreement to share best practices and accelerate the development of geothermal energy. Participating countries include the U.S., Iceland, and New Zealand.

Professor Dermot Roddy from the Newcastle Institute for Research on Sustainability [told press](#), "There are some countries, like Iceland, that are blessed with great geothermal resources, and countries like the UK, where you



have to get good at assessing the geothermal potential of the site before you can move forward with a project," he said. "The UK would have something to contribute in terms of assessment and accessing harder to reach resources, while we may be able to gain access to further technical expertise."

The [GIA](#) provides a framework for international cooperation in four research areas: Environmental Impacts of Geothermal Development, Enhanced Geothermal Systems, Advanced Geothermal Drilling Technology and Direct Use of Geothermal Energy. The 26th International Energy Agency — Geothermal Implementing Agreement meeting met September 28–30 in London.

Americas

Guatemala: Geothermal Exploration License Granted

The Ministry of Energy and Mines [has announced](#) a temporary, one-year license for the exploration of geothermal resources to Gulf Resources, SA for the La Chinita and Gloria projects.

Studies have shown up to 4000 MW of geothermal potential in the country. Two existing plants, the Zunil I (28 MW) and the Amatitlan (24 MW) binary geothermal power plants, provide a combined 52 MW.

Pacific/Asia

Indonesia: PLN Awaits Government Funds

Electric company PT PLN is asking the Finance Ministry to disburse Rp1.2 trillion allocated to geothermal development. "We're still discussing it — The government doesn't want to lose the fund," planning and technology director Nasri Sebayang [told press](#).

A ministerial decree earlier this year ordered state-owned PLN to buy power from geothermal producers at up to 9.7 U.S. cents.

Japan: Geothermal Experts Ask for Government, Community Support

An [article on japantimes.co.jp](#) discusses the country's enormous geothermal potential, and why so little of it has been produced.

Sachio Ehara, professor of earth science and technology at Kyushu University told press: "After the oil shock of the 1970s, the government conducted surveys that showed there was clearly more than 20 GW of potential geothermal power. At the time, though, the base cost of geothermal was quite expensive, and it was felt that nuclear power performed the same role."



Ehara added, "In order for geothermal to expand, the government has to make clear that geothermal is a domestic natural resource under the law, and based on that, establish a clear road map for the further introduction of geothermal. "We've got the resources and Japan's geothermal energy technology is world class. If the government takes such action, geothermal will greatly expand."

Kuju Kanko Hotel President Yoshiaki Koike added: "A lot of hot-spring resort owners are opposed to geothermal plants because they're afraid it will hurt their image as a natural paradise." Koike's resort runs on 100% geothermal energy, and he says he and others who advocate are appealing to environmentally conscious consumers.

Philippines: Progress Made on Mabini and Maibarara Geothermal Projects

Basic Energy Corp. and Geoenergy Inc. have signed an agreement for the joint development of the Mabini geothermal energy project. Basic Energy will transfer majority control to Geoenergy, Inc. in exchange for development capital. The steam field located in Batangas could produce 20 MW.

"After the execution of the heads of agreement, a farm-in agreement will be prepared and finalized, pursuant to which Geoenergy shall have the right to acquire up to a 70% participating interest in the project," [Basic Energy told press](#).

Meanwhile, Maibarara Geothermal, Inc. has [signed a loan agreement](#) with Rizal Commercial Banking Corp. and Bank of Philippine Islands for its potential 20-MW plant at the Maibarara site. The company anticipates operations beginning in the third quarter of 2013.

Sri Lanka: Nine Potential Geothermal Sites Identified

Nine potential sites for geothermal power generation [have been identified in Sri Lanka](#), specialist Marell Fonseka told press.

Institute of Fundamental Studies Director Prof. C. B. Dissanayaka added that several studies have been conducted on geothermal power at the sites. With the assistance of specialists from Canada and England, the results have been encouraging, and a final report is expected in mid-2012, he said.

Power and Energy Minister Patali Champika Ranawaka noted the possibilities are there for geothermal power generation in Sri Lanka.



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



Notices

New This Week

Dr. Carl F. Austin, Coso Developer, dies

Dr. Carl F. Austin of Oakley, Idaho passed away on Saturday, Sept. 24, 2011, and his funeral was held Tuesday, Sept. 2 ([see obituary](#)). He was born on July 18, 1932 in Oakland, California, and earned an AA degree at the College of Marin and his B.S., M.S., and PhD at the University of Utah. He taught at the New Mexico School of Mines and then spent 30 years as a civilian scientist for the U. S. Navy.

Austin was involved with geothermal work for the Navy and developed the Coso Geothermal from discovery through full production. It was the second largest geothermal plant in the United States, and the third largest in the world, at the time.

Austin retired to his Oakley ranch and continued geothermal consulting for companies throughout the Western United States and Canada. His obituary lists his survivors: his wife of 58 years, Barbara, his children Miriam Louise Austin, Carl Fulton Austin Jr. (Laura Farris-Austin), Richard Randall Austin (Nina Rose), and 9 grandchildren: Randel Nolan Paulsen (Ashley), Jeffrey Scott Paulsen (Amitie), Carl Fulton Austin III, Shelby Faith Austin, Joseph Ward Austin, Laura DeAnn Austin, Micaela Renee Austin, Richard Ryan Austin, Gabriel Luke Austin, and great grandchild Michael Jeffrey Paulsen.

Current Notices

For Sale: Binary Cycle Geothermal Power Plant

U.S. Geothermal Inc. is seeking indications of interest to purchase the 4.8 MW (gross) binary cycle power plant located near Empire, Nevada. The plant was built in 1986 and consists of four 1.2 MW Ormat Energy Converters ("OEC"), a wet cooling tower, electrical equipment and controls, and associated spare parts, including a spare turbine. After substantial refurbishment during 2009 and 2010, the plant is fully operational, and achieved 98.8% operating availability in 2011. Sale of individual OEC units will be considered. Please contact: Mr. Doug Glaspey at 208-424-1027 or Mr. Chris Harriman at 208-645-2600.





Site Needed for DOE Demonstration, Chena Power

Chena Power is in need of a site location for their DOE Demonstration incorporating a [Pratt & Whitney](#) 280 kW power module and 3 evaporative coolers, placed on 2 low boy trailers, with satellite monitoring. The system requires 20 gallons per minute of water for cooling. Here's an opportunity for testing the production of a reservoir over the next few years and produce electricity for onsite use. Contact Bernie Karl recycle@polarnet.com for more information.

Employment

Employment Opportunities

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

Applicants should apply via our careers website (full job description available there):

<http://www.calenergy.com/common/careers/taleo.asp?c=cal>

Primary Job Duties and Responsibilities

- Maintain an accurate and current reservoir engineering database for the areas of responsibility. This includes maintaining a current set of well production histories, observation of well data, geochemical trends and relevant geological data for the assigned fields.
- Prepare authorization for expenditures (AFE's) and economics for well work and equipment.
- Conduct and supervise well-field related activities that include but are not limited to the following: well acidization, well surveys (static, pressure-temperature-spinner (PTS), caliper), coiled tubing cleanouts, capillary tubing installations and tracer enthalpy testing.
- Develop new and innovative technical solutions to resource and/or drilling related issues as required.
- Diagnose well problems and engineer solutions. This includes using simulation tools to model downhole flow conditions to diagnose well problems and be proactive in preventing possible problems.
- Monitor well-field performance of MidAmerican Energy Company geothermal fields to determine potential problems that could arise and simulate current trends to the future to determine needed changes in operating procedure.
- Coordinate with all professional resource sources to provide a comprehensive interpretation of the company's geothermal and mineral reservoirs. Interpretation should be fully documented for financing.
- Responsible for data collection and analysis of Region 1 shallow heat anomaly to meet regulatory obligations and provide an appropriate management program.
- Responsible for coordinating the development of appropriate software tools to manage the reservoir and production data gathered from the field.



- Provide monthly reporting to California department of oil, gas and geothermal resources on production and injection as well as quarterly reporting to environmental agencies.
- Collect/analyze Pressure-Temperature-Spinner (PTS) and capillary tubing data.
- Must have working knowledge of reservoir simulation to oversee, direct and troubleshoot outside simulations of reservoir for financing and development.
- Develop well flow performance curves.
- Provide engineering analysis and economic models for exploration, development, workover and acquisition projects.
- Provide engineering technical support to CalEnergy Operating Corporation and global MidAmerican Energy Company operations as required.

Qualifications

- Bachelor's degree or higher in engineering, preferably petroleum.
- At least fifteen years of related experience and/or additional resource engineering-related training. Geothermal resource engineering experience is required and some petroleum engineering experience in oil and gas is also desired.
- Effective oral and written communication skills. Ability to read, write, analyze and interpret technical procedures or regulations. Ability to effectively present information and respond to questions from managers and employees.
- Effective analytical, problem-solving and decision-making skills. Ability to work with mathematical concepts such as probability and statistics and complex equations including algebra, trigonometry, geometry, calculus, as well as differential equations. Must have basic computer programming ability and be very fluent in spreadsheet analysis. Must have a solid understanding and be proficient in economic analysis. Must be able to work with math in an abstract way. Must be able to modify and/or derive mathematical equations from physical processes and relationships.
- The employee should be able to solve tough problems and deal with a variety of variables in situations where only limited standardization exists. Employee needs to synergize several inconsistent partial data sets to arrive at abstract answers. Employee should be able to interpret a variety of instructions furnished in written, oral, diagram or schedule form. Ability to visualize and comprehend the dynamic conditions and possibilities that occur during power plant and well-field development and the changes to the process that will occur over time and with proposed changes.
- A valid California driver's license is required.
- Project management skills; ability to prioritize and handle multiple issues and projects concurrently.



- **Research Geologist/Geophysicist, United States Geological Survey**

The USGS in Menlo Park, California, has an opening for a Research Geologist/Geophysicist to conduct research in support of geothermal energy assessments, with a focus on the structural, geomechanical, thermal, and hydrologic properties of fault-hosted hydrothermal systems. Detailed information on the position can be found at <http://tinyurl.com/USGSGeothermalJob>. Individuals must apply online at <http://www.usajobs.gov/> to receive consideration. For more information about the USGS, visit: <http://www.usgs.gov/ohr/great.html>.

Tenure-line Position, Energy Resources Engineering, Stanford University

The Department of Energy Resources Engineering at Stanford University [invites applications for a tenure-line faculty appointment](#). The position is at the assistant professor level. It is desired that the selected candidate be able to start by January 2012. (Application reviews began April 15, 2011)

The Department of Energy Resources Engineering focuses on a wide range of activities related to the recovery of the Earth's energy resources (e.g., hydrocarbons, geothermal, and renewables). The Department also has active research programs on carbon sequestration and clean energy conversions. ERE offers degrees in both energy resources engineering (B.S., M.S., Ph.D.) and petroleum engineering (M.S., Ph.D.). The ideal candidate should have research and teaching interests beyond traditional petroleum engineering disciplines.

We seek scholars with a Ph.D. in a relevant field with novel and innovative research interests in energy resources, such as in one or more of the following areas:

1. Energy systems modeling and optimization, for example integration of energy recovery and carbon sequestration
2. Engineering of enhanced geothermal systems
3. Recovery of unconventional energy resources, such as coalbed gas, shale gas or gas hydrates
4. Renewable energy resources

Please apply online at <https://academicjobsonline.org/ajo/jobs/685/> in electronic format (pdf only) with the following application material:

- cover letter
- curriculum vitae
- a statement outlining research and teaching interests
- the names of three references including e-mail addresses
- copies of up to five selected papers published in refereed journals over the past three years



Requests for Proposals

New This Week

Invitation for Prequalification, Ulubelu and Lahendong Plants, PGE, Indonesia (October 28)

Pertamina Geothermal Energy (PGE)'s pre-qualification documents for contracts related to the Ulubelu 110-MW and Lahendong (Tompaso) 40-MW plants are now available. Interested bidders should respond no later than October 28th, 2011.

Information for potential bidders can be found at the project homepage or see contact information below:

<http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=28424&Projectid=P113078>

Project Officer: Mr. Gatot Suhermanto/ Menara Cakrawala Building, 15th Floor/ Jl. MH Thamrin No 9/ Jakarta 10340, Indonesia/ Telephone: +62 (21) 398 33222/ Facsimile number: +62 (21) 398 33230/ Electronic mail address: pge.group.procurement@pertamina.com

U.S. companies interested in learning more about World Bank procurement guidelines should contact Mr. David Fulton, Advisor & Director of Business Liaison from the U.S. Department of Commerce at the Office of the U.S. Executive Director, dfulton@worldbank.org.

Proposal Announcements

Advancement of Clean Energy - India

The U.S. Agency for International Development in India announces its intent to request proposals for a new energy and climate change program titled Partnership to Advance Clean Energy Deployment (PACE-D). The contract will assist in deploying clean energy technologies, systems and solutions and will accelerate India's transition to a high performing, low emissions and energy secure economy by primarily working on three key components improved end use energy efficiency, increased supply of renewable energy and adoption and accelerated deployment of cleaner fossil technologies and management systems. The RFP will be posted on or about 9/6/11. For more info, contact Sumit Dutta at indiarco@usaid.gov or go to:

https://www.fbo.gov/?s=opportunity&mode=form&id=0cfaa54bb271f1398f93d5b31e6e7f45&tab=core&_cvview=0.

Refer to Sol# 386-11-000002. (FBO 8/14/11)



Emerging Technology Demonstrations – California (October 6)

The California Energy Commission requests proposals for the Emerging Technology Demonstration Grant Program. Through this RFP, CEC seeks to support emerging technologies that are past the “proof- of-concept” stage and are ready to be demonstrated in an industrial setting. Project should target industrial, agricultural, or water energy efficiency areas for cumulative electricity, natural gas, or electricity demand reduction in CA. \$14 million expected to be available, individual awards NTE \$2 million. Abstracts due 10/6/11, final proposals due 12/22/11. For more info, contact Crystal Presley-Willis at Cpresley@energy.state.ca.us or go to: <http://www.energy.ca.gov/contracts/index.html>. Refer to PON# 11-501.

Electric Energy Innovations - California (October 12)

The California Energy Commission requests proposals for the Energy Innovations Small Grant Program - Electricity Program. EISG funds the early development of innovative energy RD&D projects. Projects must target one of the following: Industrial/Agriculture/Water End-Use Efficiency; Building End-Use Efficiency; Environmentally Preferred Advanced Generation; Renewable Generation; Energy-Related Environmental Research; and Energy Systems Integration. Proposed projects must be clearly relevant to CA’s electric market. Individual hardware awards NTE \$95K, individual modeling awards NTE \$50K. Responses due 10/12/11. For more info, contact eisg@projects.sdsu.edu or go to: <http://www.energy.ca.gov/contracts/smallgrant/index.html>. Refer to Sol# 11-02.

Alaska Native Fund (October 15)

The Alaska Conservation Foundation requests proposals for the Alaska Native Fund. The Fund seeks to advance Alaska Native priorities for protecting land and sustaining ways of life. The 2011 priority issues include: Climate Change, Food Security, Sustainable Economies, Energy, and Holistic Wellness. \$100K expected to be available, individual awards NTE \$20K. Letters of Inquiry are required, and are due 7/25/11, final proposals due 10/15/11. For more info, go to: <http://alaskaconservation.org/grant-opportunities/alaska-native-fund/>. (Tribal Climate Change Newsletter 6/2011)

Procurement Notice, Geothermal Clean Energy Investment Project, World Bank, Indonesia

From USTDA: We would like to take this opportunity to pass on the procurement notice for the World Bank’s Geothermal Clean Energy Investment Project, a \$574.7 million investment in new geothermal resource development, and encourage all of those interested to pursue contract and procurement opportunities.

This project will be implemented by PT Pertamina Geothermal Energy (PGE) and will necessitate numerous contracts, including contracts for confirmation of geothermal resources and steam field development, as well as construction of the Steamfield Above-Ground System (SAGS) and power plants of approximately 110 MW and approximately 40 MW at the Ulubelu and Lahendong (Tompaso) geothermal fields, respectively.



Other contract opportunities may include:

- a) FEED Consultant for the design of the steam gathering station and power plant
- b) Supervision Consultant for Infrastructure to supervise the infrastructure works related to the development of certain fields;
- c) Supervision Consultant for EPC to supervise the process of power generation installation.

Consulting services will be procured in accordance with the World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers. Interested bidders should immediately contact PGE, procurement@pgeindonesia.com, and register to receive the Specific Procurement Notices as they are issued. A pre-qualification notice is expected to be released in the month of September.

More information for potential bidders can be found at the project homepage:

<http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P113078>

U.S. companies interested in learning more about World Bank procurement guidelines should contact Mr. David Fulton, Advisor & Director of Business Liaison from the U.S. Department of Commerce at the Office of the U.S. Executive Director, dfulton@worldbank.org.

SCE Launches 2011 Renewable Auction Mechanism Solicitation (November 15)

From SCE — SCE is pleased to announce that it has launched its 2011 Renewable Auction Mechanism [RAM] Request for Offers [RAM RFO] from owners of eligible renewable resource [ERR] Generating Facilities. Information regarding the RAM RFO can be found on the RAM RFO website at <https://sceram.accionpower.com>.

The RAM RFO is open to projects utilizing ERRs with contract capacities not less than 1 MW and not greater than 20MW. Additional Offer qualification criteria can be found in the RAM RFO Participant Instructions [RFO Instructions], available in the Documents section of the RAM RFO website.

To participate in the RAM RFO, Offerors must register on the RAM RFO website as an Offeror and complete prequalification in the Offer Management tab of the RFO website. Only those participants who have completed and met the prequalification criteria may submit an Offer using the Offer Form. Offerors will be notified once the Offer Form has been posted on the RFO website.

Offer Submittal Deadline: Tuesday, November 15. For an Offer to be considered in SCEs 2011 RAM RFO, Offerors must submit complete Offer[s] via the RAM RFO website no later than 12:00 pm Pacific Prevailing Time on Tuesday, November 15, 2011.



RFO Web Conference: SCE will host a RAMRFO Conference via Webex to discuss the RAM RFO process on Tuesday, October 25, 2011. Conference details will be made available on the RAM RFO Web site.

All inquiries regarding the RAM RFO must be posted in the Q and A section of the RAM RFO Web site. SCE representatives will post responses to participants' questions on the RAM Web site.

RE&EE Awards, State Energy Program, DOE

The U.S. Department of Energy requests proposals for the State Energy Program. This program provides formula grants to State and Territorial energy offices to design and carry out renewable energy and energy efficiency priorities. \$39 million expected to be available, up to 56 awards anticipated. Due dates based on state/territorial program years. For more info, contact Sheldon Funk at sheldon.funk@netl.doe.gov or go to: <https://www.fedconnect.net/fedconnect/?doc=DE-FOA-0000507&agency=DOE>. Refer to Sol# DE-FOA-0000507. (Grants.gov 6/23/11)

Sustainability Research Networks, NSF (December 1)

The National Science Foundation requests proposals for the Sustainability Research Networks Competition. Through this competition, NSF, in partnership with other agencies, international efforts, and the private sector, aims to support members of the academic research community for projects which produce discoveries and knowledge that will inform decisions leading to environmental, energy, social and cultural sustainability. \$36 million expected to be available, up to 4 awards anticipated. Preliminary proposals due 12/1/11, final proposals due 4/1/12. For more info, including contacts, go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11574. Refer to NSF 11-574. (Grants.gov 8/25/11)

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

The National Science Foundation requests proposals for Fundamental Research Program for Industry/University Cooperative Research Centers. Areas of interest include, but are not limited to: Energy and Environment; Advanced Manufacturing; Biotechnology; Advanced Materials; and Fabrication and Process Technology. \$1.6 million expected to be available, up to 10 awards anticipated. Responses due 2/1/12. For more info, contact Rathindra DasGupta at rdasgupt@nsf.gov or go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11570. Refer to NSF 11-570. (Grants.gov 8/10/11)

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

The National Science Foundation requests proposals for the following programs, with responses due 2/17/12. :

- Environmental Engineering. The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and



environmental quality. \$9.4 million expected to be available, up to 44 awards anticipated. For more info, contact Paul Bishop at pbishop@nsf.gov or go to:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029. Refer to Sol# PD-12-1440. (Grants.gov 6/8/11)

- Energy for Sustainability. This program supports fundamental research and education in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. Sources of sustainable energy include: Sunlight, Wind/Wave, Biomass, and Geothermal. \$9.2 million expected to be available, up to 42 awards anticipated. For more info, contact Gregory Rorrer at grorrer@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501026. Refer to Sol# PD-12-7644. (Grants.gov 6/8/11)
- Environmental Sustainability. This program supports engineering research with the goal of promoting sustainable engineered systems that support human well-being and that are also compatible with sustaining natural systems. \$5.4 million expected to be available, up to 45 awards anticipated. For more info, contact Bruce Hamilton at bhamilto@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501027. Refer to Sol# PD-12-7643. (Grants.gov 6/8/11)

Events

Happening This Week

Doing Business in Kenya Investment Forum, Washington D.C. (October 4, RSVP Sept. 30)

The Government of Kenya will be hosting a "Doing Business in Kenya" Forum at the margins of the forthcoming Corporate Council on Africa US-Africa Business Summit 2011. The event will be held on Tuesday, October 4th 2011 from 5:00 pm - 8:00 pm at the Omni Shoreham Hotel, Paladian Room, Washington, D.C. RSVP to attend the event by Friday, September 30 via commerce@kenyaembassy.com.

The Doing Business in Kenya Forum will offer participants an opportunity to explore the emerging investment opportunities under Vision 2030 in key sectors such as infrastructure, energy, agribusiness, manufacturing, tourism and ICT sectors. Key investment opportunities and projects will be presented by key Government agencies. The projects include the Nairobi Commuter Rail and Railway Cities, Kenya Airport Authority-Airport Hotel, Capital Markets Authority-SME Diversification, Central Bank of Kenya/Treasury-Infrastructure Bonds, Kenya National Highway Authority (KenHA)-Urban Toll Roads, and the ICT Board-Konza Technology City, near Nairobi.



Soultz Geothermal Conference, Soultz-sous-Forets, France (October 5–6)

The first Soultz Geothermal Conference is scheduled for October 5-6, 2011. The conference will give an overview of the geothermal activity in the Upper Rhine Valley and will focus on various technical and scientific challenges. The status of those geothermal projects will be presented in terms of design, concept, exploration, drilling, exploitation, monitoring, field testing, laboratory experiments and various modeling. Scope of the conference and all the details are presented at: www.geothermie-soultz.fr

Geothermal Power Plant Tour at The Geysers, Calpine Corp. (October 1)

Calpine is offering free tours of a geothermal power plant at The Geysers. Reservations are required and can be made by going to www.geysers.com. Saturday, October 1, Calpine Visitors Center, Middletown CA, Calpine's Community Tour Event, 9 a.m. – 1 p.m.

GEA and GEA-Sponsored Events

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

The GEA Geothermal Energy Expo is the world's largest gathering of vendors providing support for geothermal resource exploration, characterization, development, production and management. It provides a unique opportunity for exhibitors to showcase their projects, equipment, services and state of the art technology to the geothermal community.

“The 2011 Expo is certain to be the largest-ever gathering of the geothermal community,” said GEA Marketing and Events Director Kathy Kent. “Each year the growing geothermal industry comes together for this event and it has become the most vital gathering for companies and leaders developing geothermal resources around the world.” The 2010 Expo in Sacramento featured more than 2,500 attendees from 42 different states and 13 different countries. The sold-out Expo Hall featured 162 exhibitors coming from 34 different states and 10 different countries. Please contact Kathy Kent, Kathy@geo-energy.org for information, registration, sponsorship opportunities, etc.

Sponsorship Opportunities Available for GEA Events

Your company has the opportunity for high visibility at GEA's events. In addition to providing the financial support needed for GEA to undertake successful events, GEA events feature media availabilities with sponsors which garner extensive coverage in mainstream press outlets. Sponsorship details are posted online: <http://www.geo-energy.org/images/GEA2011SponsorshipOpps9.pdf>.



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

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

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

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

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

The 2012 Renewable Energy World North America Conference and Expo event will take place February 14-16 in Long Beach, California — please save the date! GEA is on the planning committee and looks forward to highlighting geothermal energy at the event. If you have attended this in the past and would like to discuss next year's event or offer suggestions for the planning committee please contact Leslie Blodgett at GEA, leslie@geo-energy.org.



Other Events

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

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

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

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

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

CanGEA takes part in the upcoming Global Clean Energy Congress in Calgary November 1-3, 2011 (<http://globalcleanenergycongress.com>) through a geothermal panel, and will hold its Annual Power Forum in the city on November 4, 2011. Details at: www.cangeaevents.ca/calgary

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

Turkey's renewable energy investments will exceed US \$20 billion during the next 5 years. The country ranks Number 2 geothermal energy development potential in Europe and 5th in the world. A new Renewable Energy Law passed on December 12, 2010 increasing guaranteed prices for renewable energy resources, and additional incentives are in place.

Participants in this Trade Mission will gain:

- A senior U.S. Department of Commerce executive will lead the mission and facilitate valuable introductions to key Turkish energy industry decision-makers;
- A U.S. Export-Import Bank representative will travel with the delegation in all three cities and advise the participants on trade finance solutions;
- 10-15 pre-scheduled meetings with potential partners, distributors, end users, or local industry contacts;
- Meetings with key government decision makers and private sector firms;
- Pre-travel webinars on subjects ranging from industry briefings to business practices in Turkey;
- Meetings with CS Turkey's energy specialists in Ankara, Istanbul and Izmir, Turkey;



- Transportation to all mission-organized meetings inside Turkey (all air transportation within Turkey is the responsibility of the mission participant);
- The Trade Mission visit will provide visibility for participating American firms at networking receptions at the U.S. Ambassador's residence and U.S. Embassy press releases

Who should participate?: U.S. renewable energy equipment and systems manufacturers, RE project developers, engineering firms, energy efficiency systems and equipment suppliers, project finance companies, and any other RE & EE companies. Cost for small and medium size firms: \$3.285; large companies: \$4.055. To apply, go to: <http://export.gov/california/kern/trademissions/>.

Contact:

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GEOTHERMAL ENERGY WEEKLY

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

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