

Geothermal Energy Weekly

A publication of the
Geothermal Energy Association

~formerly the GEA Weekly Update~



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February 2, 2010

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National News

President's Energy Budget Invests in Innovation, Clean Energy, and National Security Priorities

On February 1, U.S. Energy Secretary Steven Chu announced details of President Obama’s FY 2011 budget request for the Department of Energy. The \$3.834 trillion budget will add billions more dollars to clean energy research and lower federal fossil fuel subsidies. The budget is focused on research, development and demonstration. The request included \$55 million for R&D, Demonstration, and Deployment of Geothermal Energy, a 25% increase over FY10, for Enhanced Geothermal Systems. “In support of the Secretary’s strategic priorities, geothermal technology increases energy options and reduces dependence on fossil fuels, thereby increasing the flexibility of the market to meet U.S. needs and reduce GHG emissions,” reads the FY2011 Congressional Budget section on geothermal energy.

A DOE release stated:

Washington D.C. --- U.S. Energy Secretary Steven Chu today detailed President Barack Obama’s \$28.4 billion Fiscal Year 2011 budget request for the Department of Energy, highlighting the Administration’s commitment to create jobs with the development of a clean energy economy, invest in advanced science, research and innovation, maintain a strong nuclear deterrent and secure nuclear materials both at home and abroad, and improve energy efficiency to help curb greenhouse gas emissions that contribute to climate change. The FY 2011 budget request also places an emphasis on DOE improving fiscal performance with the proposed creation of a new initiative on Management Reform.

"The President's budget cuts wasteful spending while making wise investments in innovation and clean energy that will put Americans back to work, save families money and keep our nation competitive in the global marketplace," said Secretary Chu. "This budget supports new approaches to energy research and invests in the next generation of scientists and engineers, and it will spark new clean energy projects nationwide, including restarting the American nuclear power industry."

Specifically the President's FY 2011 budget request for the Department of Energy:

- * Positions the United States to be the global leader in the new energy economy by developing new ways to produce and use clean and renewable energy.
- * Maintains effective nuclear deterrence while working to secure all vulnerable nuclear materials around the world within four years.
- * Engages in cross-disciplinary scientific approaches to our energy and national priorities – including innovative and transformative research at DOE's National Laboratories.
- * Expands the use of clean, renewable energy sources such as solar, wind, and geothermal while supporting the Administration's goal to develop a smart, strong, and secure electricity grid.
- * Promotes innovation in the renewable and nuclear energy sectors through the use of expanded loan guarantee authority.
- * Advances responsible environmental management by cleaning up hazardous, radioactive legacy waste from the Manhattan Project and the Cold War.

In developing this budget, several program reductions and terminations are proposed, further demonstrating the Obama Administration's commitment to fiscal responsibility. They include:

- * Eliminating more than \$2.7 billion in tax subsidies for oil, coal and gas industries. This step is estimated to generate more than \$38.8 billion dollars in revenue for the federal government over the course of the next 10 years.
- * Terminating Ultra-Deepwater exploration program, saving \$50 million.
- * Canceling planned expansion of the Strategic Petroleum Reserve, saving \$71 million.

Some additional highlights in the FY 2011 budget include:

- * More than \$217 million in new funding for science research and discovery, including an additional \$40 million for the existing Energy Frontier Research Centers program and \$107 million for Energy Innovation Hubs.
- * \$300 million for the Advanced Research Project Agency – Energy (ARPA-E);
- * Lending authority to support approximately \$40 billion in loan guarantees for innovative clean energy programs.

* More than \$108 million in new funding to advance and expand research in the areas of wind, solar and geothermal energies.

* More than \$550 million in new funding for NNSA's Defense Nuclear Nonproliferation program, which will accelerate the Department's efforts to implement President Obama's commitment to lead the international effort to secure vulnerable nuclear material around the world within four years.

* More than \$624 million increase for the NNSA's weapons activities, helping maintain the safety, security and effectiveness of the nuclear deterrent without underground nuclear testing, renewing our investment in Science, Technology and Engineering programs, and funding major long-term construction projects needed to restore critical capabilities in plutonium and uranium.

See <http://www.energy.gov/news/8588.htm>.

Federal Budget Continues to Feed Geothermal Growth. 2011 Budget Contains 25% Increase in Geothermal Technology Funding

Washington, D.C. (February 2, 2010) – In response to the Obama administration's release of the 2011 federal budget, which includes a 25% increase in geothermal technology funding through the Department of Energy's, the Geothermal Energy Association (GEA) Executive Director Karl Gawell, said:

"The United States is the world leader in geothermal energy production and the industry, with its expected double digit year-over-year growth, will be keeping our nation at the forefront of renewable energy development. We applaud President Obama's emphasis on the need for our country to lead the world in renewable energy during his State of the Union address. His budget's increases funding for geothermal energy showing that this country is serious about developing the new technologies that will ensure energy independence, help sustain our planet, and create jobs."

In addition to the \$55 million requested specifically for geothermal technology development, the President's budget set out Department of Energy funding for which the geothermal industry is poised to compete.

- The budget provides \$300 million for the Advanced Research Projects Agency–Energy to assist in developing game-changing technologies such as the Enhanced Geothermal Systems (EGS) that an MIT report says could prove upwards of 800,000 MW of geothermal power across the United States.
- The budget gives \$500 million in credit subsidy to support \$3 billion to \$5 billion in loan guarantees for innovative energy efficiency and renewable energy projects.
- The budget directs DOE to take the lead in federal efforts to double renewable energy generating capacity by 2012; a target that GEA's most recent report says is possible within the industry.

The budget also included tax credit and permitting initiatives important for geothermal growth. The Treasury Department budget proposes an additional \$5 billion to expand tax credits for new renewable manufacturing

facilities. "This will be an important stimulus for ramping up the domestic manufacturing capacity needed to supply a growing geothermal power industry," Gawell added.

And the budget would add funds for the Department of Interior to speed up permitting geothermal and other renewable projects on public lands, adding \$14 million to the currently \$50 million DOI renewable energy budget. "DOI has set a goal of permitting 9,000 MW of new renewable power by 2011, and we expect geothermal energy to be a significant part of that total," Gawell added.

Bingaman to Hear Testimony on New DOE Budget, Expresses Support for President's Priorities

Press Release, February 1 -- Sen. Jeff Bingaman (D-NM) strongly supports the increases proposed for Department of Energy (DOE) programs in the President's Budget Request for FY 2011 today, which are being proposed against a backdrop of overall budgetary stringency for Federal programs. Bingaman is Chairman of the Senate Committee on Energy and Natural Resources, which has principal responsibility for the DOE.

Bingaman will call the Secretary of Energy, Steven Chu, to testify on DOE's budget before the Committee this Thursday, Feb. 4, at 10.00 a.m. in Room 366 of the Dirksen Senate Office Building. This will be the DOE's first budget hearing before Congress this year.

"This Budget Request is a powerful statement of the priority that President Obama is giving to energy, technological competitiveness and nuclear weapons security imperatives, despite the tough fiscal environment we find ourselves in," Bingaman said. "On most major programs in the department, the President's budget request basically gets it right. I hope that this request attracts vigorous support from everyone who cares deeply about securing our nation's energy future, boosting our economic growth and combating nuclear nonproliferation."

The President's budget request would increase total DOE spending by 6.8 percent over the level in the current fiscal year, to a total of \$28.4 billion. Of this total, \$11.2 billion would be budgeted to the nuclear weapons and nonproliferation missions of the Department, another \$6.2 billion would be devoted to environmental cleanup and radioactive waste management, \$5.4 billion would go to basic science and the Advanced Research Projects Agency-Energy (ARPA-E), and \$4.2 billion would go to energy supply and energy efficiency programs.

"There are a lot of highlights in this Budget Request for the Department of Energy," Bingaman noted. Some of the key ones are:

Ø A near-\$200 million increase in funding for basic energy science research. This funding will increase the number of Energy Innovation Hubs, allow for the creation of new Energy Frontier Research Centers, and provide significant increases to help understand the basic physical phenomena that new energy technologies will be based upon.

Ø A strong follow-through on the promise of the Advanced Research Projects Agency-Energy (ARPA-E), with nearly \$300 million of new funding proposed for transformational, high-risk, high-payoff energy technology projects. This funding will build on the \$389 million provided in the American Recovery and Reinvestment Act one year ago to jump-start ARPA-E.

Ø Major increases in technology funding for solar energy (up 22 percent), wind energy (up 53 percent) and geothermal energy (up 25 percent).

Ø A revitalized nuclear energy research and development effort, supporting a diverse new set of nuclear reactor concepts and enabling technologies at a combined level of nearly \$300 million. The President's proposal includes in this program small modular reactor concepts similar to those proposed in two bipartisan bills now before the Committee.

Ø Strong increases for energy storage and SmartGrid electricity transmission technologies, with nearly \$33 million of new and increased funding proposed.

Ø New funding to expand the DOE Loan Guarantee Program across the board, with \$500 million proposed to subsidize new loans, which could translate to as much as \$50 billion in additional loan volume for renewable energy and energy efficiency projects (depending on the loan subsidy rate – the preceding estimate is based on a subsidy rate of 1 percent). In addition to this, an additional \$36 billion in loan guarantee authority is requested for “self-pay” loan guarantees for nuclear power projects.

Ø A major new initiative to attract into energy technology careers the best and brightest students, technicians, and young researchers, entitled RE-ENERGYSE, which is proposed to start at \$50 million.

Ø Finally, although the defense programs of the DOE are annually authorized through the Senate Committee on Armed Services, the new DOE budget request is notable for ending a decade of relative neglect of these programs by the previous Administration, especially in the area of nuclear nonproliferation (which was targeted for budget cuts in the last budget submitted by the previous Administration for FY 2009). A 26 percent increase, representing new funding of over a half billion dollars, is proposed for Defense nuclear nonproliferation activities in the Department. “We face huge challenges in nuclear nonproliferation worldwide, and in April 2009 President Obama set a goal of securing all the vulnerable nuclear material around the world within the next 4 years. This funding increase is a strong follow-through on that commitment, which is essential to our national security,” Bingaman said.

See http://energy.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease_id=de200d7b-019b-4947-b039-3c4db7ca81a2&Month=2&Year=2010&Party=O.

State of the Union Address. Obama Prioritizes Energy and Climate, Wants Comprehensive Bill

President Obama in his State of the Union address spoke to the Senate to pass a comprehensive bill, inserting climate and energy legislation that places a cost on greenhouse gas emissions near the top of his domestic agenda. "To create more of these clean-energy jobs, we need more production, more efficiency, more incentives," Obama said. He urged lawmakers to tackle climate and energy legislation next, after a jobs bill and new financial rules for Wall Street. Obama mentioned the energy and climate issue ahead of the health care reform effort.

U.S. Senate Committee on Energy and Natural Resources Chairman Jeff Bingaman in a statement said he was pleased that the President continued to urge Congress to enact comprehensive energy and climate reform that creates American jobs, increases our nation's energy independence and reduces air pollution. "I'm pleased that President Obama continues to have energy and its connection to American jobs at the top of his agenda. 'Green and clean' is the best way to create the American jobs of tomorrow, and I look forward to continuing to work with the President on this," Bingaman said.

See <http://www.eenews.net/climatewire/2010/01/28/1>, <http://www.eenews.net/climatewire/2010/01/28/2>, and <http://energy.senate.gov/public/>.

Geothermal Industry Sees Marked Growth in 2009

Press Release, January 25. The Geothermal Energy Association report details industry expansion and investment

The United States continues to lead the world in geothermal energy capacity and growth, the Geothermal Energy Association (GEA) said today in a report that details gains and milestones over the past year. Now considered the largest renewable energy source in California, geothermal energy supplies a total installed capacity of 3,152.72 MW of power to the United States, in states including Alaska, Hawaii, Idaho, Nevada, New Mexico, Utah, and Wyoming.

The report identifies up to 6,442.9 MW of new geothermal power plant capacity under development in the United States in those states as well as Oregon, Colorado, Florida, Louisiana and Mississippi. This pushes the prospects of nearly 10MW of installed capacity in the coming years over a broad section of the nation. At that level, geothermal power will satisfy the needs of over 10 million people in 14 states and still have tremendous growth potential.

This report, which highlights the geothermal industry's growth, status as a green energy source, job creation and investment potential, comes on the heels of GEA's successful Geothermal Energy Finance Forum, an event that brought geothermal development experts and major financial players together in New York City's financial district.

“The Geothermal Energy Industry is experiencing unprecedented growth with double-digit, year-over-year expansion,” said Karl Gawell, GEA Executive Director. “While stimulus money has been driving much of our recent growth, we are also seeing that as geothermal technology pushes forward the economics of these projects really make sense.”

A major source of the geothermal industry’s 46 percent growth in confirmed new power projects over the past year and 33 percent increase in employment was the American Recovery and Reinvestment Act (ARRA) of 2009, which provided up to \$400 million in new funding to implement a wide range of research, development, demonstration and deployment activities. The amount of Federal funding provided to the geothermal industry through ARRA is unprecedented and is spurring the continued development of domestic geothermal resources.

The report identifies up to \$342 million of federal funding currently allocated to 132 geothermal research, development, and demonstration projects in 27 states. When cost sharing among the awardees is accounted for, the amount of dollars allocated to geothermal research and development over the last year increases to approximately \$626 million. Nevada leads the way in ARRA projects with the Department of Energy funding totaling over \$70 million.

The funding is being used to study many emerging geothermal technologies including Enhanced Geothermal Systems (EGS) and Geothermal Hydrocarbon Co-production (GHCP).

Enhanced Geothermal Systems is a new and promising technology, with the report detailing several EGS R&D and demonstration projects are underway in the United States. Development of EGS technology is an important key to unlocking the vast reserves of energy available from the heat of the earth. A report prepared by the Massachusetts Institute of Technology (The Future of Geothermal Energy, January 2006) estimates that hundreds of thousands of megawatts of geothermal power could be produced in the United States alone as a result of pursuing research into EGS systems.

Geothermal Hydrocarbon Co-production brings power from usable geothermal fluids found in oil and gas production fields as well as certain mining operations. The Southern Methodist University Geothermal Energy Program has estimated that GHCP operations in the Texas Gulf Plains have the capability of providing 1000 – 5000 MW of power.

The full report is available at GEA’s Web site at <http://www.geo-energy.org/reports.aspx>.



Atlas Copco: Atlas Copco Expander Generators Producing Geothermal Power at Enel Stillwater and Salt Wells Plants

Press Release, January 25, Santa Maria, California —: Atlas Copco Gas and Process expander generators in Nevada are fully commissioned and capable of producing enough energy to power a medium-sized city.

The six turboexpanders are installed in the Enel Green Power's Stillwater and Salt Wells geothermal power plants near Fallon, Nevada. The two innovative geothermal plants have a total gross installed capacity of 65 MW and will generate more than 400 million kWh of electricity a year and avoid the emission of more than 300,000 tons of CO₂.

"We are proud to be a part of this significant geothermal project and look forward to a continued partnership with Enel. This is one example of Atlas Copco's commitment to expanding our renewable energy product portfolio with a commitment to clean energy." Commented Dre' Schmitz, President, Atlas Copco Gas and Process Division.

The Atlas Copco expander generators were manufactured at Atlas Copco Mafi-Trench Company LLC (formerly Mafi-Trench Corporation) production facility located in Santa Maria, California. The large radial inflow turbines are capable of producing up to 15 MW per unit.

For more, see <http://www.pr.com/press-release/207777>.

Coso Geothermal Power: Fitch Revises Outlook to Positive

Press Release, January 29, New York -- Fitch Ratings has affirmed the 'BBB-' rating of Coso Geothermal Power Holdings, LLC's (CGP) pass-through trust certificates due 2026 and revised the Outlook to Positive from Stable.

The rating is based on CGP's long-term financial performance, which is subject to volumetric risk associated with the productivity of the Coso project's geothermal resource. While recent financial results have fallen short of original projections, the rating affirmation reflects Fitch's expectation that Coso's energy output will return to base-cases levels with the ongoing implementation of an aggressive capital improvement plan. Fitch has evaluated CGP's credit quality on a stand-alone basis, independent of the credit quality of its owners. CGP is an indirect, wholly-owned subsidiary of Terra-Gen Power, LLC (Terra-Gen). Affiliates of ArcLight Capital Partners, LLC and Global Infrastructure Partners, LLC (collectively, the sponsors) indirectly hold 100% of the ownership interests in Terra-Gen.

Coso accomplished a major capital improvement milestone with the completion of the Hay Ranch project, which has been designed to enhance and stabilize steam production through supplemental water injection. Coso expects to realize the beneficial effects of Hay Ranch in late 2010 with full ramp-up in 2011. Apart from Hay Ranch, Coso has made considerable progress with its capital improvement program, which represents an

expansion and acceleration of previously contemplated expenditures. Steam production has started to recover since the 3rd quarter of 2009, and Terra-Gen has indicated that current production is sufficient to support a capacity of 200 megawatts (MW).

See <http://www.earthtimes.org/articles/show/fitch-revises-coso-geothermal-power,1143397.shtml>.

Idaho Power: Idaho Power to Add Geothermal in Energy Portfolio

Idaho Power has submitted a 20-year Integrated Resource Plan (IRP) to state regulators, according to rechargenews.com. The utility plans to add up to 150 MW of wind power and 20 MW of geothermal energy in 2012, and another 20 MW of geothermal in 2016. The utility expects to add about 3,000MW of capacity through 2029 with most of it coming from natural gas and wind. The commission is taking public comment on Idaho Power's plan through 15 April.

See <http://www.rechargenews.com/energy/wind/article204993.ece>.

Nevada Geothermal Power: Inspection of Faulkner 1 Electrical System Reveals Solution to Power Outage

Press Release, February 1 -- Nevada Geothermal Power Inc. (NGP)(TSX.V: NGP, OTCBB: NGLPF), previously reported that its 49.5 MW Faulkner 1 geothermal power plant experienced a power plant outage on January 17, 2010. NGP and its Engineering Procurement and Construction (EPC) contractor which supplied the plant and electrical systems, are working cooperatively to get the plant back on line as expeditiously as possible.

The initial inspection by the EPC contractor has determined that the plant automatically shut down due to a failure in the buried power cable system. Power cables leading outward from the control building were improperly configured, causing excessive heat to build up, leading to eventual cable failure in an isolated portion of the power cable runs. A replacement power cable system is planned to be installed which is estimated to take several weeks to complete. The power plant, including electrical controls, is covered by the warranty provided under the EPC contract.

Development well drilling at Blue Mountain is progressing smoothly and is under budget. Four wells were originally planned. The cost savings will be used to add two new injection wells to enhance the distribution of injected fluids and further augment Faulkner 1 power output.

See <http://www.nevadageothermal.com/s/News.asp>.

Sierra Geothermal Power: Sierra Geothermal Proxy Vote Results in a Win-Win

Press Release, January 26, Vancouver, BC - Sierra Geothermal Power Corp. (TSX-V: SRA) is pleased to announce that, during a shareholder meeting held earlier today, Exploration Capital Partners 2005 Limited Partnership withdrew its proposal that Sierra increase the size of its Board of Directors from six to thirteen. As a result, Mr. Alfred Sorensen, the Chairman of the shareholder meeting, terminated the meeting.

Sierra is also pleased to announce that its Board of Directors, at a meeting held immediately following the termination of the shareholder meeting, has decided to increase the number of its directors from six to eight. The Board has agreed to fill these newly created vacancies by appointing one nominee from each of Exploration Capital and Skyberry Holdings.

Gary Thompson, SGP's President and Chief Executive Officer, said "The results of today's vote are a win-win for Sierra Geothermal shareholders and an endorsement of the current management team and Board. The expanded Board intends to accelerate the pursuit of strategic alternatives with the objective of maximizing value for all shareholders." He added, "I want to personally thank shareholders for voting. There was an outstanding turnout with more than 86% of our shares voted."

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

Vulcan Power: Denham Capital Invests an Additional \$108 Million in Geothermal Developer Vulcan Power Company

Press Release, February 2 -- Vulcan Power Company ("Vulcan"), a developer of geothermal energy projects, and Denham Capital, an energy- and commodities-focused private investment firm, announced today that an affiliate of Denham Capital has invested \$108 million in preferred and common stock of Vulcan. This is the second equity investment in Vulcan by such Denham Capital affiliate and brings its total investment in Vulcan to \$166 million. Other shareholders include a principal investing division of Bank of America Merrill Lynch.

Vulcan's extensive geothermal property portfolio consists of approximately 170,000 acres of prime geothermal properties in Nevada, California, Oregon and Arizona. The new investment will allow Vulcan to continue its ongoing development of properties representing more than 300 megawatts (MW) of estimated geothermal resources from just half of the company's total acreage. This capacity, once operational, will provide baseload renewable energy for up to 300,000 households. The company has long-term power sales contracts with major California and Nevada utilities and transmission access to northern and southern California already completed or underway. The permitting process for two of its project sites is also well underway.

Robert Warburton, acting CEO of Vulcan, commented on the financing: "Geothermal development requires greater capital investment upfront compared to other renewable power projects, but once built, geothermal has significantly lower all-in costs making it very competitive with traditional, non-renewable generation sources. Denham understands both the below ground and above ground dynamics of geothermal development, making them a great resource to Vulcan. This investment ensures Vulcan has the capital to continue the execution of its development program."

According to the Geothermal Energy Association, electricity generation capacity from geothermal energy in the United States is expected to triple within five years, supported by a federal government stimulus allocation of

\$400 million. In coming years installed capacity is expected to be nearly 10 gigawatts, enough to supply 10 million homes.

Scott Mackin, Partner at Denham Capital, said, "Since the initial investment in 2008, Vulcan has progressed its plans to become a premier geothermal power producer which will provide low cost, baseload renewable energy. Vulcan continues to distinguish itself through its large portfolio of attractive properties, its dedicated employees and geological and drilling management. With this new investment, Vulcan is well positioned to continue its progress by complementing its management team with extensive, senior renewable generation experience, fully proving up its steam resources, and commencing construction of its first project. The company also intends to enter into more power purchase and transmission arrangements, and firmly establish itself as a major US-focused, pure play geothermal independent power producer."

Geothermal energy is a renewable power source by which naturally occurring hot water reservoirs are drilled, producing geothermal fluids that can be used as a clean alternative to fossil fuels burned to generate electricity. Geothermal reservoirs are replenished by injecting condensed water back into the reservoir, establishing a long-term renewable energy resource without any emissions of greenhouse gases.

For additional information on Vulcan and geothermal power, go to www.vulcanpower.com. For more information about Denham Capital, visit www.denhamcapital.com.



State News

Colorado: Mines Hosts Colorado Geothermal Symposium

Colorado School of Mines hosted a second annual Geothermal Symposium last week, sponsored by the Colorado Energy Research Institute and cosponsored by the Governor's Energy Office. The event had over two hundred guests from four different countries and ten different states.

See <http://www.oredigger.net/news/744-mines-hosts-colorado-geothermal-symposium.html>.

Colorado: BLM to Auction Steam Beneath Chalk Creek Valley

An article on denverpost.com discusses an 800-acre area in Chalk Creek Valley that will be up for geothermal development at a BLM lease sale February 11. The mineral rights are owned by the federal government though much of the lease acreage is on private land, according to the article; the area was nominated for the sale by an unknown party. Residents voiced concerns over how a geothermal plant will affect their lives and livelihoods. Based on the limited drilling and geochemistry data for Colorado, there are about five likely sites for geothermal plants, said Matt Sares, deputy director of the state Geological Survey.

See http://www.denverpost.com/business/ci_14252604.



International News

Australia. Brisbane Company Receives Grant for Shepparton Drilling

Brisbane-based company Earth Solar Power will explore an area north of Shepparton with initial drilling to be conducted to a depth of 500 m, according to countrynews.com.au. Exploration manager and company director Howard Bassingthwaighte said most geothermal exploration focused on existing petroleum areas where deep drilling had already occurred, but, "We take a frontier-type approach," Mr Bassingthwaighte said. "But it is more that it's an area that little is known about," he said. "We believe there are a couple of geological features present and we are going to take that one step further." The company last week received a \$60 000 Victorian Government grant for the Shepparton drilling operation.

See <http://www.countrynews.com.au/story.asp?TakeNo=201001251979303>.

Australia. Spudding Imminent of Salamander-1 Well at Penola Geothermal Project

Press Release, January 29 -- Panax Geothermal (ASX: PAX) said the spudding of the Salamander-1 well at the Penola geothermal project in Australia was imminent after four months of delays as the contract rig has been fully assembled on the well site and is ready to drill, while also reporting that discussions with potential joint venture partners over the project were ongoing with several parties.

Spudding of the well was delayed for four months due to issues with the contract rig release date and cyclonic inland rains affecting rig transport.

The well is designed to convert part of the independently assessed measured geothermal resources into geothermal reserves, which is the basis for a development decision, expected to be completed within six months from the start of drilling. The well is set to reach a maximum depth of 4,000m, but may be pulled short following confirmation of the intersection of high porosity/permeability zones within the target reservoir.

For more, see <http://www.proactiveinvestors.com/companies/news/3992/panax-geothermal-says-spudding-imminent-of-salamander-1-well-at-penola-geothermal-project-3992.html>.

Canada. ADK/Borealis Geothermal Demonstration Project Selected for Clean Energy Fund

Press Release, January 11 — Borealis Geopower, in conjunction with the Native Community of the Acho Dene Koe, are pleased that our ADK/Borealis Geopower Demonstation Project has been selected and the funding amount is in the range of \$10-20 million. Nineteen successful projects have been selected in response to a call for proposals under the Renewable and Clean Energy portion of the Clean Energy Fund. Up to \$146 million will be invested over five years in these projects to support renewable, clean energy and smart grid demonstrations

with evidence of collaboration among partners and the potential to reduce barriers to technology implementation.

The ADK/Borealis Geothermal Demonstration Project is an innovative renewable heat and power project for a remote community in Ft. Liard, NWT.

It will consist of a geothermal plant which will deliver a minimum of +/- 1 MWe of electrical power (sufficient for ~750 homes or the entire community) and also +/- 1 MWth of direct heat, sufficient to power a local greenhouse complex for local food production.

For more, see <http://www.borealisgeopower.com/news/details/adk-borealis-geothermal-demonstration-project-selected-for-clean-energy-fun/>.

Chile. Ram Power Corp. Wins Two Concessions

Press Release, January 26, Reno NV – Ram Power, Corp. (TSX: RPG) ("Ram Power"), through its subsidiary, Polaris Energy Chile Limitada ("PECL"), is pleased to announce that it has won two geothermal concessions in Chile. The two concessions are known as "Aucan I" and "Laguna Verde". PECL was granted the Chile concessions following a competitive bidding process involving geothermal energy leaders throughout the world. Chile is recognized for having abundant geothermal resources and the Chilean government strongly encourages bringing more geothermal green power into the generation mix. Chile is fast becoming the new frontier for geothermal exploitation and exploration due to world-wide interest. The Aucan I and Laguna Verde hydrothermal systems both exhibit associated high-temperature fumaroles which are features common to large and quality reservoirs.

Concessions

The Aucan I concession is located in Northern Chile, in the First Region of Tarapaca and the Second Region de Antofagasta. The Laguna Verde concession is located in Northern Chile, in the Third Region of Atacama. The total area of the concessions is 247,000 acres. The concessions are close to mining centers with access to roads and transmission line infrastructure. There is the potential for bilateral contracts with the mines which need stable, cost-efficient base load power to replace their expensive power supplies.

For more, see <http://www.prnewswire.com/news-releases/ram-power-corp-wins-two-concessions-in-chile-82668897.html>.

China. Sinopec Commences Commercial Development of Geothermal Resources

Press Release, January 25 -- The China Petrochemical Corporation (Sinopec Group), China's leading oil refiner, said during the weekend that it has started commercial development of geothermal resources as part of its strategy of low-carbon economic growth.

Through its wholly owned subsidiary, Sinopec Star Petroleum, Sinopec has established a joint venture, Shaanxi Green Energy Geothermal Development, with Icelandic company Enx Kina.

The Sino-Icelandic JV was established in Xian Yang in China's northwestern Shaanxi province at the end of 2006 with total registered capital of 99 million yuan. Sinopec and Chinese shareholders hold 51 percent of the company's shares.

The company is engaged in geothermal resources exploitation and utilization as well as the development of related workmanship and technology.

See http://www.tradingmarkets.com/news/stock-alert/geyc_sinopec-starts-commercial-development-of-geothermal-resources-723996.html.

Indonesia. Government Reduces Plan for Geothermal Energy

Indonesia has lowered the planned capacity for geothermal power plants by about 700 MW, after an initial plan for as much as 4,733 MW under the second 10,000 MW power program from geothermal power, according to thejakartapost.com. State power utility PLN recently said the plan will be reduced to between 3,975 MW and 4,077 MW. "After evaluation, we conclude some of the geothermal power plants will be difficult to complete by 2014, because the working areas are still green field sites. Therefore some units will be taken out of the program," Electricity and Energy Utilization director general J. Purwono told reporters Tuesday.

See <http://www.thejakartapost.com/news/2010/01/27/govt-reduces-geothermal-energy-contribution.html>.

New Zealand. Geothermal Power Plan in Discussion for Bay of Plenty

Te Pumautanga o Te Arawa, an organisation which received Treaty settlements worth \$85 million last year, is looking into developing geothermal energy in the Bay of Plenty, according to nzherald.co.nz. the organization has conducted research showing potential production of 500–600 MW per year. Rawiri Te Whare, the organisation's chief executive, is in discussions with two Maori land trusts. A long-term strategy would need to be worked out for a potential collective, Mr Te Whare said. A working party has two months to report back on the issue; if developed, the resource could be a \$2 billion business, the article said.

See http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10622429.

Philippines. Geothermal Plant Down for Maintenance

Mahanagdong geothermal plant was shut down for a 10-day preventative maintenance measure, according to bworldonline.com. Supply shortages began Monday February 1, rotating up to one hour during peak periods for power utilities in Cebu, Negros, and Panay.

See <http://www.bworldonline.com/main/content.php?id=5499>.

Philippines. APC in Talks for Geothermal Power Plant

APC Group Inc. is in talks for a \$300 million, 100-megawatt geothermal plant in northern Philippines, according to their release. The plant is expected to begin operations in seven years. "Energy is a critical industry

and this could turn APC into a growth stock,” said Jonathan Ravelas, strategist at Manila-based Banco de Oro Unibank Inc. “APC is going in the right direction.” The stock jumped 10%, the most in 8 months.

See <http://www.bloomberg.com/apps/news?pid=20601130&sid=amRkXAtRatwg>.

Philippines: Petroenergy Plans 20-MW Power Plant for Mt. Makiling

Petroenergy Resources Corp. plans to develop a 20-MW geothermal plant on the Maibarara geothermal field on Mt. Makiling, planned for 2013, according to business.inquirer.net. The field may have capacity to generate up to 40 MW. The Maibarara geothermal service contract was auctioned by the DOE in October 2009 under the Philippine Energy Contracting Round (PECR). The company said it would allocate \$18 million for the first two years of the service contract.

See <http://business.inquirer.net/money/topstories/view/20100201-250746/20-MW-power-plant-to-rise-on-Mt-Makiling>.



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



Notices

Notices

Colorado ARRA Grant Schedule Posted, Governor's Energy Office

The Governor's Energy Office (GEO) has posted a schedule of anticipated American Reinvestment and Recovery (ARRA) grants to begin in January of 2010. The GEO plans to hold a webinar for each grant solicitation approximately one week after the official posting date. Note: the timeline is subject to change; grants may be pushed back to later dates, but will not open earlier. The schedule is available at

<http://www.colorado.gov/energy/index.php?/resources/category/funding-opportunities/>.

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

U.S. Environmental Protection Agency

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

Highlights include:

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

New sites – all EPA tracked sites in Puerto Rico and landfill sites tracked by EPA's Landfill Methane Outreach Program (LMOP) New renewable energy technologies analyzed – sites with potential for

geothermal (flash and binary power plants and geothermal heat pump); landfill gas energy projects; and photovoltaic (PV) policy driven, which includes sites that have solar potential due to solar-specific state policies in place

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

Download the new Renewable Energy Interactive Map at

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

DOE Issues Final Renewable Energy Loan Guarantee Rules

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

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

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

DATES: This rule is effective December 4, 2009.

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

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

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



Employment

Employment Opportunities

Geothermal Project Manager Opportunity, Idaho

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

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

Interested Candidates, please contact:

Bernadette Klaft at BK Consulting Group Inc.

770-317-2351 bbklaft2@yahoo.com

Project Manager Geothermal Exploration, Europe

Job Description

We are a new geothermal energy company, focused on the exploration and development of geothermal power resources in Europe. In 2010, we will be expanding our investigations of several regions that may host

economic geothermal resources. Our principals are based in Canada and the US and have successfully developed oil & gas, mining and geothermal resources.

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

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

Responsibilities

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

Requirements

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

Location: Europe

Contact: droberts@penderfinancial.com

Exploration Geologist, Western U.S.

The Exploration Geologist is responsible for overseeing the planning and execution of geothermal projects including compilation and evaluation of existing data, new file data acquisition and mapping, integration of disparate data sets, and development of geological occurrence models for geothermal resources. The

exploration focus is the Western U.S., principally California, Nevada, Oregon, and Utah. This role could grow into Exploration Manager for a major geothermal development company.

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

Education, Experience, and Skills Required:

- Bachelor's in Geology from an accredited university is a minimum requirement.
- 10-15 years experience in geothermal exploration, drilling and logging of exploration holes, and conduct of field surveys.
- The successful candidate may be required to spend up to 50% of their time in the field and must be able to withstand the rigors of extreme heat, cold, and wind for short periods of time.
- Travel within the U.S. will be required.

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

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

Senior Director, Business Development, Major Geothermal Company

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

Essential Functions:

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

Education, Experience, and Skills Required:

- Bachelor degree in engineering and MBA
- 10–15 years experience in Sales, Marketing, Business Development or Operations roles (preferably a mix of sales and operations in energy industry)
- Willingness to travel up to 60% nationally and internationally
- Ability to negotiate contracts with potential business affiliates
- Experience in the renewable energy field a strong plus

- Proven track record maintaining confidentiality and dealing with company proprietary information

Contact: Paige Carratturo, Executive Recruiter

Richard Wayne & Roberts

877-236-0899 (direct)

206-855-9746 (fax)

paige@rwr.com

<http://www.linkedin.com/in/paigecarratturo>

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

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

Contact: Ana Karina Rubi de Reyes, Oficial de Consultorias, BCIE–Tegucigalpa, Honduras

Tel. +504-240-2243, Ext. 5214

Fax. +504-240-2228

Visit the BCIE Web site, www.bcie.org – www.cabei.org



Requests for Proposals

RFP Announcements**Seeking Investor, Geothermal Project, Oregon**

“Oregon investment group performing feasibility work at SE Oregon location is seeking one additional early round investor, knowledgeable in geothermal energy exploration preferred, but not required. Project has secure

land block, initial financing, and access to extensive historical database of target site. If interested, contact Peter Hall at Pueblo Valley Geothermal (pbh@bendbroadband.com) for additional details”.

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

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

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

Geothermal Energy Development, Department of the Navy

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

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

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

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

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

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

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

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

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

Electric Efficiency Research – California (February 9)

The California Energy Commission requests proposals for Energy Innovations Small Grant Program (EISG) – Electricity Program, to conduct research that establishes the feasibility of new, innovative energy concepts. Project must address one of the following research areas: Industrial/Agriculture/Water end-use efficiency; building end-use efficiency; environmentally preferred advanced generation; renewable generation; energy-related environmental research; and energy systems integration. EISG provides \$95K for hardware projects and \$50K for modeling projects. Pre-proposal abstracts are optional and are due 1/8/10,

final proposals due 2/9/10. For more info, go to: http://www.energy.ca.gov/contracts/smallgrant/09-03_electricity/index.html. Refer to Sol# 09-03.

International Development Grants (February 12)

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

Environmental Video Contest (February 16)

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

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

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

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

The National Science Foundation requests proposals for Thermal Transport Processes. This program supports engineering research aimed at gaining a basic understanding of the microscopic and macroscopic levels of thermal transport phenomena (heat and mass transfer) in energy conversion and conservation, the synthesis and processing of materials, cooling and heating of infrastructure and equipment, the interaction of industrial processes with the environment, the propulsion of air and land-based vehicles, and thermal phenomena in biological and environmental systems. Responses due 3/3/10. For more info, contact Theodore Bergman at tbergman@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13367. Refer to Sol# PD-10-1406. (Grants.gov 11/16/09)

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

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

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

The National Science Foundation requests proposals for Environmental Engineering. The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and environmental quality. Responses due 3/3/10. For more info, contact Paul Bishop at pbishop@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029. Refer to Sol# PD-10-1440. (Grants.gov 11/16/09)

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

The National Science Foundation requests proposals for Environmental Sustainability. This program supports engineering research with the goal of promoting sustainable engineered systems that support human well-being and that are also compatible with sustaining natural systems. Research in Environmental Sustainability typically considers long time horizons and may incorporate contributions from the social sciences and ethics. Responses due 3/3/10. For more info, contact Bruce Hamilton at bhamilto@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501027. Refer to Sol# PD 10-7643. (Grants.gov 11/16/09)

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

The National Science Foundation requests proposals for Environmental Implications of Emerging Technologies. This program provides support to develop and test the environmental effects of new technologies. The program also supports research on the development and refinement of sensors and sensor network technologies. Responses due 3/3/10. For more info, contact Cynthia Ekstein at acekstein@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501030. Refer to Sol# PD-10-1179. (Grants.gov 11/16/09)

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

Nominations are invited for the 2010 Tech Awards. This program awards individuals, organizations, and companies from around the world that are utilizing innovative technology solutions to address issues pertaining to health, education, the environment, economic development, and equality. Individual awards \$50K each.

Responses due 3/31/10. For more info, go to: <http://techawards.thetech.org/>. (Foundation Center RFP Bulletin 11/6/09)

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

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

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

The U.S. Department of Energy announces its intent to request proposals for the Smart Grid Investment Grant Program. Through this program, DOE seeks to stimulate the rapid deployment and integration of advanced digital technology that is needed to modernize the nation's electric delivery network for enhanced operational intelligence and connectivity. The program will support projects that promote deployment, including development of component technologies. Individual award range anticipated to be \$500K to \$5 million. The RFP will open on or about 6/17/09. Three due dates anticipated: 7/29/09, 12/2/09, and 3/31/10. For more info, contact Donna Williams at Smart-Grid.NOIComments@hq.doe.gov or go to: <https://e-center.doe.gov/iips/faopor.nsf/UNID/39COD96768F2083F8525759A0068F216?OpenDocument> <http://www07.grants.gov/search/search.do?sessionId=9x3VJydGP2TfWHPRK9mfnphLqsWpmITQmDJTzS6XLDp1QJKpb2SM!-1267850137?oppId=46833&flag2006=false&mode=VIEW>. Refer to Sol# DE-FOA-0000058. (Grants.gov 4/16/09)

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&oppId=50515>. Refer to Sol# APS10-005. (Grants.gov 12/7/09)

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

The U.S. Department of Energy, Office of Science, announces its continuing interest in receiving grant proposals in areas including, but not limited to: Basic Energy Sciences, Biological and Environmental Research, and Advanced Scientific Computing. Proposals accepted through 9/30/10. For more info, including program-specific contacts, go to: <https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000179&agency=DOE>. Refer to Sol# DE-FOA-0000179. (Grants.gov 12/4/09)



Events

Added This Week

Imperial Valley Renewable Energy Summit & Expo, March 16–18 (East Imperial Valley, CA)

Geothermal. Wind. Solar. Biomass. 40,000 megawatts of opportunity. It's all here! With an abundance of renewable energy potential, the Imperial Valley will be the source of much of California's green energy. The 2010 Imperial Valley Renewable Energy Summit & Expo will feature industry experts covering a range of topics, a business exposition, networking reception and banquet. For more information, please visit www.ivedc.com or call (760)353-8332.

Imperial Valley Renewable Energy Summit & Expo, "Growing California's Green Economy"
March 16–18, 2010, Quechan Casino Resort, East Imperial Valley, CA

Oregon Geothermal Working Group Meeting, March 23 (Portland, OR)

Please save the date for the next Oregon Geothermal Working Group Meeting.

Date: Tuesday, March 23rd

Time: 8:30 AM - 2:30 PM, includes a lunch break on your own from 11:30 AM - 12:30 PM

Location: Portland State Office Building, 800 NE Oregon St, Portland

Agenda Focus: American Recovery and Reinvestment Act (ARRA) Projects in Oregon

More details and an agenda will be published closer to the date. If you would like to register early for the meeting, please e-mail Linda.Ross@state.or.us with your name and contact information.

Renewables Rendezvous, Power Engineers, March 23–24 (Boise, ID)

1st Annual Renewables Rendezvous, 23–24 March 2010, Boise, Idaho

From Power Engineers. Renewable energy is a hot topic right now, but we've been deep into it since 1987. If you are interested in renewable energy, join us at our Renewables Rendezvous this March for a two-day, technical conference. Whether it's resource, permitting, engineering or interconnection issues, do not miss your chance to learn from industry experts!

For conference topics, registration, and more go to www.powereng.com/news/events/event.aspx?id=549.

Clean Energy and Business Development Mission, U.S. Department of Commerce, May 23–25 (Indonesia)

Secretary of Commerce Gary Locke will lead a business development trade mission to Indonesia in May focused on clean energy deployment. Interested companies and trade associations can apply at

http://www.trade.gov/cleanenergymission/tg_main_002483.asp. The mission should be a great opportunity for the U.S. geothermal industry to further deploy technologies in Indonesia. Contact Ryan Mulholland at Ryan.Mulholland@trade.gov or (202) 482-4693 or email CleanEnergyMission@doc.gov.

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

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

Austin Convention Center

Visit GEA at Booth 813 in the Exhibit Hall!**Sessions in the GEOHERMAL TRACK will be in Room 19A**

Session: GEOHERMAL TECHNOLOGIES AND APPLICATIONS

Date: Wednesday, February 24, 2010

Time: 9:30 – 11:30 AM

Chair: Joe Lillard, Atlas Copco Mafi-Trench

Co-chair: Leslie Blodgett, Geothermal Energy Association

Session description: Geothermal power is one of the largest resources of baseload alternative energy which is expanding its share in the renewable energy market. This session offers presentations and discussions on the current and future technologies to bring more of this reliable, clean and climate-friendly energy on-line.

Oil Production Waste Stream, a Source of Electrical Power

Thomas C. Anderson, Lyle A. Johnson and Everett D. Walker Rocky Mountain Oilfield Testing Center (DOE)

Energy Recovery from Low Temperature Heat Sources, Challenges and Opportunities

Reza Agahi and Behrooz Ershaghi, Atlas Copco Mafi-Trench; Dr. Claudio Spadacini, EXERGY S.r.l.

Effect of Number of Flashing Units on Thermal and Exergy Efficiencies in Flash Geothermal Power Plants

Shahin Amiri and Masoud Ziabasharhagh, McGill University, Shayan Amiri, Khaje Nashir University of Technology

Selection, Installation and Operation of Multiple 15 MW Turboexpanders in a Binary Cycle Geothermal Power Plant

Joseph Lillard and Hasan Adam, Atlas Copco Mafi-Trench Co.; Brad Platt, Enel North America Inc.; (invited)

A Feast of Cycles – Different Plants for Different Resources

Kevin Wallace and Marshall Ralph, POWER Engineers Inc.; William harvey, Reykjavik University

Session: GEOHERMAL RESOURCE DEVELOPMENT AND INVESTMENT – PANEL DISCUSSION

Date: Wednesday, February 24, 2010

Time: 1:30 – 3:30 PM

Chair: Leslie Blodgett, Geothermal Energy Association

Co-chair: Karl Gawell, Geothermal Energy Association

Session description: Panelists will look at the geothermal market from the perspective of investors and development. Challenges will be discussed as well as opportunities.

- Lou Capuano, ThermaSource
 - Halley Dickey, TAS
 - Dennis Gilles, Calpine
 - Dr. Frank Monastero, Magma Energy
 - Marty Olson, SNC-Lavalin
-

Session: GEOHERMAL MARKETS, TRENDS AND POLICIES – PANEL DISCUSSION

Date: Thursday, February 25, 2010

Time: 8:00 – 9:30 AM

Chair: Karl Gawell, Geothermal Energy Association

Co-chair: Joe Lillard, Atlas Copco Mafi-Trench

Session description: Key players in the geothermal industry will approach the markets of geothermal energy in the U.S., will discuss trends and what they mean for the future of this increasingly significant baseload energy source, and will explain how support of geothermal energy in the nation's policy efforts will lead to a cleaner, more self-reliant nation.

- Subir Sanyal, GeothermEx Inc.
- Thomas King, U.S. Renewables Group
- Dan Fleischmann, Ormat

- John A. McKinsey, Stoel Rives
- Karl Gawell, Geothermal Energy Association

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

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

UC Davis Campus

California Geothermal Forum

Hosted by the California Geothermal Energy Collaborative

May 12, 2010

8 am – 5 pm

Mondavi Center, UC Davis, Davis, California

The California Geothermal Energy Collaborative will be holding the 2010 California Geothermal Forum (formerly called the Summit) on May 12th as part of the UC Davis Energy Institute's UC Energy Week 2010.

The California Geothermal Forum will feature panels of recognized experts discussing:

- The current status of new transmission infrastructure
- The evolving California energy and environmental landscape – updates on draft California Air Resources Board (CARB) efforts, RPS and AB32/Green House Gas goals and what they mean for geothermal energy
- Community-scale geothermal efforts – distributed generation, hybrid applications and incentives

Over the last two years numerous changes have affected how California views and uses energy. Attendees will have an opportunity to hear about the current direction of technology, regulations and incentives that affect the use of geothermal energy. Leaders from the regulatory, industrial, utility, R&D and county/city/community arenas will discuss their perspectives regarding this dynamic and challenging time for the use of geothermal energy in the state.

A Tuesday evening reception from 5–7 p.m. will be a free event at the UC Davis Conference Center. It will provide an informal venue for participants from all areas of renewable energy to meet and discuss topics of mutual interest.

The program and registration forms will be available at a later date at <http://cgec.ucdavis.edu/>

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

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

GEA Trade Show and GRC Annual Meeting, October 24-27 (Sacramento, CA)

Why Should You Attend GEA Events?

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

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

Geothermal Energy Weekly

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

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