



# GEO THERMAL ENERGY ASSOCIATION

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## GEA UPDATE June 18, 2007

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## National News

### **Senate Energy Legislation: Tax Credit Extension, RPS, National Geothermal Initiative Being Debated**

#### ***Baucus’ Energy Tax Incentive Package Extends PTC Two Years, Amendments Expected That Will Benefit the Geothermal Industry***

As the U.S. Senate debates a new energy bill, Montana’s senior U.S. Senator Max Baucus unveiled his tax incentive package for developing clean energy, which provides incentives for developing clean and green power, alternative vehicles and biofuels, and clean coal technologies. Baucus is chairman of the powerful Senate Finance Committee, which has jurisdiction over all taxes and revenue. Baucus said he expects the Finance Committee to take up his tax incentive package next week, and that the provisions could ultimately be folded in to the larger energy measure before the Senate.

“I want to do all I can to lessen our dependence on foreign oil and boost energy production here at home,” Baucus said. “This tax incentive package will encourage cleaner, greener energy and will help create more good-paying jobs.”

The bill would, among other things, boost domestic energy production by:

- Extending for two years and modifies the clean energy production tax credit (Section 45) for renewable energy producers, providing a tax credit for every kilowatt hour added to the energy grid. Baucus intends to expand this extension through 2013.
- Accelerating depreciation for transmission lines connecting renewable energy facilities to the grid. Builders of transmission lines can write off 50 percent of equipment costs in the first year of use.
- Establishing Clean Coal Bonds to encourage clean coal efforts by co-ops, tribes, and municipalities.
- Extending through 2010 the 30 percent investment tax credit for residential solar projects (Section 25D), and increases the limit to as much as \$4000 per recipient.

On June 19, the Senate Finance Committee will mark-up the energy tax bill. Several key amendments related to geothermal energy are anticipated:

- Senator Jeff Bingaman (D-NM) will offer an amendment extending the PTC further.
- Senator Olympia Snowe (R-ME) will offer an amendment to establish a 10% tax credit for geothermal exploration costs, based upon Section 104 of S. 1531 (the Reid-Allard-Salazar tax bill)
- Senator Gordon Smith (R-OR) will offer an amendment that will allow facilities to qualify for the PTC once they are under construction, also based upon the language in Section 101(b) of S. 1531. Senator Hatch (R-UT) may be cosponsoring this amendment.

For more information, please visit <http://baucus.senate.gov/newsroom/details.cfm?id=277060&&>.

### ***Senator Tester Introduces Geothermal Amendment on Senate Floor***

The National Geothermal Initiative Act of 2007, proposed by the Senate Committee on Energy and Natural Resources Chairman, Sen. Jeff Bingaman, D-N.M., was introduced as an amendment to the energy bill now pending before the Senate by Senator Tester, D-MT. The amendment was also co-sponsored by Majority Leader Harry Reid, D-Nev., Senators Lisa Murkowski, R-Alaska, Ted Stevens, R-Alaska, Ken Salazar, D-Colo., Olympia Snowe, R-Maine, and Orrin Hatch, R-Utah. The amendment sets a goal of 15 percent of U.S. electricity from geothermal by 2030 and authorizes \$75 million next year for geothermal research, then \$110 million per year through at least 2012.

Senator Tester told his colleagues on June 14<sup>th</sup>: “Geothermal energy is something that is clean, it is efficient, it is, in fact, renewable and can fight climate change. Once again, this amendment will do several things to help our geothermal energy potential: It supports research and development, development and demonstration of commercial applications of geothermal energy projects, it supports State cooperative development programs, and it supports research and development of commercially viable applications. It advances high pressure and high temperature drilling so we can get into the zones that best have geothermal potential, and it prioritizes discovering and characterization of geothermal resources.”

Senator Tester earlier had said: “If there’s a renewable resource in Montana more plentiful than wind, it’s geothermal energy. Earth has been giving off energy for billions of years, and it’s ours for tapping in to. This measure gives geothermal energy the attention it deserves, and it will help make Montana a leader in energy development.” Tester noted that Montana researchers are already experimenting with geothermal heating, using warm water in abandoned mine shafts to heat buildings in Butte.

Senator Bingaman said about the geothermal initiative legislation, "It is critical, with our nation's ever-increasing energy needs, that new sources of clean energy be developed and utilized. S.1543 does just that by creating and implementing new research and development programs for a clean, renewable energy source with great potential."

### ***Murkowski Expresses Her Support for National Geothermal Initiative***

Citing Alaska’s successful geothermal energy project at Chena Hot Springs near Fairbanks, Murkowski said, “When you look at the potential for geothermal power, it only makes sense that we improve the technology and reduce the cost of tapping earth’s inexhaustible heat supplies to fuel electricity. Geothermal power offers the possibility of relatively inexpensive, domestic power without any carbon emissions. Chena Hot Springs successful use of geothermal energy demonstrates the potential for other Alaskan communities to also develop their geothermal resources.”

The Chena geothermal power plant, which came online in July 2006, was estimated to reduce the cost of power production in the semi-remote location from 30 cents per kilowatt-hour to less than 7 cents per kilowatt-hour. For more information, please visit <http://www.petroleumnews.com/pntruncate/128656153.shtml>.

## ***Debate Over Federal RPS***

On June 13, Energy and Natural Resources Chairman Bingaman proposed a Renewable Portfolio Standard (RPS) amendment to a broad energy bill (H.R. 6) now pending before the Senate. Bingaman's RPS would require that renewables provide 15% of US electricity by 2020. On the same day, Pete Domenici, the ranking Republican on the committee, introduced his own amendment, backed by five other Republicans. His Clean Portfolio Standard (CPS) included a 20% target, but allowed new nuclear plants and certain coal projects, such as those that capture and sequester carbon. Further, utilities already operating nuclear plants would face a lower standard. On 14 June, the Senate voted 56 to 39 to table Domenici's amendment, effectively killing it unless a majority of senators agree to bring it to another vote. Bingaman has said Domenici's plan "does very little" to promote new technologies and is "a recipe for business as usual."

Despite derailing Domenici's amendment, it is uncertain whether or not Bingaman will be able to gather the 60 votes needed to proceed to a vote on his RPS amendment. The RPS proposal and the larger energy bill could be voted on by the Senate during the week of 18 June. Sen. John Kerry, D-Mass., meanwhile, announced plans to offer an amendment to increase the RPS to 20 percent by 2020.

Because of the potential impasse related to RPS/CPS legislation, some insiders believe the Senate may not be able to agree on a final bill soon. In a recent press release, Senate Majority Leader Reid made a statement on June 15 "signaling his intent to keep the Senate in session until work is finished on the energy bill."

### ***Domenici Press Release "Evidence That RPS Will Burden Consumers"***

U.S. Senator Pete Domenici, ranking member of the Senate Energy and Natural Resources Committee, said that evidence was mounting that consumers would face a multi-billion dollar burden if a federal renewable portfolio standard is adopted. Domenici released the results of a study commissioned by the Edison Electric Institute, the association of U.S. shareholder-owned electric companies, that reports that nationally, the cost of a federal RPS would be \$175 billion through 2030. "A federal RPS discriminates against states that don't naturally have resources like wind," he said. "The burden on taxpayers in the 27 states that cannot meet the federal RPS will be substantial. To view the press release, please visit [http://energy.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease\\_id=235315&Month=6&Year=2007](http://energy.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease_id=235315&Month=6&Year=2007).

### ***EIA Report: RPS to Increase Electricity Prices by 0.9% by 2030***

On June 11 the DOE's Energy Information Administration (EIA) issued a report, requested by Bingaman, estimating the RPS would increase electricity prices by an average 0.9% by 2030, compared with 2005 prices. At the same time, the RPS would lower natural gas prices 0.1% because renewables would replace some of that fuel for power generation, reducing demand. By 2030, annual electricity sector carbon dioxide emissions would drop by 222 million metric tonnes, or 6.7%, according to EIA. To view the report, please visit [http://tonto.eia.doe.gov/FTPROOT/service/sroiaf\(2007\)03.pdf](http://tonto.eia.doe.gov/FTPROOT/service/sroiaf(2007)03.pdf).

### ***Bush Would Veto US Senate Energy Bill -White House***

The Renewable Fuels, Consumer Protection, and Energy Efficiency Act of 2007 is up for debate on the Senate floor this month and is touted by Democratic leaders as a way to reduce the nation's dependence on foreign oil, protect consumers from being gouged at the pump and strengthen U.S. energy security. The White House, while agreeing with the goal, slammed most of its key provisions.

It warned the president is also likely to veto the bill if it is modified to include several controversial amendments such as one expected to be offered by Sen. Herb Kohl, D-Wis. Kohl's so-called "NOPEC" proposal would allow the Justice Department to take action against members of the Organization of

Petroleum Exporting Countries for collusive practices in setting the price of oil. The White House also criticized a key provision in the wide-ranging Senate energy bill that would require vehicle fuel-efficiency standards to average 35 miles a gallon by 2020 for passenger cars and light trucks. The administration said it would oppose proposals to mandate that utility companies use more renewable energy, arguing that they would result in higher electricity costs for consumers in areas of the country where renewable resources are less available. Efforts to add a windfall profits tax to the Senate bill would also be opposed by the administration. The administration also voiced concerns about energy efficiency provisions and recommended that lawmakers modify provisions aimed at boosting production of renewable energy. About the Bingaman RPS amendment, the white house said that such a mandate "ignores the energy and economic needs of the states," the White House said. "Standards are best left to state discretion."

The White House recommended that lawmakers accelerate the timeframe for achieving its target and make the mandate technology-neutral. The Bush plan would have allowed liquid coal and electricity to qualify as alternative sources of energy while the Senate bill proposal focuses on renewable energy.

*For more information, please visit*

<http://news.fxclub.com/forex/news?action=view&id=3393245&key=d691ae9b19b36ef790f6bf44f109bd75784f9d5a>

## **House Science Committee Takes Action on Advanced Geothermal Bill – HR 2304**

### ***Industry Applauds House Science Committee Passage of Advanced Geothermal Research Bill***

Washington, D.C. - US geothermal industry leaders applauded the House Science Committee today for passing HR 2304, the Advanced Geothermal Energy Research and Development Act, sponsored by Rep. Jerry McNerney (D-CA). "By passing HR 2304 today, the House Science Committee has taken a major step towards putting America on a sustainable energy path," stated Karl Gawell, the Executive Director of the Geothermal Energy Association.

"The House Science Committee bill advances key recommendations made by the Western Governors' Association's Geothermal Task Force," stated Dan Schochet, Vice President of Ormat Nevada and Chair of the Task Force.

"This legislation establishes a program that will help develop the science and technology needed to utilize the vast untapped geothermal resources of our nation," Gawell added. According to recent reports from the National Renewable Energy Laboratory, the Massachusetts Institute of Technology, and GEA, geothermal resources hold the potential to produce large quantities of electric power, gas from geo-pressured resources, and heat energy.

In the full Science Committee mark-up today, the Committee adopted an amendment offered by Rep. Ralph Hall (R-TX) that adds specific provisions for a demonstration program for oil field co-production and a "design competition" and demonstration program for geopressured resource production. "With the advancement in binary turbine technology and the increased drilling for oil and gas exploration, Texas is primed for geothermal development," according to Dr. David Blackwell of Southern Methodist University.

HR 2304 as passed by the Committee today would authorize \$90 million annually from FY 2008 through FY 2012 for an advanced geothermal research program, and directs DOE to include in that program:

- Advanced Hydrothermal Research;
- Industry Coupled Exploratory Drilling;
- Subsurface Components and Systems Research;
- Reservoir Performance Modeling Research;
- Research to Support Geothermal Meeting The "Highest Practicable" Environmental Standards;
- Enhanced Geothermal Systems (EGS) Systems Research;
- EGS Reservoir Stimulation Research;
- EGS Demonstration Projects;

- Co-Production and Geopressed Research;
- Co-Production Demonstrations;
- Geopressed Design Competition And Demonstration Program;
- National Centers for Geothermal Technology;
- Geopowering America; and
- Regular Reports by The Secretary on Other Advanced Uses Of Geothermal Energy

Gawell also noted that “It was refreshing to see such strong bipartisan support for the legislation.” At the Subcommittee mark-up last week, Chairman Lampson (D-TX) and Ranking Republican Member Inglis (R-SC), and in full Committee Chairman Gordon (D-TN) and Ranking Republican Ralph Hall (R-TX), all spoke in support of the bill.

The hearing was attended by around 20 Representatives. Besides the amendment put forward by Representative Hall and agreed upon by the Committee, a total of nine amendments were offered by Reps Bartlett (3 amendments), McCaul (1 amendment), Biggart (2 amendments), and Matheson (1 amendment). Most of these proposed relatively minor changes (for example, one of Bartlett’s amendment changes “Geopower” to “Geopowering”). All but two amendments were agreed upon. The first not agreed upon, from representative Biggart (R-Ill), would have removed section 8, which establishes geothermal centers, and readjusted the bill so that Geopowering America was responsible for the activities that would have been carried out at the Centers. The other Amendment not passed was put forward by Rep. Matheson (D-UT). Matheson’s amendment would have authorized \$5 million annually through 2012 to fund the Intermountain West Consortium. Because this amendment was introduced only minutes before the markup took place, Rep. Gordon requested that Matheson withdraw the amendment. Matheson acquiesced.

### ***Selected Remarks from Members at the Science Committee Full Markup***

Rep. Gordon (Chair, D-Tn): HR 2304 is designed to address an overlooked opportunity and increase national security. ...I’ve seen firsthand the benefit of geothermal. It needs to be expanded, and this is really a good program. I urge the passage of this bill. ...This is a good bill. Everyone should go home and take credit for it. ...I expect unanimous support.

Rep. Hall (Ranking member, R-Tx): [*When asked to comment about the bill, Hall’s remarks were, in their entirety:*] This bill is great. *He went on to say, later in the markup,* My amendment will fill a major gap in pending legislation. If the effort is successful, geothermal could help double the recoverable resource in the US. ...The development of these resources has obvious national security implications.

Rep. McNerney (Bill sponsor, D-CA): Geothermal should be an important part of the global warming solution. It is one of the only sources that provides a constant source of fuel. ...Recent studies show that geothermal is vaster than we previously imagined. This bill offers a way to combat climate change, domestically produce energy, and create jobs. Geothermal is real and its; good.

Rep. Woolsey (D-CA): The Geysers provides electricity for 1 million homes and the city pumps treated waste water for use at the facility. I’m 100 percent for this legislation.

### ***McNerney Geothermal Energy Bill Clears Next Legislative Hurdle***

Washington, DC – Congressman Jerry McNerney’s (CA-11) geothermal energy bill, which would authorize research and development funding for cutting edge, 21<sup>st</sup> century geothermal energy, today unanimously passed the full House Committee on Science and Technology.

“Enhanced geothermal systems offer tremendous potential to fulfill this country’s growing energy needs,” said Rep. McNerney. “This bill allows us to tap into that promise to expand renewable options and truly move in the direction of energy independence.”

A recent report by the Massachusetts Institute of Technology, entitled *The Future of Geothermal Energy*, estimates that new Enhanced Geothermal Systems (EGS) may provide more than 100 Gigawatts of affordable energy over the next 50 years in the U.S. alone. That's enough energy to power as many as 75 million homes.

And unlike other renewable resources that depend on daylight or wind, geothermal provides "baseload" power, which means that the source is uninterrupted and constant, running day and night, 365 days a year.

Dr. Jeff Tester, one of the lead MIT researchers on *The Future of Geothermal Energy* report, in testimony before the House Science and Technology Committee in April addressed the vast potential for geothermal energy.

"In fact, many attributes of geothermal energy, namely its widespread distribution, base-load dispatchability without storage, small footprint, and low emissions, are very desirable for reaching a sustainable energy future for the United States," Dr. Tester reported.

"Expanding our energy supply portfolio to include more indigenous and renewable resources is a sound approach that will increase energy security in a manner that parallels the diversification ideals that have made America strong," Dr. Tester concluded.

Rep. McNerney agreed, noting, "Geothermal energy is readily available and clean, which will help address the problem of global climate change, and is domestically produced, which will help lead to the creation of a new energy technology economy."

The bill, the Advanced Geothermal Research and Development Act of 2007, H.R. 2304, expands existing geothermal energy programs at the Department of Energy and authorizes \$90 million a year for fiscal years 2008 to 2012 to fund research, development, demonstration, and commercial application of new geothermal technologies.

Enhanced Geothermal Systems, in which manmade geothermal reservoirs are created where they do not exist naturally, is different from more conventional geothermal energy, currently in use today.

The bill also calls for the creation of two Centers for Geothermal Technology Transfer to function as geothermal information clearinghouses. One center will be located west of the Rocky Mountains and one to the east, given the vastly different geophysical characteristics of the United States. The centers will be located at institutions of higher learning.

The Advanced Geothermal Research and Development Act of 2007 today passed the House Science and Technology Committee. The bill passed the Energy and Environment Subcommittee last week.

### ***Committee Advances Legislation to Develop Geothermal and Ocean Energy Research***

(Washington, DC) - Members of the House Science and Technology Committee furthered their commitment to diversifying the country's energy supply by approving two bills designed to boost research and development into geothermal and ocean energy technologies.

Each of the two bills was previously reported by the Energy and Environment Subcommittee during a June 6 meeting.

"These two bills are designed to address overlooked opportunities in our efforts to create a 21<sup>st</sup> century energy policy that emphasizes good American jobs, diversifies supply, bolsters national security, and reduces environmental impact," said Committee Chairman Bart Gordon (D-TN). "But they require support for research and development in order to advance to a state of commercial readiness."

Rep. Jerry McNerney (D-CA) introduced HR 2304, *the Advanced Geothermal Energy Research and Development Act of 2007*. The bill would authorize \$90 million a year for fiscal years 2008-2012 for research and development (R&D) of technologies to locate and develop geothermal resources.

"Geothermal resources, and enhanced geothermal systems in particular, offer tremendous potential to fulfill this country's growing energy needs," said Rep. McNerney. "This bill allows us to tap into that promise to expand renewable options and truly move in the direction of energy independence."

Geothermal energy is heat from the Earth's core trapped in the Earth's crust. In locations where high temperatures meet underground fluid-filled reservoirs, the hot water or steam produced can be used to generate clean, emission-free electricity or to directly heat buildings or greenhouses. The US Geological Society estimates there are between 95,000 and 127,000 megawatts of hydrothermal resources sufficient for electric power generation in the U.S., but experts that indicate while the potential is vast, it is largely untapped. The potential for Enhanced Geothermal Systems, which rely on intervention to create reservoirs in places where natural reservoirs do not exist, is even larger.

The bill would also establish a research program, coordinated with the Environmental Protection Agency, to identify potential environmental impacts of geothermal energy production and to research, develop and test technologies to mitigate or avoid adverse environmental impacts.

### **Reid Introduces Renewable Energy Tax Bill, Touts NAS Fallon Geothermal Project**

Sen. Harry Reid said his recently introduced renewable energy bill, S. 1531, would "create up to 3,300 Nevada jobs and at the same time reduce the country's dependence on foreign oil." The bill would, among other things:

- create a ten-year extension of the renewable energy production tax credit and Clean Renewable Energy Bonds (CREBs)
- create a new CREBs-like program for water conservation projects in rural communities
- create an investment tax credit for geothermal exploration expenditures
- create significant new tax credits for solar investment
- give zero-interest bonding authority to Nevada's school districts to purchase renewable energy projects

Reid focused attention on the proposed legislation by pointing to examples of innovative clean energy projects currently under way in Nevada during a recent press teleconference. "It's a good bill, not a perfect bill, but a good bill," said Reid. "If you look around Nevada we're surrounded by energy Ð wind, solar, geothermal. Our country's basic ingenuity we have not been using."

Reid pointed to a geothermal project at Naval Air Station Fallon as an example of the kinds of projects that are needed to reduce greenhouse gases, lower energy costs to consumers and reduce dependence on imported oil. The Navy, which has been exploring the potential for geothermal development at NAS Fallon for the past 20 years, has contracted with Ormat to develop a 30 megawatt geothermal power plant on the south end of the base's 8,400 acres, according to NAS Fallon Captain Scott Ryder. Ormat will build and run the plant and pay the Navy a percentage of the proceeds from electricity it produces. The plant when it is built in the next couple of years will produce more than enough power to run the naval base, although its primary purpose will be to feed electricity into the power grid, for which the Navy will receive royalty payments.

"From my perspective it's like having a great big backup generator," said Ryder, noting that currently the base is not immune to power outages, although mission critical operations like air traffic control and runway lights have their own generators. Ryder said the geothermal project is one example of the Navy's and the federal government's commitment to renewable energy. "Entities of the federal government are and have been working on green energy initiatives for a long time," he said. "The federal government is green energy friendly."

In addition to credits for alternative energy development, Reid's bill includes punitive measures for oil companies who engage in price gouging. Those measures include windfall profits taxes designed to push oil companies to invest in new oil refineries to increase the supply and lower the price of gasoline. Together these measures will create new construction jobs in Nevada and lower energy costs for consumers, Reid said. This is "a big deal for Nevada consumers," he said. *For more information, please visit <http://www.nevadaappeal.com/article/LF/20070612/News/106120024/-1/REGION> and <http://reid.senate.gov/newsroom/record.cfm?id=275738>.*

## **Sustainable Energy Coalition Expo Features Geothermal, Other Renewable Resources**

The 10<sup>th</sup> Annual SEC Expo took place on June 14 in the House Cannon Office building. A variety of exhibitors were featured, including GEA, Ormat Technologies, and UTC Power. Jonathan Weisgall spoke on behalf of the geothermal industry at a panel focusing on US Competitiveness. He agreed with other speakers about the importance of long-term, sustained federal support through the use of "carrots" such as a production tax credit. He concluded during a Q&A that a PTC offers the best incentive for geothermal energy development. Other speakers throughout the day included the Mayor of Ann Arbor, an official from a small town called "Biotown," Assistant Secretary of Energy Karsner, and Chair of the House Renewable Energy Caucus Representative Udall. Attendance was not as high as in prior years, as several energy events coincided with the Expo. The event was considered a success by most organizers because of the high quality of the speakers, the impressive turnout at the evening reception, and the steady flow of staff throughout the exhibits when they were open. *For more information, please visit <http://www.google.com/calendar/event?eid=aDMzc2tqY3RmbmlkZ2o5N3VtNXI0Z21iczOgc3VzdGFpbmFi bGVlbmVyZ3ljb2FsaXRpb25AbQ>.*

## **Oil Substitutes Sharply Increase Emissions, NRDC Reports**

The mounting quest for oil alternatives threatens drastic increases in heat-trapping global warming pollution and severe impacts on popular habitats across the United States and Western Canada unless clear safeguards are adopted quickly, according to a new analysis released recently by the Natural Resources Defense Council (NRDC). The warning comes as lawmakers are facing growing pressure to give new subsidies and other incentives to companies involved liquid coal, oil shale and tar sands.

Western Resources Advocates (WRA), a group active on the oil shale issue in the American west, joined NRDC in authoring the report, as did the Pembina Institute, a Canadian energy and climate change research organization based in Alberta. All three groups are calling for a better path forward through increased fuel efficiency, and the use of renewable, cleaner fuels. The report, *Driving It Home*, is available online.

The report recommends establishment of a low carbon fuel standard for all new oil alternatives, regardless of what they are made from. And to reduce the need for such measures in the first place, they urge lawmakers to improve fuel economy performance standards for vehicles, and increase use of biofuels like cellulosic ethanol, to achieve a future energy supply that is both clean and sustainable. *For more information, please visit <http://www.nrdc.org/media/2007/070611.asp>.*

## **BLM Posts "Notice of Intent To Prepare PEIS"**

In the June 13 Federal Register, BLM has posted its official "Notice of Intent To Prepare a Programmatic Environmental Impact Statement for Leasing of Geothermal Resources" for eleven western states. The notice directs people to the new PEIS website (which also has a link to the official federal register notice): [http://www.blm.gov/wo/st/en/prog/energy/geothermal/geothermal\\_nationwide.html](http://www.blm.gov/wo/st/en/prog/energy/geothermal/geothermal_nationwide.html).

Because it is expected that those opposed to geothermal development will actively participate, supporters of geothermal energy development are encouraged to participate in the process by attending scoping meetings.

The announced locations and dates for scoping meetings are:

| <b>City (State)</b> | <b>Date (2007)</b>    | <b>Location</b>   |
|---------------------|-----------------------|---|
| Anchorage (AK)      | Wednesday,<br>July 25 | Alaska Energy Authority (Lobby)<br>813 W Northern Lights Boulevard<br>Anchorage, AK 99503                       |
| Boise (ID)          | Tuesday,<br>July 10   | Boise Public Library (Auditorium)<br>715 S. Capitol Boulevard<br>Boise, ID 83702                                |
| Denver (CO)         | Monday,<br>July 9     | PPA Event Center<br>2105 Decatur Street<br>Denver, CO 80211   |
| Missoula (MT)       | Monday,<br>July 30    | TBD   |
| Phoenix (AZ)        | Wednesday,<br>July 11 | Burton Barr Central Library (Lecture Room)<br>1221 N. Central Avenue<br>Phoenix, AZ 85004                       |
| Portland (OR)       | Monday,<br>July 23    | Gresham Library (Community Room)<br>385 N.W. Miller Avenue<br>Gresham, OR 97030                                 |
| Reno (NV)           | Tuesday,<br>July 17   | Jot Travis Student Union (Manzanita Room)<br>University of Nevada, Reno<br>N. Virginia Street<br>Reno, NV 89511 |
| Sacramento (CA)     | Wednesday,<br>July 18 | California Energy Commission (Hearing Room A)<br>1516 Ninth Street<br>Sacramento, CA 95814                      |
| Salt Lake City (UT) | Monday,<br>July 16    | Main Library<br>210 East 400 South<br>Salt Lake City, UT 84111  |
| Santa Fe (NM)       | Thursday,<br>July 12  | Main Building (Jemez Room 1)<br>Santa Fe Community College<br>6401 Richards Avenue<br>Santa Fe, NM 87508        |

## **AL Gore Installs Geothermal Heat Pump**

Gore, stung by criticism over his house's energy efficiency, says renovations are almost complete to make his a model "green" home. "This plan has been in the works for a long time," the environmental activist and former vice-president said. This year a conservative group criticized Mr Gore, citing electricity bills that were far more than the typical Nashville home. Records showed the Gore family paid an average monthly electricity bill of about \$1400. Included in the renovation is the installation of a geothermal system that will, among other things, drastically reduce the cost of heating his pool. *For more information, please visit <http://www.news.com.au/heraldsun/story/0,21985,21878545-663,00.html>.*

## **Company News**

### **Glitnir Bank: Pushes for US Sustainable Energy Market**

San Francisco, CA, June 15, 2007 -- At the first meeting of the Geothermal Energy Association in San Francisco in May, Glitnir Bank was keen to voice its support for the development of the geothermal energy market. Magnús Bjarnason, the bank's Vice President, declared, "The US market is extremely attractive for

us. The number of megawatts earmarked for delivery from geothermal energy is on the increase, 50 percent higher than just six months ago.”

Glitnir are no strangers to renewable energy. The Nordic bank’s strength in the niche sector has been built up through years of experience in financing domestic energy projects in Iceland - a country that gets 99.9% of its electricity from renewable energy sources. Glitnir’s largest geothermal project so far has been financing the development of the world’s largest district heating utility in Xianyang, China, yet the recent appointment of Morten Bjørnsen as head of Nordic operations, with his extensive experience from the energy sector, may well usher in further large-scale energy projects in the future.

The Glitnir Vice President added at the meeting that, “to US officials and project consortiums seeking investment, Glitnir has the right combination: a proven track record and size – over USD 31 billion [EUR 23 billion] in assets. Our experience and capital mean that we are poised to be the investor and trusted advisor of choice in the ‘new frontier’ of geothermal energy in the United States”.

With geothermal power plants in Iceland reporting substantial profits, Glitnir is no doubt keen to tap into the growing US geothermal energy market which is currently valued at between USD 1.3 billion (EUR 1.0) and USD 1.7 billion (EUR 1.3) a year. A new office in New York will greatly help Glitnir along the way, as will its team of highly specialized bankers who focus entirely on the renewable energy market. *For further information on Glitnir and their expertise in sustainable energy visit: [www.glitnirbank.com](http://www.glitnirbank.com).*

### **Ormat: Announces Closing of Sale of Part-Ownership Interest in Certain Geothermal Power Projects to Institutional Equity Investors**

RENO, Nevada, June 12, 2007 - Ormat Technologies, Inc. (NYSE: ORA) today announced that on June 7, 2007 its wholly-owned subsidiary, Ormat Nevada Inc., concluded a transaction to monetize production tax credits resulting from certain of its geothermal power projects by bringing in affiliates of Morgan Stanley & Co. Incorporated and Lehman Brothers Inc., as institutional equity investors to own the projects jointly with Ormat Nevada. The projects involved in the transaction include Desert Peak 2, Steamboat Hills, and Galena 2, all located in the state of Nevada. Ormat Nevada received \$71,800,000 from the sale of the part ownership interest in the projects to the institutional equity investors. The transaction also involves a second closing that is expected to occur by April 2008, subject to certain conditions, at which time Galena 3, another Ormat geothermal power project that is currently under construction in Nevada, will be brought into the joint ownership vehicle. Ormat Nevada expects to receive an additional amount of approximately \$46,600,000 (subject to certain adjustments) in connection with such second closing.

Under the transaction structure, Ormat Nevada established a new subsidiary, OPC LLC ("OPC"), transferred the subject geothermal power projects to OPC, and sold limited liability company interests in OPC to the institutional equity investors. Ormat Nevada will continue to operate and maintain the projects and will receive initially all of the distributable cash flow generated by the projects until it gets back the capital it has invested in the projects, while the institutional equity investors will receive substantially all of the production tax credits and the taxable income or loss, and the distributable cash flow after Ormat Nevada has been returned its capital. Once the institutional equity investors reach a target after-tax yield on their investment in OPC, Ormat Nevada will receive substantially all of both distributable cash and taxable income. Ormat Nevada also has the option to buy out the investors' remaining interest in OPC at the then-current fair market value or, if greater, the investors' "capital account" balance in OPC. Should Ormat Nevada exercise this purchase option, it would thereupon revert to being sole owner of the projects.

Commenting on the transaction, Dita Bronicki, President and Chief Executive Officer of Ormat, said: " We are very happy to be able to utilize another tool to finance our growth plans, through the more efficient and timely use of the production tax credit and the accelerated depreciation, which we would not have been able to do using a traditional project finance vehicle."

Ormat Nevada was advised by Capstar Partners Capital LLC and BNP Paribas Securities Corp. in connection with the structuring and placing of the transaction. *To view the press release, please visit*

<http://www.ormat.com/news-and-events/new-releases/07::06::12---ormat-technologies,-inc.-announces-closing-of-sale-of-part-ownership-interest-in-certain-geothermal-power-projects-to-institutional-equity-investors.html>.

## **Polaris Geothermal: Concession Upheld, Drilling to Begin in Aug – Nicaragua**

Toronto-based renewable energy company Polaris Geothermal reported, according to an online news source, that Nicaragua's attorney general has issued a resolution upholding Polaris' San Jacinto-Tizate geothermal concession. Earlier this year, the attorney general issued a resolution to review the concession over alleged irregularities that could have led to the annulment.

Polaris has received a letter from Nicaragua's energy and mines ministry acknowledging the new resolution, the company said in a statement. Given project delays, the company and the ministry also reached agreement on an addendum to the concession agreement. The agreement includes a schedule for drilling and plant construction to increase installed capacity first to 35MW and subsequently to 85MW, when the two existing back-pressure turbo generators would be removed from service to leave 75MW installed capacity. Production from the facility is expected to be sufficient to achieve production of 66MW, which Polaris can sell under its take-or-pay power purchase agreement to distributors Disnorte and Dissur. Mobilization of drilling contractors is underway for the first four wells required for the expansion to 35MW, with drilling of the first scheduled to begin in August. *For more information, please visit <http://www.bnamericas.com/story.jsp?sector=10&noticia=395944&idioma=I>.*

## **Raser: Secures Option To Develop Geothermal Properties In California**

Raser Technologies, Inc. (NYSE Arca: RZ) announced today that it has entered into an option agreement to develop geothermal resources in Southern California for the production of clean, renewable electric power.

Under the option agreement, Raser has the exclusive right to enter into a joint venture with a geothermal resource owner in Southern California. Raser's decision to exercise its option is predicated upon finalizing its geological studies. Should Raser exercise its option, Raser will have full control of the development and operation of the power plant. In exchange for these and other rights, Raser will pay to the geothermal resource owner profit sharing payments based on a sliding scale for up to 300 megawatts of capacity. Other financial terms of the agreement are not disclosed.

"We are very optimistic about the potential of this California resource," stated Brent Cook, Raser's CEO. "There are many indications that this resource holds sufficient geothermal heat to generate substantial amounts of clean, renewable electric power for the Southern California market. Should we exercise our option, it will represent our first resource acquisition outside of Nevada and Utah." *For more information, please visit <http://www.rasertech.com/news/scripts/full-news.php?1181664360>.*

## **Raser: Geological Report in Utah Identifies Three Drilling Targets**

PROVO, Utah--(BUSINESS WIRE)--Raser Technologies, Inc. (NYSE Arca: RZ) announced today that an independent geological study has identified three target drilling areas located on portions of Raser's leased properties in Southern Utah. The geologists judge the sites to be suitable for developing geothermal power plants for the production of clean, renewable electric power.

The identified sites are believed by the geologists to hold sufficient geothermal resources to support 80 to 165 megawatts of electric power generating capacity, enough to power approximately 100,000 homes. In completing the study, the geologists conducted on-site geological assessments and analyzed geological maps and models, satellite photography, well logs, temperature and chemical analyses of existing hot springs and mineral mining activity. In the regions encompassed by the study, there are several known hot springs, warm springs, seeps and wells.

Brent Cook, Raser's CEO, stated, "The geothermal resources at these sites appear to have temperatures and other characteristics that fit very nicely into our strategy to build clean, renewable electric power plants using advanced binary cycle technology. The geologists have validated our beliefs about these Southern Utah sites. We look forward to developing these sites as part of our goal to initiate the development of approximately 100 megawatts of power generating capacity per year for the first three years and 150 megawatts per year thereafter."

The advanced binary cycle technology that Raser intends to employ in the development of geothermal power plants uses water-based geothermal resources of generally lower temperature, ranging from approximately 200 to 360 degrees F. In the advanced binary system, warm geothermal fluid is pumped to the surface and channeled into a heat exchanger. The geothermal water is then used as a source to heat another "working fluid," which then vaporizes to turn a turbine generator. After the heat transfer process is complete, the cooler water is returned to the reservoir in the Earth. The advanced binary method efficiently converts more commonly found low temperature water resources into power through the use of working fluids that have a low boiling point; the binary method also produces zero emissions. If properly managed, a geothermal resource is sustainable and renewable. *For more information, please visit [http://home.businesswire.com/portal/site/google/index.jsp?ndmViewId=news\\_view&newsId=20070618005673&newsLang=en](http://home.businesswire.com/portal/site/google/index.jsp?ndmViewId=news_view&newsId=20070618005673&newsLang=en).*

### **Sierra Geothermal Power: Skyberry Holdings Ltd. Invests in Sierra Geothermal Power Corp.**

Toronto, Ontario [RenewableEnergyAccess.com] Skyberry Holdings Ltd. of Nassau, Bahamas, has acquired 16,000,000 units of Sierra Geothermal Power Corp. in connection with Sierra's brokered private placement, the closing of which was announced by Sierra June 4. Skyberry acquired these units for investment purposes and may, from time to time, acquire additional securities of Sierra or dispose of such securities as it may deem appropriate. For further information call Mr. Sasha Jacob, c/o Jacob & Company Securities Inc. at (416) 866-8300. *For more information, please visit <http://www.renewableenergyaccess.com/rea/news/story?id=48851>.*

### **Climate Change News**

#### **G8 Leaders Agree to Set New Global Greenhouse Gas Goals**

The world's eight leading industrialized nations—Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States—agreed recently to set a global goal for reducing emissions of greenhouse gases. During the annual summit for the Group of Eight (G8) in Germany, the leaders committed to taking "strong and early action to tackle climate change in order to stabilize greenhouse gas (GHG) concentrations at a level that would prevent dangerous anthropogenic (human-caused) interference with the climate system." The leaders will also "consider seriously" the commitment by the European Union, Canada, and Japan to cut global GHG emissions in half by 2050.

However, the group did not commit to German Chancellor Angela Merkel's goal of a 50 percent emissions reduction by 2050. The agreement represents increased US involvement in international efforts to curb GHG emissions. "It is a very positive outcome..." said Yvo de Boer, the head of the U.N. Climate Change Secretariat in Bonn. British Prime Minister Tony Blair described the deal as a "major step forward."

The group agreed to develop a global framework for a new deal on GHG mitigation by the end of next year, and affirmed the importance of carbon reduction by developing economies. The G8 identified the diversification of energy supplies, increasing energy efficiency, addressing deforestation, and establishing emissions-trading systems as useful approaches to climate change mitigation.

The G8 agreement calls on all parties to actively and constructively participate in the United Nations' Climate Change Conference in Indonesia in December to develop a comprehensive agreement that includes

all major GHG emitters and would take effect after 2012, when the Kyoto Protocol expires. It also calls for all major emitters to agree on a new global framework for GHG reductions by the end of 2008, which would lead to a global agreement under the United Nations Framework Convention for Climate Change (UNFCCC) by 2009. The plan was welcomed by the executive secretary of the UNFCCC and was endorsed by the Group of Five countries with emerging economies, namely Brazil, China, India, Mexico, and South Africa. *For more information, please visit <http://www.reuters.com/article/newsOne/idUSL0725754520070607>.*

## **Pelosi Against Bill Aimed to Block Emissions Restrictions**

House Speaker Nancy Pelosi (D-CA) opposes a measure introduced by Rep. Rick Boucher (D-VA) that would prevent states from imposing auto pollution standards "designed to reduce greenhouse gas emissions." Pelosi said, "Any proposal that affects California's landmark efforts to reduce greenhouse gas emissions... will not have my support. Any legislation that comes to the House floor must increase our energy independence, reduce global warming, invest in new technologies to achieve these goals and create good jobs in America." The EPA currently has the authority to regulate greenhouse gas emissions from automobiles. States must obtain a waiver from the EPA in order to set their own rules, and California is currently seeking such a waiver. The proposed measure would set a uniform Federal standard for all states. California Gov. Arnold Schwarzenegger and the governors of seven other states joined in a letter Thursday to Boucher, objecting to the new legislation. "Congress must not deny states the right to pursue solutions in the absence of federal policy," they said. "This bill will pre-empt California's passenger vehicles and light-duty trucks emission standards, which will reduce greenhouse gas emissions by 30 percent. *For more information, please visit <http://www.signonsandiego.com/news/politics/20070605-1924-ca-energy-pelosi.html>.*

## **Australia Prime Minister Announces Climate Plan**

Australian Prime Minister John Howard announced a shift in policy on climate change, promising to set up a carbon trading scheme to cut pollution. Mr. Howard said he would set a target next year for limiting greenhouse gas emissions and also pledged to put in place a carbon trading scheme by 2012. He does not plan to reveal his targets until next year, once the economic costs of carbon trading have been fully studied. "Implementing an emissions trading scheme and setting a long-term goal for reducing emissions will be the most momentous economic decision Australia will take in the next decade," Mr. Howard said at his Liberal Party's annual meeting. "If we get this wrong it will do enormous damage to the economy, to jobs and to the economic well-being of ordinary Australians, especially low-income households." *For more information, please visit <http://news.bbc.co.uk/go/em/-/2/hi/asia-pacific/6716429.stm>.*

## **UN Warning Over Global Ice Loss**

A new United Nations Environment Program (UNEP) study warns that hundreds of millions of livelihoods will be affected by declining snow and ice cover as a result of global warming. The study concluded that melting glaciers in Asia's mountains could affect an estimated 40 percent of the world's population, who rely on ice melt for crop irrigation and drinking water. It said that if emissions of greenhouse gases continued unabated, the massive ice sheets were likely to become unstable as the world continued to warm. Without taking measures to mitigate sea level rise, an estimated 145 million people, primarily in Asia, would be exposed to the risk of flooding.

UNEP chief Achim Steiner said the report showed that time was running out for political leaders to reach a global agreement on curbing emissions. "The report underlines that the fate of the world's snowy and icy places in a climatically challenged world should be cause for concern in every ministry, boardroom and living room across the world," he said. "The missing link is universal political action. Today's report should empower the public to take their leaders to task [and] should empower them to ask how much hotter it has to get before we act." *Reported by EESI. For more information, please visit <http://news.bbc.co.uk/go/em/-/2/hi/science/nature/6713139.stm>*

## **How Much More Rain Will Global Warming Bring?**

A new research study published in Science magazine suggests that scientists have underestimated the effect of climate change on precipitation. A team of scientists looked at satellite observations over the past two decades and found that on average, rain and snow have increased about six percent per degree Celsius of warming, around three times faster than predicted by computer models used by scientists to simulate climate.

"If the planet continues to warm like it's doing, it may indicate that indeed there may be more rain in our future than scientists thought," said the lead author of the study physicist Frank Wentz of Remote Sensing Systems in Santa Rosa. The increase in rain very well could benefit certain dry areas on the planet," Wentz said. "And it could very well be harmful for places that are already very wet and would have a greater risk of flooding." *Reported by EESI. For more information, please visit [http://www.insidebayarea.com/argus/localnews/ci\\_6036153](http://www.insidebayarea.com/argus/localnews/ci_6036153)*

## **State News**

### **Alaska: Naknek looks to Geothermal Energy**

The electric co-op Naknek Electric Association, located in the Southwest Alaska community of Naknek, plans to drill for a geothermal energy source that could power electricity generation for as many as 30 communities in the region, the NEA's general manager Donna Vukich told Petroleum News on June 12. After identified three potential sites, NEA now needs to do some 3D seismic surveying down to depths of 15,000 feet, to pinpoint a target for deep drilling. The company doesn't anticipate drilling to 15,000 feet, but needs the seismic data to extend below the likely drilling depth, Vukich said. Oil company Shell has been assisting NEA with geologic and seismic expertise, to help interpret well data from the region and plan the seismic operations, Vukich said.

"So far NEA has financed 100 percent of the cost of the work we've done," Vukich said (according to the NEA web site the company has invested about \$400,000 in the project). The company is seeking financial assistance, although the NEA board is sanctioning the seismic work with or without external funding. And once NEA has found a geothermal source, the development of a power plant and electricity transmission network would involve major expense. The transmission network forms a major component of the project costs and Vukich said that NEA would use a phased approach to extending out the network, starting in the Dillingham area. NEA would start with a 25-megawatt plant and would expand the plant capacity in 12.5-megawatt increments to 50 megawatts, in tandem with extending the transmission network across the region. *For more information, please visit <http://www.petroleumnews.com/pnfriends/881351375.shtml>.*

### **California: New Report Compares Costs of Central Station Power Generation**

The CEC has released a draft staff report that compares costs of central station power generation. The CEC abstract accompanying the report states:

"In this 2007 report of the cost of generation of electricity for California located technologies, California Energy Commission staff provides levelized costs, including the cost assumptions, for eight conventional and 20 alternative central station generation technologies. These levelized costs are useful in evaluating the financial feasibility of a generation technology and for comparing the cost of one technology against another. These cost of generation estimates represent one of the first of such efforts based substantially on empirical data collected from operating facilities. The combined cycle and simple cycle costs are the result of a comprehensive survey of actual costs from the power plant developers in California who built power plants between 2001 and 2006. The other costs are based on actual costs and surveys of expected costs from experts in the field. For this reason, staff expects these estimates to have improved accuracy relative to other such estimates. The Energy Commission's Model is also unique in that it has two features not commonly found in cost of generation models: screening curves and cost sensitivity analysis curves. The

Energy Commission also uses the fixed cost data of the Model in conjunction with the variable cost information of a production cost market simulation model to produce wholesale electricity costs, which are necessary to many related resource planning studies at the Energy Commission, including Retail Electricity Price Forecasts, Global Warming Evaluations and Electric Vehicle Studies for the AB 1007 Report.”

Written comments must be submitted by June 22. A final staff report should be available in July. *To read the report, visit*

[http://www.energy.ca.gov/2007\\_energy/policy/documents/index.html#061207](http://www.energy.ca.gov/2007_energy/policy/documents/index.html#061207).

## **Nevada: Reid Says State to Become Leader in Renewable Energy**

With its abundant sunshine, reliable winds and geothermal reserves, Nevada is poised to become a leader in renewable energy, U.S. Senate Majority Leader Harry Reid said recently. Reid, D-Nev., is supporting two U.S. Senate bills that he said would increase Nevada's independence from foreign oil while promoting the state's renewable energy industry.

In a conference call to promote the Renewable Energy Tax Bill and the National Geothermal Initiative Act of 2007, Reid was joined by representatives from federal, state and local agencies that have invested in renewable energy projects. Reid tied the state's renewable energy projects to the nation's safety: “Anything we do to lessen our dependence on foreign oil strengthens our national security,” he said. But the development of nuclear power projects did not fall under the category of “anything.” When the time came to take questions from the media, Reid brushed aside a reporter's query about nuclear power. “It's a very controversial matter,” he said. “I'm not sure that this is the time to bring it up.” *For more information, please visit* <http://www.elynews.com/articles/2007/06/13/news/news03.txt>.

## **Oregon: Enacts Tough Renewable Power Requirement**

Oregon Gov. Ted Kulongoski recently signed into law a renewable portfolio standard that requires 25 percent of power delivered by the state's biggest utilities be made from renewable sources by 2025. Oregon is the last of the three Pacific Coast states, which includes Washington and California, to establish an RPS. Oregon plans to have steps along the way to 2025. It set targets for 5 percent by 2011, 15 percent by 2015, and 20 percent by 2020.

Two investor-owned utilities -- Portland General Electric and PacifiCorp., a Berkshire Hathaway Inc. unit of Mid-American Holdings Co. -- and one publicly owned utility, Eugene Water and Electric Board (EWEB), are affected. Portland Gen with about 800,000 customers delivers 43 percent of Oregon's power, PacifiCorp with about 550,000 customers delivers 30 percent and EWEB with about 85,000 customers delivers 6 percent. Utilities that do not deliver at least 3 percent of the state's electricity will have to meet less demanding targets. To be counted, the renewable sources must have not been in operation after Jan. 1, 1995. Utilities will not be required to comply with the standard if the result will be a rise of more than 4 percent in ratepayer charges. *For more information, please visit* <http://www.planetark.org/dailynewsstory.cfm/newsid/42502/story.htm>.

## **International News**

### **Australia: Area Surveyed for Geothermal Energy Sites**

Federal Government scientists have started surveying the Cooper Basin in south-west Queensland Australia in a search for geothermal hot rocks. The aim is to locate radioactive sedimentary layers up to three kilometers below the surface that can be used to generate geothermal energy. Potential sites will undergo drilling to assess the level of heat available. Geoscience Australia's Dr Ian Lambert says the data provided will lower the risks to future exploration. “We're trying to give more definitive information on where companies should be looking,” he said. “The previous exploration has been based on general assumptions.

"We're hoping that the future exploration after this survey will be based more on factual information on what is present under the sub-surface." *For more information, please visit <http://www.abc.net.au/news/newsitems/200706/s1944660.htm>.*

### **England: Geothermal Application to be used in London Public Transportation Stations**

In 2003, the Mayor of London offered a £100,000 reward for the best idea to cool the London Tube, which can reach temperatures that feel over 100°F. As a result, later this year work will start on a trial at Stockwell station to put into place a geothermal heat pump system. If the London Underground trials are successful, their impact on the public's consciousness, could be a considerable boost for the viability of geothermal technology over alternative green sources of energy, a Mining News Article Reported. *For more information, please visit [http://www.mining-journal.com/gdi\\_magazine/gdi\\_Mag\\_Breaking\\_News.aspx?breaking\\_news\\_article\\_id=2791](http://www.mining-journal.com/gdi_magazine/gdi_Mag_Breaking_News.aspx?breaking_news_article_id=2791).*

### **Indonesia: Company to put Five Geothermal Projects out to Tender**

The Indonesian government will invite bids in August for five geothermal projects as part of the effort to boost electricity supply in less-developed regions, says an official. The projects will have an estimated combined capacity of 455 megawatts (MW), comprising 160 MW in Seulawah, Nanggroe Aceh Darussalam, 75 MW in Maluku, 120 MW in Telaga Ngebel, East Java, 50 MW in Ungaran, Central Java, and 50 MW in Tampomas, West Java.

The Energy and Mineral Resources Ministry's director general of geology and mineral resources, Simon Sembiring, said that the ministry was awaiting a ministerial decree that would set out general provisions and tendering procedures for the geothermal business as a whole. The decree was likely to be issued next month, Simon said, and after that the Finance Ministry was expected to complete its discussions on how much geothermal energy promoters would have to pay in royalties. The government has also formed a team tasked with coming up with a formula to determine an economically feasible ceiling price for both investors and the sole power purchaser state-owned electricity firm PT PLN.

Indonesia, which has the geothermal energy potential to produce over 27,700 megawatts of electricity, or 40 percent of the world's reserves, has only seven geothermal plants with a combined capacity of a mere 852 megawatts. Meanwhile, Pertamina director for geothermal energy Bambang Kustono said the state oil and gas firm is set to spend \$22.5 million on drilling two new wells at a geothermal plant in Lumutbalai, South Sumatra, and three wells in Ulubelu, Lampung. The drilling work is scheduled to be completed in 2008. *For more information, please visit [http://www.bkpm.go.id/en/news.php?mode=baca&info\\_id=6328](http://www.bkpm.go.id/en/news.php?mode=baca&info_id=6328).*

### **New Zealand: \$68 Million Boost for Ngawha Geothermal Power Station**

An expanded Ngawha Geothermal Power Station could provide 75 percent of the Far North's electricity needs, Energy Minister David Parker says. Mr Parker visited Top Energy's Ngawha Geothermal Power Station, about 7km north-east of Kaikohe, to see first-hand how it works.

Recently, with Mr Parker's backing, the Commerce Commission granted Top Energy approval for a \$68 million expansion of the station. The approval was needed to give the company an exemption from ownership restrictions under the Electricity Industry Reform Act, which bars lines companies from owning power generating plants and selling electricity. Top Energy plans to boost its maximum electricity output at Ngawha from 12 to 25 megawatts by adding a new geothermal generating plant, already under construction. The company already had an exemption from 1998 allowing it to retain ownership of its original 12MW plant. The latest exemption, granted for the expanded plant, allows for another future expansion to a maximum output of 42MW which would supply nearly all electricity needs to the Far North's 55,000 population. An expanded Ngawha power station could be running by August 2008. Mr Parker said Far North-based Labour list MP Shane Jones had convinced him the expanded plant should get

approval through the regulatory process. Mr Jones said the Ngawha plant had initially been contentious, with concern from local hapu about the effects on the geothermal resource. But, he said, monitoring had shown that the station had no impact on Ngawha's geothermal fields. *For more information, please visit <http://www.northernadvocate.co.nz/localnews/storydisplay.cfm?storyid=3737288>.*

### **Philippines: Geothermal Agency to be Privatized This Year**

The Philippine National Oil Company (PNOC)-Energy Development Corp (EDC) will be fully privatized this year, said PNOC-EDC president Paul Aquino. Likewise, the PNOC-EDC board approved amendments to the company's articles of incorporation, particularly the increase in authorized capital stock, by way of creation of preferred shares. Although the PNOC remains confident the transaction will take place in the next two months, Aquino has not set a time frame but targeted the privatization within this year. The company is an integrated geothermal steam and electricity producer accounting about 60 percent of the country's total installed geothermal capacity of 1,905 megawatt (MW). At present, the PNOC-EDC has four existing geothermal production fields, namely, the Bacon-Manito Geothermal Production Field (150MW), Leyte Geothermal Production Field (701MW), Southern Negros Geothermal Production Field (192MW) and Mindanao Geothermal Production Field (106MW). (MSN/Sunnex) *For more information, please visit <http://www.sunstar.com.ph/static/man/2007/06/18/bus/oil.agency.to.be.privatized.this.year.exec.html>.*

### **Notices and RFPs**

#### **BLM Competitive Geothermal Lease Sale, Idaho and Utah Combined, June 20, 2007**

BLM has announced a combined geothermal lease sale for certain lands in Idaho and Utah. The sale will take place on June 20<sup>th</sup>, 2007, at BLM's Utah State Office in Salt Lake City. For information contact Tracy Cron in the BLM Idaho State Office at 208-373-3886 or Connie Seare in the BLM Utah State Office at 801-539-4111, or go to: <http://www.blm.gov/id/st/en.html> or <http://www.blm.gov/ut/st/en/prog/energy/geothermal.html>.

#### **SRP Seeks Proposals for Research of Geothermal Energy Potential in Arizona (Due June 29)**

Phoenix-based Salt River Project is issuing a Request for Proposals (RFP) to assess the potential for geothermal development in Arizona. The solicitations are an attempt to study the availability and viability of geothermal resources in Arizona for the purpose of electric generation. SRP is seeking to retain a consultant that will identify and assess – from geological information already existing in the public domain, held by the consultant or commercially available – the potential of geothermal as a resource in Arizona and locations in the state that may be suitable for the development of geothermal-based electric generation. In order to participate in the RFP process, bidders need to submit a signed Nondisclosure Agreement (NDA) to SRP by June 29, 2007. *To request a copy of the NDA, please contact Bob Kostyk at (602) 236-6918 or [Bob.Kostyk@srpnet.com](mailto:Bob.Kostyk@srpnet.com).*

#### **Energy Institute Accepted Entries for Organizations that Set New Standards of Excellence and Innovation (Deadline June 29)**

For the last seven years, the Energy Institute has recognized individuals and organizations in the global energy industry for setting new standards of excellence and innovation. The 8 categories cover a broad range of areas which enables companies and projects of all sizes, across the wide energy spectrum to compete against each other.

The eight categories are:

- Communication sponsored by AMEC
- Community Initiative
- Environment sponsored by Total
- Innovation sponsored by ExxonMobil
- International Platinum sponsored by TNK-BP
- Outstanding Individual Achievement Award sponsored by Norman Broadbent
- Safety sponsored by Shell
- Technology sponsored by BG Group

Full details of all the criteria as well as an entry form are available at [www.eiawards.com](http://www.eiawards.com).

## **DOE Loan Guarantee Program - Comments Due July 2**

DOE has released its Notice of Proposed Rulemaking for the loan Guarantee Program. It is available at <http://www.lgprogram.energy.gov/LGP-NOPR.pdf>. Comments are due by July 2, 2007.

## **Applications for CREBs Sought by July 13, 2007**

IRS Notice 2007-26 solicits applications for the allocation of the available clean renewable energy bond national limitation under Section 54 of the Internal Revenue Code and provides other guidance with respect to the issuance and post-issuance compliance of clean renewable energy bonds. This notice was published in Internal Revenue Bulletin 2007-14, dated April 2, 2007 and the due date is July 13, 2007. For more information, please visit: [http://www.irs.gov/irb/2007-14\\_IRB/ar17.html#d0e2321](http://www.irs.gov/irb/2007-14_IRB/ar17.html#d0e2321).

## **RFP – EPA Climate Workshops (Due July 23)**

The U.S. Environmental Protection Agency requests proposals for Climate Economic Workshops. Through this initiative, EPA seeks to provide a neutral forum for climate economics dialogue; the workshops will bring together climate economists, modelers, and other climate change professionals to discuss and debate relevant climate economics topics. \$500K expected to be available, up to 3 awards anticipated. Responses due 7/23/07. For more info, contact Christa Clapp at [clapp.christa@epa.gov](mailto:clapp.christa@epa.gov) or go to: [http://www.epa.gov/air/grants\\_funding.html#0706](http://www.epa.gov/air/grants_funding.html#0706).

## **DOE Funding Opportunity: Electric Power Generation Using Geothermal Energy Co-Produced with Oil and/or Gas Wells (Due July 31)**

The Department of Energy's (DOE's) Geothermal Technologies Program released a new funding opportunity announcement entitled "Electric Power Generation Using Geothermal Fluid Coproduced from Oil and/or Gas Wells" on June 13, 2007.

In summary, DOE's objective in offering this funding opportunity is to demonstrate the technical feasibility and economics of generating electricity from the naturally occurring geothermal fluids that are coproduced from oil and/or gas wells. To accomplish this, DOE would like to collaborate with leaseholders, developers, owners, operators, and/or other partners on projects to install, operate, and report on the performance of geothermal power generation projects operating on the hot water cut that is coproduced at oil and/or gas fields. Specifically, DOE is interested in providing financial assistance to several projects comprised of the following phases:

Phase I - Engineering, Procurement, Construction (EPC) The objectives of Phase I are to engineer, procure equipment for, and construct the geothermal power plant and associated above-ground geothermal fluid supply/disposal system at an operating oil and/or gas field.

Phase II - Operation & Maintenance (O&M) The objectives of Phase II are to operate the power plant and fluid supply/disposal system for a period of two years and to report on their economic, performance, and operating characteristics. *To view the solicitation, please visit <http://www.grants.gov/search/search.do?oppId=14434&mode=VIEW>.*

### **RFP for State Energy Activities Related to Clean Energy & Air (Due August 7)**

The U.S. Department of Energy requests applications for State Energy Activities in Clean Energy and Air Quality Integration -For state and multi-state initiatives that demonstrate and quantify air quality benefits achieved through energy efficiency and renewables. \$500K expected to be available, up to 7 awards anticipated. State and Territorial Energy Offices must be the lead on these awards though partnership opportunities may exist. Responses for both program areas due 8/7/07. *For more info, go to: <https://e-center.doe.gov/iips/faopor.nsf/0ba000b968a07c9885256c3f0067b90d/328173c5634f77c1852572f8007e8040?OpenDocument>.*

### **RFP Renewables – Arizona (Due September 4)**

Tucson Electric Power Company and UNS Electric Inc. seek renewable energy and associated credits through power purchase agreements and/or the ownership of generation assets. Responses due 9/4/07. *For more info, contact Michael Bowling at (520)745-7124 or go to: <http://www.uesaz.com/Wholesale/>.*

### **Upcoming Events**

#### **California Geothermal Development Plan Workshop, June 20, Woodland, California**

You are invited to participate in the Geothermal Energy Collaborative (CGEC) kick-off workshop which will focus on developing a comprehensive California Geothermal Development Plan. The workshop will be held on Wednesday, June 20, 2007 at the Heidrick Ag History Center in Woodland (near Davis). Workshop Purpose: The CGEC is working on a report to advance the development of geothermal resources in California. This report will provide input to the California Energy Commission as it develops a new renewables road map. If you have questions, please e-mail Marilyn Nemzer at [MNemzer@aol.com](mailto:MNemzer@aol.com) or call 415-435-4574.

#### **4th Renewable Energy Finance Forum - Wall Street, June 20-21, New York, NY**

REFF Wall Street is designed to be a one-stop-shop for discussion of the complete spectrum of financing opportunities for all renewable energy technologies, and consequently provides a unique forum to meet and network with delegates from all walks of the RE industry, together with high level financiers. The event had over 600 delegates from 18 countries in 2006. *For more information and to register, please visit <http://www.euromoneyenergy.com/default.asp?Page=11&eventid=ECK162&LS=REA&site=energy>.*

#### **Power Gen Europe and Related Events, June 26 – 28, Madrid, Spain**

The POWER-GEN Europe conference program addresses challenges faced by the electricity sector as a whole, both strategic and technical. It is an information platform to provide the latest technologies and best industry practices to support decision-making processes. In addition to POWER-GEN Europe conference sessions, delegates can attend those for Renewable Energy Europe and POWERGRID Europe. The three conferences bring together three key elements of power production and delivery today, conventional power generation, renewable power generation, and transmission and distribution. Renewable Energy Europe conference is the first large-scale renewables event tailor made for Europe's power industry. POWERGRID Europe aims to be the primary forum where European utility professionals can come

together and examine, in-depth, the challenges facing the transmission and distribution arms of the power industry. For more information, please visit <http://pge07.events.pennnet.com/fl/index.cfm>.

### **GEA Trade Show/GRC Annual Meeting, September 30-October 3, Reno, Nevada**

The GEA 2007 Trade Show will be held at John Ascuaga's Nugget Hotel & Casino in Reno, Nevada, September 30 - October 3, 2007. To see the floor plan, sponsorship opportunities, or register for an exhibit space go to: <http://www.geo-energy.org/tradeShow/invitation.asp>

For more information about the GEA Trade Show contact Daniela Stratulat at 202-454-5263 or email [Daniela@geo-energy.org](mailto:Daniela@geo-energy.org).

### **First European Geothermal Review Meeting, Oct 29 – 31, Mainz, Germany**

A review meeting called "First European Geothermal Review Meeting" will be a conference/workshop on the development/demonstration of engineered geothermal systems (EGS). The drive comes from the fact that engineering in the underground is necessary to develop the hydrothermal resources. This will be a conference with a slight difference, in that the participants will be able to see a demonstration of an engineered geothermal plant producing power and providing heat to the town of Landau. *The information on the meeting and the registration can be obtained on <http://www.bestec-for-nature.com/feqr2007/>.*

The Trade Show is held concurrently with the Geothermal Resources Council's (GRC) Annual Meeting. For information about the GRC Annual Meeting contact GRC at 530-758-2360 or email [grclub@geothermal.org](mailto:grclub@geothermal.org).



#### ***GEA Update***

A newsletter for GEA Members written by Alyssa Kagel and Karl Gawell. For more information contact GEA at: 209 Pennsylvania Avenue SE, Washington, D.C. 20003. Phone: 202-454-5261; Fax: 202-454-5265; E-mail: [research@geo-energy.org](mailto:research@geo-energy.org)