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National News

Democrats Launch New Energy Tax Bill Effort

House Democrats has introduced H.R. 5351, the Renewable Energy and Energy Conservation Tax Act of 2008, according to the House Committee on Ways and Means. This effort supports America’s energy independence.

The legislation would end excessive taxpayer subsidies to oil and gas companies and use that money to invest in tax incentives that would encourage the use and production of renewable energy and energy conservation. H.R. 5351 includes important tax credits that will otherwise expire at the end of the year. These promote renewable energy production from wind, solar, geothermal, cellulosic ethanol and biofuels, and other sources.

"The American taxpayer should not be subsidizing oil and gas companies during times of record profits and record prices at the pump," Ways and Means Chairman Charles B. Rangel (D-NY) told the press. "Instead, we need an energy plan that reduces our dependency on foreign oil and invests in clean, renewable technology that will create jobs here in America. This bill extends critical tax credits for the production and use of renewable energy while also encouraging families to invest in technology that conserves energy.

"If Congress fails to act this year, many of these valuable tax credits for renewable energy will expire," cautioned Chairman Rangel. "The Senate recently debated extension of expiring energy tax credits and this legislation gives them an opportunity to follow through on their expressed interest by working with the House to pass this bill."

Chairman Rangel introduced H.R. 5351 February 12.

Visit <http://waysandmeans.house.gov/media/pdf/110/februarybillsummary.pdf> to view a summary of the legislation.

Senators Introduce Bipartisan Renewable Energy Legislation

U.S. Senators Amy Klobuchar (D-MN), Olympia J. Snowe (R-ME) and Maria Cantwell (D-WA) have introduced the American Renewable Energy Act, according to Klobuchar’s Web page. This landmark bipartisan bill includes long-term extensions for energy efficiency tax incentives and promotes further development of wind power and other renewable energy sources nationwide. The legislation would encourage new investments to create innovative opportunities for economic growth with “clean technology” businesses and “green-collar” jobs across the country.

“These are long-term investments in the American economy that will create new economic growth and jobs, and increase our energy security,” Klobuchar told the press. “In addition to tax relief for the middle class, we also need long-term policies that will spur innovation and drive economic growth for a strong economy. This package of renewable energy incentives does that.”

“The future of our energy security and economic vitality is at stake,” Snowe said. “This legislation lays the groundwork for a partnership that will produce more jobs and realistic energy alternatives. Working together, our businesses can become the engine that drives not just our economy, but our commitment to the clean technologies that our future will rely on.”

“By jump-starting aggressive investment in new energy technologies, we can help invigorate our economy and create high-paying, long-term jobs,” said Cantwell, a member of the Senate Finance and Energy

committees. “Predictable federal incentives and more private investment in the right technologies will help curb pollution, leave more money in consumers’ pockets, and reduce our dependence on fossil fuels.”

The American Renewable Energy Act includes two key provisions:

1. Extend key renewable energy incentives, like the Production Tax Credit, for five years. These incentives are otherwise set to expire at the end of 2008. To pay for extending these renewable energy tax credits, the American Renewable Energy Act would rollback several tax giveaways to major oil companies.

2. Establish an aggressive, nationwide renewable electricity standard that requires utility companies to produce at least 20 percent of their electricity from renewable sources by the year 2025. This aggressive national standard would revolutionize the renewable energy industry, increase America’s energy security, and create new industries and jobs across America.

Visit http://klobuchar.senate.gov/newsreleases_detail.cfm?id=292973&.

DOE Budget in Brief Available Online

The office on Energy Efficiency and Renewable Energy’s Budget in Brief for FY 2009 is now available online, as well as links to budgets from past years.

The Geothermal Technology Program section, with a request for \$30 million, is as follows:

“The Geothermal Technology Program works in partnership with industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply. Geothermal energy generates electricity or supplies heat for direct applications, including aquaculture, crop drying, and district heating, or for use in heat pumps to heat and cool buildings. The technologies developed by this program provide the Nation with sources of electricity that are highly reliable and cost competitive and do not add to the Nation’s air pollution or the emission of greenhouse gases. Geothermal electricity generation is not subject to fuel price volatility and supply disruptions from changes in global energy markets.

“The program focuses on an exciting opportunity called Enhanced Geothermal Systems (EGS), which are engineered reservoirs created to produce energy from geothermal resources deficient in economical amounts of water and/or permeability. EGS is a new pathway for producing geothermal energy by drilling wells into hot rock, fracturing the rock between the wells, and circulating a fluid through the fractured rock to extract the heat. While EGS reservoirs have been designed, built, and tested in various countries, a number of technical hurdles remain to be overcome—the most important involving creation of EGS reservoirs with commercial production rates and lifetimes. The Department’s approach to overcoming the hurdles is to concentrate initially on technologies for reservoir creation, operation, and management. This strategy involves working with cost-sharing partners at existing geothermal fields to develop, test, and perfect the tools needed to fracture hot, impermeable rock and efficiently circulate fluids. The program also will employ a site dedicated to experimentation of innovative EGS technology. Technology development will rely on R&D and multiple field experiments in partnership with industry with support from various research institutions.

“A feasibility study by the Massachusetts Institute of Technology (MIT) estimates that EGS could provide 100,000 MW of electric power by 2050—10% of currently installed electric capacity. This compares with today’s 2800 MW of installed capacity at existing U.S. geothermal power plants using today’s technology. Operating as a closed loop, EGS power plants will have no atmospheric or greenhouse gas emissions. Expected program outcomes will include creation of a commercial-scale geothermal reservoir and power plant (approximately 5 MW in generating capacity) capable of operating for 7 years by 2015. This initial plant, followed by others in differing geologic environments, should foster rapid growth in the use of geothermal energy as predicted by the MIT study.

“In FY 2009, the program will work on EGS technology development at cost-shared field sites. This work encompasses possible drilling/recompletion of wells, reservoir fracturing, establishment of a fluid circulation loop, and long term reservoir testing. The program will demonstrate first generation geothermal well stimulation at the Desert Peak geothermal field in Nevada, and initiate two to four cost-shared EGS demonstration projects in various geological settings. Several field sites will be evaluated for selection of a site dedicated to experimentation of innovative EGS technology. Various research institutions will conduct supporting research in priority areas identified by an EGS technology evaluation. These areas include monitoring and logging tools, high temperature submersible pumps, reservoir predictive models, and zone isolation tools. (\$30.0 million)”

The budget is available at http://www1.eere.energy.gov/ba/pba/budget_09.html.

U.S. Supports Geothermal Development in Africa, Chile

America.gov recently printed an article about U.S. contribution to geothermal advancement in developing nations.

Two developing regions that have high geothermal potential are the East African Rift Valley, made up of about 12 countries, and the western margin of South America, as reported by Fernando Echavarría of the Space and Advanced Technology Office in the State Department’s Bureau of Oceans and Environmental and Scientific Affairs to America.gov. The U.S. is working in these areas with the African Rift Valley Geothermal Development Facility (ARGeo) project in Africa and with the Chilean government, respectively.

The East African Rift Valley system runs from the Red Sea to Mozambique and is called an active divergent rift valley; the continent is being pulled apart (rifted) by plate tectonic forces. The geothermal potential of this system is up to 7,000 MW.

ARGeo is an international organization that is active in Kenya, Ethiopia, Djibouti, Uganda, Tanzania, and Eritrea. The Global Environment Facility (GEF) has 178 partner countries that also work with ARGeo. GEF grants support projects related to issues like biodiversity, climate change, international waters, land degradation, and the ozone layer.

Through agencies such as the U.S. Agency for International Development, the U.S. Trade and Development Agency (USTDA), the State Department, the Energy Department (DOE) and the U.S. Geological Survey, the United States is working to become more active in the ARGeo program, according to the article. The article drew attention to the significant untapped geothermal potential that some industry leaders have just begun to develop in countries like Kenya and Ethiopia.

The United States also is working on geothermal development with Chile, which has the region’s largest number of historically active volcanoes, said the article. The Andes Mountains run the length of South America where the Nazca plate slides under the South American plate, producing many active volcanoes and a rich geothermal resource. To date, there is no geothermal development in South America, but the government of Chile is interested. Twelve members of the Chilean government and private sector visited U.S. geothermal companies, institutions, and plants, and attended the annual meeting of the Geothermal Resources Council in Reno, Nevada, in September 2007.

These new developments and potential partnerships are exciting for the future of geothermal on the global level.

For more information, visit <http://www.america.gov/st/env-english/2008/February/200802061614091cniirellep0.5360224.html>.

Company News

CCM Report Looks Ahead for Nevada Geothermal

CCM Research issued an initiating report on Nevada Geothermal Power, Inc. written by analyst Mohammad Sharifzadeh, PhD., CFA.

The report spoke favorably of Nevada Geothermal's growth potential. Given the company's leasehold interests and scheduled projects, Nevada Geothermal will benefit from the growing demand for geothermal-powered electricity in the U.S., according to the report.

Nevada Geothermal Power Inc. owns a 100% leasehold interest in four properties: Blue Mountain, Pumpnickel, Black Warrior in Nevada, and Crump Geyser, Oregon. The Blue Mountain Project's Faulkner 1 power plant is scheduled to come online in 2009.

"Geothermal electricity producers like NGP will be the major beneficiaries of the strong U.S. electricity prices; simply because they do not bear the high cost of fossil fuels while they enjoy the buoyant electricity prices determined by market forces," the analyst reported. "For this reason we think, once getting into the production stage, NGP's income statement will be showing a growing gross and net margin and thus growing profitability in the future."

The report can be found at www.ccmopportunitybase.com.

Power-Gen Conference Underway This Week

The Power-Gen Energy & Fuels (PGREF) conference is already underway, February 19–21 in Las Vegas.

Three geothermal panels are on target to participate, as highlighted in last week's *GEA Weekly Update*:

PGREF Session: Financing Geothermal Power: Exploration To Operation—Panel Discussion

Date: Wednesday, February 20, 2008

Time: 9:30–11:30 AM

Chair: Thomas King, U.S. Renewable Group

Co-chair: John McCaull, Geothermal Energy Association

Session Description: This panel will address the unique risks and opportunities associated with investment in geothermal power, as well as the techniques, structures and market participants that have been created to increase the flow of capital to the sector.

- Charles Arrigo, Glitnir Capital Corp.
- Thomas King, US Renewables Group
- Phil Mintun, Capstar Partners Capital LLC
- Kevin Bolin, EnerTech Environmental Inc. (invited)
- Robert Banack, Dundee Securities

PGREF Session: New Trends in the Geothermal Marketplace

Date: Thursday, February 21, 2008

Time: 9:30–10:30 AM

Chair: Karl Gawell, Geothermal Energy Association

Co-chair: John McCaull, Geothermal Energy Association

Session Description: In the past few years, geothermal projects have developed at a rapid pace, with nearly 70 projects under some phase of development in 11 states throughout the United States. When all new geothermal capacity is brought online, it will double current output. This session will discuss the issues,

challenges, and opportunities faced by geothermal companies. The panel will discuss some of the factors currently contributing to geothermal development, along with factors expected to result in expanded geothermal development in the future, such as the West-wide Programmatic Environmental Impact Statement for geothermal energy.

It's Hot! National Programmatic Environmental Impact Statement for Geothermal Leasing
David Batts and John King, EMPS Inc.; Jack Peterson, Bureau of Land Management; Tracy Parker, USDA Forest Service

Assessment of Power Generation Capacity of the Western GeoPower Leasehold at the Geysers Geothermal Field, California

Kenneth MacLeod, Western GeoPower Corp.; Dr. Christopher Klein, Dr. James McNitt, Roger Henneberger and Dr. Subir Sanyal, GeothermEx Inc.

The Geysers: A New Era of Exploration
Dennis Gilles, Calpine Corp.

The Potential Impact on Geothermal Development in Nevada of the Recommendations of Governor Jim Gibbons' Renewable Energy Transmission Access Advisory Committee
Dan Schochet, Ormat

PGREF Session: New Trends in Geothermal Research and Development
Date: Thursday, February 21, 2008
Time: 10:30–11:30 AM
Chair: Curt Robinson, Geothermal Resources Council

Session Description: In this multidisciplinary session, experts will review the advances that have occurred in recent years for the geothermal industry. New trends will bring experts from the field to discuss mitigating risk, resource exploration, drilling, and power plant development.

Low-Temperature Geothermal Power Generation with HVAC Hardware
Halley Dickey, UTC Power

Integrating Renewable and Fossil Fuel Technologies at the Rocky Mountain Oilfield Testing Center (RMOTC) – An Overview and Demonstration Projects
Lyle Johnson and Dr. Jim States, Rocky Mountain Oilfield Testing Center

Is EGS Commercially Feasible?
Dr. Subir K. Sanyal, James W. Morrow, Steven J. Butler and Ann Robertson-Tait, GeothermEx Inc.

California's Upcoming Geothermal Energy Research and Development Roadmap
Kenneth Koyama, California Energy Commission

Participants are encouraged to write back to *GEA Weekly Update* with news or reports on the conference to be included in next week's issue. Please put NEWS: POWER-GEN in the subject line.

GEA Looks Ahead to WIREC Conference

As you've seen in our Upcoming Events section, the first major international renewable energy conference sponsored by the U.S. government is the Washington International Renewable Energy Conference, or WIREC, coming next month to Washington, DC. Notable U.S. government participation is expected to include Secretary of Energy Samuel Bodman, the Secretary of Agriculture, the Secretary of the Interior, and the Administrator of the U.S. Environmental Protection Agency. WIREC will address topics such as the benefits of large-scale renewable energy deployment for energy security, climate change, air quality, economic growth, and policy options.

WIREC 2008 is organized by the American Council on Renewable Energy (ACORE) with the participation of 14 domestic and international renewable energy trade associations, including the Geothermal Energy Association. GEA will be providing educational support on the industry and will encourage visitors to visit all geothermal booths, panels, and side shows in order to gain a thorough view of the market. WIREC 2008 will be held at the Washington Convention Center in Washington, D.C., on March 4–6.

For more information, visit <http://www.wirec2008.gov/wps/portal/wirec2008>.

Encore Energy Systems and Energy America Geothermal Enter Agreement

Encore Energy Systems has entered into a formal agreement with Texas LLC, Energy America Geothermal to collaborate on future commercial geothermal installations, according to earthtimes.org.

Encore Energy and Energy America Geothermal will cooperate on high-value commercial geothermal installations. The agreement is intended to play upon the strengths of both companies and expediate projects currently underway.

According to the article, Encore will grant Energy America Geothermal nonexclusive rights to promote the companies' Energy Miser System. Encore Energy will provide Energy America Geothermal with access to their engineering design team for customers requiring connection to waste or municipal water installations. In return, Energy America Geothermal will aggressively promote the patented Energy Miser solutions to decision makers in government and U.S. Military.

Visit <http://www.earthtimes.org/articles/show/encore-energy-systems-enters-into-teaming-agreement-with-energy-america,280175.shtml>.

Renewable News

IRS Allocates Clean Renewable Energy Bonds

The U.S. Internal Revenue Service (IRS) allocated \$406 million in Clean Renewable Energy Bonds (CREBs) for a total of 312 renewable energy projects to be located throughout the U.S., according to their press release.

Unlike normal bonds that pay interest, CREBs are known as "tax-credit" bonds that pay the bondholders by providing a credit against their federal income tax. In effect, the CREBs will provide interest-free financing for certain renewable energy projects.

The new bond provisions range from \$15,000 to \$30 million. Plans were selected for 139 solar energy facilities, 102 wind power installations, 45 landfill gas facilities, 18 hydropower plants, 5 biomass power plants, and 3 trash combustion facilities. Depending on the availability of additional sources of financing for these projects, not all 312 projects will be fulfilled.

The IRS selected the projects from 342 applications for 395 projects. The agency received permission to publish the information for 310 of the 312 projects. Most of the projects are located in California and Minnesota, with the remainder located in Alaska, Arizona, Colorado, Connecticut, Florida, Illinois, Iowa, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Montana, Nebraska, Nevada, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas, Washington, West Virginia, Wisconsin, and Wyoming.

For more information, visit <http://www.irs.gov/newsroom/article/0,,id=179016,00.html>.

Renewable Energy Market Attracts Job Seekers

Renewable Energy Access recently reported on the growing global demand in the renewable energy market and how this is leading to competition for professional talent. The rapid growth of the renewable energy industry today coupled with continuous talent shortages and increased employee turnover, means that firms must develop creative talent acquisition strategies and ramp up activities pertaining to all levels of recruitment, says the report.

The renewable industry appeals to professionals who are interested in environmental and social concerns; once they have entered the industry, the explosive growth rate keeps them there, the article explained. Christine Real de Azua, American Wind Energy Association's Assistant Director for Communications, told the publisher: "People who join the wind energy business stay there. With the industry growing so fast, why would they leave?"

Sean O'Hanlon, President of the American Biofuels Council in Miami, joined the industry after a successful career in the U.S. Air Force. He said, "Fundamentally, I looked at the [biofuel] landscape; saw a torch on the ground and no one picking it up. The deeper I get into it, I find this to be the most satisfying and rewarding profession I have ever had."

For more information, visit <http://www.renewableenergyaccess.com/rea/news/story?id=51408>.

Industry Players Unite Against Failed Renewables Incentives

The National Hydropower Association issued a statement on the Failure of the Senate to include renewable energy incentives in the Economic Stimulus Package.

"The development of hydropower and new waterpower technologies could provide Americans 95,000 MW of clean, climate-friendly electricity as well as significant increases in jobs and investments that support local communities. The failure of the Senate this week to support the renewable energy tax provisions only serves to stifle, not stimulate, our industry and the economy," said the statement.

"NHA thanks all of the supporters in the Senate who voted to include the hydropower and other renewable energy provisions in the stimulus bill. We strongly urge Congress to come together and find a way to quickly extend the incentives."

Members all over the renewables community have issued similar statements.

Visit <http://www.renewableenergyaccess.com/rea/partner/story?id=51406>.

Climate Change News

California Releases Two Important Climate Change Documents

The Global Warming Solutions Act of 2006 (AB 32) mandates statewide reductions in greenhouse gas (GHG) emissions. As part of California's program to implement this Act, two very important documents were released this past week.

"It is very important that we be kept aware of what is happening in the AB 32 implementation arena," said John McCaull, the Geothermal Energy Association's Western States Representative. He added, "We must look for opportunities to advance our industry's concerns and stay aware of both opportunities and of potential regulatory decisions that could be detrimental."

The first of these documents is the Economic and Technology Advancement Advisory Committee (ETAAC) Report, entitled “Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California.” It was released on February 11.

AB 32 required the California Air Resources Board (ARB) to form the ETAAC to "advise (ARB) on activities that will facilitate investment in and implementation of technological research and development opportunities including, but not limited to, identifying new technologies, research, demonstration projects, funding opportunities, developing state, national, and international partnerships and technology transfer opportunities, and identifying and assessing research and advanced technology investment and incentive opportunities that will assist in the reduction of greenhouse gas emissions.”

The report, which emphasizes developing renewable power sources with lower-GHG emission profiles, will be presented to the ARB on February 28 for review and comment.

The second document is the Interim Opinion on Greenhouse Gas Regulatory Strategies from California Public Utilities Commission and the California Energy Commission.

It contains recommendations on policy principles regarding point of regulation and allocation. In particular, the Opinion recommends that ARB adopt a mix of direct mandatory/regulatory requirements and a cap-and-trade system for the electricity and natural gas sectors.

The Energy Commission will take public comment and consider adopting the Interim Opinion at a regular Business Meeting scheduled for March 12. The Public Utilities Commission will take public comment and consider adoption on March 13.

The effort to apply AB 32 is an unprecedented undertaking. These documents represent strides made by the industry and show opportunities toward successful implementation.

For more information and to view these documents, visit <http://www.arb.ca.gov/cc/etaac/etaac.htm> and http://www.energy.ca.gov/ghg_emissions/meetings/2008-02-15_notice_of_availability.html.

Friends of the Earth Applauds CBO Report

Friends of the Earth President Brent Blackwelder responded to the Congressional Budget Office’s report finding that carbon taxes are the “most efficient” means of reducing global warming pollution with the following statement:

“Yet again, another group of experts has concluded that a corporate carbon tax is the most efficient way to reduce global warming pollution. This underscores the fact that a carbon tax is a serious policy option that should be considered alongside other ways of fighting global warming. A majority of Californians already support a corporate carbon tax, and with leadership from top elected officials, the majority of Americans might ultimately feel the same way—especially if revenue from such a tax were returned directly to middle class voters through tax rebates or other mechanisms.

“Today’s report also has implications for the current debate about cap-and-trade legislation in the U.S. Senate. Any cap-and-trade system should include 100 percent auctions of carbon allowances—making polluters pay for all pollution, as a carbon tax would do. As the CBO director has previously testified, ‘Giving the allowances away ... would largely prevent the government from using the allowance value in ways that would lower the cap’s total cost to the economy.’ A cap-and-trade system with 100 percent auctions would be better for the economy and could yield financial benefits for low and middle income Americans.”

For the CBO report, visit <http://www.cbo.gov/ftpdocs/89xx/doc8934/02-12-Carbon.pdf>.

Bay Area Proposes Greenhouse Gas Fee

The Bay Area Air Quality Management District is proposing an annual fee on greenhouse gases (GHG) emitted by businesses and government agencies, according to baaqmd.gov. The fee would be 4.2 cents per metric ton of CO₂ and would raise \$1.1 million per year.

“The climate is changing, and we think that everybody needs to help with the solution and pay their fair share to reduce GHGs,” Jack Broadbent, executive officer of the Bay Area Air Quality Management District in San Francisco, told the press.

The U.S. Supreme Court ruled that CO₂ is a pollutant like other smog-causing chemicals and can be controlled under the Clean Air Act, according to comments from Carl Pope, national executive director of the Sierra Club. Pope said, “There are costs associated with emitting CO₂, and the people who emit it should pay the costs.”

However, Tubber Hull, a spokesman for the Western States Petroleum Association in Sacramento, said that charging oil refineries and power plants may cause the consumers to pay more. While critics say that fees could easily rise, once a charge is in place, experts say that a fee is the best solution to cutting GHGs.

Dan Kammen, director of renewable energy programs at University of California-Berkeley, said “emissions in California are still going up. All the nice paperwork is not going to make emissions go down until we put a price on what we don’t want—which is GHG emissions.”

The proposal is scheduled for hearing February 25. If passed, the proposal would become effective July 1.

For more information, visit [http://www.baaqmd.gov/pln/ruledev/workshops.htm](http://www.baaqmd.gov/pln/ruleddev/workshops.htm).

GEA Contributes to National Geographic Special

The National Geographic series “Six Degrees Could Change the World” premiered on Sunday, February 10 on the National Geographic channel.

The series is based on the book *Six Degrees* by Mark Lyman. It addresses the natural disasters and climate change in store as global warming causes the earth’s temperature to rise over the coming century.

The Geothermal Energy Association worked with National Geographic on this program and is listed with them as a resource for more information.

For more information, visit <http://www.nationalgeographic.com>.

State News

Idaho: U.S. Geothermal seeks tax breaks

U.S. Geothermal, Inc., asked the Idaho Legislature for tax breaks the lawmakers gave to wind energy producers last year. The result would be a payment of 3% tax on gross energy earnings rather than other taxes on the operating property, according to Forbes.com.

U.S. Geothermal Chief Financial Officer Kerry Hawkey told the press his company will spend millions of dollars would increase the likelihood of building two planned additional power-generating plants. Each can cost up to \$5 million, adding weight to tax incentives in decisions to invest, he said.

According to the Forbes article, geothermal exploration around the location of U.S. Geothermal's site in southern Idaho began with Mormon farmers who originally settled the region. They utilized the boiling water available in the wells. The area was developed by the Department of Energy in the 1970s and 1980s. U.S. Geothermal completed the plant last year and delivers about 9 MW to the Idaho Power Co.

Visit <http://www.forbes.com/afxnews/limited/feeds/afx/2008/02/13/afx4652747.html>.

Nevada: Renewables Set for Business and Growth

Nevada is becoming a center of renewable energy development, bringing jobs, investment, and taxes for poor rural counties, reported the *Las Vegas Business Press*.

Nevada's renewable energy sector includes a utility-size solar thermal power plant in Boulder City, a giant solar photovoltaic system at Nellis Air Force Base, a solar power assembly plant under way in Las Vegas, and geothermal plants in northern Nevada.

Nevada Power offers rebates for customers who install photovoltaic systems and power company credits for feeding excess photovoltaic power back into the grid. This has added to the general interest in solar energy and other renewables on a popular level. Over the last four years, 250 residential, commercial, and government building customers have received rebates under Nevada Power Co.'s Solargenerations incentive program.

Steve Rypka, a former technical director of entertainment at the Las Vegas Hilton and then president of Western operations for audio-visual system contractor SPL Integrated Solutions, was an early convert to solar photovoltaics.

Wind power is also on the rise. In November, Sen. Harry Reid, D-Nev., won a commitment from the Defense Department for wind farms. About 10 days later, Nevada Power Co. and a partner announced plans to develop a \$400 million, 200-MW wind farm near Jackpot and the Idaho-Nevada border.

The article called geothermal power, which derives energy from hot underground water, "the granddaddy of renewable energy businesses in Nevada."

Ormat developed its first Nevada geothermal plant near Reno in 1985. In 1997, Nevada's Legislature adopted the state's first renewable energy portfolio standard, requiring Sierra Pacific Power Co. and Nevada Power Co. to obtain some of their electricity from renewable sources.

As a result, Sierra Pacific Power has purchased increasing amounts of geothermal power from Ormat and other geothermal power plant operators. Geothermal plants represent about \$1 billion of investment in Nevada, the article reported, and nine geothermal projects with generating capacity totaling 300 MW are being developed in Nevada.

Industry members and legislative representatives are optimistic about the future of renewables in Nevada, where interest and development continues to grow at a fast pace and will be a model for other states.

Visit <http://www.lvbusinesspress.com/news/>.

Nevada: DOE Supports Ormat's EGS Project

The Department of Energy (DOE) joins ORMAT Nevada Inc., GeothermEx Inc., the University of Utah, USGS, and national laboratories in the development of an Enhanced Geothermal System (EGS) at Desert Peak hydrothermal field in Nevada, according to the DOE Web site. The DOE has invested over \$5 million thus far.

The work at Desert Peak represents the first application of EGS. "Ormat anticipates Desert Peak will be the country's first commercial project to tap into an EGS resource and produce substantial levels of electricity providing a rebirth for certain geothermal prospects in the U.S.," Ormat Chairman and Chief Technology Officer Lucien Bronicki told the press.

This is an exciting milestone in developing EGS technology. Plans are set toward a hydraulic stimulation program for an in-field, nonproductive well exceeding 400°F. The team will inject high water pressure that will enhance the performance of the reservoir by creating an underground heat exchanger. It is expected to add 2–5 MWe of power generation to the existing capacity.

For more information, visit

http://www1.eere.energy.gov/news/progress_alerts/progress_alert.asp?aid=261 and
http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=ind_focus.story&STORY=/www/story/02-14-2008/0004756465&EDATE=THU+Feb+14+2008,+02:48+PM.

Nevada: Nevada Geothermal to Proceed for Faulkner 1

Nevada Geothermal Power Inc. and Ormat Technologies, Inc. announced plans to supply and construct the Phase 1 power plant of NGP's planned geothermal power development at Blue Mountain, Nevada. Ormat's completion date is set as December 31, 2009.

"Ormat is a recognized world leader in the geothermal industry and the Ormat binary technology complements Blue Mountain's resource parameters and chemistry most efficiently. The plant will extract more MW-hours of energy per unit volume of geothermal fluid compared to steam flash or other available technologies maximizing the overall MW potential for the Blue Mountain geothermal field," Brian Fairbank, President and CEO of NGP, told reporters.

"We are delighted to have been selected as the supplier and contractor of choice for NGP's first power plant. Our technology is perfectly suited for the Blue Mountain resource and we are looking forward to delivering a great performing power plant on schedule," said Dita Bronicki, CEO.

The proposed Faulkner I geothermal plant will require a 20-mile long transmission line over relatively flat, undeveloped desert land. The electric power will be sold to Nevada Power Company under a 20-year Power Purchase Agreement for up to 35 MW gross of geothermal power.

For more information, visit <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=109&STORY=/www/story/02-13-2008/0004755522&EDATE>.

Nevada: Geothermal Discovered at Teels Marsh

Researchers at the Great Basin Center for Geothermal Energy, University of Nevada, Reno and Desert Research Institute have discovered evidence of an active geothermal system at Teels Marsh, according to their press release.

This evidence comes from mapping anomalously high temperatures at a depth of 2 m below the surface. Temperatures are as high at 35°C compared to background temperatures of approximately 16–18°C. The temperature anomalies occur in two separate zones, both of which are adjacent to a Quaternary fault on the western margin of Teels Marsh basin. The two temperature anomalies have a combined strike length parallel to the fault of about 3.5 km.

No thermal springs or wells are known to exist in Teels Marsh basin. The shallow temperature anomalies are believed caused by geothermal groundwater upwelling along Quaternary fault(s). After reaching the groundwater table, these fluids likely flow down-gradient and mix with nonthermal groundwaters before

reaching the Teels Marsh playa, where a portion of such fluids exit to the surface to form cold springs with anomalous geothermometer temperatures and borate-rich evaporite crusts.

Many of the areas mentioned on the Web site are available for nomination for inclusion in future Bureau of Land Management geothermal lease auctions.

For more information, visit <http://www.unr.edu/Geothermal/tgrad.html>.

International News

India: Glitnir to Open Branch, Develop Plants in India

Glitnir has also formed a joint venture with LNJ Bhilwara Group to develop geothermal power plants in India and Nepal, according to *Ice News*. The bank is applying to open a representative office in India, which would open up the subcontinent to Glitnir's expertise in geothermal energy and bring in investors.

Geothermal specialists from Glitnir, accompanied by other independent consulting companies, will visit locations in India to identify the best location for a plant.

Glitnir CEO Larus Welding told the press, "We are very happy that this important joint venture has been formed with LNJ Bhilwara Group. This will encourage prospects for growth in India in the geothermal arena. India is a vast country and we believe there are a number of unexplored geothermal energy resources. These resources and the technology employed contribute to clean, rural based and cheap energy sources."

Visit <http://www.icenews.is/index.php/2008/02/14/glitnir-bank-to-open-branch-in-india/>.

Nevis: Public Figures Present for Drilling Commencement

Nevis Island in the Caribbean is in the second phase of drilling for geothermal energy, said Minister of Communications, Works and Public Utilities on Nevis the Hon. Carlisle Powell. The Nevis Island Administration (NIA) is interested in geothermal as a way to reduce the cost of living for the people of the island.

On Friday, February 8, 2008, the second phase drilling at the West Indies Power (WIP) Nevis 1 drill site began at Spring Hill, St. James Parish. Minister Robelto Hector released the lever to commence the drilling operation.

Minister Powell told reporters that various studies indicated the island had great potential for geothermal energy. It was a matter of drilling in the right place to harness these energies, he said.

The Minister also said that the NIA had begun preparations to accommodate new industries and companies who wished to take advantage of the cheaper energy.

All who are involved in the project are excited about the potential in using geothermal energy. The drill team was confident that the resources would be tapped and will soon benefit the island.

For more information, visit <http://www.sknvibes.com/Politics/NewsDetails.cfm/4503>.

Philippines: PNOC-EDC Growing Locally and Abroad

Philippine geothermal firm PNOG-Energy Development Corp said it was in talks for possible partnerships with three Indonesian companies as part of its plan to grow the business abroad, according to *Reuters*. The Philippines has 22 active volcanoes and is the second-largest producer of geothermal energy the world, after the U.S.

PNOG-EDC President Paul Aquino said he was looking at deals with PT PLN, PT Petrogas Jambi Power, and Westindo for a range of geothermal projects in Indonesia. "We are looking at drilling activities, consultancy, and joint ventures," Aquino told reporters.

PNOG-EDC also aims to add 280–310 MW in capacity by building new plants between 2010 and 2015. The company, which generates power from volcanic hot springs, has a total capacity of 1,199 MW, or around 60% of the country's geothermal capacity.

Aquino said the company was allocating 10.8 billion pesos (\$265 million) for capital spending this year and an annual average 5.6 billion pesos for the next 5 years.

Locally, the company also plans to boost its output by bidding for four government-owned power plants and building new facilities. It will make bids for geothermal plants with a combined capacity of 1,155 MW: the 192 MW Palinpinon plant, the 113 MW Tongonan plant, the 150 MW Bacon-Manito plant, and the 700 MW Tiwi-Makban plant.

The target acquisitions will double PNOG-EDC's installed capacity to 2,400 MW, PNOG-EDC resident Paul Aquino told reporters.

The company is also looking to construct new power plants with a combined capacity of 310 MW.

For more information, visit

<http://www.reuters.com/article/rbssIndustryMaterialsUtilitiesNews/idUSMAN4904020080212> and <http://business.inquirer.net/money/topstories/view/20080213-118559/PNOG-EDC-to-bid-for-govts-power-assets-build-more-plants>.

Tasmania: KUTH Seeking Network Connection for Geothermal

John Thompson Inclusive has issued a report on KUTH Energy, commissioned by KUTH to expediate connecting to electricity networks, according to a press release from KUTH.

KUTH's 14,000 km² or geothermal acreage is the largest in Australia, with multiple "hot rock" areas and the highest recorded borehole heat flow, according to the press release. KUTH is exploring the area in hopes to set up electricity generation at a geothermal reservoir.

The John Thompson Inclusive report addressed the present grid's condition and capacity for new generation, the costs of connection, and other issues KUTH would face. The report took possible connection scenarios into account.

For more information, visit <http://www.abnnewswire.net/press/en/48254/KUTH-ENERGY-LIMITED.html>.

Notices and Employment Opportunities

Employment Opportunity—Terra-Gen Operating Company

Terra-Gen Operating Company is a newly formed independent power producer operating clean and reliable energy projects located in several western states. Current renewable projects include wind, geothermal, and solar. Terra-Gen is currently seeking...

Geothermal Resource Manager:

Manage/develop the geothermal resource company wide. Maintain departmental budget. Direct/support geological/resource needs i.e., on-going geologic model, temperature model, reservoir and well performance evaluation. Evaluate geothermal reservoirs, provides recommendations for well field operations. Target drilling for production and injection wells. Provide technical support for well maintenance i.e., workovers, acid jobs, caustic jobs, surveys, etc. Desired qualification: Relevant BS from 4 yr college or university; or 10 yrs related exp and/or training; or equal education and experience. Geological and temperature modeling knowledge.

Environmental Manager:

Supervise the Environmental Compliance Dept personnel. Oversee departmental budget integrated into plant budgets. Document, review and track department activities, reports, compliance documents, audits, and investigations. Ensure company operations comply with environmental permit requirements and federal, state and county/district regulations. Maintain an effective relationship with regulatory agencies. Prepare and update company programs, policies, and procedures for safety and environmental compliance. Organize, develop, implement and administer the company's safety program. Desired qualifications:- Bachelor's Degree from a 4-yr college or university; and 8+ yrs related experience and/or training; or equal education and experience. Environmental & safety regulation knowledge.

To apply for either position, send a resume to Terra-Gen Operating Company, Attn: Human Resources, P.O. Box 1690, Inyokern, CA 93527, fax to 760-764-1318, or email to djackson@tgpmc.com. Terra-Gen Operating Company is an Equal Opportunity Employer.

Employment Opportunities—Mighty River Power

Mighty River Power's diverse generation portfolio helps New Zealand ensure its ability to meet future energy needs. Mighty River Power is an integrated energy generation and retail business with a diverse and expanding portfolio of generation assets throughout the North Island of New Zealand. That portfolio includes rapidly growing geothermal interests including those at Mokai, Rotokawa, Kawerau, and throughout the Taupo Volcanic Region. Mighty River Power's geothermal team performs to world class standards and is focused on implementing cutting-edge technology to the development of these renewable and greenhouse friendly energy resources. Rapid growth in our geothermal business has increased their need for engineers to join the geothermal team. They're looking for motivated engineers with good written and verbal English skill. They offer a stimulating environment for those who want to apply their geothermal expertise, whilst enjoying New Zealand's extensive lifestyle opportunities.

Reservoir Engineer:

As a reservoir engineer you will:

- Design and supervise well tests, and collect and interpret results
- Propose and oversee field monitoring projects
- Characterize resource behavior using sophisticated computer modeling software.
- Provide valuable technical support to high-dollar energy resource projects.

An engineering, hydrology or applied maths degree are relevant qualifications. An interest in real-world applications in a mixed office and outdoor environment is essential, as well as interests in geology, civil engineering, hydrology and computer modeling. Specialized knowledge and skills in geothermal field management, resource monitoring and well testing will be developed over time. This position reports to the Geoscience Manager and is located in Hamilton.

Senior Mechanical Engineer:

As a senior mechanical engineer you will:

- provide vital strategic support to both operations and new generation development
- provide engineering and economic evaluation for enhancement opportunities of existing assets and new developments

- oversee and provide leadership for a multi-disciplined team of engineers.
- ensure that the company's strategic goals are achieved through assurance of plant performance in consideration of life cycle costs

The ideal person for this role will hold a relevant engineering qualification and have more than ten years experience in geothermal projects. This position reports to the Geothermal Engineering Manager and is located in Hamilton.

Plant Chemical Engineer:

As plant chemical engineer you will:

- be responsible for determining appropriate treatment processes throughout the different geothermal power generation cycles
- oversee various specialist service providers
- review industry trends to ensure best practice principles are being applied
- specify and review the design of new installations
- supervise investigations

The ideal person for this role will hold a relevant engineering qualification and have more than five years experience in geothermal power plant operation. This position reports to the Operations Manager and is located in Taupo.

Maintenance Manager:

As maintenance manager, responsible for a portfolio of power generation plant currently totaling 150MW and expanding to 500MW in the near future, you will:

- proactively improve and implement systems to enhance plant availability
- oversee and provide leadership for a multi-disciplined team of engineers.
- remain aware and trained on all technical advancements in the area of responsibility
- manage plant level capital projects in conjunction with the engineering team

This role will require a relevant engineering qualification and have more than ten years experience in geothermal power plant operation, including demonstrated line management skills. This position reports to the Operations Manager and is located in Taupo.

Drilling Engineer:

As a drilling engineer you will:

- Write drilling programs and monitor drilling progress
- Assist the onsite drilling supervisor with implementation of high profile drilling operations
- Review operations for process improvements
- Provide technical support to field managers and reservoir groups for well maintenance.

An engineering degree with computer skills and good written and spoken English communications skills are required. Specialized knowledge and skills in geothermal drilling are important and additional experienced can be developed over time where needed. This position reports to the Drilling Manager - Geothermal and is located in Hamilton.

If you would like more information about Mighty River Power please see the company Web site at www.mightyriver.co.nz. If you would like more information about any of these vacancies or wish to apply then email careers@mightyriver.co.nz, or phone +64 9 5803612, or post your application to Human Resources, Private Bag 92008, Auckland Mail Centre.

Employment Opportunity—Nevada Geothermal Power Inc.

Nevada Geothermal Power Inc. is seeking an experienced Geothermal Resource Exploration and Development Manager. Nevada Geothermal Power's 30 MW geothermal power development at Blue Mountain near Winnemucca is financed to production (\$120 million). This dynamic company seeks to significantly expand the resource base at Blue Mountain and is actively developing other geothermal power projects to meet the increasing demand for clean energy. The Company is well financed and expects significant growth through the next decade.

Geothermal Resource Exploration and Development Manager:

This is a senior management position that requires a MS in Geological Sciences, Geological Engineering or Hydrology with 10+ years experience with geothermal field development. The successful candidate will plan and implement exploration and geothermal reservoir evaluation programs using a multi-disciplined approach involving geology, geochemistry, geophysics, and drilling up to and including large scale development wells, helping to achieve the Company's objective for growth. The position is based in Reno and/or Winnemucca and will involve supervision of resource technical staff and consultants. Excellent communication and interpersonal skills are required as is a familiarity with budgets and cost controls.

The Company offers excellent health benefits, competitive remuneration, opportunities for career advancement in an exciting field.

To apply, fax resumes to 604-688-5926 or email resumes to careers@nevadageothermal.com.

Employment Opportunity—NREL Management (Due March 5)

The U.S. Department of Energy requests proposals for the selection of a Management and Operating prime contractor to lead the National Renewable Energy Laboratory (NREL), a premier renewable energy and energy efficiency research, development, demonstration, and deployment institution. Responses due 3/5/08.

For more information, contact Mary Hartford at Mary.Hartford@go.doe.gov or go to <https://e-center.doe.gov/iips/busopor.nsf/UNID/761A911053622FE3852572F20078F2CE?OpenDocument>.

Requests for Proposals (RFPs)

RFP for All-Source Generation—Washington (Due February 29)

Puget Sound Energy announces its intent to seek over 2,000 MW of all-source generation, including efficiency. Final RFP scheduled for release 1/12/08, with responses due 2/29/08.

For more information, contact Roger Garratt at Roger.Garratt@pse.com or go to <http://www.pse.com/energyEnvironment/pse2008RFP.aspx>.

RFI for Geothermal Development — Colorado (Due March 14)

The Colorado Governor's Energy Office (GEO) has issued a Request for Information (RFI) to gain an understanding of the potential for geothermal projects in the state and the resources needed to assist developers of projects. The RFI covers geothermal for electricity, direct use applications, or for ground source heat pumps. There is a reference in the RFI for grant funding under the Clean Energy Fund.

Available at http://www.colorado.gov/energy/in/uploaded_pdf/GeothermalRFI_000.pdf.

SMUD to Release 2008 Renewable Energy RFO (Due April 2008)

On January 4, 2008, The Sacramento Municipal Utility District (SMUD) will release a Request for Offers (RFO) of renewable energy for power purchase agreements (PPA). Proposals will be due early April 2008.

SMUD has a goal to meet 23% of its retail electricity sales with renewable energy by 2011 and beyond. The utility's need for renewable energy continues to increase due to its commitment to expand the amount of power from renewable sources in its power mix and a need to replace current contracts that expire in the coming years.

The 2008 solicitation is for PPA offers of California RPS eligible conventional renewables, which include resources such as wind, geothermal, small hydroelectric, landfill gas, biomass and biodiesel. A separate RFO for emerging renewable technologies is planned for mid-2008.

Interested parties can download the RFO documents from SMUD's Electronic Bid Solicitation System (EBSS) Web site at www.bids.smud.org when it becomes available. Registration to the EBSS site is required to access the documents.

SMUD recommends that those interested in this and future solicitations list their company name in the "Renewable Power" category as well as in one or more of the following Renewable Power subcategories: Generation Energy, Geothermal Power, Landfill Gas Power, Renewable Power-Other, Small Hydro Power, and Wind Power.

Registered individuals will also receive updated information regarding this RFO and will also receive notification of future solicitations for purchase of renewable energy resources.

For additional information, contact Cesar J. Beltran at (916) 732-6925 or cbeltra@smud.org.

RFP Climate Change and Sustainability Conferences (Due June 5 and December 9 2008)

The U.S. Environmental Protection Agency has issued a Broad Agency Announcement for Conferences, Workshops, and/or Meetings. EPA seeks applicants for the planning, arranging, administering and/or conducting of conferences and workshops in areas including, but not limited to: Economics and sustainability; air and global climate change; and technology. \$500K expected to be available, up to 15 awards anticipated. Proposals due 1/7/08, 6/5/08 and 12/9/08.

For more information, contact Bernice Smith at smith.bernicel@epa.gov or go to http://es.epa.gov/ncer/rfa/2008/2008_baa.html. Refer to Sol# EPA-C2008-BAA. (Grants.gov 12/6/07)

Upcoming Events

POWER-GEN Renewable Energy & Fuels 2008, February 19–21, Las Vegas, NV

This marks the 5th year of this premier all-renewables conference and exhibition covering the most important trends and issues impacting the industry. Bringing the wind, solar, biomass and alternative fuels, hydro and geothermal sectors together for three days of information exchange and fast-track networking, POWER-GEN Renewable Energy & Fuels attracts the biggest names in renewables to discuss technical, strategic, regulatory, structural and economic issues. The event will take place at the Rio All-Suite Hotel & Casino Las Vegas, NV.

For more information, please visit <http://pgre08.events.pennnet.com/fl/content.cfm?NavId=6137&Language=Engl>.

See story above under "Company News" for more details on Power-Gen and the three geothermal panels planned for the conference.

WIREC International Renewable Energy Conference, March 4–6, Washington, DC

The United States Government, in cooperation with the American Council on Renewable Energy (ACORE) and several leading renewable energy trade associations, will host the Washington International Renewable

Energy Conference March 4-6, 2008, at the Washington Convention Center. GEA is a member of the Coordinating Committee and will be preparing a geothermal program track.

For more information about the Conference visit <http://www.americanrenewables.org> or for information about the geothermal track and events contact Karl Gawell at research@geo-energy.org, or 202-454-5261.

MIT Energy Conference, April 11–12, Cambridge, MA

Registration is now open for the MIT Energy Conference, which brings together leaders in technology, policy, entrepreneurship, and finance to discuss multidisciplinary solutions to our global energy challenges. Based on the 2008 theme of “Solutions that Scale,” panel sessions will cover: Nuclear Power, End-Use Efficiency, Carbon Capture and Sequestration, Geothermal Energy, Transmission Infrastructure, Vehicles, and the all-conference session Renewables at Scale. Many of these panels will be moderated by MIT faculty who are leading researchers in these fields.

For more information and to register, visit <http://mitenergyconference.com/>.

4th International Geothermal Conference, April 24, Freiburg, Germany

The International Geothermal Conference takes place in Freiburg, Germany in April 2008 for the fourth time. The event provides information about Technology, Financing and Insurance of geothermal projects and ideal conditions to network with international business partners.

For application and more information please visit www.geothermiekonferenz.de.

SMU Geothermal Conference, June 17–18

Southern Methodist University will put on a Geothermal Conference covering geothermal oil and gas wells June 17–18, 2008. More information will be provided when it becomes available.



GEA Update

A newsletter for GEA Members written by Leslie Blodgett 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