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National News

We Have Just Begun to Tap Geothermal Energy's Potential, Industry Leader Tells Congressional Hearing

A leading US geothermal developer applauded new House legislation seeking to tap possibly hundreds of thousands of megawatts of new geothermal energy to meet US power needs. "Today, nearly 3,000 MW of new geothermal power are under development, which will create over 10,000 new jobs and new investment of over \$7 billion, but much more is possible," Paul Thomsen, Public Policy Manager of Ormat Technologies, told the House Science Subcommittee on Energy and Environment.

"Today, we are tapping only 3.5% of the estimated hydrothermal resource base. Is that acceptable when our country imports 10 million barrels of oil a day and is 60% dependent on net petroleum imports?" Paul Thomsen, Public Policy Manager of Ormat Technologies, asked the House Science Subcommittee on Energy and Environment.

The House Committee on Science, Subcommittee on Energy and Environment hearing, titled, "Developing Untapped Potential: Geothermal and Ocean Power Technologies," examined proposed legislation that could significantly boost geothermal energy production. Rep. Jerry McNerney (D-CA), recently introduced a bill, HR 2304, that would "direct the Secretary of Energy to conduct a program of research, development, demonstration, and commercial application for geothermal energy, and for other purposes." The legislation authorizes \$400 million for geothermal research for fiscal years FY 2008 through FY 2012.

"The OMB proposal to terminate geothermal research is not only short-sighted, it just doesn't make any sense," commented Thomsen. "By passing this legislation, Congress will recognize that we have just begun to tap the enormous potential of geothermal energy in this country." Paul Thomsen spoke on behalf of his company as well as the U.S. geothermal trade association, the Geothermal Energy Association (GEA). OMB had proposed zeroing out geothermal programs at the Department of Energy in its FY 07 and FY 08 budgets.

"There are substantial needs for improvements in technology, resource information, and efficiencies for which federal research are vital," said Karl Gawell, GEA Executive Director. "Rep. McNerney's legislation is urgently needed to ensure that federal energy programs work to tap the tremendous potential of our nation's geothermal energy resources."

"Today, we are tapping only 3.5% of the estimated hydrothermal resource base. Is that acceptable when our country imports 10 million barrels of oil a day and is 60% dependent on net petroleum imports?" Thomsen told the Subcommittee. "HR 2304 recognizes the answer is no and the time to take action is now," he emphasized.

The potential for geothermal energy production is significant, with only a fraction of the potential currently tapped. According to Thomsen's testimony, "a vast potential exists that could help meet the country's growing electricity needs, spur economic growth and help reduce emissions of greenhouse gases." Recent reports by the National Renewable Energy Laboratory and the Massachusetts Institute of Technology both estimate that over 100,000 MW of geothermal power is possible in the future, with continued research and development support. *To view a copy of Thomsen's testimony, and GEA's statement for the record, please visit the GEA website at www.geo-energy.org or email research@geo-energy.org.*

Science Subcommittee Hearing on Geothermal Energy Shows Support for HR 2304

Congressional support for geothermal energy research was highlighted by the House Science Subcommittee hearing on HR. 2304. The sponsor of H.R. 2304, Rep. Jerry McNerney (D-CA), said "as a nation, it is imperative that we work towards energy independence. Geothermal energy should be an important component of our efforts because geothermal energy is an incredibly promising renewable energy source – it's clean, constantly available and 100% domestic," McNerney said. "This bill authorizes funding for the research and development of cutting edge geothermal energy technologies for the 21st century, which will both address global climate change and lead to the creation of a new energy technology economy."

The Subcommittee summarized the geothermal research provisions of HR 2304:

- Authorizes \$80 million a year, from fiscal years 2008 through 2012;
- Establishes an "industry-coupled exploratory drilling" program, which is a cost-shared program with industry partners to demonstrate and apply advanced exploration technologies;
- Provides for the creation of two centers of technology transfer as information clearinghouses for the geothermal industry.
- Addresses R&D for Enhanced Geothermal Systems, in which no naturally-occurring fluid source or reservoir is available, thus a reservoir must be created to extract hot water or steam.

Subcommittee Chairman Nick Lampson said in his opening statement: "These bills are about addressing overlooked opportunities in our collective efforts to create good American jobs, diversify our energy supply, increase our security, and reduce the environmental impact of energy production.

"For decades, the United States has tapped geothermal energy for heating applications and to produce clean electric power. We know this resource works. But most geothermal development has occurred in locations where underground reservoirs of very hot water or steam – so called hydrothermal systems – have been shallow and easily identifiable from the surface. Unfortunately, since obvious surface manifestations of geothermal energy do not occur in very many places, geothermal is often thought of as a marginal resource – not one that can play a major role in our power generation portfolio across the nation."

"This view is inaccurate. In actuality, the obvious locations barely scratch the surface of the total geothermal potential underneath the United States. By investing in advanced technologies for exploration and development, we can learn how to identify hidden resources that have no surface manifestations, and even learn to create new resources in hot rock where no natural reservoir or fluid exists. In doing so, we have the potential to dramatically expand our geothermal energy reserves."

"In addition to being clean, domestic, and renewable, geothermal energy flows in an uninterrupted stream, making it great for baseload power production. And the amount of energy stored in the earth's crust is enormous. A recent report by an MIT-led panel of experts estimated that, with a comparatively modest investment in technology development, as much as 200,000 "quads" of geothermal energy could become

commercially accessible – an amount equal to 2,000 times the total energy consumed in the U.S. each year,” Lampson concluded.

The House Science Committee Hearing on Geothermal and Ocean Energy brought a strong showing from Representatives, with nine in attendance: Representatives McNerney (D-CA), Lampson (D-TX), Hooley (D-OR), Inglis (R-SC), Neugebauer (R-TX), Diaz-Balart (R-FL), Woolsey (D-CA), and Giffords (D-AZ).

Besides geothermal representatives from Ormat and MIT (details discussed in article above), a spokesperson from NRDC talked about the importance of “including environmental impacts” in our assessment of new resources. The representative recommended we be cognizant of the “unknowns,” citing difficulties the wind industry ran into with bird impacts, which might have been avoided if such unknowns were adequately studied before development took place. The representative concluded that his organization supports the increased development of geothermal energy.

What follows are some paraphrased highlights from the question and answer portion of the hearing. Note that some of the Q&A has been omitted, and all text is paraphrased rather than reproduced verbatim:

Q (Lampson): Is geothermal a mature technology?

A (Thomsen): Geothermal is a resource captured by a suite of technologies representing a spectrum of maturity levels. Geothermal is itself not a technology.

Q (Inglis): Are you saying we can capture 100,000 MW of geothermal energy?

A (Tester): We looked at whether or not EGS could feasibly produce 10% of current electricity demand, which equals roughly 100,000 MW. We found that EGS could through relatively modest investment in technology. Geothermal will never be limited by the accessibility of the resource – it will be constrained by technology and cost

Q (McNerney): Will the cost of \$3 million per MW of capital investment go down with time?

A (Thomsen): With increased investment in technology by the federal government, the cost could go down, but without that investment and without a robust geothermal program, the cost likely will not. Ormat employs a significant percentage of local area workers when building their plants, and geothermal supplies many more jobs per megawatt hour than other energy sources.

A (Tester): While EGS in its current early development stages is now twice the current cost of electricity, after 12 to 15 years the cost will likely be competitive. We need engagement by the federal government in order to bring costs down.

Q (Woolsey): Is the current PTC adequate for geothermal technologies?

A (Thomsen): The geothermal industry is thrilled to be included in the PTC along with wind and other renewable technologies. The current amount of the PTC [1.9 cents/kWh] is adequate. However, the geothermal industry, especially, is in need of a sustained commitment from the government. Geothermal projects require 3 to 5 years to begin operation, so the small timeframe allotted with the PTC is not adequate for most geothermal facilities. Only two geothermal facilities, which happen to be Ormat’s, have benefited from the PTC so far, and the development of both began long before the PTC was awarded to geothermal energy.

Energy and Environment Daily reported that the House Science Subcommittee was expected to move “very quickly” on the geothermal and ocean energy research bills.

The hearing received press from Globes Online (Israel), and KCBS (Bay Area news). The links for those articles can be found at, respectively,

<http://www.globes.co.il/serveen/globes/docview.asp?did=1000213182&fid=942> and
<http://www.kcbs.com/pages/480251.php?contentType=4&contentId=520586>.

Rising Energy Costs Spur Business to Action, Study Shows

More than three-quarters of American business leaders believe energy prices are going to continue climbing, and as a result 60 percent of them say their companies have already or will soon implement energy efficiency in their offices and operations. The survey of 1,250 of executives from companies large and small, across sectors, conducted by Johnson Controls in March 2007 and published recently, found that a variety of economic and environmental concerns are pushing business to adopt energy efficiency in a big way. More than half of the respondents -- 52 percent -- said saving money is the main or primary reason behind the move to reduce energy use, while only 13 percent said environmental concerns were the main motivator. Both economic and environmental reasons figured prominently for 35 percent of the execs. Despite their recognition of the importance of saving money by saving energy, most of the companies surveyed have not extended the amount of time they're willing to wait for new efficiency projects to pay for themselves. 64 percent said their maximum payback period is between two and five years, and only 18 percent of those surveyed said their companies would allow a longer payback period today than five years ago. About 45 percent say the required payback period has not changed compared with five years ago. *For more information, please visit http://www.greenbiz.com/news/news_third.cfm?NewsID=35094.*

Will Federal Participation in the Transmission Siting Be Helpful?

The federal presence in transmission siting began to insinuate itself late in April when the Department of Energy announced designation of two draft National Interest Electric Transmission Corridors (NIETC), one in the Mid-Atlantic, and one in the Southwest, encompassing California, Nevada and Arizona, an *Energy Prospects* Article recently reported. According to Energy Secretary Samuel Bodman, the corridors are areas where a significant transmission constraint or congestion problem exists "that has advanced to the point where we have a national interest in trying to alleviate it." Specifically, he said, the designations, called for by the Energy Policy Act of 2005, are "a first step in providing the Federal Energy Regulatory Commission with siting authority that supplements existing state authority."

DOE announced public meetings on the proposed designations in May in Washington D.C., New York and San Diego. The Arizona Corporation Commission, among others, protested that faraway set of locations, and on May 8, DOE said meetings would be held in June in four other cities, including Phoenix and Las Vegas. The most important part of Section 1221 of EPAct, according to Doug Larson, executive director of the Western Interstate Energy Board, isn't the corridor designation, but Section 1221(h), which requires DOE and FERC to coordinate permitting by federal agencies to assist transmission. At a Western Electricity Coordinating Council meeting last month, Larson said he pointed out the feds' poor track record in coordinating permits and asked FERC and DOE reps what would change if the Southwest corridor were designated a NIETC. Larson said their response was "mushy," something along the lines of "they will try to do better." *For more information, please visit http://www.energyprospects.com/cgi-bin/package_display.pl?packageID=2241.*

CPUC Approves Demand-Response Programs despite Criticism

The California Public Utilities Commission this month approved plans of two investor-owned utilities to provide up to 364 MW of demand response starting this summer and running through 2011, despite concerns that the programs were unnecessary and costly. At a business meeting, President Michael Peevey also warned IOUs to "pick up the pace" on demand response, noting that the CPUC set a goal of 5 MW of demand response for each IOU this summer. But Pacific Gas & Electric has reached only 3 percent of the goal, San Diego Gas & Electric is at 2 percent and Southern California Edison is below that.

The CPUC also decided this month to allow load-serving entities to use short-term contracts to meet renewables portfolio standard requirements. The catch is that 0.25 percent of the prior year's sales must come from long-term contracts. In explaining the 0.25-percent number, the decision stated that a requirement of 1 percent "would essentially require 100 percent or even more, of incremental procurement growth to be from long-term contracts or contracts with new facilities." But a "more modest minimum contracting requirement will prevent the large utilities from backsliding in their RPS procurement," while providing for smaller LSEs to contribute to the state's goals with new green power. The decision was influenced by SB 107 signed into law last year, which among other things allowed the CPUC to approve

short-term RPS contracts, though such contracts are ineligible for supplemental energy payments. *For more information, please visit http://www.energyprospects.com/cgi-bin/package_display.pl?packageID=2244.*

The National Governors' Association Center for Best Practices Issues New Report on State Energy Programs

The National Governors' Association Center for Best Practices (NGA Center) issued a new report on May 16, 2007 titled *Recent State Actions Promoting Alternative Energy*. This report reviewed State energy programs to identify best practices in promoting, administering, financing, and implementing clean energy policies. Common themes included:

- Setting renewable portfolio standards;
 - Establishing renewable fuels standards for transportation and heating;
 - Setting efficiency standards for government buildings and fleets;
 - Establishing financing mechanisms for advanced energy technology programs; and
 - Measuring and monitoring energy savings and environmental benefits.
- In their 2007 State of the State addresses, 92 percent of governors highlighted policies on the environment, energy and natural resources, with 39 specifically mentioning new proposals to pursue alternative sources of energy.

In addition to identifying universal themes and success stories among various state energy programs, the Issue Brief documents the impact and influence of State Energy Offices through case studies for six states: Minnesota, Nevada, New Mexico, New York, Pennsylvania and Washington. *For more information and to download a copy of the report, visit www.nga.org.*

Nuclear Power Uses Needed Water Resources

A recent article discusses the high water usage required of nuclear power. If temperatures soar above average this summer - let alone steadily increase in years to come, as many scientists predict - many nuclear plants could face a dilemma: Either cut output or break environmental rules, in either case hurting their reputation with customers and the public. Governments and the energy industry are just starting to grasp the vulnerabilities of water-hungry power plants.

"We're going to have to solve the climate-change problem if we're going to have nuclear power, not the other way around," said David Lochbaum, a nuclear engineer who is with the Union of Concerned Scientists. "As the climate warms up, nuclear power plants are less able to deliver," he said.

In France, a country with a large percentage of nuclear energy, 17 nuclear reactors operated at reduced capacity or were turned off during the extreme heat of 2003, and costs to the company increased significantly. Besides the difficulty of finding enough cool water, there's also the damage to the ecosystem as plants and fish react negatively to the vast amounts of hot water dumped into rivers. Last month, scientists at the Intergovernmental Panel on Climate Change warned Europeans to expect severe water shortages in the decades ahead as glaciers dry up, snowfalls decrease and temperatures rise. Weather services in France and Britain already have warned that the region may face a hot summer this year after months of unseasonably warm weather. *For more information, please visit <http://www.iht.com/articles/2007/05/20/africa/nuke.php>.*

Company News

Polaris Geothermal: Provides Update on Concession Dispute

TORONTO, ONTARIO -- (MARKET WIRE) -- May 15, 2007 -- Polaris Geothermal Inc. ("Polaris Geothermal" or the "Company"), (TSX: GEO) a renewable energy geothermal power producer, wishes to

provide a status report respecting Resolution PGR/HE-05-2007 dated February 23, 2007 (the "Resolution") which was issued by the Office of the Attorney General of the Republic of Nicaragua (see the Company's press release dated February 26, 2007).

Polaris is pleased to announce that today it has entered into a memorandum of understanding (the "MOU") with the Ministry of Energy and Mines of the Government of Nicaragua respecting the exploitation by Polaris of the San Jacinto-Tizate geothermal concession. Pursuant to the terms of the MOU, the parties agreed that it is of vital importance to the government of Nicaragua to equally protect foreign and local investment for public and private participants of the energy sector to take advantage, in a rational and efficient manner, and as soon as possible, of the country's potential for the generation of electricity. The parties expressed a commitment to devote their best efforts to reach agreement to overcome all obstacles and to guarantee the accomplishment of the program established in the currently valid 66MW generation license and in so doing achieve this goal before the end of 2009, eventually achieving, in the medium term, a more efficient use of the project's total potential. In order to accomplish these objectives, Polaris will present an updated proposal for a working schedule with the objective of completing the Addendum as quickly as possible.

Tom Ogryzlo, the President and Chief Executive Officer of Polaris stated that "The entering into of the MOU with the Government of Nicaragua represents an important step in the right direction for Polaris to resolve once and for all the title issues surrounding the San Jacinto-Tizate concession. We intend on working through the outstanding issues with the Nicaraguan Ministry of Energy and Mines in order to sign a definitive addendum agreement of the existing concession agreement".

Sierra Geothermal Power Corp.: Announces Preliminary Drilling Results From The Reese River Project, Nevada

Vancouver, British Columbia, May 16, 2007 - Sierra Geothermal Power Corp. ("Sierra Geothermal") (TSX Venture: SRA) is pleased to announce preliminary drilling results from the Reese River exploration well 56-4. We are encouraged by the results from the recently completed well on the Reese River Geothermal Project. The exploration well was drilled on the southeast flank of the thermal gradient anomaly and was designed to test the reservoir characteristics. Independent consultants, GeothermEx Inc., have provided a preliminary evaluation of the exploration results and recommendations as follows:

"It should be noted that additional data that may be collected in the future could change some of these conclusions slightly. In particular, it is likely that part of the well had not heated up fully at the time of the last downhole temperature / pressure survey (April 28, 2007). Well 56-4, drilled to 1,198 m (3,930 feet), has encountered temperatures of at least 124 degrees Celsius (256 degrees Fahrenheit), confirming the evidence from shallow drill holes that a significant geothermal anomaly is present at drillable depths. Some additional heat-up of the well is expected as it recovers thermally from the drilling process, although a large increase in the maximum measured temperature is not likely. A positive temperature gradient is present throughout the well, indicating that still-higher temperatures occur at greater depths. There is not yet a basis for estimating what the maximum resource temperature may be. A major loss of circulation that occurred while drilling at 923 meters (3,028 feet) indicates the presence of permeability within the Paleozoic basement rock, in a zone where temperatures exceed at least 110 degrees Celsius (230 degrees Fahrenheit). However, the nature of the temperature profile in the well, and the results of well completion testing, suggest that this zone is above the principal geothermal reservoir, which probably lies (at this location) deeper than the bottom of well 56-4. The exploration well has provided valuable information regarding subsurface geology and the distribution of temperature and permeability within the Reese River geothermal anomaly. Production and analysis of fluid from the deep permeable zone in the well may yield a more precise estimate of the maximum resource temperature than is currently available. Additional exploratory drilling in the Reese River field is warranted by the results of 56-4. The objectives of subsequent exploratory wells should be to confirm the presence of higher temperatures (as indicated by 56-4), to define the extent of the thermal anomaly at deeper levels, and to identify and delineate zones of elevated reservoir permeability. Wells of design similar to 56-4, possibly supplemented by deep temperature gradient holes, would be appropriate to accomplish these objectives."

Further planned work for the well 56-4 includes obtaining fluid samples for geochemical analysis and additional temperature profiles. Further exploration work is being planned at the Reese River project. Additional well sites and temperature-gradient holes have already been permitted and geophysical surveys and production assessment wells are being considered for permits.

The Reese River project was rated by Richards and Blackwell as one of the top 15 undeveloped geothermal prospects in Nevada (Source: Geothermal Resource Council, Bulletin March/April 2002, The Forgotten Ones). Phillips Petroleum and Amax Exploration drilled 52 temperature-gradient holes during the 1970's and 1980's. Contoured data of the temperature-gradient wells outline a 150 degrees C/km heat-flow anomaly that is approximately 4.8 km (3 miles) long in the northeast direction by approximately 1.6 km (1 mile) wide. The center of the anomaly reaches a temperature gradient of over 500 degrees C/km with an overall average of 225 degrees C/km. The maximum calculated heat flow at Reese River is 1117 mW/m² (Amax 1998). Using a Monte Carlo simulation, the potential geothermal resource at Reese River was estimated to have a 90% probability of generating 13 MW and a 50% probability of exceeding 30 MW (Source: New Geothermal Site Identification and Qualification, PIER study prepared by GeothermEx, 2004). A 30 MW power plant is able to produce enough electricity to power 24,000 homes. *To view the press release, please visit [http://www.integratir.com/newsrelease.asp?news=2130982872&ticker=V.SRA&lang=EN&ny=on&title=ull](http://www.integratir.com/newsrelease.asp?news=2130982872&ticker=V.SRA&lang=EN&ny=on&title=null).*

Renewable News

U.S. Retains Top Spot for Attractiveness to Renewable Energies

The United States continues to be the most attractive country in the world for renewable energies, according to a quarterly global assessment. An 'all renewables' index was comprised of four parts: onshore wind, offshore wind, solar, and 'biomass and other.' 'Other' includes geothermal along with small hydro, landfill gas, wave, and tidal. Weighting on the 'all renewables' index is based on 85% for wind (70% onshore and 30% offshore), 5% for solar and 10% for biomass and other renewable resources.

The 'biomass and other' rankings are as follows (from most attractive to least attractive): USA; Germany; Spain and UK (tied); Italy, France, and Sweden (tied). For overall renewables, the U.S. also received the top ranking. India moved up from third place in the previous ranking to share second place with Spain. The UK remains in fourth place, but now shares that spot with Germany which rose from fifth spot. China remained in sixth spot but it now shares the spot with Italy. *To view the full report, please visit [http://www.ev.com/Global/download.nsf/International/Industry_Uilities_RenewableIndices-Q4-06/\\$file/Industry_Uilities_RenewableIndices-Q4-06.pdf](http://www.ev.com/Global/download.nsf/International/Industry_Uilities_RenewableIndices-Q4-06/$file/Industry_Uilities_RenewableIndices-Q4-06.pdf).*

Fossil Executives Say Mass Production of Renewables not a Near-Term Possibility

Executives in the U.S. oil and gas industry say government involvement in supporting the development of renewable energy sources is necessary to alleviate the problem of declining oil reserves. In a survey of 553 financial executives in April, the tax firm KPMG found 25% of respondents want at least 75% of government funding into energy to be directed at renewables, and another 44% want at least 50% to be allocated in the same way. An overwhelming majority (82%) cite declining oil reserves as a concern. While oil and gas executives want renewables to become a mass-produced reality, 60% say it will not be possible by 2010. Of those that do believe it, 18% say ethanol is the most viable for mass production by 2010, 13% say biodiesel and only 3% say cellulosic ethanol. The trend of declining oil reserves is irreversible, according to 60% of respondents, and the impact of emerging markets on declining oil reserves will make the situation worse, according to 70%. One-third of the executives said their next personal car will be one that consumes less gasoline, such as a hybrid. Sixty-five percent of respondents believe global warming is occurring but that it is a natural weather cycle, while 11% do not believe it is occurring. Just under one quarter believe CO₂-induced global warming is occurring.

For more information, please visit <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/05-11-2007/0004586351&EDATE=>.

World Bank Seeks More Resources to Mobilize More Renewables

The World Bank has increased its investments in renewable energy projects due to increased demand for renewables as the technologies have become more cost-effective and as emerging market governments adopt policies and regulatory frameworks that support renewables.

The institution has released its report, 'Clean Energy for Development Investment Framework: The World Bank Group Action Plan,' that was prepared for its Development Committee (a joint committee of the Boards of Governors of the World Bank and the Fund On the Transfer of Real Resources to Developing Countries). The Action Plan includes development of sectoral knowledge and approaches in the areas of renewables, energy efficiency and transportation, as well as strategic partnership with the GEF to support continued growth in the low carbon portfolio and leveraging of private finance.

For all low-carbon projects, the Bank lent \$3,092 million in FY06, up from \$1,410 million in FY05 and \$296 million in FY03. With additional resources, GEF and the World Bank could "mobilize a larger-scale renewable energy and energy efficiency markets in smaller and less developed countries," the report concludes. "Although a broad range of proven renewable energy technologies are now commercially available, few have managed to grow their markets to the point that they are truly contributing to the energy access and development agendas." For more information, please visit [http://siteresources.worldbank.org/EXTSDNETWORK/Resources/DC2007-0002\(E\)-CleanEnergy.pdf?resourceurlname=DC2007-0002\(E\)-CleanEnergy.pdf](http://siteresources.worldbank.org/EXTSDNETWORK/Resources/DC2007-0002(E)-CleanEnergy.pdf?resourceurlname=DC2007-0002(E)-CleanEnergy.pdf).

UCS Adds RES Web Page

As part of its campaign to secure congressional action on a National Renewable Energy Standard, the Union of Concerned Scientists has launched a new web page. The web page contains information about current legislation, cosponsors, background information on renewable energy, and more. "We hope the webpage helps those who are helping to pass a strong and clean national standard," noted Ben Larson, UCS' National Field Organizer. You can access the new web page at: http://www.ucsusa.org/clean_energy/clean_energy_policies/res_campaign.html.

Climate Change News

NASA Finds Vast Regions of West Antarctica Melted in Recent Past

A team of NASA and university scientists has found clear evidence that extensive areas of snow melted in west Antarctica in January 2005 in response to warm temperatures. This was the first widespread Antarctic melting ever detected with NASA's QuikScat satellite and the most significant melt observed using satellites during the past three decades. The affected regions encompass a combined area as big as California.

"Antarctica has shown little to no warming in the recent past with the exception of the Antarctic Peninsula, but now large regions are showing the first signs of the impacts of warming as interpreted by this satellite analysis," said a NASA rep. "Increases in snowmelt, such as this in 2005, definitely could have an impact on larger scale melting of Antarctica's ice sheets if they were severe or sustained over time."

The 2005 melt was intense enough to create an extensive ice layer when water refroze after the melt. However, the melt was not prolonged enough for the melt water to flow into the sea. Changes in the ice mass of Antarctica, Earth's largest freshwater reservoir, are important to understanding global sea level rise. Large amounts of Antarctic freshwater flowing into the ocean also could affect ocean salinity, currents and global climate. The study, "Snow Accumulation and Snowmelt Monitoring in Greenland and Antarctica,"

appears in the recently published book "Dynamic Planet." For more information about this study, contact Jim Scott of the University of Colorado, Boulder, at 303-492-3114 or Adriana Raudzens Bailey of the Cooperative Institute for Research in Environmental Sciences, Boulder, at 303-492-6289. *To view the press release, please visit http://www.nasa.gov/home/hqnews/2007/may/HQ_07115_Antarctica_Snow_Melt_prt.htm.*

Senator Klobuchar and Senator Snowe Introduce Bipartisan "Carbon Counter" Bill

U.S. Senator Amy Klobuchar (D-MN) and U.S. Senator Olympia Snowe (R-ME) recently introduced bipartisan legislation that would lay the foundation for a successful national greenhouse gas cap-and-trade program. This legislation would establish the first national greenhouse gas registry—a comprehensive and uniform system to track greenhouse emissions by major industries. One of the most important parts of the "Carbon Counter" legislation is that it subjects emissions statistics to third party verification—unlike the voluntary reporting programs supported by the Bush Administration. What the bill does, in part:

- Amends EPCRA, so that facilities will estimate their greenhouse gas emissions and add it to their annual reports.
- Excludes small businesses (under 500 employees and under \$6.5 million in annual revenue) that generate fewer than 10,000 metric tons of greenhouse gas emissions.
- Requires the EPA Administrator to collect the data and make an economy wide estimate—including estimates of the transportation sector.
- Gives the EPA Administrator the discretion to create a new framework for greenhouse gas emission reporting after 3 years.
- Requires a third party certify reported greenhouse gas emissions—after 2010.
- Directs the Administrator of the EPA to consider cost and to integrate the reporting procedures of any state already administering a mandatory carbon registry system.
- The bill does not label greenhouse gases as toxics, require an emergency response plan, or place limits on which greenhouse gases can be stored, used, released, disposed, or transferred at a facility.

To view the press release, please visit <http://klobuchar.senate.gov/record.cfm?id=274233>.

Surge in Carbon Levels Shows Vegetation Struggling

According to Bristol University researchers, a surge of carbon dioxide levels in the atmosphere in recent years is due to more greenhouse gas escaping from trees, plants and soils. Global warming is making vegetation less able to absorb the carbon pollution pumped out by human activity. Wolfgang Knorr, a climate researcher at Bristol, said, "We could be seeing the carbon cycle feedback kicking in, which is good news for scientists because it shows our models are correct. But it's bad news for everybody else." The research published in the *Geophysical Research Letters*, the authors say, "We find that the remarkable feature of the 2002-03 anomaly seems to be that climate fluctuations - not only related to El Niño and occurring across all latitudes - acted together to create an unusually strong out-gassing of CO₂ of the terrestrial biosphere [...] Further research will be required to investigate if this fluctuation carries features of projected future climate change." *For more information, please visit <http://www.guardian.co.uk/science/story/0,,2077117,00.html?gusrc=rss&feed=11>.*

McKinsey Study Says the Market Alone Can't Cut Carbon

On May 17, McKinsey Global Institute released a study concluding that energy saving opportunities in American homes are immense with current technology, but new product standard mandates will be needed. The report says that projected electricity consumption in residential buildings in the United States in 2020 could be reduced by more than a third if compact fluorescent light bulbs and an array of other high-efficiency options including water heaters, kitchen appliances, room-insulation materials and standby power were adopted across the nation. This would avoid the carbon emissions from over 100 new 600 MW coal-fired power plants. Yet market forces alone will not be enough to cause wholesale adoption of the

most energy-efficient technology, the report said. “The study makes a strong case for what economists tend to shy away from — market intervention,” said Diana Farrell, director of the institute. “But this would be market intervention to correct market distortions that exist.” The solution, the McKinsey report suggested, is more stringent product standards so that all new appliances are energy-efficient models. *For more information, please visit*

http://www.mckinsey.com/mgi/publications/Curbing_Global_Energy/executive_summary.asp.

Director of National Intelligence Supports Climate Change Intel Assessment

In a letter to Congresswoman Anna G. Eshoo, the Director of National Intelligence Michael McConnell informed her of his support to have the National Intelligence Council (NIC) assess the national security implications of global climate change. Eshoo, a member of the House Intelligence Committee, wrote McConnell on April 18, 2007, encouraging him to support the production of an National Intelligence Estimate (NIE) on the security implications of global climate change and to integrate the impacts of global warming into NIE’s and the National Intelligence Strategy. “I believe it’s entirely appropriate for the National Intelligence Council (NIC) to prepare an assessment on the geopolitical and security implications of global climate change,” McConnell said in a letter recently received by Eshoo. *To view the press release, please visit* http://eshoo.house.gov/index.php?option=com_content&task=view&id=311&Itemid=159.

World Mayors Hold Climate Summit in New York

Mayors, business leaders and environmental experts from global cities gathered in New York City from May 14 to 17 for the 2007 C40 Large Cities Climate Summit to pursue joint efforts to combat global warming while insuring economic benefits for cities. In almost every panel and plenary discussion, a common theme was reiterated: We must think big, share information, act fearlessly, and commit ourselves unstintingly to combating global warming for the sake of the future. If we take command of the situation now, with all the boldness and creativity it merits, there’s still time to save the earth—and all that’s worth saving in our current way of life.

On the final day of the C40 Large Cities leadership summit the Mayor of London, Ken Livingstone, Chair of the C40 called on national governments to empower and enable cities to tackle climate change in a joint communiqué agreed by all attending cities. The Mayor also announced that the city of Seoul was chosen by all the 40 cities as the next city to host the C40 summit within the next 2 years. Before the next summit, specific conferences will be hosted on key issues. The city of Los Angeles will host a workshop on tackling carbon from ground based airport emissions. Rotterdam will host a conference and develop an information exchange on reducing emissions from ports and ships. London will host a workshop on tackling traffic congestion. *For more information, please visit*

http://www.nyccimatesummit.com/pressReleases/pr_2007_0516_day2.html.

Rahall Introduces Measure to Reform and Revitalize Energy Policy

The Chairman of the House Natural Resources Committee, Nick J. Rahall (D-WV), recently introduced the “Energy Policy Reform and Revitalization Act of 2007” in an effort to introduce greater accountability in the management of federal energy resources, promote the development of innovative sources of energy, and grapple with the challenges of carbon sequestration and climate change impacts.

The “Energy Policy Reform and Revitalization Act of 2007” highlights:

- Title I: Energy Policy Act of 2005 Reforms – Commonsense measures that require energy companies operating on federal lands to develop oil and gas resources in a more responsible way, avoiding conflict with landowners, communities and wildlife.
- Title II: Federal Energy Public Accountability, Integrity and Public Interest – Sensible provisions that ensure Americans are receiving a fair return for the value of the public resources they own.

· Title III: Alternative Energy and Efficiency – Innovative proposals that provide 21st century solutions to our Nation’s 21st century energy challenges, as the country works to meet the goals of energy independence and chart a new frontier in alternative energy development.

· Title IV: Carbon Capture and Climate Change Mitigation – Practical measures that address climate change by promoting technologies such as geological and terrestrial carbon sequestration, paving the way for the responsible management and proactive planning that will conserve our natural resources and wildlife for generations to come. *To view the press release, please visit <http://resourcescommittee.house.gov/News/PRArticle.aspx?NewsID=86>.*

Take Firmer G8 Climate Stance, Democrats Urge Bush

Democratic congressional leaders urged President George W. Bush recently to “reverse course” and strengthen -- not weaken -- the U.S. stance on global warming in a declaration by the world's richest countries. Fifteen heads of committees in the House of Representatives cited reports that the Bush administration wants to delete references to specific limits on global warming and the greenhouse gases that spur it from a declaration by the Group of Eight industrialized countries next month.

“We are deeply concerned about reports that the United States is seeking to weaken a proposed G8 declaration regarding global climate change,” they said in a letter to Bush. “We are writing to urge you to reverse course and strengthen the G8 declaration. The United States must no longer delay action to address this major threat. Support is growing for aggressive legislation to cap global warming pollution and cut it dramatically over the coming decades,” they wrote. “But we need an Executive Branch that engages the rest of the world to solve this problem rather than stubbornly ignoring it.”

The chief U.S. climate negotiator, Harlan Watson, said recently that the United States will continue to reject emissions targets or plans to cap greenhouse gas emissions and set up a system where allowances for this could be traded, a plan known as cap and trade.

The lawmakers who signed the letter to Bush are: Henry Waxman, Tom Lantos, George Miller and Bob Filner of California; Charles Rangel, Nydia Velazquez and Louise Slaughter of New York; Barney Frank and Edward Markey of Massachusetts; Bart Gordon of Tennessee; James Oberstar of Minnesota; John Conyers of Michigan; Stephanie Tubbs Jones of Ohio; David Obey of Wisconsin, and John Spratt of South Carolina. *For more information, please visit <http://www.nytimes.com/reuters/washington/politics-climate-usa-congress.html>.*

Senate Defeats Climate Change Measure

The US Senate, after one of its first full debates on global warming, recently defeats a proposal requiring the Army Corps of Engineers to consider the impact of climate change in designing water resources projects. The vote was 51 to 42 in favor of the amendment to a water projects bill, falling nine short of the 60 votes needed to approve it under the rules set for the debate. Opposition was led by Jim Inhofe of Oklahoma, the top Republican on the Environment and Public Works Committee and the Senate's leading skeptic of human-induced global warming. But sponsors of the proposal say it is significant that the Senate is finally facing the issue head-on. Democratic Senator John Kerry of Massachusetts says it's the first time in this session of Congress that climate change has reached a vote on the Senate floor. Inhofe says that the global warming theory is being perpetrated by, quote, "environmental alarmists who want to scare people." *For more information, please visit <http://www.kten.com/Global/story.asp?S=6521552>.*

House Science Committee Is First to Hear from Authors of IPCC Report on Mitigation Strategies

At the third of a series of hearings aimed at addressing the science, research and findings of the Intergovernmental Panel on Climate Change’s Fourth Assessment Report, the House Committee on Science and Technology was the first Congressional forum for the distinguished authors of the recently

released Third Working Group Report. That report – released May 4, 2007 in Bangkok – highlights the key findings of the comprehensive appraisal of the current state of scientific knowledge on strategies to mitigate climate change. This third section of the IPCC’s Fourth Assessment Report, entitled “Mitigation of Climate Change,” builds on previous findings to begin the discussion on global adaptation and mitigation strategies needed to counteract the effects of increasing greenhouse gas concentrations in the atmosphere. The report also addresses the relationship between mitigation and sustainable development.

Looking in detail at the most promising technologies for reining in heat-trapping gases, Working Group III’s report outlines, among other things, shifting energy sources away from fossil fuels as soon as possible. The Third Working Group report did not point to any single policy or group of technologies that will achieve emission reductions. The IPCC deduced that each nation and region must participate in a global effort to reduce emissions by developing strategies that will work within their respective economic and social frameworks. *To view the press release, please visit <http://science.house.gov/press/PRArticle.aspx?NewsID=1827>.*

State News

Alaska: Senator Murkowski Talks to Newsweek about Global Warming, Energy

Newsweek recently interviewed Alaska Sen. Lisa Murkowski about energy and climate change. She spoke about geothermal as a renewable worth promoting that could combat global warming. Remarks from the interview are reproduced in part below:

What has climate change done to Alaska?

Lisa Murkowski: We see climate change in the state, I would say, on a daily basis. We see change in the vegetation that seems to be migrating northward. We see different bushes and different types of trees...

How would your legislation combat global warming?

The primary focus is on renewables and alternatives. I have a very keen interest in promoting some of the less-known renewables, including geothermal and ocean energy, which also includes energy from the rivers. Some of these lesser knowns have been pushed off to the side when it comes to support from the government. Whether it’s tax incentives, grants, etc., the reality is that a truly balanced energy portfolio is going to include a wide range of alternatives.

You’ve also said you’re concerned about energy independence. What should the United States be doing? I think we have yet to develop much of our own domestic resources. The Arctic National Wildlife Refuge is an area in Alaska we have been trying for 25 years to get the permission of Congress to explore and develop.

Won’t drilling for more oil make global warming worse?

What some might perceive as the contradiction in further drilling, when we take into account the mean estimate of what we take from ANWR, it will be the equivalent of what we have seen from Prudhoe Bay, which has produced 20 percent of this country’s oil [production]. If we could tap into a source that could contribute that much to our economy and do it in an environmentally sound way, this allows us to transition to the next generation of energy. *For the full interview, please visit <http://today.msnbc.msn.com/id/18746084/site/newsweek/>.*

California: Clean Energy Technologies Competition Offers \$600,000 in Prizes

The California Clean Tech Open, a competition founded to accelerate the creation of clean technology companies, announced the launch of its second annual competition on May 15th at San Francisco City Hall. The 2007 competition runs through October and is divided into six categories: renewable energy, transportation, smart power, energy efficiency, green building, and air-water-waste management. Co-sponsored by Pacific Gas & Electric, San Diego Gas & Electric and Southern California Edison, the renewables category received the largest number of entries in the 2006 competition, said Michael Santullo,

co-chair of the CCTO. And considering the amount of attention renewable energy has been receiving this year in the media as well as on Capitol Hill, the diversity of submissions in the renewables category is expected to exceed last year's entries by a significant amount.

Teams of two or more wishing to enter the competition may submit an executive summary detailing their idea through June 30. From there, 10 finalists will be selected in each of the six categories. These finalists then take part in a number of mentoring and networking exercises along with business-process workshops throughout the summer -- before presenting their ideas to a distinguished panel of judges in the fall. Winners in each category will be announced in October, and each awarded \$50,000 in cash, plus more than \$50,000 in services including a year of office space as well as legal, public relations and accounting services. *For more information, please visit <http://www.renewableenergyaccess.com/rea/news/story?id=48529>.*

California: to Change Fuel Mix by Ranking Carbon Output

California scientists recently revealed a formula for calculating the amount of greenhouse gases emitted from the full cycle of fuels -- from extraction and harvesting to combustion -- said David Crane, an advisor to California Gov. Arnold Schwarzenegger. The rankings will calculate emissions of inputs used to make the fuels, such as the fertilizer and diesel used to grow and harvest corn-based ethanol from the US Midwest, or the diesel and natural gas burned to dig and melt crude from Canada's tarry oil sands. Schwarzenegger's plan is still being hashed out, but beginning in 2010 businesses that sell low carbon fuels could earn credits they would sell to oil companies that can't meet the new rules, Crane said. The rankings would combine with the lower emissions standard to encourage tough competition between companies for making the lowest carbon fuel comparable to putting them "in a boxing ring competing to provide the product to win consumer favor while meeting the standard," he said. The California Environmental Protection Agency said the ranking formula has the potential to become an international standard. *For more information, please visit <http://www.planetark.com/dailynewsstory.cfm/newsid/41928/story.htm>.*

International News

Australia: Company Invests in Geothermal, Calls it Best Renewable Option

Beach Petroleum is hedging against an inevitable national carbon credits scheme by investing in geothermal exploration, managing director Reg Nelson said recently. Speaking at a South Australian Chamber of Mines and Energy lunch, Mr Nelson said Beach had already spent \$10 million for a share of the Paralana hot rocks project north of the state with Petrathern. It expected to spend a further \$20 million to install a power plant to supply power to the Beverley uranium mine by 2009. "We don't know what form a carbon credits scheme will take but I believe it will happen," he said. "Geothermal power will definitely become more and more considered for long term revenue potential, particularly for carbon credits. Hedging, of course, is secondary to what we see as a commercial proposition."

While geothermal would be a "small component" of Beach's oil and gas assets going forward, it would grow over an expected period of transition to renewable energy power generation. Beach also was looking at potential geothermal projects in "politically stable areas" of Europe, where there was heavy reliance on Russian gas reserves and higher prices for that commodity. "From an oil and gas industry perspective, it is one of the big issues in terms of carbon emissions. If all new power generation in Australia was gas, we wouldn't meet emissions targets," Mr Nelson said. He said Beach's natural talents were in exploration, with geothermal an easy fit because it used the same equipment and skills as oil and gas. "I do think that's where our natural skills lie (in exploration) and it's where we can make the greatest value," Mr Nelson said. "In terms of base load power, in terms of reliability, it's geothermal. "Unless you can store energy from wind farms effectively, and solar power, it's problematic." *For more information, please visit <http://www.news.com.au/adelaidenow/story/0,22606,21750973-913,00.html>.*

Australia (West): Desalination Plant to be Powered by Geothermal Energy

Water Corporation boss Jim Gill revealed recently that the authority would buy at least two sites between Bunbury and Lancelin before the end of the year for more desalination plants. The sites are part of a 50-year plan to use the Indian Ocean to service Perth and regional areas. The Government wants one of the plants (priced at close to \$1 billion) to be powered by renewable energy and favors geothermal. It has called for expressions of interest from companies to establish geothermal plants in WA, with the hope one will be built near the desalination plant. Energy Minister Fran Logan said 15 companies had responded. He said he would introduce legislation shortly to allow companies to gain geothermal exploration licenses. "Once it is passed, I expect even greater interest in the prospect of developing geothermal power generation in WA," he said. *For more information, please visit* <http://www.news.com.au/perthnow/story/0,21598,21759806-2761,00.html>.

Indonesia: Medco Seeks Kyushu Involvement in Geothermal Power

Indonesian energy explorer PT Medco Energi Internasional Tbk is in talks with Japan's Kyushu Electric Power Co. to be part of a team building a geothermal power plant, a company official said recently. Last year, Indonesian state electricity firm PT Perusahaan Listrik Negara (PLN) awarded a contract to a consortium of Medco, Ormat Technologies and Itochu Corp. to build a 330-megawatt geothermal power plant in Sarulla in North Sumatra. "We want Kyushu to participate in Sarulla geothermal power plant, because Kyushu has experience in this field," Medco chief executive officer Hilmi Panigoro told reporters. "Medco is ready to give up some of its stake in the Sarulla project to Kyushu," he said, but gave no details. He said Medco has a 62.25 percent stake in Sarulla, Itochu 25 percent and Ormat 12.75 percent.

Indonesia, the Asia-Pacific's only OPEC member, is tapping alternative sources of energy to meet rising power demand and cut consumption of expensive crude oil as its own reserves dwindle. Indonesia has the potential to produce an estimated 27,000 MW of electricity from geothermal sources. However, the vast potential remains largely untapped because the high cost of geothermal energy makes the price of electricity generated this way expensive. Panigoro said the Sarulla geothermal plant can be expanded to 1,000 MW in future. We plan to build 110 MW as the first phase and it will be followed up by another 220 MW. We will see if it is possible to expand it to 1,000 MW in future," Panigoro said. An official at PLN said the Sarulla project will cost around \$600 million. Mines and Energy Minister Purnomo Yusgiantoro has said Indonesia generates 850 MW electricity from geothermal energy and plans to increase that to 9,500 MW in 2025. *For more information, please visit* <http://uk.reuters.com/article/oilRpt/idUKJAK1445820070516>.

New Zealand: Company to Expand its Geothermal Plant

Top Energy is optimistic that the Commerce Commission will give the green light to expand its Ngawha Geothermal Power Station. The competition watchdog is considering whether to exempt the lines company from a law that prevents it owning a power generation company. Top Energy has an exemption to generate up to 12 megawatts at the station, but needs another if it is to boost output to 25MW and meet 75 percent of the Far North's electricity needs. A meeting with the commission earlier this month was positive and Top Energy is confident of receiving a favorable decision in about a month, CEO Roger de Bray says. "I'm not anticipating any difficulties," he says. In the meantime, construction of the new \$65 million power station is going well, Mr de Bray says. Earthworks to create pipeline routes and a building platform for the station are 90 percent complete. A dam and reservoir, which will hold 65,000 cubic metres of water for reinjection into the geothermal field, should be finished within a month. Drilling a well for reinjection purposes will begin in July, while pipes connecting geothermal wells to the new station will be laid before Christmas. Generation plant being built in Israel should be in the country by February, allowing Top Energy to commission the new station in August, 2008. *For more information, please visit* <http://www.stuff.co.nz/northland/4060493a1927.html>.

Notices

Nominations Sought for Individual “Shaping the Future of the Utility Landscape” (Due May 31)

The Knowledge2007 Utility CIO of the Year award program will recognize a CIO who has demonstrated exceptionally innovative leadership through effective use of technology in support of the strategic initiatives of his/her organization. Nominate a deserving leader who is shaping the future of the utility landscape. Submit your abstract TODAY and help shape the program. Award nominations must be submitted no later than May 31, 2007. Winners will be announced November 14, 2007 at Knowledge2007 in Austin, Texas.

Nominations are being accepted in two award categories

- Large Utilities (those with more than one million customers)
- Small Utilities (those with less than one million customers)

The individual or organization making the nomination may be a peer, superior or subordinate of the nominee and does not have to be a member of the information technology department.

For more information, please visit www.knowledge2007.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.

DOE Offices Release Best Practices for Distributed Energy Interconnection Procedures for State Consideration

The U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (EERE) and Office of Electricity Delivery and Energy Reliability (OE) have jointly developed voluntary “best practices” for use by States in implementing interconnection requirements that allow for simple connection of distributed energy technologies to the electric grid. Recognizing that Section 1254 of the Energy Policy Act of 2005 requires each State to consider interconnection procedures and complete its determination by August 8, 2007, EERE and OE offer these “best practices” to assist States in those determinations. *For more information, please visit http://www1.eere.energy.gov/news/progress_alerts/progress_alert.asp?aid=221.*

Requests for Offers/Proposals (RFPs)

Request for Information on Geothermal Co-Production

The DOE Golden Field Office has posted a new Request for Information entitled, "Demonstration of Electric Power Generation Using Geothermal Energy Co-Produced with Oil and/or Gas Wells." Please note that this is a Request for Information (RFI) and not a Funding Opportunity Announcement. DOE is simply seeking information from the geothermal industry and academia regarding the technical feasibility and economic viability of electric power generation using geothermal energy co-produced with oil and/or gas wells and is not accepting applications for financial assistance on this topic at this time. See <https://e-center.doe.gov/iips/faopor.nsf/UNID/50D3734745055A73852572CA006665B1?OpenDocument> for details. Questions regarding the content of this RFI should be submitted through the "Submit question" feature of the DOE Interactive Procurement System (IIPS) at <http://e-center.doe.gov>.

Energy Innovations RFP (Due May 31)

The California Energy Commission requests proposals for the Energy Innovations Small Grant (EISG) Program. EISG provides funding to small businesses, small non-profits, individuals and academic institutions for establishing the feasibility of new energy concepts. Projects must develop innovative and original energy concepts that address a clear market need, provide benefit for CA electricity ratepayers and target one or more areas of interest: Industrial/agriculture/water end-use efficiency; building end-use efficiency; environmentally preferred advanced generation; renewable generation; energy-related environmental research; energy systems integration. Grants for hardware projects requiring physical testing NTE \$95K, modeling projects NTE \$50K. Responses due 5/31/07. For more info, contact eisgp@energy.state.ca.us or go to: <http://www.energy.ca.gov/contracts/smallgrant/index.html>.

SMUD Renewables RFO (Due June 11)

The Sacramento Municipal Utility District (SMUD) announces its Request for Offers (RFO) for renewable energy power purchase agreements (PPA) and project ownership options. SMUD will consider RFOs for the following renewables: Wind, geothermal, small hydroelectric, landfill gas, biomass and biodiesel, photovoltaic, solar thermal (with and without natural gas assist), biomass gasification, digester gas, fuel cells using qualifying renewable fuels, qualifying municipal solid waste conversion, ocean wave, ocean thermal, tidal current, and innovative storage coupled with qualifying intermittent renewables. For more info, contact Marco Lemes at mlemes@smud.org or go to: <http://www.bids.smud.org/sDsp/sDsp004.asp>.

Applications for CREBs Sought

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. For more information, please visit <http://www.irs.gov/newsroom/article/0,,id=167605,00.html?portlet=2>.

REEEP Offers 3 Million Euro for Clean Energy Projects in Developing Countries

The Renewable Energy and Energy Efficiency Partnership (REEEP) has launched a call for project proposals to support the development of markets for renewable energy and energy efficiency. The project call is REEEP's largest in its four year history with more than 3 million Euros available for projects in least developed countries and emerging market economies. The project received funding from a consortium comprised of Ireland, Italy, New Zealand, Norway and the United Kingdom. Norway, the new major donor of REEEP, and the United Kingdom will be pooling funds allowing for larger investments into projects. Ireland and Italy will continue their focus on Africa and New Zealand will bring small island states in the

Pacific into focus. The REEEP call is an open tender seeking projects from priority countries -- China, India and Brazil and from across the developing world. Based on the experience gained over the last two years with a bottom-up approach to selecting projects, REEEP will be piloting a combination of bottom-up and top-down commissioned strategic projects. *For more information, please visit http://www.greenbiz.com/news/news_third.cfm?NewsID=34695.*

Upcoming Events

Observing, Understanding, and Responding to Arctic Change, May 22, Washington DC

The Arctic Research Consortium of the U.S. (ARCUS), is holding a Congressional Science Briefing on "Observing, Understanding, and Responding to Arctic Change" from 12:30-2:00 p.m. on Tuesday, 22 May 2007 in the U.S. Senate Committee on Commerce, Science & Transportation Hearing Room, 253 Russell Senate Office Building, Washington, D.C. *For further information, please contact Ross Coen at ARCUS, Phone: 907-474-1600, Cell: 907-978-3182, E-mail: ross@arcus.org, or Website: <http://www.arcus.org>.*

House Energy & Commerce Hearing on Gasoline Prices & Oil Company Profits, May 22, Washington DC

The House Energy & Commerce's Subcommittee on Oversight and Investigations will hold a hearing on "Gasoline Prices, Oil Company Profits, and the American Consumer" on Tuesday May 22 at 1:00 p.m. in Room 2123 Rayburn House Office Building.

Senate Environment & Public Works Committee Hearing on Climate Change, May 22, Washington DC

The full Senate Committee on environment & Public Works will hold a hearing entitled "Examining the Case for the California Waiver," exploring California's petition to regulate global warming pollution from vehicles and its ramifications for other states. Tuesday's witnesses will be the Honorable Edmund G. Brown Jr., Attorney General, State of California; the Honorable Alexander B. Grannis, Commissioner, New York State Department of Environmental Conservation; and Professor Jonathan H. Adler, Director of the Center for Business Law and Regulation at Case Western Reserve University School of Law. The event will take place May 22 at 2:30 pm in the EPW Hearing Room - 456 Dirksen Senate Office Building.

House Committee on Natural Resources Hearing on "Energy Policy Reform and Revitalization Act of 2007," May 23, Washington DC

The House Natural Resources Committee, led by Chairman Nick J. Rahall (D-WV), will hold a legislative hearing on H.R. 2337, the "Energy Policy Reform and Revitalization Act of 2007" on May 23, 2007, at 10:00 a.m. in Room 1324 Longworth House Office Building. The hearing will be webcast live on the Committee's web site at <http://resourcescommittee.house.gov>.

Senate Environment & Public Works Committee Hearing on Climate Change, May 24, Washington DC

The full Senate Committee on Environment & Public Works will hear from leaders or outdoor recreation companies and organizations about "The Issue of the Potential Impacts of Global Warming on Recreation and the Recreation Industry." The event will take place on May 24 at 10 am in EPW Hearing Room - 456 Dirksen Senate Office Building.

DOE Technology Transfer Workshop, May 30-June 1, Arlington VA

The Department of Energy's (DOE) 2007 National Laboratory Technology Transfer Workshop will be held on May 30 – June 1, 2007, at the Hyatt Regency Hotel in Crystal City, VA. The intent of this open “townhall” type workshop is to explore technology transfer at the labs, with a particular focus on opportunities and issues in private sector partnerships, lab transparency, and innovative financial mechanisms that encourage entrepreneurial activity and accelerate commercialization. All output from the presentations, Q&As, and open public dialogue on May 30 and the morning of May 31 will be gathered and distributed to DOE Senior Managers, National Lab Tech Transfer Directors and M&O contractor staff for consideration during their closed sessions for the remainder of the workshop, concluding with a set of core recommendations that will help direct detailed development of a technology transfer action plan for the Department. *For questions, contacts Charles Russomanno at 202-586-7543, charles.russomanno@ee.doe.gov, Jamileh Soudah at 202-586-2104, or John Labarge at 202-586-9747.*

Renewable Energy Fair, June 9-10, Loretto, Pennsylvania

St. Francis university in partnership with the Saint Francis Renewable Energy Center will host the 2nd annual ECare Fair, a national event to discuss and promote renewable and reduced energy resources. Exhibits are slated to include alternative and renewable energy, energy reduction processes, inexhaustible energy and sustainable living. *More information is available by phone at (814) 736-8266 or online at <http://www.ecarefair.com>.*

Infrastructure Finance & Investment Summit, June 11-12, New York City

Financial Research Associates' Infrastructure Finance & Investment Summit explores investment vehicles and capital sources supporting the growth of private investment in public infrastructure. Moving beyond traditional equity investment, and bond issues the Summit focuses on innovative, alternative finance opportunities for infrastructure projects. *More information is available by calling Eric Johns at (831) 465-7409, or online at <http://www.frallc.com/conference.aspx?ccode=B490>.*

Geothermal Energy Utilization Associated with Oil and Gas Development, June 12 – 13, Dallas, Texas

This international conference specializes in the enhancement of existing oil & gas wells for electrical production. Geothermal energy can be extracted from the well fluids using newly designed compact turbines with binary fluids. These systems are now sized to fit single wells or multiple wells with an approximate fluid temperature differential of 120°F+ between produced and cooling temperatures. Thus, in the Gulf Coast temperatures of 225°F or higher are eligible. This electrical production (geothermal energy) is renewable and considered a baseload source since it is capable of producing 24 hours a day. This capability gives new life to low yield producers with high water volume and a reason to keep them pumping. Undesirable high water flow geopressure wells become an immediate revenue path if converted to electrical production. Abandoned wells have value with the Geothermal Industry fracturing techniques to increase water flow. With a system installed in Chena Hot Springs, Alaska and another installation going into the Wyoming Rocky Mountain Oil Field Testing Center, the ability to use low temperature fluids is no longer just a concept, rather it's a reality. Data and economics will be presented to assist you in developing your company's renewable energy portfolio using existing wells. The event will take place at the Southern Methodist University in Dallas, Texas. *For more information, please visit http://smu.edu/geothermal/Oil&Gas/2007/geothermal_energy_utilization.htm.*

10th Annual Sustainable Energy Coalition Expo, June 14, Washington, DC

This year's SEC Expo will feature a variety of renewable energy and energy efficiency technologies. GEA's booth will feature displays from Ormat Technologies and UTC Power, as well as materials from the

Geothermal Education Office and GEA. Besides an exhibit portion showcasing the companies and technologies that are developing renewables and efficiencies today, the Expo will also feature panel discussion and presentations on the most important energy topics of the day – global warming, U.S. competitiveness, and renewable/efficiency potential over the next ten years. The event will kickoff with a keynote address by Jon Holdren. *For more information, please visit* <http://www.google.com/calendar/event?eid=aDMzc2tqY3RmbmlkZ2o5N3VtNXI0Z21iczOgc3VzdGFpbmFibGVlbnVyZ3ljb2FsaXRpb25AbQ>.

CA Geothermal Development Plan Workshop, June 20, Woodland, California

The California Geothermal Energy Collaborative is creating a report to advance the development of geothermal resources in California. This report will provide input to the California Energy Commission as they develop a new renewables road map. Building on the BLM Western Programmatic EIS and the USGS Geothermal Resource Assessment, the CGEC effort will provide stakeholders with an opportunity to contribute directly to this process. The workshop is the kick-off session focused on developing a comprehensive plan. This is your opportunity to provide input in the areas of geothermal resources, streamlining permitting and leasing, and governmental policies and procedures. The inclusion of a broad range of ideas from the geothermal community will enhance the final plan. It will be held from 8 a.m. – 2:30 p.m. at Heidrick Ag History Center; 1962 Hays Lane; Woodland, California. *For general questions or to register, contact CGEC Administrative Manager Judy Fischette at* fischette@sbcglobal.net.

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>.

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.

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.



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