

Energy Policy Update

Energy and Environmental News

January 11, 2010



ARIZONA DEPARTMENT
OF COMMERCE

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This newsletter is published by the Arizona Department of Commerce Energy Office and is provided free of charge to the public. It contains verbatim excerpts from international and domestic energy and environment-related publications reviewed by the Education and Community Outreach personnel. For inquiries, call **(602) 771-1143** or toll free **(800) 352-5499**. Compiled and edited by Gloria Castro, Special Projects Coordinator. To register to receive this newsletter electronically, email [Gloria Castro](mailto:Gloria.Castro).

For additional program information, access: <http://www.azcommerce.com/Energy/Energy+Policy+Update+-%28Monthly+Publication%29.htm>.

Click [here](#) to view [Grant Opportunities](#) from the American Recovery and Reinvestment Act (ARRA).

FOR YOUR CONVENIENCE, ARIZONA-RELATED TITLES ARE HIGHLIGHTED IN BLUE

ARIZONA

Arizona Gas Prices Could Top \$3 a Gallon in Spring

Rising costs could undercut recovery in consumer spending

[Arizona Republic, Jan. 7] Stable gas prices seen through the end of 2009 may be ending, with some experts predicting that demand will push a gallon of gas to \$3 this spring, possibly slowing any economic recovery in Arizona. Gas prices shot to record highs above \$4 a gallon in summer 2008, then fell to dramatic lows in the range of \$1.50 a gallon in Phoenix that winter before creeping back to about \$2.60 a gallon, where they've hovered since June. The average price in Arizona on Wednesday was \$2.60 for a gallon of regular, up about half a cent overnight, according to AAA Arizona.

Arizona May Get Sky-High Solar Towers

Australian company envisions a giant energy plant in desert

[Arizona Republic, Dec. 31] There are few ideal ways to make electricity that don't come with at least one drawback. Solar power doesn't work at night, nuclear plants are expensive to build, wind turbines operate best far from where people live, and cheap coal power produces the most global-warming emissions. But an Australian company hopes to build what sounds like an ideal energy source in western Arizona - a power plant that uses no fuel or water, causes no pollution and runs all day. The concept could promise a cost-effective way to meet the increasing demand for clean energy without the expense and drawbacks of other alternative-power sources.

Brewer Pushes for Nuclear as Key Part of Energy Goals

[Arizona Republic, Jan. 6] Republican Gov. Jan Brewer says Arizona's economic future may hinge on making the state a hub for renewable- and nuclear-energy development that can both power the state and drive job creation. alternative-power sources.

Electric Cars to Hit the Road in 2010

[Arizona Republic, Jan. 2] Electric vehicles have been hyped before as the car of the future, but 2010 could be the year plug-in vehicles finally take off. Advances in battery technology, the introduction of three new electric models, a volatile oil market, eager consumers concerned about global warming and a huge federal investment in charging stations have converged, pointing the way to an automotive future without tailpipes or exhaust gases. Nissan will deliver 1,000 of its zero-emission, five-passenger Leaf hatchbacks to Valley and Tucson buyers in December. Other carmakers, including Tesla Motors, with its high-performance sports car, and Chevrolet, with a four-passenger Volt, are hustling to get more electric cars on American roads as acceptance grows and the technology accelerates.

How a Valley Couple Pays Just \$7 a Month for Electricity

[ABC15 News, Jan. 3] Surprise, AZ - Leo and JoAnna Mankiewicz actually smile when they receive their power bill each month. That's because it is usually only about \$7. The couple converted their home to solar power back in 2005, and ever since then have been reaping the benefits. The system cost about \$22,000 when it was put in, but APS paid for half of the cost, so then after the tax rebates, the couple only actually paid about \$8,000. alternative-power sources.

Rebate Program to Launch in March Will Help Consumers Save Water, Energy, Money

[Arizona Republic, Dec. 29] Arizona consumers in the market for a new washing machine, dishwasher or water heater might want to hold off until March. That's when rebates from \$75 to \$450 will become available to Arizonans who scrap their old appliances for more-efficient models. Cash for Clunkers Part II is expected to boost lagging appliance sales and help the environment by encouraging consumers to purchase more energy-efficient appliances. Arizona has \$6.2 million to give away.

Rural Schools to Get \$5M for Solar

[Phoenix Business Journal, Jan. 7] The Arizona School Facilities Board is working out the final details of supplying \$5 million to rural districts to purchase solar systems. Twenty-one districts were chosen late last year, each with only a handful of buildings to split the money. The SFB sought to provide maximum value for the money, part of the state's share of American Recovery and Reinvestment Act funds.

Safford Considers Buyback for Renewable Energy

[Eastern Arizona Courier, Jan. 3] For Safford utility users who have installed renewable energy resources such as solar panels or wind turbines to help reduce their energy costs and protect the environment, the City Council is considering enacting net metering rules that mirror those mandated by the Arizona Corporation Commission. According to Utilities Director Jay Howe, Safford's electric utility is not regulated by the commission and does not have to follow its mandate. The town of Thatcher's electric utility is also exempt, but Graham County Electric Co-op must follow the commission's rules.

Solar, Wind Tax Breaks to Aid Arizona

Feds offer millions to spur renewable-energy projects

[Arizona Republic, Jan. 9] Six solar-power equipment factories proposed for metro Phoenix, which if built could create higher-paying manufacturing jobs, are earmarked to receive nearly \$30 million in tax breaks announced by the White House. An additional \$45 million in tax breaks is being offered to five Arizona companies if they build or expand wind-turbine or solar-equipment factories in other states.

West Valley Cities Pursuing Renewable Energy Projects

[Arizona Republic, Dec. 23] The West Valley is sprouting green technology as the buzz about renewable energy grows. Environmental concerns, national security interests and the quest to diversify the economy have led to a push for alternative energy resources at the federal, state and local level. The U.S. Department of Energy is putting money toward helping cities and businesses solarize. Arizona requires that public utilities generate 15 percent of energy from renewable resources by 2025. And state lawmakers this year approved tax incentives to attract renewable energy manufacturers.

ALTERNATIVE ENERGY AND EFFICIENCY

China Tries a New Tack to Go Solar

[New York Times, Jan. 8] Hong Kong - As it moves rapidly to become the world's leader in nuclear power, wind energy and photovoltaic solar panels, China is taking tentative steps to master another alternative energy industry: using mirrors to capture sunlight, produce steam and generate electricity. So-called concentrating solar power uses hundreds of thousands of mirrors to turn water into steam. The steam turns a conventional turbine similar to those in coal-fired power plants. The technology, which is potentially cheaper than most types of renewable power, has captivated many engineers and financiers in the last two years, with an abrupt surge in new patents and plans for large power operations in Europe and the United States.

When Will Renewable Energy Companies Overtake Traditional Energy Companies?

[RenewableEnergyWorld.com, Jan. 8] California, United States - Renewable energy has got buzz, growth and growing government support. But it's no secret that it still makes up a small portion of the overall energy mix. As interest in renewables increases, the question has begun coming up more and more often: When will renewable energy companies catch up to conventional energy companies? That is, when will we see an Exxon Mobil Corp., Chevron Corp. or ConocoPhillips of renewables?

LEGISLATION AND REGULATION

EPA Tightens Smog Standards

[Washington Business Journal, Jan. 7] The Environmental Protection Agency today proposed tighter standards for ground-level ozone, more commonly known as smog. The new standards would replace standards set in March 2008 by the Bush administration, which EPA's panel of science advisers criticized as being too lax. The new ozone standard will be set somewhere between 0.060 and 0.070 parts per million, compared with 0.075 ppm under the Bush standard. EPA estimates the new standard will produce health benefits worth \$13 billion to \$100 billion, depending on the level it sets. The cost of complying with the new standard will range from \$19 billion to \$90 billion, according to EPA.

White House Awards \$2.3 Billion in Tax Credits for Clean Energy Developers

[New York Times, Jan. 8] President Obama announced on Friday the award of \$2.3 billion in tax credits for clean energy manufacturing — part of a broader push by his administration to stimulate job growth during the highest period of sustained unemployment in decades. "Building a robust clean energy sector is how we will create the jobs of the future," said Mr. Obama, according to prepared remarks. The Labor Department reported on Friday that nonfarm payrolls shed 85,000 jobs in December, and the unemployment rate held steady at 10 percent, the highest level of joblessness since the early 1980s. In a statement, Treasury Secretary Timothy F. Geithner said the tax credits would spur an additional \$5 billion of private capital investment in the clean energy manufacturing sector.

ENERGY-GENERAL

Google Wants to Buy, Sell Electricity in US

[Yahoo News, Jan. 8] New York - Internet search giant Google is seeking government authority to buy and sell electricity in the United States, a further expansion of its operations aimed at boosting renewable energy. In a document filed last month with the Federal Energy Regulatory Commission and obtained by AFP, Google indicated that its Google Energy unit asked for "market-based rate authority." Under that authority, "Google Energy will engage in wholesale electric power and energy transactions as a marketer," the filing said.

Has the U.S. Reached Peak Vehicles?

Forget peak oil: the U.S. fleet shrank by four million cars and trucks last year

[Scientific American, Jan. 6] Americans scrapped 4 million more cars and trucks last year than they purchased, the first significant drop in the U.S. auto fleet in more than four decades, according to a new report. The United States scrapped 14 million vehicles last year while buying only 10 million new ones, dropping the nation's fleet from an all-time high of 250 million to 246 million, according to the Earth Policy Institute.

Highway Barriers Stifle Pollution

[ENN, Jan. 6] Highway barriers erected along roadways can be perceived as massive monuments to the future and were intended to block the sound and sight of traffic for the adjacent neighborhoods. They may do a bit more in terms of air borne pollution. In a study by NOAA and the US Environmental Protection Agency, researchers released harmless "tracers" to measure the potential movement of pollutants such as carbon monoxide and heavy metals, and volatile organic compounds such as benzene. The results showed a significant reduction for those neighborhoods in pollutants as a result of the barriers.

WESTERN POWER

Desert Vistas vs. Solar Power

[New York Times, Dec. 21] Amboy, CA - Senator Dianne Feinstein introduced legislation in Congress on Monday to protect a million acres of the Mojave Desert in California by scuttling some 13 big solar plants and wind farms planned for the region. But before the bill to create two new Mojave national monuments has even had its first

hearing, the California Democrat has largely achieved her aim. Regardless of the legislation's fate, her opposition means that few if any power plants are likely to be built in the monument area, a complication in California's effort to achieve its aggressive goals for renewable energy. Developers of the projects have already postponed several proposals or abandoned them entirely. The California agency charged with planning a renewable energy transmission grid has rerouted proposed power lines to avoid the monument.

NM Utility to Refile Renewable Energy Plan

[Associated Press, Jan. 8] Albuquerque, N.M. - Public Service Co. of New Mexico and environmental and energy groups have reached an agreement the utility says could lead to nearly 80 megawatts more of solar power — enough for 26,000 homes. The agreement will be the basis for a renewable energy plan PNM will file with the state Public Regulation Commission by Jan. 25. The PRC gave the state's largest utility extra time to spell out how it will incorporate renewable energy into its portfolio. PNM, a subsidiary of PNM Resources Inc., asked for more time to address concerns raised by its filing last July, which included plans to scale back solar incentive programs for customers. That triggered a backlash from the renewable energy industry.

Small-Scale Solar Plan Clashes With Big Energy

[San Francisco Chronicle, Jan. 4] When it comes to renewable power, Californians tend to think big. Big wind farms sprawl across our hills. Big solar power plants will soon blanket acres of desert. Big new power lines will bring that electricity to our cities. This, Bill Powers insists, is exactly the wrong approach. He wants us to think small. Powers, an engineer and energy consultant, argues that California should cover every available rooftop with photovoltaic solar panels, especially commercial buildings. The panels can be installed quickly, unlike large solar power plants that take years to win government permits. They don't require big new power lines. And their price has dropped about 40 percent in the past year. Powers is involved in a simmering debate over renewable power development in California and the country.

INDUSTRIES AND TECHNOLOGIES

US Solar Company to Build Power Plants in China

[Associated Press, Jan. 8] Pasadena, CA - Southern California's eSolar Inc. has signed a major agreement to build a series of solar power plants in China. Under the agreement announced Friday, the Pasadena, Calif.-based eSolar will provide China Shandong Penglai Electric Power Equipment Manufacturing Co. with the technology and information to build solar farms with a capacity totaling 2,000 megawatts over the next decade.

Wind Farms Could Create Thousands of New Neb. Jobs

[Associated Press, Jan. 4] Lincoln, NE - Harnessing Nebraska's largely untapped wind-energy resources could create up to 40,000 jobs over the next two decades if a federal goal is met, according to a report. The report, done by the National Renewable Energy Lab for the Nebraska Energy Office, was presented at wind-energy meetings held in Nebraska in December. It says that if a federal goal of having wind energy make up 20 percent of the U.S. energy supply by 2030 is met, 7,800 megawatts of wind energy would be produced in Nebraska. Up to 4,000 of the projected 40,000 jobs would be permanent jobs lasting as long as each wind facility operated, which is typically about two decades.

GASOLINE AND DIESEL FUEL

To view Arizona and U.S. Gasoline and Diesel fuel data plus other pertinent oil information click [here](http://www.azcommerce.com/Energy/MotorFuel/).
<http://www.azcommerce.com/Energy/MotorFuel/>

GRANTS

The RFPs created or supplemented as a result of the American Recovery and Reinvestment Act (Recovery Act) are identified in the RFP titles.

WAP Training Centers & Programs (Recovery Act)

The objective of this FOA is to develop new or expand existing weatherization training centers and training programs. DOE will work with the selected entities to develop low-income weatherization training centers or programs that provide accelerated, standardized, and multi-tiered weatherization training. Reference Number: DE-FOA-0000220. Response Due Date: 1/21/2010 3:00:00 PM ES. Use the following link to view this opportunity: <https://www.fedconnect.net/fedconnect?doc=DE-FOA-0000220&agency=DOE>

Plant Feedstock Genomics for Bioenergy

The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER), and the U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), hereby announce their interest in receiving applications for genomics-based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or sustainability. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research that yields fundamental knowledge of the structure, function and organization of plant genomes leading to improved feedstock characterization and sustainability are also encouraged. Reference Number: DE-FOA-0000223 Response Due Date: 2/18/2010 8:00:00 PM ES. Use the following link to view this opportunity:

<https://www.fedconnect.net/fedconnect?doc=DE-FOA-0000223&agency=DOE>

Reducing Methane from Landfills

The U.S. Environmental Protection Agency announces its intent to request proposals for Technical and Outreach Support Services for Reducing Emissions from Landfills. The contractor will support the mission of the Landfill Methane Outreach Program, a voluntary assistance program that helps to reduce methane from landfills by encouraging the recovery and use of landfill gas as a renewable, green energy source. The RFP will be issued on or about 2/2/10. For more info, contact Faye Sas at sas.faye@epa.gov or go to:

https://www.fbo.gov/?s=opportunity&mode=form&id=0e90c51835d6b1b73e011dbba75df433&tab=core&_cview=0

Refer to Sol# PR-HQ-10-10262. (FBO 11/7/09)

Environmental Management Fellowship Program

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

Refer to Sol# EPA-EED-10-01. (Grants.gov 11/5/09)

Power, Controls and Adaptive Networks

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

Refer to Sol# PD-10-1518. (Grants.gov 11/16/09)

1890 Land Grant Capacity Building

The U.S. Department of Agriculture requests proposals from 1890 Land-Grant Institutions (http://www.csrees.usda.gov/qlinks/partners/state_partners.html), including Tuskegee University and West Virginia State University, for 1890 Institution Education, Research and Extension Capacity Building Grants. This program seeks to build institutional capacity through stimulating the development of high quality education, research and extension programs that will produce a professional work force in the food and agricultural sciences. High priority areas include, but are not limited to: Bio-energy/Biofuel; Sustainable Agriculture; and Global Climate Change. \$35 million expected to be available. Responses due 2/8/10. For more info, contact Ali Mohamed at amohamed@nifa.usda.gov or go to: http://www.nifa.usda.gov/funding/rfas/pdfs/10_1890_capacity.pdf.

Refer to Sol# USDA-NIFA-CBGP-002695. (Grants.gov 11/16/09)

Organic Agriculture Initiative

The U.S. Department of Agriculture requests proposals for the Organic Agriculture Research and Extension Initiative. This program will support projects that enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. Projects that emphasize research and outreach that assist farmers and ranchers with whole farm planning and ecosystem

integration are of particular interest. \$19 million expected to be available, individual awards NTE \$3 million. Responses due 2/9/10. For more info, contact Mary Peet at mpeet@nifa.usda.gov or go to: <http://www.nifa.usda.gov/funding/rfas/OREI.html>. Refer to Sol# USDA-NIFA-ICGP-002696. (Grants.gov 11/18/09)

Engineering Design and Innovation

The National Science Foundation requests proposals for Engineering Design and Innovation. The program focus is on gaining an understanding of the basic processes and phenomena underlying a holistic, life-cycle view of design where the total system life-cycle context recognizes the need for advanced understanding of the identification and definition of preferences, analysis of alternatives, effective accommodation of uncertainty in decision-making, and the relationship between data and knowledge in a digitally-supported process. Responses due 2/15/10. For more info, contact Christina Bloebaum at cbloebau@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13340. Refer to Sol# PD 08-1464. (Grants.gov 11/16/09)

Sensors and Sensing Systems

The National Science Foundation requests proposals for Sensors and Sensing Systems. This program supports fundamental research on advanced actuators, sensors, wireless sensor networks, new materials and concepts for sensing applications, power generation and energy supply for sensors and sensing systems. Responses due 2/15/10. For more info, contact Shih Liu at slu@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13349. Refer to Sol# PD-08-1639. (Grants.gov 11/16/09)

Structural Materials and Mechanics

The National Science Foundation requests proposals for Structural Materials and Mechanics. This program supports fundamental research on the behavior of civil infrastructure materials and the mechanics of structural components in the built environment. Of particular interest is research on structural components consisting of natural and synthetic materials, their response to mechanical, hydrothermal and time-dependent loads, and their impact on life-cycle performance and sustainable development of the civil infrastructure. Responses due 2/15/10. For more info, contact Lawrence Bank at lbank@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13357. Refer to Sol# PD-08-1635. (Grants.gov 11/16/09)

Materials and Surface Engineering

The National Science Foundation requests proposals for Materials and Surface Engineering. This program supports fundamental research leading to a better understanding of the effect of microstructure, surfaces and coatings on the properties and performance of engineering materials, and the ultimate control of these properties through material design. Responses due 2/15/10. For more info, contact Clark Cooper at ccooper@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13356. Refer to Sol# PD-08-1633. (Grants.gov 11/16/09)

Materials Processing and Manufacturing

The National Science Foundation requests proposals for Materials Processing and Manufacturing. This program supports fundamental research on the interrelationship of materials processing, structure, performance and process control. Responses due 2/15/10. For more info, contact Mary Toney at mtoney@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13344. Refer to Sol# PD-08-1467. (Grants.gov 11/16/09)

Mechanics of Materials

The National Science Foundation requests proposals for Mechanics of Materials. This program supports fundamental research on solid mechanics including theoretical, analytical, and computational approaches, model-based simulation, and the development of constitutive models. Responses due 2/15/10. For more info, contact Glauco Paulino at gpaulino@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13355. Refer to Sol# PD-08-1630. (Grants.gov 11/16/09)

Manufacturing and Construction Machines and Equipment

The National Science Foundation requests proposals for Manufacturing and Construction Machines and Equipment. This program supports fundamental research leading to improved machines and applications for both manufacturing and construction. Key goals are to advance the transition of these industries from skill-based to knowledge-based activities and to develop them as activities with minimal environmental and societal impact. Responses due 2/15/10. For more info, contact George Hazelrigg at ghazelri@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13346. Refer to Sol# PD-08-1468. (Grants.gov 11/16/09)

Energy for Sustainability

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

Environmental Engineering

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

Environmental Sustainability

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

Environmental Implications of Emerging Technologies

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

Biotechnology, Biochemical, and Biomass Engineering

The National Science Foundation requests proposals for Biotechnology, Biochemical, and Biomass Engineering. This program addresses fundamental problems involved in the processing and manufacturing of products of economic importance by effectively utilizing renewable resources of biological origin and bioinformatics originating from genomic and proteomic information. Responses due 3/3/10. For more info, contact Leon Esterowitz at lesterow@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501024. Refer to Sol# PD-10-1491. (Grants.gov 11/16/09)

Biosensing

The National Science Foundation requests proposals for Biosensing. This program supports innovative, transformative, and insightful investigations of fundamental problems with broad long term impact and applications that require novel use of bio-inspired engineering principles and sophisticated devices to meet the engineering and technology needs of the nation. Responses due 3/3/10. For more info, contact Alex Simonian at asimonia@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503353. Refer to Sol# PD-10-7909. (Grants.gov 11/12/09)

Thermal Transport

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

Solid State and Materials Chemistry

The National Science Foundation requests proposals for Solid State and Materials Chemistry. This program supports basic research in solid state and materials chemistry comprising the elucidation of the atomic and molecular basis for material development and properties in the solid state from the nanoscale to the bulk. Areas of interest include, but are not limited to: Innovative approaches to design, synthesis, bulk crystal and/or film

growth, and characterization of novel organic, inorganic, and hybrid materials, as well as liquid crystal materials and multi-component material systems exhibiting new phenomena and/or providing new scientific insights into structure/composition/property relationships in the solid state. Responses due 10/31/10. For more info, contact Linda Sapochak at lsapocha@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5356. Refer to Sol# PD-09-1762. (Grants.gov 11/18/09)

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