

**CLEAN ENERGY AND ENERGY INDEPENDENCE  
FUNDING OPPORTUNITIES/INCENTIVES**

October 18, 2013

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**WISCONSIN OPPORTUNITIES**

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**Idle Reduction Workshop - November 1, 2013**

An afternoon workshop for the trucking industry all about idle reduction. Speakers will highlight health and cost benefits, technical equipment and tools, and strategies and fleet experiences. For more information and to register contact [Erika Noble](#) 414-221-4487 or visit [www.wicleancities.org](http://www.wicleancities.org)

**Renewable Fuel Infrastructure Tax Credit – Credit Expires December 31, 2017**

A tax credit is available for 25% of the cost to install or retrofit fueling stations in WI that dispense motor vehicle fuel blends of at least 85% ethanol or at least 20% biodiesel fuel, or that mix fuels from separate storage tanks & allow the user to select the percentage of renewable fuel. The maximum credit is \$5,000 per taxable year for each fueling station that has installed or retrofitted a pump. Motor vehicle fuel means gasoline or diesel fuel. [More Information](#)

**ONGOING**

**Alliant Energy Charitable Foundation – Four Grant Cycles Each Year**

Community Grants are directed to projects, programs & initiatives that benefit residents & communities in four Midwestern states served by Alliant's subsidiaries. We help protect the environment by supporting organizations that educate, inform & advance environmental issues that have the potential to impact our communities. [More Information](#)

**Alliant Energy (Wisconsin Power & Light) Farm Wiring Grant & Loan Program – Ongoing**

Alliant Energy offers a Farm Wiring Grant program to increase farm safety, productivity & efficiency. The first \$1,000 of the project cost is covered by a grant, as well as 50% of the remaining costs (up to \$9,000), for a maximum grant of \$10,000. Alliant Energy will inspect the facility for stray voltage & recommend improvements. Alliant's [Farm Wiring Financing Program](#) also offers loans of up to \$20,000 at 3% for wiring or efficiency equipment. [More Information](#)

**Alliant Energy Shared Savings – Ongoing**

Shared Savings allows you to upgrade equipment, save money & conserve energy with no up-front costs. Energy experts identify, finance & carry out energy improvement projects for businesses, paying for the initial cost of high-efficiency equipment. Alliant is repaid monthly on your utility bill & your energy bills are reduced as a result of the energy savings. After repaying the balance, your spending is reduced, maximizing your bottom line. [More Information](#)

**Alternative Fuel Tax Exemption- Ongoing**

No county, city, village, town, or other political subdivision is allowed to levy or collect any excise, license, privilege, or occupational tax on motor vehicle fuel or alternative fuels, or on the purchase, sale, handling, or consumption of motor vehicle fuel or alternative fuels. [More Information](#)

**Beginning Farmer and Farm Asset Owner Tax Credit Program – Ongoing**

This program provides a refundable income tax credit for established farmers based on 15% of the annual cash lease payments of depreciable agriculture assets. Established farmers may receive credit for the first 3 years of a lease agreement. Beginning farmers receive a \$500 refundable educational credit applicable towards tuition costs of Farm Financial Management courses taken during the calendar year the credit is claimed. [More Information](#)

**Biodiesel Fuel Production Credit – Ongoing**

Nonrefundable credit up to \$.10 per gallon of biodiesel fuel produced by the claimant, subject to the following: 1) only for taxable years 2011-2015; 2) taxpayer must produce at least 2.5 million gallons of biodiesel fuel in the taxable year for which credit claimed; & 3) taxpayer may not claim more than \$1 million credit/taxable year. [More Information](#)

**Biodiesel Fuel Use Incentive – Ongoing**

Wisconsin DPI provides financial aid to school districts using biodiesel to operate school buses. [More Information](#)

**Board of Commissioners of Public Lands State Trust Fund Loan Program – Ongoing**

This Program finances [community & school projects](#); more than 95% loan interest is returned to aid public school libraries. Loans can be used for any public purpose project, but are typically used for: 1) School repairs & improvements including building renovations & installation of energy-efficient heating & lighting systems; 2) Local infrastructure projects including roads, town halls, airports, sewer systems & wastewater facilities, trucks, & emergency vehicles; & 3) Local economic development through TIF districts & downtown revitalization projects. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Wisconsin Opportunities continued . . .

#### **Brownfield Development Program – Ongoing First-Come, First-Served subject to application approval**

Funds are awarded to individuals, businesses & local governments for the clean-up of contaminated properties. Application evaluation factors include the level of investment generated by the project, extent & degree of the environmental problem, & overall economic impact to be created by the project. [More Information](#)

#### **Cedarburg Light & Water Utility - Commercial Energy Efficiency Rebate Program – Ongoing**

CLWU provides incentives for commercial, industrial & agricultural customers to increase the energy efficiency of eligible facilities. Upon request, CLWU sends an energy engineer from their power supplier, [Wisconsin Public Power Inc.](#), to inspect the facility & suggest cost-effective ways to reduce the customer's monthly energy bill. If the project reduces energy consumption & power demand during peak periods, the customer may be eligible for cash incentives. To qualify, customers must receive pre-approval from CLWU prior to implementing efficiency improvements. Many types of efficiency improvement projects are eligible, & incentive amount is determined on a case-by-case basis. [More Information](#)

#### **City of Milwaukee Energy Efficiency (Me2) Revolving Loan Program – Ongoing**

Me2 is a revolving loan program for residential energy efficiency improvements. Loans are available for owner-occupied single family residences or owner-occupied multi-family residences of up to three units. Property must be located within the City of Milwaukee. [More Information](#)

#### **DNR Clean Water Fund Program – Ongoing–Must submit “Intent to Apply” form & “Priority Evaluation & Ranking” form to DNR by December 31 annually.**

The Wisconsin DNR sponsors the *Clean Water Fund Program*, which provides financial assistance to municipalities for wastewater treatment facilities & urban storm water runoff projects. Programs are offered for *Hardship Assistance Program* provides subsidy for municipalities with low income & high user costs. The *Small Loan Program* provides interest rate subsidy on State Trust Fund loans for wastewater and storm water projects. [More Information](#)

#### **DNR Safe Drinking Water Loan Program – Ongoing–Must submit “Intent to Apply” form and “Priority Evaluation & Ranking Form” to DNR by December 31 annually.**

The Wisconsin DNR sponsors the Safe Drinking Water Loan Program which provides financial assistance to public water systems to build, upgrade, or replace water supply infrastructure to protect public health & address federal & state safe drinking water requirements. [More Information](#)

#### **Earthadvantage RFP Rooster**

A Shared Collection of Sustainability Focused RFPs from Earth Advantage Institute June issue. [More information](#)

#### **Ethanol and Biodiesel Fueling Station Tax Credit – Ongoing until January 2018**

A credit is available for 25% of the amount paid in the taxable year to install or retrofit fueling stations located in Wisconsin that dispense motor vehicle fuel consisting of at least 85% ethanol or at least 20% biodiesel fuel. The maximum credit amount that may be claimed in a taxable year is \$5,000 for each fueling station that has installed or retrofitted a pump. The credit must be claimed within four years of the tax return. [More Information](#)

#### **Focus on Energy Appliance (Refrigerator/Freezer) Recycling Program – Ongoing**

Refrigerators built before 1993 can use two to three times more energy than newer, high-efficiency models. Recycling these appliances can save approximately \$150/year on energy bills. Focus is offering utility customers a \$30 incentive to turn in old appliances, as well as free appliance removal. The appliance recycling program offers an easy way for Wisconsin residents to make a difference in their home's energy efficiency while contributing to a process that takes pressure off the power grid & creates local jobs. The appliance must be: (1) Between 10 & 30 cubic feet in size; (2) Clean & empty on the day of pick up, & in working condition; and (3) Accessible with a clear & safe path of removal. The Franklin recycling center will disassemble the old appliances & return approximately 95% of the appliance components to the manufacturing stream. Foam insulation will be used to generate electricity. [More Information](#)

#### **Forward Community Investments – Ongoing**

FCI transforms communities by providing loans & advisory services to nonprofit organizations serving its most in-need communities. FCI has lent more than \$25 million to more than 100 Wisconsin nonprofit organizations, reaching urban & rural communities. FCI connects investors who want to make a positive change in their communities with organizations that are making a real difference in the lives of individuals & families. FCI is a CDFI & a member of the Opportunity Finance Network. It is the only Wisconsin CDFI that is dedicated to working with nonprofits. [More Information](#)

#### **Greater Wisconsin Fund – Ongoing**

Impact Seven has assembled a number of different revolving loan funds to create this program, which serves all of Wisconsin. Loans from this program are generally from \$35,000 to \$1,000,000. Most new & expanding businesses are eligible. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Wisconsin Opportunities continued . . .

#### **Green Madison Revolving Loan Program – Ongoing**

Green Madison is a revolving loan program for residential energy efficiency improvements. Loans are available for owner-occupied single family residences or owner-occupied multi-family residences of up to three units. Property must be located within the City of Madison. To sign up for the program, interested residents should use the sign up form on the program web site. [More Information](#)

#### **Grow Wisconsin Dairy Producer Grant – Applications accepted on a rolling basis**

This Grant aims to improve long-term viability of Wisconsin's dairy industry to achieve annual milk production of 30 billion lbs. by 2020. This is available to producers to retain farms, facilitate operational changes, improve profitability & yield more milk. It can be customized to meet individual farm needs & applied to hire consultants. These funds are grouped: 1) Planning & preparation for business management, development & growth; & 2) Improving profitability through on-farm production & day-to-day farm operation characteristics. [More Information](#)

#### **Madison Gas & Electric Clean Power Partner Solar Buyback Program – Ongoing**

Customer-generators enrolled in the MGE [green power purchase program](#) are eligible to receive a special rate for power produced from solar PV systems. Electricity produced from 1-10 kilowatt (kW-DC) PV systems will be purchased by MGE at \$.25/kWh. Only PV systems installed after March 6, 2007 are eligible. Participants must sign a 10-year contract. Enrollment caps at 1,000 kW. [More Information](#)

#### **Madison Gas & Electric - Commercial Energy Efficiency Loan Program – Ongoing**

MGE offers business customers a Shared Savings Loan to finance energy efficiency projects. Projects must be over \$5,000 to qualify & can cover equipment replacements, facility improvements or new construction. Interest rates are fixed for one year then adjusted with the prime rate every May 1. Monthly repayments appear on energy bills. [More Information](#)

**Manitowoc Public Utilities** is offering cash rewards to turn in working air conditioners and dehumidifiers. [More information](#)

#### **Marshfield Utilities Heat Pump Rebate Program – Ongoing**

MU offers a rebate of \$550 for customers who purchase & install qualifying Ground Source Heat Pumps, as well as Focus on Energy incentives. Systems must meet program equipment standards to receive a rebate. [More Information](#)

#### **Milwaukee Shines – Ongoing until funds expended**

The City of Milwaukee is offering low-interest loans to homeowners of 1-3 unit, owner occupied homes in Milwaukee for solar energy under its Milwaukee Shines Solar Financing program. Interest rates are set at the prime rate plus 2.5%; limited to \$20,000 & 15 years. Eligible equipment includes solar electric systems up to 6 kW & solar hot water systems up to 8 panels. [More Information](#)

#### **Renewable Energy Sales Tax Exemption – Ongoing**

1979 Legislation exempts wood sold as a fuel for residential use from the state sales & use tax. This was amended in 1987 to exempt gross receipts from the sale of qualifying biomass residues used as fuel for business activity. In 2007, the exemption was expanded to include sales of all biomass used as fuel for residential use. Separately, legislation exempts products whose power source is wind, solar radiation, or gas produced from the digestion of animal manure & other agricultural wastes from the sales & use tax. To be eligible, devices must be capable of producing at least 200 watts of alternating current or 600 BTUs per day. Generally, purchasers must provide the completed [Form S-211, Sales and Use Tax Exemption Certificate](#) to the seller in order to claim the sales tax exemption. [More Information](#)

#### **Renewable Fuel Producer Excise Tax and Inspection Exemption – Ongoing**

The first 1,000 gallons of renewable fuel a person produces per year are exempt from the motor vehicle fuel excise tax, the petroleum inspection fee, & any petroleum inspection requirements not required under federal law. These only apply for fuel used in the individual's personal vehicle. A person may produce renewable fuel for personal use without a business tax registration certificate or motor vehicle fuel tax license. [More Information](#) & [More Information](#)

#### **River Falls Municipal Utilities (RFMU) - Business Energy Efficiency Rebate Program – Ongoing**

RFMU offers many rebates to business customers for implementing energy efficient equipment upgrades: for commercial lighting, central AC tune-ups and LED lighting. Custom offerings include Shared Savings incentives, capped at \$50,000. Custom offerings include may include lighting, HVAC, motors, drives, compressed air, food service equipment, agricultural equipment & specialty measures. Large efficiency projects may be included in the RFP for Energy Efficiency offering, which requires annual energy consumption be reduced 100,000 kWh & peak demand reduced 20 kW during summer months. Consultation & technical services are also provided for qualified new construction & school projects. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Wisconsin Opportunities continued . . .

#### **River Falls Municipal Utilities Renewable Energy Finance Program Save Some Green – Ongoing**

RFMU offers loans to its residential customers for installation of PV, solar thermal, geothermal, wind electric systems & energy efficiency measures in connection with a qualifying renewable energy project, provided the renewable energy is at least 50% of project costs. Renewable electricity generations systems must be connected to the RFMU distribution grid. Loan terms range from 5-20 years at current interest rate of 4%. Repayment of loans is a special fee on customer's annual property tax bill. [More Information](#)

#### **Riverland Energy Cooperative – Ongoing**

Riverland Energy Cooperative offers many rebates & incentives for residential customers to save on energy efficient appliance & equipment purchases & installation: for lighting fixtures, Energy Star appliances, electric water heaters, air conditioners, heat pumps, electric boilers, & central electric thermal storage units. In order to qualify for the heating & cooling incentives, customers must participate in the load management control program. [More Information](#)

#### **Vehicle Battery and Engine Research Tax Credits – Ongoing**

Corporations are eligible for a tax credit equal to 10% of qualified research expenses incurred in WI during the taxable year. Qualified research includes automotive batteries used in hybrid electric vehicles that reduce demand for natural gas, electricity or improve efficiency of its use, & research related to designing internal combustion engines for vehicles, including design expenses & improving production processes for such engines & vehicles. Corporations may claim tax credits equal to 5% of amount paid or incurred during the taxable year to construct & equip new facilities or expand existing facilities used in WI for qualified research. [More Information](#)

#### **Venture Capital Fund – Ongoing**

Impact Seven's Fund is one of few such pools in Wisconsin. It is available statewide, for ventures that have high growth potential & will consider sharing equity. [More Information](#)

#### **We Energies Customer Owned Generation Buy Back Rates – Ongoing**

To sell energy to We Energies, a customer must execute a surplus energy agreement that can vary by size & type of generation. When the interconnection agreement & surplus energy agreement forms are complete & signed & all other requirements are met, the customer may begin operation of generating equipment. [More Information](#)

#### **We Energies - Livestock and Dairy Farm Electrical Re-wiring Program – Ongoing**

Any We Energies dairy farm customer can apply for assistance with a re-wiring project. We Energies would pay the first \$1,000 of the project & 50 % of remaining costs (total grant \$6,000). Qualified dairy farms can also receive up to \$20,000 at 3% interest to cover the remaining costs. We Energies will also contribute \$1,000 for an inspection & pay service inspection fees. [More Information](#)

#### **Wisconsin Department of Tourism – Joint Effort Marketing (JEM) Grant Program – Ongoing**

Grants top at \$1.13 million annually. To be funded, projects must show they will increase the visitors & dollars brought into the local area. [More Information](#)

#### **Wisconsin Economic Development Corporation (WEDC) Grants - Ongoing**

WEDC is accepting inquiries & grant applications from interested communities & businesses. WEDC has published a list of grant opportunities on its website. Several of the grant opportunities are those that were previously available through the Wisconsin Dept. of Commerce which no longer exists, while others are new opportunities. [More Information](#)

#### **Wisconsin Home Energy Assistance Program – Ongoing**

Funding is now available through WHEAP. Families of four earning up to \$46,700/year may qualify for help. Qualification is determined by many factors, including household size, income & energy costs. [More Information](#)

#### **WPPI Energy – Electric Vehicle Incentive Program – Ongoing**

WPPI Energy provides incentives to members to offset the cost of electric & hybrid electric vehicles as well as plug-in hybrid electric utility line trucks & for converting standard hybrid electric vehicles to plug-in hybrid electric vehicles. Incentives may be awarded to the member municipality for qualifying vehicles purchased for use by any city or village department. [More Information](#)

#### **Xcel Energy Renewable Energy Buy-Back Rates – Ongoing**

Xcel Energy will purchase 100% of the electricity & associated renewable energy credits (RECs) generated by its Wisconsin customers using qualifying renewable energy systems. [More Information](#)

#### **Xcel Energy Farm Rewiring – Ongoing**

Grants & loans help you rewire for safety & efficiency with Xcel Energy's 'Farm Rewiring Program' you can take advantage of up to \$33,000 in grants & loans to help provide the necessary financing to update your farm's wiring. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

Wisconsin Opportunities continued . . .

### ADDITIONAL RESOURCES

#### **Database of State Incentives for Renewable Energy**

A comprehensive source of information on state, local, utility, & federal incentives that promote renewable energy & energy efficiency. [More Information](#)

#### **Financial Resource Guide for Cleanup and Redevelopment**

This publication provides summaries for many grants, loans, tax incentives & reimbursement programs, & includes a quick reference chart, how-to guide & other web sites to fund brownfield redevelopment projects. [More Information](#)

#### **Focus on Energy – Incentives and Grants**

Focus on Energy offers several programs to help defray the costs of renewable energy projects. [More Information](#)

#### **Got Moola**

The WI DATCP has a tool to help small businesses develop & grow their value-added business using money, information, & technical assistance outside their organization. [More Information](#)

#### **Wisconsin Entrepreneurs Network (WEN)**

WEN helps with funding & growth opportunities; commercial viability of technologies & products; strategic business & marketing plans & federal research & development funding sources. WEN provides seamless access to the statewide network of entrepreneurial resources & expertise to create new ventures; help grow existing business; & advance high potential entrepreneurs. [More Information](#)

#### **Grant & Funding News**

Here is the *winter*, 2013 issue of R.A. Smith National's "Grants & Funding" e-newsletter. As always, we hope you find the information useful and welcome your input. [More information](#)

#### **Wisconsin Financial Incentives for the Production of Clean Energy**

A comprehensive guide to Wisconsin financial incentives for clean energy projects. [More Information](#)

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## FEDERAL OPPORTUNITIES

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#### **Federal Grant Opportunities**

Grants.gov is the single access point for programs offered by Federal agencies. [More Information](#)

### AGRICULTURE

#### **\*\*EXPIRING SOON\*\* Bio-refinery Assistance Program – Response due October 31, 2013**

The project must meet the following criteria: The project must be for the development and construction of commercial-scale biorefineries using eligible technology or retrofitting of existing facilities with eligible technology. The project must use an eligible feedstock for the production of advanced biofuels and biobased products. A project that creates an advanced biofuel that is converted to another form of energy for sale will still be considered an advanced biofuel. The project must provide funds of not less than 20 percent of eligible project costs. Refinancing, under certain circumstances, may be eligible. All projects require an independent feasibility study and technical assessment as part of the application. [More Information](#)

#### **Sustainable Agriculture Research and Education Grants – Ongoing**

This program has helped advance farming systems that are profitable, environmentally sound & good for communities through a nationwide research & education grants program. The USDA offers funding for research, marketing & demonstration projects. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

Federal Opportunities continued . . .

### BIOMASS

#### **Repowering Assistance Program – Ongoing**

This Program provides payments to eligible biorefineries to replace fossil fuels used to produce heat or power to operate the biorefineries with renewable biomass. Reimbursement payments are provided to offset a portion of the costs associated with the conversion of existing fossil fuel systems to renewable biomass fuel systems. The reimbursement amounts vary and are determined by the availability of funds, the project scope, and the ability of the proposed project to meet all the scoring criteria. Up to 90% of the funds can be utilized during project construction, with the remaining 10% made upon demonstration of successful completion of the project. A maximum of 50% of the total project costs can be reimbursed, as long as amount does not exceed the maximum award for the fiscal year. [More Information](#)

### BROADBAND - UTILITY - CYBERSECURITY

#### **\*\*EXPIRING SOON\*\* Energy, Power, and Adaptive Systems – Response due November 1, 2013**

This program invests in the design and analysis of intelligent and adaptive engineering networks, including sensing, imaging, controls, and computational technologies for a variety of application domains. EPAS places emphasis on electric power networks and grids, including generation, transmission and integration of renewable, sustainable and distributed energy systems; high power electronics and drives; and understanding of associated regulatory and economic structures. Topics of interest include alternate energy sources, the Smart Grid, and interdependencies of critical infrastructure in power and communications. The program also places emphasis on energy scavenging and alternative energy technologies. In addition, the program supports innovative test beds, and laboratory and curriculum development to integrate research and education. [More information](#)

#### **CISE Research Infrastructure – Response due November 4, 2013**

This program drives discovery and learning in the core CISE disciplines of the three participating CISE divisions by supporting the creation and enhancement of world-class computing research infrastructure. This infrastructure will enable CISE researchers to advance the frontiers of CISE research. This program supports two classes of awards: Institutional Infrastructure (II) awards support the creation of new (II-New) CISE research infrastructure or the enhancement (II-EN) of existing CISE research infrastructure to enable world-class CISE research opportunities at the awardee and collaborating institutions. Community Infrastructure (CI) awards support the planning (CI-P) for new CISE community research infrastructure, the creation of new (CI-New) CISE research infrastructure or the enhancement (CI-EN) of existing CISE infrastructure to enable world-class CISE research opportunities for broad-based communities of CISE researchers that extend well beyond the awardee institutions. Each CI award may support the operation of such infrastructure, ensuring that the awardee institution(s) is (are) well-positioned to provide a high quality of service to CISE community researchers expected to use the infrastructure to realize their research goals. [More information](#)

#### **USDA Rural Community Development Utilities Programs – Response due November 12, 2013**

Qualified private, nonprofit and public (including tribal) intermediary organizations proposing to carry out financial and technical assistance programs will be eligible to receive the funding. The intermediary will be required to provide matching funds in an amount at least equal to the RCDI grant. The respective minimum and maximum grant amount per intermediary is \$50,000 and \$300,000. The intermediary must provide a program of financial & technical assistance to a private nonprofit, community-based housing and development organization, a low-income rural community or a federally recognized tribe. [More information](#)

#### **Farm Bill Broadband Program – First-Come, First-Served subject to application approval**

This program provides technology neutral loans for funding construction, improvement, & acquisition costs of facilities & equipment to provide broadband service to eligible rural communities. [More Information](#)

#### **Propane Farm Incentive Program**

Did you know a propane-fueled irrigation engine uses up to 6,000 gallons of propane per year? Or that it costs nearly 20 percent less to purchase when compared with traditional engines? If you haven't introduced your customers to the new generation of propane-fueled farm equipment, you should. This full-color brochure explains how farmers can earn up to \$5,000 toward the purchase of propane-fueled farm equipment by taking advantage of the Farm Incentive Program. In exchange, farmers agree to simply report on the real-world performance data of their new equipment. Use this as a leave-behind at trade shows and demonstration events, or when conducting a sales pitch. [More information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Secure and Trustworthy Cyberspace** – *Response due November 19, 2013*

In December 2011, the National Science and Technology Council (NSTC) with the cooperation of NSF issued a broad, coordinated federal strategic plan for cybersecurity research and development to change the game, minimize the misuses of cyber technology, bolster education and training in cybersecurity, establish a science of cybersecurity and transition promising cybersecurity research into practice. This challenge requires a dedicated approach to research, development, and education that leverages the disciplines of mathematics and statistics, the social sciences, and engineering together with the computing, communications and information sciences. The Secure and Trustworthy Cyberspace (SaTC) program welcomes proposals that address Cybersecurity from a Trustworthy Computing Systems (TWC) perspective and/or a Social, Behavioral and Economic Sciences (SBE) perspective. In addition, we welcome proposals that integrate research addressing both of these perspectives as well as proposals focusing entirely on Cybersecurity Education. Proposals may be submitted in one of the following three categories: Small projects: up to \$500,000 in total budget with durations of up to three years. Medium projects: \$500,001 to \$1,200,000 in total budget with durations of up to four years. Frontier projects: \$1,200,001 to \$10,000,000 in total budget with durations of up to five years. [More information](#)

#### **Pre-Commercial Synchronphasor Research and Demonstration** – *Response due December 2, 2013*

The purpose of this announcement is to advance the deployment of production-grade software applications that rely on synchronphasor data to enhance the reliability or improve the economic efficiency of bulk power system planning and operations. [More information](#)

## CLIMATE

#### **Climate Prediction using Earth System Models** – *Response due December 23, 2013*

This interdisciplinary scientific challenge calls for the development and application of next-generation Earth System Models that include coupled and interactive representations of such components as ocean and atmospheric currents, agricultural working lands and forests, biogeochemistry, atmospheric chemistry, the water cycle and land ice. This solicitation seeks to attract scientists from the disciplines of geosciences, agricultural sciences, mathematics and statistics. Successful proposals will develop intellectual excitement in the participating disciplinary communities and engage diverse interdisciplinary teams with sufficient breadth to achieve the scientific objectives. We encourage proposals that have strong broader impacts, including public access to data and other research products of general interest, as well as educational, diversity, or societal impacts. The long-term goals of this solicitation are to improve on and extend current Earth System modeling capabilities to: Achieve comprehensive, reliable global and regional predictions of decadal climate variability and change through advanced understanding of the coupled interactive physical, chemical, biological, and human processes that drive the climate system, including as they pertain to agriculture, forestry or land cover/use. Quantify the impacts of climate variability and change on natural and human systems, and identify and quantify feedback loops. Maximize the utility of available observational and model data for impact, vulnerability/resilience, and risk assessments through up/downscaling activities and uncertainty characterization. Effectively translate climate predictions and associated uncertainties into the scientific basis for policy and management decisions. [More information](#)

## ECONOMIC DEVELOPMENT

#### **Small Business Technology Transfer Program Phase I Solicitation FY-2014** – *Response due November 26, 2013*

Only firms qualifying as a small business concern are eligible to participate in the STTR program. Socially and economically disadvantaged small business concerns and women-owned small business concerns are particularly encouraged to participate. For an STTR Phase I Proposal, a minimum of 40% of the research, as measured by the budget, must be performed by the small business concern and a minimum of 30% of the research, as measured by the budget, must be performed by the collaborating research institution. Proposals from joint ventures and partnerships are permitted, provided the entity created qualifies as a small business concern in accordance with this solicitation. Proposing firms are also encouraged to take advantage of research expertise and facilities that may be available to them at colleges, universities, national laboratories and from other research providers. Such collaborations may include research subcontracts, consulting agreements or the employment of faculty as senior personnel and of graduate or undergraduate students as assistants by the small business. The primary employment of the Principal Investigator (PI) must be with the small business concern at the time of the award. A PI must spend a minimum of two calendar months on an STTR Phase I project. Employment releases and certifications of intent shall be required prior to award. Primary employment is defined as 51% employed by the small business. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Small Business Technology Transfer Program – Response due December 4, 2014**

This program stimulates technological innovation in the private sector by strengthening the role of small business concerns in meeting Federal research and development needs, increasing the commercial application of federally supported research results, and fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses. This Program requires researchers at universities and other non-profit research institutions to play a significant intellectual role in the conduct of each STTR project. These researchers, by joining forces with a small company, can spin-off their commercially promising ideas while they remain primarily employed at the research institution. The program is governed by Public Law 112-81 (SBIR/STTR Reauthorization Act of 2011). This STTR Phase I solicitation aims at encouraging the commercialization of previously NSF-funded fundamental research (NSF funding lineage). It is highly desirable that the core innovation described in the submitted proposals can in some manner be linked to fundamental research funded by the NSF. This lineage must be documented in the Project Description section of the proposal. (See Proposal Preparation Instructions for more information.) [More information](#)

#### **Improvement of Animal Models and Development of Technologies for Stem Cell-Based Regenerative Medicine - Response due May 7, 2016**

This Small Business Technology Transfer (STTR) grant applications from small business concerns (SBCs) that propose to develop or improve technologies for obtaining, characterizing and testing animal and human stem cells and their derivatives as models for stem cell-based regenerative medicine using animal models. The program is intended to support projects devoted to the creation of informative animal models for regenerative medicine, which will facilitate testing the safety and therapeutic potential of animal and human stem cells and their derivatives for pre-clinical evaluation. The initiative focuses on the following areas: 1) comparative analysis of animal and human stem cells to provide information for selection of the most predictive and informative model systems; 2) development of new technologies for stem cells and their derivatives, including production, characterization and transplantation; and 3) improvement of animal disease models for stem cell-based therapeutic applications. The ultimate objective of these efforts should be to provide commercial products and technologies that can help develop future clinical therapies. [More information](#)

#### **Qualified Energy Conservation Bonds (QECBs) – Ongoing**

QECBs are direct-payment subsidy taxable bonds or tax credit bonds that may be issued by state & local governments that allow an issuer to borrow for "qualified conservation purposes" at rates that may be significantly lower than traditional tax-exempt rates. They can be used for public or private projects. Call Steve Sabatke at 608/267-0762 or e-mail him [here](#) or access the federal DSIRE site [here](#).

## EDUCATION/OUTREACH

#### **NSF Graduate Research Fellowship Program – Response due November 7, 2013**

The purpose of the NSF Graduate Research Fellowship Program (GRFP) is to help ensure the vitality and diversity of the scientific and engineering workforce of the United States. The program recognizes and supports outstanding graduate students who are pursuing research-based master's and doctoral degrees in fields within NSF's mission. The GRFP provides three years of support for the graduate education of individuals who have demonstrated their potential for significant achievements in science and engineering research. [More information](#)

#### **Engineering and Education for Sustainability Fellows – Response due November 26, 2013**

Through the SEES Fellows Program, NSF seeks to advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges. The Program's emphasis is to facilitate investigations that cross traditional disciplinary boundaries and address issues of sustainability through a systems approach, building bridges between academic inquiry, economic growth, and societal needs. The Fellow's proposed investigation must be interdisciplinary and allow him/her to obtain research experiences beyond his/her current core disciplinary expertise. Fellows are required to develop a research partnership(s) that will advance and broaden the impact/scope of the proposed research and present a plan for their own professional development in the area of sustainability science and engineering. [More information](#)

#### **Ocean Sciences Postdoctoral Research Fellowships – Response due January 13, 2014**

The Division of Ocean Sciences (OCE) offers postdoctoral research fellowships to provide opportunities for scientists early in their careers to work within and across traditional disciplinary lines, develop partnerships, and avail themselves of unique resources, sites and facilities. The fellowship program is intended to recognize beginning investigators of significant potential, and provide them with experience that will establish them in positions of leadership in the scientific community. During tenure, fellows will affiliate with an appropriate research institution(s) and conduct research on topics supported by OCE. The OCE fellowship program has two tracks: 1) Track 1 (Broadening Participation) and 2) Track 2 (International). Fellowships are awards to individuals, not organizations, and are administered by the fellows. [More information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **MacroSystems Biology** - *Response due April 6, 2014*

The MacroSystems Biology: Research on Biological Systems at Regional to Continental Scales will support quantitative, interdisciplinary, systems-oriented research on biosphere processes and their complex interactions with climate, land use, and invasive species at regional to continental scales as well as planning, training, and development activities to enable groups to conduct MacroSystems Biology Research. [More information](#)

#### **NSF Scholarships in Science, Technology, Engineering, and Mathematics** – *Response due August 12, 2014*

This program makes grants to institutions of higher education to support scholarships for academically talented students demonstrating financial need, enabling them to enter the STEM workforce or STEM graduate school following completion of an associate, baccalaureate, or graduate-level degree in science, technology, engineering or mathematics disciplines. Grantee institutions are responsible for selecting scholarship recipients, reporting demographic information about student scholars, and managing the S-STEM project at the institution. The program does not make scholarship awards directly to students; students should contact their institution's Office of Financial Aid for this and other scholarship opportunities. [More information](#)

#### **\*\*\*NEW\*\* Office of Science Financial Assistance Program** – *Response due September 14, 2014*

The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, and Nuclear Physics. On September 3, 1992, DOE published in the Federal Register the Office of Energy Research Financial Assistance Program (now called the Office of Science Financial Assistance Program), 10 CFR 605. All types of applicants are eligible to apply, except Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. [More information](#)

#### **Nuclear Energy University Programs - Fellowship and Scholarship** - *Response due November 30, 2015*

This program supports education and training for future nuclear scientists, engineers and policy-makers who are attending U.S. universities and colleges in nuclear-related graduate, undergraduate and two-year study programs. These are zero-dollar awards that will be funded as students apply through the Department of Energy, Office of Nuclear Energy. [More Information](#)

## ENERGY EFFICIENCY

**Energy Department Announces Next Phase of L Prize Competition to Create Innovative Energy-Saving Lighting Products** – *Notification of Intent to Submit Product minimum of 30 days, but no more than 45 days prior to product submission. Monetary prize goes to the first successful entrant with the earliest timestamp.* DOE launched the next phase of the Bright Tomorrow Lighting Prize competition, which challenges the lighting industry to develop high performance, energy-saving replacements for conventional bulbs. This phase accepts PAR 38 halogen replacement entries. [More Information](#)

#### **Green Refinance Plus** – *Ongoing*

This program enhances the 1990s Fannie Mae/FHA Risk-Share program & provides funding for the refinance, preservation & energy-efficient retrofits of old, affordable multifamily housing. It allows lower debt service coverage & higher loan-to-value ratios, generating extra loan proceeds for property rehab & EE retrofits. [More Information](#)

## NANOTECHNOLOGY/ROBOTICS

#### **Materials Processing and Manufacturing** - *Response due semiannually February 15 and October 1*

This program supports fundamental, hypothesis-driven research on the interrelationship of materials processing, structure, properties, performance and process control. Analytical, experimental, & numerical studies are supported covering novel processing methods for any materials system. Studies should include the consideration of cost, performance and feasibility of scale-up, as appropriate. Studies that address multi-scale and/or multi-functional materials systems are encouraged as are studies that support environmentally-benign manufacturing. Collaborative proposals with industry (GOALI program) are encouraged. Micro-scale (& larger) processes are covered by the MPM program; processing at the submicron/ nano scale is likely covered by the Nanomanufacturing (NM) program. Solid freeform fabrication process proposals are considered in the Manufacturing Machines and Equipment (MME) program, as are material removal process proposals such as cutting or grinding. Proposals that primarily focus on fundamental material composition-structure-property studies plays a significant role in the proposed work) should be submitted to the Materials and Surface Engineering (MSE) program or to the appropriate program in the DMR division. Investigators wishing to serve on a proposal review panel should email the Program Director with a short biographical sketch, a list of areas of expertise and/or a link to their home page. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **\*\*EXPIRING SOON\*\*** Nano-Biosensing – *Response due October 29, 2013*

This program supports fundamental research in engineering areas related to: novel biorecognition elements, multifunctional nanomaterials and interfaces for biosensing applications, fundamental study of bio-macromolecules confinement and orientation at the micro- and nano-interfaces for biosensing applications, nano-biosensors for basic biology applications and integration of nano-biosensors into portable devices for medical applications. Proposals outside of these specific topics may also be accepted. Photonic nanosensors with medical applications should be submitted to the Biophotonics Program PE7236 while non-photonic nanosensors should be submitted to PE7909 (Nano-Biosensing). Areas of interest for PE7909 include non-photonic biological and biomedical topics, food safety, energy, environment, distributed sensing and security. The program is targeting research in the area of the monitoring, identification and/or quantification of biological signals and is particularly interested in projects at the intersection of engineering, life sciences and information technology. Projects submitted to the Program must advance both engineering and life sciences. Proposals outside of these specific interest areas are welcome. In particular, the Interfacial Processing and Thermodynamics Program and the Nano-Biosensing Program may jointly support novel projects related to surface functionalization at the molecular level. The Nano-Biosensing Program supports innovative, transformative and insightful fundamental investigations of original technologies with broad long term impact and applications that require novel use of bio-inspired engineering principles and sophisticated approaches to meet the engineering and technology needs of the nation. The program is targeting research in the area of the monitoring, identification and/or quantification of biological phenomena and will support potential technological breakthroughs that exist at the intersection of engineering, life science and information technology. Proposals submitted to the Program must advance both engineering and life sciences. [More information](#)

#### **\*\*EXPIRING SOON\*\*** Electronics, Photonics, and Magnetic Devices – *Response due November 1, 2013*

This program seeks to improve the fundamental understanding of devices/components based on the principles of micro/nanoelectronics, photonics, magnetics, optoelectronics, electromechanics, electromagnetics, and related physical phenomena. The program enables discovery & innovation advancing the frontiers of nanoelectronics, spin electronics, molecular & organic electronics, bioelectronics, non-silicon electronics, flexible electronics, microwave photonics, micro/nano-electromechanical systems sensors & actuators, power electronics, & mixed signal devices. EPMD supports related topics in quantum engineering & novel electromagnetic materials-based high frequency device solutions, radio frequency integrated circuits, & reconfigurable antennas needed for communications, telemedicine, and other wireless applications. [More information](#)

#### **National Robotics Initiative** - *Response due January 23, 2014*

The goal is to accelerate the development and use of robots in the United States that work beside, or cooperatively with, people. Innovative robotics research and applications emphasizing the realization of such co-robots acting in direct support of and in a symbiotic relationship with human partners is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and the U.S. Department of Agriculture (USDA). The purpose of this program is the development of this next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas. [More information](#)

#### **Environmental Health and Safety of Nanotechnology** -*Response due February 20, 2014*

This program provides support to examine & mitigate the environmental effects of nanotechnologies. Fundamental research is sought to understand, evaluate, & lessen the impact of nanotechnology on the environment and biological systems. The program emphasizes engineering principles underlying the environmental health/ safety impacts of nanotechnology. Innovative methods related to clean nanomaterials production processes, waste reduction, recycling, and industrial ecology of nanotechnology are also of interest. Current areas of support include: Understanding, measuring, mitigating, and preventing adverse effects of nanotechnology on the environment/biological systems; Nanotechnology environmental health and safety impacts; Predictive methodology for the interaction of nanoparticles with the environment and with the human body including predictive approaches for toxicity; Fate and transport of engineered nanoparticles and their by-products; Risk assessment and management of the effect of nanomaterials in the environment. [More information](#)

#### **Particulate and Multiphase Processes** -*Response due February 20, 2014*

This supports fundamental & applied research on phenomena governing particulate & multiphase processes, including flows of suspensions of particles, drops or bubbles, granular & granular-fluid flows, flow behavior of micro/nano-structured fluids, aerosol science and technology, & self- and directed-assembly processes involving particulates. Innovative research is sought that contributes to improving the basic understanding, design, predictability, efficiency, & control of particulate & multiphase processes with particular emphasis on: novel manufacturing techniques, multiphase systems of relevance to energy harvesting, multiphase transport in biological systems/ biotechnology, & environmental sustainability. Collaborative and interdisciplinary proposals are encouraged; proposals that include a combination of experimental & theoretical approaches are more likely to receive funding than solely experimentally oriented work. Highly reviewed projects generally demonstrate a strong scientific basis together with clear practical applications. Unsolicited proposals in the above and related areas are encouraged. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Thermal Transport Processes** -*Response due February 20, 2014*

The Thermal Transport Processes program supports engineering research aimed at gaining a basic understanding of the thermal transport phenomena at nano/micro and macro scales in (1) cooling and heating of equipment and devices, (2) energy conversion, power generation and thermal energy storage and conservation, (3) the synthesis and processing of materials including advanced manufacturing, (4) the propulsion of air and land-based vehicles, and (5) thermal phenomena in biological systems. The program supports fundamental research and engineering education in transport processes that are driven by thermal gradients, and manipulation of these processes to achieve engineering goals. Priority is given to insightful investigations of fundamental problems with broad economic, environmental and societal impact, and to novel studies of heat and mass transfer principles to understand phenomena, to enhance performance and/or achieve key goals. [More information](#)

#### **National Robotics Initiative** – *Response due November 14(?), 2014*

The goal of the National Robotics Initiative is to accelerate the development and use of robots in the United States that work beside, or cooperatively with, people. Innovative robotics research and applications emphasizing the realization of such co-robots acting in direct support of and in a symbiotic relationship with human partners is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and the U.S. Department of Agriculture (USDA). The purpose of this program is the development of this next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas. It will address the entire life cycle from fundamental research and development to manufacturing and deployment. Methods for the establishment and infusion of robotics in educational curricula and research to gain a better understanding of the long term social, behavioral and economic implications of co-robots across all areas of human activity are important parts of this initiative. Collaboration between academic, industry, non-profit and other organizations is strongly encouraged to establish better linkages between fundamental science and technology development, deployment and use. [More information](#)

### **NUCLEAR**

#### **\*\*EXPIRING SOON\*\*** **Experimental Nuclear Physics** - *Response due October 30, 2013*

This program supports research at the frontiers of nuclear science, including: properties and behavior of nuclei and nuclear matter under extreme conditions, and/or as they relate to astrophysical phenomena; the quark-gluon basis for the structure & dynamics of hadrons & nuclei; phase transitions of nuclear matter from normal nuclear density & temperature to the predicted high-temperature quark-gluon plasma; & basic interactions and fundamental symmetries. This research involves many venues, including low-energy to multi-GeV electrons and photons; intermediate-energy light ions; low-energy to relativistic heavy ions, including radioactive beams; cold and ultra-cold neutrons; as well as non-accelerator-based experiments. The program supports university user groups executing experiments at a large number of laboratories in the U.S & abroad, & a national user facility: the National Superconducting Cyclotron Laboratory, a superconducting, heavy-ion cyclotron facility at Michigan State University. The program also supports smaller accelerator facilities. Some awards are co-funded with other programs in the Physics Division and in other divisions. [More information](#)

#### **Accelerator Science** - *Response due Nov. 29, 2013*

Particle accelerator systems have been key drivers for a broad array of fundamental discoveries and transformational scientific advances since the early 20th century. Since their inception, they have also been core components of U.S. technological innovation and economic competitiveness. The Accelerator Science program will support and foster research at universities that exploits the educational and discovery potential of basic accelerator physics research, and allows the development of transformational discoveries in this crosscutting academic discipline. In particular, this program seeks to support research with the potential to disrupt existing paradigms and advance accelerator science at a fundamental level, such as enabling discoveries that lead to novel, compact, powerful, and/or cost-effective accelerators. Key questions that this program will address include: what are the fundamental limitations affecting the acceleration, control, intensity, and quality of particle beams? What novel approaches can be employed to substantially increase accelerating gradients? How can developments in other fields lead to new approaches in accelerator science and beam physics? The goal of this program is to seed and support fundamental accelerator science at universities as an academic discipline, providing the foundation in knowledge and workforce upon which major advances in accelerator-driven technologies will be based. An important component of the program will be the support and training of the next generation of accelerator scientists, including students, postdoctoral researchers, and junior faculty, who will lead innovations in the field and will form the backbone of the nation's highly trained accelerator workforce. Proposals for experimental, theoretical, and/or simulation-based research are welcome. Priority will be given to those proposals that enable the discovery science supported by the MPS Division of Physics. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### OCEANOGRAPHY/GEOLOGY

##### **\*\*EXPIRING SOON\*\*** Oceanographic Facilities and Equipment Support Technologies – Response due November 15, 2013

Oceanographic facilities and equipment are supported by the Integrative Programs Section (IPS) of the Division of Ocean Sciences Division (OCE), Directorate for Geosciences (GEO). These awards are made for the procurement, conversion and/or up-grade, enhancement or annual operation of platforms in the ocean, coastal, near-shore and Great Lakes. Awards are generally directed specifically to support facilities that lend themselves to shared use within the broad range of federally-supported research and education programs. Most of these platforms and facilities also receive partial support from federal agencies other than NSF. This includes state and local governments and private sources on a proportional basis; usually through a daily rate mechanism. The primary objective of these awards is to ensure the availability of appropriate facilities for federally-funded investigators and educators. Individual project-based facilities and instrumentation, limited to one, or a small group of investigators, should be supported through appropriate research programs as opposed to the IPS programs listed herein. The individual programs covered within this solicitation include: Ship Operations (Ship Ops) Oceanographic Technical Services (OTS) Oceanographic Instrumentation (OI) Shipboard Scientific Support Equipment (SSSE) Ship Acquisition and Upgrade (SAU) Other Facility Activities (OFA) Ship Operations (Ship Ops): Ship Ops provide support for costs arising from the operation and maintenance of academic research vessels. Allowable costs include salaries and related expenses of crew members and marine operations staff; acquisition of minor or expendable equipment; maintenance, overhaul and repairs; insurance; and direct operating costs such as fuel, food, supplies, travel, and pilot and agent fees. Shore-side facilities and support costs are provided only to the extent that they relate directly to ship operations. [More information](#)

##### **Demonstration of a U.S. Marine Biodiversity Observation Network** – Response due December 2, 2013

This funding opportunity invites proposals for projects that demonstrate how an operational Marine Biodiversity Observation Network (Marine BON) could be developed for the nation by establishing one or more prototype networks in U.S. coastal waters, the Great Lakes, and the EEZ. Biological diversity, or biodiversity is defined as the variety of life, encompassing variation at all levels of complexity – genetic, species, ecosystems, biomes, functional diversity and diversity across ecosystems. A growing body of research demonstrates that 1) the maintenance of marine biodiversity (including coastal biodiversity) is critical to sustained ecosystem and human health and resilience in a globally changing environment, and; 2) the condition of marine biodiversity offers a proxy for the status of ocean and coastal ecosystem health and ability to provide ecosystem services. Thus managing our marine resources in a way that conserves existing marine biodiversity would help address other ocean management objectives. For example, it would provide information to enhance biosecurity against threats such as invasive species and infectious agents, enable predictive modeling, better inform decision making, and allow for adaptive monitoring and Ecosystem-Based Management. [More information](#)

##### **Ocean Acidification** – Response due December 3, 2013

The new National Ocean Policy calls for actions to improve understanding of and capacity to respond to ocean acidification, recognizing the potential adverse impacts of an acidifying sea upon marine ecosystems. The effects of ocean acidification could significantly affect strategies for developing practices towards the sustainability of ocean resources. Basic research concerning the nature, extent and impact of ocean acidification on oceanic environments in the past, present and future is required. Research challenges include: Understanding the geochemistry and biogeochemistry of ocean acidification; Understanding how ocean acidification interacts with biological, chemical and physical processes at the organismal level, and how such interactions impact the structure and function of ecosystems, e.g. through life histories, adaptive evolution, food webs, biogeochemical cycling, and interactions with other changes in the ocean (e.g., temperature, stratification, circulation patterns); and Understanding how the earth system history informs our understanding of the effects of ocean acidification on the present day and future ocean. The Ocean Acidification program is in its fifth and anticipated last year of competition. We expect this to be the last solicitation specifically targeting Ocean Acidification. [More information](#)

##### **Petrology and Geochemistry** – Response due January 6, 2014

The Petrology and Geochemistry Program supports basic research that address the formation and evolution of our planet using petrological and geochemical characteristics of Earth materials in the crust, mantle, and core. Proposals in this program generally address the petrology and high-temperature geochemistry of igneous and metamorphic rocks (including mantle samples), mineral physics, economic geology, and volcanology. Proposals that bridge disciplinary boundaries or that include development of analytical tools for potential use by the broad community are also encouraged. [More information](#)

##### **Tectonics** – Response due January 6, 2014

The Tectonics Program supports a broad range of field, laboratory, computational, and theoretical investigations aimed at understanding the formation, evolution, and deformation of continental lithosphere through time. Proposals to elucidate the processes that act on the lithosphere at various time-scales and length-scales, either at depth or the surface, are encouraged. Because understanding such large-scale phenomena commonly requires a variety of expertise and methods, the Tectonics Program supports integrated research involving the disciplines of structural geology, petrology, geochronology, sedimentology, stratigraphy, geomorphology, rock mechanics, paleomagnetism, geodesy, and other geophysical techniques. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Geobiology and Low-Temperature Geochemistry** – *Response due January 16, 2014*

This Program supports research on 1) the interactions between biological and geological systems at all scales of space and time; 2) geomicrobiology and biomineralization processes; 3) the role of life in the transformation and evolution of the Earth's geochemical cycles; 4) inorganic and organic geochemical processes occurring at or near the Earth's surface now and in the past, and at the broad spectrum of interfaces ranging in scale from planetary and regional to mineral-surface and supramolecular; 5) mineralogy and chemistry of soils and sediments; 6) surficial chemical and biogeochemical systems and cycles and their modification through natural and anthropogenic change; and 7) development of tools, methods, and models for low-temperature geochemistry and geobiological research - such as those emerging from molecular biology - in the study of the terrestrial environment. [More information](#)

#### **Geomorphology and Land Use Dynamics** – *Response due January 16, 2014*

Geomorphology and Land-Use Dynamics supports innovative research into processes that shape and modify landscapes over a variety of length and time scales. The program encourages research that investigates quantitatively the coupling and feedback among such processes, their rates, and their relative roles, especially in the contexts of variation in climatic and tectonic influences and in light of changes due to human impact. [More information](#)

#### **Sedimentary Geology and Paleobiology** – *Response due January 16, 2014*

This Program supports research in a wide variety of areas in sedimentary geology and paleobiology in order to comprehend the full range of physical, biological, and chemical processes of Earth's dynamic system. The program supports the study of deep-time records of these processes archived in the Earth's sedimentary carapace (crust) at all spatial and temporal scales. For the years 2013-2017, this Program will be sponsoring a two track opportunity that will consist of the normal SGP competition (Track 1) and bi-annually, a new track termed Earth-Life Transitions (ELT) (Track 2). Track 1: General Program: Sedimentary Geology and Paleobiology supports general studies of: (1) the changing aspects of life, ecology, environments, and biogeography in past geologic time based on fossil plants, animals, and microbes; (2) all aspects of the Earth's sedimentary carapace - insights into geological processes recorded in its records and rich organic and inorganic resources locked in rock sequences; (3) the science of dating and measuring the sequence of events and rates of geological processes as manifested in Earth's past sedimentary and biological (fossil) record; (4) the geologic record of the production, transportation, and deposition of physical and chemical sediments; and (5) understanding Earth's deep-time (pre-Holocene) climate systems. Track 2: Earth-Life Transitions: In fiscal years 2013-2017, the Sedimentary Geology and Paleobiology program is sponsoring a bi-annual second track opportunity termed Earth-Life Transitions (ELT) within the normal programmatic spring competition. The goals of the ELT track are: 1) to address critical questions about Earth-Life interactions in deep-time through the synergistic activities of multi-disciplinary science and 2) to enable team-based interdisciplinary projects involving stratigraphy, sedimentology, paleontology, proxy development, calibration and application studies, geochronology, and climate modeling at appropriately resolved scales of time and space, to understand major linked events of environmental, climate and biotic change at a mechanistic level. [More information](#)

#### **Marine Sensor and Other Advanced Observing Technologies** – *Response due February 21, 2014*

The U.S. Integrated Ocean Observing System (IOOS®) is a national and regional partnership working to provide observations, data and new tools and forecasts to improve safety, enhance the economy, and protect our environment. To increase observational capabilities we need smart investments in innovative marine sensors and other advanced observing technologies that will improve our ability to monitor these waters with greater efficiency. The NOAA Ocean Acidification Program (OAP), in close partnership with U.S. IOOS, oversees and coordinates ocean acidification monitoring which contributes to the conservation of marine ecosystems. The U.S. IOOS Program and the NOAA Ocean Acidification Program (Programs) are seeking to jointly fund projects, subject to the availability of funds, which advance new or existing marine sensors and other observing technologies that address long standing and emerging coastal observing challenges. The projects will be focused on those sensors and other observing technologies for which there are demonstrated operational end-users who commit to integrated, long term use of those technologies and open data sharing. Funding will be targeted to marine sensors and other observing technologies that are beyond their research phase, with specific emphasis on transition and life cycle costs, including data management, overall operations, and maintenance expenses. The Programs are seeking Letters of Intent (LOIs) from prospective investigators relating how their project ideas align with program objectives. [More information](#)

#### **Geoinformatics** – *Response due July 1, 2015*

The Division of Earth Sciences (EAR) will consider proposals for the development of cyberinfrastructure for the geosciences (Geoinformatics). EAR seeks the development and implementation of enabling information technology with impacts that extend beyond an individual investigator or small group of investigators and that facilitates the next generation of geosciences research. Proposals to this solicitation may seek support for community-driven development and implementation of databases; tools for data integration, interoperability, and visualization; software development and code hardening; and data-intensive/new computing methodologies that support the enhancement of geosciences research and education activities. Collaboration with computational scientists and the development of public/private partnerships are strongly encouraged. The efforts supported by this solicitation do not overlap with, but are complementary to, EarthCube, a partnership between the Geosciences Directorate (GEO) and the Office of Cyberinfrastructure (OCI) to build an integrated geosciences-wide cyberinfrastructure. The goal of EarthCube is to transform the conduct of research in the geosciences by supporting community-created cyberinfrastructure that integrates knowledge management across the geosciences. The Geoinformatics solicitation will support efforts to create the underlying knowledge base and utilities that will be integrated, over time, through EarthCube. Projects submitted to the Geoinformatics solicitation should be proposed using modern software techniques and standards that facilitate eventual integration into a geoscience-wide knowledge system. [More information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Earth Sciences: Instrumentation and Facilities** - *Applications accepted continuously*

This program supports meritorious requests for infrastructure that promotes research and education in areas supported by the Division will consider proposals for: 1) Acquisition or Upgrade of Research Equipment that will advance laboratory and field investigations and student research training opportunities in the Earth sciences. The maximum request is \$1,000,000. The maximum request for upgrade of research group computing facilities is \$75,000; 2) Development of New Instrumentation, Analytical Techniques or Software that will extend current research and research training capabilities in the Earth sciences. The maximum request is \$1,000,000; 3) Support of National or Regional Multi-User Facilities that will make complex and expensive instruments or systems of instruments broadly available to the Earth sciences research and student communities; 4) Support for Early Career Investigators to facilitate expedient operation of new research infrastructure proposed by the next generation of leaders in the Earth Sciences. [More Information](#)

### POLLUTION

#### **Community-based Marine Debris Removal** – *Response due November 1, 2015*

This Debris Program is to provide federal financial and technical assistance to grass-roots, community-based activities that improve living marine resource habitats through the removal of marine debris and promote stewardship and a conservation ethic for NOAA trust resources. NOAA trust resources include living marine resources and their habitats, including commercial and recreational fishery resources (marine fish and shellfish); coastal habitats; diadromous fish species; endangered and threatened marine species; marine mammals and marine turtles; marshes, mangroves, seagrass beds, coral reefs, other coastal habitats; areas identified by NOAA Fisheries as essential fish habitat (EFH); and areas within EFH identified as Habitat Areas of Particular Concern (HAPC). NOAA trust resources can also include marine habitats and resources associated with National Marine Sanctuaries, National Estuarine Research Reserves, and areas under state coastal management programs, including Areas of Concern within the Great Lakes. The program aims to foster collaboration among diverse entities and groups (e.g., public and nonprofit organizations, citizen and watershed groups, anglers, boaters, industry, corporations and businesses, youth conservation corps, students, landowners, academics, and local, state, and federal government agencies) in order to cooperatively implement safe, impactful, and cost-effective marine debris removal projects. In order to track project success, funded projects will need to be able to report the total amount of debris removed (metric tons), total area or extent cleaned or restored (acres and/or miles), types of debris encountered, and volunteer hours involved. [More information](#)

#### **Environmental Engineering** -*Response due February 20, 2014*

This program supports fundamental research & educational activities across the field of environmental engineering. The goal is to encourage transformative research which applies scientific & engineering principles to avoid or minimize solid, liquid, and gaseous discharges, resulting from human activity, into land, inland and coastal waters, and air, while promoting resource and energy conservation and recovery. The program also fosters cutting-edge scientific research for identifying, evaluating, and monitoring the waste assimilative capacity of the natural environment and for removing or reducing contaminants from polluted air, water, and soils. Major areas of interest and activity in the program include: Environmental engineering implications of energy & resource consumption-Focus on conversion of wastes into value-added materials & energy, reduction of energy/water demand for environmental technologies, & the impact of energy & transportation processes on the environment. [More information](#)

### RENEWABLE ENERGY CERTIFICATES

#### **Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power** – *Various Deadlines*

Solicitations for renewable energy generation, renewable energy certificates, & green power. [More Information](#)

### RESEARCH

#### **\*\*EXPIRING SOON\*\* Arctic Research Opportunities** – *Responses due October 18, 2013*

National Science Foundation (NSF) invites investigators at U.S. organizations to submit proposals to conduct research about the Arctic. Arctic research includes field and modeling studies, data analysis, and synthesis about the arctic region. The goal of the NSF Division of Arctic Sciences is to gain a better understanding of the Arctic's physical, biological, geological, chemical, social and cultural processes; the interactions of oceanic, terrestrial, atmospheric, biological, social, cultural, and economic systems; and the connections that define the Arctic. The Division of Arctic Sciences and other NSF programs support projects that contribute to the development of the next generation of researchers and scientific literacy for all ages through education, outreach, and broadening participation in science, technology, engineering, and mathematics. Program representatives from OPP and other non-OPP NSF programs that support arctic research coordinate across NSF, including joint review and funding of arctic proposals and mutual support of special projects with high logistical costs. For more information enter funding announcement "10-597" into the Grant.gov search queue or go [here](#).



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **\*\*NEW - EXPIRING SOON \*\*** Advancing Digitization of Biodiversity Collections Grant #13-569 – Response due October 18, 2013

This program seeks to enhance and expand the national resource of digital data documenting existing vouchered biological and paleontological collections and to advance scientific knowledge by improving access to digitized information residing in vouchered scientific collections across the United States. The information associated with various collections of organisms, such as geographic, paleogeographic and stratigraphic distribution, environmental habitat data, phenology, information about associated organisms, collector field notes, and tissues and molecular data extracted from the specimens, is a rich resource providing the baseline from which to further biodiversity research and provide critical information about existing gaps in our knowledge of life on earth. The national resource is structured at three levels: a central coordinating organization, a series of thematic networks based on an important research theme, and the physical collections. The national resource builds upon a sizable existing national investment in curation of the physical objects in scientific collections and contributes vitally to scientific research and technology interests in the United States. It will become an invaluable tool in understanding contemporary biological issues and challenges. [More information](#)

#### **\*\*EXPIRING SOON\*\*** Biotechnology, Biochemical, and Biomass Engineering – Response due October 29, 2013

This program supports fundamental engineering research that advances the understanding of cellular and biomolecular processes (in vivo, in vitro, and/or ex vivo) and eventually leads to the development of enabling technology and/or applications in support of the biopharmaceutical, biotechnology, and bioenergy industries, or with applications in health or the environment. Quantitative assessments of bioprocesses are considered vital to successful research projects in the BBBE program. The program encourages proposals that address emerging research areas and technologies that effectively integrate knowledge and practices from different disciplines, and effectively incorporate ongoing research into educational activities. Research projects of particular interest in BBBE include, but are not limited to: Metabolic engineering and synthetic biology, Quantitative systems biotechnology, Tissue engineering and stem cell culture technologies, Protein engineering/protein design and Development of novel tools for biotechnology applications. The duration of unsolicited awards is generally one to three years. The average annual award size for the program is \$100,000 for individual investigators and \$200,000 for multiple investigators. Proposals requesting a substantially higher amount than this, without prior consultation with the Program Director, may be returned without review. Proposals in the areas of nanobiotechnology, fermentation, cell culture, recombinant DNA, and enzyme technology will still be accepted, given that they represent highly innovative and potentially transformative research in these areas. Proposals outside of these specific interest areas will be considered; however, the PI should contact the Program Director prior to submission to avoid the possibility of the proposal being returned without review. [More information](#)

#### **\*\*EXPIRING SOON\*\*** Chemical and Biological Separations - Response due October 29, 2013

This program supports fundamental research on novel methods and materials for separation processes. These processes are central to the chemical, biochemical, materials, energy, and pharmaceutical industries. A fundamental understanding of the interfacial, transport, and thermodynamic behavior of multiphase chemical systems as well as quantitative descriptions of processing characteristics in the process-oriented industries is critical for efficient resource management and effective environmental protection. The program encourages proposals that address emerging research areas and technologies, have a high degree of interdisciplinary thought coupled with knowledge creation, and integrate education and research. Research topics OF PARTICULAR INTEREST in CBS include fundamental molecular-level work on: Nanostructured materials for separations, Biorenewable resource separation processes, Purification of drinking water, Field induced separations and Separation of molecular constituents from blood. The duration of unsolicited awards is generally one to three years. The average annual award size for the program is \$80,000. Proposals requesting a substantially higher amount than this, without prior consultation with the Program Director, may be returned without review. Small equipment proposals of less than \$100,000 will also be considered and may be submitted during the annual submission window. Innovative proposals outside of these specific interest areas can be considered. However, prior to submission, it is recommended that the PI contact the Program Director to avoid the possibility of the proposal being returned without review. [More information](#)

#### **\*\*NEW – EXPIRING SOON\*\*** Experimental Elementary Particle Physics – Response due October 30, 2013

Particle physics plays an essential role in the broader enterprise of the physical sciences. It inspires U.S. students, attracts talent from around the world, and drives critical intellectual and technological advances in other fields. And the field is entering an era of unprecedented potential as a result of new discoveries about matter and energy in the Universe. The Particle Physics program seeks to explore the fundamental nature of matter, energy, space, and time. It asks such questions as: What are the origins of mass? Can the basic forces of nature be unified? How did the universe begin? How will it evolve in the future? What are dark matter and dark energy? Are there extra dimensions of space-time? Formerly separate questions in cosmology (the universe on the largest scales) and quantum phenomena (the universe on the smallest scales) become connected through our understanding that the early universe can be explored through the techniques of particle physics. At the NSF, particle physics is supported by four programs within the Division of Physics: (1) the Theory program, which includes fundamental research on the forces of nature and the early history of the universe as well as support for the experimental program by providing guidance and analysis for high energy experiments; (2) the Elementary Particle Physics (EPP) program, which supports particle physics at accelerators; (3) the Particle Astrophysics (PA) program, which supports non-accelerator experiments; and (4) the new Accelerator Science program which supports research at universities into the educational and discovery potential of basic accelerator physics. EPP also supports advances in detector development and new methods of utilizing distributed computing in support of collaborative research, for example, grid development, both nationally and internationally. The program also engages K-12 educators, who participate in experiments with university scientists, staff and students. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **\*\*EXPIRING SOON\*\*** LIGO Research Support - *Response due October 30, 2013*

This program supports research at the frontiers of science aimed towards answering questions about the nature of space and time, the gravitational attraction at atomically small and cosmological large distances and the use of gravitational waves to explore the universe. The LIGO Research Support program oversees the commissioning and operation of the Laser Interferometer Gravity Wave Observatory (LIGO), and provides support for LIGO users and other experimental investigations in gravitational physics and related areas. This includes tasks that range from instrument science, data analysis and detector characterization to source population calculations and the connection between the gravitational waves and the electromagnetic and neutrino signatures of astrophysical events. In addition, the program supports infrastructure activities such as short- and long-term visitor programs, workshops, and research centers involving the participation of external scientists from universities, national laboratories, and industry, as well as graduate students and postdoctoral fellows. [More information](#)

#### **\*\*EXPIRING SOON\*\*** Electronics, Photonics, and Magnetic Devices – *Response due November 1, 2013*

This program seeks to improve the fundamental understanding of devices and components based on the principles of micro- & nanoelectronics, photonics, magnetics, optoelectronics, electromechanics, electromagnetics, & related physical phenomena. The program enables discovery and innovation advancing the frontiers of nanoelectronics, spin electronics, molecular and organic electronics, bioelectronics, non-silicon electronics, flexible electronics, microwave photonics, micro/nano-electromechanical systems, sensors & actuators, power electronics, & mixed signal devices. EPMD supports related topics in quantum engineering & novel electromagnetic materials-based high frequency device solutions, radio frequency integrated circuits, & reconfigurable antennas needed for communications, telemedicine, & other wireless applications. [More information](#)

#### **Astronomy and Astrophysics Research Grants** - *Response due November 15, 2013*

This program provides individual investigator and collaborative research grants for observational, theoretical, laboratory and archival data studies in all areas of astronomy and astrophysics, including but not limited to the following areas of study: Planetary Astronomy: Studies of Solar System and extrasolar planets; the detailed characterization, structure and composition of the surfaces, interiors, and atmospheres of planets and satellites; the nature of small bodies; the inter-planetary medium; and the origin, formation, and development of the Solar System and other planetary systems. Stellar Astronomy and Astrophysics: Studies of the structure and activity of the Sun and other stars; the physical properties and composition of all types of single and multiple stars; compact objects and their interactions; star formation and stellar evolution; stellar nucleosynthesis; and the properties of atoms and molecules of relevance to stellar astronomy. [More information](#)

#### **Division of Molecular and Cellular Biosciences: Investigator-initiated research projects** - *Response due November 15, 2013*

This program supports quantitative, predictive, & theory-driven fundamental research & related activities designed to promote understanding of complex living systems at the molecular, subcellular, & cellular levels. MCB is soliciting proposals for hypothesis-driven & discovery research & related activities in four core clusters: Molecular Biophysics, Cellular Dynamics & Function, Genetic Mechanisms Systems & Synthetic Biology. MCB gives high priority to research projects that use theory, methods & technologies from physical sciences, mathematics, computational sciences & engineering to address major biological questions. Research supported by MCB uses a range of experimental approaches--including in vivo, in vitro & in silico strategies--& a broad spectrum of model & non-model organisms, especially microbes & plants. Typical research supported by MCB integrates theory & experimentation. Projects that address the emerging areas of multi-scale integration, molecular and cellular evolution, quantitative prediction of phenotype from genomic information and development of methods and resources are particularly welcome. Highest funding priority is given to applications that have outstanding intellectual merit and strong broader impacts. Proposals that include research motivated by relevance to human health or address the molecular basis of human diseases and treatment are not appropriate for the Division and will be returned without review. [More information](#)

#### **Physics at the Information Frontier** – *Response due November 29, 2013*

Physics at the Information Frontier (PIF) includes support for data-enabled science, community research networks, and new computational infrastructure, as well as for next-generation computing. It focuses on cyber-infrastructure for the disciplines supported by the Physics Division while encouraging broader impacts on other disciplines. Disciplines within the purview of the Physics Division include: atomic, molecular, optical, plasma, elementary particle, nuclear, particle astrophysics, gravitational and biological physics. Proposals with intellectual focus in areas supported by other NSF Divisions should be submitted to those divisions directly. Proposals that cross Divisional lines are welcome, but the Physics Division encourages PIs to request a co-review by naming other divisional programs on the cover sheet. PIF provides support for physics proposals in three subareas: 1) computational physics, 2) data enabled physics, and 3) quantum information science and revolutionary computing. [More information](#)

#### **\*\*NEW\*\*** Energy Frontier Research Centers – *Response due January 9, 2014*

The Department of Energy, Office of Basic Energy Sciences (BES), is seeking new and renewal applications for Energy Frontier Research Centers (EFRCs) to conduct fundamental research focused on one or more “grand challenges” and use-inspired “basic research needs” identified in major strategic planning efforts by BES and the scientific community. The mission of the BES program is to support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support DOE’s mission emphases in energy, the environment and national security. EFRCs are intended to bring together the skills and talents of multiple investigators to enable fundamental research to enhance U.S. energy security and to meet the global need for abundant, clean and economical energy. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Catalyzing New International Collaborations** – *Response due January 22, 2014*

The Catalyzing New International Collaborations program supports the participation of US-based researchers and students in activities intended to catalyze new international research collaborations. [More information](#)

#### **Physics Frontiers Centers** - *Response due January 27, 2014*

This program supports university-based centers and institutes where the collective efforts of a larger group of individuals can enable transformational advances in the most promising research areas. The program is designed to foster major breakthroughs at the intellectual frontiers of physics by providing needed resources not usually available to individual investigators or small groups. Activities supported through the program are in all sub-fields of physics within the purview of the Division of Physics: atomic, molecular, optical, plasma, elementary particle, nuclear, astro-gravitational and biological physics. The successful PFC activity will demonstrate: (1) the potential for a profound advance in physics; (2) creative, substantive activities aimed at enhancing education, diversity, and public outreach; (3) potential for broader impacts, e.g., impacts on other field(s) and benefits to society; (4) a synergy or value-added rationale that justifies a center- or institute-like approach. [More information](#)

#### **Predictive Multiscale Models for Biomedical, Biological, Behavioral, Environmental and Clinical Research** – *Responses due January 31, 2014*

This FOA supports development of multi-scale models to accelerate biological, biomedical, behavioral, environmental & clinical research. The agencies recognize that to understand multi-scale biological & behavioral systems, researchers need predictive, computational models that encompass multiple biological & behavioral scales. Development of new, non-standard modeling methods & experimental approaches to facilitate multi-scale modeling are encouraged. [More Information](#)

#### **Combustion, Fire, and Plasma Systems** -*Response due February 20, 2014*

This program supports fundamental research and education relevant to these subjects. Among the broader societal impacts of the program are cleaner global and local environments, enhanced public safety, improved energy and homeland security, useful new materials and more efficient manufacturing. This program endeavors to provide basic knowledge that is needed to develop useful combustion and plasma applications and for mitigating the effects of fire. Broad-based tools including: experimental, diagnostic, and computational; that can be applied to a variety of problems in combustion, fires, and plasma systems, are the major products of this program. Note that the plasma science is generally in support of plasma applications to combustion and materials processing; atmospheric-science or fusion-energy plasmas are funded elsewhere. [More information](#)

#### **Emerging Frontiers in Research and Innovation** – *Response due February 10, 2014*

The Directorate for Engineering at the National Science Foundation has established the Office of Emerging Frontiers in Research and Innovation (EFRI) to serve a critical role in focusing on important emerging areas in a timely manner. This solicitation is a funding opportunity for interdisciplinary teams of researchers to embark on advancing frontiers of fundamental engineering research. For this solicitation, we will consider proposals that aim to investigate emerging frontiers in the following research area: Two-Dimensional Atomic-layer Research and Engineering (2-DARE). This solicitation is coordinated with the Directorate for Mathematical & Physical Sciences within NSF. Additionally, interest within other Federal agencies, specifically Air Force Office of Scientific Research (AFOSR), may lead to an interagency effort. Submitted proposals may be shared with interested representatives from AFOSR. EFRI seeks proposals with transformative ideas that represent an opportunity for a significant shift in fundamental engineering knowledge with a strong potential for long term impact on national needs or a grand challenge. The proposals must also meet the detailed requirements delineated in this solicitation. [More information](#)

#### **Partnerships for Innovation: Accelerating Innovation Research Research Alliance** – *Response due February 12, 2014*

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Both programs are concerned with the movement of academic research discoveries into the marketplace, although each focuses on different stages along the innovation spectrum. The PFI: AIR program has two additional subprograms: the PFI: AIR-Technology Translation (See NSF 13-575) and PFI: AIR- Research Alliance (this solicitation). This PFI: AIR-Research Alliance (RA) solicitation is intended to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities by leveraging the investments NSF has made in research alliances (e.g., consortia such as Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, Emerging Frontiers in Research and Innovation grantees and others) and catalyzing academic-based innovation ecosystems. The goal is that these synergistic partnerships and collaborations between government, academia, and other public and private entities will result in new wealth and the building of strong local and regional economies. [More information](#)

#### **Biomechanics and Mechanobiology** – *Response due February 15, 2014*

The BMMB Program supports fundamental research in biomechanics and mechanobiology. An emphasis is placed on multiscale mechanics approaches in the study of organisms that integrate across molecular, cell, tissue, and organ domains. The influence of in vivo mechanical forces on cell and matrix biology in the histomorphogenesis, maintenance, regeneration, and aging of tissues is an important concern. In addition, the relationships between mechanical behavior and extracellular matrix composition and organization are of interest. Funded projects may include theoretical, computational, and experimental approaches. The program encourages the consideration of diverse living tissues as smart materials that are self-designing. [More information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Sensors and Sensing Systems – Response due February 15, 2014**

The Sensors and Sensing System (SSS) program funds fundamental research on sensors and sensing systems. Such fundamental research includes the discovery and characterization of new sensing modalities, fundamental theories for aggregation and analysis of sensed data, fundamentally new approaches for data transmission, and approaches for addressing uncertain and/or partial sensor data. Innovative research in nonlinear prediction, filtering and estimation in the context of sensing systems is also considered. [More information](#)

#### **Catalysis and Biocatalysis – Response due February 20, 2014**

Programs in this area encompass a blend of fundamental and innovative applied research drivers. All programs are hypothesis-driven, and the experimental programs aimed at resolving the issues frequently combine a variety of approaches. Chemical engineering and chemistry are intertwined. Proposals which receive funding in this Program may include any number of the following broad scopes: Catalyst Synthesis, Characterization, Behavior and Performance Kinetics, Mechanisms of Key Catalytic Reaction, Catalysis at Surfaces or in Reactor Process Streams, Synthesis and Fabrication of Component Materials, Catalyst Composites, Modeling and Fundamental Studies of a Catalyst or Catalytic Process and Catalysts and Studies for Renewable Energy Systems. These approaches apply equally to classical inorganic or carbon catalysts as well as to enzymatic or biocatalysts. Specialized materials synthesis procedures may be necessary to provide active catalysts in any of the studies. Applications-driven studies, such as Biomass conversion catalysis, Electrocatalysis and Photocatalysis involving energy interconversion devices or systems employing catalysts are highly desired. Most studies will focus on the catalysis of one or more chemical reactions with products including molecules used for fuels, energy sources, feedstocks, fine chemicals, bulk chemicals and specialized materials. While proposals will be accepted in any of the above areas, national needs suggest heightened interest be given to proposals relating to processes and catalysts for conversions of biomass to fuels and chemicals, for development of renewable energy sources and for transition to green or environmentally benign products and processes. Submissions investigating unique nanoparticle or biomimetic catalysis are welcome. There is overlap in the energy topics with Energy for Sustainability Program, the Process and Reaction Engineering Program, and the Biotechnology, Biochemical, and Biomass Engineering Program. Some guidelines may help you to decide which Program is the most logical for submission. If the Proposal centers on the enzymatic or inorganic catalysis aspect of the biomass or photocatalysis or electrocatalysis energy conversion process, or uses catalysis as the main tool for interconversion, please submit to the Catalysis and Biocatalysis Program. If the proposal focuses on biological and genetic aspects, consider the Biotechnology, Biochemical, and Biomass Engineering Program. If the Proposal focuses on the reaction engineering aspects of the interconversion, submit to the Process and Reaction Engineering Program. If the emphasis is on the renewable energy system as a whole, or the sustainable aspects of renewable energy, submit to the Energy for Sustainability Program. [More information](#)

#### **Process and Reaction Engineering – Response due February 20, 2014**

This program supports fundamental and applied research on: Rates and mechanisms of important classes of catalyzed and uncatalyzed chemical reactions as they relate to the design, production and application of catalysts, chemical processes, biochemical processes and specialized materials, Chemical and biochemical phenomena occurring at or near solid surfaces and interfaces, Electrochemical and photochemical processes of engineering significance or with commercial potential, Design and optimization of complex chemical and biochemical processes, Dynamic modeling and control of process systems and individual process units, Reactive processing of polymers, ceramics and thin films Interactions between chemical reactions and transport processes in reactive systems and the use of this information in the design of complex chemical and biochemical reactors. Recent emphasis on the development of sustainable energy technologies means that the support of projects on the processing aspects of chemical systems that further such technologies have high priority when funding decisions are made. Areas that focus on reactors of all types - fuel cells, batteries, microreactors, biochemical reactors, etc.; reactor design in general; and design and control of all systems associated with energy from renewable sources, have high priority for funding. This program funds research in: chemical and biochemical reaction engineering, process design and control and reactive polymer processing. Within these three areas, research supported is focused as follows: Chemical Reaction Engineering - the area encompasses the interaction of transport phenomena and kinetics in reactive systems and the use of this knowledge in the design of complex chemical and biochemical reactors. Focus areas include non-traditional reactor systems such as membrane reactors, microreactors, and reactions in supercritical fluids; novel activation techniques such as plasmas, acoustics, and microwaves; and multifunctional systems such as bioreactor design, bioprocess optimization and fermentation technology. The program also supports new approaches for generating energy from renewable resources as well as optimizing new approaches in all areas such as developing atomic layer deposition for microelectronic devices. Process Design and Control - these areas encompass the design and optimization of complex chemical and biochemical processes and the dynamic modeling and control of process systems and individual process units. High priority research topics include simultaneous product and process design, including bioprocesses; increased plant efficiency by algorithms that communicate across design levels and incorporate multiple criteria such as profitability, safety, operability, environmental sustainability, and societal concerns; and new sensor development to measure composition, product properties, morphology, etc. [More information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **\*\*NEW\*\* Exploratory Research for Extreme-Scale Science** – Response due February 28, 2014

The Advanced Scientific Computing Research (ASCR) program of the Office of Science (SC), U.S. Department of Energy (DOE), hereby invites exploratory basic research proposals with the potential to deliver significantly advanced or improved science capabilities in light of emerging and disruptive technology changes. Desired outcomes include advances that will make massively parallel, heterogeneous computer architectures more efficient and practical to use in carrying out scientific research activities. A complementary ASCR objective is to build up the computational research infrastructure for enabling data-intensive science advances. A companion Program Announcement open to DOE National Laboratories (LAB 14-1003) will be posted on the SC Grants and Contracts web site at: <http://www.science.doe.gov/grants>. [More information](#)

#### **Coupling, Energetics, and Dynamics of Atmospheric Regions** - Response due May 10, 2014

CEDAR is a broad-based, community-initiated, upper atmospheric research program. The goal is to understand the behavior of atmospheric regions from the middle atmosphere upward through the thermosphere and ionosphere into the exosphere in terms of coupling, energetics, chemistry, and dynamics on regional and global scales. These processes are related to the sources of perturbations that propagate upward from the lower atmosphere as well as to solar radiation and particle inputs from above. The activities within this program combine observations, theory and modeling. [More information](#)

#### **\*\*NEW\*\* Coupling, Energetics, and Dynamics of Atmospheric Regions** – Response due May 12, 2014

CEDAR is a broad-based, community-initiated, upper atmospheric research program. The goal is to understand the behavior of atmospheric regions from the middle atmosphere upward through the thermosphere and ionosphere into the exosphere in terms of coupling, energetics, chemistry, and dynamics on regional and global scales. These processes are related to the sources of perturbations that propagate upward from the lower atmosphere as well as to solar radiation and particle inputs from above. The activities within this program combine observations, theory and modeling. [More information](#)

#### **\*\*NEW\*\* Division of Integrative Organismal Systems** – Response due August 1, 2014

The Division of Integrative Organismal Systems (IOS) supports research aimed at understanding why organisms are structured the way they are and function as they do. Proposals should focus on organisms as a fundamental unit of biological organization. Principal Investigators (PIs) are encouraged to apply systems approaches that will lead to conceptual and theoretical insights and predictions about emergent organismal properties. Areas of inquiry include, but are not limited to; developmental biology and the evolution of developmental processes, nervous system development, structure and function, physiological processes, functional morphology, symbioses, interactions of organisms with biotic and abiotic environments and animal behavior. Proposals are welcomed in all areas of science supported by the Division of Integrative Organismal Systems. All investigator-initiated proposals to the core programs in the Division of Integrative Organismal Systems must now be invited based on merit review of preliminary proposals. There is a single submission deadline with a limit of 2 preliminary proposals per investigator per year as PI or Co-PI in response to this solicitation. Please see the GPG for definition of roles for PI and Co-PI. There are no limits on the number of proposals you can participate on as collaborator. [More information](#)

#### **Power and Thermal Management Technology Development 2** – Responses due December 15, 2016

This Program aims to obtain cutting edge technology from industry & academia previously not considered for funding by awarding contracts/assistance instruments with a broad range of highly unique evolutionary & revolutionary technology advances in 3 areas: Integrated Power & Thermal Subsystems; Special Purpose Power & Thermal; & Battlespace Fuels. For more information search funding announcement "BAA-12-02-PKPA" or go [here](#).

#### **Sensors and Sensing Systems** – Biannual deadlines

The Sensors and Sensing System (SSS) program funds fundamental research on sensors and sensing systems. Such fundamental research includes the discovery and characterization of new sensing modalities, fundamental theories for aggregation and analysis of sensed data, fundamentally new approaches for data transmission, and approaches for addressing uncertain and/or partial sensor data. Innovative research in nonlinear prediction, filtering and estimation in the context of sensing systems is also considered in this program. The program does not fund developmental projects, such as sensor development or applications studies. [More information](#)

#### **Research Initiation Grants in Engineering Education** – Responses due Last Thursday in March annually

This program enables engineering faculty renowned for teaching, mentoring, or leading educational reform efforts to initiate collaborations with colleagues in the learning & cognitive sciences to address difficult, boundary-spanning problems in how we educate engineers. [More Information](#)

#### **Climate and Large-Scale Dynamics** – Ongoing

Program goal: (i) advance knowledge of processes that force & regulate atmosphere's synoptic & planetary circulation, weather & climate, & (ii) sustain resources required for synoptic & global atmospheric dynamics & climate research merit. Some topics include: theoretical, observational & modeling studies of the general circulation of the stratosphere & troposphere; synoptic scale weather phenomena; processes governing climate; causes of climate variability & change; methods to predict climate variations and extended weather & climate predictability. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Climate Research – Ongoing**

NSF is requesting proposals for Paleoclimate research. Projects should focus on the natural evolution of Earth's climate with the goal of providing a baseline for present variability & future trends through improved understanding of the physical, chemical, & biological processes that influence climate over the long-term. [More Information](#)

#### **Propane Challenge – Ongoing**

This program is designed to get talented researchers & manufacturers to think about new ways to deliver & use propane. The best technology ideas can earn research grant funding & a chance to win the PROPANE Exceptional Energy® award recognizing the most innovative & meaningful contributions to the industry. [More Information](#)

#### **Notice of Intent to Issue an FOA for Hydrogen Delivery Technologies - Response "TBD"**

The purpose of this Notice of Intent is to provide potential applicants advance notice that the Fuel Cell Technologies Office (FCTO), on behalf of the DOE Office of Energy Efficiency and Renewable Energy (EERE), intends to issue a FOA titled "Hydrogen Delivery Technologies" (DE-FOA-0000821). The Notice of Intent is posted on the EERE eXCHANGE website at <https://eere-exchange.energy.gov>. NO APPLICATIONS WILL BE ACCEPTED THROUGH THIS NOTICE. Please do not submit questions or respond to this Notice of Intent. Prospective applicants to the FOA should begin developing partnerships, formulating ideas, and gathering data in anticipation of the issuance of this FOA. [More information](#)

## RURAL DEVELOPMENT

#### **Rural Community Development Initiative (RCDI) – Response due November 12, 2013**

Qualified private, nonprofit and public (including tribal) intermediary organizations proposing to carry out financial and technical assistance programs will be eligible to receive the funding. The intermediary will be required to provide matching funds in an amount at least equal to the RCDI grant. The respective minimum and maximum grant amount per intermediary is \$50,000 and \$300,000. The intermediary must provide a program of financial and technical assistance to a private nonprofit, community-based housing and development organization, a low-income rural community or a federally recognized tribe. [More information](#)

#### **USDA Rural Community Development Utilities Programs – Response due November 12, 2013**

Qualified private, nonprofit and public (including tribal) intermediary organizations proposing to carry out financial and technical assistance programs will be eligible to receive the funding. The intermediary will be required to provide matching funds in an amount at least equal to the RCDI grant. The respective minimum and maximum grant amount per intermediary is \$50,000 and \$300,000. The intermediary must provide a program of financial and technical assistance to a private nonprofit, community-based housing and development organization, a low-income rural community or a federally recognized tribe. [More information](#)

#### **Rural Business Opportunity Grants – Ongoing**

The funds promote sustainable economic development in rural communities with exceptional needs. [More Information](#)

## SOLAR

#### **\*\*EXPIRING SOON\*\* SunShot "Race to the Roof" Initiative – Registration due October 31, 2014**

Sponsored by the U.S. Department of Energy (DOE), the SunShot Prize aims to spur low-cost rooftop solar installations across the nation. This competition offers a total of up to \$10 million in cash awards to the first 3 teams that repeatedly demonstrate an average of \$1 per watt (W) for non-hardware costs such as permitting, interconnection, and inspection. [More Information](#)

## SUSTAINABILITY

#### **Sustainable Homes Professional – Multiple deadlines**

This interactive six-month certification program will help you develop the technical expertise to design and build high performance homes. [More information](#)

#### **Solid Waste Management Grant - Response due December 31, 2013**

Funds may be used to: Evaluate current landfill conditions to determine threats to water resources in rural areas; provide technical assistance and/or training to enhance operator skills in the maintenance and operation of active landfills in rural areas; provide technical assistance and/or training to help associations reduce the solid waste stream; and provide technical assistance and/or training for operators of landfills in rural areas which are closed or will be closed in the near future with the development and implementation of closure plans, future land use plans, safety and maintenance planning, and closure scheduling within permit requirements. Grant funds may not be used to: 1) Recruit applications for other loan and/or grant programs; 2) duplicate current services such as those performed by a consultant in developing a project; 3) fund political activities; 4) pay for capital assets, purchase real estate or vehicles, improve and renovate office space, or repair and maintain privately owned property; 5) pay for construction, or O&M costs; and 6) pay for costs incurred prior to effective date of grant. [More Information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Opportunities continued . . .

#### **Community Forest and Open Space Program – Response due January 15, 2014**

The Community Forest Program is a grant program that authorizes the Forest Service to provide financial assistance to local governments, Tribal governments, and qualified nonprofit entities to establish community forests that provide continuing and accessible community benefits. [More information](#)

#### **Science, Technology, and Society – Response due February 3, 2014**

STS considers proposals for scientific research into the interface between science (including engineering) or technology, and society. STS researchers use diverse methods including social science, historical, and philosophical methods. Successful proposals will be transferrable (i.e., generate results that provide insights for other scientific contexts that are suitably similar). They will produce outcomes that address pertinent problems and issues at the interface of science, technology and society, such as those having to do with practices and assumptions, ethics, values, governance, and policy. The STS review process is approximately six months. [More information](#)

#### **Cyber-Enabled Sustainability Science and Engineering - Response due February 4, 2014**

This program aims to advance interdisciplinary research in which the science and engineering of sustainability are enabled by new advances in computing, and where computational innovation is grounded in the context of sustainability problems. The CyberSEES program is one component of the National Science Foundation's Science, Engineering, and Education for Sustainability (SEES) activities, a foundation-wide effort aimed at addressing the challenge of sustainability through support for interdisciplinary research and education. In the SEES context, a sustainable world is one where human needs are met equitably without harm to the environment or sacrificing the ability of future generations to meet their own needs. Computational approaches play a central role in understanding and advancing sustainability. CyberSEES supports research on all sustainability topics that depend on advances in computational areas including optimization, modeling, simulation, prediction, and inference; large-scale data management and analytics; advanced sensing techniques; human computer interaction and social computing; infrastructure design, control and management; and intelligent systems and decision-making. [More information](#)

#### **Energy for Sustainability -Response due February 20, 2014**

This program supports fundamental research and education that will enable innovative processes for the sustainable production of electricity and transportation fuels. Processes for sustainable energy production must be environmentally benign, reduce greenhouse gas production and utilize renewable resources. Current interest areas in sustainable energy technologies are highlighted within the link below. [More information](#)

#### **Environmental Sustainability -Response due February 20, 2014**

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 (environmental) systems. The long-term viability of natural capital is critical for many areas of human endeavor. Research typically considers long time horizons and may incorporate contributions from the social sciences and ethics. This program supports engineering research that seeks to balance society's need to provide ecological protection and maintain stable economic conditions. There are four principal general research areas which are supported, but others can be proposed by contacting the program director by email at: bhamilto@nsf.gov. Areas include: Ecology, Green Engineering, Ecological Engineering and Earth Systems. [More information](#)

## **TRANSPORTATION/VEHICLES**

#### **\*\*EXPIRING SOON\*\* Passenger Ferry Grant Program – Response due October 21, 2013**

The Passenger Ferry Grant program (Ferry program), as authorized, is available to urbanized areas for the same general authority provided under 49 U.S.C. 5307 (Section 5307). However, within the authority provided to the Secretary of Transportation to develop a competitive process, FTA is limiting this discretionary opportunity to capital projects. These funds constitute a core investment in the enhancement and revitalization of public ferry systems in the Nation's urbanized areas. This notice solicits proposals to compete for Fiscal Year (FY) 2013 funding under the Ferry program and may include additional funds made available under future appropriations. [More information](#)

#### **FAA Aviation Research and Development Grants – Ongoing until December 31, 2019**

The FAA solicits proposals for research grants & cooperative agreements to pursue the long-term growth & short-term technical needs of civil aviation. FAA aims to improve regulatory standards for sources of air & noise pollution, & develop better technologies for predicting, measuring, & abating environmental impacts of emissions. These projects support national goals to protect the environment & keep the transportation industry strong & competitive. R,E&D goals are technology improvements that address environmental & regulatory issues such as noise abatement, aircraft pollution, & improved certification of clean, quiet, fuel efficient aircraft. [More Information](#) For more information enter funding announcement "12-01" [here](#)

#### **\$750 Million Authorized in FY 2013 for Transportation Loans, Lines of Credit and Loan Guarantees - No deadline available**

This program provides secured loans, lines of credit and loan guarantees for eligible surface transportation projects. Eligible projects include highways, transit and intermodal, passenger rail, and intelligent transportation systems. Generally, the minimum size for TIFIA projects is \$50 million (\$25 million in rural communities). The recently signed transportation reauthorization legislation - Moving Ahead for Progress in the 21st Century (MAP-21) - authorizes \$750 million for the TIFIA program in FY 2013, a significant boost above the FY 2012 level of \$120 million. Entities wishing to apply for TIFIA credit assistance must first submit a Letter of Interest. [More Information](#)

**ENERGY INDEPENDENCE  
FUNDING OPPORTUNITIES/INCENTIVES**

Federal Opportunities continued . . .

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**FEDERAL TAX INCENTIVES**

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**\*\*RENEWED\*\* Extension of Credit for Energy Efficient Existing Homes**

This credit applies to energy efficiency improvements in the building envelope of existing homes & for the purchase of high-efficiency heating, cooling & water-heating equipment. Efficiency improvements or equipment must serve a dwelling in the U.S. that is owned and used by the taxpayer as a primary residence. The maximum tax credit for all improvements made in 2011-2013 is \$500. The cap includes tax credits for any improvements made in any previous year. If a taxpayer claimed \$500+ of these tax credits in any previous year, any purchases made in 2011- 2013 will be ineligible for a tax credit. [More Information](#)

**\*\*RENEWED\*\* Extension of Credit for Alternative Fuel Vehicle Refueling Property**

Fueling equipment for natural gas, liquefied petroleum gas (propane), electricity, E85, or diesel fuel blends containing a minimum of 20% biodiesel installed between January 1, 2006, and December 31, 2013, is eligible for a tax credit of 30% of the cost, not to exceed \$30,000. Fueling station owners who install qualified equipment at multiple sites are allowed to use the credit towards each location. Consumers who purchased qualified residential fueling equipment prior to December 31, 2013, may receive a tax credit of up to \$1,000. Unused credits that qualify as general business tax credits, as defined by the Internal Revenue Service (IRS), may be carried backward one year and carried forward 20 years. [More Information](#)

**\*\*RENEWED\*\* Extension of Credit for 2- or 3-Wheeled Plug-In Electric Vehicles**

Highway-capable battery-powered plug-in vehicles purchased or leased new may be available for a credit of up to \$7,500, based on their battery capacity, under section 30D of the tax code. This credit begins to phase out for a given manufacturer once that manufacturer has sold 200,000 qualifying vehicles in the United States. A smaller credit of up to \$2,500 for certain "low-speed" neighborhood electric vehicles (including two- and three-wheeled vehicles) was available through 2011 and has been extended to December 31, 2013. A credit under tax code section 30B also existed for conversion of vehicles to plug-in hybrid vehicles; it was worth 10% of costs up to \$40,000 and was available through 2011. Use form 8834. [More Information](#)

**\*\*RENEWED\*\* Extension and Modification of Cellulosic Biofuel Producer Credit**

A second generation biofuel producer that is registered with the Internal Revenue Service (IRS) may be eligible for a tax incentive in the amount of up to \$1.01 per gallon of second generation biofuel that is: sold and used by the purchaser in the purchaser's trade or business to produce a second generation biofuel mixture; sold and used by the purchaser as a fuel in a trade or business; sold at retail for use as a motor vehicle fuel; used by the producer in a trade or business to produce a second generation biofuel mixture; or used by the producer as a fuel in a trade or business. If the second generation biofuel also qualifies for alcohol fuel tax credits, the credit amount is reduced to \$0.46 per gallon for biofuel that is ethanol and \$0.41 per gallon if the biofuel is not ethanol. Second generation biofuel is defined as liquid fuel produced from any lignocellulosic or hemicellulosic matter that is available on a renewable basis or any cultivated algae, cyanobacteria, or lemna. To qualify, fuel must also meet the U.S. Environmental Protection Agency fuel and fuel additive registration requirements. Alcohol with a proof of less than 150, fuel with a water or sediment content of more than 4%, and fuel with an ash content of more than 1% are not considered second generation biofuels. The incentive is allowed as a credit against the producer's income tax liability. Under current law, only qualified fuel produced in the United States between January 1, 2009, and December 31, 2013, for use in the United States may be eligible. [More Information](#)

**\*\*RENEWED\*\* Extension of Incentives for Biodiesel and Renewable Diesel**

A taxpayer that delivers pure, unblended biodiesel (B100) into the tank of a vehicle or uses B100 as an on-road fuel in their trade or business may be eligible for an incentive in the amount of \$1.00 per gallon of biodiesel, agri-biodiesel, or renewable diesel. If the biodiesel was sold at retail, only the person that sold the fuel and placed it into the tank of the vehicle is eligible for the tax credit. The incentive is allowed as a credit against the taxpayer's income tax liability. Claims must include a copy of the certificate from the registered biodiesel producer or importer that: identifies the product; specifies the product's biodiesel, agri-biodiesel, and/or renewable diesel content; confirms that the product is properly registered as a fuel with the U.S. Environmental Protection Agency (EPA); and confirms that the product meets the requirements of ASTM specification D6751. Renewable diesel is defined as liquid fuel derived from biomass that meets EPA's fuel registration requirements and ASTM specifications D975 or D396; the definition of renewable diesel does not include any fuel derived from co-processing biomass with a feedstock that is not biomass. This tax credit is applicable to fuel delivered between January 1, 2005, and December 31, 2013. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Federal Tax Incentives continued. . .

#### **\*\*RENEWED\*\* Extension and Modification of Credits with Respect to Facilities Producing Energy from Certain Renewable Resources - Production Tax Credit**

The federal renewable electricity production tax credit (PTC) is a per-kilowatt-hour tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year. Originally enacted in 1992, the PTC has been renewed and expanded numerous times. The January 2013 legislation revised the credit by: (1) removing "placed in service" deadlines and replacing them with deadlines that use the beginning of construction as a basis for determining facility eligibility; (2) extending the deadline for wind energy facilities by one year, from December 31, 2012 to December 31, 2013; (3) extending the permission for PTC-eligible facilities to claim the ITC through 2013 (also using the start of construction rather than placed in service date as a reference); and (4) revising the definition of the term "municipal solid waste" to exclude "paper that is commonly recycled and which has been segregated from other solid waste". The definitional change for municipal solid waste applies to electricity produced and sold after the enactment date of the legislation (January 2, 2013) in taxable years ending after that date. [More Information](#)

#### **\*\*RENEWED\*\* Extension of Credit for Energy Efficient New Homes**

The federal Energy Policy Act of 2005 established tax credits of up to \$2,000 for builders of all new energy-efficient homes, including manufactured homes constructed in accordance with the Federal Manufactured Homes Construction and Safety Standards. Initially scheduled to expire at the end of 2007, the tax credit was extended several times, and is now set to expire at the end of 2013. [More Information](#)

#### **\*\*RENEWED\*\* Extension of Credit for Energy-Efficient Appliances**

The tax credit for U.S.-manufactured, energy-efficient appliances was extended through 2013. This credit includes refrigerators (\$150 or \$200, depending on energy-efficiency rating), dishwashers (\$25 - \$75 per unit, varies by energy and water efficiency) and clothes washers (\$175 - \$225 per unit, varies by type, and energy and water efficiency). [More Information](#)

#### **\*\*RENEWED\*\* Extension and Modification of Special Allowance for Cellulosic Biofuel Plant Property.**

A second generation biofuel production plant placed into service between December 20, 2006, and December 31, 2013, may be eligible for an additional depreciation tax deduction allowance equal to 50% of the adjusted basis of the property. The plant must be solely used to produce second generation biofuel and is only eligible for the depreciation allowance for the first year in operation. Second generation biofuel is defined as liquid fuel produced from any lignocellulosic or hemicellulosic matter that is available on a renewable basis or any cultivated algae, cyanobacteria, or lemna. [More Information](#)

#### **\*\*RENEWED\*\* Extension of Alternative Fuels Excise Tax Credits.**

A tax incentive is available for alternative fuel that is sold for use or used as a fuel to operate a motor vehicle. A tax credit in the amount of \$0.50 per gallon is available for the following alternative fuels: compressed natural gas (based on 121 cubic feet), liquefied natural gas, liquefied petroleum gas, P-Series fuel, liquid fuel derived from coal through the Fischer-Tropsch process, and compressed or liquefied gas derived from biomass. For an entity to be eligible to claim the credit they must be liable for reporting and paying the federal excise tax on the sale or use of the fuel in a motor vehicle. Tax exempt entities such as state and local governments that dispense qualified fuel from an on-site fueling station for use in vehicles qualify for the incentive. Eligible entities must be registered with the Internal Revenue Service (IRS). The incentive must first be taken as a credit against the entity's alternative fuel tax liability; any excess over this fuel tax liability may be claimed as a direct payment from the IRS. The tax credit is not allowed if an incentive for the same alternative fuel is also determined under the rules for the ethanol or biodiesel tax credits. This tax credit is applicable to fuel sold or used between January 1, 2005, and December 31, 2013. [More Information](#)

**Tax Deductions for Commercial Buildings:** *These tax deductions are available for systems "placed in service" from January 1, 2006 through December 31, 2013.*

A tax deduction of up to \$1.80 per square foot is available to owners or designers of new or existing commercial buildings that save at least 50% of the heating and cooling energy of a building that meets ASHRAE Standard 90.1-2001. Partial deductions of up to \$.60 per square foot can be taken for measures affecting any one of three building systems: the building envelope, lighting, or heating & cooling systems. [More Information](#), [Commercial Building Tax Deduction Coalition](#)

#### **\*\*EXPIRING SOON\*\* FY2013 SHPO Historic Preservation Fund Grants in Aid - Response due September 30, 2013**

To provide matching grants to States for the identification, evaluation, and protection of historic properties by such means as survey, planning technical assistance, acquisition, development, and certain Federal tax incentives available for historic properties; to provide matching grants to States to expand the National Register of Historic Places, (the Nation's listing of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering and culture at the National, State and local levels) to assist Federal, State, and Local Government agencies, nonprofit organizations and private individuals in carrying out historic preservation activities. [More information](#)

#### **Recovery Act – Carbon Dioxide Capture – Ongoing**

Any taxpayer claiming the \$10 credit per ton for carbon dioxide captured at a qualified facility & transported for use in an enhanced oil or natural gas recovery project, must now also ensure that such carbon dioxide is permanently stored in a geologic formation. [More Information](#)

**ENERGY INDEPENDENCE  
FUNDING OPPORTUNITIES/INCENTIVES**

**Federal Tax Incentives continued. . .**

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**PRIVATE FUNDING**

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**Bill & Melinda Gates Foundation** – *Proposals Requested through specific RFPs*

The Foundation look for projects that; help reduce inequities in neglected areas. [More Information](#)

**Climate Trust: Greenhouse Gas Offset Projects** – *Rolling deadline until funds are awarded*

The Climate Trust currently has five programs for which they are buying offsets. Each program has specific requirements to meet its unique goals. [More Information](#)

**Cottonwood Foundation** – *Invitation from Foundation for Partnership Needed*

Cottonwood Foundation has a very limited amount of funding available, & will only award grants to organizations that meet all four of the following criteria: protect the environment, promote cultural diversity, empower people to meet their basic needs, & rely on volunteer efforts. [More Information](#)

**Doris Duke Foundation** – *Invitation from Foundation for Proposal Generally Necessary*

The Doris Duke Charitable Foundation aims to improve lives through grants supporting the performing arts, environmental conservation, medical research & the prevention of child abuse through preservation of the cultural & environmental legacy of Doris Duke's properties. The Environment Program aims to enable communities to protect & manage wildlife habitat & create efficient built environments. The Foundation's current focus is on: 1) reducing the impact on the landscape from increased energy development & energy demand by expediting the sensitive siting of energy infrastructure & reducing energy demand by increasing energy efficiency in the buildings sector; & 2) helping to build a clean energy economy. [More Information](#)

**Energy Foundation Grants** – *Applications reviewed four times a year*

The Energy Foundation is a partnership of major donors interested in solving the world's energy problems. Its mission is to advance energy efficiency & renewable energy – new technologies that are essential components of a clean energy future. Major program areas of support include: power, building, transportation & climate. [More Information](#)

**Environmental Grantmakers Association** – *Responses due dates vary*

The Environmental Grantmakers Association supports work toward a sustainable world. Recognizing the importance of diverse perspectives, the organization values ecological integrity, justice, environmental stewardship, inclusivity, transparency, accountability & respect, balancing pragmatism with the long view. [More Information](#)

**Environmental Support Center** – *Applications due the First Day of Each Month*

The Environmental Support Center strengthens grassroots environmental nonprofits with training & organizational assistance, technology donations, fundraising loans & other services. [More Information](#)

**Ford Foundation** – *Applications Considered throughout the Year*

The Foundation focuses on 8 initiatives, including 2 areas that look at land use & environmental planning, transportation & community infrastructure, climate change, & natural resources. *Metropolitan Opportunities* supports organizations pursuing integrated approaches to housing, land use & environmental planning, public transportation & community infrastructure & aligned workforce opportunities. This promotes smart public policy & planning, & links regional efforts to build economic growth & competitiveness with emerging national efforts to coordinate funding streams among cabinet agencies. *Sustainable Development* supports natural resource policies & programs development that give poor communities more control over these resources & a stronger voice in land use & development decision making. Focus includes: 1) Poor rural communities, indigenous peoples, ethnic minorities & women; 2) International response to climate change respecting unique circumstances of these communities & contributes to their livelihoods; & 3) Promotion of smart environmental policies to increase poor people's access to natural resources while also addressing climate change. [More Information](#)

**The Founders Fund For Entrepreneurs** *Ongoing*

This fund invests in entrepreneurs solving the world's most ambitious & important problems through radical technological innovation. Companies we invest in typically have:

- ✓ A world-class team with tremendous technological & business acumen.
- ✓ A passionate & ambitious vision about making the world a better place.
- ✓ A technological insight or breakthrough that would be very difficult to replicate.

Successful entrepreneurs will have studied the market they want to enter, be realistic about costs, time to market, & competitive landscape, & have a clear idea of practical steps needed to dominate that market. [More Information](#)

## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Private Funding . . .

#### **Great Lakes Protection Fund**

This fund aims to assure that Great Lakes basin ecological health water issues remain in the foreground of any transition to biofuel cropping, transportation, & refining. The foundation is paying attention to biofuels as it touches on existing work in ecological health. [More Information](#)

#### **Jessie Smith Noyes Foundation** – *Proposals Accepted on a Continual Basis*

The Foundation promotes a sustainable & just social & natural system. It provides support to grassroots organizations through several grant making programs. The Protect the Health & Environment of Communities Threatened by Toxics program supports organizations that work on toxics exposure & contamination. The Advance Environmental Justice program supports organizations that strive to counter environmental degradation in low-income communities & communities of color. [More Information](#)

#### **The Joyce Foundation** – *Ongoing*

The Joyce Foundation supports policies that improve the quality of life for people in the Great Lakes region & can serve as models for the country. In 2010 grantees made significant progress on both Great Lakes and energy issues. [More Information](#)

#### **Kresge Foundation** – *Ongoing*

Fields of interest programs include - Arts & Culture, Community Development, Detroit, Education, Environment, Health, & Human Services. The goal is to assist society in mitigating the severity of climate change & prepare for its impacts. There are 3 areas of interest: 1) Adaptation to climate change; 2) Energy efficiency & renewable energy which supports efforts to reduce energy use in buildings & accelerate the adoption of renewable-energy technologies; 3) Special initiatives including investments in compelling, time-sensitive initiatives that will advance the Foundation's overall goal such as efforts to bolster the political will to move toward an environmentally sustainable future & reform important climate-relevant policies. [More Information](#)

#### **McKnight Foundation** – *Climate Change Applications must be solicited; Mississippi River deadline February 1, May 1, August 1, November 1*

This foundation seeks to improve the quality of life for present & future generations through grant making, coalition-building, & encouragement of strategic policy reform. The Foundation makes grants in support of children & youth, region & communities, the environment, the arts, neuroscience research, & select international efforts. It uses its resources to restore the water quality & resilience of the Mississippi River; & to avoid catastrophic climate change & help the Upper Midwest provide a significant portion of the nation's renewable energy supply. In 2008, McKnight's board committed \$100 million over five years to a strategy to mitigate catastrophic global climate change. [More Information](#)

#### **Nathan Cummings Foundation** – *Letters of Inquiry accepted all year; Those submitting adequate letters of inquiry may be invited to submit Applications.*

This foundation seeks to foster sustainability & environmental justice by supporting the accountability of corporations, governments, & other institutions for their environmental practices. The Environment program's accountability approach will seek to address the root causes of environmental degradation. Funding priority will be given to projects with the potential of having state, multi-state, or national impacts. [More Information](#)

#### **Oak Foundation** – *Letters of inquiry received throughout the year*

Oak Foundation commits its resources to issues of global social & environmental concern, particularly those impacting the disadvantaged. It aims to achieve a zero-carbon global economy & recover marine fisheries & habitats. The Environment Program aims to: 1) protect oceans & the climate by contributing to the development of responsible global & local governance mechanisms; & catalyze transformational changes in the way global commons are perceived & exploited, resulting in a more socially & environmentally sustainable society. [More Information](#)

#### **Pew Charitable Trusts** – *Letters of inquiry received throughout the year; Those submitting adequate letters of inquiry may be invited to submit Applications.*

The Trust applies a rigorous, analytical approach to improve public policy, inform the public & stimulate civic life. Pew aims to protect the Environment through the following sub-topics: 1) Clean Energy, 2) Climate Change Policy & Science, 3) Climate Change Campaigns & 4) Project on National Security, Energy & Climate. Pew is actively working on a national security, energy, & climate project. Additionally, Pew is building support for: 1) Increasing fuel economy & encouraging the adoption of electric vehicles; 2) Ensuring the U.S. electric & industrial sectors are cleaner & more efficient; & 3) Fostering U.S. innovation through expanded energy R & D. [More Information](#)

#### **Pioneer Hi-Bred International's Community Investment** – *Proposals Accepted on a Continual Basis*

This Program supports efforts to improve the quality of life in the communities where the company's customers & employees live & work worldwide. In the U.S., the company supports nonprofit organizations that address science education, agriculture, & farm safety. [More Information](#)

#### **Rockefeller Brothers Fund** – *Letters of inquiry received throughout the year*

This fund advances social change that contributes to a more just, sustainable, & peaceful world. The RBF's Sustainable Development track focuses on advancing solutions to climate change. Some climate change strategies RBF is utilizing include: 1) Building public & policymaker understanding & support for a range of climate actions; 2) Supporting implementation efforts; & 3) Supporting efforts to reduce reliance on carbon-intensive energy sources. [More Information](#)



## ENERGY INDEPENDENCE FUNDING OPPORTUNITIES/INCENTIVES

### Private Funding . . .

#### **Rudolf Steiner Foundation** – *Applications Received Year Round*

RSF Social Finance provides socially responsible investors, donors, for-profit organizations, & social enterprises innovative investing, lending, & philanthropic services to promote environmental, social, & economic sustainability. [More Information](#)

#### **Sea Change Fund**

Sea Change Foundation's initial focus is addressing the serious threats posed by global climate change. The Foundation is in the process of determining how its grant making can have maximum impact, & is not able to accept unsolicited proposals. [More Information](#)

#### **Skoll Foundation** – *Applications Received Year Round*

Skoll accepts proposals from social entrepreneurs whose work has the potential for large-scale influence on critical challenges in the areas of environmental sustainability, health, tolerance & human rights, institutional responsibility, economic & social equity, peace & security. These awards provide later-stage funding, which is generally structured as a 3-year, \$1 million award. [More Information](#)

#### **Surdna Foundation** – *Grants approved in February, May and November; Letter of Intent must be submitted 4 months prior to grant approval deadline – LOIs accepted year-round*

This foundation makes grants in the areas of environment, community revitalization, effective citizenry, the arts & the nonprofit sector, with annual grant making of approximately \$37 million. Surdna's environmental work seeks to create just & sustainable communities where consumption & conservation are balanced & innovative solutions to environmental problems improve people's lives. Surdna works from a sustainable development perspective to demonstrate that a healthy environment is the backbone of a healthy economy & democratic society funding three key related priority areas: 1) Climate Change; 2) Green Economy; and 3) Transportation & Smart Growth. These areas aim to transform how Americans work, consume & move. Together these will help make the theory of a carbon free society into a practical & achievable reality for communities across the United States. [More Information](#)

#### **Wells Fargo Environmental Grant Program** - *Responses due April 1 and Oct. 31 Annually*

The health of our environment plays a critical role in fostering more sustainable communities. Throughout our history, we have used our depth of resources to invest financial and human capital to strengthen communities across the U.S. Today we continue to invest our resources with a particular focus on protecting our environment. We have developed a long term strategy that is aligned with our company's vision and values that will support local environmental priorities and projects, foster economic development in the "green" economy, and inspire innovation from entrepreneurs and research entities working on critical environmental issues. Our goal is to give \$100 million grants and increase volunteerism to support the environmental work of nonprofits and provide the opportunity for Wells Fargo team members to improve their communities. We offer two environmental grant programs: one will address local environmental priorities facing our communities, and; the other will focus on clean technology research and innovation while supporting entrepreneurs. The underlying themes of our programs will include participation from our vast network of volunteers as well as deliver long term environmental benefits. [More Information](#)